

Product Catalog 2014 - 2015

Embedded Computing

Comprehensive Embedded Boards, Systems and Modules with Design-in Services

- RISC Computing Platforms
- Computer On Modules
- MI/O Extension SBCs, Modules and Chassis
- PC/104 CPU Modules
- Embedded Single Board Computers
- Industrial Motherboards & Systems
- Fanless Embedded Box PCs
- Digital Signage Platforms
- Gaming Platforms
- Intelligent Display Solutions
- Embedded M2M/IoT Modules

ADVANTECH

Enabling an Intelligent Planet

www.advantech.com

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About Advantech

Advantech: Enabling an Intelligent Planet

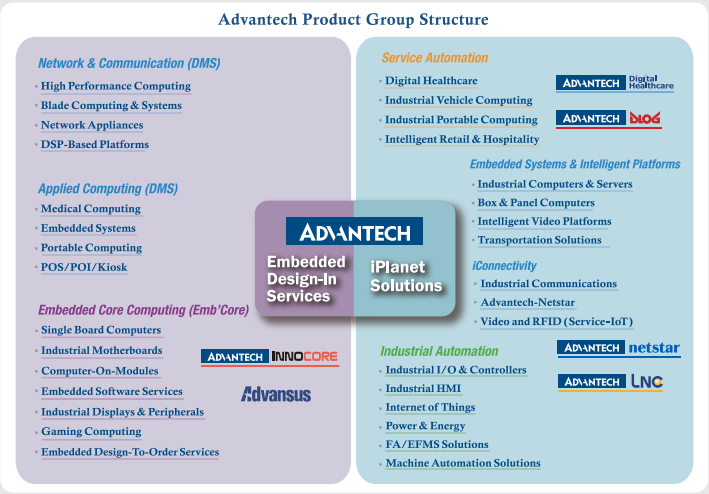
Founded in 1983, Advantech is a leader in providing trusted innovative embedded and automation products and solutions. Advantech offers comprehensive system integration, hardware, software, customer-centric design services, and global logistics support; all backed by industry-leading front and back office e-business solutions. We cooperate closely with our partners to help provide complete solutions for a wide array of applications across a diverse range of industries. Advantech has always been an innovator in the development and manufacture of high-quality, high-performance computing platforms, and our mission is to empower these innovations by offering trustworthy products and services that enable an intelligent planet. With Advantech, there is no limit to the applications and innovations our products make possible.

Advantech's Good-to-Great 3-Circle Principle

The Advantech 3-Circle Principle is based on the book "Good to Great," by Jim Collins. According to the book, a company looking for long-term success should clearly address these three fundamental principles, and commit to their continuing, solid execution. Advantech is fully committed to this approach and has defined the Advantech "Good to Great 3-Circle Principle" as a means of adhering to it.



Advantech Corporate Structure and Growth Engines



• Networks & Communications DMS

Advantech integrated DMS "StarFleet" Model provides OEMs and premier key accounts with customer-focused Design and Manufacturing Services (DMS), winning together through worldwide partnership and collaboration. DMS provides hardware and software integrated solutions. For the telecom and networking markets, Advantech provides mission-critical hardware to the leading equipment manufacturers. Advantech's standard and customized products are embedded in OEM equipment that the world's communications infrastructure depends upon. Through Advantech's premier Design & Manufacturing Services our customers get reliable, open-standard solutions from the leading innovator in network platform development and manufacturing – plus dedicated resources and support to back them up.

• Applied Computing DMS

Advantech is a leading industrial computer systems manufacturer and customized solutions provider. Under Design & Manufacturing Services (DMS), our applied computing professionals develop vertically-driven, application-specific platforms and service-ready solutions for use in many sectors: gaming computing, eHealthcare computing, portable computing, and embedded systems. We specialize in designing and manufacturing the widest range of high quality and high performance industrial grade hardware and dedicated software tailored to the exact needs of each industry field. With a dedicated research & development team, a full range of customization capabilities, and a global sales/service organization, the Advantech DMS applied computing team has what it takes to fulfill customers' time-to-market requirements.







World-Class Recognition

Advantech is an authorized alliance partner of both Intel® and Microsoft®. Our customers find the technologies we use inside our products to be widely compatible with other products in the global marketplace. In 2011, Interbrand, the world renowned brand consulting firm, once again recognized Advantech as one of the Top 10 Taiwanese Global Brands. Advantech appreciates this recognition of our efforts to build a trusted, global brand; it also symbolizes a promise we give to our business partners, which is to keep building a trustworthy brand that is recognized everywhere and improves the lives of all.

Model Corporate Citizen

Advantech is committed to being a model corporate citizen by helping to preserve the environment and by giving back to society. Our environmental program focuses on reducing, reusing, and recycling materials used in our manufacturing operations. Advantech's environmental compliance effort includes the following:

- ISO 14001 Certification
- ISO 13485 Certification
- OHSAS 18001 Certification
- TL9000 Quality Management System
- RoHS Directive Compliance
- WEEE Directive Compliance
- Authorized Sony Green Partner



Timely Support at Your Convenience

Advantech has over 12 regional toll-free hotlines, and offices throughout 71 cities in 21 countries, with over 5,000 employees to provide efficient, professional services for customer care, product selection, technical support, and order handling. Through our call centers and online stores, customers worldwide enjoy the convenience of Advantech's multi-service channels to reduce business turnaround time. Together with over ten customer service centers in Taiwan, China, Japan, Korea, Singapore, Brazil, the Netherlands, Poland, and the United States, our global service network offers an extensive spectrum of services that includes warehousing, logistics, peripheral certification, sourcing and purchasing, and RMA and support services.

• Embedded Core Computing

Embedded Core Computing Group provides a full range of embedded boards, systems, peripheral modules and innovative embedded software services with leading technologies to customers. With a range of specialist design-in services backed by our internal and global resources, Advantech is committed to working closely with embedded customers to ensure design success by helping them discover new business opportunities through advanced embedded technologies and services that empower smart applications for an intelligent planet.

• Embedded Systems & Intelligent Platforms

With innovative technologies from cloud computing (industrial server, video server), edge computing (fanless, slim & portable devices), to high performance embedded systems (blade computing, network processor platforms, DSP processing), Advantech transforms embedded systems into intelligent systems with smart, secure, energy-saving features, built with Industrial Cloud Services and professional System Design-To-Order Services (System DTOS). Advantech's intelligent systems are designed to target vertical markets in transportation, industry (machine automation, equipment/machine building), digital signage, and video applications (video infrastructure and video surveillance).

• Service Automation

Advantech's Service Automation & Applied Computing Group invests in developing vertically-driven, application-specific platforms and service-ready solutions for use in many sectors: industrial portable computing; digital logistics & fleet management; digital healthcare & medical computing; smart room & scenario control for home and office; and digital signage & self-service computing for retail, hospitality, enterprise, education, and public spaces. Service Automation & Applied Computing Group lets you enjoy the convenience, safety, and efficiency that smart applications deliver, and experience the best in interactive and innovative technologies and services.

• Industrial Automation

With the theme of Intelligent Automation, Seamless Integration; the Industrial Automation Group (IAG) of Advantech Corporation is a pioneer in intelligent automation technology. By combining connectivity, flexibility, ruggedness and leading-edge "Internet of Things" technology, IAG offers product offerings for intelligent HMI platforms, the industrial Ethernet, wireless communications, automation controllers, automation software, embedded automation computers, distributed I/O modules, wireless sensor network solutions, motion I/O and plug-in I/O modules for a wide array of industries. With more than 20 years of experience in providing a full range of products to different vertical markets, IAG is a leading global automation product and services provider.

About Advantech Embedded Computing

Worldwide Leadership in Embedded Design and Services

Founded in 1983, Advantech has provided leadership for innovative Embedded Computing products and services for over 30 years. With comprehensive product ranges, customer-centric design services, and an extensive global network, Advantech is your most trustworthy partner to empower numerous innovations in intelligent embedded computing. Advantech is dedicated to helping customers develop reliable and innovative embedded solutions. We not only provide the latest embedded hardware computing products, we also think about how to provide more value to embedded developers through a variety of embedded design-in and software services.

Integrated Embedded Computing Solutions

Build Connectivity to Intelligent Systems



Embedded Boards

A full spectrum of embedded boards in multiple form factors from computer on modules, MI/O Extension single board computers, single board computers, to industrial motherboards, and continuous development of innovative form factors to meet customers changing needs.

Intelligent Systems

Advantech intelligent systems simplify implementation for applications with MI/O Extension Quick System Builder and Ultra Rugged Fanless Embedded Systems.

Peripheral Modules and Displays

Industrial peripheral products such as storage, wireless , touch modules and displays, along with Advantech's software turn-key solutions, provide innovative choices for industrial PC applications.

Embedded Software Services

Provide innovative embedded software services to help customers develop different embedded applications. Professional services include Industrial Cloud services, Embedded BIOS/OS services and software API & utilities.

Design-in Services

Streamlined design-in services fulfill engineering demands at the design-in phase and bring benefits which can shorten design and integration cycles, minimizing uncertainty and risk. Services include wide temperature and ruggedized solutions.

Embedded Boards, Systems and Modules

Integrated Technologies and Innovative Software Solutions

Advantech is continuously developing and delivering cutting edge solutions based on the latest platforms with proven high performance, reliability, longevity and excellent design quality to help customers speed time-to-market.



RISC Computing Platforms

- RTX
- SMARC
- QSeven
- 3.5" SBCs
- Box Computers
- Development Boards



Fanless Embedded Box PCs

- Ultra Small Series
- Slim/ Mountable Series
- Easy I/O Flexibility Series
- High Performance Series
- Value Series
- In-Vehicle Series
- Surveillance Series



Computer On Modules

- COM Express® Basic Modules
- COM Express® Compact Modules
- COM Express® Mini Modules
- ETX/XTX Modules
- Qseven Modules



Digital Signage Platforms

- Ultra Slim Series
- OPS Series
- Value Series
- Mainstream Series
- Multi-Display Series



MI/O Extension SBCs, Modules and Chassis

- MI/O Extension SBCs
- MI/O Extension Modules
- MI/O Extension Evaluation Boards
- MI/O Extension Systems



Gaming Platforms

- Standalone (S Series)
- Economy (E Series)
- ConnectBus® (C Series)



PC/104 CPU Modules

- PC/104 CPU Modules
- PC/104-Plus CPU Modules



Embedded M2M/IoT Modules

- Storage Modules
- Memory Modules
- Wireless Modules
- Touch Modules



Embedded Single Board Computers

- 3.5" SBCs
- EPIC SBCs
- EBX SBCs
- 5.25" SBCs



Intelligent Display Solutions

- Industrial Display Kit
- Open Frame Monitor
- Panel Mount Monitor
- Digital Signage Display



Industrial Motherboards & Systems

- UTX and Systems
- Mini-ITX and Enclosure
- Thin Mini-ITX and Enclosure
- MicroATX • ATX

SUSIAccess
Enabling Intelligent & Embedded Systems

Embedded Software Services

- Embedded Applications
- SUSIAccess
- Embedded OS
- Embedded BIOS

Embedded Software and Cloud Services

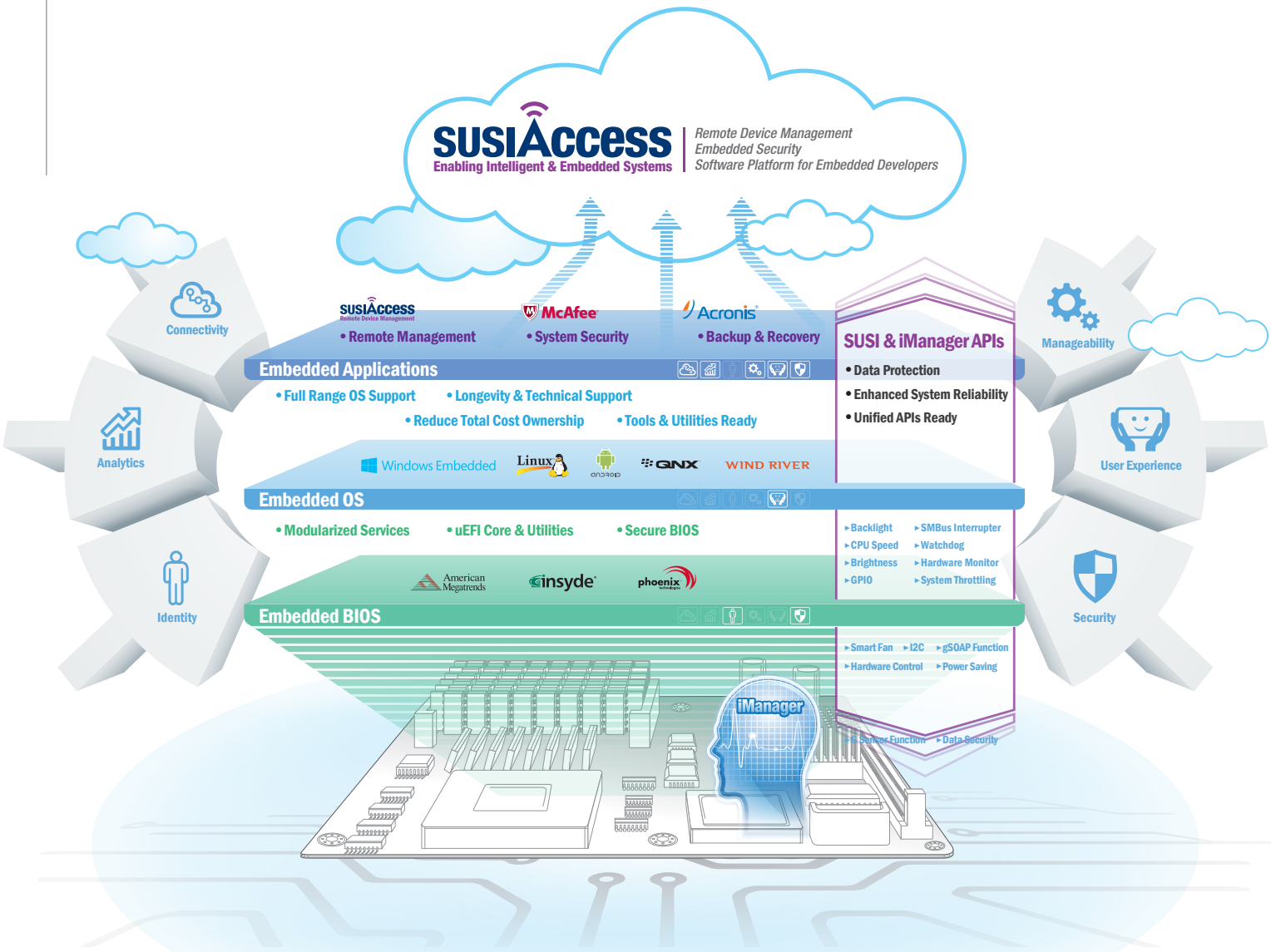
Complete Offerings from BIOS, Firmware, OS, and Software Applications

The Next Big Opportunity for Intelligent Systems

The next big opportunity for technology suppliers, system vendors, and service providers is being defined today by the migration from traditional embedded systems to **intelligent systems.** An intelligent system centers on the **integration of higher plane hardware and software technologies** that allow for user reconfiguration, enable autonomous operation, access the internet, and extend the usage model of the system. What is apparent is that intelligent systems, in combination with the cloud, location based services, and social networks, will be able to reach the last node or directly touch the consumer.

Embedded Software Solutions

Advantech provides customers with complete embedded software and cloud services to power, manage and connect your intelligent systems. The complete embedded software offerings - from BIOS, firmware, operating systems, and software applications – can fully power the essential elements of intelligent systems: connectivity, manageability, identity, analytics, security, and user experience.



SUSIAccess

Enabling Intelligent & Embedded Systems

Poised to be a key player in the new generation of technologies enabling an intelligent planet, Advantech is now offering a cutting-edge, cloud-based service –SUSIAccess, a smart and unique software platform for embedded developers. SUSIAccess featured remote device management to help customers centralize monitoring and managing of remote embedded devices in real-time. By providing a ready-to-use remote access solution, system integrators can focus more on their own applications and let SUSIAccess do the rest – configure systems, monitor device health, and embedded security. Now, all Advantech Embedded Computing products come pre-loaded with SUSIAccess. It's cloud-based and provides on-demand software services so SIs can easily download and upgrade applications when they need them.

Built into All Advantech Solutions



Key Benefits and Features for Embedded Developers

System Monitoring

Device Monitoring | Automatic Alerts by Email/SMS

- Stay in sync with device health status
- Automatically send alarm notifications

Remote Control

Remote KVM | Power On/Off

- Quick access to remote devices
- Save maintenance and energy cost

System Security

Powered by Acronis – System Recovery | Powered by McAfee – System Protection

- Protect system from any threats
- Timely backup and recovery systems

Multiple OS & Platforms

Windows Embedded | Linux | iOS | Android

Handheld | Mobile Devices | Tablets

Embedded Software Store

Integrated Ecosystem of Embedded OS, Applications and Virtualization

Advantech has been in the industrial computing and embedded business for more than twenty five years. In the embedded business we've been very successful by providing professional services, long-term support and training to customers. Advantech has been recognized by Microsoft as Embedded Gold Partner and also as Microsoft Authorized Embedded Distributors in Taiwan, Korea, South East Asia, China, and Australia. We provide Microsoft Windows Embedded products solely or integrated with Advantech embedded solutions. We offer more than just a distributing license, we offer a series of value added services which includes hosting embedded solution seminars, hands-on training, and software APIs and utilities. Customers can leverage Advantech's professional embedded solution development capability to effectively speed up their business. Advantech and Microsoft Windows Embedded are dedicated to delivering the best set of embedded tools and technologies available; helping you build reliable, powerful, and intelligent embedded devices for your customers.

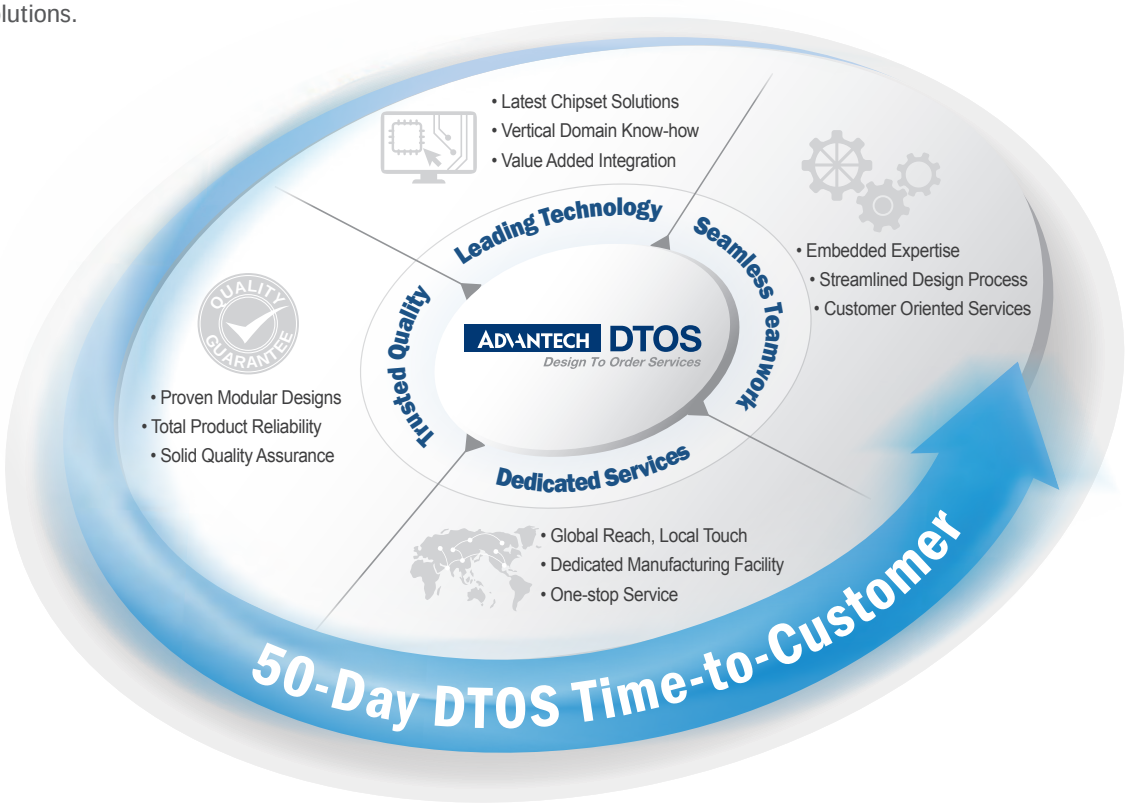
Following the success with Microsoft , Advantech has been working with McAfee, Wind River, QNX, and Acronis to provide value added services to customers. The Embedded Software Store is the platform for access to Advantech consulting, customization, and unique utilities to benefit your solutions.



Design To Order Services

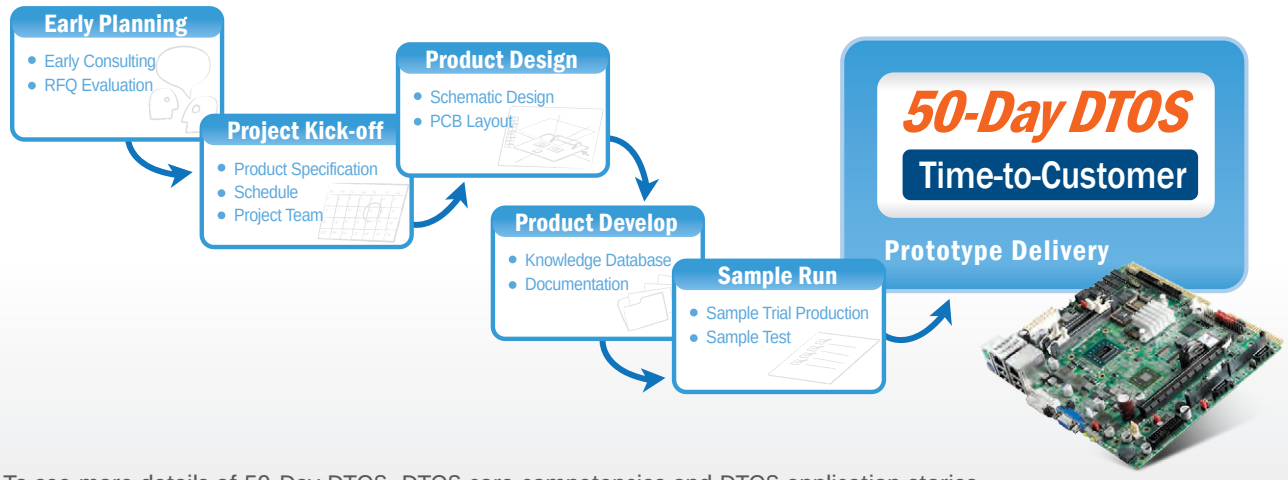
Full Ranges of Customization Services

Advantech Design To Order Services (DTOS) is a design service which provides tailor-made systems or boards to meet specific application requirements through advanced, innovative and world leading technologies, diverse levels of customization, flexibility of manufacture, and global technical & logistical support. Advantech DTOS offers you the advantages of faster project development, lower risk and the assurance of working with a trusted global leader for win-win solutions.



50-Day Time-to-Prototype, the key for Faster Time-to-Customer

With dedicated regional DTOS assignment crew, strict project workflow, integrated infrastructure, and highly proficient project development, we promise our customers a quality and speedy 50-Day Design To Order Services.



To see more details of 50-Day DTOS, DTOS core competencies and DTOS application stories, please visit DTOS at http://www.advantech.com/dtos

Advantech iPlanet Care

Manufacturing

Our dual, world-class manufacturing centers in Taiwan and China maintain precise quality control, and offer a full range of production in a timely and cost-effective manner. To maximize the efficiency of operational procedures, we have implemented a cluster manufacturing system within our segmented manufacturing service units. This unique approach enables a direct, simplified, and highly streamlined design-to-manufacturing process.



- In-house board, chassis, and system production
- Dual world-class manufacturing centers minimize business risks
- Advanced production capabilities and customizable processes
- Rigid quality assurance system
- Most complete ISO standard coverage

Configure To Order Services

Advantech Configure To Order Services (CTOS) makes industrial computing solutions more accessible by offering web-based configuration tools, with high-mix, low-volume box building and customized assembly, modification, system integration and functional testing services.

- Online intelligent configuration
- Comprehensive approach to complex configuration solutions
- Local customized configuration services
- 2-year global warranty, covering system & integrated peripherals

ADVANTECH CTOS
Configure To Order Services

Certified Quality Assurance System

Advantech designs and manufactures industrial PCs according to our 3C Quality Statement:

- Always strive for overall customer satisfaction
- Continuous improvement
- Apply closed-loop mechanisms to resolve problems

At Advantech, quality is our main priority. A complete line of safety, EMC and reliability measures such as ESD, vibration, drop testing, temperature, humidity and HALT chambers are available to ensure our products meet the strictest standards. All facilities are at least ISO 9001 and 14001 certified while others hold additional certifications such as ISO 13485, 17025, TL9000 and OHSAS18001. An environmental program that focuses on reducing, reusing and recycling of materials throughout the manufacturing process is also applied at Advantech. All our products are 100% RoHS compliant and Environmental Management Systems such as QC080000 are applied to meet worldwide environmental requests. Advantech's efforts towards environmental protection have been recognized by Sony since 2004 (Sony Green Partner).

- Complete ISO coverage
- Green policies
- Constant quality and reliability monitoring
- Ease of access to quality contacts

RoHS COMPLIANT 2002/95/EC

One-Stop Global Services

Advantech iPlanet Care combines exceptional business expertise, powerful design capacities, and a thorough global service network to provide one-stop global services and total solutions. Our broad range of global support packages adds maximum flexibility and efficiency to your projects.



Global Logistics Services

With strong integrated ERP and SAP supply chain solutions, our worldwide logistics network offers a wide range of options for different delivery models including local and global solutions that meet your unique needs and budget requirements. Advantech's Logistics Service gives you the flexibility to simplify your logistical networks, bring your products to market on time, and enjoy a timely return on your investment.

- Optimized and flexible shipping solutions
- Integrated ERP and SAP supply chain solution with global distribution network
- Centralized plants with local delivery

Global Procurement Services

Advantech global procurement network consists of local teams that leverage strong, worldwide supplier relationships and strict vendor and product management to offer quality-guaranteed, compatible peripherals with short lead times and competitive prices.

- Localized procurement with worldwide network support
- Global standardization management; 100% compatible peripherals
- Trusted quality with revision control
- Short lead time and competitive price

Global Customer Support Services

Our global presence provides localized reliable customer support services. We can create an optimized maintenance and support plan, leveraging the full power of our service portfolio to help reduce costs and proactively mitigate business risks to best meet your needs. In addition to our complete technical and repair support, we provide a variety of customizable after-sales services, including extended warranty, advance replacement, upgrade, fast repair, etc. With our knowledgeable local support groups, we enable a consistent support experience around the world and help keep your investment at peak performance and within your budget.

- 24/7 technical support: hotline AE & online chat support
- Global deployment with local full-line repair capability
- Easy-to-use web-based repair and tracking system (eRMA)
- Various value-added, after-sales service packages





SUSIAccess Enables Intelligent Remote Management Solution for Hospital Information Center



Introduction

General hospitals and medical centers need to convey all kinds of information to the public to help it receive a better, more efficient health service. More and more embedded systems are integrated into hospital information centers such as queuing systems, kiosks and ticketing machines. These kinds of applications are often set up in hospital lobbies in highly visible locations, usually high up on walls, and because of their prominence, they are not easy to reach for maintenance purposes.

Application Requirements

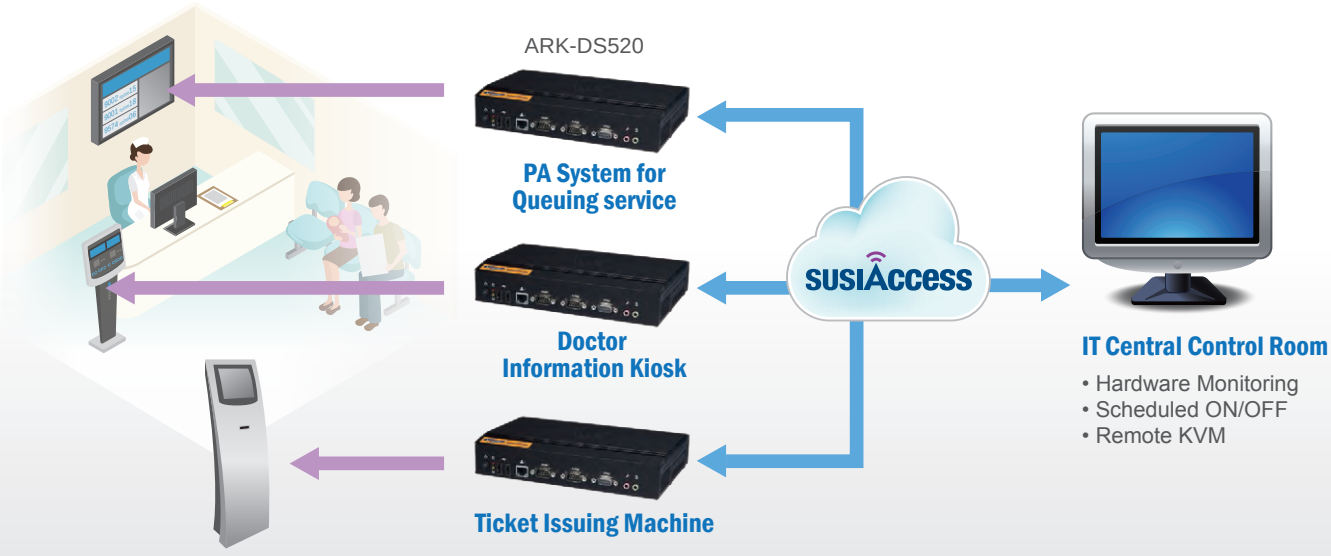
As most of these devices are located in difficult-to-reach places and are not easy to maintain, they need to be highly dependable to avoid costly maintenance. General hospitals and medical centers need solutions that can be remotely monitored and controlled. And to save energy, it is highly desirable if they have remote on/off features.

System Solutions

One of the largest hospitals in Taiwan chose Advantech's ARK-DS520 with SUSIAccess for its PA systems with queuing service, doctor information kiosks, and ticket issuing machines. SUSIAccess, the intelligent remote device management and monitoring software, proved to be the perfect solution for them because SUSIAccess provides three vital functions: Remote Monitoring, Remote KVM and Remote On/Off. Hospital maintenance staff can see the fan speed, temperature, voltage and hard disk health status of each device through the "Remote Monitoring" function, and SUSIAccess will send alarm notifications automatically via email or SMS if any abnormal status occurs, so that it can help detect hardware issues before they escalate. Even if something goes wrong with a device, the "Remote KVM" function can access information remotely without needing to visit it. In addition, the "Remote On/Off" function provides power on/off timing schedules so users can control when to start or shutdown devices to save energy. With built-in SUSIAccess, the hospital can remotely configure, protect, recover and maintain any device—making it perfect for hospital information centers.

Benefits

- Remotely configure, protect, recover and maintain any device
- Real-time hardware monitoring
- Remote device control
- Reduce maintenance & energy costs



Ultra Low Power Player Runs Elevator Digital Signage



Introduction

Taking an elevator is no longer a matter of silent boredom, as more and more hotels and shopping malls are installing multi-media displays in their elevators, providing passengers with rich content. Many such elevator displays come in small form factors and are built into the interface of the elevator controller. It's a TV-like panel that shows floor information to notify the passengers of their position, and entertains them at the same time with interesting information.

Application Requirements

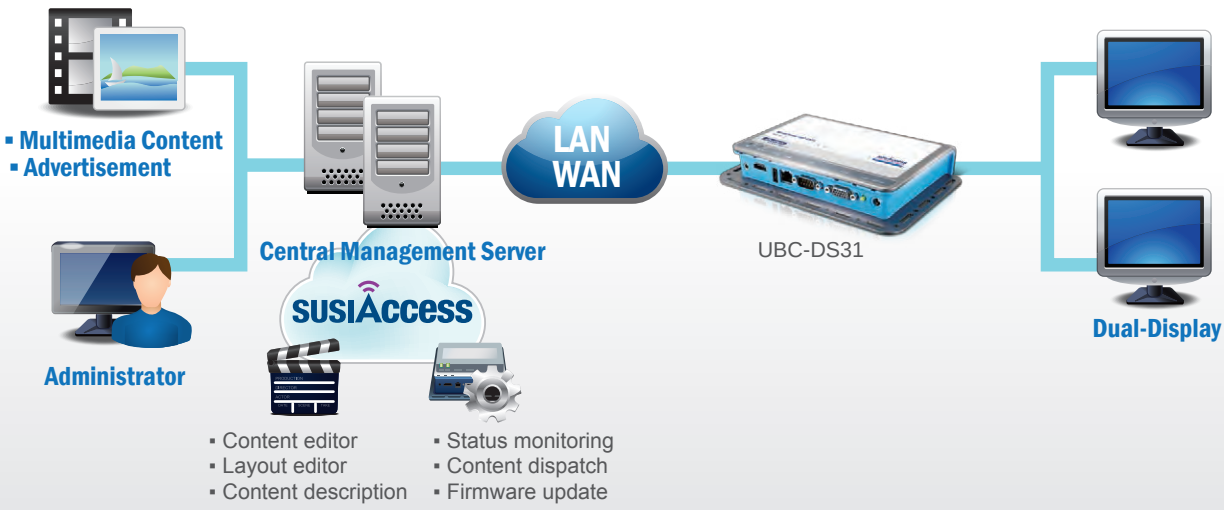
Our customer produces such digital signage displays for elevators, but needed small form factor embedded computing with full HD video output and multimedia content support to play audio, video, flash animation format files in favorable C/P ratio solutions.

System Solutions

For small display devices broadcasting multimedia content, powerful graphic performance is a must. However, computers delivering better graphic performance usually require fans or heat sinks to deal with their thermal output. Our customer previously used an x86 system in digital signage, which offered powerful performance but required a lot of space and also needed a heat sink and fans. But now, with the new solution Advantech provides, they use a RISC-based signage player with built-in graphic engine, and they have developed new products that support Full HD video output without the need for any fans or heat sink. Advantech UBC-DS31 runs on a Freescale ARM® Cortex™-A9 i.MX6 Dual 1GHz processor with 2D and 3D graphics built in, which supports dual displays with up to 1080p high resolution output on low power consumption. With this solution, our customer achieves the same video performance but reduces costs by using an economical RISC-based system instead of an x86 computer. UBC-DS31, with compact size and flexible mounting design, allows our customer to develop small-form-factor products, and integrate them easily into elevator systems. UBC-DS31 is also preloaded with SUSIAccess software for signage. SUSIAccess for signage is based on Linux QT framework and integrates multiple functions including content editing/dispatch, layout editing, status monitoring, and firmware updates. Users can manage and control the content of all devices through the Ethernet or wirelessly from servers and management centers.

Benefits

- The RISC-based solution delivers multifold benefits because of its cost-effective performance, small form factor, and avoidance of fans and heat sinks.
- With built-in SUSIAccess software for signage, users can remote manage and control the content of all devices easily.



COM Express Mini Module for Railway Safety Control and Monitoring System



Introduction

Trains have evolved from single trains running on single tracks to multiple engines running in different directions. Up until recent times, most of the signaling, switching and train operation had been handled manually which is risky and inefficient. To meet new government regulations designed to reduce or eliminate train accidents, most locomotives now need PTC (Positive Train Control) systems.

Application Requirements

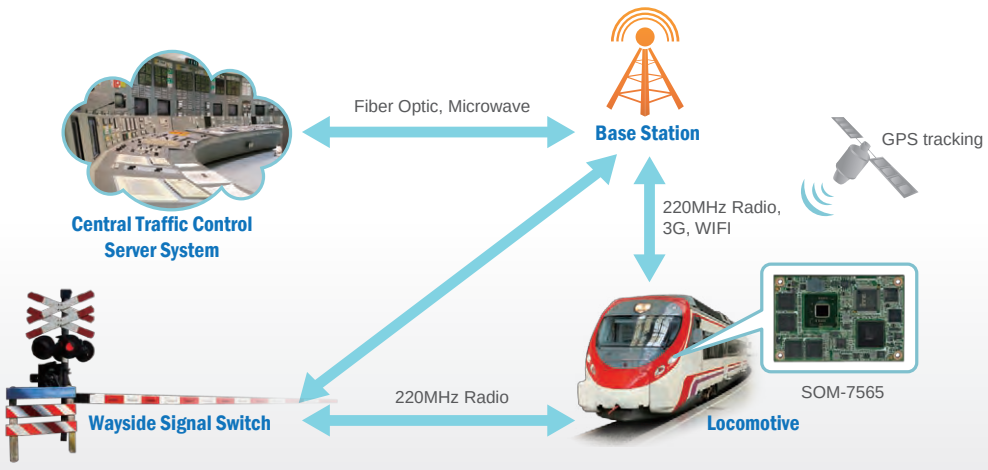
PTC systems are a computerized system for monitoring and controlling the movement of trains. The first priority is to avoid accidental train collisions, but PTC systems can also automatically regulate the speed of trains in response to rail conditions, on-board equipment malfunctions, temporary speed restrictions, and other safety considerations. Therefore embedded CPU modules must be very stable, sturdy and able to operate in -40°C to +85°C temperature environments with high vibration and dust, so systems will need at least 6 to 12 months field testing. But clearly, hardware is not the only consideration when looking for a suitable PTC system. How to develop software services and programs that reduce labor costs, plus integration resources are important considerations when deciding on which vendor provides the best offering.

System Solutions

SOM-7565, featuring the latest ultra-low power Intel® Atom™ solution in a very compact size CPU module, is able to operate in -40°C to +85°C temperature ranges and in high vibration environments. Advantech's iManager and SUSIAccess software offer remote control management features and firmware level security and reliability. Since it's a modularized design, it allows the customer to focus on application specific carrier board design which saves at least 65% of time compared to a fully custom SBC. The modularized design allows customers to upgrade the system by simply swapping the original CPU module to a higher end CPU module without redesigning the whole PCB. This modular design can save on maintenance costs and ensure a migration path in the future.

Benefits

- Onboard memory and storage for accurate functionality in high vibration environments
- iManager, an intelligent self-management agent built-in solution that enhances system reliability
- SUSIAccess, an intelligent management agent which provides remote management capabilities for SIs.



Economic Multiple I/O SBC for CNC Device



Introduction

CNC (Computerized Numerical Control) applications are common in the China embedded vertical market for use in laser cutting or milling machines. CNC devices are usually controlled by a Single Board Computer at their core. Because of the rugged working environment requirements, with both dust and vibration, CNC devices traditionally adopted SBCs with PC/104 connectors which supported ISA or PCI interfaces on the mother board, which could then link to other application specific cards.

Application Requirements

CNC devices prefer stackable designs to guard against dust and especially vibration while working. They also require cost effective modular solutions. This particular customer was seeking an economical ruggedized SBC with multiple I/O that could be easily expanded. Traditional PC/104 and COM boards didn't satisfy the customer because the former had too little I/O support and the latter was over budget.

System Solutions

Advantech's Pico-ITX MIO-2261 board was chosen due to its multiple I/O and ruggedized design. Advantech MIO series is positioned in the market between PC/104 and COM. They hit the right balance between price and flexibility. MIO-2261 not only has multiple I/O, but also has the innovative MIOe connector which consolidates display port, 2 PCIe x1, USB 2.0, LPC, HD audio line out, SMBus, and power. The customer used the MIOe connector on the MIO-2261 board to design their own extension card which features LVDS, 3 x USB ports and SATA.

Benefits

- Cost, and schedule saving for module development.
- Ruggedized design for high-vibration environments.
- Maximum flexibility for expansion through the MIOe connector.



ATM Focused MicroATX Industrial Motherboard AIMB-501 with SUSIAccess Pro 2.0 for Intelligent Banking Security



Introduction

Most ATMs are open 24 hours a day. Therefore, on-site support needs to be performed as quickly as possible, and system operators have to employ (or outsource) several engineers and pay costly overtime which adds to the total cost of ownership. Furthermore, a critical task of ATMs is to secure customer's personal information, so systems need to be installed with security software firewalls to avoid virus attacks, and data theft by hackers.

Application Requirements

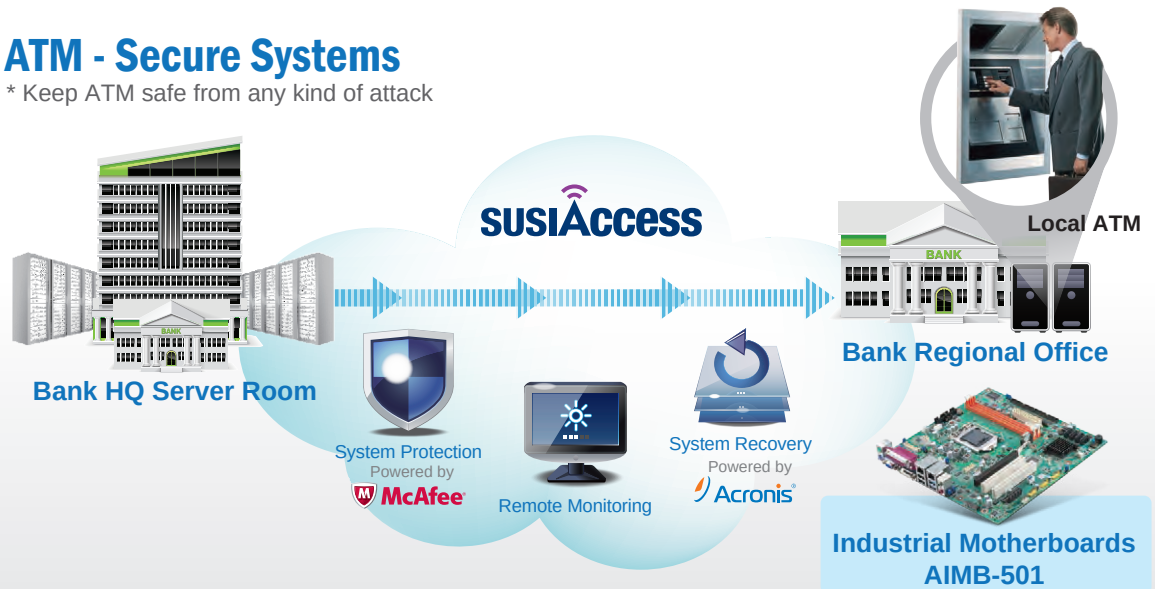
An ATM manufacturer in China was looking for an Industrial motherboard with rich I/O features for their new security-sensitive ATM banking application. They needed it to have enhanced security functions for personal data protection and financial transactions. They discovered that Advantech's ATM/KIOSK focused MicroATX AIMB-501 industrial motherboard pre-loaded with SUSIAccess Pro 2.0 provided them with intelligent remote device management and monitoring, system recovery and banking-level system security features.

Project Implementation

They decided to choose Advantech's MicroATX AIMB-501, Intel® Core™ i7/i5/i3 processor + H61, pre-loaded with SUSIAccess Pro 2.0 providing intelligent remote device management and monitoring, system recovery and banking-level system security features—assured by McAfee and Acronis. With SUSIAccess Pro 2.0 on their device, ATM administrators can remotely switch machines on and off, access the desktop, recover a system, and configure protection features. AIMB-501's rich I/O, Dual CRT/LVDS/DVI and 10 x COM, 10 x USB 2.0, dual GbE LAN, offer high connectivity and expansion options for ATM system integrators to integrate and manage multiple peripherals.

Benefits

- Dedicated ATM focused MicroATX motherboard lowers customization effort
- Remote device management- SUSIAccess Pro 2.0 inside
- Rich I/O and expansion options for effortless connection
- Dual display with excellent graphics performance



Ruggedized High-performance Computing Platform for Traffic Surveillance



Introduction

China's prospering economy has driven major population increases in big cities like Beijing and Shanghai, and the attendant increases in vehicular traffic has caused traffic nightmares. Authorities are taking action to deploy traffic monitoring systems to help enforce traffic laws and maintain public safety. These traffic monitoring systems detect traffic violations, retrieve images, recognize vehicle plate numbers, and send the data to traffic authorities' central server for further action. Such outdoor applications require extremely rugged and reliable industrial computers with high-computing power and rich networking connectivity; they are deployed on many main thoroughfares–especially around intersections.

Application Requirements

Our customer needed a high performance platform with image recognition support and Multiple Gigabit Ethernet ports for IP cameras. For operating in harsh environments, it also needed high reliability and wide-temperature support.

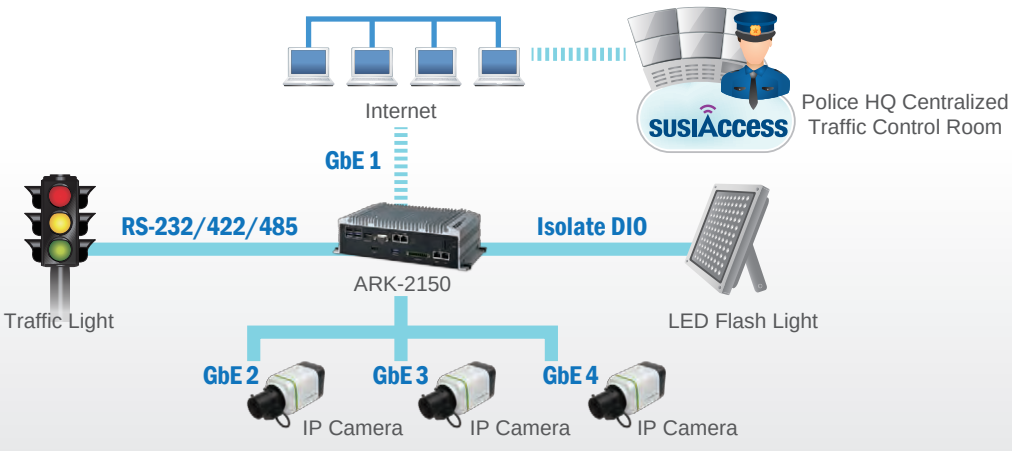
System Solutions

ARK-2150 provides rich I/O interfaces including 4 Gigabit Ethernet ports and 4 serial COM ports (RS-232/422/485). Three of the GbE ports were used to connect up to 3 IP cameras, and the remaining GbE port used for communication with the control center. The COM ports are for traffic light connections. In all deployments, the ARK-2150 helps to capture images of vehicles running red lights, speeding, or committing other infractions. Images of vehicle plates are scanned, recognized, and the data sent to the control center. The control center can also control and schedule traffic lights via the ARK-2150. 8-channel isolated DIO is also provided to support camera flash when needed. For outdoor applications, wide temperature support and fanless design are important in ensuring longevity and reliability. The fanless ARK-2150 supports high-end CPU performance along with temperature support ranging from -20~60°C.

Remote device management is also extremely important for traffic surveillance applications. ARK-2150 carries embedded Intel® AMT 8.0, Advantech SUSIAccess, and iManager, which provide secure remote management facilities to system administrators. The hardware-based iAMT technology allows for remote system diagnosis and security features including system defense filters and network isolation; SUSIAccess, a software-based remote management software utility developed by Advantech, provides functionalities including remote monitoring and remote KVM, and iManager provides a multi-level watchdog.

Benefits

- Multifunctional design with high computing core, high-speed interfaces, for traffic surveillance.
- Excellent manageability with built-in SUSIAccess remote management, iManagement and Intel® AMT 8.0 software utilities.



Multiple Display Forms Interactive “Mirror”: Exploring a New Shopping Experience



Introduction

Imagine that you stop by a shopping mall, stand in front of a video wall that behaves as a virtual mirror, and you can try on clothes and accessories from different stores in the shopping mall without actually going into those stores. You pick items from menus on the interactive display and enjoy virtual try-ons, taking a few steps back or forward to line up your image with the clothes on the screen, to see how you look in those outfits. You command the device simply by moving your hands in the air without any need to touch the screen.

Application Requirements

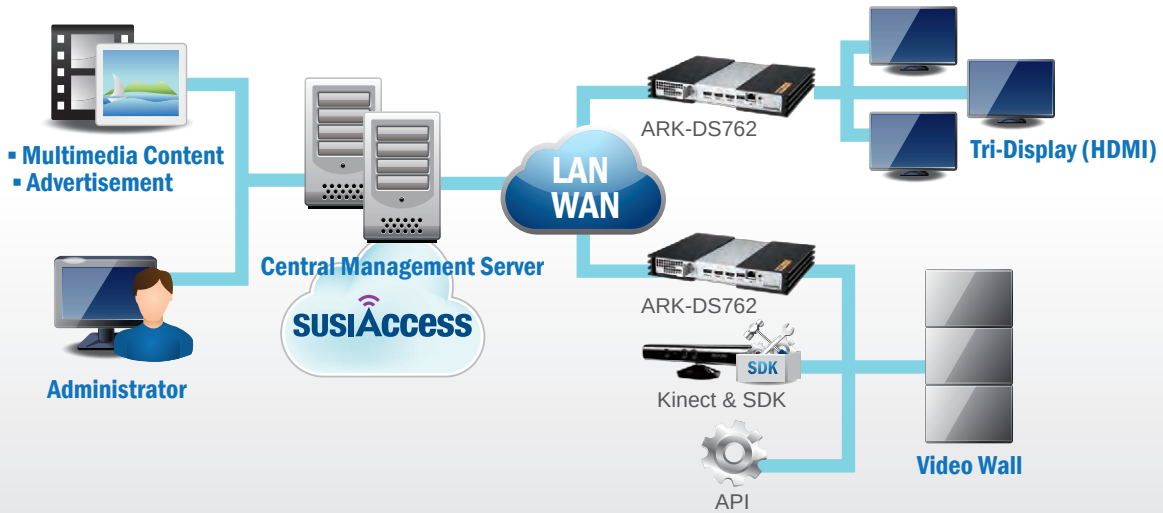
This scenario can be realized through use of a certain slim digital signage player. It needs a powerful graphics engine that supports three independent HDMI displays, and integrates Microsoft®s Kinect™ technology that allows a screen to become a virtual interactive mirror that can be controlled with gestures or spoken commands.

System Solutions

A video wall or the interactive mirror application attracts customer attention and stimulates consumption; a powerful CPU and compelling graphics performance are musts for carrying out eye-catching advertisement or interactive applications. ARK-DS762 utilizes the 3 rd generation Intel® Core™i7 processor, despite its small, slim form factor, can support a video wall application, which, as mentioned, could formerly only be achieved with a large, server-grade IPC. This is especially good for shopping malls or high street shops, where rental costs are elevated and interior space is limited and valuable. ARK-DS762, measuring only 240 x 174.5 x 35 mm, approximately the size of a notebook, can be installed and easily hidden behind the screen. The signage player may be inserted into an accessory guide rail, so it can easily be installed and removed for maintenance without disturbing the monitors. The integration with Kinect™ motion-sensing technology gives this video wall application a whimsical twist: the monitor can be transformed into a mirror. ARK-DS762 is preloaded Advantech’s own remote control hardware monitoring technology, SUSIAccess, which provides computers with off-site system diagnosis and self-recovery capabilities. These features come together to provide a platform that can be used to build interactive displays for retail stores.

Benefits

- High graphic computing performance with Microsoft® Kinect™ technology integrated.
- Easy management with Advantech SUSIAccess remote device management for security, backup and recovery.
- Its rich and versatile I/O interfaces give developers the flexibility to create unlimited applications.



Multi-touch and Rugged Display Kits for Clinical Patient Monitoring Platform



Introduction

Nowadays, the clinical patient monitoring platform is prevalently used in healthcare centers, allowing clinician, nurses and medical personnel to access and update the physiologic status of the patient. The clinical platform presents patient situations with color-based indicators and enhances patient safety and clinical efficiency. Moreover, the platform is usually designed with a separate monitor and databox, bringing the convenience and flexibility to clinician allowing the choice of where to place it and how to set it up.

Application Requirements

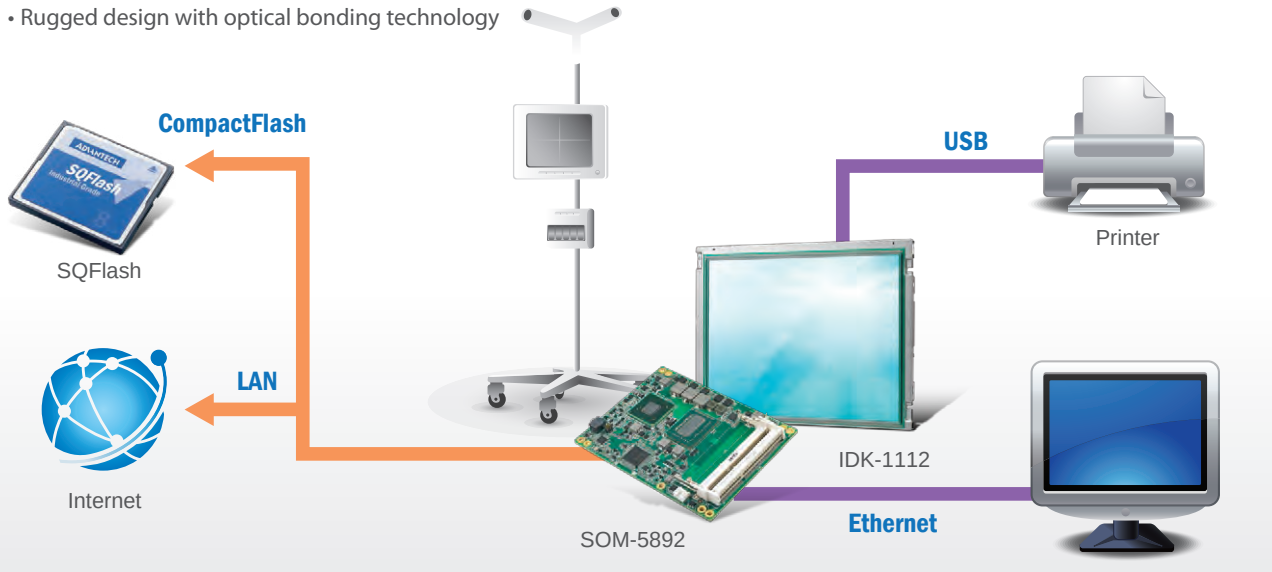
The customer was looking for a reliable display solution for their new clinical platform. First, the clinical platform needed to be designed with an interactive touch interface, be easy to read, and allow intuitive operation. Secondly, the customer required a unique and elegant ID design for brand recognition. Lastly, the separate monitor from the clinical platform must be rugged enough to take the bumps, knocks and drops of mobile use.

System Solutions

Advantech proposed a customized IDK-1112, a 12.1" XGA LCD kit integrated with projected capacitive touch solution. To support multiple touch features for even more intuitive operations, Advantech helped customize the firmware of the touch controller so the display can support up to 10-point simultaneous touch functions. Moreover, the IDK-1112 was designed with a custom-made cover glass with the customer's logo on it and black border printing that provided a flat design and elegant ID. The tempered cover glass of 3mm thickness provides a ruggedized design to prevent vandalism. The flat anti-smudge coated surface also prevents finger prints and is easy to clean and maintain. In addition, Advantech used optical bonding technology to assemble the projected capacitive touch screen and LCD panel, so IDK-1112 provides low reflection and better readability even under strong ambient light. Special optical adhesive helps protect users from injury even if the touch screen is cracked, and the glass won't break into pieces and hurt people. Last but not least, IDK-1112 works perfectly with SOM-5892, an embedded QM77 platform, providing customers with a ready-to-use solution.

Benefits

- Customized projected capacitive touch solution for up to 10-point operation
- Custom cover glass for unique and elegant ID
- Rugged design with optical bonding technology





Product Datasheets

1 RISC Computing Platforms

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To view all RISC Computing Platforms, please visit www.advantech.com/products

RISC Computing Platforms

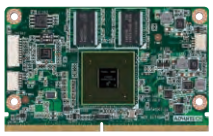
Computer-on-Modules



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Selection Guide

Model Name		ROM-1210	ROM-3420	ROM-5420	ROM-7420
Form Factor		RTX1.6	RTX2.0	SMARC	QSeven
Processor System	CPU	Freescale ARM Cortex-A8 i.MX53 800 MHz	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz	Freescale ARM Cortex-A9 i.MX6 1GHz
Memory	Technology	DDR3 800 MHz	DDR3 1066 MHz	DDR3 1066 MHz	DDR3 1066 MHz
	Capacity	On-board DDR3 512 MB	On-board DDR3 1 GB	On-board DDR3 1 GB	On-board DDR3 1 GB
	Flash	2 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	2 24-bit LVDS, 1024 x 768	1 Single 24-bit LVDS, 1366 x768	1 Single 24-bit LVDS, 1366 x 768	2 24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch
	HDMI	-	1920 x1080	1920 x 1080	1920 x 1080
	Parallel RGB	1 24-bit TTL, 1600 x 1200	1 24-bit TTL, 2048 x 1536	1 24-bit TTL, 2048 x 1536	-
	VGA	-	-	-	1920 x 1080
	Graphics Engine	1 IPU. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX5 integrated RMII	Freescale i.MX6 integrated RGMII	Freescale i.MX6 integrated RGMII	Freescale i.MX6 integrated RGMII
	Speed	1 x 10/100 Mbps	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps
RTC	RTC	-	Yes	Yes	Yes
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec	256-level timer interval, from 0 ~ 128 sec	256-level timer interval, from 0 ~ 128 sec	256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	-	1 PCIe, 1 x Lane	1 PCIe, 1 x Lane	1 PCIe, 1 x Lane
	SATA	1 SATA I	1 SATA II	1 SATA II	-
	USB	1 USB 2.0, 1 USB 2.0 OTG	1 USB 2.0, 1 USB 2.0 OTG	1 USB 2.0, 1 USB 2.0 OTG	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I²S	I²S	I²S	I²S
	SPDIF	-	-	1	-
	SDIO	2	1	1	1
	Serial Port	5 UART (2 x 2 wire, 3 x 4 wire w/ 3.3V)	3 UART (3 x 4 wire w/ 3.3V)	4 UART (2 x 2 wire, 2 x 4 wire w/ 3.3V)	4 UART (4 x 2 wire w/ 3.3V)
	SPI	1	2	4	1
	CAN	2 x CAN bus 2.0B	2 x CAN bus 2.0B	2 x CAN bus 2.0B	2 x CAN bus 2.0B
	GPIO	20	10	12	8
	I²C	2	4	5	3
	Camera Input	-	1 MIPI v1.0, 4 x Lane	1 MIPI v1.0, 4 x Lane	-
	System Bus	Address:25 bits Data:16 bits	Address: 26 bits Data: 16 bits	-	-
	Touch	1	-	-	-
	Keypad	6 x 6 Matrix	-	-	-
Power	Power Supply Voltage	3.3 ~ 3.6 V	5 ~ 24 V	3 ~ 5.25 V	5 V
	Power Consumption	2.2W	TBD	TBD	3.16W
Environment	Operational Temperature	0 ~ 60° C/ -40 ~ 85° C	0 ~ 60° C/ -40 ~ 85° C	0 ~ 60° C/ -40 ~ 85° C	0 ~ 60° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	68 x 68 mm	68 x 68 mm	82 x 50 mm	70 x 70 mm
Operating System		Linux Kernel v2.6 (WEC7 by project support)	Linux Kernel v3.0.35	Linux Kernel v3.0.35	Linux Kernel v3.0.35
Certifications		CE/FCC Class A	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B
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Single Board Computers

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Selection Guide

Model Name		RSB-4210	RSB-4410
Form Factor		3.5" SBC	3.5" SBC
Processor System	CPU	Freescale ARM Cortex-A8 i.MX53 800 MHz	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz
	Technology	DDR3 800 MHz	DDR3 1066 MHz
	Capacity	On-board DDR3 512 MB	On-board DDR3 1 GB
	Flash	2 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	2 x 24-bit LVDS	1 x 18/24-bit LVDS
	HDMI	-	1
	VGA	1	1
	Graphics Engine	1 IPU. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX53 integrated RMII	Freescale i.MX6 integrated RGMII
	Speed	2 x 10/100 Mbps	1 x 10/100/1000 Mbps
WatchDog Timer		Yes	Yes
I/O	SATA	1	-
	SATA Power	Yes	-
	USB	3 USB 2.0 1 USB 2.0 OTG	1 USB 2.0 and 2 USB pin header
	Audio	Line-in, Speaker-out, Mic-in	1 x Line-out
	SPDIF	-	-
	SDIO	1 SD Slot, 1 Pin header	1 SD Slot
	Serial Port	2 x 2 wire pin header 1 x RS-485, 1 x 2 wire DB9	2 x 2 wire UART, 1 x 4 wire UART
	SPI	1	-
	CAN	1	-
	GPIO	20-pin 3.3V TTL Level GPIOs	-
	I²C	1	-
	System Bus	Yes	-
	Touch	4-wire resistive type	-
	Keypad	6 x 6 matrix	-
	Button	-	1 x Reset button
Expansion	Mini PCIe	1 x mini PCIe slot (Only USB Signal)	1 x mini PCIe slot
	SD Socket	1 x SD slot	1 x SD slot
	SIM	1 x SIM slot	1 x SIM slot
Power	Power Supply Voltage	9 ~ 24 V	12 V
	Power Type	DC-in	DC-in
	Power Consumption	2.3 Watts	2.3 Watts
Environment	Operational Temperature	0 ~ 60° C/ -40 ~ 85° C	0 ~ 60° C
	Operating Humidity	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	146 x 102 x 20 mm	146 x 102 x 20 mm
Operating System		Linux Kernel v2.6	Linux Kernel v3.0.35
Certifications		CE/FCC Class A	CE/FCC Class B
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Box Computers

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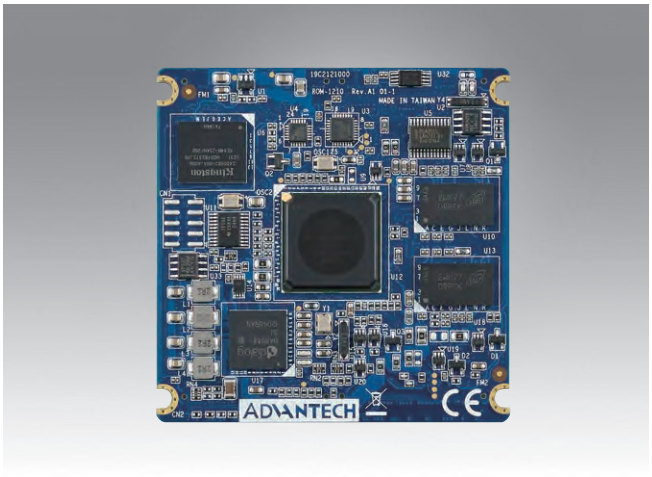


Selection Guide

Model Name		UBC-DS31	UBC-200
Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz	Freescale ARM Cortex-A9 i.MX6 Dual/Quad 1 GHz
Memory	Technology	DDR3 1066 MHz	DDR3 1066 MHz
	Capacity	On-board DDR3 1 GB	On-board DDR3 1 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	HDMI	1	1
	VGA	1	-
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP Encoder: MPEG-4 SP, H.264 BP, H.263	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP Encoder: MPEG-4 SP, H.264 BP, H.263
Ethernet	Chipset	Freescale i.MX6 integrated RGMII	Freescale i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps
RTC	RTC	Yes	Yes
WatchDog Timer	WatchDog Timer	Yes	Yes
I/O	USB	1 USB 2.0	1 USB 2.0
	Audio	1 x Line-out	-
	SPDIF	-	-
	SDIO	1 x SD slot	1 x SD slot
	Serial Port	1 x 4 wire UART	-
	Button	1 Reset button	1 Reset button
Indicator	LED	2 Green LED for system power and RF status	1 Green LED for power
Expansion	SD Socket	1 x SD slot	1 x SD slot
Power	Power Supply Voltage	12 V	9~24 V
	Power Type	DC-in	DC-in
	Power Consumption	2.3 Watts	3 Watts
Environment	Operational Temperature	0 ~ 40° C	0 ~ 60° C/ -20 ~ 70° C
	Operating Humidity	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	191 x 129 x 30 mm with metal plate 166 x 117 x 30 mm without metal plate	108 x 79 x 30 mm
	Mounting	Wall mount, VESA 75/100, Flexible mount with two screw holes on the metal plate	Wall mount, DIN Rail
Mechanical	Weight	265g	312g
Operating System	Operating System	SUSIAccess for Signage	Linux Kernel v2.6.35
Certifications		CE/FCC Class B	CE/FCC Class B
Page		1-16	1-18

ROM-1210

Freescale ARM Cortex-A8 i.MX53 RTX Module



Features

- Freescale ARM Cortex-A8 i.MX53 800 MHz high performance processor
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- Supports full HD 1080p video decode and HD 720p video encode hardware engine
- Freescale Smart Speed Technology supports low power consumption
- Industrial design with 3.3V I/O voltage and wide range working temperature
- Rich I/O for high expansion capability
- Supports SATA storage interface and CAN-bus for vehicle applications
- Supports Android 2.3, Embedded Linux 2.6, Windows® Embedded Compact 7

Introduction

Industrial Design, I/O Intensive COM

ROM-1210 Computer-on-Module (COM) integrates an ARM Cortex-A8 800MHz Freescale i.MX53 series ultra low power SoC and I/O solution chips to be Windows® Embedded Compact 7, and Linux solution-ready! Freescale i.MX53 supports 2D, 3D graphics acceleration, full HD 1080P video decoding and a HD 720p video encoding hardware engine. ROM-1210 with 3.3V I/O Voltage current and wide-range temperature support is specially designed for industrial applications.

Design-in Package Ensures Efficient Evaluation and Implementation

The Design-in Package not only includes all necessary H/W boards, fixtures and LCD related cables, but also includes the Advantech-customized API, utility & reference codes. And of course, it includes all design related documentations and a white paper for detailed technical know-how.

Two supporting mechanisms are included in the Design-in Package:

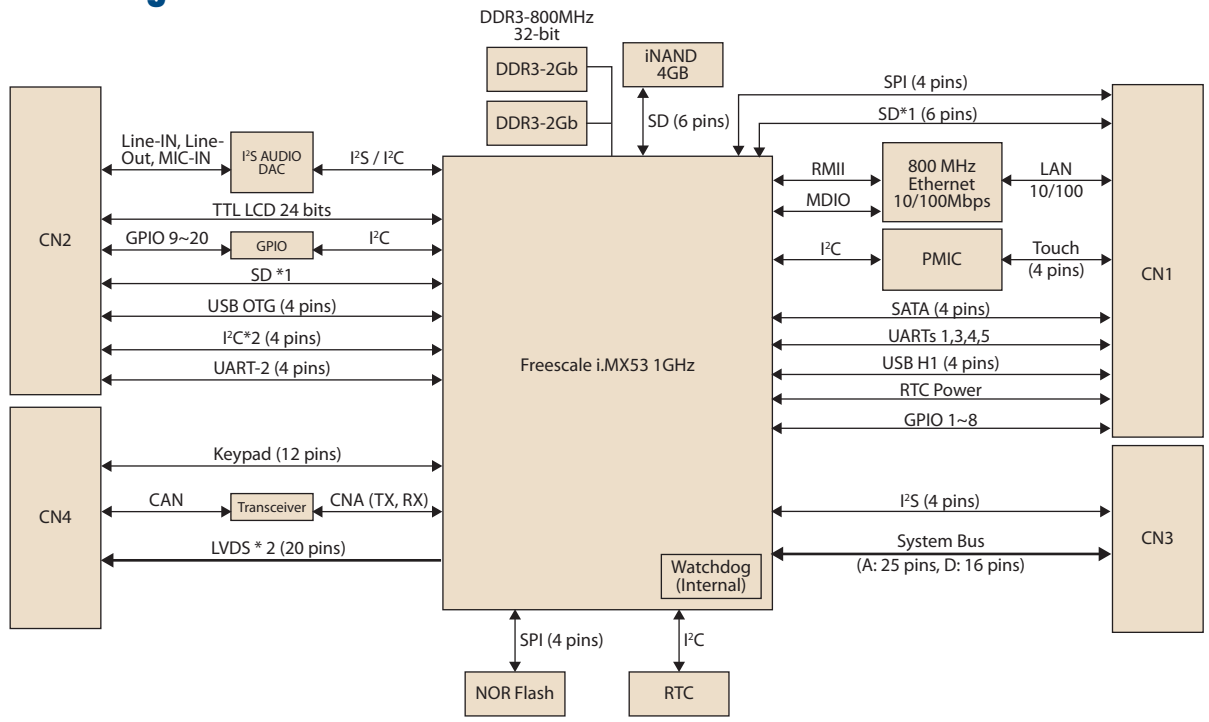
Reference Kit: Including Advantech reference Customer Solution Board (CSB) and all documentation for CSB design and manufacture (e.g. : Schematics, and pin definition file).

LCD Kit: Including a LCD panel with touch screen and related cables. All goods are pre-verified and supported in Advantech's reference S/W package.

Specifications

Form Factor		RTX1.6
Processor System	CPU	Freescale ARM Cortex-A8 i.MX53 800 MHz
Memory	Technology	DDR3 800 MHz
	Capacity	On-board DDR3 512 MB
	Flash	2 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	2 x 24-bit LVDS, 1024 x 768
	HDMI	-
	Parallel RGB	1 TTL 24-bit, 1600 x 1200
	VGA	-
	Graphics Engine	1 IPU. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX5 integrated RMII
	Speed	1 x 10/100 Mbps
RTC	RTC	-
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	-
	SATA	1 SATA I
	USB	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I²S
	SPDIF	-
	SDIO	2
	Serial Port	5 UART (2 x 2 wire, 3 x 4 wire w/ 3.3V)
	SPI	1
	CAN	2 x CAN bus 2.0B
	GPIO	20
	I²C	2
	Camera Input	-
	System Bus	Address:25 bits, Data:16 bits
	Touch	1
	Keypad	6 x 6 Matrix
Power	Power Supply Voltage	3.3 ~ 3.6 V
	Power Consumption	2.2W
Environment	Operational Temperature	0 ~ 60° C/ -40 ~ 85° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	68 x 68 mm
Operating System		Linux Kernel v2.6 (WEC7 by project support)
Certifications		CE/FCC Class A

Block Diagram

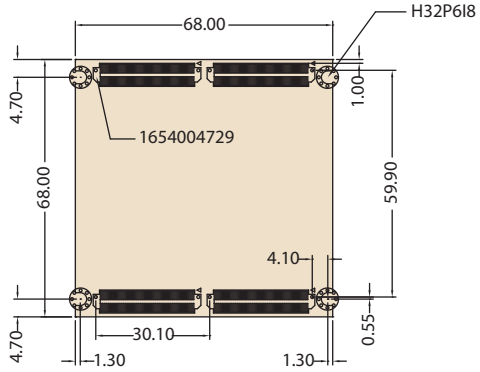


Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	USB OTG	Display	SATA	SD	CANBus	I²C	SPI	Size	Power Input	Operating Temperature
ROM-1210CF-A78AAE	Freescale i.MX536 800 MHz	512 MB	2 GB	5	1	1	1	1 x 24-bit LVDS	Yes	2	1	2	1	68 x 68 x 7.5 mm	3.3 V & 3.6 V +-5%	0 ~ 60° C
ROM-1210WF-A78AAE	Freescale i.MX536 800 MHz	512 MB	2 GB	5	1	1	1	1 x 24-bit LVDS	Yes	2	1	2	1	68 x 68 x 7.5 mm	3.3 V & 3.6 V +-5%	-40 ~ 85° C

Dimensions

Unit: mm



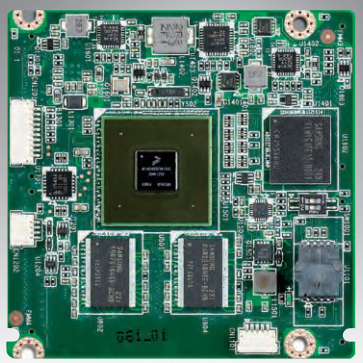
Design-in Package

Part No.	Description
ROM-1210DK-B00E	Development board for ROM-1210
Power cord	1700001524 for 3-pin USA standard power cord
	170203183C for 3-pin Europe standard power cord
	170203180A for 3-pin UK standard power cord

ROM-3420

Freescale ARM Cortex-A9 i.MX6 RTX2.0 Module

Preliminary



Features

- Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz high performance processor
- Onboard DDR3 1 GB memory / 4 GB Flash
- Supports wide range power input 5V~24V
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- Supports full HD 1080p video decode and HD 1080p video encode hardware engine
- Supports 1 PCIe, 1 GbE, 1 USB 2.0, 1 USB OTG2.0, 1 SATAII, 4 I²C, 1 I²S, 1 Camera in, 2 CANbus, 10 GPIO, 1 System bus
- Optional thermal solution

Introduction

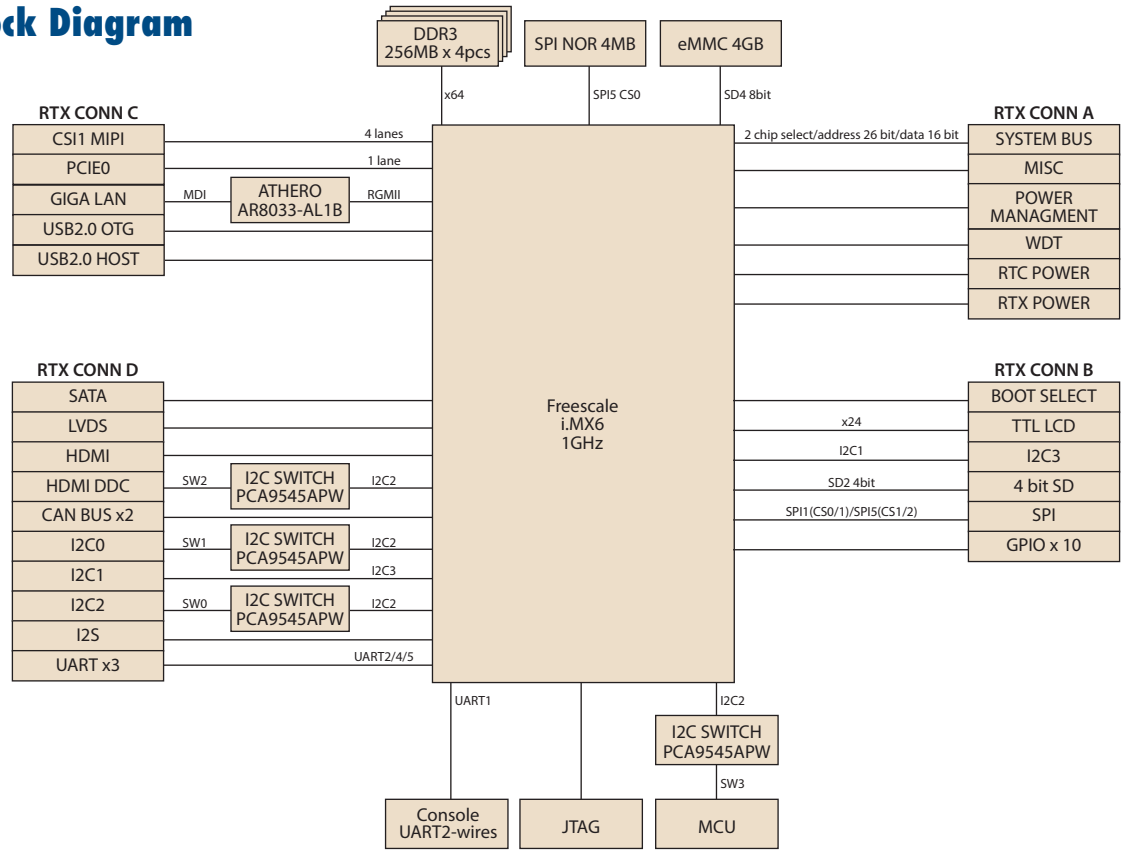
ROM-3420 RTX2.0 module integrates an ARM Cortex A9 Dual 1 GHz Freescale i.MX6 series ultra low power SoC and I/O solution chips to be Linux solution-ready! Freescale i.MX6 supports 2D, 3D graphics acceleration, full HD 1080P video decoding encoding hardware engine. ROM-3420 supports 5V~24V wide range power input and wide temperature design for industrial applications.

ROM-3420 RTX2.0 module has an Advantech ROM-DB3900 evaluation carrier board for easy integration and hardware design reference, and also provides Linux BSP utility and reference codes for application development and device integration.

Specifications

Form Factor		RTX2.0
Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz
Memory	Technology	DDR3 1066 MHz
	Capacity	On-board DDR3 1 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 Single 24-bit LVDS, 1366 x768
	HDMI	1 HDMI, 1920 x1080
	Parallel RGB	1 24-bit TTL, 2048 x 1536
	VGA	-
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	1 PCIe, 1 x Lane
	SATA	1 SATA II
	USB	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I²S
	SPDIF	-
	SDIO	1
	Serial Port	3 UART (3 x 4 wire w / 3.3V)
	SPI	2
	CAN	2 CAN bus 2.0B
	GPIO	10
	I²C	4
	Camera Input	1 MIPI V1.0 (x 4 Lane)
	System Bus	Address: 26 bits, Data: 16 bits
	Touch	-
	Keypad	-
Power	Power Supply Voltage	5 ~ 24 V
	Power Consumption	TBD
Environment	Operational Temperature	0 ~ 60° C/ -40 ~ 85° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	68 x 68 mm
Operating System		Linux Kernel v3.0.35
Certifications		CE/FCC Class B

Block Diagram

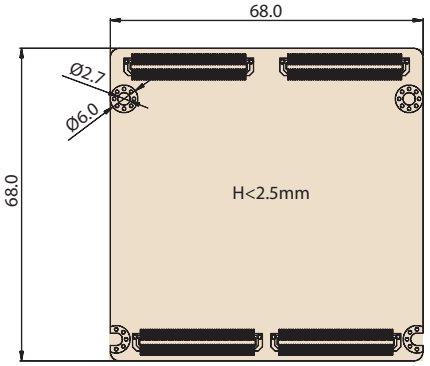


Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	USB OTG	Display	SATA	PCIe	HDMI	SD	CANbus	I²C	SPI	Size	Power input	Operating Temperature
ROM-3420CD-MDA1E	i.MX6 Dual 1GHz	1 GB	4 GB	3	1	1	1	1 x 24-bit LVDS 1 x 24-bit TTL	1	1	1	1	2	4	2	68 x 68 x 7 mm	5 V ~ 24 V	0 ~ 60° C
ROM-3420WD-MDA1E	i.MX6 Dual 1GHz	1 GB	4 GB	3	1	1	1	1 x 24-bit LVDS 1 x 24-bit TTL	1	1	1	1	2	4	2	68 x 68 x 7 mm	5 V ~ 24 V	-40 ~ 85° C

Dimensions

Unit: mm



Development Board

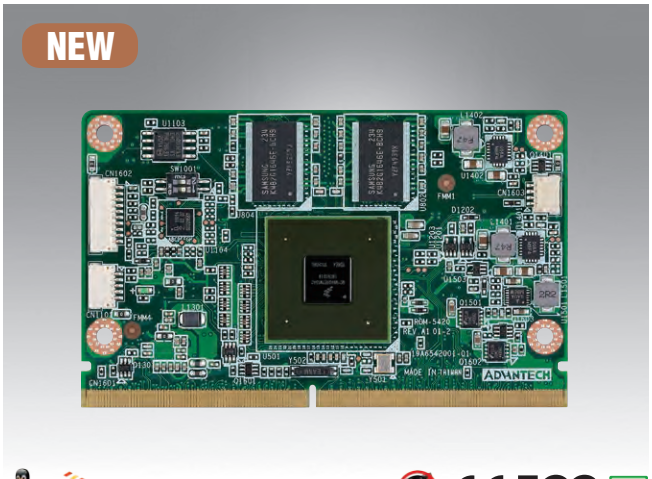
Part No.	Description
ROM-DB3900-SWA1E	Development board for RTX2.0 module

Optional Accessories

Part No.	Description
1700001524	Power Cord 3P UL 10A 125V 180cm
SQF-ISDS1-2G-86E	SQF SD C6 SLC 2G, 1CH (-40 ~ 85° C)
EWM-W142F01E	802.11 b/g/n,AR9287,2T2R,Full size Mini PCIe
1750007050-01	WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable)
1750000318	EMI Antenna 2DBI 2.4GHz SMA CONN for ARK-3384 (WiFi Antenna)
EWM-C106FT01E	Cellular, HSUPA/WCDMA/GPRS,Full Mini PCIe
1750007156-01	Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable)
1750005865	Antenna L=10.9cm 50Ohm AN8921F-5701SM (3G Antenna)

ROM-5420

Freescale ARM Cortex-A9 i.MX6 SMARC Module



Features

- Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz high performance processor
- Onbard DDR3 1 GB
- Parallel RGB, HDMI, Single channel 24bit LVDS, 1366 x 768
- Supports 4 GB eMMC Flash, 1 SD/MMC, 1 SATA
- 2 CAN, 4 UART, 5 I²C, 12 GPIO, 1 PCIe, 1 camera input and 1 Gigabit LAN
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- Supports full HD hardware encode/decode engine
- Supports image protection

Introduction

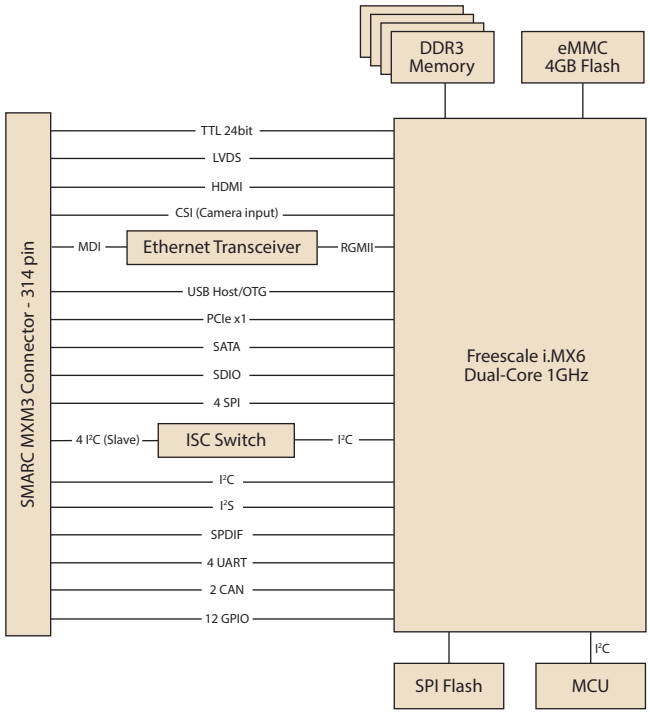
ROM-5420 series SMARC module has an integrated Freescale i.MX6 Cortex-A9 SoC. Freescale i.MX6 supports 2D/3D graphics accelerators, a full HD 1080p encode/decode hardware engine and two independent display ouputs. ROM-5420 series support security protection and it protects user image from plagiarism. The camera input and power input +3V~5.25V support are specially designed for portable applications.

ROM-5420 SMARC module has Advantech ROM-DB5900 evaluation carrier board for easy integration and hardware design reference, and also provides Linux BSP, a schematic check tool, test utilities and reference codes for application development and device integration.

Specifications

Form Factor		SMARC
Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz
Memory	Technology	DDR3 1066 MHz
	Capacity	On-board DDR3 1 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 Single 24-bit LVDS, 1366 x 768
	HDMI	1920 x 1080
	Parallel RGB	1 24-bit TTL, 2048 x 1536
	VGA	-
	Graphics Engine	3 GPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	1 PCIe, 1 x Lane
	SATA	1 SATA II
	USB	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I²S
	SPDIF	1
	SDIO	1
	Serial Port	4 UART (2 x 2 wire, 2 x 4 wire w/ 3.3V)
	SPI	4
	CAN	2 x CAN bus 2.0B
	GPIO	12
	I²C	5
	Camera Input	1 MIPI v1.0, 4x Lane
	System Bus	-
	Touch	-
	Keypad	-
Power	Power Supply Voltage	+3 ~ 5.25 V
	Power Consumption	TBD
Environment	Operational Temperature	0 ~ 60° C/ -40 ~ 85° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	82 x 50 mm
Operating System		Linux Kernel v3.0.35
Certifications		CE/FCC Class B

Block Diagram

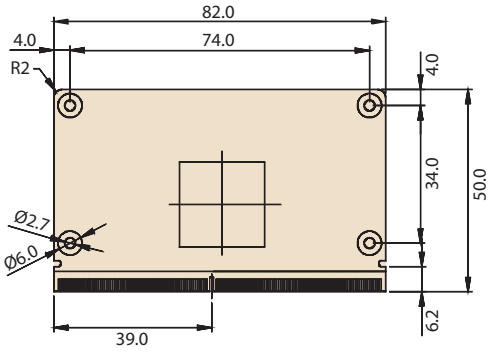


Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	USB OTG	Display	SATA	PCIe	HDMI	SD	CANbus	I²C	SPI	Size	Power input	Operating Temperature
ROM-5420CD-MDA1E	i.mx6 Dual 1GHz	1 GB	4 GB	4	1	1	1	1x 24bit LVDS 1x 24bit TTL 1x HDMI	1	1	1	1	2	5	4	82 x 50 x 5 mm	3 ~ 5.25V	0 ~ 60° C

Dimensions

Unit: mm



Development Board

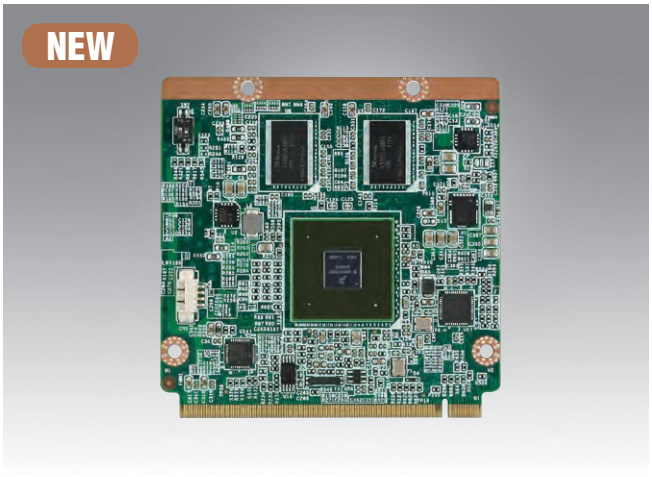
Part No.	Description	Quantity
ROM-DB5900-SW00E	SMARC Developmemt Board ROM-DB5900	1

Optional Accessories

Part No.	Description
1700022373-01	Debug port cable for ROM-3420/5420
9696ED2000E	Debug Adapter Board
1757003553	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
SQF-ISDS1-2G-86E	SQF SD C6 SLC 2G, 1CH (-40~85°C)
EWM-W142F01E	802.11 b/g/n,AR9287,2T2R,Full size Mini PCIe
1750007050-01	WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable)
1750000318	EMI Antenna 2DBI 2.4GHz SMA CONN for ARK-3384 (WiFi Antenna)
EWM-C106FT01E	Cellular, HSUPA/WCDMA/GPRS,Full Mini PCIe
1750007156-01	Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable)
1750005865	Antenna L=10.9cm 50Ohm AN8921F-5701SM (3G Antenna)

ROM-7420

Freescale ARM Cortex-A9 i.MX6 QSeven Module



Features

- Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz high performance processor
- Onboard DDR3 memory 1 GB
- Onboard eMMC NAND Flash 4 GB
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators, full HD 1080p video codec
- VGA, HDMI, 24-bit LVDS
- 2 CAN, 4 UART, 3 I²C, 8 GPIO
- 2 USB, 1 SD/MMC
- 1 10/100/1000 Mbps Ethernet; 1 PCIe x1 Gen2
- Optional thermal solution

Introduction

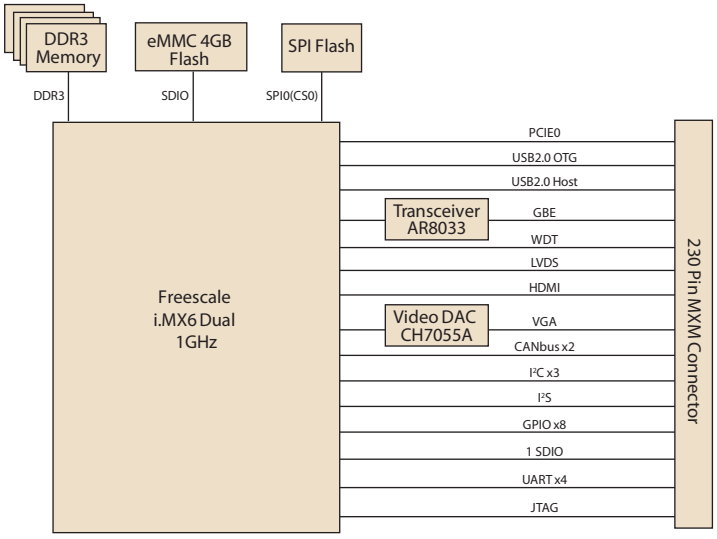
ROM-7420 QSeven Module integrates ARM Cortex-A9 Freescale i.MX6 series ultra low power SoC and I/O solution chips to be Linux support ready. Freescale i.MX6 supports 2D, 3D graphics acceleration, full HD 1080P video decoding and an HD 1080p video encoding hardware engine.

ROM-7420 QSeven module has Advantech ROM-DB7500 Evaluation Carrier Board for easy integration and design reference; we also offer referenced schematics and layout checklists for carrier board development. Additionally, Linux BSP, test utilities, HW design utilities and reference codes are ready for application development and device integration.

Specifications

Form Factor		QSeven
Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz
Memory	Technology	DDR3 1066 MHz
	Capacity	On-board DDR3 1 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	2 x 24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch
	HDMI	1920 x 1080
	Parallel RGB	-
	VGA	1920 x 1080
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	1 PCIe, 1 x Lane
	SATA	-
	USB	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I²S
	SPDIF	-
	SDIO	1
	Serial Port	4 UART (4 x 2 wire, w/ 3.3V)
	SPI	1
	CAN	2 x CAN bus 2.0B
	GPIO	8
	I²C	3
	Camera Input	-
	System Bus	-
	Touch	-
	Keypad	-
Power	Power Supply Voltage	5 V
	Power Consumption	3.16W (Max. load)
Environment	Operational Temperature	0 ~ 60° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	70 x 70 mm
Operating System		Linux Kernel v3.0.35
Certifications		CE/FCC Class B

Board Diagram



Ordering Information

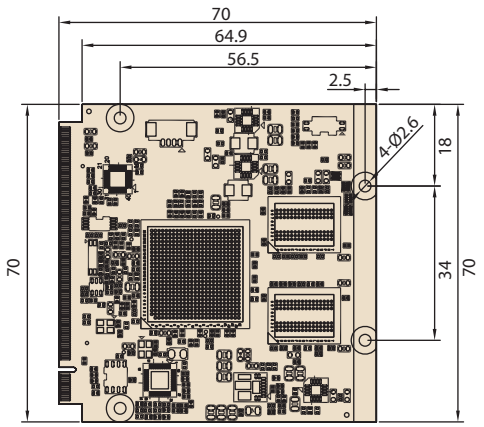
Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	USB OTG	Display	SATA	PCIe	HDMI	SD	CANbus	I²C	SPI	Size	Power Input	Operating Temperature
ROM-7420CD-MDA1E	i.MX6 Dual 1 GHz	1 GB	4 GB	4	1	1	1	2 x 24-bit LVDS 1 x VGA	-	1	1	1	2	3	1	70 x 70 x 5mm	5V	0 ~ 60° C
ROM-7420CS-MCA1E	i.MX6 Solo 1 GHz	512 MB	4 GB	4	1	1	1	2 x 24-bit LVDS 1 x VGA	-	1	1	1	2	3	-	70 x 70 x 5mm	5V	0 ~ 60° C

Development Board

Part No.	Description
ROM-DB7500-SCA1E	Development board for RISC Q7 module

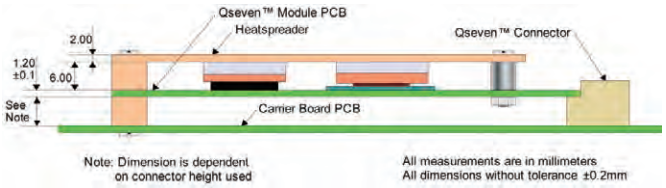
Dimensions

Unit: mm



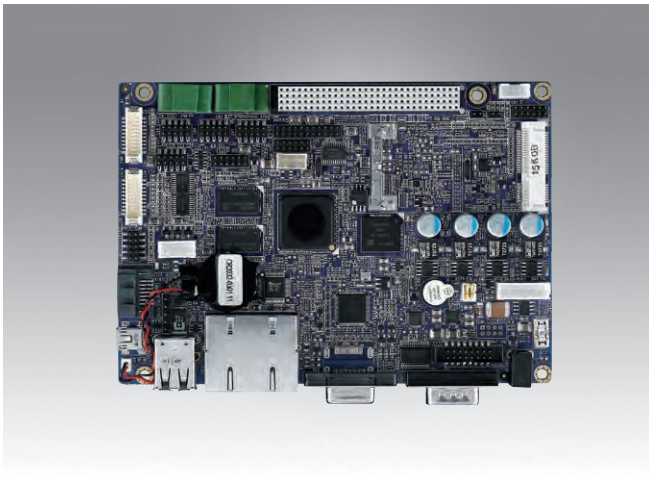
Optional Accessories

Part No.	Description
1700020442-01	Debug Port Cable for ROM-7420
9696MED2000E	Debug Port Adapter for ROM-7420
1757003553	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Code 3P Europe (WS-010+WS-083)183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
SQF-ISDS1-2G-86E	SQFlash SD card SLC 2G, 1CH (-40 ~ 85° C)
EWM-W142F01E	802.11 b/g/n,AR9287,2T2R,Full size Mini PCIe
1750007050-01	WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable)
1750000318	EMI Antenna 2DBI 2.4GHz SMA CONN for ARK-3384 (WiFi Antenna)
EWM-C106FT01E	Cellular, HSUPA/WCDMA/GPRS,Full Mini PCIe
1750007156-01	Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable)
1750005865	Antenna L=10.9cm 50Ohm AN8921F-5701SM (3G Antenna)
1960061913N001	Heatsink O-Freescale-S-5W 70x63x8-SC ROM-7420-60



RSB-4210

Freescale ARM Cortex-A8 i.MX53 SBC



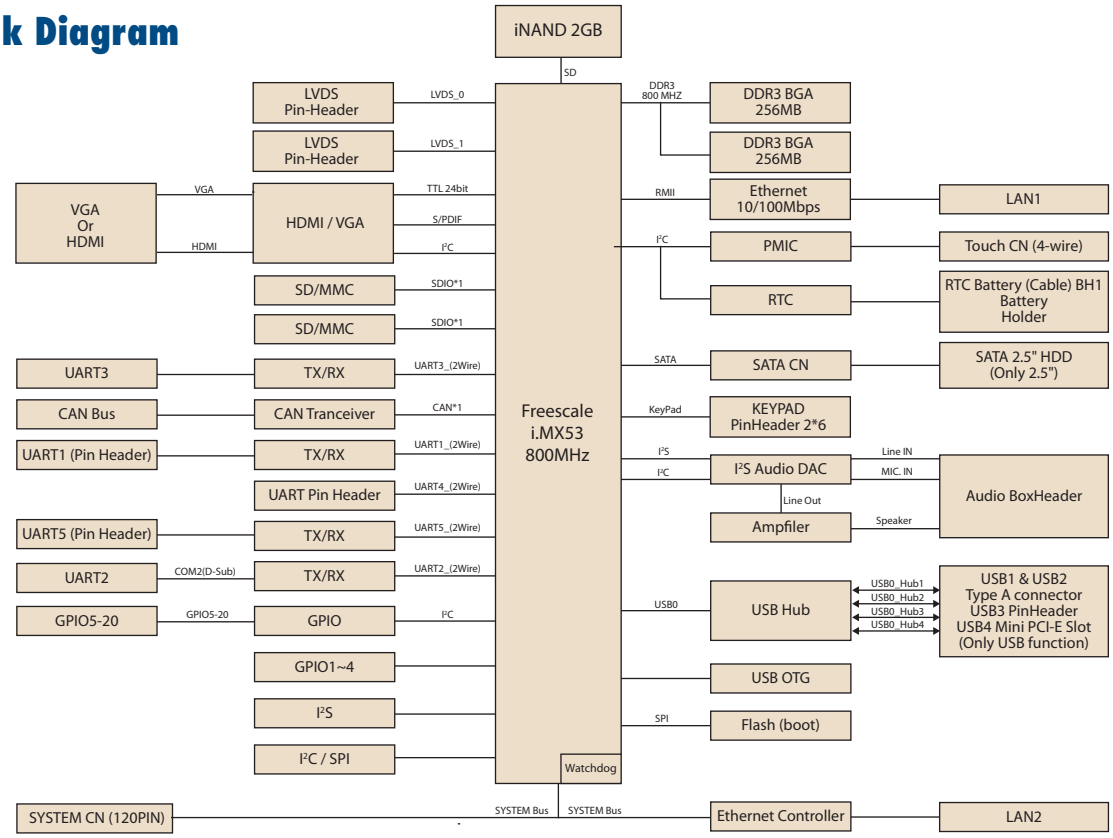
Features

- Freescale ARM® Cortex-A8 i.MX53 800MHz high performance processor
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- Supports full HD 1080p video decode and HD 720p video encode hardware engine
- LCD, Touch, UART, I²C, SPI, GPIO, USB, VGA, HDMI I/O interface
- Supports SATA storage interface and CAN-bus for vehicle applications
- DC power input support 9 ~ 24 V
- Supports Embedded Linux 2.6, Windows® Embedded Compact 7

Specifications

Form Factor		3.5" SBC
Processor System	CPU	Freescale i.MX53 800 MHz (ARM Cortex A8)
	Technology	DDR3 800 MHz
	Capacity	On-board DDR3 512 MB
	Flash	2 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	2 x 24-bit LVDS
	HDMI	-
	VGA	1
	Graphics Engine	1 IPU. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX53 integrated MII
	Speed	2x 10/100 Mbps
WatchDog Timer		Yes
I/O	SATA	1
	SATA Power	Yes
	USB	3 x USB 2.0 Host 1 x USB 2.0 OTG
	Audio	Line-in, Speaker-out, Mic-in
	SPDIF	-
	SDIO	2x (SD slot x1, pin header x1)
	Serial Port	2 x 2 wire pin header 1 x RS-485, 1 x 2 wire DB9 connector
	SPI	1
	CAN	1
	GPIO	20-pin 3.3V TTL Level GPIOs
	I2C	1
	System Bus	Yes
	Touch	4-wire resistive type
	Keypad	6 x 6 matrix
	Button	-
Expansion	Mini PCIe	Only USB signal
	SD Socket	1 x SD slot
	SIM	1 x SIM slot
Power	Power Supply Voltage	9 ~ 24 V
	Power Type	DC-in
	Power Consumption	2.3 Watts
Environment	Operational Temperature	0 ~ 60° C/ -40 ~ 85° C
	Operating Humidity	5%~95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	146 x 102 x 20 mm
Operating System		Linux V2.6
Certifications		CE/FCC Class A

Block Diagram

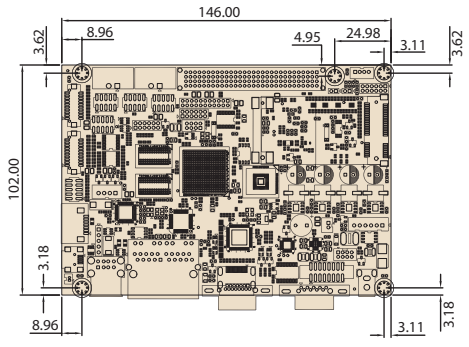


Ordering Information

Part No.	CPU	Memory	Flash	HDMI	VGA	LVDS	LAN	Serial Port	SATA	USB Host	USB OTG	System bus	SD	CANbus	Operating Temperature
RSB-4210CF-A78AAE	Freescale i.MX536 Cortex-A8 800 MHz	512 MB	2 GB	-	1	2	2	2 x 2 wire UART, 1 x RS232, 1 x RS485	Yes	4	1	Yes	2	Yes	0 ~ 60° C
RSB-4210WF-A78AAE	Freescale i.MX536 Cortex-A8 800 MHz	512 MB	2 GB	-	1	2	2	2 x 2 wire UART, 1 x RS232, 1 x RS485	Yes	4	1	Yes	2	Yes	-40 ~ 85° C

Dimensions

Unit: mm

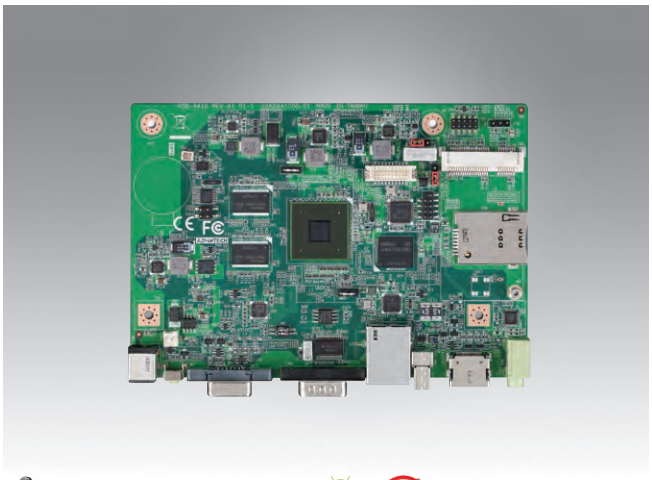


RSB-4210DK-B00E Design-in Package

Part No.	Description
RSB-4210DK-B00E	Evaluation kit for Freescale i.MX53 w/ Linux 2.6 512MB DDR3 SDRAM, 2 GB flash
Power cord	1700001524 for 3-pin USA standard power cord 170203183C for 3-pin Europe standard power cord 170203180A for 3-pin UK standard power cord

RSB-4410

Freescale ARM Cortex-A9 i.MX6 SBC



Features

- Freescale Cortex-A9 i.MX6 Solo/Dual core 1.0 GHz
- On-board DDR3 1 GB & 4 GB eMMC NAND Flash
- Supports full HD 1080P H/W video codec engine
- Networking capability of Giga LAN, WiFi, 3G and HSDPA
- Low power consumption
- Supports Linux BSP V3.0.35

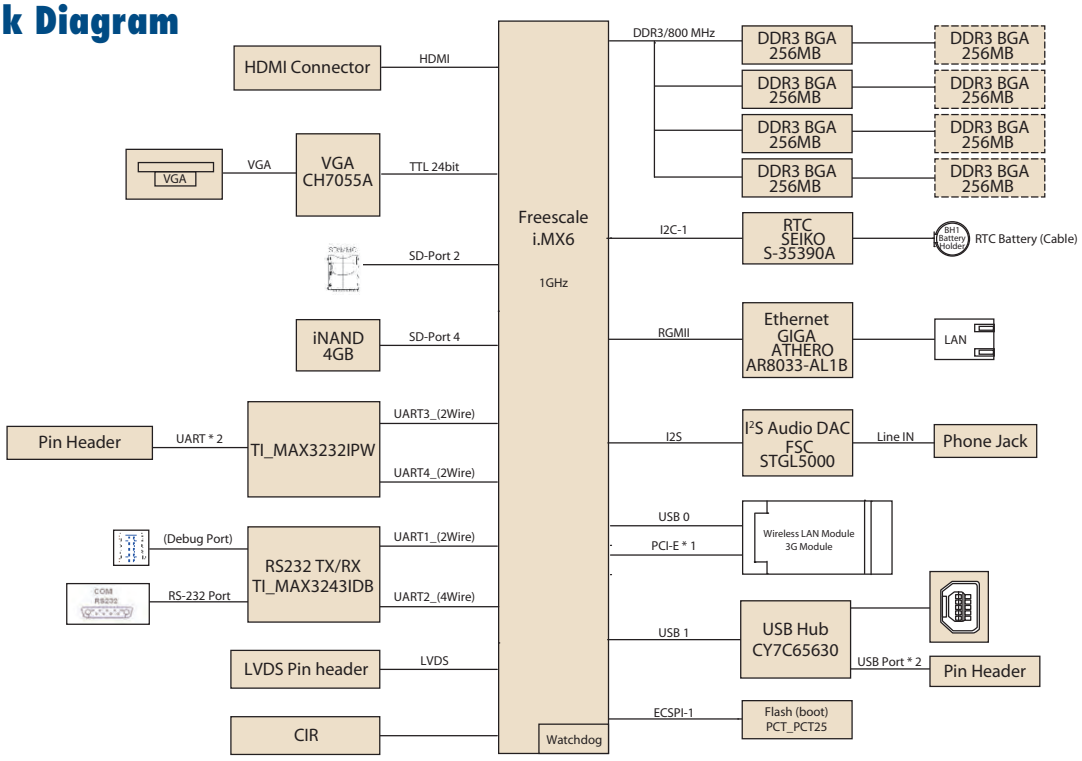
Introduction

RSB-4410 is an Advantech RISC 3.5" SBC powered by Freescale ARM® Cortex-A9 i.MX6 dual-core high performance processor, which provide sufficient power for Full HD video encoding/decoding, and also support Gigabit Ethernet for networking. RSB-4410 also supports miniPCIe and SIM card slot for WiFi and 3G module. Advantech will provide Linux BSP V3.0.35 for customer building up their own application software.

Specifications

Form Factor		3.5" SBC
Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Solo/Dual 1GHz
	Technology	DDR3 1066 MHz
	Capacity	On-board DDR3 512 MB / 1GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 single channel 18/24-bit LVDS
	HDMI	1
	VGA	1
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	SATA	-
	SATA Power	-
	USB	1 x USB Type A and 2 x USB pin header
	Audio	1 x Line-out
	SPDIF	-
	SDIO	2
	Serial Port	2 x 2 wires UART pin header 1 x 4 wires UART, DB9
	SPI	-
	CAN	-
	GPIO	-
	I2C	-
	System Bus	-
	Touch	-
	I/R	1 I/R remote control pin header
	Button	1 x Reset button
Expansion	Mini PCIe	1 x mini PCIe slot
	SD Socket	1 x SD slot
	SIM	1 x SIM slot
Power	Power Supply Voltage	12 V
	Power Type	DC-in
	Power Consumption	2.3 Watts
Environment	Operational Temperature	0 ~ 60° C
	Operating Humidity	5%~95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	146 x 102 x 20 mm
Operating System		Linux V3.0.35/ Android
Certifications		CE/FCC Class B

Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash	HDMI	VGA	LVDS	LAN	Serial Port	SATA	USB Host	USB OTG	System bus	SD	CANbus	Operating Temperature
RSB-4410CD-MDA1E	Freescale i.MX6 Dual 1 GHz	1 GB	4 GB	1	1	1	1	2 x 2 wire UART, 1 x RS232	-	3	1	-	1	-	0 ~ 60° C
RSB-4410CS-MCA1E	Freescale i.MX6 Solo 1 GHz	512 MB	4 GB	1	1	1	1	2 x 2 wire UART, 1 x RS232	-	3	1	-	1	-	0 ~ 60° C

Packing List

Part Number	Description	Quantity
RSB-4410	RSB-4410 SBC	1

Optional Accessories

Part Number	Description
1757003553	Adapter 100-240V 36W 12V 3A W/O PFC 9NA0361603
170203183C	Power Code 3P Europe (WS-010+WS-083)183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700001524	Power Cord 3P UL 10A 125V 180cm
1960051438N001	Cooler I-NB-ICH7 S-3W 31x31x12-WC DAC-BC05 40C
96LEDK-A070WV35NB1	Panel G070VW01 V1
1700021565-01	Debug cable
1700018730	USB cable
1700022161-01	UART cable
1700022130-01	LVDS cable
1700022131-01	Backlight cable

UBC-DS31

Freescale ARM Cortex-A9 i.MX6 Full HD RISC Signage Box



Features

- Freescale i.MX6 Cortex-A9 Dual 1 GHz
- On-board DDR3 1 GB & 4 GB Flash
- Supports Full HD 1080P H/W video codec engine
- Giga LAN networking capability
- Low power, fanless design
- Supports wall mount, VESA mount and a flexible mount with 2 screws
- Removable cover for SD card
- SUSIAccess for Signage

Introduction

UBC-DS31 provides enough power for Full HD video, and is powered by a Freescale ARM Cortex-A9 i.MX6 dual-core high performance processor with built-in Gigabit Ethernet for networking. It is easy to set up with its compact size and flexible mounting design, including wall mount, and VESA 75/100 mount. UBC-DS31 is easy to assemble in any application environment and comes preloaded with SUSIAccess software for remote management and Signage Player control.

SUSIAccess for signage is based on the Linux QT framework, and integrates multiple functions including content production and device management. "Content Producer" includes a content editor, layout editor and content description; "Device Conductor" supports status monitoring, content dispatch and firmware updates. Users can manage and control the content of all devices through Ethernet from servers and management centers

Specifications

Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz
Memory	Technology	DDR3 1066 MHz
	Capacity	On-board DDR3 1 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	HDMI	1
	VGA	1
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP Encoder: MPEG-4 SP, H.264 BP, H.263
Ethernet	Chipset	Freescale i.MX6 integrated RGMII
	Speed	1 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer	WatchDog Timer	Yes
I/O	USB	1
	Audio	1 Line-out
	SPDIF	-
	SDIO	1 x SD slot
	Serial Port	1 x RS-232 (CTS,RTS,Tx, Rx)
	Button	1 Reset button
Indicator	LED	2 Green LED for the system power and RF status
Expansion	SD Socket	1 SD slot
Power	Power Supply Voltage	12 V_{DC}
	Power Type	DC-in
	Power Consumption	2.3 Watts
Environment	Operational Temperature	0 ~ 40° C
	Operating Humidity	5%~95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	191 x 129 x 30 mm with metal plate 166 x 117 x 30 mm without metal plate
	Mounting	Wall mount, VESA 75/100, Flexible mount with two screw holes on the metal plate
Mechanical	Weight	265g
Operating System	SUSIAccess	SUSIAccess for Signage/ Android
Certifications		CE/FCC Class B

Software Key Features

SUSIAccess for Signage
Remote Device Management



Content Producer

- Three steps to to make content
- Layout templates
- Video/picture play list editor
- Marquee editor (size, color, direction...)
- Export content to USB disk

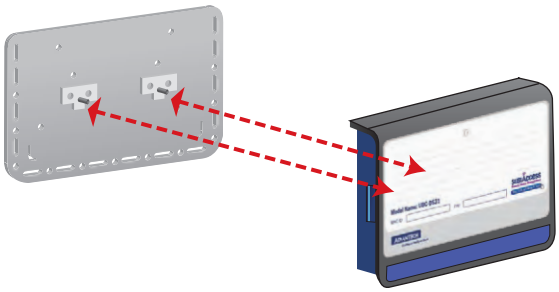


Device Conductor

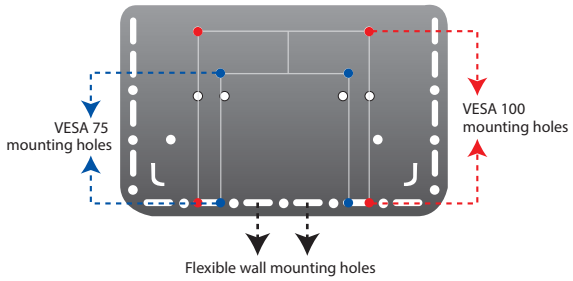
- Device information (Dispatch, Storage, System...)
- Remote dispatch
- Remote control (Volume, Brightness)
- Remote firmware upqrade
- Error status alarm

Simply Assembly

System docking



Fix to wall using standard VESA or flexible wall mounting



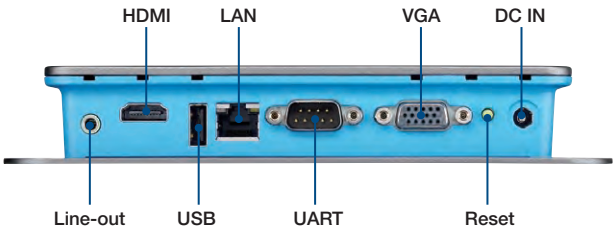
Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	HDMI	Size	Power input	Operating Temperature
UBC-DS31CD-MD00E	Freescale i.MX6 Dual 1 GHz	1 GB	4 GB	1	1	1	1	191 x 129 x 30 mm	12 V	0 ~ 40° C

Packing List

Part No.	Description	Quantity
1990022408T000	UBC-D31-SD COVER	1
1931041020	Screws for VESA mount	4
1930003218	Screws for system &VESA mount	2
2022DS3100	UBC-DS31 China RoHS	1
2002DS3110	Quick start Guide	1

External I/O



Optional Accessories

Part Number	Description
1757003553	Adapter 100-240V 36W 12V 3A W/O PFC 9NA0361603
170203183C	Power Code 3P Europe (WS-010+WS-083)183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700001524	Power Cord 3P UL 10A 125V 180cm
1990022422S000	Fixed rail 71.3Lx6.2W mm YJC-64C for UBC-DS31
1990022423S000	Fixed ring DIA:7.5-8.5 FWM-8K for UBC-DS31

UBC-200

Freescale ARM Cortex-A9 i.MX6 RISC Compact Box Computer



Features

- Freescale ARM Cortex-A9 i.MX6 Dual/Quad 1 GHz high performance processor
- Onboard DDR3 1 GB, up to 2 GB
- On board 4 GB eMMC Flash
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators, full HD 1080p video codec
- HDMI 1920x1080
- 1 USB 2.0, 1 10/100/1000 Mbps Ethernet; 1 SD Slot
- On board mini-PCIe connector for WIFI/3G module support
- Low power, fanless design
- Supports wall mount and Din-rail

Introduction

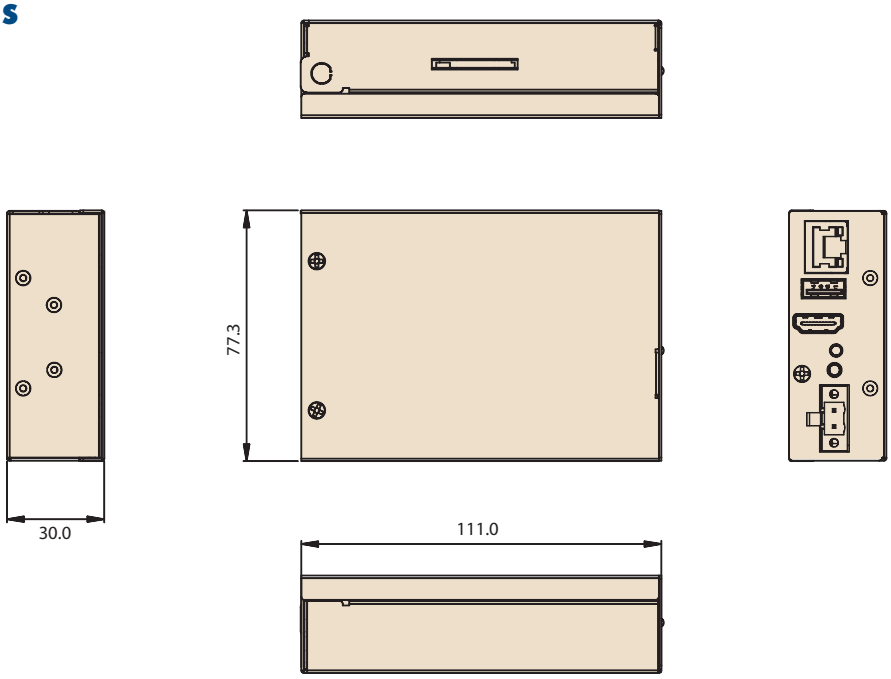
UBC-200 is an IP-based RISC compact box for industrial applications. With powerful ARM Freescale i.MX6 Cortex-A9 Dual/Quad core processor inside, UBC-200 is the best choice to fulfill requirements of CPU performance and power consumption. It supports USB 2.0, HDMI up to 1080p, and Gigabit Ethernet, as well as mini PCIe for WIFI/3G modules and an SD card for storage expansion. With the wall mount brackets and Din-rail enclosed in UBC-200 mounting kit, you can easily install it on a wall or sliding rail.

Specifications

Processor System	CPU	Freescale i.MX6 Dual Cortex-A9 Dual/Quad 1GHz
Memory	Technology	DDR3 1066 MHz
	Capacity	On-board DDR3 1 GB, up to 2 GB
	Flash	4 GB eMMC Flash for O.S. and 4 MB NOR Flash for Advantech boot loader
Graphics	HDMI	1
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	Freescale i.MX6 integrated RGMII
	Speed	1 10/100/1000 Mbps
	Connector	1 x RJ45
RTC	RTC	Yes
WatchDog Timer	WDT	Yes
Indicator and Button	Button	1 Reset button for system reboot
	LED	1 green LED for system power
	USB	1 x USB 2.0
	Mini PCIe	1
	SD Socket	1 x SD slot
	SIM Slot	1
Power	Power Supply Voltage	9 ~ 24 V_{DC}
	Power Type	Two poles lockable DC-in
	Power Consumption	3.16W (Max. load)
Environment	Operating Temperature	0 ~ 60° C
	Operating Humidity	5%~95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	108 x 79 x 30 mm
	Mounting	Wall mount, DIN-Rail
	Weight	312G
Operating System	Linux	V3.0.35
Certifications		CE/FCC Class B

Dimensions

Unit: mm



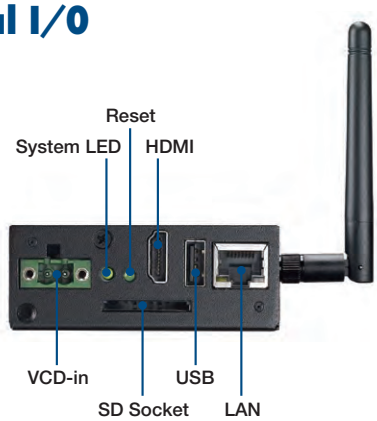
Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	HDMI	Size	Operating Temperature
UBC-200CD-MDA1E	Freescale i.MX6 Dual 1 GHz	1 GB	4 GB	-	1	1	1	111 x 77 x 30mm	0 ~ 60° C
UBC-200CQ-MEA1E	Freescale i.MX6 Quad 1 GHz	2 GB	4 GB	-	1	1	1	111 x 77 x 30mm	0 ~ 60° C

Optional Accessories

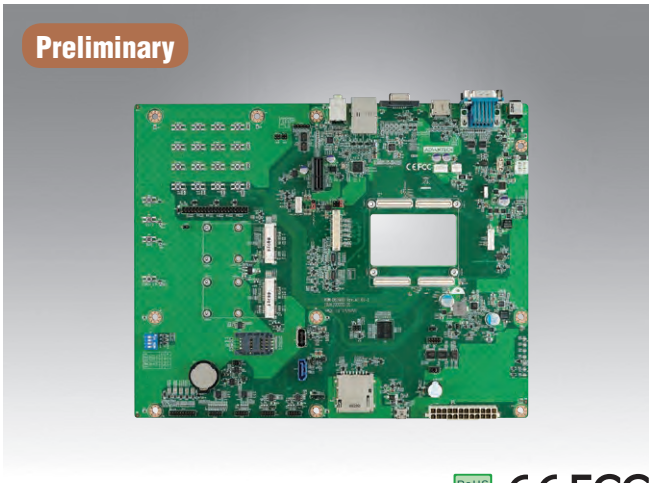
Part Number	Description
1757003553	ADAPTER 100-240V 36W 12V 3A
1700017968	DC-Jack/Plug-in cable
SQF-ISDS1-2G-86E	SQFlash SD card SLC 2G, 1CH (-40 ~ 85° C)
EWM-W142F01E	802.11 b/g/n,AR9287,2T2R,Full size Mini PCIe
1750007050-01	WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable)
1750000318	EMI Antenna 2DBI 2.4GHz SMA CONN for ARK-3384 (WiFi Antenna)
EWM-C106FT01E	Cellular, HSUPA/WCDMA/GPRS,Full Mini PCIe
1750007156-01	Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable)
1750005865	Antenna L=10.9cm 50Ohm AN8921F-5701SM (3G Antenna)
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Code 3P Europe (WS-010+WS-083)183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M

External I/O



ROM-DB3900

Development board for RISC RTX2.0 Module



Features

- Supports RTX2.0 CPU Module Board
- 3 display outputs. VGA, HDMI, 24-bit LVDS
- 1 SATA/SATA-DOM, 1 RJ-45, 2 USB 2.0, 2 CAN bus, 4 UART, 10 GPIO
- 2 PCIe slots
- 2 MIPI interfaces for camera module
- Onboard eMMC Flash 4 GB, SD card, SIM card slot
- Supports HD Audio codec

Introduction

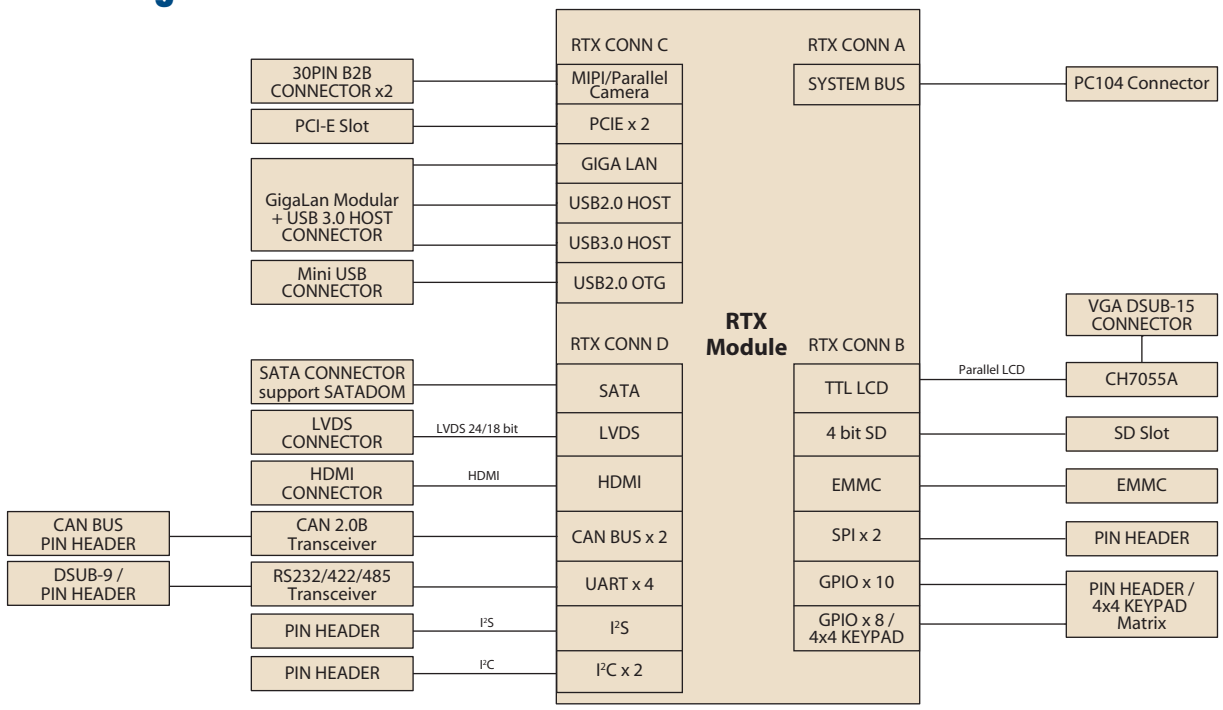
ROM-DB3900 is an evaluation carrier board designed for the Advantech RTX2.0 module. It is compatible with the RTX2.0 module ROM-3420 and has a rich I/O interface for evaluation and development. It supports wide range operating temperature, and also supports two MIPI connectors for a camera module. ROM-DB3900 is an ideal development board for ruggedized applications, such as industrial control, automation control and HDMI systems.

ROM-DB3900 is released along with RISC RTX2.0 carrier board design documents: Carrier Board Design Guide, Layout, Schematic Checklist, and also the reference board schematics are ready for you to start your own carrier board design. With ROM-DB3900, you can easily learn the power of Advantech's RISC RTX2.0 module.

Specifications

Compatible Module		Advantech RTX2.0 CPU Module Series (82 x 80 mm)
Graphics	HDMI	1 HDMI TypeA
	LVDS	1 Single 24-bit LVDS
	VGA	1 D-Sub 15 with female connector
Ethernet	LAN	1 GbE with RJ45 connector
Storage	Flash	Onboard 4 GB eMMC
	SD	1 SD card slot
	SATA	1 SATAII Connector (with SATA-DOM support)
I/O	USB	1 USB mini Type B (OTG), 1 USD 2.0/3.0 Type A
	UART	4 4wires UART all support RS-232/422/485(2x DB9 connector and 2x box header)
	Audio	1 2 port phone jack
	CAN	2 CAN 2.0B ports, Differential mode +5V
	GPIO	1 2x10 pin header
	I²C	2 I²C pin header
	SPI	2 SPI pin header
	Camera Input	2 MIPI/Parallel B2B connectors
	Keypad	18 pin headers (share eith GPIO)
	I²S	1 pin header
Expansion	PCIe Slot	2 PCIe x1
	System bus	1 PC104 connector (Address : 31 bits , Data : 16 bits)
Power input	Power	19V DC Jack
Environment	Operating Temperature	-40 ~ 85° C (-40 ~ 185° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Physical Characteristics	Dimensions	305 x 244 mm (12" x 9.6")

Block Diagram



Ordering Information

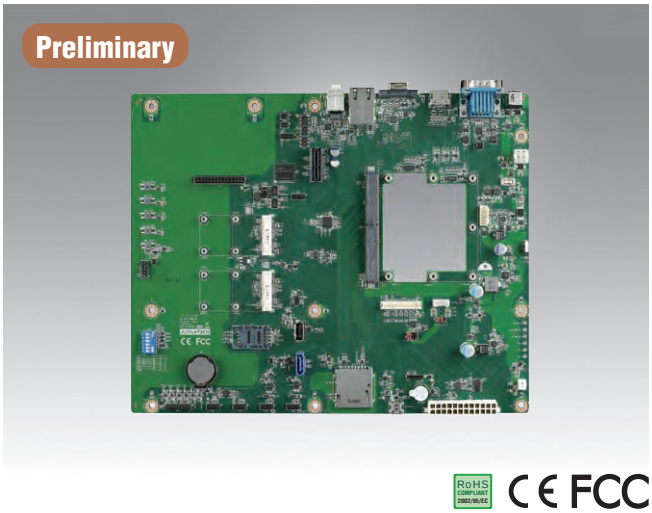
Part No.	Description
ROM-DB3900-SWA1E	Development board for RISC RTX2.0 Module series

Accessories

Part No.	Description
9696ED2000E	Debug daughter board
1700021941-01	SATA Power cable
1700004711	SATA Signal cable
1700019076	USB OTG to Type A female
1700019077	USB OTG to Type A male
1701100300	F Cable IDE#3 10P-2.54/D-SUB 9P(M) 30cm for UART and CAN
-	Debug port cable for ROM-3420

ROM-DB5900

Development board for RISC SMARC Module



Features

- Supports SGeT SMARC CPU Module Board
- 3 display outputs. VGA, HDMI, 24-bit LVDS
- 1 SATA/SATA-DOM, 1 RJ-45, 2 USB 2.0, 2 CAN bus, 4 UART, 12 GPIO
- 1 PCIe x1 and 2 miniPCIe slots
- 2 MIPI interfaces for camera module
- Onboard eMMC Flash 4 GB, SD card, SIM card slot
- Supports HD Audio codec and SPDIF
- Supports 4 types power input

Introduction

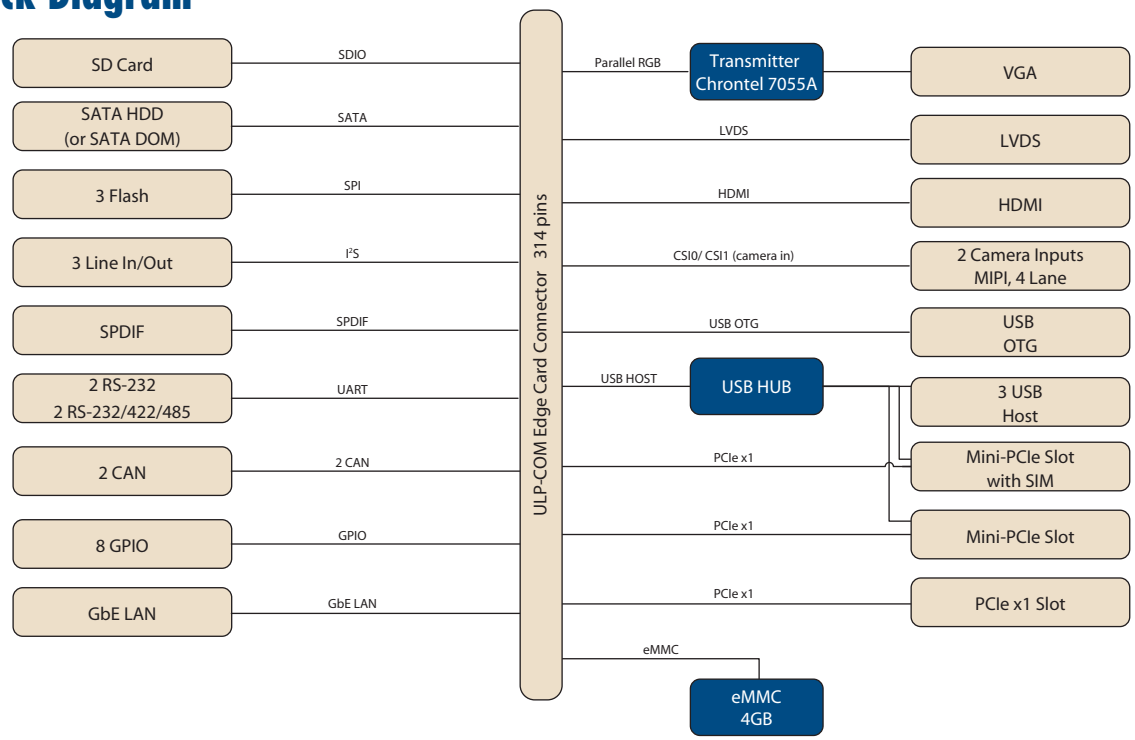
ROM-DB5900 is a evaluation carrier board designed for the Advantech SMARC module. It is compatible with SMARC module ROM-5420 and has rich I/O interface for evaluation and development. It supports wide range operating temperatures, 4 power input interfaces (one of them is design for lithium-ion battery) and also supports two MIPI connectors for the camera module. ROM-DB5900 is an ideal development board for mobile applications, such as portable device, industrial tablet or HMI systems.

ROM-DB5900 is released along with RISC SMARC carrier board design documents: Carrier Board Design Guide, Layout, Schedmatic Checklist, and also the reference board schematics ready for you to start your own carrier board design. With DB5900, you can easily learn the power of Advantech RISC SMARC module.

Specifications

Compatible Module		Advantech SMARC CPU Module Series (82 x 80 mm)
Graphics	HDMI	1 HDMI TypeA
	LVDS	1 Dual 24-bit LVDS
	VGA	1 D-Sub 15 with female connector
Ethernet	10/100/100 Mbps	1 RJ-45
Storage	Flash	Onboard 4 GB eMMC
	EEPROM	Onbard 4 MB EEPROM
	SD	1 SD card slot
	SATA	1 SATAII Connector (with SATA-DOM support)
I/O	USB	2 USB 2.0 Type A (Host), 1 min USB Type AB (OTG)
	UART	4 UART Ports
	Audio	1 1/8 Audio Jack (I^2S HD Audio), 1 SPDIF Pin header
	CAN	2 CAN 2.0B ports, Differential mode +5V
	GPIO	12 GPIO Ports
	I^2C	1 I^2C pin header
	SPI	2 SPI pin header
	Camera Input	2 MIPI connectors
	AFB	1 30pin AFB connector
Expansion	PCIe Slot	1 PCIe x1
	miniPCIe Slot	2 mini-PICe (one supported SIM card reader)
Power input	Power	4 Power Inputs (+12V DC-Jack, +12V 4pin, ATX power, +12V battery)
Environment	Operating Temperature	-40 ~ 85° C (-40 ~ 185° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Physical Characteristics	Dimensions	305 x 244 mm (12" x 9.6")

Block Diagram



Ordering Information

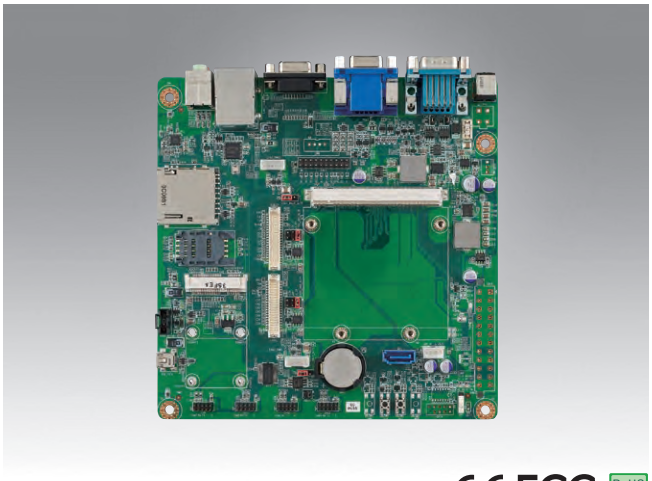
Part No.	Description
ROM-DB5900	Development board for RISC SMARC Module series

Accessories

Part No.	Description
1757003553	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
SQF-ISDS1-2G-86E	SQFlash SD card SLC 2G, 1CH (-40 ~ 85° C)
EWM-W142F01E	802.11 b/g/n,AR9287,2T2R,Full size Mini PCIe
1750007050-01	WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable)
1750000318	EMI Antenna 2DBI 2.4GHz SMA CONN for ARK-3384 (WiFi Antenna)
EWM-C106FT01E	Cellular, HSUPA/WCDMA/GPRS,Full Mini PCIe
1750007156-01	Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable)
1750005865	Antenna L=10.9cm 50Ohm AN8921F-5701SM (3G Antenna)

ROM-DB7500

Development board for RISC QSeven Module



Features

- Supports Advantech QSeven CPU Module Board
- Supports 24-bit LVDS Panel
- Supports 1 PCIe x1
- Supports 1 SATA, 4 UART, 1 RJ-45, 4 USB 2.0 (with 1 OTG)
- HD Audio Codec
- Supports dual CAN bus
- Supports VGA and HDMI out
- Onboard SD card slot, SIM card slot

Introduction

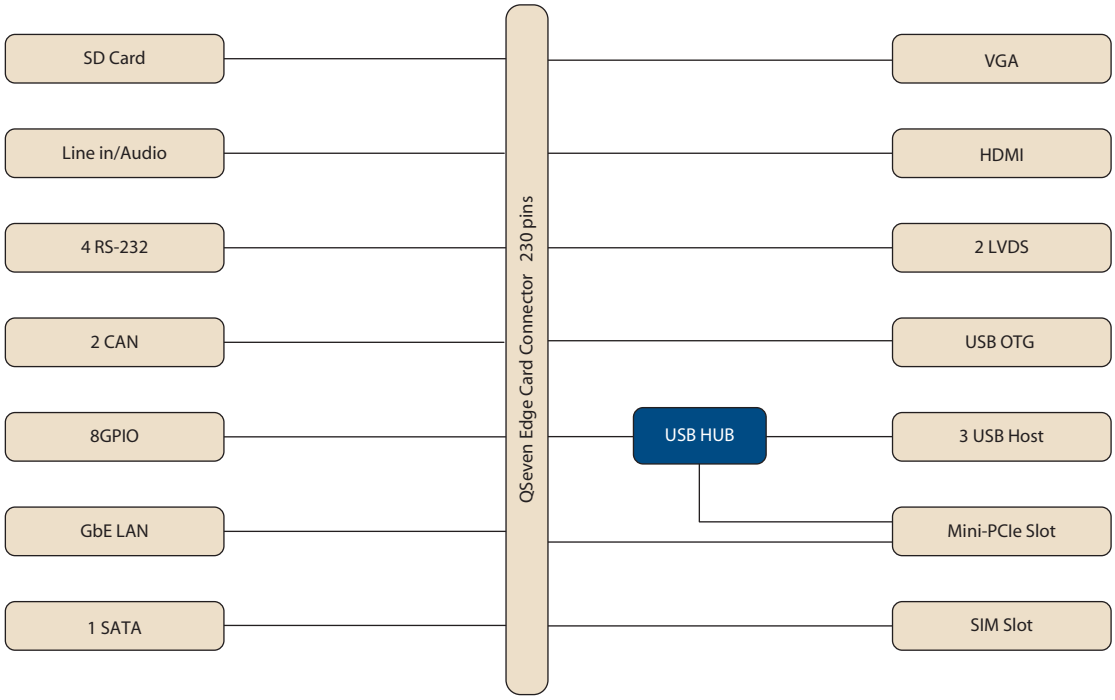
ROM-DB7500 is the Evaluation Carrier Board designed for Advantech's RISC QSeven module. It is compatible with the QSeven module ROM-7420 and provides a thorough environment for RISC module board evaluation. It supports wide range temperature and also 12V power input through AC/DC power adapter.

ROM-DB7500 is released along with RISC QSeven carrier board design documents: Carrier Board Design Guide, Layout Checklist, Schematic Checklist, and also the reference board schematics ready for you to start your own carrier board design. With ROM-DB7500, you can easily learn the power of Advantech RISC QSeven module.

Specifications

Compatible Modules		Advantech QSeven CPU Module Series (70 x 70 mm)
Graphics	HDMI	Max. resolution 1920 x 1080, HDMI Type A
	LVDS	Dual 24-bit LVDS
	VGA	Max. resolution 1920 x 1080, female D-SUB 15 pin
Ethernet	i.MX6 Integrated RGMII	RJ-45
Audio	Audio	HD Audio with I²S
	Supported Formats	MP3, AAC, WAV
Expansion	SIM Socket	1
	SD/MMC	1
	Mini PCIe	1
I/O	USB	2 USB 2.0 Type A, 1 USB pin connector
	USB Client	1 USB OTG
	COM	4 UART ports
	SATA	1 SATA2
	CAN	2 CAN 2.0B ports, Differential mode 5V
	GPIO	8 GPIO w/ 3.3V level
Power	Power Type	12 V DC-jack
Environment	Operating Temperature	0 ~ 60° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Physical Characteristics	Dimensions	170 x 170 mm (66.93" x 66.93")

Block Diagram



Ordering Information

Part No.	Description
ROM-DB7500-SCA1E	Development board for RISC Qseven Module series

Packing List

Part No.	Description	Quantity
1700020442-01	Debug Port Cable for ROM-7420	1
9696ED2000E	Debug Port for ROM-7420	1
1654909900	UART Loopback	1
1700004711	SATA Cable	1
1700021941-01	SATA Power Cable	1
1700021861-01	USB Cable Type A	1
1700019076	USB OTG Host Cable	1
1700019077	USB OTG Client Cable	1
1700021882-01	LVDS Backlight Cable	1
1700021883-01	LVDS Cable	1
1700100250	UART cable DB9	1

Optional Accessories

Part No.	Description
1757003553	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Code 3P Europe (WS-010+WS-083)183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
SQF-ISDS1-2G-86E	SQFlash SD card SLC 2G, 1CH (-40 ~ 85° C)
EWM-W142F01E	802.11 b/g/n,AR9287,2T2R,Full size Mini PCIe
1750007050-01	WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable)
1750000318	EMI Antenna 2DBI 2.4GHz SMA CONN for ARK-3384 (WiFi Antenna)
EWM-C106FT01E	Cellular, HSUPA/WCDMA/GPRS,Full Mini PCIe
1750007156-01	Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable)
1750005865	Antenna L=10.9cm 50Ohm AN8921F-5701SM (3G Antenna)

Memo

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Computer On Modules

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Computer On Modules

Selection Guide

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Model Name		SOM-5894	SOM-5892	SOM-5890	SOM-9890
Form Factor		COM Express Basic	COM Express Basic	COM Express Basic	COM Express Basic
Pin-out Type		COM R2.1 Type 6	COM R2.0 Type 6	COM R2.0 Type 6	COM R2.0 Type 6
Processor System	CPU	4th Gen. Intel Core i7/i5/i3/Celeron	3rd Gen. Intel Core i7/i5/i3/Celeron	2nd Gen. Intel Core i7/i5/i3/Celeron	3rd Gen. Intel Core i7/i5/i3/Celeron
	Base Frequency	2.7-1.5GHz	2.7-1.4GHz	2.5 - 1.4GHz	2.7-2.2GHz
	Processor Core	4/2	4/2/1	4/2/1	4/2
	LLC	6/3/2MB	6/4/3/2/1MB	6/4/3/2/1.5MB	6/3/2MB
	CPU TDP	47/37/25W	45/35/25/17W	45/35/25/17W	45/35W
	Chipset	Intel QM87	Intel QM77	Intel QM67	Intel QM77
Memory	Technology	DDR3L 1600/1333	DDR3/DDR3L 1600/1333	DDR3 1333/1066	DDR3/DDR3L 1600/1333
	ECC Support	B1 version only	B1 version only	B1 version only	-
	Max. Capacity	16GB	16GB	16GB	16GB
	Socket	2 x 204P SODIMM	2 x 204P SODIMM	2 x 204P SODIMM	2 x 204P SODIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphic	Intel HD Graphic	Intel HD Graphic
	Max. Frequency	1GHz - 900MHz	1GHz - 900MHz	1.1GHz - 800MHz	1GHz - 900MHz
	VGA	1	1	1	1
	LCD (TTL/LVDS/eDP)	LVDS 2-CH 18/24-bit	LVDS 2-CH 18/24-bit	LVDS 2-CH 18/24-bit	LVDS 2-CH 18/24-bit
	DDI (HDMI/DVI/DisplayPort)	3	3	3	3
	SDVO	-	1	1	1
	TV-out	-	-	-	-
	Dual Display	Yes	Yes	Yes	Yes
	Triple Display	Yes	Yes	-	Yes
Expansion	PCIe x16	1	1	1	1
	PCIe x1	7	7	7	7
	PCI Masters	-	-	-	-
	ISA Bus	-	-	-	-
	LPC	1	1	1	1
Serial Bus	SMBus	1	1	1	1
	I2C Bus	1	1	1	1
	CAN Bus	-	-	-	-
Ethernet	Controller	Intel i217LM	Intel 82579LM	Intel 82579LM	Intel 82579LM
	Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
I/O	SATA	4	4	4	4
	PATA Channel	-	-	-	-
	USB3.0	4	4	-	4
	USB2.0	8	8	8	8
	Audio	HD Audio	HD Audio	HD Audio	HD Audio
	SPI Bus	1	1	1	1
	GPIO	8	8	8	8
	SDIO (GPIO pin shared)	-	-	-	-
	Watchdog	1	1	1	1
	COM Port	2 (2-wire)	2 (2-wire)	2 (2-wire)	2 (2-wire)
	LPT/FDD	-	-	-	-
	PS/2	-	-	-	-
	IR	-	-	-	-
	Onboard Storage	-	-	-	-
	TPM	Optional	Optional	-	Optional
Power	Power Type	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 8.5-20V, VSB: 4.75-5.25V	Vin: 11.4-12.6V, VSB: 4.75-5.25V	Vin:8.5-20V, VSB: 4.75-5.25V	Vin: 11.4-12.6V, VSB: 4.75-5.25V
	Power Consumption Max.	41.8 Watt	41.8 Watt	42.8 Watt	41.8 Watt
	Power Consumption Idle	8.5 Watt	5.4 Watt	9.6 Watt	4.7 Watt
Environment	Operating Temp.	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
	Extended Temp. (Optional)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)	-
Mechanical	Dimensions	125 x 95mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")
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SOM-5790	SOM-5788	SOM-6894	SOM-6765	SOM-6763	SOM-6761
COM Express Basic	COM Express Basic	COM Express Compact	COM Express Compact	COM Express Compact	COM Express Compact
COM R2.0 Type 2	COM R1.0 Type 2	COM R2.1 Type 6	COM R2.0 Type 2	COM R1.0 Type 2	COM R1.0 Type 2
2nd Gen. Intel Core i7/i5/i3/Celeron	Intel Core i7/i5/i3/Celeron	4th Gen. Intel Core i7/i5/i3/Celeron (U-Processor Line)	Intel Atom D2550/N2600/ N2800	Intel Atom D525/N455	Intel Atom N270
2.5 - 1.4GHz	2.53 - 1.06GHz	1.9 - 1.6GHz	1.86 - 1.6GHz	1.8-1.66GHz	1.6GHz
4/2/1	2/1	2	2	2/1	1
6/4/3/2/1.5MB	4/3/2MB	4/3/2MB	1MB	1MB/512KB	512KB
45/35/25/17W	35/25/18W	15W	10/6.5/3.5W	13/6.5W	2.5W
Intel QM67	Intel QM57	-	Intel NM10	Intel ICH8M	Intel 945GSE/ ICH7M
DDR3 1333/1066	DDR3 1333/1066/800	DDR3L 1600/1333	DDR3 1066/800	DDR3 800/667	DDR2 533/400 MHz
-	B1 version only	-	-	-	-
16GB	8GB	16GB	4GB/2GB	4GB/2GB	2GB
2 x 204P SODIMM	2 x 204P SODIMM	2 x 204P SODIMM	1 x 204P SODIMM	1 x 204P SODIMM	1 x 200P SODIMM
Intel HD Graphic	Intel HD Graphic	Intel HD Graphic	Intel GMA3650/3600	Intel GMA3150	Intel GMA950
1.1GHz - 800MHz	766 - 500MHz	1.1 - 1GHz	640 - 400MHz	400/200MHz	400MHz
1	1	1	1	1	1
LVDS 2-CH 18/24-bit	LVDS 2-CH 18/24-bit	LVDS 2-CH 18/24-bit	D Series: LVDS 1-CH 18/24-bit N Series: LVDS 1-CH 18-bit	LVDS 1-CH 18/24-bit	LVDS 2-CH 18-bit
1	2	1 (Optional 2)	2	-	-
1	-	-	-	-	1
Optional	Optional	-	-	-	1
Yes	Yes	Yes	Yes	Yes	Yes
-	-	Yes	-	-	-
-	-	-	-	-	-
5	6	4	2 (Optional 4)	5	3
4	4	-	4	4	4
-	-	-	-	-	-
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
-	-	-	-	-	-
Intel 82579LM	Intel 82577LM	Intel i218LM	Intel 82583V	Intel 82567V	Intel 82574L
10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
4	4	4	2	3	2
1	1	-	1	1	1
-	-	2	-	-	-
8	8	8	8	8	8
HD Audio	HD Audio	HD Audio	HD Audio	HD Audio	AC'97 / HD Audio
1	-	1	1	1	-
8	8	8	8	8	8
-	-	-	-	-	-
1	1	1	1	1	1
-	-	2 (2-wire)	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
Vin: 11.4-12.6V, VSB: 4.75-5.25V	Vin: 11.4-12.6V, VSB: 4.75-5.25V	Vin: 4.75-20V, VSB: 4.75-5.25V	Vin: 11.4-12.6V, VSB: 4.75-5.25V	Vin: 11.4-12.6V, VSB: 4.75-5.25V	Vin: 11.4-12.6V, VSB: 4.75-5.25V
40.1 Watt	42.7 Watt	20.6W	10.3 W	16.1 Watt	10.8 Watt
11.4 Watt	7.9 Watt	4.4W	7.06 W	13.2 Watt	7.44 Watt
0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
-	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)
125 x 95mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")
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Computer On Modules

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Selection Guide

Model Name		SOM-7567	SOM-7565	SOM-7562
Form Factor		COM Express Mini	COM Express Mini	COM Express Mini
Pin-out Type		COM R2.1 Type 10	COM R2.1 Type 10	COM R1.0 Type 1
Processor System	CPU	Intel Atom E3825/E3815 CPU Intel Celeron J1900/N2920 CPU	Intel Atom N2800/N2600	Intel Atom N455
	Base Frequency	1.33G~2GHz	1.86 - 1.6 GHz	1.66GHz
	Number of Cores	4/2/1	2	1
	LLC	2/1/0.5MB	1MB	512KB
	CPU TDP	6/5/10/7.5W	6.5/3.5W	6.5W
	Chipset	-	Intel NM10	Intel ICH8M
Memory	Technology	DDR3L 1333/1066	DDR3 1066/800	DDR3 667
	ECC Support	-	-	-
	Max. Capacity	4GB	4GB/2GB	1GB
	Socket	Onboard	Onboard	Onboard
Graphics	Controller	Intel HD Graphics	Intel GMA3650/3600	Intel GMA3150
	Max. Frequency	400 - 792MHz	640 - 400MHz	200MHz
	VGA	-	-	1
	LCD (TTL/LVDS/eDP)	LVDS 1-CH 18/24-bit	LVDS 1-CH 18-bit	LVDS 1-CH 18-bit
	DDI (HDMI/DVI/DisplayPort)	1	1	-
	SDVO	-	-	-
	TV-out	-	-	-
	Dual Display	Yes	Yes	Yes
	Triple Display	-	-	-
Expansion	PCIe x16	-	-	-
	PCIe x1	3 (Optional 4)	3 (Optional 4)	5
	PCI Masters	-	-	-
	ISA Bus	-	-	-
	LPC	1	1	1
Serial Bus	SMBus	1	1	1
	I²C Bus	1	1	1
	CAN Bus	Optional	-	-
Ethernet	Controller	Intel i210E	Intel 82574L	Intel 82567V
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
I/O	SATA	1 (Optional 2)	1 (Optional 2)	3
	PATA Channel	-	-	1
	USB3.0	1	-	-
	USB2.0	4	8	8
	Audio	HD Audio	HD Audio	HD Audio
	SPI Bus	1	1	-
	GPIO	8	8	8
	SDIO (GPIO pin shared)	-	-	-
	Watchdog	1	1	1
	COM Port	2 (2-wire)	2 (2-wire)	-
	LPT/FDD	-	-	-
	PS/2	-	-	-
	IR	-	-	-
	Onboard Storage	SLC/MLC SSD	SLC/MLC SSD	SLC/MLC SSD
	TPM	-	-	-
Power	Power Type	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 4.75-20V, VSB: 4.75-5.25V	Vin: 4.75-20V, VSB: 4.75-5.25V	Vin: 11.4-12.6V, VSB: 4.75-5.25V
	Power Consumption Max.	TBD	8.64 Watt.	10.5 Watt
	Power Consumption Idle	TBD	6.96 Watt.	8.1 Watt
Environment	Operating Temp.	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
	Extended Temp. (Optional)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)
Mechanical	Dimensions	84 x 55 mm (3.3" x 2.17")	84 x 55mm (3.3" x 2.17")	84 x 55mm (3.3" x 2.17")
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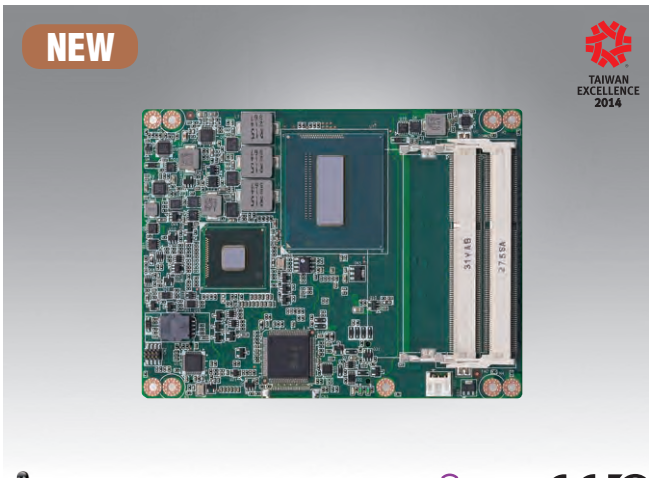





SOM-3565	SOM-4466	SOM-4455	SOM-4463	SOM-4461
Qseven	ETX	ETX	ETX	ETX
Qseven R1.2	ETX 3.0	ETX 3.0	ETX 3.0	ETX 3.0
Intel Atom N2600	AMD G-Series T16R	AMD LX800	Intel Atom D525/N455	Intel Atom N270
1.6GHz	615MHz	500MHz	1.8/1.66GHz	1.6GHz
2	1	1	2/1	1
1MB	512KB	128KB	1MB/512KB	512KB
3.5W	4.5W	3.6W	13/6.5W	2.5W
Intel NM10	AMD A55E	AMD CS5536	Intel ICH8M	Intel 945GSE/ ICH7M
DDR3 800	DDR3 1066	DDR 400/333	DDR3 800/667	DDR2 533/400
-	-	-	-	-
2GB	4GB	1GB	4GB/2GB	2GB
Onboard	1 x 204P SODIMM	1 x 200P SODIMM	1 x 204P SODIMM	1 x 200P SODIMM
Intel GMA3600	AMD Radeon HD6250	AMD LX800	Intel GMA3150	Intel GMA950
400MHz	276MHz	-	400/200MHz	400MHz
-	1	1	1	1
LVDS 1-CH 18-bit	LVDS 1-CH 18/24-bit TTL 1-CH 18-bit	LVDS 1-CH 18/24-bit TTL 1-CH 18-bit	LVDS 1-CH 18-bit/24-bit	LVDS 2-CH 18/24-bit
1	-	-	-	-
-	-	-	-	-
-	-	-	-	1
Yes	Yes	Yes	Yes	Yes
-	-	-	-	-
-	-	-	-	-
3 (Optional 4)	-	-	-	-
-	4	4	4	4
-	1	1	1	1
1	-	-	-	-
1	1	1	1	1
1	1	1	1	1
-	-	-	-	-
Intel 82574L	Realtek RTL8105E	Realtek RTL8100CL	Realtek RTL8103EL	Realtek RTL8103EL
10/100/1000 Mbps	10/100 Mbps	10/100Mbps	10/100 Mbps	10/100 Mbps
Up to 2	2	2	2	2
-	2	2	2	1
-	-	-	-	-
8	4	4	4	4
HD Audio	Line-in/Line-out/MIC	Line-in/Line-out/MIC	Line-in/Line-out/MIC	Line-in/Line-out/MIC
1	-	-	-	-
8	1	1	1	1
-	-	-	-	-
1	1	1	1	1
1 (2-wire)	2	2	2	2
-	1	1	1	1
-	KB/MS	KB/MS	KB/MS	KB/MS
-	1	1	-	1
SLC/MLC SSD	mSATA socket	CF socket	-	-
-	-	-	-	-
ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
Vin: 4.75-5.25V, VSB: 4.75-5.25V	Vin: 4.75-5.25V, VSB: 4.75-5.25V	Vin: 4.75-5.25V, VSB: 4.75-5.25V	Vin: 4.75-5.25V, VSB: 4.75-5.25V	Vin: 4.75-5.25V, VSB: 4.75-5.25V
7.8 Watt.	7.75 Watt.	9.95 Watt.	13.6 Watt	9.9 Watt.
4.9 Watt.	6.1 Watt.	9.0 Watt.	10.9 Watt	5.75 Watt.
0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)	-20~80° C (-4~176° F)	-40 ~ 85° C (-40 ~ 185° F)	-40 ~ 85° C (-40 ~ 185° F)
70 x 70mm (2.75" x 2.75")	114 x 95 mm (3.74" x 4.5")	114 x 95 mm (3.74" x 4.5")	114 x 95mm (3.74" x 4.5")	114 x 95mm (3.74" x 4.5")
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SOM-5894

4th Gen. Intel® Core™ Processor COM Express® Basic Module



Windows Embedded iManager SUSIAccess CE FC

Features

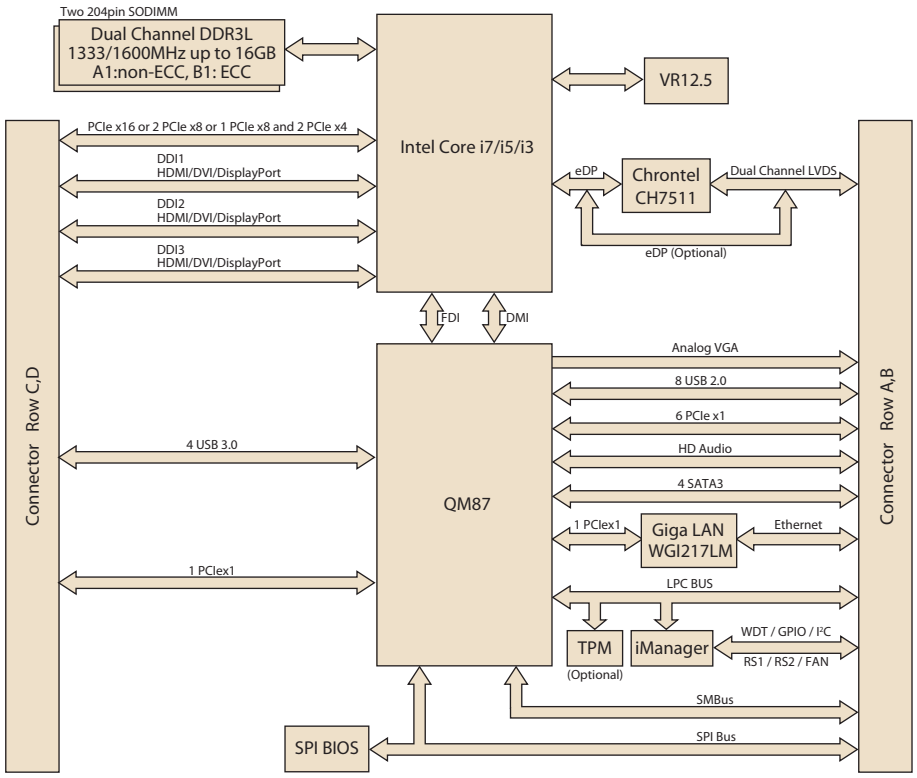
- 4th Generation Intel® Core™ Processors H-series + QM87
- Dual DDR3L-1333/1600 SODIMM sockets up to 16 GB
- Triple displays with outstanding graphics performance
- Multiple high speed interface, SATA III, USB3.0 and PCIe Gen3
- Supports iManager, SUSIAccess and embedded software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Specifications

Form Factor	Form Factor	COM Express Basic Module				
	Pin-out Type	COM Express R2.1 Type 6				
Processor System	CPU	i7-4700EQ	i5-4400E	i5-4402E	i3-4100E	i3-4102E
	Base Frequency	2.4 GHz	2.7 GHz	1.6 GHz	2.4 Ghz	1.6 GHz
	Max Single Core Turbo Frequency	3.4 GHz	3.3 GHz	2.7 GHz	2.4 GHz	1.6 GHz
	Core/Thread	4/8	2/4	2/4	2/4	2/4
	LLC	6MB	3MB	3MB	3MB	3MB
	CPU TDP	47W	37W	25W	37W	25W
	Chipset	QM87				
	BIOS	AMI EFI 128Mbit				
Memory	Technology	DDR3L, 1.35V, 1333/1600 MHz				
	ECC Support	A1: non-ECC, B1: ECC				
	Max. Capacity	16 GB				
	Socket	Dual 204P SODIMM				
Graphics	Controller	Intel HD Graphics 4600				
	Max. Frequency	1 GHz	900 MHz	900 MHz	900 MHz	900 MHz
	Graphic Memory	Intel DVMT 5.0 support up to 1024MB video memory				
	3D/HW Acceleration	Gen 8, DX11.1, OpenGL 4.0, OpenCL 1.2 and AVC/VC-1, H.264, MPEG4 HW Encoder/Decoder				
Display	VGA	1920 x 1200				
	LCD	Single and dual channel 18/24-bit LVDS, up to 1920 x 1200, optional eDP 2 lanes up to 1920 x 1200				
	DDI	3 DDI Ports support configurable HDMI/DVI/DisplayPort				
	Dual Display	Combinations of HDMI/DVI/DisplayPort/VGA/LVDS				
	Triple Display	Combinations of HDMI/DVI/DisplayPort/VGA/LVDS (Except 3 HDMI/DVI)				
Expansion	PCI Express x16	1 Port supports PCI Express Gen3 8.0GT/s				
	PCI Express x1	7 Ports support PCI Express Gen 2 5.0GT/s				
	Audio Interface	HD Audio				
	LPC	Yes				
Serial Bus	SMBus	Yes				
	I2C Bus	Yes				
Ethernet	Controller	Intel i217				
	Speed	10/100/1000 Mbps				
I/O	SATA	4 ports support SATA III 6.0Gb/s				
	RAID	RAID 0/1/5/10				
	USB3.0	4 Ports				
	USB2.0	8 Ports				
	Audio	Intel HD Audio				
	SPI Bus	Yes				
	GPIO	8-bit GPIO				
	Watchdog	65536 level, 0 ~ 65535 sec				
	COM Port	2 Ports (2-Wire)				
	Express Card	2 Ports				
	TPM	Optional				
	Smart Fan	2 Ports; 1 Port on COM Module. Support 12V Fan, 1 Port on Carrier Board				
Power	Type	ATX: Vin, VSB, AT: Vin				
	Supply Voltage	Vin: 8.5(9-5%)~20V(19+5%), VSB: 5V±5%, RTC Battery: 2.0-3.3V				
	Power Consumption (Max.)	(8G DDR3L 1600) i7-4700EQ (Engineering Sample): +12V @ 42.12W				
	Power Consumption (Idle)	(8G DDR3L 1600) i7-4700EQ (Engineering Sample): +12V @ 8.52W				
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85° C (-40 ~ 185° F)				
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing				
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")				

Block Diagram



Ordering Information

Part No.	CPU	Frq.	CPU TDP	LLC	PCH	DDR3L Memory	LVDS	VGA	DDI	Giga LAN	HDA	PCIe x16	PCIE x1	USB2.0	USB3.0	SATA III	LPC	Power	Thermal Solution	Operating Temperature
SOM-5894C7-U4A1E	Core i7-4700EQ	2.4 GHz	47 W	6 MB	QM87	Non-ECC	18/24 bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C5-U7A1E	Core i5-4400E	2.7 GHz	37 W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C5-S6A1E	Core i5-4402E	1.6 GHz	25 W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C3-U5A1E	Core i3-4100E	2.4 GHz	37 W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C3-S7A1E	Core i3-4102E	1.6 GHz	25 W	3 MB	QM87	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5894C7-U4B1E	Core i7-4700EQ	2.4 GHz	47W	6 MB	QM87	ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4	Yes	AT/ATX	Active	0 ~ 60° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5800-00A2E	COM Express Development Board A2 Type 6 Pin-out

Packing List

Part No.	Description	Quantity
-	SOM-5894 CPU Module	1
1960058957N001	Heatspreader	1

Optional Accessories

Part No.	Description
1960048820N001	Semi-Cooler 125x95x33.5mm with 12V Fan
96LEDK-I057VG50NA1	5.7" LED PANEL 500N 640x480(G) AM-640480G2TNQW-A0H
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800 x 600(G) G084SN05 V9
96LEDK-C150XG40NG1	15" LED PANEL 400N 1024 x 768(G) G150XGE-L04
96LEDK-A170SX35NF1	17" LED PANEL 350N 1280x1024(G) G170EG01 V1

Embedded OS

OS	Part No.	Description
WES	2070012239	WES7 (include SUSIAccess)
WES	2070012060	WES8 (include SUSIAccess)
Linux	2070012218	Linux Ubuntu13.04

SOM-5892

3rd Gen. Intel® Core™ Processor COM Express® Basic Module



Features

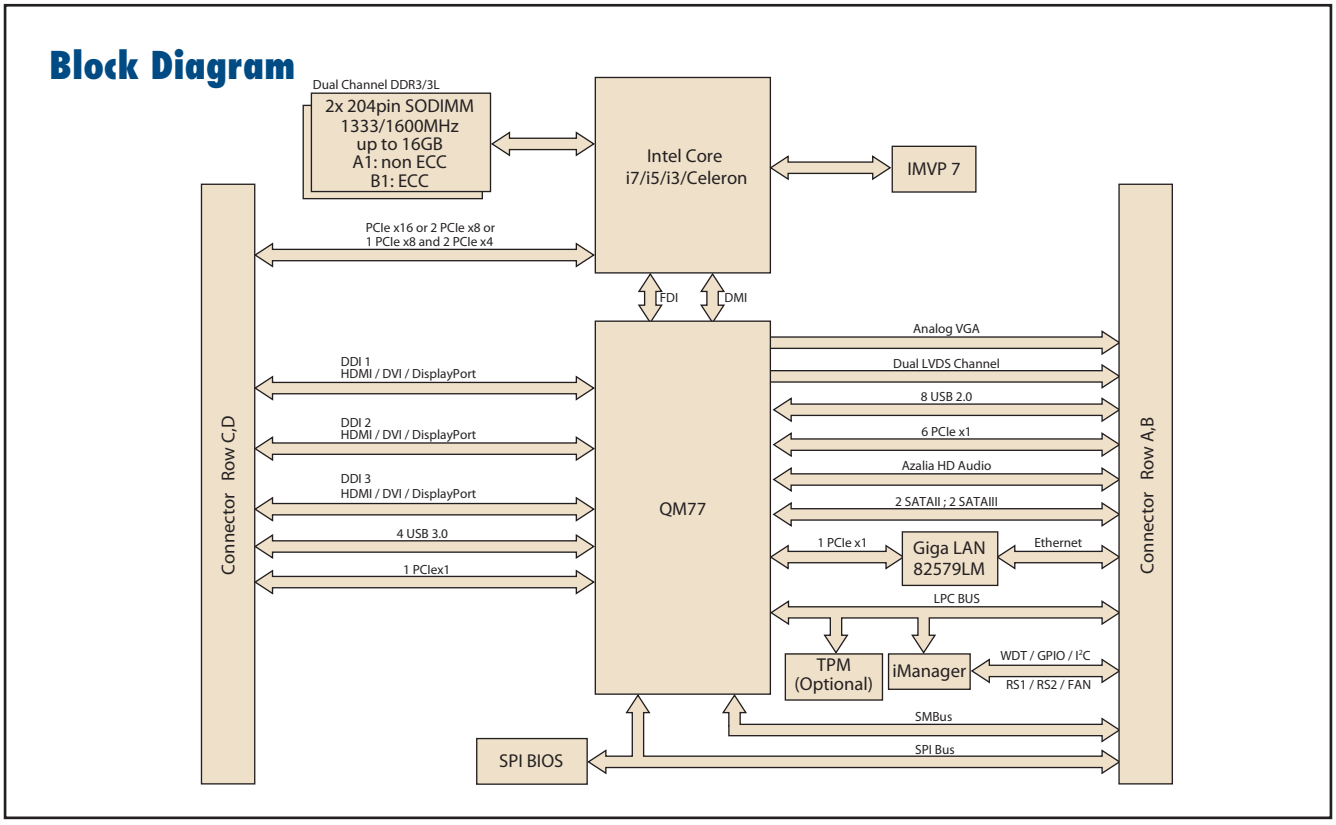
- Embedded Intel® Core™ i7/i5/i3/Celeron® processor + QM77
- Supports Dual Channel DDR3-1600, DDR3L-1333 SODIMM sockets up to 16 GB
- Supports PCIe x16, 7 PCIe x1, 2 SATAIII, 2 SATAII, 8 USB 2.0, 4 USB 3.0, GbE
- Supports 3 independent displays: VGA, LVDS, DVI, HDMI, DisplayPort
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Specifications

Form Factor		COM Express 2.0 Basic Module, Type 6 Pin-out
Processor System	CPU	Intel Core i7-3615QE Processor (4C, 6M Cache, 2.3 GHz) Intel Core i7-3612QE Processor (4C, 6M Cache, 2.1 GHz) Intel Core i7-3555LE Processor (2C, 4M Cache, 2.5 GHz) Intel Core i7-3517UE Processor (2C, 4M Cache, 1.7 GHz) Intel Core i5-3610ME Processor (2C, 3M Cache, 2.7 GHz) Intel Core i3-3120ME Processor (2C, 3M Cache, 2.4 GHz) Intel Core i3-3217UE Processor (2C, 3M Cache, 1.6 GHz) Intel Celeron 1020E Proessor (2C, 2M Cache, 2.2 GHz) Intel Celeron 1047UE Processor (2C, 2M Cache, 1.4 GHz) Intel Celeron 927UE Processor (1C, 1M Cache, 1.5 GHz)
	System Chipset	Intel QM77
	BIOS	AMI EFI 64Mb
Memory	Memory Technology	DDR3 1333/1600 MHz, DDR3L 1333 MHz
	ECC Support	A1 Series: not supported, B1 Series: supported
	Max Capacity	16 GB
	Socket	2 x 204-pin SODIMM sockets
Display	Graphics	Intel Gfx Engine
	LCD	Single and dual channel 18/24-bit LVDS
	VGA	2048 x 1536
	DDI	3 ports support HDMI, DVI, DisplayPort
	Multi-Displays	3 independent displays: VGA, LVDS, DVI, HDMI, DisplayPort
Ethernet	Chipset	82579LM
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level, 0 ~ 65535 sec
Expansion		PEG x16, 7 PCIe x1
I/O	SATA	2 SATAIII 2 SATAII
	USB	8 USB 2.0 4 USB 3.0
	Audio	HD Audio
	GPIO	8-bit
	COM	2 Ports
	TPM	Optional
Power	Power Type	ATX, AT
	Power Supply Voltage	ATX (12 V, 5 Vsb) AT (12 V)
	Power Consumption (Max.)	i7-3615QE w/ DDR3 16 GB: 41.8 W @ 12 V
	Power Consumption (Idle)	i7-3616QE w/ DDR3 16 GB: 5.4 W @ 12 V
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Block Diagram



Ordering Information

Part No.	CPU	CPU TDP	LLC	PCH	DDR3 SODIMM	LVDS	VGA	DDI	Giga LAN	HDA	PEG x16	PCIe x1	USB 2.0	USB 3.0	SATA	LPC	Power	Thermal Solution	Operating Temp.
SOM-5892FG-U3A1E	Core™ i7-3615QE 2.3 GHz	45W	6 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-U1A1E	Core™ i7-3612QE 2.1 GHz	35W	6 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-U5A1E	Core™ i7-3555LE 2.5 GHz	25W	4 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-S7A1E	Core™ i7-3517UE 1.7 GHz	17W	4 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-U7A1E	Core™ i5-3610ME 2.7 GHz	35W	3 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-U4A1E	Core™ i3-3120ME 2.4 GHz	35W	3 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-S6A1E	Core™ i3-3217UE 1.6 GHz	17W	3 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-U2A1E	Celeron® 1020E 2.2 GHz	35W	2 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-S4A1E	Celeron® 1047UE 1.4 GHz	17W	2 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-S5A1E	Celeron® 927UE 1.5 GHz	17W	1 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892Z-U5A1E	Core™ i7-3555LE 2.5 GHz	25W	4 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-20 ~ 80° C
SOM-5892Z2-U5A1E	Core™ i7-3555LE 2.5 GHz	25W	4 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-40 ~ 85° C
SOM-5892Z-S7A1E	Core™ i7-3517UE 1.7 GHz	17W	4 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-20 ~ 80° C
SOM-5892Z2-S7A1E	Core™ i7-3517UE 1.7 GHz	17W	4 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-40 ~ 85° C
SOM-5892Z-S6A1E	Core™ i3-3217UE 1.6 GHz	17W	3 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-20 ~ 80° C
SOM-5892Z2-S6A1E	Core™ i3-3217UE 1.6 GHz	17W	3 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-40 ~ 85° C
SOM-5892Z-S4A1E	Celeron® 1047UE 1.4 GHz	17W	2 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-20 ~ 80° C
SOM-5892Z2-S4A1E	Celeron® 1047UE 1.4 GHz	17W	2 MB	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	-40 ~ 85° C
SOM-5892FG-U3B1E	Core™ i7-3615QE 2.3 GHz	45W	6 MB	QM77	ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-U7B1E	Core™ i5-3610ME 2.7 GHz	35W	3 MB	QM77	ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C
SOM-5892FG-S6B1E	Core™ i3-3217UE 1.6 GHz	17W	3 MB	QM77	ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	4 SATA	Yes	AT/ATX	Active	0 ~ 60° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5800-00A2E	COM Express® Development Board A2 Type 6 Pin-out

Optional Accessories

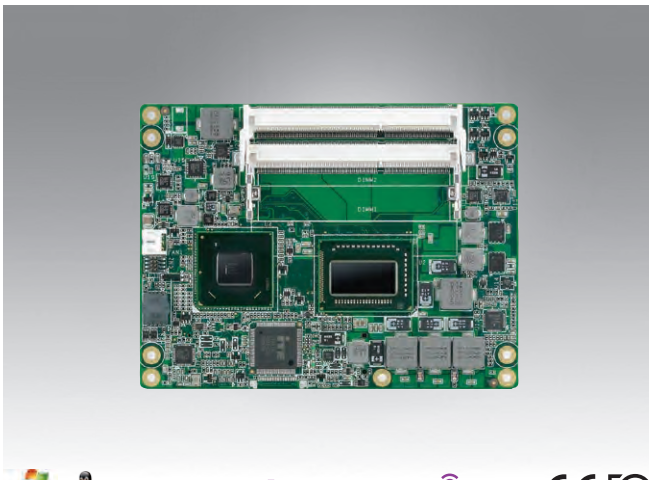
Part No.	Description
1960048820N001	Semi-Cooler 125x95x33.5mm with 12V Fan

Packing List

Part No.	Description	Quantity
-	SOM-5892 CPU Module	1
1960052353N011	Heatspreader	1

SOM-5890

2nd Gen. Intel® Core™ Processor COM Express® Basic Module



Features

- Embedded Intel® Core™ i7/i5/i3/Celeron® processor + QM67
- Intel® Gfx supports VGA, 18/24-bit 2-CH LVDS, HDMI, DVI, DP
- Supports Dual Channel DDR3-1333 SODIMM sockets up to 16 GB
- Supports PCIe x16, 7 PCIe x1, 2 SATAIII, 2 SATAII, 8 USB 2.0, GbE
- Supports iManager, SUSIAccess and Embedded Software APIs

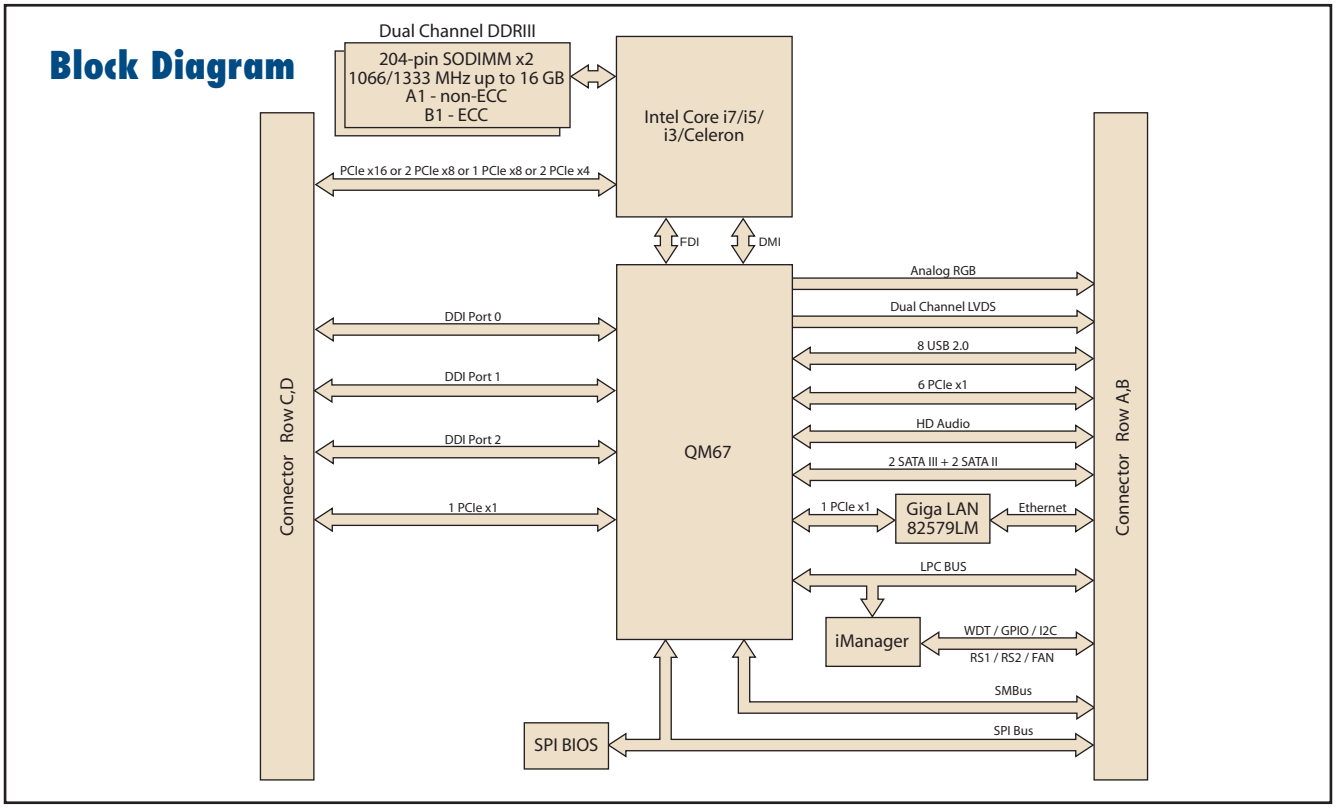
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

iManager SUSIAccess

Specifications

Form Factor		COM Express 2.0 Basic Module, Type 6 Pin-out
Processor System	CPU	Intel Core i7-2715QE Processor (4C, 6M Cache, 2.1 GHz) Intel Core i7-2655LE Processor (2C, 4M Cache, 2.2 GHz) Intel Core i7-2610UE Processor (2C, 4M Cache, 1.5 GHz) Intel Core i5-2515E Processor (2C, 3M Cache, 2.5 GHz) Intel Core i3-2310E Processor (2C, 3M Cache, 2.1 GHz) Intel Core i3-2340UE Processor (2C, 3M Cache, 1.3 GHz) Intel Celeron B810E Processor (2C, 2M Cache, 1.6 GHz) Intel Celeron 847E Processor (2C, 2M Cache, 1.1 GHz) Intel Celeron 827E Processor (1C, 1.5M Cache, 1.4 GHz)
	System Chipset	Intel QM67
	BIOS	AMI EFI 64Mb
Memory	Technology	DDR3 1066/1333 MHz
	ECC Support	A1 Series - not supported, B1 Series - supported
	Max. Capacity	16 GB
	Socket	2 x 204-pin SODIMM sockets
Display	Chipset	Intel Gfx integrated in Core i7, Core i5, or Core i3
	LVDS	Single and dual channel 18/24-bit LVDS
	VGA	up to 2048 x 1536
	DDI	3 DDI ports support configurable HDMI/DVI/DisplayPort
	SDVO	1 port shared with DDI port
Ethernet	Chipset	Intel 82579LM Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer
Expansion		1 PEGx16, 7 PCIe x1, LPC, SPI, SMBus, I2C
I/O	SATA	2 x SATAIII (6.0 Gb/s), 2 x SATAII (3.0 Gb/s)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
	Serial port	2 x UARTs up to 115.2K bps
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12 V for AT
	Power Consumption (Max.)	i7-2715QE w/ DDR3 16 GB: 42.8 W @ 12 V
	Power Consumption (Idle)	i7-2715QE w/ DDR3 16 GB: 9.6 W @ 12 V
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Block Diagram



Ordering Information

Part No.	CPU	LLC	Chipset	DDR3 SODIMM	LVDS	VGA	HDMI / DVI / DP	SDVO	Giga LAN	HDA	PEG x16	PCIe x1	USB 2.0	SATA	LPC	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5890FG-U1A1E	Core i7-2715QE 2.1 GHz	6 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-U2A1E	Core i7-2655LE 2.2 GHz	4 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-S5A1E	Core i7-2610UE 1.5 GHz	4 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-U5A1E	Core i5-2515E 2.5 GHz	3 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-U0A1E	Core i3-2310E 2.1 GHz	3 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-S3A1E	Core i3-2340UE 1.3 GHz	3 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-S6A1E	Celeron® B810E 1.6 GHz	2 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-S1A1E	Celeron® B847E 1.1 GHz	2 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-S4A1E	Celeron® B827E 1.4 GHz	1.5 MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-U1B1E	Core i7-2715QE 2.1 GHz	6 MB	QM67	ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-U2B1E	Core i7-2655LE 2.2 GHz	4 MB	QM67	ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-S5B1E	Core i7-2610UE 1.5 GHz	4 MB	QM67	ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890FG-U5B1E	Core i5-2515E 2.5 GHz	3 MB	QM67	ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5890Z-S5A1E	Core i7-2610UE 1.5 GHz	4MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATAIII 2 x SATAII	Yes	Yes	Yes	Active	-20 ~ 80° C
SOM-5890Z2-S5A1E	Core i7-2610UE 1.5 GHz	4MB	QM67	non-ECC	18/24-bit	Yes	3	1	1	Yes	1	7	8	2 x SATAIII 2 x SATAII	Yes	Yes	Yes	Active	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5800-00A2E	COM Express® Development Board A2 for Type 6

Optional Accessories

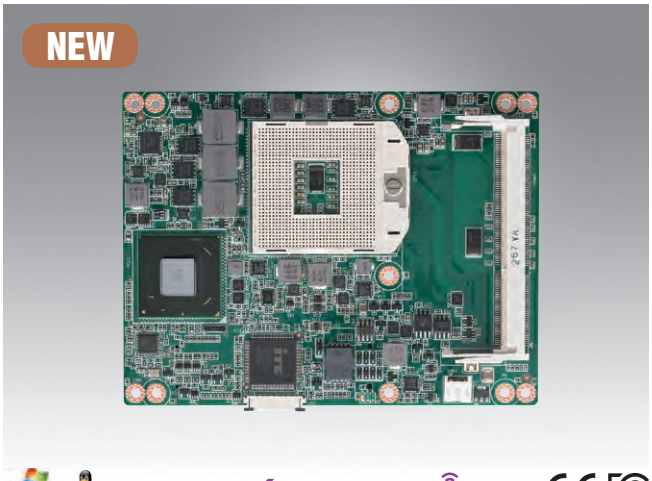
Part No.	Description
1960048820N001	Semi-Cooler 125x95x33.5mm with 12V Fan

Packing List

Part No.	Description	Quantity
-	SOM-5890 CPU Module	1
1960052233N001	Heatspreader for Core™ i7/i5/i3 sku	1
1960052233N011	Heatspreader for Celeron® sku	1

SOM-9890

3rd Gen. Intel® Core™ Socket COM Express® Basic Module



Features

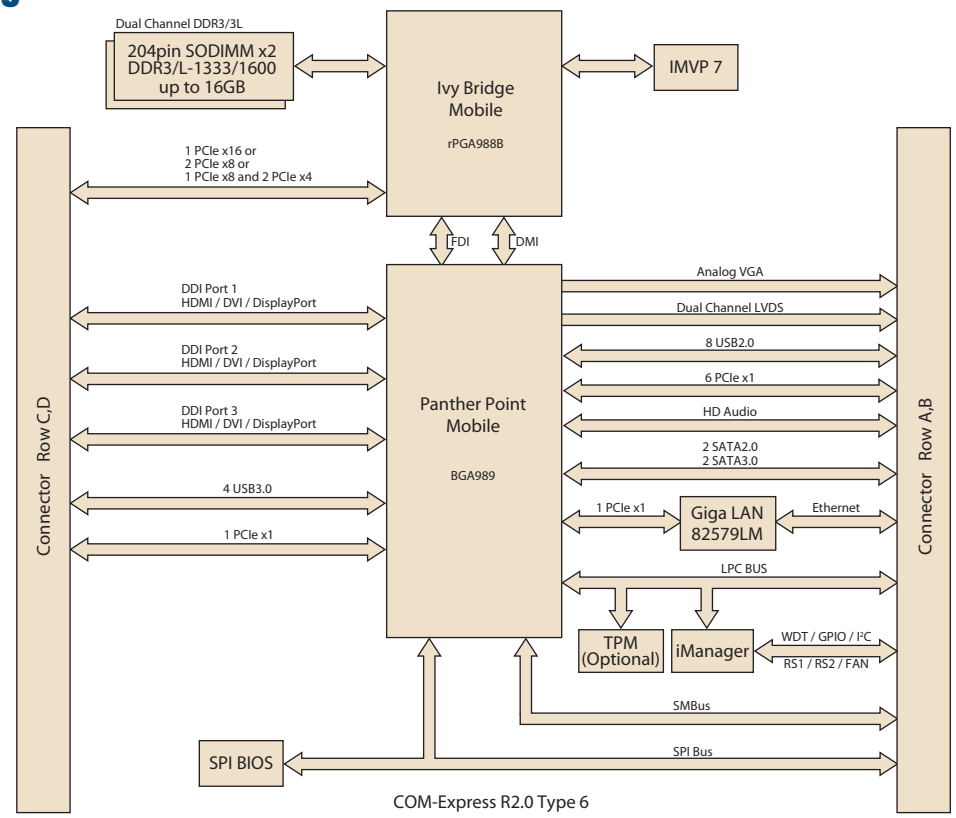
- Supports socket CPU (FCPGA988) for Intel® 3rd Generation Intel® Core™ processors i7/i5/i3/Celeron® processor + QM77
- Supports Dual Channel DDR3-1600, DDR3L-1333 SODIMM up to 16 GB
- Supports PCIe x16, 7 PCIe x1, 2 SATAIII, 2 SATAII, 8 USB 2.0, 4 USB 3.0, GbE
- Supports 3 independent displays: VGA, LVDS, DVI, HDMI, DisplayPort
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Specifications

Form Factor		COM Express 2.0 Basic Module, Type 6 Pin-out
Processor System (FCPGA988)	CPU	Intel Core i7-3610QE Processor (4C, 6M Cache, 2.3 GHz) 45 W Intel Core i5-3610ME Processor (2C, 3M Cache, 2.7 GHz) 35 W Intel Core i3-3120ME Processor (2C, 3M Cache, 2.4 GHz) 35 W
	System Chipset	Intel QM77
	BIOS	AMI EFI 64Mb
Memory	Memory Technology	DDR3 1333/1600 MHz, DDR3L 1333 MHz
	ECC Support	No
	Max Capacity	16 GB
	Socket	2 x 204-pin SODIMM sockets
Display	Graphics	Intel Gfx Engine
	LCD	Single and dual channel 18/24-bit LVDS
	VGA	2048 x 1536
	DDI	3 ports support HDMI, DVI, DisplayPort
	Multi-Displays	3 independent displays: VGA, LVDS, DVI, HDMI, DisplayPort
Ethernet	Chipset	82579LM
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level, 0 ~ 65535 sec
Expansion		PCIe x16, 7 PCIe x1
I/O	PATA	-
	SATA	2 SATAIII 2 SATAII
	USB	8 USB 2.0 4 USB 3.0
	Audio	HD Audio
	GPIO	8-bit
	COM	2 Ports
	TPM	Optional
Power	Power Type	ATX, AT
	Power Supply Voltage	ATX (12 V, 5 Vsb) AT (12 V)
	Power Consumption (Typical)	TBD
	Power Consumption (Max, tested in HCT)	TBD
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95% relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Block Diagram



COM-Express R2.0 Type 6

Ordering Information

Part No.	CPU	CPU TDP	LLC	PCH	DDR3 SODIMM	LVDS	VGA	DDI	Giga LAN	HDA	PEG x16	PCIe x1	USB 2.0	USB 3.0	SATA	LPC	Power	Thermal Solution	Operating Temp.
SOM-9890FG-00A1E	-	-	-	QM77	non-ECC	18/24-bit	Yes	3	1	Yes	1	7	8	4	2 SATA III 2 SATA II	Yes	AT/ATX	Active	0 ~ 60° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5800-00A2E	COM Express Development Board A2 Type 6 Pin-out

Optional Accessories

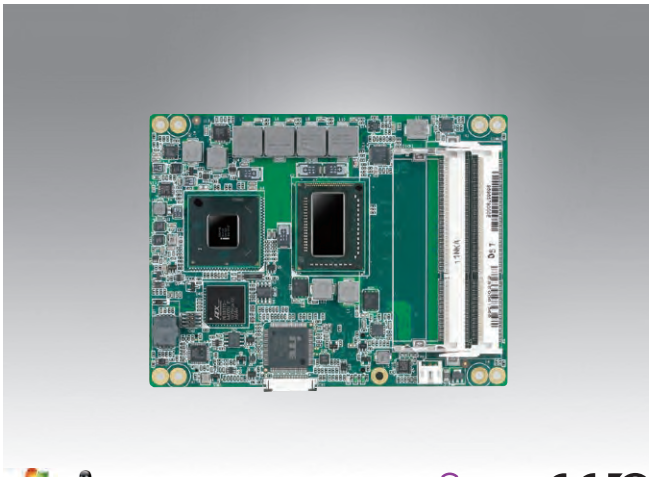
Part No.	Description
1960048820N001	Semi-Cooler 125x95x33.5mm with 12V Fan

Packing List

Part No.	Description	Quantity
-	SOM-9890 CPU module	1
1960058990N001	Heatspreader	1

SOM-5790

2nd Gen. Intel® Core™ Processor COM Express® Basic Module



Features

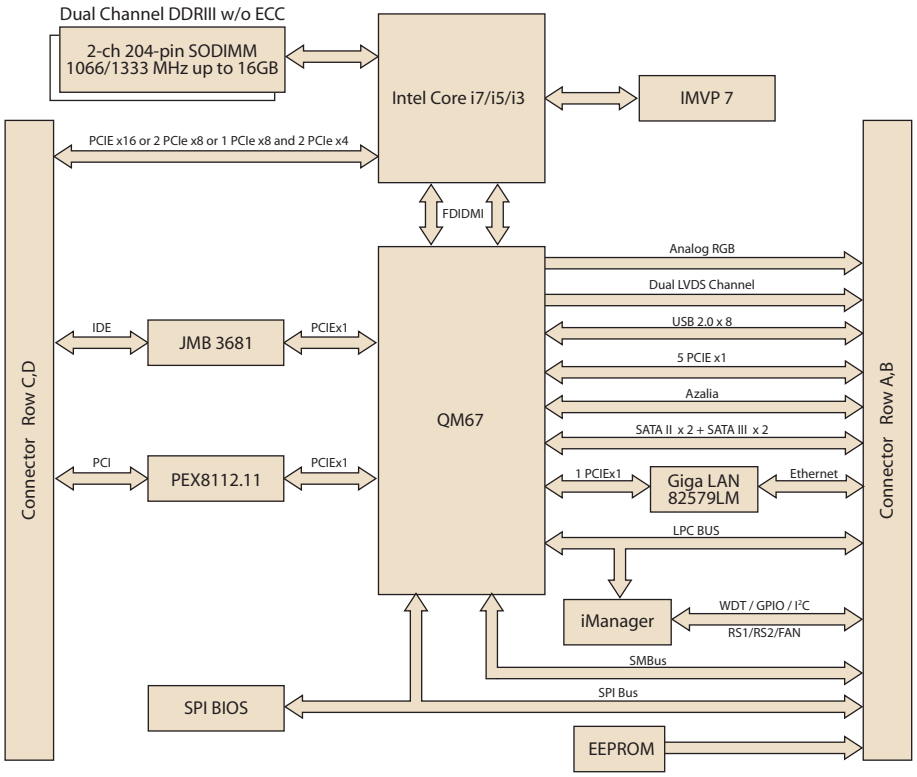
- Embedded Intel® Core™ i7/i5/i3/Celeron® processor + QM67
- Intel® Gfx supports 18/24-bit 2-CH LVDS, VGA
- Supports Dual Channel DDR3-1333 SODIMM sockets up to 16 GB
- Supports 5 PCIex1, 2 SATAIII, 2 SATAII, 8 USB 2.0, IDE, PCI
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness

Specifications

Form Factor		COM Express 2.0 Basic Module, Type 2 Pin-out
Processor System	CPU	Intel Core i7-2715QE Processor (6 M Cache, 2.1 GHz) Intel Core i7-2655LE Processor (4 M Cache, 2.2 GHz) Intel Core i7-2610UE Processor (4 M Cache, 1.5 GHz) Intel Core i5-2515E Processor (3 M Cache, 2.5 GHz) Intel Celeron B810E Processor (2C, 2M Cache, 1.6GHz) Intel Celeron 827E Processor (1C, 1.5M Cache, 1.4GHz)
	System Chipset	Intel QM67
	BIOS	AMI EFI 64Mb
Memory	Technology	DDR3 1066/1333 MHz
	ECC Support	-
	Max. Capacity	16 GB
	Socket	2 x 204-pin SODIMM sockets
Display	Chipset	Intel GPU integrated in Core i7, Core i5, or Core i3
	LVDS	Single and dual channel 18/24-bit LVDS
	VGA	up to 2048 x 1536
	TV-out	-
Ethernet	Chipset	Intel 82579LM Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer
Expansion		1 PEGx16, 5 PCIex1, PCI, LPC, SPI, SMBus, I2C
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATAIII (6.0 Gb/s), 2 x SATAII (3.0 Gb/s)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT
	Power Consumption (Max.)	TBD
	Power Consumption (Idle)	TBD
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Block Diagram



COM-Express R2.0 Type 2

Ordering Information

Part No.	CPU	LLC	Chipset	PCI	IDE	DDR3 SODIMM	LVDS	VGA	SDVO	Giga LAN	HDA	PEG x16	PCIe x1	USB 2.0	SATA	LPC	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5790FG-U1A1E	Core i7-2715QE 2.1 GHz	6 MB	QM67	4	1	non-ECC	18/24-bit	Yes	1	1	Yes	1	5	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5790FG-U2A1E	Core i7-2655LE 2.2 GHz	4 MB	QM67	4	1	non-ECC	18/24-bit	Yes	1	1	Yes	1	5	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5790FG-S5A1E	Core i7-2610UE 1.5 GHz	4 MB	QM67	4	1	non-ECC	18/24-bit	Yes	1	1	Yes	1	5	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5790FG-U5A1E	Core i5-2515E 2.5 GHz	3 MB	QM67	4	1	non-ECC	18/24-bit	Yes	1	1	Yes	1	5	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5790FG-S4A1E	Celeron B827E 1.4 GHz	1.5 MB	QM67	4	1	non-ECC	18/24-bit	Yes	1	1	Yes	1	5	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C
SOM-5790FG-S6A1E	Celeron B810E 1.6 GHz	2 MB	QM67	4	1	non-ECC	18/24-bit	Yes	1	1	Yes	1	5	8	2 x SATA III 2 x SATA II	Yes	Yes	Yes	Active	0 ~ 60° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5720-00A1E	Development Board for COM Express Type2

Optional Accessories

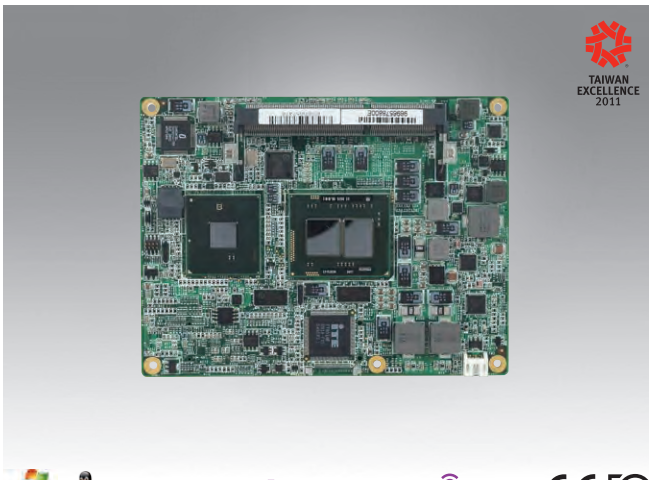
Part No.	Description
1960048820N001	Cooler I-Arrandale M-41W 125X95X33-SC 12V0.45A

Packing List

Part No.	Description	Quantity
	SOM-5790 CPU Module	1
1960052353N001	Heatspreader for CPU Core i7/i5/i3 series	1
1960052353N011	Heatspreader for CPU Celeron series	1

SOM-5788

Intel® Core™ Processor COM Express® Basic Module



Features

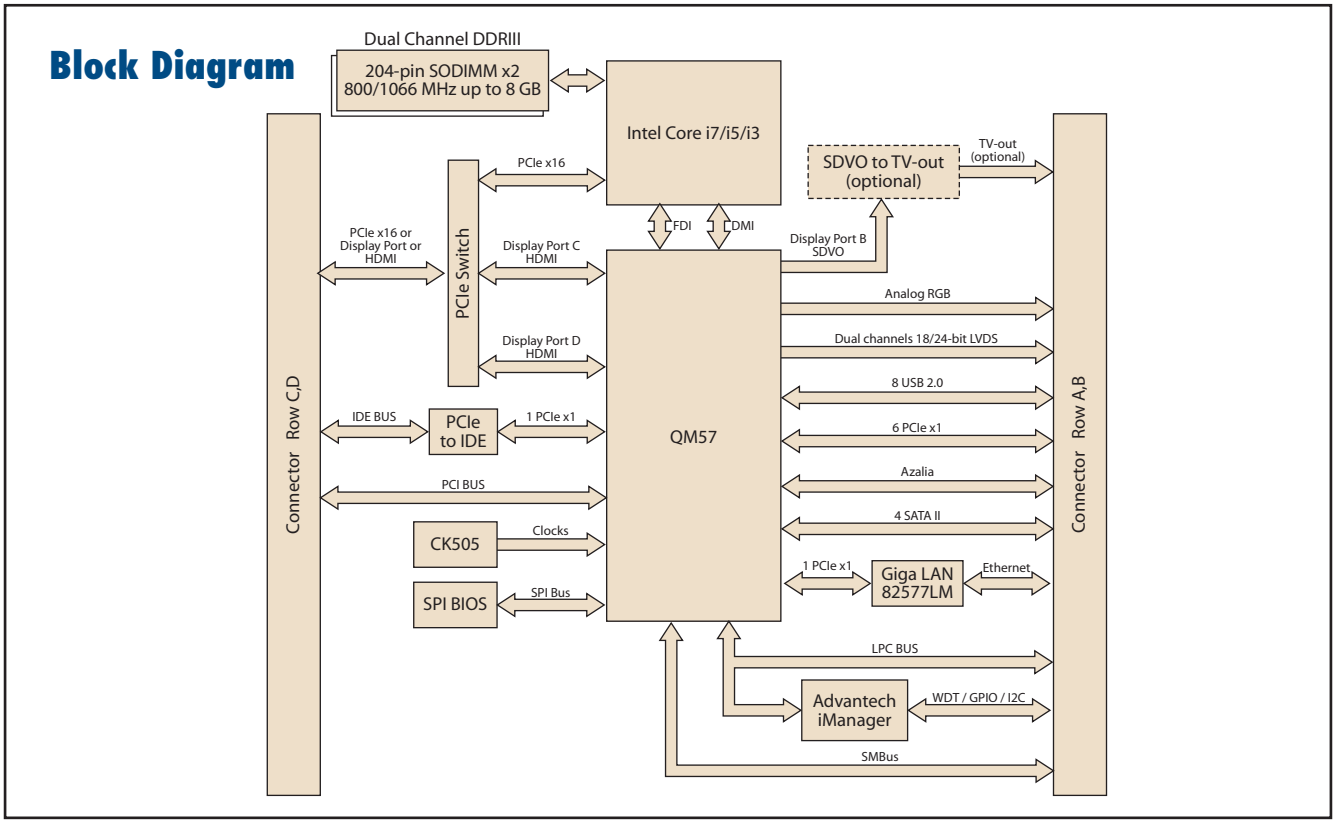
- Embedded Intel® Core™ i7/i5/i3/Celeron® processor + QM57
- Intel® GMA supports single and dual channel 18/24-bit LVDS, HDMI, Displayport, VGA
- Supports 2 DDR3-1066 memory SODIMM sockets up to 8 GB
- Supports 6 PCIe x1, 4 PCI masters, 4 SATAII, 8 USB 2.0, EIDE, GbE
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO

Specifications

Form Factor		COM Express Basic Module, Type II Pin-out
Processor System	CPU	Intel Core i7-610E Processor (4M Cache, 2.53 GHz) Intel Core i7-620LE Processor (4M Cache, 2.00 GHz) Intel Core i7-620UE Processor (4M Cache, 1.06 GHz) Intel Core i5-520E Processor (3M Cache, 2.40 GHz) Intel Core i3-330E Processor (3M Cache, 2.13 GHz) Intel Core i7-660UE Processor (4M Cache, 1.33 GHz) Intel Celeron P4505 Processor (2M Cache, 1.86 GHz) Intel Celeron U3405 Processor (2M Cache, 1.07 GHz)
	System Chipset	Intel QM57
	BIOS	AMI EFI 64Mb
Memory	Technology	DDR3 800/1066 MHz
	ECC Support	A1 Series - not supported, B1 Series - supported
	Max. Capacity	up to 8 GB
	Socket	Dual 204-pin SODIMM sockets
Display	Chipset	Intel GMA integrated in Core i7, Core i5, or Core i3
	LVDS	Single and dual channel 18/24-bit LVDS
	VGA	Up to 2048 x 1536
	DDI	2 DDI Ports support configurable HDMI/DVI/DisplayPort
	TV-out	Optional
Ethernet	Chipset	Intel 82577LM Intel HD Audio Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer
Expansion		LPC, 6 PCIe x 1 and 1 PEG x 16, 4 PCI masters
I/O	PATA	1 EIDE (UDMA 100)
	SATA	4 SATAII (300 MB/s)
	USB	8 USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT
	Power Consumption (Max.)	TBD
	Power Consumption (Idle)	TBD
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")

Block Diagram



Ordering Information

Part No.	CPU	LLC	Chipset	DD3 SODIMM	LVDS	VGA	TV-out	Giga LAN	HD Audio	PCIe x4	PCIe x1	PCI	USB 2.0	SATA II	LPC	SMBus	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-5788FG-U5A1E	Core i7-610E SV 2.53 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-U0A1E	Core i7-620LE LV 2.0 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-S1A1E	Core i7-620UE ULV 1.06 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-U4A1E	Core i5-520E SV 2.4 GHz	3 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-U1A1E	Core i3-330E SV 2.13 GHz	3 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-S9A1E	Celeron P4505 SV 1.86 GHz	2 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-S0A1E	Celeron U3405 ULV 1.07 GHz	2 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-S3A1E	Core i7-660UE ULV 1.33 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788Z-S1A1E	Core i7-620UE ULV 1.06 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-20 ~ 80° C
SOM-5788Z2-S1A1E	Core i7-620UE ULV 1.06 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-40 ~ 85° C
SOM-5788Z-U0A1E	Core i7-620LE LV 2.0 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-20 ~ 80° C
SOM-5788Z2-U0A1E	Core i7-620LE LV 2.0 GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-40 ~ 85° C
SOM-5788Z-S0A1E	Celeron U3405 1.07GHz	2 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-20 ~ 80° C
SOM-5788Z2-S0A1E	Celeron U3405 1.07GHz	2 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-40 ~ 85° C
SOM-5788Z-S3A1E	Core i7-660UE 1.33GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-20 ~ 80° C
SOM-5788Z2-S3A1E	Core i7-660UE 1.33GHz	4 MB	QM57	Non-ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	-40 ~ 85° C
SOM-5788FG-U5B1E	Core i7-610E SV 2.53 GHz	4 MB	QM57	ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-S1B1E	Core i7-620UE ULV 1.06 GHz	4 MB	QM57	ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-5788FG-U4B1E	Core i5-520E SV 2.4 GHz	3 MB	QM57	ECC	18/24-bit	Yes	option	1	Yes	Option	6	4	8	4	1	1	Yes	Yes	Active	0 ~ 60° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5720-00A1E	Development Board for COM Express Type2

Optional Accessories

Part No.	Description
1960048820N001	Semi-Cooler 125 x 95 x 33.5 mm with 12 V Fan

Packing List

Part No.	Description	Quantity
-	SOM-5788 CPU Module	1
-	Utility CD	1
1960047959T001	Heatspreader	1

SOM-6894

Intel® Core™ i7/i5/i3/Celeron® Processor COM Express® Compact Module



Features

- Embedded Intel® Core™ i7/i5/i3/Celeron® processor (U-Processor Line)
- Supports Dual Channel DDR3L 1600 SODIMM sockets up to 16 GB
- Supports 4 PCIex1, 8 USB 2.0, 2 USB3.0, 4 SATA, 1 GbE
- Supports 3 independent displays: VGA, LVDS, HDMI/DisplayPort/DVI
- Supports iManager, SUSIAccess and Embedded Software APIs

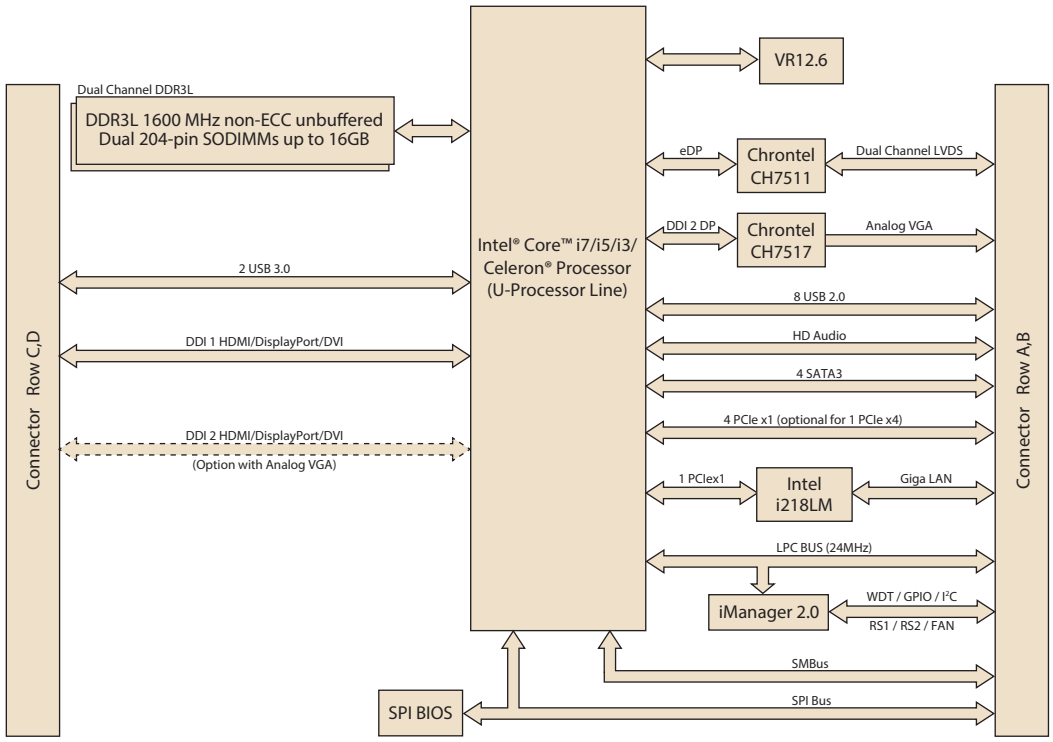
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

iManager SUSIAccess

Specifications

Form Factor	Form Factor	COM Express 2.1			
	Pin-out Type	Compact Module, Type 6 Pin-out			
Processor System	CPU + PCH	Intel 4th Gen. Processor Intel i7-4650U	Intel i5-4300U	Intel i3-4010U	Celeron 2980U
	Base Frequency	1.7GHz	1.9GHz	1.7GHz	1.6GHz
	Intel Turbo Boost Frequency 2.0 Max Single Core Turbo Frequency	3.3GHz	2.9GHz	N/A	N/A
	Core/Thread	2	2	2	2
	LLC	4MB	3MB	3MB	2MB
	CPU TDP	15W	15W	15W	15W
	BIOS	AMI UEFI BIOS @ 128 Mb			
Memory	Technology	DDR3L 1600MHz non-ECC unbuffered			
	Max. Capacity	16GB			
	Socket	Two 204P SODIMMs			
Graphics	Controller	Intel HD graphics 5000	Intel HD graphics 4400	Intel HD Graphics 4400	Intel HD Graphics
	Max. Frequency	1.1 GHz	1.1 GHz	1 GHz	1 GHz
	Graphic Memory	Intel DVMT 5.0 support up to 1024MB video memory			
	3D/HW Acceleration	DX 11.1, OGL 3.2, OCL 1.2 support			
Display	VGA	1920 x 1200			
	LCD (TTL/LVDS/eDP)	Single and dual channel 18/24-bit LVDS			
	DDI (HDMI/DVI/DisplayPort)	DDI 1: support HDMI, DisplayPort, DVI (DDI 2: Optional)			
	Dual Display	VGA, LVDS (Default)			
	Triple Display	VGA, LVDS, HDMI/DisplayPort/DVI			
Expansion	PCI Express x1	4 PCIe x1 (optional for 1 PCIe x4)			
	Audio Interface	HD Audio			
	LPC	Yes (24MHz)			
Serial Bus	SMBus	Yes			
	I²C Bus	Yes			
Ethernet	Controller	Intel i218LM			
	Speed	10/100/1000 Mbps			
I/O	SATA	4 Ports, Support Gen2 (3 Gb/s) and Gen3 (6Gb/s), RAID 0, 1, 5, 10			
	USB3.0	2 Ports			
	USB2.0	8 Ports			
	GPIO	8-bit GPIO			
	Watchdog	65536 level, 0 ~ 65535 sec			
	COM Port	2 Ports (2-Wire)			
	Smart Fan	2 Ports; 1 Port on COM Module. Support 12V Fan, 1 Port on Carrier Board			
Power	Type	ATX, AT			
	Supply Voltage	ATX (Vin 4.75-20V, Vsb 4.75-5.25V) AT (Vin 4.75-20V)			
	Power Consumption (Max.)	+12 V @ 1.72A(i7-4650U), 1.31A(i5-4300U), 1.13A (i3-4010U), 0.95A (Celeron 2980U)			
	Power Consumption (Idle)	+12 V @ 0.37A (i7-4650U), 0.35A (i5-4300U), 0.37A (i3-4010U), 0.34A (Celeron 2980U)			
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85° C (-40 ~ 185° F)			
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing			
	Vibration Resistance	3.5 Grms			
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")			

Block Diagram



Ordering Information

Part No.	CPU + PCH	Frq.	CPU TDP	LLC	DDR3L Memory	LVDS	VGA	DDI	Giga LAN	HDA	PCIE x1	USB 2.0	USB 3.0	SATA III	LPC	Power	Thermal Solution	Operating Temperature
SOM-6894C7-S7A1E	Intel i7-4650U	1.7GHz	15W	4M	Non-ECC	18/24 bit	Yes	2*	1	Yes	4	8	2	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-6894C5-S9A1E	Intel i5-4300U	1.9GHz	15W	3M	Non-ECC	18/24 bit	Yes	2*	1	Yes	4	8	2	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-6894C3-S7A1E	Intel i3-4010U	1.7GHz	15W	3M	Non-ECC	18/24 bit	Yes	2*	1	Yes	4	8	2	4	Yes	AT/ATX	Active	0 ~ 60° C
SOM-6894CR-S6A1E	Celeron 2980U	1.6GHz	15W	2M	Non-ECC	18/24 bit	Yes	2*	1	Yes	4	8	2	4	Yes	AT/ATX	Active	0 ~ 60° C

*-DDI2 is optional

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5800-00A2E	COM Express Development Board A2 Type 6 Pin-out

Packing List

Part No.	Description	Quantity
-	SOM-6894 CPU Module	1
1960062204N001	Heatspreader	1

Optional Accessories

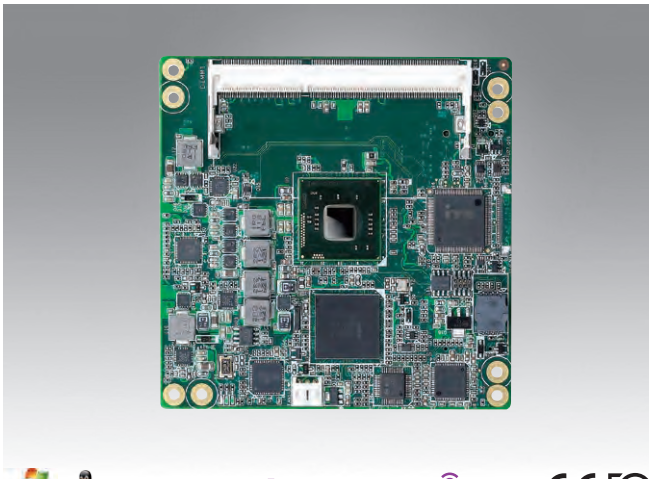
Part No.	Description
1960048819N001	Semi-Cooler 95 x 95 x 33.5 mm with 12V fan
96LEDK-I057VG50NA1	5.7" LED PANEL 500N 640X480(G)
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800X600(G) G084SN05 V9
96LEDK-C150XG40NG1	15" LED PANEL 400N 1024X768(G) G150XGE-L04
96LEDK-A170SX35NF1	17" LED 350N 1280X1024(G) G170EG01 V1

Embedded OS

OS	Part No.	Description
WES7 (32bit)	2070012296	img WES7P SOM-6894 V5.1.4 x86 Eng
Linux	2070012218	Linux Ubuntu13.04

SOM-6765

Intel® Atom™ Processor N2600/N2800/D2550 COM Express® Compact Module



Features

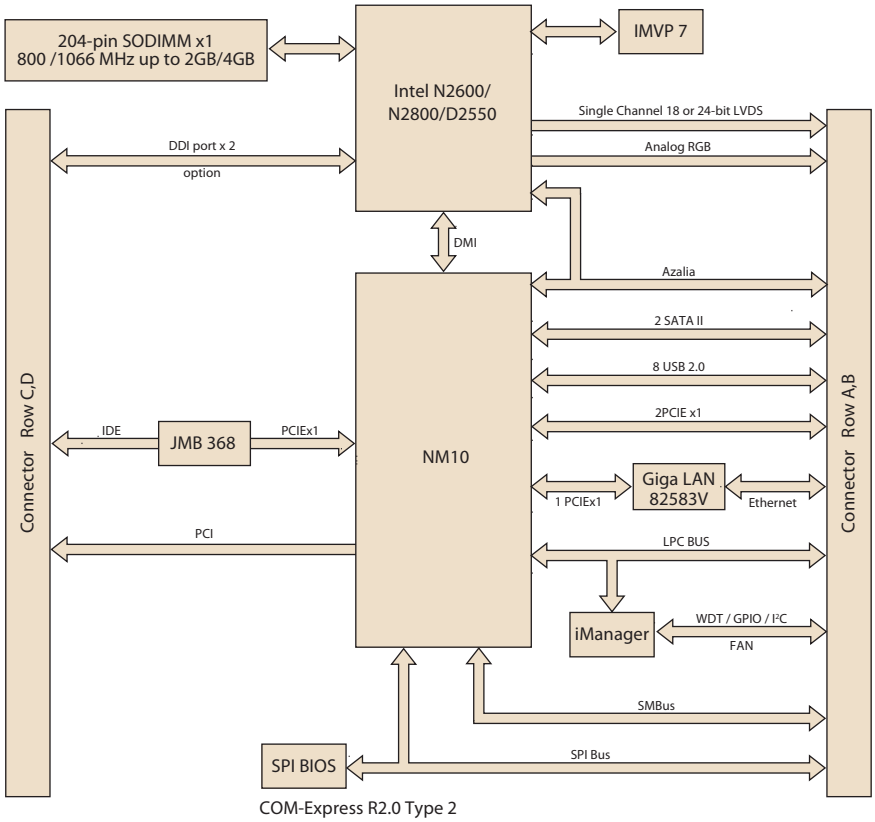
- Embedded Intel® Atom™ Processor N2600/N2800/D2550 + NM10
- Intel® Gfx support DX9 and OpenGL 3.0
- Supports VGA, 18/24 bit LVDS
- Supports DDR3 memory up to 1066 4GB
- Supports 2 PCIe x1, 4 PCI Master, LPC, SMBus, I2C Bus, 2 SATAII, EIDE, 8 USB2.0, GbE
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Specifications

Form Factor		COM Express R2.0 Compact Module, Type 2 Pin-out.		
Processor System	CPU	Intel Atom Processor N2600 1.6 GHz, 2 x 512 KB L2 Cache Intel Atom Processor N2800 1.86GHz, 2 x 512 KB L2 Cache Intel Atom Processor D2550 1.86GHz, 2 x 512KB L2 Cache		
	System Chipset	NM10		
	BIOS	AMI EFI 16Mb		
Memory	Technology	Support DDR3 1066 MHz for N2800/D2550, DDR3 800 MHz for N2600		
	Max. Capacity	Up to 4 GB for N2800/D2550, up to 2 GB for N2600		
	Socket	1 x 204-pin SODIMM Socket		
Display	Chipset	Intel Gfx integrated in Atom Processor		
	Graphic Engine	Intel Gfx 640 MHz for N2800/D2550: 400 MHz for N2600, supports DX9, OpenGL 3.0, MPEG2/VC1/H.264 HW Decoder		
	LVDS	18-bit up to 1366x768 for N2600/N2800 and 24-bit up to 1440 x 900 for D2550		
	VGA	1920 x 1200		
	DDI	2 ports shared with HDMI/DVI/DisplayPort (Option)		
	TV Out	-		
	SDVO	-		
	Dual Display	CRT + LVDS, CRT + DDI (Option) LVDS + DDI (Option)		
Ethernet	Chipset	Intel 82583 Gigabit Ethernet		
	Speed	10/100/1000 Mbps		
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer		
Expansion		2 PCIe x1 (Option for 4 PCIe x1), 4 PCI masters, LPC, SMBus, I2C Bus		
I/O	PATA	1 EIDE (UDMA 100)		
	SATA	2 SATAII (300 MB/s)		
	USB	8 USB 2.0		
	Audio	High definition audio interface		
	GPIO	8-bit GPIO		
Power	Power Type	ATX, AT		
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT		
	Power Consumption (Typical)	6765N2600 (2G DDRIII 800) 7.06W @ Vin=12V	6765D2550 (4G DDRII 1066) 8.1W @ Vin=12V	6765N2800 (4G DDRIII 1066) 6.9W @ Vin=12V
	Power Consumption (Max, test in Burn In Test)	6765N2600 (2G DDRIII 800) 9.08W @ Vin=12V	6765D2550 (4G DDRIII 1066) 10.3W @Vin=12V	6765N2800 (4G DDRIII 1066) 9.4W @ Vin=12V
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)		
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing		
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")		

Block Diagram



COM-Express R2.0 Type 2

Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	HDMI/DVI/ DisPlayPort (Option)	Giga LAN	HD Audio	PCIe x1	PCI	USB 2.0	SATA II	LPC	SMBus	I²C Bus	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-6765N-S6A1E	Atom N2600	1 MB	NM10	18-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-6765NZ-S6A1E	Atom N2600	1 MB	NM10	18-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Passive	-20 ~ 80° C
SOM-6765NZ2-S6A1E	Atom N2600	1 MB	NM10	18-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Passive	-40 ~ 85° C
SOM-6765N-S8A1E	Atom N2800	1 MB	NM10	18-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-6765NZ-S8A1E	Atom N2800	1 MB	NM10	18-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Passive	-20 ~ 80° C
SOM-6765NZ2-S8A1E	Atom N2800	1 MB	NM10	18-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Passive	-40 ~ 85° C
SOM-6765D-S8A1E	Atom D2550	1 MB	NM10	24-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-6765DZ-S8A1E	Atom D2550	1 MB	NM10	24-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Active	-20 ~ 80° C
SOM-6765DZ2-S8A1E	Atom D2550	1 MB	NM10	24-bit	Yes	2	1	Yes	2	4	8	2	1	1	1	Yes	Yes	Active	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5720-00A1E	Development Board for COM Express Type2

Optional Accessories

Part No.	Description
1960048815N001	Semi-Heatsink 95 x 95 x 17 mm
1960048819N001	Semi-Cooler 95 x 95 x 33.5 mm with 12V fan

Packing List

Part No.	Description	Quantity
-	SOM-6765 CPU Module	1
1960053504N001	Heatspreader	1

SOM-6763 B1

Intel® Atom™ Processor N455/D525 COM Express® Compact Module



Features

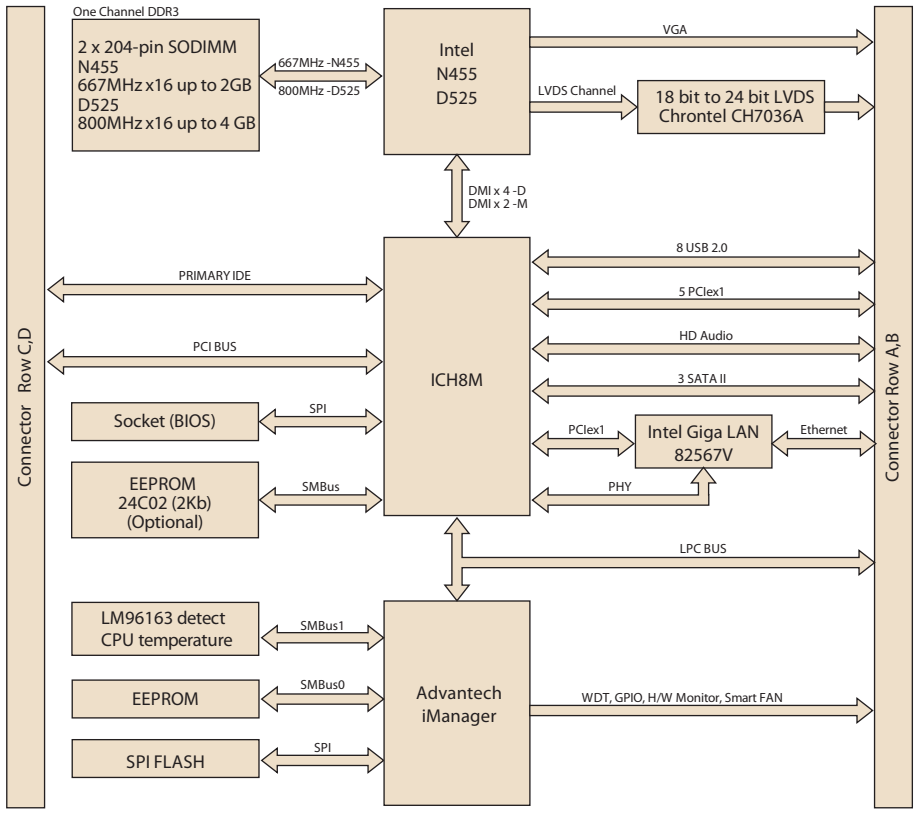
- Embedded Intel® Atom™ Processor N455 SC 1.66 GHz / D525 DC 1.80 GHz + ICH8M
- Intel® Gen 3.5 DX9, MPEG2 hardware decoder, supports 24-bit LVDS, VGA
- Supports 2 DDR3-667 for N455 up to 2 GB and DDR3-800 for D525 up to 4 GB SODIMMB
- Supports 5 PCIe x 1, 4 PCI masters, LPC, 3 SATAII, 8 USB 2.0, EIDE, GbE
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Specifications

Form Factor		COM Express R2.0 Compact Module, Type II Pin-out.	
Processor System	CPU	Intel Atom Processor N455 1.66 GHz (single Core), 512 KB L2 Cache Intel Atom Processor D525 1.80 GHz (dual Core), 1 MB L2 Cache	
	System Chipset	ICH8M	
	BIOS	AMI 16 Mbit Flash BIOS	
Memory	Technology	Supports DDR3 667 MHz (N455) and 800 MHz (D525)	
	Max. Capacity	Up to 2GB for N455; up to 4GB for D525	
	Socket	2 x 204-pin SODIMM sockets	
Display	Chipset	Intel Atom N455 or Intel Atom D525	
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 hardware decoder	
	LVDS	24-bit single channel LVDS	
	VGA	Intel Atom N455 up to 1400 x 1050 Intel Atom D525 up to 2048 x 1536	
	DVI	-	
	TV Out	-	
	SDVO	-	
	Dual Display	CRT + LVDS	
Ethernet	Chipset	Intel 82567V Gigabit Ethernet	
	Speed	10/100/1000 Mbps	
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer	
Expansion		LPC, 5 PCIe x1 (1 PCIe x4), 4 PCI masters, I²C	
I/O	PATA	1 EIDE (UDMA 100)	
	SATA	3 SATAII (300 MB/s)	
	USB	8 USB 2.0	
	Audio	High definition audio interface	
	GPIO	8-bit GPIO	
Power	Power Type	ATX, AT	
	Power Supply Voltage	+12 V and +5 VSB for ATX, +12V for AT	
	Power Consumption (Typical)	6763N (2 GB DDR3 667) +12 V @ 0.9 A	6763D (2 GB DDR3 800) +12 V @ 0.94 A
	Power Consumption (Max, test in HCT)	6763N (2 GB DDR3 667) +12 V @ 1.3 A	6763D (2 GB DDR3 800) +12 V @ 1.5 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing	
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")	

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	Giga LAN	HD Audio	PCIe x4	PCIe x1	PCI	USB 2.0	SATA II	LPC	SMBus	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-6763N-S6B1E	Atom N455 1.66 GHz	512 KB	ICH8M	24-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-6763D-S8B1E	Atom D525 1.8 GHz	1 MB	ICH8M	24-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Active	0 ~ 60° C
SOM-6763NZ-S6B1E	Atom N455 1.66 GHz	512 KB	ICH8M	24-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Passive	-20 ~ 80° C
SOM-6763NZ2-S6B1E	Atom N455 1.66 GHz	512 KB	ICH8M	24-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Passive	-40 ~ 85° C
SOM-6763DZ-S8B1E	Atom D525 1.8 GHz	1 MB	ICH8M	24-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Active	-20 ~ 80° C
SOM-6763DZ2-S8B1E	Atom D525 1.8 GHz	1 MB	ICH8M	24-bit	Yes	1	Yes	Option	5	4	8	3	1	1	Yes	Yes	Active	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5720-00A1E	Development Board for COM Express Type2

Packing List

Part No.	Description	Quantity
-	SOM-6763 B1 CPU Module	-
-	Utility CD	1
1960049022N001	Heatspreader	1

Optional Accessories

Part No.	Description
1960048815N001	Semi-Heatsink 95 x 95 x 17 mm
1960048819N001	Semi-Cooler 95 x 95 x 33.5 mm with 12V fan

Embedded OS

OS	Part No.	Description
Win XPE	2070009031	XPE WES2009 Lu- Pier V4.0 MUI24
Win CE 7.0	2070010929	Image CE 7.0 Pro SOM-6763 B1 V1.0 ENG

SOM-6761

Intel® Atom™ Processor N270 COM Express® Compact Module



Features

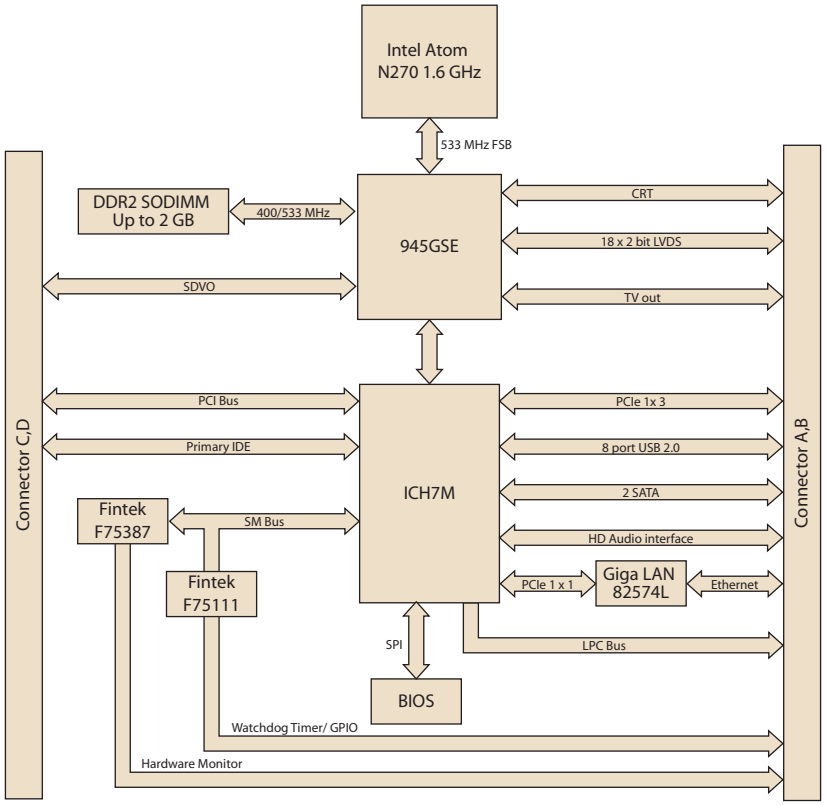
- Embedded Intel® Atom™ Processor N270 1.6 GHz + 945GSE+ICH7M
- Intel® GMA950, 250MHz, supports DirectX9.1, OpenGL
- Supports VGA, 18-bit 2-CH LVDS, TV-out, 1 SDVO
- Supports one DDR2-533 memory SODIMM socket up to 2 GB
- Supports 3 PCIe x1, 4 PCI Master, LPC, 2 SATA, 1 IDE, 8 USB 2.0, 1 GbE, AC97/HDA
- Supports SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Specifications

Form Factor		COM Express Compact Module, Type II Pin-out.
Processor System	CPU	Embedded Intel Atom Processor N270 1.6 GHz
	Front Side Bus	533 MHz
	System Chipset	Intel 945GSE/ ICH7M
	BIOS	AWARD 8 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	Up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel 945GSE
	VRAM	DVMT 3.0 supports up to 224 MB
	Graphics Engine	Intel GMA950, 250 MHz, support DirectX9.1, OpenGL
	LCD	18-bit 2-CH LVDS
	VGA	Up to 2048 x 1536
	TV Out	Supports NTSC/PAL, S-Video and Composite Output interfaces
	SDVO	1 SDVO Port (Note: SDVO function is supported by customized BIOS)
	Dual Display	CRT + LCD, TV-out + LCD, TV-out + CRT
Ethernet	Chipset	Intel 82574L Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 timer intervals, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		3 PCIe x 1 (1 PCIe x4 optional), 4 PCI Master, LPC, SMBus, I²C, 4 PCI master
I/O	PATA	1 IDE (UDMA 100)
	SATA	2 SATA (1.5Gb/s)
	USB	8 USB 2.0
	Audio	AC97, High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	+12 V, and +5 VSB for ATX, +12 V for AT
	Power Consumption (Typical)	Typical: (1 GB DDRII 533) +12 V @ 0.62 A
	Power Consumption (Max, test in HCT)	Max: (1 GB DDRII 533) +12 V @ 0.9 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	SDVO	TV out	Giga LAN	HD Audio	PCIe	PCI	USB 2.0	SATA	LPC	SMBus	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-6761FG-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	1	Yes	3*	4	8	2	1	1	Yes	Yes	Passive	0 ~ 60° C
SOM-6761Z-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	1	Yes	3*	4	8	2	1	1	Yes	Yes	Passive	-20 ~ 80° C
SOM-6761Z2-S6A1E	Atom N270 1.6 GHz	512 KB	945GSE	36-bit	Yes	1	Yes	1	Yes	3*	4	8	2	1	1	Yes	Yes	Passive	-40 ~ 85° C

*: Optional support 1 PCIe x4 when removing Giga LAN function. BOM adjustment is needed.
Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5720-00A1E	Development Board for COM Express Type2

Optional Accessories

Part No.	Description
1960048815N001	Semi-Heatsink 95 x 95 x 17 mm

Packing List

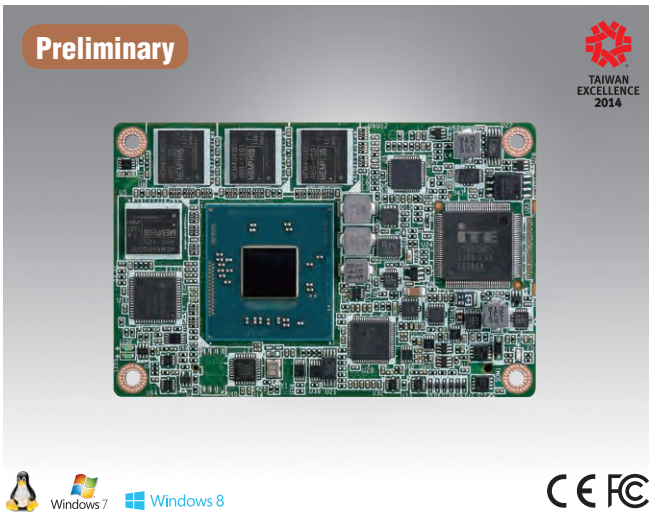
Part No.	Description	Quantity
-	SOM-6761 CPU Module	1
-	Utility CD	1
1960028640N101	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE	2070007811	CE 6.0 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE	2070007912	XPE WES2009 Intel Uniprocess V4.0 MUI24
QNX		V6.4.1

SOM-7567

Intel® Atom™/Celeron® Processor COM Express® Mini Module



Windows 7 Windows 8 CE FC

Features

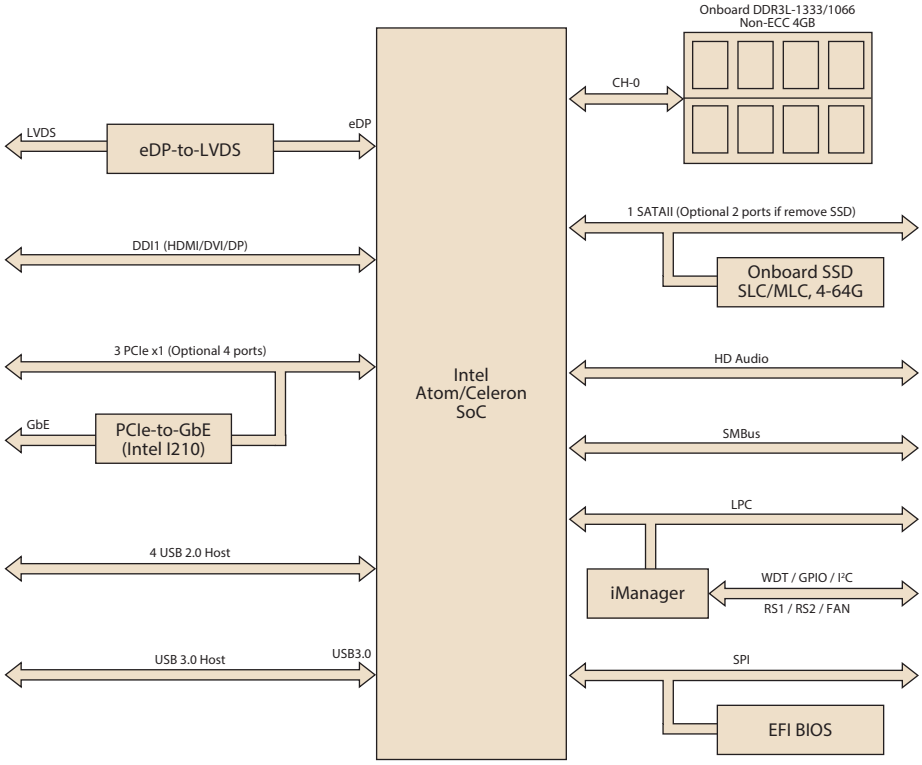
- COM R.2.1 Type 10 Mini Module
- Intel® Atom™/Celeron® processor for Intelligent systems (Based on 22mm Silvermont microarchitecture)
- Onboard DDR3L and SSD
- Embedded Software APIs and Utilities supported

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control, Backlight On/Off

Specifications

Form Factor	Form Factor	COM Express Mini Module			
	Pin-out Type	COM Express R2.1 Type 10			
Processor System	CPU	Intel Atom E3825	Intel Atom E3815	Intel Celeron J1900	Intel Celeron N2920
	Base Frequency (Normal)	1.33GHz	1.46 GHz	2GHz	1.86GHz
	Base Frequency (Burst)	-	-	2.42GHz	2GHz
	Core	2	1	4	4
	LLC	1MB	0.5MB	2MB	2MB
	CPU TDP	6W	5W	10W	7.5W
	BIOS	AMI UEFI 16Mbit, SPI			
Memory	Technology	DDR3L-1066	DDR3L-1066	DDR3L-1333	DDR3L-1066
	ECC Support	N/A			
	Max. Capacity	Up to 4G			
SSD	Technology & Capacity	MLC up to 64GB, SLC up to 32GB			
Graphics	Controller	Intel® HD graphics (Gen 7 gfx)			
	Frequency (Normal/Turbo)	533/- MHZ	400/- MHZ	688/792MHZ	400/756 MHZ
	Graphic Memory	TBD			
	3D/HW Acceleration	DX11, OGL3.2, OCL1.1, and H.264/AVC, VC-1, MPEG2 HW Decode/Encode			
Display	LCD	LVDS 1-ch 18/24-bit, up to 1366 x 768 resolution			
	DDI (HDMI/DVI/ DisplayPort)	Up to 2560 x 1600 resolution			
	Dual Display	LCD + DDI			
Expansion	PCI Express x1	3 Ports (optional 4 PCIe x1 or 1 PCIe x4 while removing Ethernet), compliant to PCIe Gen2 5.0 GT/s			
	Audio Interface	Intel HD Audio			
	LPC	Yes			
Serial Bus	SMBus	Yes			
	I²C Bus	Yes			
Ethernet	Controller	Intel i210E			
	Speed	10/100/1000MHz			
I/O	SATA	1 Ports (optional 2 ports while remove onboard storage), compliant to SATA2.0 3.0 Gb/s			
	USB3.0	1 port			
	USB2.0	4 ports			
	SPI Bus	1 channel, for SPI BIOS EEPROM			
	GPIO	8-bit			
	Watchdog	0~65535 sec, multi-level, multi-option watchdog timer support by Advantech iManager			
	COM Port	2 ports 2-wire COM port (TX/RX)			
	Express Card	2 ports			
	Smart Fan	1 port			
Power	Type	ATX: Vin, VSB, AT: Vin			
	Supply Voltage	Vin: 4.75V - 20V, VSB: 4.75V - 5.25V			
	Power Consumption (Max.)	TBD			
	Power Consumption (Idle)	TBD			
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85° C (-40 ~ 185° F)			
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing			
Mechanical	Dimensions	84 x 55 mm (3.3" x 2.17")			

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Onboard Memory	Onboar Flash	LVDS	HDMI/ DVI/DP	PCIe x1	HD Audio	GbE	SATAII	USB 3.0	USB 2.0	CAN Bus	Thermal Solution	Operating Temperature
TBD															

Packing List

Part No.	Description	Quantity
-	SOM-7567 COM Express Mini Module	1
TBD	Heatspreader	1

Development Board

Part No.	Description
SOM-DB5800-U0A2E	Development Board for COM Express Mini Module Type 10 Pin-out

Optional Accessories

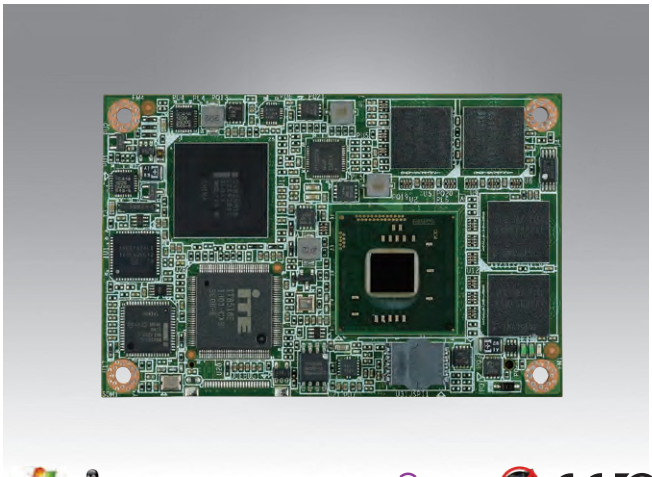
Part No.	Description
TBD	

Embedded OS

OS	Part No.	Description
WES8	TBD	TBD
WES7	TBD	TBD

SOM-7565 A2

Intel® Atom™ Processor N2600/N2800 COM Express® Mini Module



Features

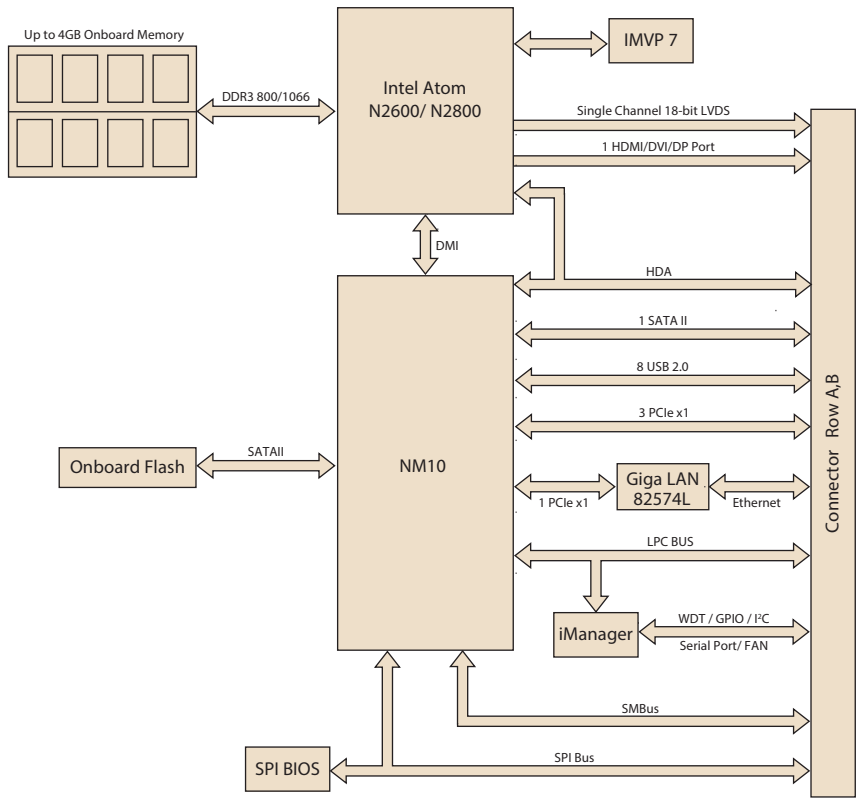
- Embedded Intel® Atom™ Processor N2800/N2600 + NM10
- Intel® GMA3650 supports DX9 and OGL 3.0, MPEG2/VC1/H.264 HW Decoder
- Supports onboard memory 1066/800 up to 4GB/2GB
- Supports onboard flash up to MLC 8G
- Supports 3 PCIe x1, 1 GbE, 1 SATA, 8 USB2.0, LPC, SMBus, I²C Bus
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Specifications

Form Factor		COM Express R2.1 Mini Module, Pin-out Type 10
Processor System	CPU	Intel Atom Processor N2800 1.86GHz, 2 x 512 KB L2 Cache Intel Atom Processor N2600 1.6GHz, 2 x 512 KB L2 Cache
	System Chipset	NM10
	BIOS	AMI EFI 16Mb
Memory	Technology	N2800: DDR3 1066, N2600: DDR3 800 N2800: Up to 4GB, N2600: Up to 2GB
	Max. Capacity	Onboard up to 4GB
Display	Chipset	Intel Gfx integrated in Atom Processor
	Graphic Engine	Intel GMA3650 640MHz for N2800, GMA3600 400MHz for N2600, supports DX9, OGL 3.0, MPEG2/VC1/H.264 HW Decoder
	LVDS	18-bit up to 1366 x 768
	DDI	1 port shared, HDMI/DVI up to 1920 x 1200, DP up to 1600 x 1200
	Dual Display	LVDS + HDMI/DVI/DP
Ethernet	Chipset	Intel 82574L Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer
Expansion		3 PCIe x1, LPC, SMBus, I2C Bus
I/O	SATA	1 port, SATAII 3.0Gb/s compliant (2 port optional while remove onboard flash)
	Onboard Flash	MLC 4GB/8GB or SLC 4GB
	USB	8 USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	ATX mode: Vin: 4.75 ~ 20V, VSB: 4.75 ~ 5.25V (Note: Vin must >= VSB) AT mode: Vin: 4.75 ~ 20V
	Power Consumption (Typical)	N2600: 7.0W @ Vin=12V N2800: 8.0W @ Vin=12V
	Power Consumption (Max, test in Burn-in Test V6.0 Pro)	N2600: 8.6W @ Vin=12V N2800: 9.5W @ Vin=12V
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85° C (-40 ~ 185° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	84 x 55 mm (3.3" x 2.17")

Block Diagram



Ordering Information

P/N	CPU	L2 Cache	Chipset	On board Memory	On board Flash	LVDS	HDMI/ DVI/ DP	PCIe x1	HD Audio	GbE	SATAII	USB 2.0	LPC	SMBus	Thermal Solution	Operation Temp.
SOM-7565M8-S8A2E	N2800	1MB	NM10	4GB	MLC 8GB	18-bit	1	3	Yes	1	1	8	Yes	Yes	Passive	0 ~ 60° C
SOM-7565M4-S6A2E	N2600	1MB	NM10	2GB	MLC 4GB	18-bit	1	3	Yes	1	1	8	Yes	Yes	Passive	0 ~ 60° C
SOM-7565S4-S6A2E	N2600	1MB	NM10	2GB	SLC 4GB	18-bit	1	3	Yes	1	1	8	Yes	Yes	Passive	0 ~ 60° C
SOM-7565S0-S6A2E	N2600	1MB	NM10	2GB	None	18-bit	1	3	Yes	1	1	8	Yes	Yes	Passive	0 ~ 60° C
SOM-7565SZ-S6A2E	N2600	1MB	NM10	2GB	None	18-bit	1	3	Yes	1	1	8	Yes	Yes	Passive	-20 ~ 80° C
SOM-7565SZ2-S6A2E	N2600	1MB	NM10	2GB	None	18-bit	1	3	Yes	1	1	8	Yes	Yes	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5800-U0A2E	COM Express Development Board A2 for Type 10

Packing List

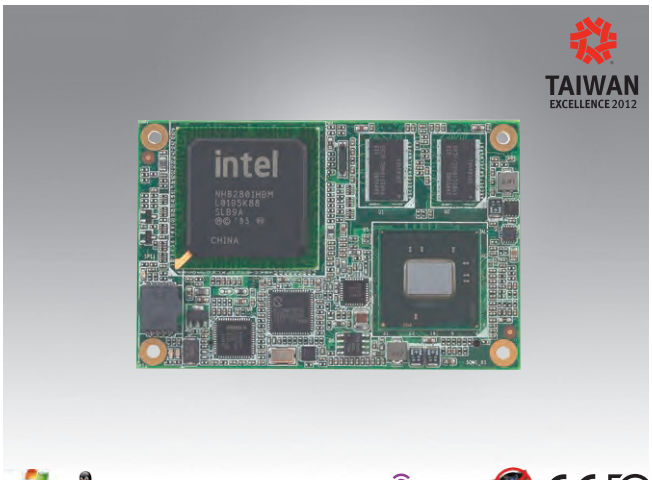
Part No.	Description	Quantity
-	SOM-7565 CPU Module	-
1960055344N001	Heatspreader	1

Optional Accessories

Part No.	Description
1960056280N001	Semi-Heatsink 84L x 55W x 13.2H mm (0 ~ 60° C)
96LEDK-I057VG50NA1	5.7" LED PANEL 500N 640 x 480(G)
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800 x 600(G) G084SN05 V9 (V901)

SOM-7562 B1

Intel® Atom™ Processor N455 COM Express® Mini Module



Features

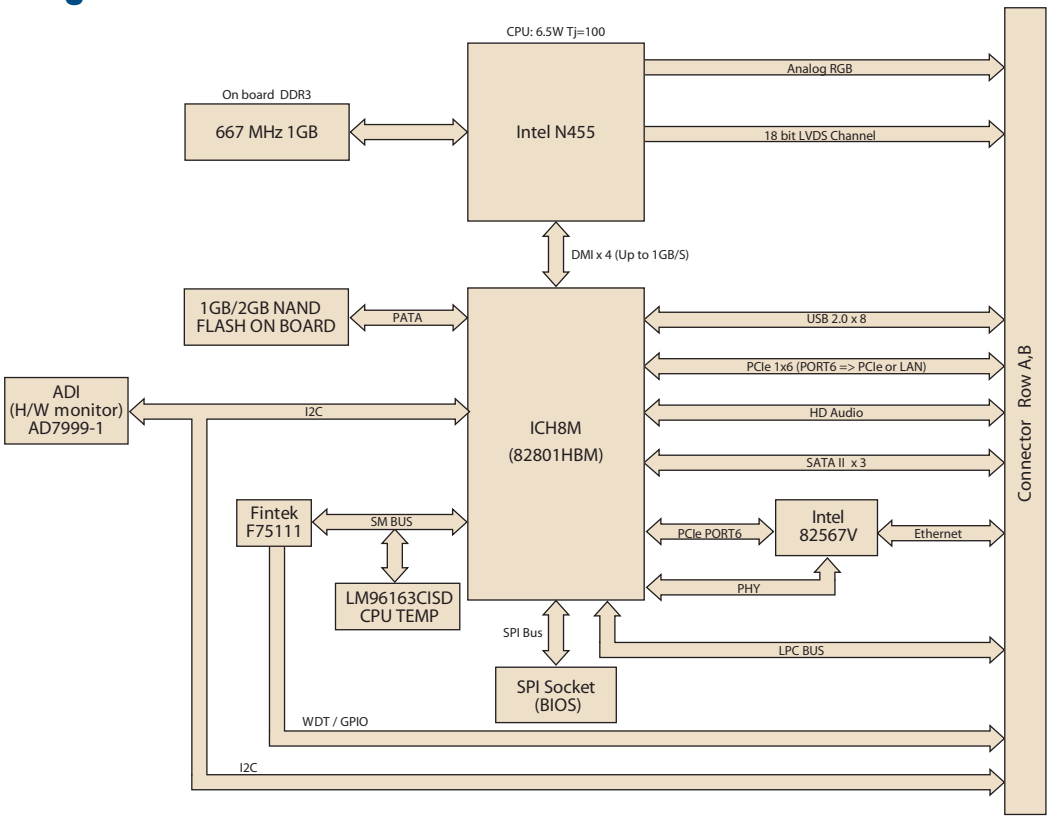
- Embedded Intel® Atom™ Processor N455 1.66 GHz + ICH8M
- Intel® Gen 3.5 DX9, MPEG2 hardware decoder, supports 18-bit LVDS, VGA
- Supports 1 GB on-board memory and 1/2 GB on-board Flash
- Supports 5 PCIe x1, LPC, 3 SATAII, 8 USB 2.0, GbE
- Supports SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Backlight On/Off

Specifications

Form Factor		COM Express Mini Module, Type I Pin-out
Processor System	CPU	Intel Atom Processor N455 1.66 GHz
	L2 Cache	512 KB
	System Chipset	ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 667 MHz memory only
	Max. Capacity	Onboard 1GB
	Socket	-
Flash	Capacity	1 GB/ 2 GB Flash onboard
Display	Chipset	Embedded Gen3.5+ GFX Core
	Graphics Engine	Intel Gen 3.5 DX9, MPEG2 hardware decoder
	LVDS	18-bit single channel LVDS
	VGA	Supports max. 1400 x 1050 @ 60 Hz
	DVI	-
	TV Out	-
	SDVO	-
	Dual Display	CRT + LVDS
Ethernet	Chipset	Intel 82567V Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		LPC, 5 PCIe x1 (1 PCIe x4 or 1 PCIe x2 option)
I/O	PATA	-
	SATA	3 x SATAII (300 MB/s)
	USB	8 x USB 2.0
	Audio	High definition audio interface
	GPIO	8-bit GPIO
Power	Power Type	ATX, AT
	Power Supply Voltage	12 V (5 VSB needed for ATX power mode), wide range voltage supported on a per project basis
	Power Consumption (Typical)	+12 V @ 0.68 A
	Power Consumption (Max, test in HCT)	+12 V @ 0.86 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	84 x 55 mm (3.3" x 2.17")

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	Onboard Memory	Onboard Flash	LVDS	VGA	Giga LAN	HD Audio	PCIe x 4	PCIe x 1	USB 2.0	SATA II	LPC	SMBUS	Wide range Power	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-7562F1-S6B1E	Intel Atom N455	512 KB	ICH8M	1 GB	1 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	0 ~ 60 °C
SOM-7562F2-S6B1E	Intel Atom N455	512 KB	ICH8M	1 GB	2 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	0 ~ 60 °C
SOM-7562SZ-S6B1E	Intel Atom N455	512 KB	ICH8M	1 GB	1 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	-20 ~ 80 °C
SOM-7562SZ2-S6B1E	Intel Atom N455	512 KB	ICH8M	1 GB	1 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	-40 ~ 85 °C
SOM-7562UZ-S6B1E	Intel Atom N455	512 KB	ICH8M	1 GB	2 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	-20 ~ 80 °C
SOM-7562UZ2-S6B1E	Intel Atom N455	512 KB	ICH8M	1 GB	2 GB	18-bit	Yes	1	Yes	Option	5	8	3	1	1	+5V~+14V	Yes	Yes	Passive	-40 ~ 85 °C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB5720-U0A1E	Development Board for COM Express Type1

Embedded OS

OS	Part No.	Description
Win XPE 2008	2070009031	XPE WES2009 Lu- Pier V4.0 MUI24

Packing List

Part No.	Description	Quantity
-	SOM-7562 CPU Module	1
-	Utility CD	1
1960047108N001	Heatspreader	1

SOM-3565

Intel® Atom™ Processor N2600 Qseven CPU Module



Features

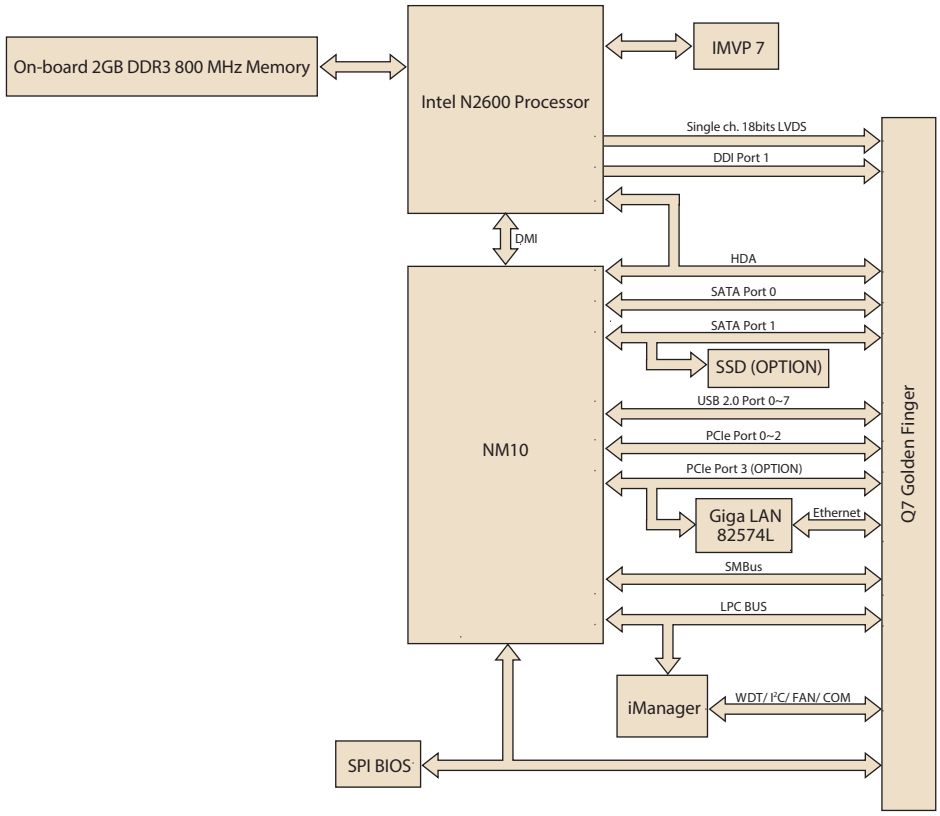
- Embedded Intel® Atom™ Processor N2600 + NM10
- Intel® Gfx support DX9 and OpenGL 3.0
- Supports 18 bit LVDS
- Supports up to DDR3 2GB onboard memory
- Support 3 PCIe x1, 1 LPC, 2 SATAII, 8 USB2.0
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness Control

Specifications

Form Factor		QSeven R1.2
Processor System	CPU	Intel Atom Processor N2600 1.6 GHz, 1 MB L2 Cache
	System Chipset	NM10
	BIOS	AMI EFI 16 Mbit Flash BIOS
Memory	Technology	Support DDR3 800 MHz
	Max. Capacity	2 GB on board memory
Display	Chipset	Intel Gfx integrated in Atom Processor
	Graphic Engine	Intel Gfx 400 MHz for N2600, supports DX9, OpenGL 3.0, MPEG2/VC1/H.264 HW Decoder
	LVDS	18-bit up to 1366x768
	DDI	1 port for DisplayPort/ HDMI/ DVI HDMI 1920 x 1200 DVI 1920 x 1200 DisplayPort 1600 x 1200
	Dual Display	LVDS + DP/HDMI/DVI
Ethernet	Chipset	Intel 82574L Gigabit Ethernet
	Speed	10/100/1000 Mbps
WatchDog Timer		65536 level timer interval, from 0~65535 sec, multi-level, multi-option watchdog timer
Expansion		3 PCIe x1 (Option for 4 PCIe x1), LPC, SMBus, I2C Bus
I/O	SATA	2 SATAII (300 MB/s) (option for 1 SATAII and 1 on-board SSD)
	USB	8 USB 2.0
	Audio	High definition audio interface
	GPIO	8 Bits (through SDIO pins)
Power	Power Type	ATX, AT
	Power Supply Voltage	5V/ 5V standby
	Power Consumption (Max.)	+5 V @ 1.6 A
	Power Consumption (Idle)	+5 V @ 0.99 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	70 x 70 mm (2.75" x 2.75")

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	PCH	LVDS	RAM	SSD	DDI	PCIe	Giga LAN	HD Audio	USB2.0	SATAII	LPC	I²C Bus	Power	Thermal Solution	Operating Temp.
SOM-3565M0-S6A1E	N2600 1.6 GHz	1 MB	NM10	18-bit	2GB	-	1	3	1	1	8	2	1	1	ATX/AT	Passive	0 ~ 60° C
SOM-3565M4-S6A1E	N2600 1.6 GHz	1 MB	NM10	18-bit	2GB	4GB	1	3	1	1	8	1	1	1	ATX/AT	Passive	0 ~ 60° C
SOM-3565M0Z-S6A1E	N2600 1.6 GHz	1 MB	NM10	18-bit	2GB	-	1	3	1	1	8	2	1	1	ATX/AT	Passive	-20 ~ 80° C
SOM-3565M0Z2-S6A1E	N2600 1.6 GHz	1 MB	NM10	18-bit	2GB	-	1	3	1	1	8	2	1	1	ATX/AT	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part Number	Description
SOM-DB3500G-00A1E	Qseven Development Board

Packing List

Part Number	Description	Quantity
	CPU module	1
1960059823N001	Heatspreader	1

Embedded OS

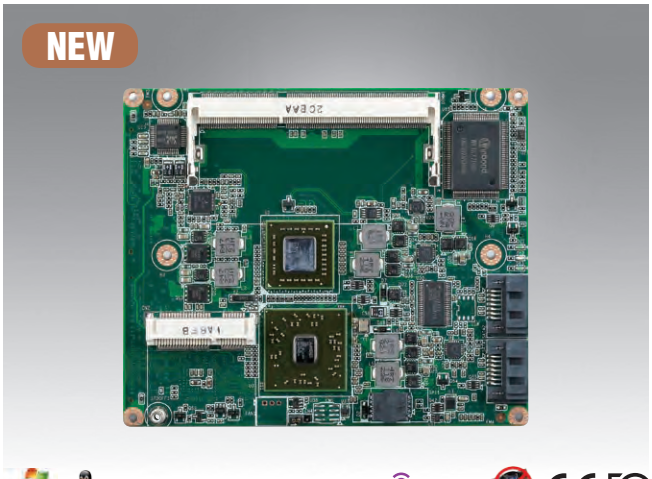
OS	Part No.	Description
WES7E	2070011754	WES7E SP1 32-bts SOM-3565 V5.1.4 ENG

Optional Accessories

Part Number	Description
1960058145N001	Heatsink I-Cedarview-M-12W 70x63x13.2-SC
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800X600(G) G084SN05 V9
96LEDK-C150XG40NG1	15" LED PANEL 400N 1024X768(G) G150XGE-L04

SOM-4466

AMD G-Series Processor T16R ETX CPU Module



Features

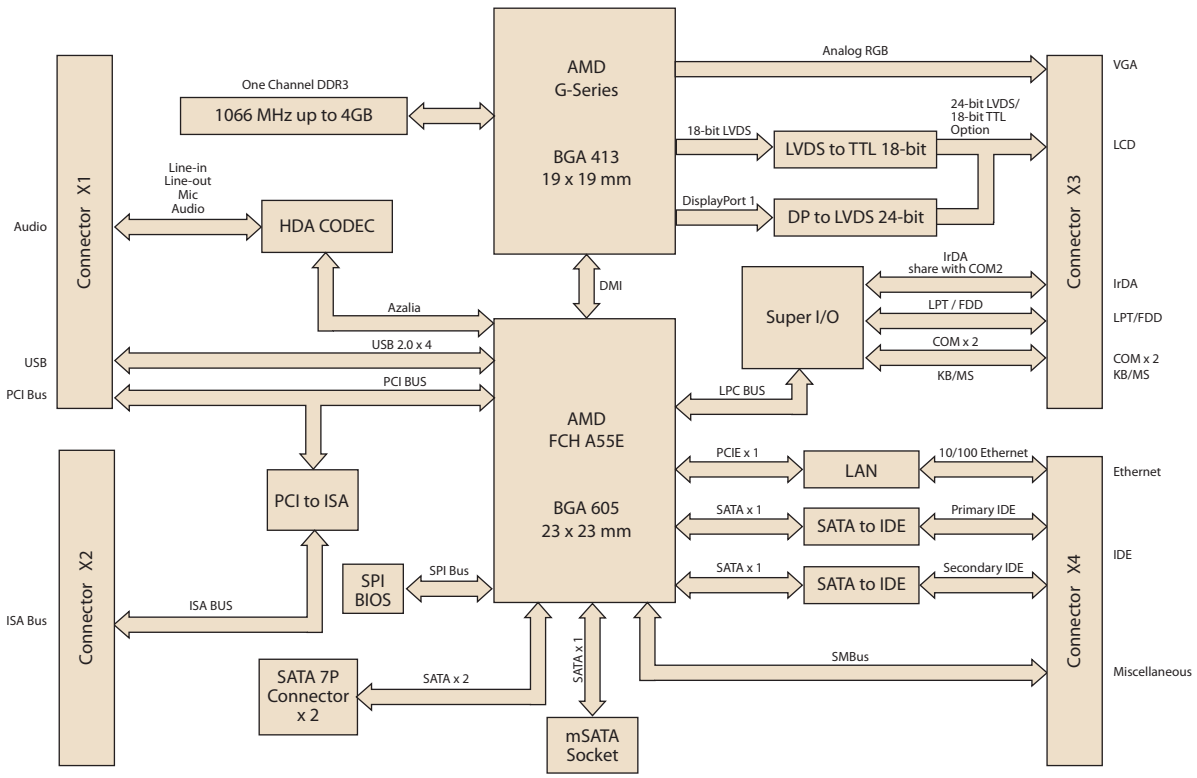
- AMD G-Series Processor + FCH A55E
- Supports DX11, OGL3.2, and H.264/AVC, VC-1 HW Acceleration
- Supports DDR3-1066 up to 4GB
- Supports PCI, ISA, SMBus, I²C
- Supports 10/100 LAN, SATA, mSATA Socket, IDE, USB2.0

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, Brightness, GPIO, Backlight On/Off

Specifications

Compliance	Pin Define	ETX V3.02
	Form Factor	ETX Module 114 x 95 mm (3.74" x 4.5")
Processor System	CPU Frequency/Core/L2 Cache	AMD T16R 615 MHz/Single Core/512 KB
	Chipset	AMD A55E
	BIOS	AMI 32 Mbit, SPI
Memory	Technology	DDR3-1066 MHz non-ECC unbuffered
	Capacity	1 SODIMM up to 4 GB
Display	Graphic Engine	AMD Radeon HD6250
	Graphic Memory	Share with system memory up to 512MB
	Capacity	Support DX11, OGL3.2, OCL1.1 and HW acceleration for H.264/AVC, VC-1, MPEG2
	VGA	Resolution up to 1920 x 1200 @ 30 bpp
	LCD	TTL Version: 18-bit up to 800 x 600 LVDS Version: 24-bit up to 1024 x 768
	Dual Display	VGA + LCD
Expansion I/F	PCI	PCI V2.3, up to 4 masters
	ISA	Support Memory and I/O decode
Serial Bus	SMBus	Yes
	I²C Bus	Yes
I/O	Ethernet	Realtek RTL8105E 10/100 LAN
	SATA	2 Port on ETX Module , SATA Gen3 600 MB/s compliant. Support IDE/AHCI Mode, RAID 0, 1
	mSATA socket	1 Half-Size mSATA socket on ETX Module, SATA Gen 3 600 MB/s compliant
	IDE	2 Channels, each channel support up to 1 IDE device. ATA/ATAPI-7 (UDMA133) compliant
	USB2.0	4 Ports
	Audio	Realtek ALC262. Support Line-in(L/R), Line-out(L/R), MIC
	COM Port	2 Ports
	LPT/Floppy	1 Port shared
	Keyboard & Mouse	1 Keyboard and 1 Mouse
	GPIO/GPE	1 GPIO, 2 GPE
	Watchdog Timer	256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Power	Type	ATX, AT
	Supply Voltage	ATX: +5 V and +5 VSB, AT: +5 V
	Power Consumption (Idle)	+5 V @ 1.22 A
	Power Consumption (Max.)	+5 V @ 1.55 A
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85° C (-40 ~ 185° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	Bundled DDR	LVDS	TTL	PCI Master	ISA	GbE	SATA	mSATA Socket	IDE	USB 2.0	Thermal Solution	Operating Temperature
SOM-4466L-M0A1E	T16R	512KB	A55E	N/A	24-bit	N/A	4	1	1	2	1	2	4	Passive	0 ~ 60° C
SOM-4466T-M0A1E	T16R	512KB	A55E	N/A	N/A	18-bit	4	1	1	2	1	2	4	Passive	0 ~ 60° C
SOM-4466LA-M0A1E	T16R	512KB	A55E	1GB	24-bit	N/A	4	1	1	2	1	2	4	Passive	0 ~ 60° C
SOM-4466TA-M0A1E	T16R	512KB	A55E	1GB	N/A	18-bit	4	1	1	2	1	2	4	Passive	0 ~ 60° C
SOM-4466LZ-M0A1E	T16R	512KB	A55E	N/A	24-bit	N/A	4	1	1	2	1	2	4	Passive	-20 ~ 80° C
SOM-4466LZ2-M0A1E	T16R	512KB	A55E	N/A	24-bit	N/A	4	1	1	2	1	2	4	Passive	-40 ~ 85° C
SOM-4466TZ-M0A1E	T16R	512KB	A55E	N/A	N/A	18-bit	4	1	1	2	1	2	4	Passive	-20 ~ 80° C
SOM-4466TZ2-M0A1E	T16R	512KB	A55E	N/A	N/A	18-bit	4	1	1	2	1	2	4	Passive	-40 ~ 85° C

Development Board

Part No.	Description
SOM-DB4700-00A1E	Development Board for ETX

Packing List

Part No.	Description	Quantity
-	SOM-4466 ETX Module	1
1960058558N001	Heatspreader	1
-	1 GB DDR3 Non-ECC SO-DIMM (Options: with or without memory)	1

Optional Accessories

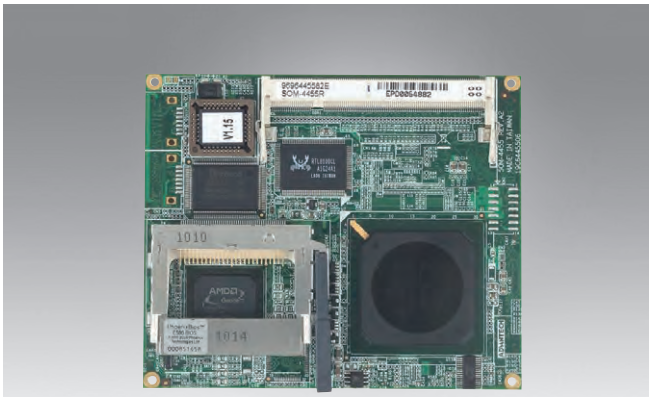
Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm
1750001980	Cooler I-PM-M95W 114 x 96 x 15-SC 12V0.3A-35C
96LEDK-A084SV45NB2	8.4" LED PANEL 450N 800 x 600(G) G084SN05 V9
96LEDK-C150XG40NG1	15" LED PANEL 400N 1024 x 768(G) G150XGE-L04

Embedded OS

OS	Part No.	Description
WES2009	2070011641	Image XPE WES2009 SOM-4466 V4.3 ENG; SA
WES7	2070011640	Image WES7E SOM-4466 V5.1.4 ENG; SA

SOM-4455

AMD Geode™ LX800 ETX CPU Module



Features

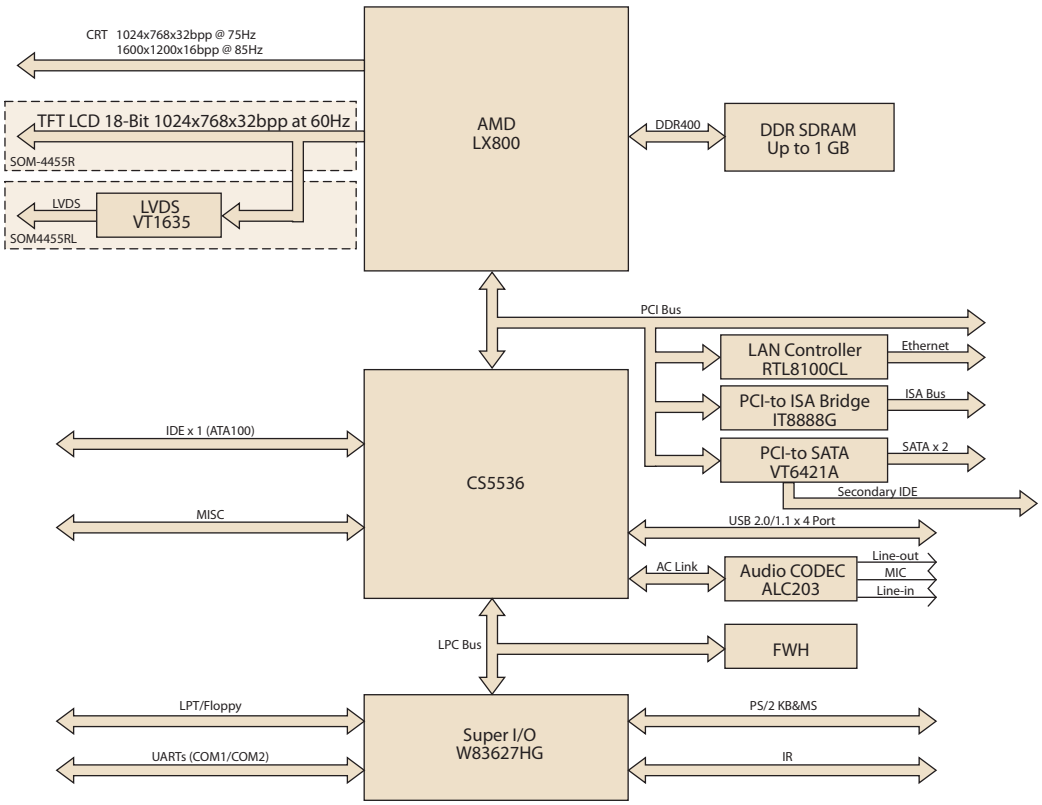
- Embedded AMD Geode™ LX800 CPU+ AMD CS5536 Chipset
- AMD LX800 Integrated 2D engine supports 24-bit LVDS or 18-bit TTL
- Supports one DDR-400 memory SODIMM socket up to 1GB
- Supports up to 4 PCI Master, ISA, 2 IDE, 2 SATA, 4 USB 2.0, 1 10/100 Ethernet, 2 COM, 1 LPT/FDD, onboard Type II CF socket, Line-in/out, MIC
- Supports SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, Backlight On/Off

Specifications

Form Factor		ETX 3.0
Processor System	CPU	AMD Geode LX800
	Front Side Bus	33 MHz
	System Chipset	AMD Geode LX800/CS5536
	BIOS	AWARD 4 Mbit Flash BIOS
Memory	Technology	DDR 200/266/333/400 MHz
	Max. Capacity	Up to 1 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	AMD Geode LX800 Integrated
	VRAM	Shared system memory up to 254 MB
	Graphics Engine	AMD Geode LX800 2D Engine
	LCD	24-bit single channel LVDS or 18-bit single channel TTL
	VGA	Up to 1024 x 768
	Dual Display	CRT + LCD (Simultaneous mode)
Ethernet	Chipset	RTL8100CL-LF 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 timer intervals, from 1 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		4 PCI Master (3 for SATA version), ISA, SMBus, I²C
I/O	PATA	1 IDE (UDMA 100) for non-SATA version, 2 IDE for SATA version
	SATA	2 SATA (150 Gb/s) on ETX Module for SATA version
	USB	4 USB 2.0
	Audio	Realtek ALC203 AC97 CODEC supports Line-in/out, Mic-in
	GPIO	1-bit GPIO, 2-bit GPE
	COM	2 COM ports
	FDD/LPT	1 FDD or LPT
	SSD	1 Type II CF slot
Power	Power Type	ATX, AT
	Power Supply Voltage	+5 V only (+5 VSB is required for ATX power scheme)
	Power Consumption (Typical)	Typical: (1 GB DDR 333) +5 V @ 1.80 A (AMD LX800)
	Power Consumption (Max, test in HCT)	Max: (1 GB DDR 333) +5 V @ 2.01 A (AMD LX800)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (4.5" x 3.74")

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	10/100 LAN	AC97 Audio	PCI	USB 2.0	IDE	SATA	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4455R-L0A2E	AMD LX800	128 KB	CS5536	-	Yes	Yes	Yes	4	4	1	-	Yes	Yes	Passive	0 ~ 60° C
SOM-4455RL-L0A2E	AMD LX800	128 KB	CS5536	24-bit	Yes	Yes	Yes	4	4	1	-	Yes	Yes	Passive	0 ~ 60° C
SOM-4455R-LSA2E	AMD LX800	128 KB	CS5536	-	Yes	Yes	Yes	3	4	2	2	Yes	Yes	Passive	0 ~ 60° C
SOM-4455RL-LSA2E	AMD LX800	128 KB	CS5536	24-bit	Yes	Yes	Yes	3	4	2	2	Yes	Yes	Passive	0 ~ 60° C
SOM-4455ZR-L0A2E	AMD LX800	128 KB	CS5536	-	Yes	Yes	Yes	4	4	1	-	Yes	Yes	Passive	-20 ~ 80° C
SOM-4455ZRL-L0A2E	AMD LX800	128 KB	CS5536	24-bit	Yes	Yes	Yes	4	4	1	-	Yes	Yes	Passive	-20 ~ 80° C
SOM-4455ZR-LSA2E	AMD LX800	128 KB	CS5536	-	Yes	Yes	Yes	3	4	2	2	Yes	Yes	Passive	-20 ~ 80° C
SOM-4455ZRL-LSA2E	AMD LX800	128 KB	CS5536	24-bit	Yes	Yes	Yes	3	4	2	2	Yes	Yes	Passive	-20 ~ 80° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB4400-00A2E	Development Board for ETX Rev.A2
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Packing List

Part No.	Description	Quantity
-	SOM-4455 CPU Module	1
-	Utility CD	1
1960052229T001	Heatspreader	1

Optional Accessories

Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm

Embedded OS

OS	Part No.	Description
WinCE	2070001579	CE 6.0 Pro GX3 V1.0 ENG
Win XPE	2070007910	XPE WES2009 GX3 LX800 V4.0 MUI24
QNX		V6.4.1

SOM-4463 B1

Intel® Atom™ Processor N455/D525 ETX CPU Module



Features

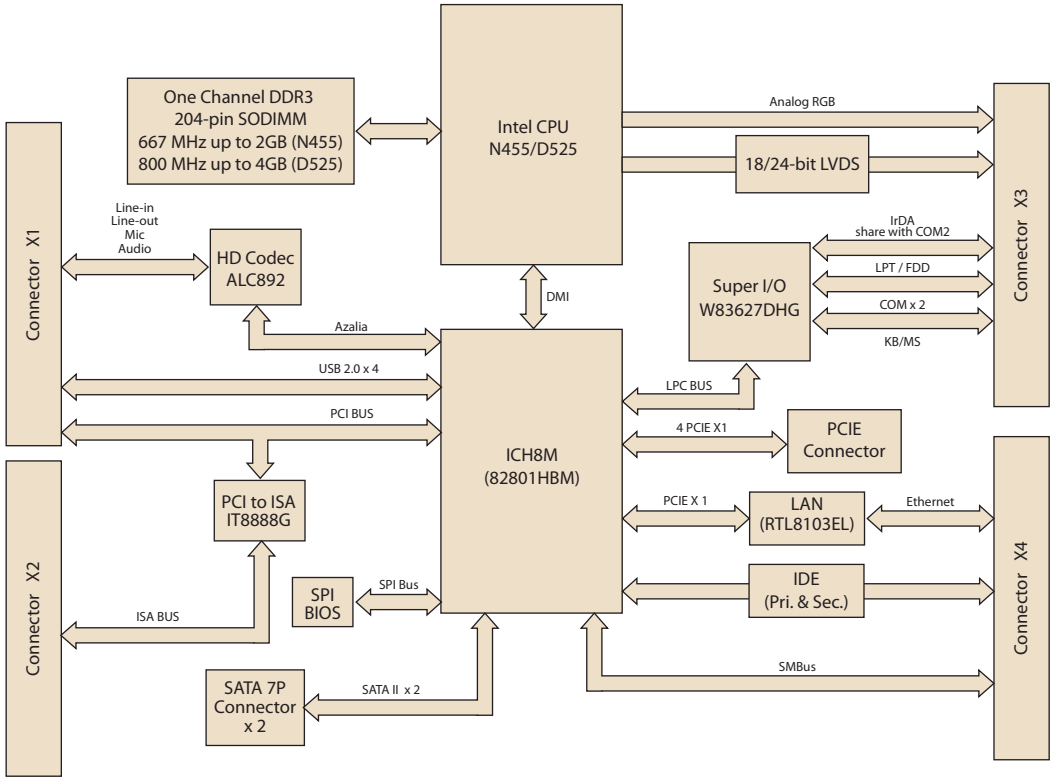
- Embedded Intel® Atom™ Processor N455 1.66 GHz single Core™/ D525 1.80 GHz dual-Core™ + ICH8M
- Intel® Gen 3.5 DX9, MPEG2 hardware decoder, multiple display: VGA, 18/24-bit LVDS
- Supports DDR3-667 for N455 up to 2GB and DDR3-800 for D525 up to 4GB
- Supports 4 PCI, ISA, 2 IDE, 2 SATAII, 4 USB 2.0
- Supports SUSIAccess and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, Brightness, GPIO, Backlight On/Off

Specifications

Form Factor		ETX 3.0
Processor System	CPU	Intel Atom N455 1.67 GHz (single Core), 512 KB L2 Cache Intel Atom D525 1.80 GHz (dual Core), 1 MB L2 Cache
	System Chipset	ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 667 MHz (N455) and 800 MHz (D525)
	Max. Capacity	Up to 2 GB (N455); Up to 4 GB (D525)
	Socket	1 x 204-pin SODIMM socket
Display	Chipset	Intel Atom N455 or Intel Atom D525
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 hardware decoder
	LVDS	18/24-bit single channel LVDS
	VGA	Intel Atom N455 Single Core up to 1400 x 1050 (SXGA) Intel Atom D525 Dual Core up to 2048 x 1536
	DVI	-
	TV Out	-
	SDVO	-
	Dual Display	CRT + LVDS
Ethernet	Chipset	Realtek 8103EL 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		ISA, 4 PCI masters
I/O	PATA	2 x EIDE (UDMA 100)
	SATA	2 x SATAII (300 MB/s)
	USB	4 x USB 2.0
	Audio	ALC892 Audio
	GPIO	1-bit GPIO, 2-bit GPE
	COM	2 x COM Ports
	FDD/LPT	1 x FDD or LPT
Power	Power Type	ATX, AT
	Power Supply Voltage	+5 V (+5VSB is required for ATX power scheme)
	Power Consumption (Typical)	4463N (2 GB DDRIII 1333) +5 V @ 1.82 A 4463D (2 GB DDRIII 1333) +5 V @ 2.18 A
	Power Consumption (Max, test in HCT)	4463N (2 GB DDRIII 1333) +5 V @ 2.25 A 4463D (2 GB DDRIII 1333) +5 V @ 2.73 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (3.74" x 4.5")

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	10/100 LAN	HD Audio	PCI	USB 2.0	SATA	PATA	SMBus	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4463N-S6B1E	Atom N455	512 KB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Passive	0 ~ 60° C
SOM-4463D-S8B1E	Atom D525	1 MB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Active	0 ~ 60° C
SOM-4463DZ-S8B1E	Atom D525	1 MB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Active	-20 ~ 80° C
SOM-4463DZ2-S8B1E	Atom D525	1 MB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Active	-40 ~ 85° C
SOM-4463NZ-S6B1E	Atom N455	512 KB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Passive	-20 ~ 80° C
SOM-4463NZ2-S6B1E	Atom N455	512 KB	ICH8M	18/24-bit	Yes	1	Yes	4	4	2 x SATAII	2	1	Yes	Yes	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Packing List

Part No.	Description	Quantity
-	SOM-4463 CPU Module	1
-	Utility CD	1

Optional Accessories

Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm
1750001980	Semi-Cooler 114 x 96 x 15 mm

Embedded OS

OS	Part No.	Description
WinCE	2070007811	CE 6.0 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE	2070007912	XPE WES2009 Intel Uniprocess V4.0 MUI2
QNX		V6.4.1

SOM-4461

Intel® Atom™ Processor N270 ETX CPU Module



Features

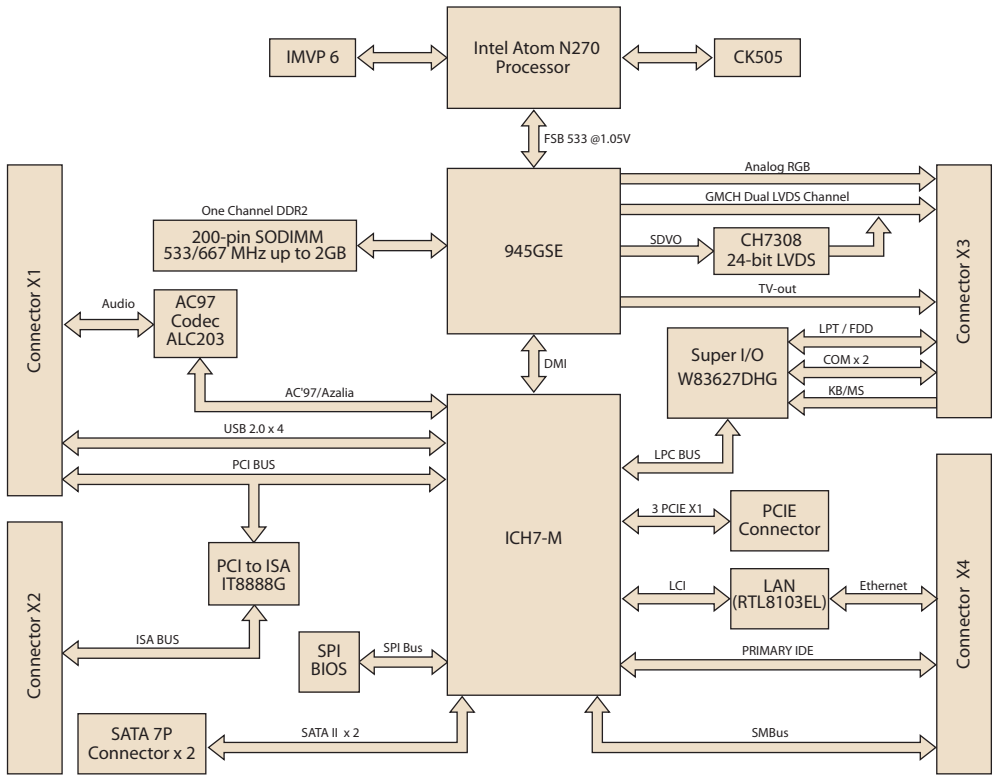
- Embedded Intel® Atom™ Processor N270 1.6 GHz + 945GSE + ICH7M
- Intel® GMA 950, Microsoft DirectX 9.1, Supports 36/48-bit LVDS TFT LCD
- Supports one DDR2-533 memory SODIMM sockets up to 2 GB
- Interface & I/O: Supports 4 PCI Master, LPC, 1 IDE, 2 SATA, 4 USB 2.0, 2 COMs, FDD/LPT, Line-in/out, Mic-in
- Supports SUSIAccess and Embedded Software APIs

Software APIs: SMBus, H/W Monitor, I²C, Watchdog, GPIO

Specifications

Form Factor		ETX 3.0
Processor System	CPU	Embedded Intel Atom Processor N270 1.6 GHz
	Front Side Bus	533 MHz
	System Chipset	Intel 945GSE/ ICH7M
	BIOS	AWARD 8 Mbit Flash BIOS
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	Up to 2 GB
	Socket	1 x 200-pin SODIMM socket
Display	Chipset	Intel 945GSE
	VRAM	DVMT 3.0 supports up to 224 MB
	Graphics Engine	Intel GMA950, Microsoft DirectX* 9.1 supported
	LVDS	Dual channel 36/48-bit LVDS
	VGA	Up to 2048 x 1536
	DVI	-
	TV-out	Supports NTSC/PAL, S-Video and Composite Output interfaces
	Dual Display	CRT + LVDS, TV out + LVDS, TV out + CRT
Ethernet	Chipset	Realtek 8103EL 10/100 Mbps Ethernet
	Speed	10/100 Mbps
WatchDog Timer		256 level timer interval, from 0 to 255 sec or min setup by software, jumperless selection, generates system reset
Expansion		4 x PCI master, ISA
I/O	PATA	1 x EIDE (UDMA 100)
	SATA	2 x SATA (On ETX CPU module)
	USB	4 x USB 2.0
	Audio	Realtek ALC203 AC97 Codec support Line-in / out, Mic-in
	GPIO	2-bit GPIO (Supports by customized BIOS)
	COM	2 COM ports
	FDD/LPT	1 x FDD or LPT
	SSD	-
Power	Power Type	ATX, AT
	Power Supply Voltage	+5VSB is required for ATX power scheme
	Power Consumption (Typical)	Typical: (1 GB DDRII 533) +5 V @ 1.15 A
	Power Consumption (Max, test in HCT)	Max: (1 GB DDRII 533) +5 V @ 1.98 A
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	114 x 95 mm (4.5" x 3.74")

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	LVDS	VGA	TV out	10/100 LAN	AC97 Audio	PCI	USB 2.0	SATA	LPT/ Floppy	KB/ MS	ATX Power	AT Power	Thermal Solution	Operating Temp.
SOM-4461RL-S6A2E	Atom N270 1.6 GHz	512 KB	945GSE	36/48-bit	Yes	Yes	Yes	Yes	4	4	2	Note1	Yes	Yes	Yes	Passive	0 ~ 60° C
SOM-4461RZ-S6A2E	Atom N270 1.6 GHz	512 KB	945GSE	36/48-bit	Yes	Yes	Yes	Yes	4	4	2	Note1	Yes	Yes	Yes	Passive	-20 ~ 80° C
SOM-4461RZ2-S6A2E	Atom N270 1.6 GHz	512 KB	945GSE	36/48-bit	Yes	Yes	Yes	Yes	4	4	2	Note1	Yes	Yes	Yes	Passive	-40 ~ 85° C

Note1: Select Parallel port function and floppy via BIOS selection. Default mode is Parallel port mode.
Note 2: Passive = fanless; Active = with fan

Development Board

Part No.	Description
SOM-DB4400-00A2E	Development Board for ETX Rev.A2
SOM-DB4700-00A1E	Development Board for ETX Rev.A1

Optional Accessories

Part No.	Description
1960012091T00S	Semi-Heatsink 114 x 96 x 15 mm

Packing List

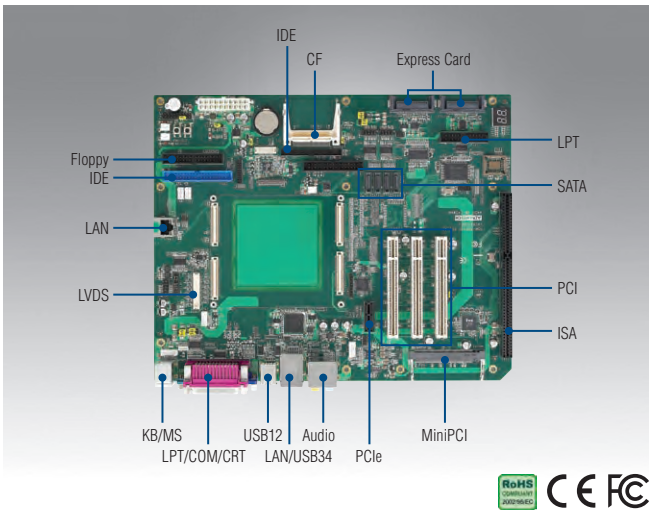
Part No.	Description	Quantity
-	SOM-4461 CPU Module	1
-	Utility CD	1
1960035037N00B	Heatspreader	1

Embedded OS

OS	Part No.	Description
WinCE	2070007811	CE 6.0 Pro Intel (852/855/915/945) 2COM V1.2 ENG
Win XPE	2070007912	XPE WES2009 Intel Uniprocess V4.0 MUI2
QNX		V6.4.1

SOM-DB4700

ETX/XTX Development Board



Features

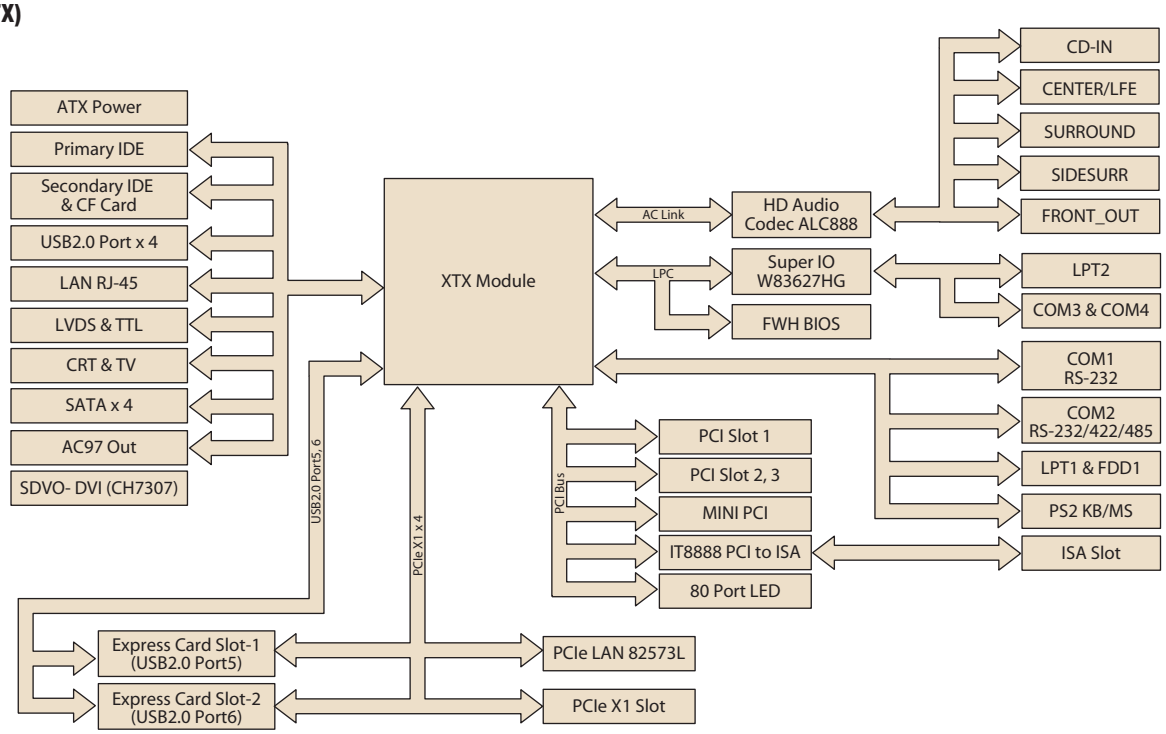
- ETX/XTX Development Board
- ATX form factor
- Display type: LVDS, DVI, VGA, TV out
- Expansion: 2 Express Card, 3 PCI, 1 Mini PCI, 1 ISA bus slot
- SATA/EIDE/FDD/LPT/Keyboard/Mouse/USB/Audio/SSD interface

Specifications

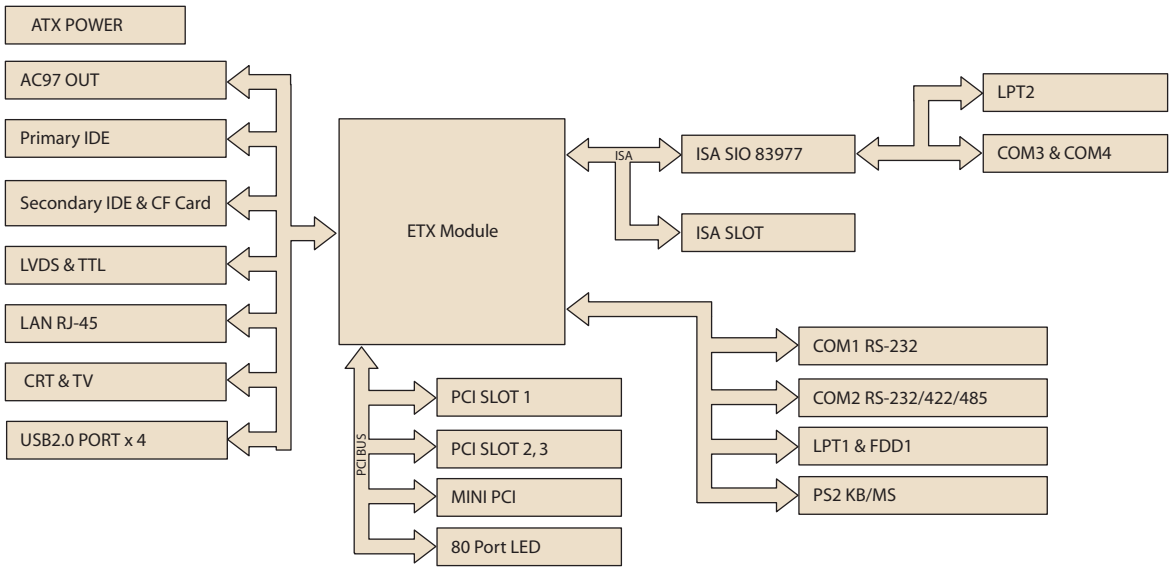
Compatible Models		ETX	XTX
Display	LCD	TTL/LVDS (depends on CPU module)	TTL/LVDS (depends on CPU module)
	VGA	1	1
	DVI	-	1
	TV out	1	1
	Dual Display	TTL/LVDS, VGA, TV out	TTL/LVDS, VGA, TV out
Ethernet		1 x 10/100	1 x 10/100 + 1 Giga
Audio		AC97	High Definition Audio
Expansion	Express Card	-	2
	PCI	3	2
	Mini PCI	1	1
	ISA	1	1
I/O	SATA	-	4
	EIDE	1 x 40 pin + 1 x 44 pin	1 x 40 pin + 1 x 44 pin
	Serial	4 COM ports 3 x RS-232, 1 x RS-232/422/485	4 COM ports 3 x RS-232, 1 x RS-232/422/485
	USB	4 x USB 2.0	6 x USB 2.0
	LPT/FDD	1	1
	KB/MS	1	1
	CF	1	1
	System Fan	2	2
	SMBus	1	1
	I2C	1	1
	Port 80	1	1
Power	Power Type	ATX mode	
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing	
Mechanical	Dimensions	304.8 x 190.5 mm (12" x 7.5")	

Block Diagram

(XTX)



(ETX)



Ordering Information

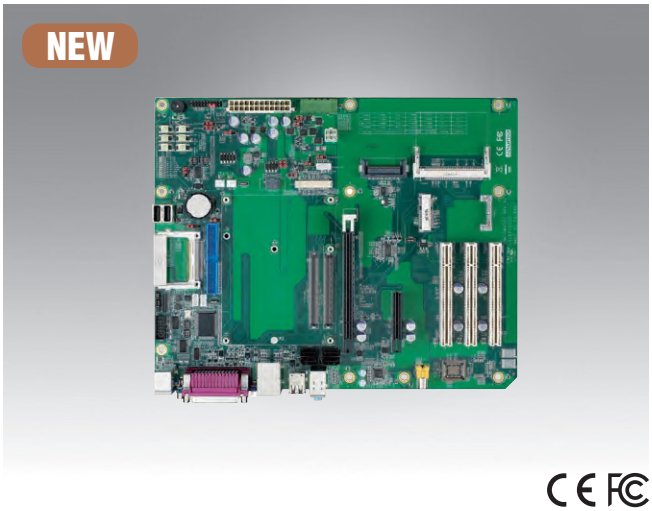
Part No.	Description
SOM-DB4700-00A1E	Development Board for ETX Rev.A1
SOM-DB4700X-00A1E	Development Board for XTX Rev.A1

Packing List

Part No.	Description	Quantity
SOM-DB4700-00A1E	SOM-DB4700	1
1703050307	TV-Out Cable	1

SOM-DB5720

Development Board for COM Express® Type 1/2 Pin-out Modules



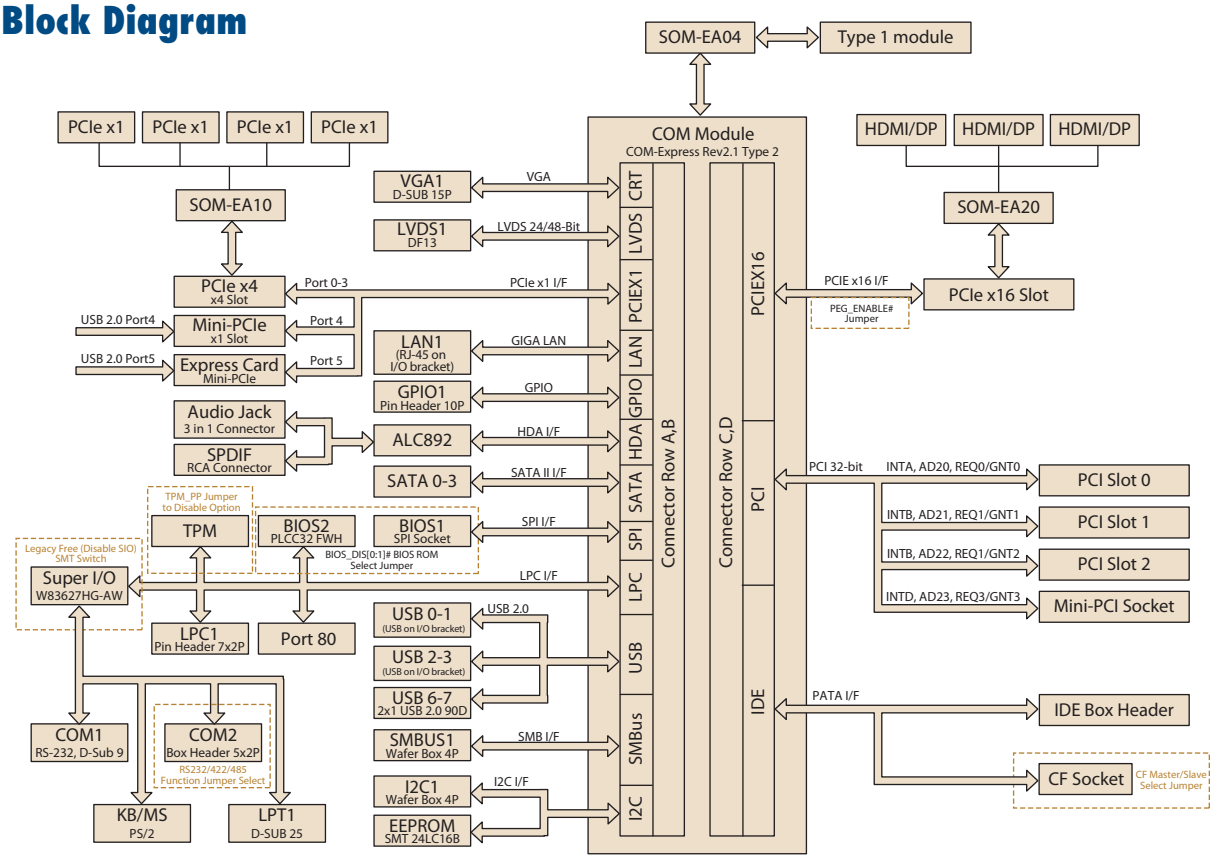
Features

- PICMG COM.0 R2.1 Type 1/2 Pin out
- COM Express® Basic/ Compact/ Mini module
- Display Type: VGA, LVDS, HDMI/Display port
- Extension: PCIe x16, x4, x1, Mini-PCIe, Express Card, PCI, Mini-PCI, LPC, SMBus, I²C
- Visible Debug Utility: BIOS 80 Port and Power State

Specifications

Compatible Models		Advantech COM Express Basic/Compact/Mini Module with Type 1/2 Pin-out
Switch Position	VGA	1 (D-SUB 15P Female)
	LVDS	18/24-bit single or dual channel
Display	SDVO	Up to 2 ports (expand by ADD2 Card through PCIe x16 slot)
	HDMI/DP	Up to 2 ports (expand by SOM-EA20 through PCIe x16 slot)
Expansion	PCIe x16	1
	PCIe x4	1
	PCIe x1	4 (expand by SOM-EA10 through PCIe x4 slot)
	Mini-PCIe	1
	Express Card	1
	PCI Slot	3
	Mini-PCI	1
	LPC	1
	SMBus	1
	I²C	1
	SPI	1
I/O	Ethernet	1 Giga LAN
	SATA	4 (Type B)
	IDE	1
	CF	1
	USB2.0	8 ports (include 1 client port)
	Audio	Line-in, Line-out, MIC, SPDIF (Realtek ALC892)
	Serial	2 COM ports RS-232 (D-SUB 9P on I/O bracket), RS-232/422/485 (Box header 5x2P on board)
	KB/MS	1
	LPT	1 (D-SUB 25P)
	GPIO	8
	Fan	2
	Port 80	1
	TPM	1
Power	Power Type	ATX/AT modes
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	304.8 x 244 mm (12" x 9.6")

Block Diagram



Ordering Information

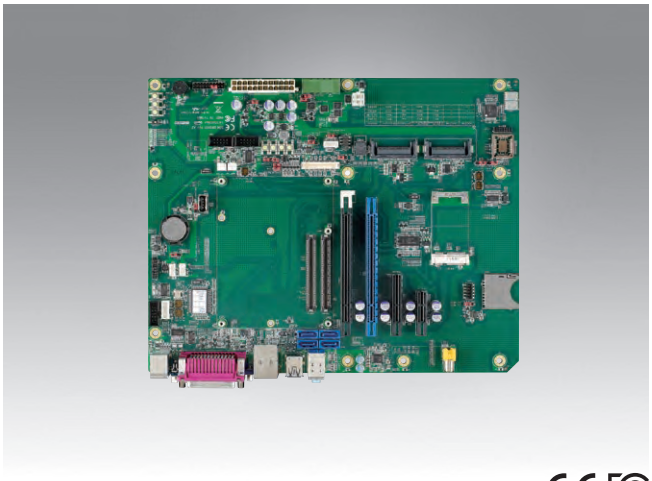
Part No.	Description
SOM-DB5720-00A1E	COM Express Development Board for Type 2 Pin-out
SOM-DB5720-U0A1E	COM Express Development Board for Type 1/2 Pin-out

Packing List

Part No.	Description	Quantity
9696572000E	SOM-DB5720 Development Board for COM Express Type2 Module	1
9696EA2011E	SOM-EA20 HDMI/DP Riser Card	1
9696EA1000E	SOM-EA10 PCIe x4-to-PCIe x1 Riser Card	1
9696EA0400E	SOM-EA04 Middle Board for Type1-to-Type 2 adaptor (SOM-DB5720-U0A1E Only)	1
1700008894	Serial ATA Cable 7P/7P 30 cm	2
1701100300	Flat COM Port Cable	1
1960012351T000	I/O Shield Bracket for SOM-DB5720	1
1960052347N000	I/O Shield Bracket for SOM-EA20 HDMI/DP Riser Card	1
1910001675	POST M2.5*4L 2.5*5L 2.5 2.1 5 5 Cu Ni	5
1920001128	NUT M D=5 5 2.1 3 Cu Ni	5

SOM-DB5800

Development Board for COM Express® Type 6/10 Pin-out Modules



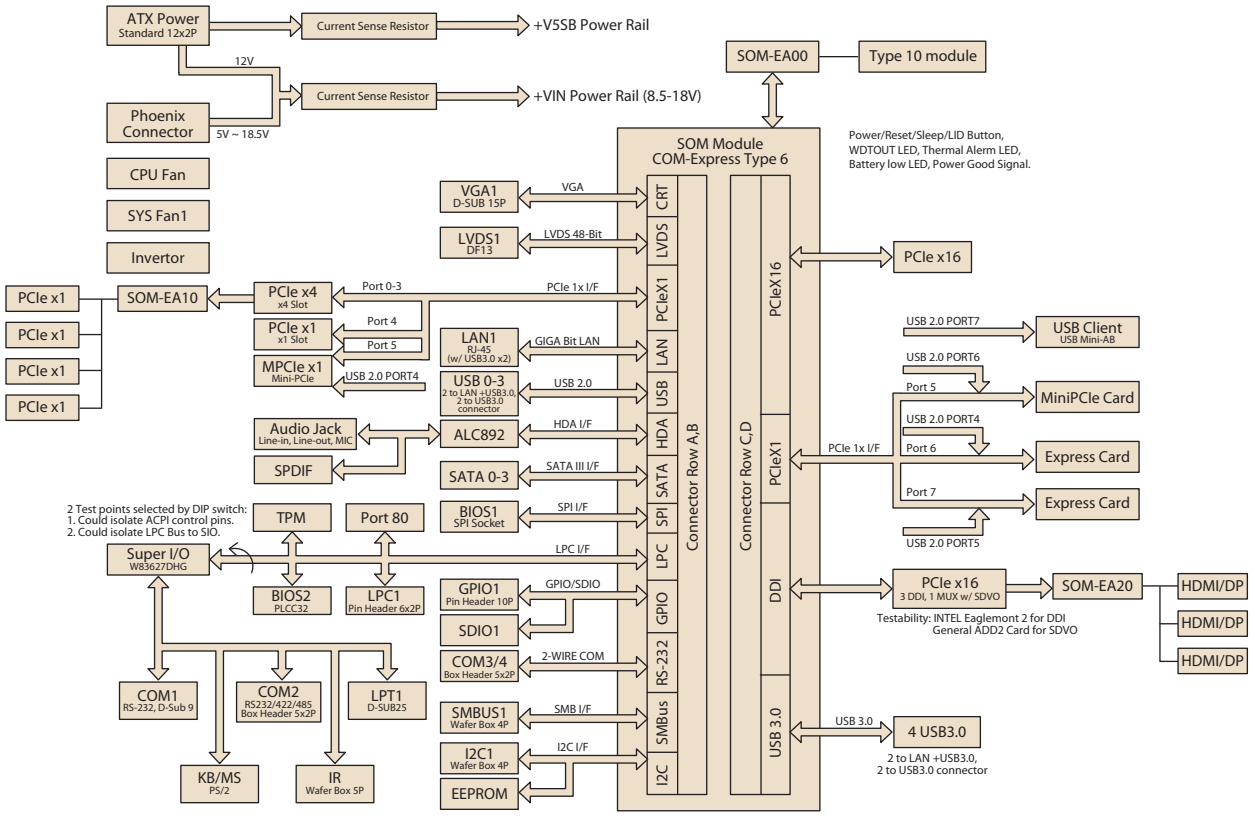
Features

- PICMG COM.0R 2.1 Type 6/10 Pin out
- COM Express® Basic/ Compact/ Mini module
- VGA, LVDS, HDMI/Display port
- Extension: PCIe Raiser Card and HDMI/ DisplayPort Riser Card
- Visible Debug Utility: BIOS 80 Port and Power State

Specifications

Compatible Models		Advantech COM Express Basic Modules (125 x 95 mm), COM Express Compact Modules (95 x 95 mm) and COM Express Mini (84 x 55 mm)
Display	LVDS	18/24-bit single or dual channel
	VGA	1 (D-SUB 15P Female)
	HDMI / DP	Up to 3 ports (Expand by SOM-EA20)
Ethernet		1 Giga LAN
Audio	Chipset	Realtek ALC892 HD Audio (Line-in, Line-out, MIC, SPDIF)
Expansion	PCIe slot	1 PCIe x16 slot/1 PCIe x4 slot/1 PCIe x1 slot
	Mini-PCIe socket	1
	Express Card slot	2
	LPC connector	1
I/O	SATA	4 (Type B)
	USB	4 USB2.0 host, include 1 USB Client 4 USB3.0
	Serial	4 COM ports 1 RS-232 (D-SUB 9P), 1 RS-232/422/485, 2 2-Wire RS-232
	KB/MS	1
	LPT	1 (D-SUB 15P)
	GPIO	8
	SDIO	1 (Mux with GPIO)
	SMBus	1
	I2C	1
	SPI	1
	Fan	2 (1 from Module support iManager Smart Fan)
	Port 80	1
	TPM	1
Power	Power Type	ATX/ AT modes
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	304.8mm x 244mm (12" x 9.6")

Block Diagram



Ordering Information

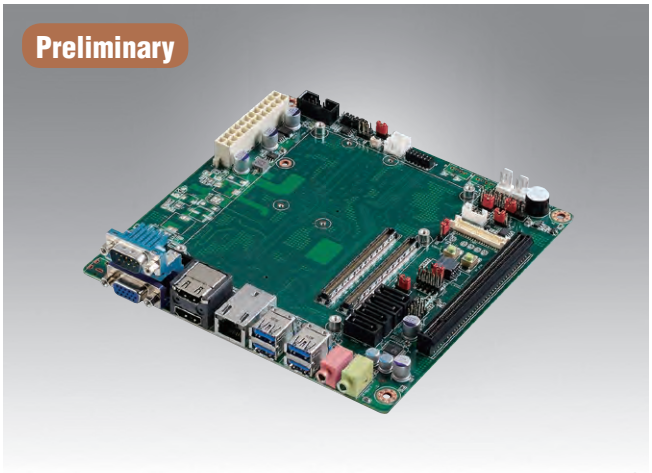
Part No.	Description
SOM-DB5800-00A2E	COM Express Development Board for Type 6 Pin-out
SOM-DB5800-U0A2E	COM Express Development Board A2 Type 10Pin-out

Packing List

Part No.	Description	Q'ty
	COM Express Development Board	1
SOM-EA20	HDMI/DisplayPort Riser Card	1
SOM-EA10	PCIe x4 - to- 4 PCIe x1 Riser Card	1
SOM-EA00	Type10 to Type6 Middle board (For SOM-DB5800-U0A2E only)	1
1700008894	Serial ATA Cable 7P/7P 30cm	2
1701100300	Flat COM Port Cable	2
1960012531T000	I/O Bracket for SOM-DB5800	1
1960052347N000	DDI card Bracket for SOM-EA20	1
1910001675	POST M2.5*4L 2.5*5L 2.5 2.1 5 5 Cu Ni	5
1920001128	NUT M D=5 5 2.1 3 Cu Ni	5
1931000590	Screw M2.5*5L	3
1935030500	Screw M3*5L	2

SOM-AB5810

Extended Temp Mini-ITX Application Board



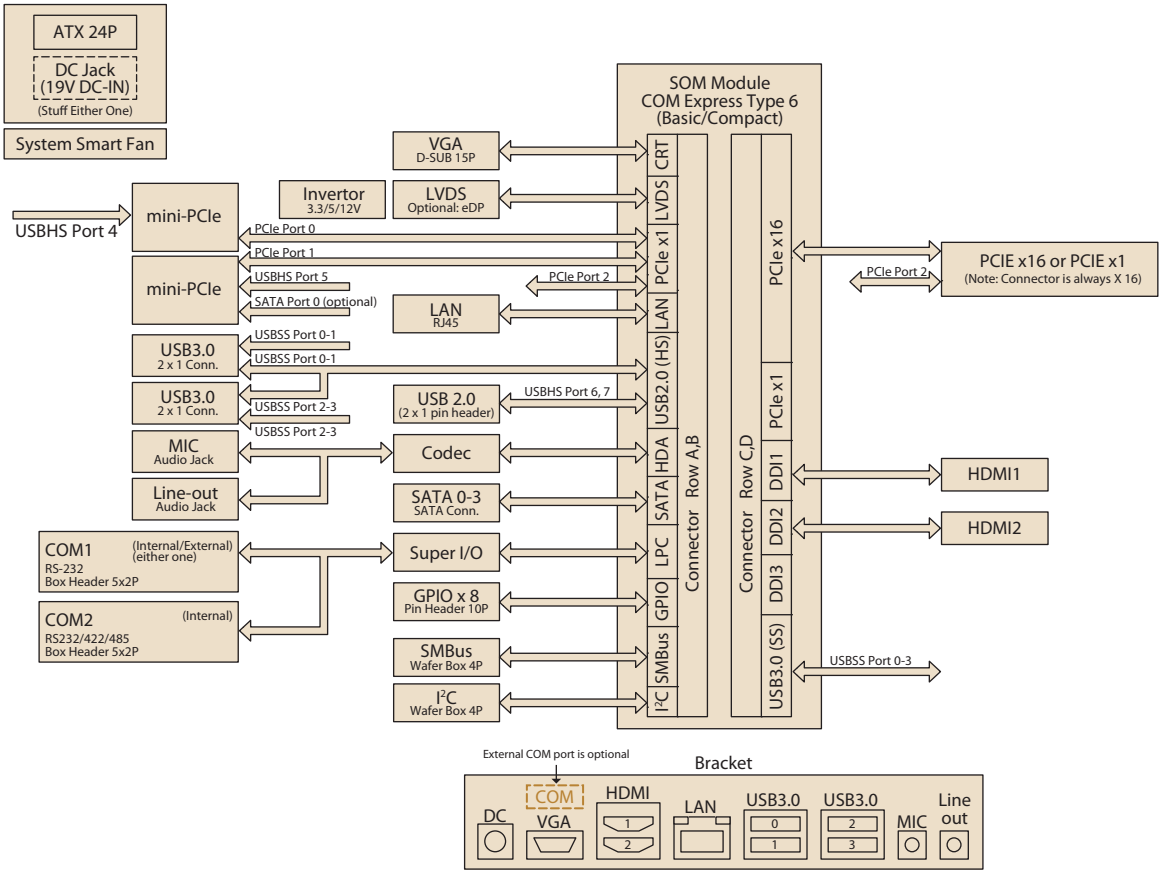
Features

- Mini-ITX form factor with slim type I/O connector under 25.4mm
- Compatible to COM Express Basic/Compact with Type 6 pin-out module
- Supports Wide-range operating temperature from -40 to +85 degree
- Supports Standard ATX Power or DC-in 19V
- Supports VGA, 2xHDMI, PCIe x16, mini-PCIe, SATA, and USB3.0

Specifications

Form Factor		Mini-ITX
Support Model	Form Factor	COM Express Basic (125 x 95 mm) or Compact (95 x 95 mm) Module
	Pin-out Type	Type 6 pin-out Compatible
Display	VGA	1
	LCD	2-CH 18/24-bit LVDS (optional 4-Lane eDP)
	HDMI	2
	Dual Display	Depends on module
	Triple Display	Depends on module
Expansion	PCI Express x16 Slot	Support PCIe x16 (Optional PCIe x1 while module doesn't support PCIe x16)
	mini-PCIe	2 (include PCIe x1 & USB2.0)
	LPC	Yes
Serial Bus	SMBus	Yes
	I2C Bus	Yes
Ethernet	Connector	RJ-45
	Speed	10/100/1000Mbps
I/O	SATA	4
	SATA Power	2 (5V, 12V)
	mSATA	Optional support 1 socket
	RAID	Depends on module
	USB3.0/2.0	4
	USB2.0	2
	Audio	Realtek ALC892. Support Line-out(L/R), MIC
	SPI Bus	Yes
	GPIO	8
	Watchdog output	1
	COM Port	2, 1 support RS-232, 1 support RS-232/422/485
	Smart Fan	1, support 12V fan only
Power	Type	ATX: Vin, VSB; DC-in
	Supply Voltage	Vin: 12V±5%, VSB: 5V±5%, VDC-in: 19V±5%
	Power Consumption (Max.)	TBD
	Power Consumption (Idle)	TBD
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Extend sku: -40 ~ 85° C (-40 ~ 185° F) Storage: -40 ~ 85° C (-40 ~ 185° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
	Vibration Resistance	3.5 Grms
Mechanical	Dimensions	170 x 170 mm (6.7" x 6.7")

Block Diagram



Ordering Information

Part No.	VGA	HDMI	LVDS	PCIe x16 (PEG)	PCIe x1	mini-PCIe	GbE	SATA	USB3.0	USB2.0	COM Port	ATX Power	DC-in	Operating Temperature

Packing List

Part No.	Description	Quantity
-	SOM-AB5810 Module	1
TBD	I/O Bracket for SOM-AB5810	1
1700008894	Serial ATA Cable 7P/7P 30cm	1
1701100300	Flat COM Port Cable	1
1910001675	POST M2.5*5L	1
1920001128	NUT M2.5x5x3mm	1

I/O View

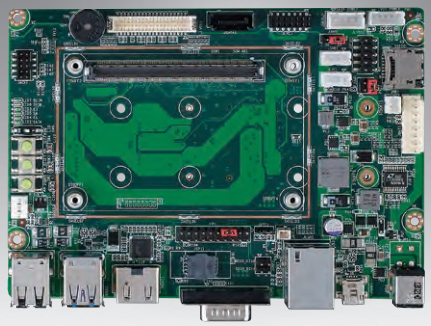




SOM-AB5510

COM Express 3.5" Application Board

Preliminary



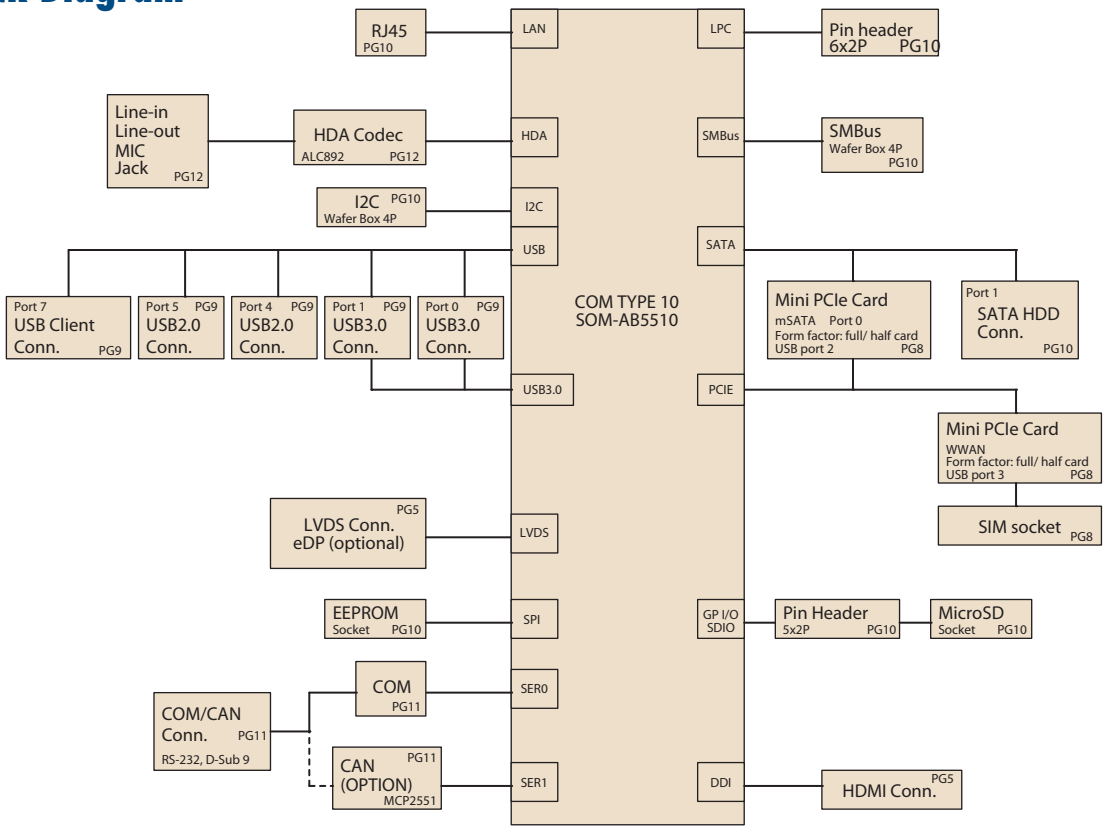
Features

- 3.5" form factor compatible
- Compatible to COM Express R2.1 Type 10 pin-out module
- Wide 8.5V~20V adaptor input support AT & ATX mode
- Smart battery charger support 2,3,4 cell battery
- mini-PCIe, mSATA, USB3.0, USB Client, and CAN Bus supported

Specifications

Form Factor		3.5" form-factor
Support Models	Form Factor	COM Express Mini (84 x 55mm) Module
	Pin-out Type	Type 10 pin-out Compatible
Real I/O	HDMI	1
	Ethernet	1 (10/100/1000MHz)
	Mini PCIe	2 (include PCIe x1 & USB2.0)
	USB 3.0/2.0	2
	USB 2.0	2
	Audio	Mic-in, Line-in, Line-out
	COM Port (2 wire)	TX, RX
	CAN Bus	Optional
	USB Client	1
Internal Connectors	LCD	1-CH 18/24-bit LVDS (optional 4-Lane eDP)
	SATA	1
	mSATA	1
	MicroSD Socket	1
	LPC	1
	SMBUS	1
	I2C	1
	Smart Fan	1
Power	Input Power Type	DC Jack: 8.5~20V; ATX: 12V(Optional)
	Power Mode	AT/ATX
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85° C (-40 ~ 185° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing, Storage: 60° C @ 95%relative humidity, non-condensing
Mechanical	Dimensions	146mm x 102mm

Block Diagram



Ordering Information

Part No.	LCD	HDMI	GbE	mini-PCIe	SATA	mSATA Socket	USB3.0	USB2.0	SD Socket	Operating Temperature
TBD										

Packing List

Part No.	Description	Quantity
TBD		

Optional Accessories

Part No.	Description
TBD	

I/O View



Memo

3

MI/O Extension SBCs, Modules and Chassis

Selection Guide		*3-2*
MI/O Extension SBCs		
MIO-5250	Intel® Atom™ N2600/ D2550, 3.5" MI/O-Compact SBC, DDR3, HDMI, Dual LVDS, VGA, 2 GbE, CFast, iManager, MIOe	*3-4*
MIO-5251	Intel® Atom™ E3845/E3825/Celeron® J1900 3.5" MI/O-Compact SBC, DDR3L, VGA, HDMI/DP, 48-bit LVDS/eDP, 2 GbE, Mini PCIe, mSATA/SD card, iManager, MIOe	*3-6*
MIO-5270	AMD® G- Series 3.5" MI/O-Compact SBC, DDR3, HDMI, 48-bit LVDS, VGA, 2 GbE, CFast, iManager, MIOe	*3-8*
MIO-5271	4th gen Intel® Core™ i5, Intel® Celeron® 3.5" MI/O-Compact SBC, DDR3L, VGA, HDMI/DP, 48-bit LVDS, 2GbE, Dual Mini PCIe, mSATA, Fanless, iManager, MIOe	*3-10*
MIO-5290	3th gen Intel® Core™ i7 / i3, Intel® Celeron® 3.5" MI/O-Compact SBC, DDR3/DDR3L, VGA, HDMI/DP, 48-bit LVDS, 2 GbE, Dual Mini PCIe, mSATA, iManager, MIOe	*3-12*
MIO-2260	Intel® Atom™ N455, Pico-ITX SBC, DDR3, 18-bit LVDS, VGA, GbE, Mini PCIe, 2 USB, 2 COM, MIOe	*3-14*
MIO-2261	Intel® Atom™ N2600/ N2800 Pico-ITX SBC, DDR3, 18/24-bit LVDS, VGA, GbE, Half-size Mini PCIe, 4 USB, 2 COM, SMBus, I²C, mSATA, MIOe	*3-16*
MIO-2262	Intel® Atom™ N2600/ N2800 Pico-ITX SBC, DDR3, 18/24-bit LVDS, VGA, GbE, Full-size Mini PCIe, 4 USB, 2 COM, SMBus, I²C, mSATA, MIOe	*3-18*
MIO-2263	Intel® Atom™ E3825 & Celeron J1900/N2920 Pico-ITX SBC, DDR3L, 24-bit LVDS, VGA or HDMI, GbE, Half-size Mini PCIe, 4 USB, 2COM, SMBus, I²C, mSATA, MIOe	*3-20*
MIO-2270	AMD® G series SoC GX-415GA Pico-ITX SBC, DDR3, 18-bit LVDS, VGA or HDMI, GbE, Half-size Mini PCIe, 4 USB, 2COM, SMBus, I²C, mSATA, MIOe	*3-22*
MI/O Extension Modules		
MIOe-210 **MIOe-220** **MIOe-230**	4 x RS232/422/485, 2 x RS422/485, 8-bit GPIO 3 x Intel® Gigabit Ethernet 48-bit LVDS or DisplayPort, 2 x USB 2.0	*3-24*
MIOe-110 **MIOe-120** **MIOe-PWR1**	2 x RS-232, 2 x RS-232/422/485 (with power and isolation), 2 USB 2.0 2 x GbE, HDMI, Mini PCIe, SIM holder, speaker out, LPC, 2 USB 2.0 12-24V DC to DC power module, MI/O-Chassis compliant	*3-25*
MIOe-3680 **MIOe-3674/3672**	2-Port CAN-Bus MIOe Module with Isolation Protection 4 or 2-port 10/100/1000 BaseT(X) 802.3af (PoE) Compliant Ethernet ports	*3-26*
MI/O Extension Systems		
MIOS-5250	Intel® Atom™ N2600/D2550 Fanless Embedded Box PC with Multiple I/O Extension Module	*3-27*
MIOS-5251	Intel® Atom™ E3845/E3825 & Celeron® J1900 Fanless Embedded Box PC with Multiple I/O Extension Module	*3-29*
MIOS-5271	4th Gen Intel® Core™ U-Series Fanless Embedded Box PC with Multiple I/O Extension Module	*3-31*
Evaluation Boards		
MIOe-DB5000	MIOe Evaluation Board for MI/O-Compact and MI/O-Ultra SBC	*3-33*
MIOe-DB2000	Evaluation Board for MIO-2262	*3-35*

To view all of MI/O Extension SBCs, Modules and Chassis, please visit http://www.advantech.com/mio_extension/

MI/O Extension Total Solution

Selection Guide

NEW NEW







Model Name		MIO-5250	MIO-5251	MIO-5270	MIO-5271	MIO-5290
Form Factor		MI/O-Compact	MI/O-Compact	MI/O-Compact	MI/O-Compact	MI/O-Compact
Processor System	CPU	Intel Atom D2550/N2600	Intel Atom E3845/E3825 & Celeron J1900	AMD G- Series T56N/T40E/T40R	Intel Core i5-4300U, Celeron 2980U	Intel Core i7-3555LE/i7-3517UE/ i3-3217UE, Celeron 1047UE
	CPU TDP	10W/3.5W	10W/ 6W/ 10W	18 W/6.4 W/5.5 W	15W	25 W/17 W
	Frequency	1.86 GHz /1.6 GHz	1.91 GHz/ 1.33 GHz/ 2 GHz	1.65 GHz/1.0 GHz/1.0 GHz	1.9 GHz/1.6 GHz	2.5 GHz/1.7 GHz/1.6 GHz/1.4 GHz
	Core Number	2	4/ 2/ 4	2/ 2/ 1	2	2
	L2 Cache	1 MB	2MB/ 1MB/ 2MB	1 MB/512 KB (T40E & T40R)	-	-
	L3 Cache	-	-	-	3MB / 2MB	4MB/4MB/3MB/2MB
	BIOS	AMI EFI 16Mbit	AMI UEFI 64Mbit	AMI EFI 32Mbit	AMI UEFI 128 Mb	AMI EFI 64Mbit
	Chipset	Intel NM10	Intel Atom SoC	AMD A50M	Integrated Intel 8 Series	Intel QM77
Memory	Technology	DDR3 1066 MHz/DDR3 800MHz	DDR3L 1066/1333MHz	DDR3 1066 MHz/1333MHz (T56N)	DDR3L 1333/1600 MHz	DDR3 1600MHz, DDR3L 1333 MHz
	Max. Capacity	4 GB	8 GB	4 GB	8 GB	8 GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Controller	Integrated Intel GMA 3600 series	Intel Gen7 graphic engine	AMD Radeon™ HD 6250	Intel® HD Graphics 4400 / Intel HD Graphics (Celeron)	Intel® HD Graphics 4000 / Intel® HD Graphics (Celeron)
	Graphic Engine	DirectX® 9 and OpenGL3.0 support HW Accelerated Decode: MPEG2, H.264, VC-1	DirectX11, OpenGL3.2, OpenCL1.1 Full HW acceleration, decode: H.264, MPEG2/4, VC-1, WMV9. Encode: H.264, MPEG2	DirectX® 11 and OpenGL 4.1 technologies support0, 2D Acceleration, 3D Acceleration, Motion Video Acceleration, Supports DVD, Blu-ray*; Hardware decode (UVD 3): H.264, VC-1 & MPEG2	DirectX11.1, OpenGL 4.0, and OpenCL 1.3 Full AVC/VC1/MPEG2 HW Decode	DirectX11, OpenGL 3.1, and OpenCL 11 Hardware decpde acceleration: AVC/H.264, MPEG-2, VC-1
	Graphic Memory	Share with system memory up to 256 MB	Share with system memory up to 384 MB	Share with system memory up to 384MB	Share with system memory up to 1792MB	Share with system memory up to 1792MB
	VGA	Up to 1920 x 1200 at 60 Hz	Up to UXGA 1600 x 1200 at 60Hz	Up to 2560 x 1600 / Up to 1920 x 1200 at 60Hz (T40E&T40R)	Up to 1920 x 1200 at 60 Hz	Up to 2048 x 1536 at 75Hz
	LCD (LVDS/eDP)	18/24-bit LVDS1: up to 1366 x 768 (N2600), 1440 x 900 (D2550) at 60 Hz 48-bit LVDS2: 2560 x 1600 at 60 Hz (D2550)	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz eDP up to 2560 x 1600 at 60Hz (Optional)	LVDS 48-bit, up to 1920 x 1200 at 60 Hz	LVDS 48-bit, up to 1920 x 1200 at 60Hz	LVDS 48-bit, up to 2560 x 1600 at 60 Hz
	DDI (HDMI/DVI/ DisplayPort)	HDMI: up to 1920 x 1200 at 60Hz	HDMI: 1920 x 1080 at 60Hz DP: up to 2560 x 1600 at 60Hz (Optional)	HDMI: up to 1920 x 1080 at 60Hz & 36bpp	DisplayPort: up to 3200 x 2000 at 60 Hz, HDMI: up to 4096 x 2304 at 24 Hz	HDMI: up to 1920 x 1200 at 60Hz Displayport: up to 2560 x 1600 at 60Hz
	Multiple Display	VGA+LVDS, VGA+HDMI, HDMI+LVDS	VGA+LVDS/eDP, VGA+HDMI/DP, LVDS/eDP+HDMI/DP	VGA+LVDS, VGA+HDMI, HDMI+LVDS	VGA+LVDS, VGA+HDMI/DP, HDMI/DP+LVDS, VGA+HDMI/ DP+LVDS	VGA+LVDS, VGA+HDMI/DP, HDMI/DP+LVDS, VGA/LVDS + DP (coastline) + DP (MIOe)
Expansion Interface	Mini PCIe	1 x Full-size	1 x Full-size	1 x Full-size	1 x Full-size Mini PCIe, 1 x Half-size Mini PCIe	1 x Full-size, 1 x Half-size
	SIM Socket	1	1	-	1	-
	SMBus	1	1	1	1	1
	I²C	1 (Shares with SMBus pin)	1 (Shares with SMBus pin)	1 (Shares with SMBus pin)	1 (Shares with SMBus pin)	1 (Shares with SMBus pin)
	MIOe	SMBus, 3 x USB2.0, LPC, 1 x PCIe, line out, Displayport (optional), Reset, PowerOn, +5Vsb, +12Vsb	SMBus, 3xUSB2.0, LPC, 1 x PCIe, line-out, DisplayPort (optional), Reset, Power On, +5Vsb, +12Vsb	SMBus, 3 x USB2.0, LPC, 4 x PCIe, line out, Displayport (optional), Reset, PowerOn, +5Vsb, +12Vsb	SMBus, 3 x USB2.0, LPC, 1 x PCIe, line out Displayport (optional), Reset, PowerOn,+5Vsb, +12Vsb	Displayport, SMBus, 1 x USB2.0, 1 x USB3.0, LPC, 4 x PCIe x1, line out, Reset, PowerOn, +5Vsb, +12Vsb
Ethernet	Controller	GbE1 & GbE2: Intel 82583V	GbE1 & GbE2: Intel i210	GbE1 & GbE2: Realtek RTL8111E-VB-GR	GbE1: Intel i218, GbE2: Intel i210	GbE1:Intel 82579LM, GbE2:Intel 82583V
	Speed	10/ 100/ 1000 Mbps	10/100/1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
	Connector	RJ45 x 2	RJ45 x 2	RJ45 x 2	RJ45 x 2	RJ45 x 2
Audio	Audio Interface	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio
	CODEC	Realtek ALC892	Realtek ALC888S	Realtek ALC892	Realtek ALC888S	Realtek ALC892
	Amplifier	Optional via MIOe	Optional via MIOe	Optional via MIOe	Optional via MIOe	Optional via MIOe
	Connector	Line-in, Line out, Mic-in	Line-in, Line-out, Mic-in	Line-in, Line out, Mic-in	Line-in, Line-out, Mic-in	Line-in, Line out, Mic-in
WatchDog Timer		255 levels timer interval	255 levels timer interval	255 levels timer interval	255 levels timer interval	255 levels timer interval
Storage	SATA	1, up to 3Gb/s (300 MB/s)	1, up to 3Gb/s (300MB/s)	2, up to 3Gb/s (300 MB/s)	2, up to 6 Gb/s (600 MB/s)	2, up to 6.0 Gb/s (600 MB/s)
	mSATA	Supports either mSATA or full size miniPCIe, default support miniPCIe	1 x Full-size	Supports either mSATA or full size miniPCIe, default support miniPCIe	Supports either mSATA or full size miniPCIe	Supports either mSATA or full size miniPCIe
	CFast	1	-	1	-	-
I/O	USB3.0	-	1	-	2	2
	USB2.0	6 (4 from Rear, 2 from Internal)	3 (3 from rear, 1 from internal)	6 (4 from Rear, 2 from Internal)	3 (2 from rear, 1 from internal)	4 (2 from Rear, 2 from Internal)
	GPIO	8-bit general purpose input/output	8-bit general purpose input/output	8-bit general purpose input/output	8-bit general purpose input/output	8-bit general purpose input/output
	COM Port	2 x RS-232, 2 x RS-232/422/485 with RS-485 auto flow control	2xRS-232, 2xRS-232/422/485 with RS-485 auto flow control	1 x RS-232, 2 x RS-232/422/485 with RS-485 auto flow control	2 x RS-232 , 2 x RS-232/422/485 with RS-485 auto flow control	1 x RS-232, 1 x RS-232/422/485 with RS-485 auto flow control
	Reset Button	1	1	1	1	1
	Smart Fan	-	-	1 (T56N only)	-	1
Power	Power Type	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input
	Power Supply Voltage	Supports single 12V input, ± 10%	Supports single 12V input, ±10%	Supports single 12V input, ± 10%	Supports single 12V input, ±10%	Supports single 12V input, ± 10%
	Connector	ATX 2x2P / DC Jack	ATX 2x2P (DC Jack optional)	ATX 2x2p / DC Jack	ATX 2x2P (DC Jack optional)	ATX 2x2P/ DC Jack
	Power Consumption (Idle)	N2600: 0.606 A @ 12 V (7.27 W) D2550: 0.829 A @ 12 V (9.95 W)	TBD	Refer to product page	Refer to product page	Refer to product page.
	Power Consumption (Full Load)	N2600: 0.729 A @ 12 V (8.75 W) D2550: 1.029 A @ 12 V (12.35 W)	TBD	Refer to product page	Refer to product page	Refer to product page.
	Battery	Lithium 3 V / 210 mAH	Lithium 3 V/ 210 mA	Lithium 3 V / 210 mAH	Lithium 3 V/ 210 mA	Lithium 3 V / 210 mAH
Environment	Operational Temperature	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational Temperature	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-condensing	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-condensing	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W x H)	146 x 102 mm (5.7" x 4")	146 x 102 mm (5.7" x 4")	146 x 102 mm (5.7" x 4")	146 x 102mm (5.7" x 4")	146 x 102 mm (5.7" x 4")
	Weight	0.74 kg (1.63 lb), weight of total package	0.5 kg (1.1 lb), weight of total package	0.78 kg (1.72 lb), weight of total package	0.74 kg (1.63 lb), weight of total package	0.84 kg (1.72lb), weight of total package
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes	Yes
	SUSIAccess	Yes	Yes	Yes	Yes	Yes
	iManager	Yes	Yes	Yes	Yes	Yes
Certification	EMC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC
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NEW

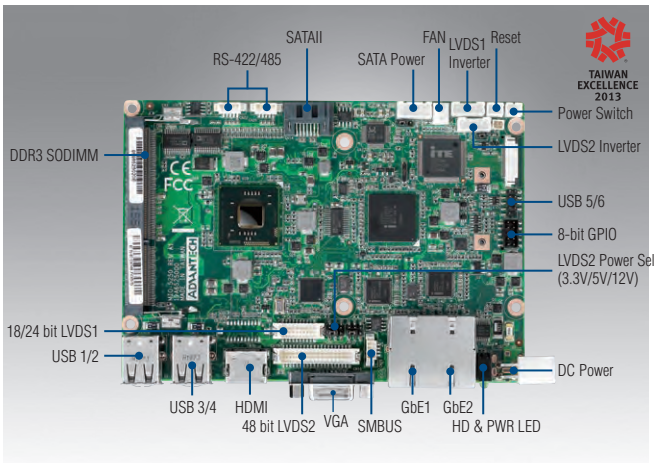
NEW

NEW


Model Name		MIO-2260	MIO-2261	MIO-2262	MIO-2263	MIO-2270
Form Factor		MI/O-Ultra	MI/O-Ultra	MI/O-Ultra	MI/O-Ultra	MI/O-Ultra
Processor System	CPU	Intel Atom N455	Intel Atom N2600/N2800	Intel Atom N2600/N2800	Intel Atom E3825 & Celeron J1900/N2920	AMD G-Series SoC GX-415GA
	CPU TDP	6.5W	3.5W/6.5W	3.5W/6.5W	6W/ 4.5 / 10W	15W
	Frequency	1.66 GHz	1.6 GHz/1.86 GHz	1.6 GHz/1.86 GHz	1.33 GHz/ 1.66 GHz/ 2.0 GHZ	1.5 GHz
	Core Number	1	2	2	2/ 4/ 4	4
	L2 Cache	512 KB	1MB	1MB	1 MB/2 MB/2 MB	2MB
	L3 Cache	-	-	-	-	-
	BIOS	AMI EFI 16Mbit	AMI EFI 16Mbit	AMI EFI 16Mbit	AMI EFI 64 Mbit	AMI EFI 32 Mbit
	Chipset	Intel ICH8	Intel NM10	Intel NM10	Intel Atom SoC	AMD G-Series SoC
Memory	Technology	DDR3 667 MHz	DDR3 800MHz/DDR3 1066MHz	DDR3 800MHz/DDR3 1066MHz	DDR3 1066/ 1333 MHz	DDR3 1600 MHz
	Max. Capacity	2 GB	4 GB	4 GB	8 GB	8 GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Controller	Integrated Intel GMA 3150	Integrated Intel GMA 3600 series	Integrated Intel GMA 3600 series	Intel Gen7 graphic engine	AMD Radeon HD 8330E
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW Embedded Gen3.5+ GFX Core	DirectX® 9 and OpenGL3.0 support HW Accelerated Decode: MPEG2, H.264, VC-1	DirectX® 9 and OpenGL3.0 support HW Accelerated Decode: MPEG2, H.264, VC-1	DirectX® 11, OGL 3.2, OCL 1.1, OGL ES 2.0.2, 2D/ 3D Acceleration, Encode: H264, MPEG2/4, VC1, WMV9, Decode: H264, MPEG2	DirectX®11.1 graphic with UVD4.2, Open GL4.1/ Open CL 1.2, 2D/ 3D Acceleration, Motion Video Acceleration, Hardware decode (UVD) for H.264, MPEG2/4, VC1, MVC
	Graphic Memory	Share with system memory up to 224MB	Share with system memory up to 256MB	Share with system memory up to 256MB	Share with system memory up to 384 MB	TBD
	VGA	Up to 1400 x 1050 at 60 Hz	Up to 1920 x 1200 at 60 Hz	Up to 1920 x 1200 at 60 Hz	Up to 1600 x 1200 at 60Hz	Up to 2048 x 1536 at 60Hz for GX-415GA
	LCD (TTL/LVDS/eDP)	LVDS 18-bit, up to 1366 x 768 at 60 Hz	LVDS 18/24-bit, up to 1366 x 768 at 60 Hz	LVDS 18/24-bit, up to 1366 x 768 at 60 Hz	LVDS 24-bit, up to 1400 x 900 at 60 Hz	LVDS 18-bit, up to 1600 x 900 at 60 Hz
	DDI (HDMI/DVI/ DisplayPort)	-	-	-	HDMI 1.4a 1920x1200 at 60 Hz/ 24bpp	HDMI 1.4a 1920x1200 at 60 Hz/ 24bpp
	Multiple Display	VGA+LVDS	VGA+LVDS	VGA+LVDS	VGA+LVDS, HDMI+LVDS	VGA+LVDS, HDMI+LVDS
Expansion Interface	Mini PCIe	1 x Half-size	1 x Half-size	1 x Full-size (Default support mSATA, selected by BIOS)	1 x Half size	1 x Half size
	SMBus	1	1	1 (from 64pin connector B)	1	1
	I²C	1 (Shares with SMBus pin, supported by request)	1 (Shares with SMBus pin, supported by request)	1 (from 64pin connector B)	1 (Shares with SMBus pin, supported by request)	-
	MIOe	SMBus, 3 x USB 2.0, 4 x PCIex1, LPC, line-out, Reset, PowerOn, +5Vsb, +12Vsb	2 x USB 2.0, 2 x PCIe x1, LPC, line-out, SMBus, DP/HDMI (HDMI supported by request), Reset, PowerOn, +5Vsb, +12Vsb	SMBus, 3 x USB 2.0, 2 x PCIe x1, LPC, line out, DP/HDMI (HDMI supported by request), Reset, PowerOn, +5Vsb, +12Vsb	1 x USB2.0, 2 PCIe x1, LPC, HD Audio line-out, SMBus, DP or HDMI supported by request, 5 Vsb/12 Vsb power	2 x USB2.0, 2 PCIe x1, LPC, HD Audio line-out, SMBus, DP or HDMI supported by request, 5 Vsb/12 Vsb power
	64-pin connecter A	-	-	12V DC input, Inverter, VGA, 2 x USB2.0, 1GbE w/ LED	-	-
	64-pin connecter B	-	-	SMBus, I2C, Power/Reset button, HDD/Power LED, 2 x USB2.0, 8-bit GPIO, HD Audio Line in/out, 2 x RS-232	-	-
Ethernet	Controller	ICH8M + Intel 82567V	Intel 82583V	Intel 82583V	Intel i210	GbE Realtek RTL8111E
	Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
	Connector	RJ45	RJ45	from 64pin connecter A	RJ45	RJ45
Audio	Audio Interface	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio
	CODEC	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC888S	Realtek ALC888S
	Amplifier	Optional via MIOe	Optional via MIOe	Optional via MIOe	Optional via MIOe	Optional via MIOe
	Connector	Line-in, Line out	Line-in, Line out	Line-in, Line out (from 64pin connector B)	Line-in, Line-out	Line-in, Line-out
WatchDog Timer		255 levels timer interval, programmable by software	255 levels timer interval, programmable by software	255 levels timer interval, programmable by software	255 levels timer interval, programmable by software	255 levels timer interval, programmable by software
Storage	SATA	1, up to 3Gb/s (300 MB/s)	1, up to 3Gb/s (300 MB/s)	1, up to 3Gb/s (300 MB/s)	1, up to 3Gb/s (300 MB/s)	1, up to 6Gb/s (600 MB/s)
	mSATA	-	1 (Integrates USB signal, supports either mSATA or USB interface module)	1	1 (Integrates USB signal, supports either mSATA or USB interface module)	1 (Integrates USB signal, supports either mSATA or USB interface module)
	CompactFlash	1 x CompactFlach TYPE I (Primary Master PATA Channel)	-	-	-	-
I/O	USB3.0	-	-	-	1	2
	USB2.0	2	4 (2 from Rear, 2 from Internal)	4 (2 from 64pin connector A, 2 from 64pin connector B)	3 (1 from rear, 2 from internal)	4 (2 from rear, 2 from internal)
	GPIO	8-bit GPIO (from 64pin connector A)	8-bit GPIO (from 64pin connector A)	8-bit GPIO (from 64pin connector A)	8-bit general purpose input/ output	8-bit general purpose input/ output
	COM Port	2 x RS-232	2 x RS-232	2 x RS-232	1 x RS-232, 1 x RS-232/422/485 with RS-485 with Auto-flow control	1 x RS-232, 1 x RS-232/422/485 with RS-485 with Auto-flow control
	Reset Button	1	1	1	1	1
	Smart Fan	-	-	-	-	1
Power	Power Type	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input
	Power Supply Voltage	Supports single 12V input, ± 10%	Supports single 12V input, ± 10%	Supports single 12V input, ± 10%	Supports single 12V input, ±10%	Supports single 12V input, ±10%
	Connector	ATX 2x2P/ DC Jack (optional)	-	From 64pin connecter A	ATX 1x2p, DC Jack (optional)	ATX 1x2p, DC Jack (optional)
	Power Consumption (Idle)	0.64 A, 12 V (7.68 W)	0.35 A @ 12 V (4.2 W)/ 0.46 A@ 12 V (5.52 W)	0.43 A @ 12 V (5.24 W)/ 0.51 A@ 12 V (6.12 W)	TBD	1.05 A @ 12 V (12.6 W)
	Power Consumption (Full Load)	0.86 A, 12 V (10.32 W)	0.76 A @ 12 V (9.12 W)/ 0.80 A @ 12 V (9.6 W)	0.67 A @ 12 V (8.05 W)/ 0.82 A @ 12 V (9.8 W)	TBD	1.26 A @ 12 V (15.12 W)
	Battery	3V / 210 mAH	3V / 210 mAH	3V / 210 mAH	Lithium 3 V/ 210 mA	Lithium 3 V/ 210 mA
Environment	Operational Temperature	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational Temperature	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40 ~ 85° C and 60° C @ 95% RH non-condensing	-40 ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W x H)	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")
	Weight	0.42 kg (0. 93 lb), weight of total package	0.48 kg (1.06 lb), weight of total package	0.37 kg (0. 82 lb), weight of total package	0.46 kg (1.01 lb), weight of total package	0.45 kg (0.99 lb), weight of total package
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes	Yes
	SUSIAccess	Yes	Yes	Yes	Yes	Yes
	iManager	-	-	-	-	-
Certification	EMC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC
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MIO-5250

Intel® Atom™ N2600/ D2550, 3.5" MI/O-Compact SBC, DDR3, HDMI, Dual LVDS, VGA, 2 GbE, CFast, iManager, MIOe



Features

- Embedded Intel® Atom™ N2600/ D2550 dual core processor + Intel NM10, 1 x DDR3 memory support up to 4 GB
- DirectX 9, multiple display: 18/24-bit LVDS1, 48-bit LVDS2, HDMI, VGA
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow.
- 2 GbE support, HD Audio, Rich I/O interface with 4 COM, 1 SATA, I²C or SMBus, 8-bit GPIO, PCIe Mini Card & CFast
- Supports iManager, SUSIAccess and Embedded Software APIs

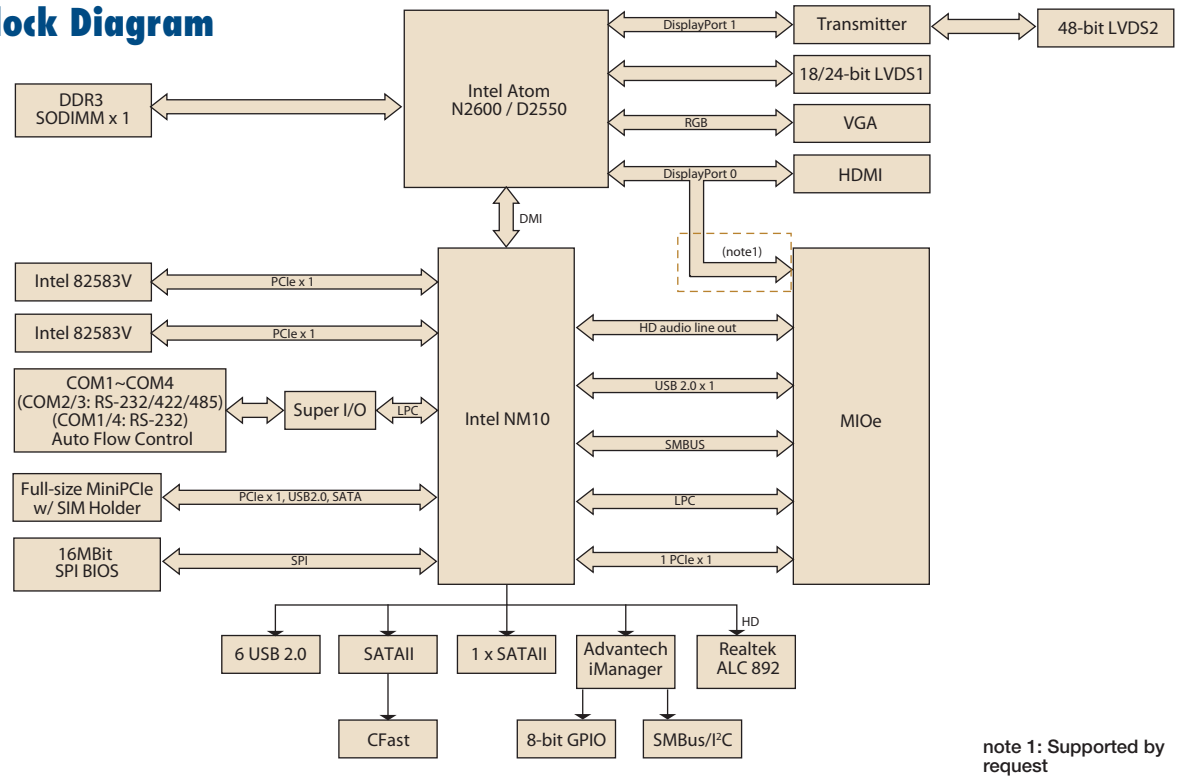
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus, CPU Speed

Utilities: Monitoring

Specifications

Processor System	CPU	Intel Atom Dual Core processor N2600 1.6GHz/ D2550 1.86GHz
	Frequency	Dual-Core 1.6GHz/ 1.86GHz
	L2 Cache	1MB
	System Chipset	Intel Atom N2600/ D2550 + Intel NM10
	BIOS	AMI EFI 16Mbit
Memory	Technology	DDR3 800MHz (N2600), DDR3 1066 MHz (D2550)
	Max. Capacity	4 GB
	Socket	1 x 204-pin SODIMM
Display	Chipset	Integrated Intel GMA 3600 series
	Graphic Engine	DirectX 9 and OpenGL3.0 support HW Accelerated Decode: MPEG2, H.264, VC-1
	LVDS	18/24-bit LVDS1: up to 1366 x 768 (N2600), 1440 x 900 (D2550) 48-bit LVDS2: 1920 x 1200 (only for MIO-5250D-S8A1E)
	VGA	Up to 1920 x 1200
	HDMI	Supports 1920 x 1200, Max data rate: up to 1.65 Gb/s, Supports HDMI v1.3 Up to 1080p support
	Multi-Display	VGA+LVDS, VGA+HDMI, HDMI+LVDS
Ethernet	Speed	10/100/1000Mbps
	Controller	GbE1: Intel 82583V, GbE2: Intel 82583V
	Connector	2 RJ45 on Rear I/O
Audio	Chipset	Realtek ALC892, High Definition Audio (HD), Line-in, Line out, Mic-in
	Amplifier	Optional via MIOe
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CFast	1
	mSATA	1 (Supports either mSATA or full size miniPCIe, selected by BIOS, default support miniPCIe)
	SATA	1, up to 3Gb/s (300 MB/s)
Rear I/O	Ethernet	2
	VGA	1
	HDMI	1
	USB	4 x USB 2.0
	LED	Power, HDD
	DC Jack	1 (MIO-5250N-S6A1E only)
Internal I/O	USB	2 x USB 2.0
	Serial	2 x RS-232 from COM1/4, 2 x RS-232/422/485 from COM2/3 with auto flow control (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	I²C	1 (Shares with SMBus pin)
	SMBus	1
	GPIO	8-bit general purpose input/output
Expansion	MiniPCIe	1 x Full-size with SIM Holder
	MIOe	SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, DisplayPort (optional), +5 Vsb/+12 Vsb power, Power On, Rest
Power	Power Type	Single 12V DC power input
	Power Supply Voltage	Supports single 12V input, ± 10%
	Power Consumption (Typical)	MIO-5250N-S6A1E: 0.606 A @ 12 V (7.27 W) MIO-5250D-S8A1E: 0.829 A @ 12 V (9.95 W)
	Power Consumption (Max, test in HCT)	MIO-5250N-S6A1E: 0.729 A @ 12 V (8.75 W) MIO-5250D-S8A1E: 1.029 A @ 12 V (12.35 W)
	Power Management	ACPI
	Battery	Lithium 3 V / 210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4"), same as 3.5"
	Weight	0.74 kg (1.63 lb), weight of total package
	Total Height	Top Side: 20 mm (including heatsink); Bottom Side: 9 mm; PCB: 1.6 mm

Block Diagram



note 1: Supported by request

Ordering Information

Part No.	CPU	L2 Cache	Memory	LVDS1	LVDS2	VGA & HDMI	GbE	Audio	RS-232/ 422/485	RS-232	USB 2.0	SATAII	CFast	Mini PCIe	MIOe	Power Connector	Thermal Solution	Operational Temp.
MIO-5250N-S6A1E	Intel Atom N2600 1.6G	1MB	SO-DIMM	24-bit	-	Yes	2	Yes	2	2	6	1	1	1	Yes	DC Jack	Passive	0 ~ 60° C
MIO-5250D-S8A1E	Intel Atom D2550 1.86G	1MB	SO-DIMM	24-bit	48-bit	Yes	2	Yes	2	2	6	1	1	1	Yes	2x2 type	Passive	0 ~ 60° C
MIO-5250NZ-2GS6A1E	Intel Atom N2600 1.6G	1MB	2GB bundle	24-bit	-	Yes	2	Yes	2	2	6	1	1	1	Yes	DC Jack	Passive	-20 ~ 80° C
MIO-5250NZ22GS6A1E	Intel Atom N2600 1.6G	1MB	2GB bundle	24-bit	-	Yes	2	Yes	2	2	6	1	1	1	Yes	DC Jack	Passive	-40 ~ 85° C
MIO-5250DZ22GS8A1E	Intel Atom D2550 1.86G	1MB	2GB bundle	24-bit	48-bit	Yes	2	Yes	2	2	6	1	1	1	Yes	2x2 type	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan
Note: Wide temperature range version has been bundled with verified industrial-grade memory module

Packing List

Part No.	Description	Quantity
	MIO-5250 SBC	
	Startup Manual	
	Utility CD	
1700008941	SATA cable 7P 32CM C=R 180/180D W/Lock	1
1700018785	SATA 35cm power cable	1
1700019435	COM RS-485 D-SUB 9P (M)/1*5P 1.25 25cm cable	2
1701200220	COM RS232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM	2
1700019584	Audio Cable 2*5P-2.0/JACK*3 20cm	1
9689000002	mini Jumper pack	1
1960054274T001	Heatsink 135 x 84.2 x 20 mm for MIO-5250	1

Optional Accessories

Part No.	Description
1960054269T001	Heat spreader for MIO-5250 (137 x 84.2 x 16.7mm)
1700006291	SATA2 cable 7P/ 7P 30cm C=R 180/90
1703100260	Internal USB cable
1757003934	Adaptor 100-240V 60W 12V 5A W/O PFC

Embedded OS/API

Embedded OS/API	Part No.	Description
Windows Embedded Standard 7	2070011953	WES7E MIO-5250 V5.1.4 ENG/GER/JPN/TC
	2070011955	WES7P MIO-5250 V5.1.3 EN/TC/SC/RU/FR/DE/ ES/IT/JP/KR
Windows Embedded Standard		WES2009 (graphic driver support by case)
Windows Embedded Compact 7	2070012241	WEC7 MIO-5250 V1.0 ENG
VxWorks		6.9.2
Linux		Ubuntu 12.04 (graphic driver support by case)
Software API		iManager 2.0

Rear I/O View



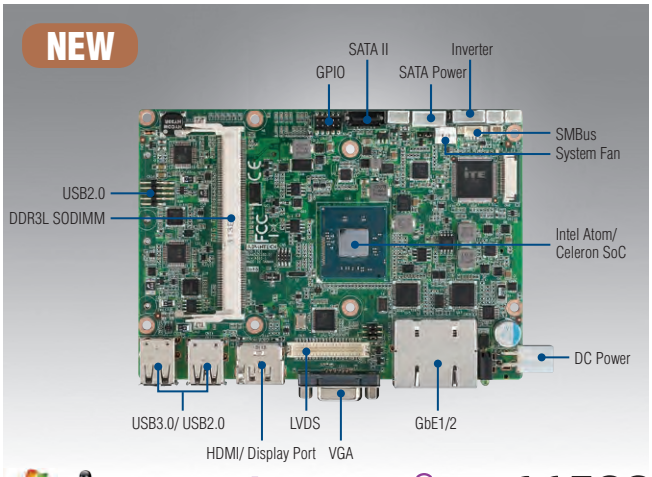
MIO-5250N-S6A1E



MIO-5250D-S8A1E

MIO-5251

Intel® Atom™ E3845/E3825 & Celeron® J1900, 3.5" MI/O-Compact SBC, DDR3L, VGA, HDMI/DP, 48-bit LVDS/eDP, 2GbE, Mini PCIe, mSATA/SD card, iManager, MIOe



iManager susiAccess CE FCC

Features

- Intel® Atom™ E3845/E3825 & Celeron® J1900, DDR3L-1066/1333MHz SODIMM up to 8GB
- DirectX11, OpenGL3.2, OpenCL1.1, 3 independent display: VGA+LVDS/eDP+ HDMI/DP*
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- 2 Intel i210 GbE, rich I/O: 4COM, SATA, USB3.0, SMBus/I²C, GPIO full-size Mini PCIe w/ SIM holder, full-size mSATA or SD card
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus/ I²C, CPU Speed, System Throttling

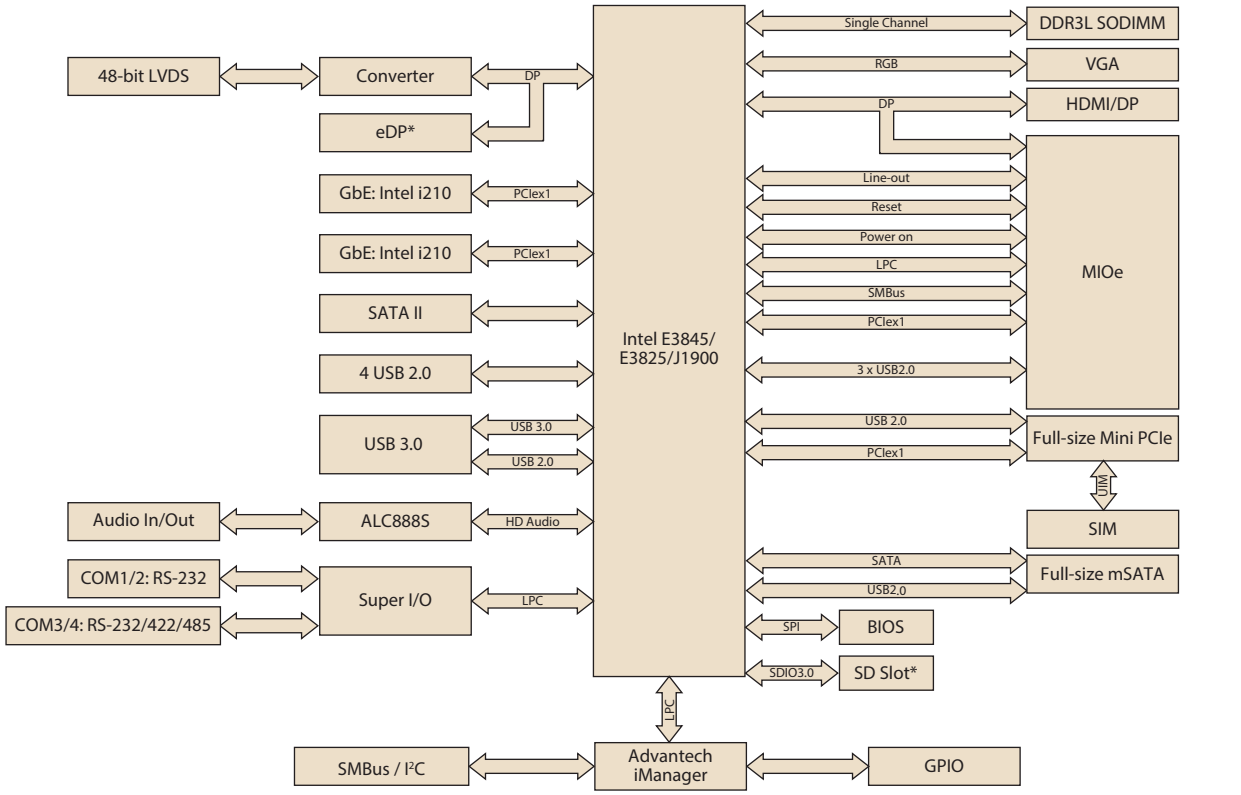
Utilities: Monitoring

Specifications

Processor System	CPU	Intel Celeron J1900	Intel Atom E3845	Intel Atom E3825
	Base Frequency	2 GHz (Quad-Core)	1.91 GHz (Quad-Core)	1.33 GHz (Dual-Core)
	Max Turbo Frequency	2.42 GHz	-	-
	L2 Cache	2MB	2MB	1MB
	BIOS	AMI UEFI BIOS at 64 Mb		
Memory	Technology	DDR3L 1333 MHz	DDR3L 1333 MHz	DDR3L 1066 MHz
	Max. Capacity	8 GB		
	Socket	1 x 204-pin SODIMM		
Display	Controller	Intel Gen7 graphic engine		
	Processor Graphics	DirectX11, OpenGL3.2, OpenCL1.1 Full HW acceleration, decode: H.264, MPEG2/4, VC-1, WMV9. Encode: H.264, MPEG2		
	VGA	UXGA 1600 x 1200 at 60Hz		
	LVDS	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz Supports 3.3/5/12V for VDD power, 5/12V for inverter		
	eDP*	up to 2560 x 1600 at 60Hz		
	HDMI / DisplayPort*	HDMI 1.4a for HD video playback, 1080P at 60Hz Displayport*, up to 2560 x 1600 at 60Hz		
	Mulit-Display	VGA + HDMI/Displayport*, VGA+ LVDS/eDP*, HDMI/Displayport* +LVDS/eDP		
Ethernet	Speed	10/100/1000Mbps		
	Controller	Intel i210		
	Connector	2 RJ45		
Audio	Codec	Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in		
	Amplifier*	Optional via MIOe		
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds		
Storage	SATA	1, up to 3Gb/s (300 MB/s)		
	mSATA	1 x Full-size		
	SD slot*	1 (Shared with mSATA)		
Rear I/O	Ethernet	2 (10/100/1000Mbps)		
	VGA	1		
	HDMI / DisplayPort*	1		
	USB 2.0	3		
	USB 3.0	1		
	LED	Power, HDD		
	DC Jack*	1		
Internal I/O	Serial	2 x RS-232 from COM1/2, 2 x RS-232/422/485 from COM3/4 with auto flow control (ESD protection: air gap ±15kV, contact ±8kV)		
	USB2.0	1		
	I²C	1 (Shared with SMBus pin)		
	SMBus	1		
	GPIO	8-bit (5V tolerance)		
Expansion	Mini PCIe	1 x Full-size with SIM holder		
	MIOe	SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, DisplayPort*, +5 Vsb/+12 Vsb power, Power On, Rest		
Power	Power Type	Single 12V DC power input		
	Power Supply Voltage	12V ± 10%		
	Power Consumption (Typical)	TBD		
	Power Consumption (Max, test in HCT)	TBD		
	Power Management	ACPI		
	Battery	Lithium 3 V / 210 mAH		
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)		
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing		
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4"), same as 3.5"		
	Weight	0.5kg (1.1lb), weight of total package		
	Height	Top Side: 19 mm; Bottom Side: 6.8 mm; PCB: 1.6 mm		

* The specification is supported by request

Block Diagram



*: Supported by request

Ordering Information

Part No.	CPU	L2 Cache	LVDS	VGA	HDMI/DP	GbE	Audio	RS-232/422/485	RS-232	USB 3.0	USB 2.0	SATAII	Mini PCIe	mSATA	MIOe	Power connector	Thermal Solution*	Operation Temp.
MIO-5251J-U0A1E	Intel J1900 2GHz 10W	2MB	48-bit	Yes	1	2	Yes	2	2	1	4	1	Full-size	Full-size	Yes	2x2pin	Passive	0 ~ 60° C
MIO-5251E-S9A1E	Intel E3845 1.91GHz 10W	2MB	48-bit	Yes	1	2	Yes	2	2	1	4	1	Full-size	Full-size	Yes	2x2pin	Passive	0 ~ 60° C
MIO-5251E-S3A1E	Intel E3825 1.33GHz 6W	1MB	48-bit	Yes	1	2	Yes	2	2	1	4	1	Full-size	Full-size	Yes	2x2pin	Passive	0 ~ 60° C

Note: Passive=fanless; Active=with fan

Packing List

Part No.	Description	Quantity
	MIO-5251 SBC	1
2006525100	Startup Manual	1
1700006291	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
1700018785	SATA 35cm power cable	1
1701200220	COM RS-232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM	2
1700019584	Audio Cable 2*5P-2.0/JACK*3 20cm	1
9689000002	mini Jumper pack	1
1960062791T001	Heatsink (104 x 83 x 19 mm) for MIO-5251	1

Optional Accessories

Part No.	Description
TBD	Heat spreader
1757003934	Adapter 100-240V 60W 12V 5A W/O PFC

Embedded OS/API

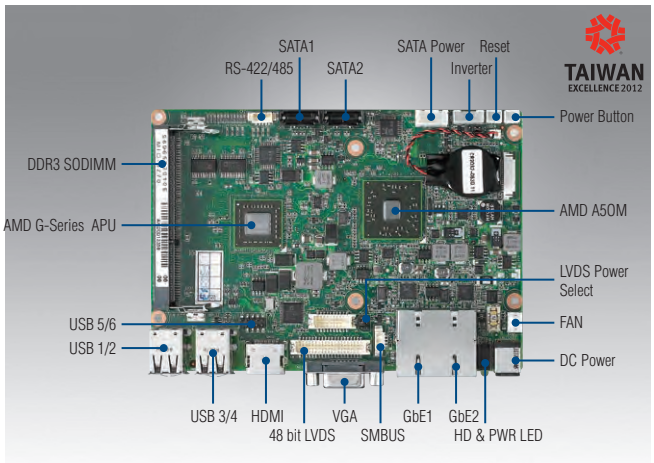
Embedded OS/API	Part No.	Description
WES8	TBD	
WES7	TBD	
WEC7	TBD	
Linux	TBD	
VxWorks	TBD	
Software API		iManager 2.0

Rear I/O View



MIO-5270

AMD® G- Series 3.5" MI/O-Compact SBC, DDR3, HDMI, 48-bit LVDS, VGA, 2 GbE, CFast, iManager, MIOe



Features

- Embedded AMD® G- Series Single Core/ Dual Core APU + AMD A50M FCH, 1 x DDR3 memory up to 4 GB capacity
- DirectX® 11, 2D/3D Acceleration, multiple display: 48-bit LVDS, HDMI, VGA
- Flexible design using integrated multiple I/O:MIOe to approach vertical applications & keep domain knowhow.
- 2 GbE support, HD Audio, Rich I/O interface with 4 COM, 2 SATA, 6 USB and 8-bit GPIO
- Supports iManager, SUSIAccess and Embedded Software APIs

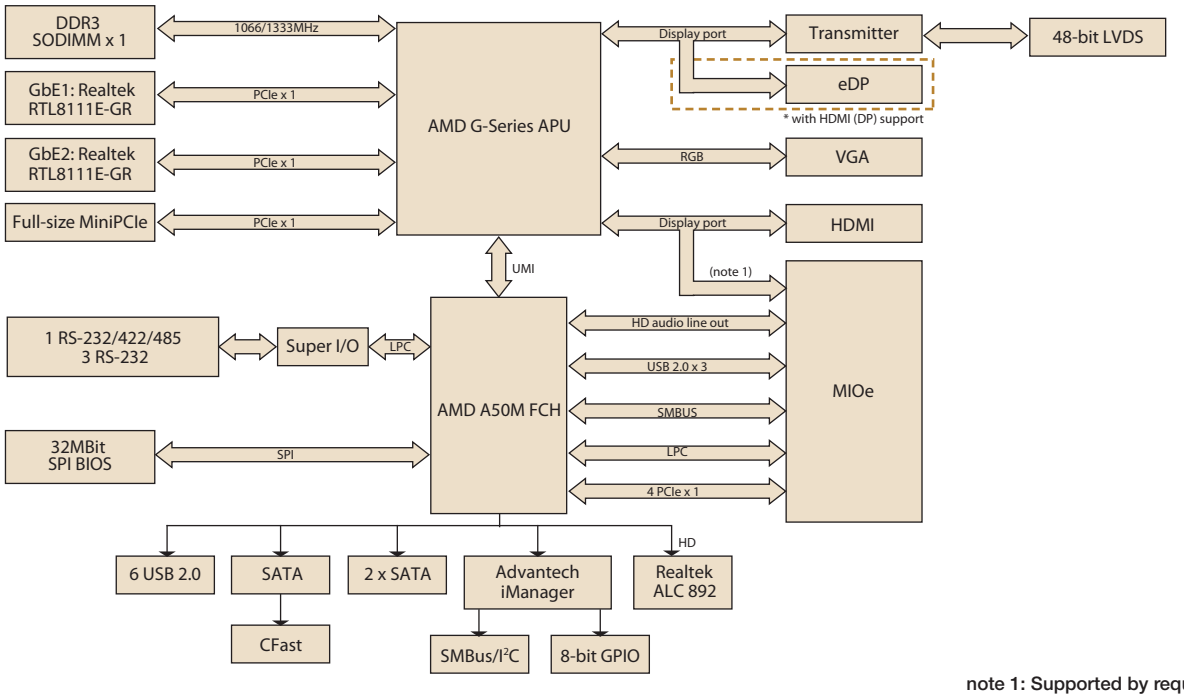
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus, CPU Speed, System Throttling

Utilities: Monitoring

Specifications

Processor System	CPU	AMD G- Series T40R	AMD G-Series T40E	AMD G-Series T56N
	Frequency	1.0GHz (single-core)	1.0GHz (dual-core)	1.65GHz (dual-core)
	L2 Cache	512 KB	512 KB	1 MB
	System Chipset	AMD G-Series APU + A50M FCH		
	BIOS	AMI EFI 32Mbit		
Memory	Technology	DDR3 1066 MHz, 1333MHz only for T56N		
	Max. Capacity	4 GB		
	Socket	1 x 204-pin SODIMM		
Display	Chipset	AMD Radeon™ HD 6320/6250 (T40E & T40R)		
	Graphic Engine	DirectX® 11 graphics with UVD 3.0 2D Acceleration, 3D Acceleration, Motion Video Acceleration, Supports DVD, Blu-ray* Hardware decode (UVD 3):H.264, VC-1 & MPEG2		
	LVDS	LVDS: Supports single channel 24-bit or dual channel 48-bit LVDS T56N up to 2560 x 1600 at 60 Hz, T40R & T40E up to 1920 x 1200 at 60 Hz (pixel clock rate = 80 MHz)		
	VGA	T56N up to 2560 x 1600, T40R & T40E up to 1920 x 1200		
	HDMI	Supports 1920 x 1080p at 60 Hz, 36 bpp, Supports HDMI 1.3, using TMDS data encoding		
	eDP	Option (supported by request) T56N up to 2560 x 1600, T40R & T40E up to 1920 x 1200		
	Multi-Display	VGA+LVDS or VGA + HDMI or HDMI + LVDS		
Ethernet	Speed	10/100/1000Mbps		
	Controller	GbE1: Realtek RTL8111E-VB-GR 10/100/1000Mbps, GbE2: Realtek RTL8111E-VB-GR 10/100/1000Mbps		
	Connector	2 RJ45 on Rear I/O		
Audio	Chipset	Realtek ALC892, High Definition Audio (HD),Line-in, Line out, Mic-in		
	Amplifier	Optional via MIOe		
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds		
Storage	CFast	1		
	mSATA	Supports either mSATA or full size miniPCIe, selected by BIOS, default support miniPCIe		
	SATA	2, up to 3Gb/s (300 MB/s)		
Rear I/O	Ethernet	2		
	VGA	1		
	HDMI	1		
	USB	4 x USB 2.0		
	LED	Power, HDD		
	DC Jack	1 (Supported only on MIO-5270S-S0A1E & MIO-5270D-S0A1E)		
Internal I/O	USB	2 x USB 2.0		
	Serial	3 x RS-232 from COM1/3/4, 1 x RS-232/422/485 from COM2 with auto flow control (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)		
	I^2C	1 (Shares with SMBus pin)		
	SMBus	1		
	GPIO	8-bit general purpose input/output		
Expansion	MiniPCIe	1 x Full-size		
	MIOe	SMBus, 3 x USB2.0, LPC, 4 x PCIe x1, line out, DisplayPort (optional), +5 Vsb/+12 Vsb power, Power On, Rest		
Power	Power Type	Single 12V DC power input		
	Power Supply Voltage	Supports single 12V input, ± 10%		
	Power Consumption (Typical)	MIO-5270S-S0A1E: 0.59 A @ 12 V (7.08 W) MIO-5270D-S0A1E: 0.53 A @ 12 V (6.36 W) MIO-5270D-S6A1E: 0.65 A @ 12 V (7.8 W)		
	Power Consumption (Max, test in HCT)	MIO-5270S-S0A1E: 0.8 A @ 12 V (9.6 W) MIO-5270D-S0A1E: 0.82 A @ 12 V (9.84 W) MIO-5270D-S6A1E: 1.35 A @ 12 V (16.2 W)		
	Power Management	ACPI		
	Battery	Lithium 3 V / 210 mAH		
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)		
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing		
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4"), same as 3.5"		
	Weight	0.78 kg (1.72 lb), weight of total package		
	Total Height	34.5 mm		

Block Diagram



note 1: Supported by request

Ordering Information

Part No.	CPU	L2 Cache	Memory	LVDS	VGA & HDMI	GbE	Audio	RS-232/ 422/485	RS-232	USB 2.0	SATA	CFast	Mini PCIe	MIOe	Power Connector	Thermal Solution	Operational Temp.
MIO-5270S-S0A1E	AMD T40R 1.0G SC	512 KB	SO-DIMM	48-bit	Yes	2	Yes	1	3	6	2	1	1	Yes	DC Jack	Passive	0 ~ 60° C
MIO-5270D-S0A1E	AMD T40E 1.0G DC	512 KB	SO-DIMM	48-bit	Yes	2	Yes	1	3	6	2	1	1	Yes	DC Jack	Passive	0 ~ 60° C
MIO-5270D-S6A1E	AMD T56N 1.65G DC	1 MB	SO-DIMM	48-bit	Yes	2	Yes	1	3	6	2	1	1	Yes	2x2 type	Active	0 ~ 60° C
MIO-5270DZ-2GS0A1E	AMD T40E 1.0G DC	512 KB	2GB bundle	48-bit	Yes	2	Yes	1	3	6	2	1	1	Yes	DC Jack	Passive	-20 ~ 80° C
MIO-5270DZ22GS0A1E	AMD T40E 1.0G DC	512 KB	2GB bundle	48-bit	Yes	2	Yes	1	3	6	2	1	1	Yes	DC Jack	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan
Note: Wide temperature range version has been bundled with industrial-grade memory module.

Packing List

Part No.	Description	Quantity
	MIO-5270 SBC	
	Startup Manual	
	Utility CD	
1700006291	SATA1 cable 7P/ 7P 30cm C=R 180/90	1
1700018785	SATA Power Cable 35cm	1
1700019435	COM1 RS-485 D-SUB 9P (M)/1*5P 1.25 25cm cable	1
1701200220	COM RS232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM	2
1700019584	Audio Cable 2*5P-2.0/ JACK*3 20cm	1
9689000002	mini Jumper pack	1
1960053507N001	Heatsink (137 x 84 x 25 mm) for T40R/ T40E series	
1960053508N001	Cooler (137 x 84 x 25 mm) for T56N series	

Optional Accessories

Part No.	Description
1960054266T001	Heat spreader for MIO-5270 (137 x 84.2 x 16.7mm)
1700006291	SATA2 cable 7P/ 7P 30cm C=R 180/90
1703100260	Internal USB cable
1757003934	Adaptor 100-240V 60W 12V 5A W/O PFC

Embedded OS/API

Embedded OS/API	Description
2070010844	WES2009 MIO-5270 V4.0 24MUI
2070010845	WES7E SP1 MIO-5270 V5.1 ENG
Linux	Ubuntu 12.04
Software API	iManager 2.0

Rear I/O View



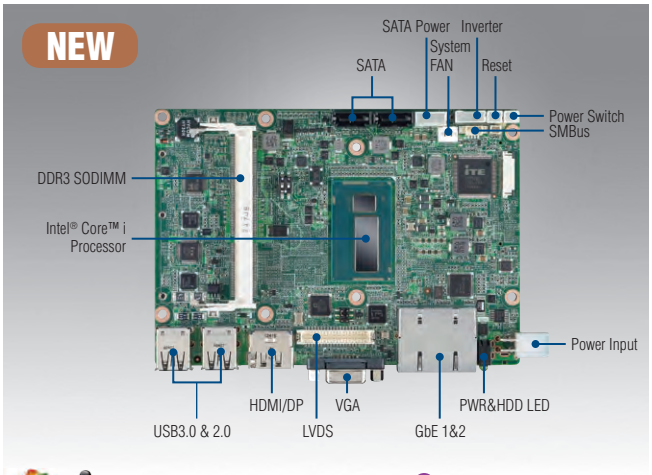
MIO-5270S-S0A1E
MIO-5270D-S0A1E



MIO-5270D-S6A1E

MIO-5271

4th Gen Intel® Core™ U-series (i5/Celeron®), 3.5" MI/O-Compact SBC, DDR3L, VGA, HDMI/DP*, 48-bit LVDS, 2GbE, 2 x Mini PCIe, mSATA, Fanless, MIOe



Features

- 4th Gen Intel® Core™ U-series (i5/Celeron®), 1 x DDR3L-1600/1333 SO-DIMM support up to 8 GB
- DirectX11.1, OpenGL4.0, OpenCL1.2, 3 independent display: VGA + LVDS + HDMI/Displayport*
- Optimized thermal design with fanless solution
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow.
- 2 GbE support, HD Audio, Rich I/O interface with 4 COM, 2 SATA, SMBus/I²C, GPIO, Half-size Mini PCIe, Full-size Mini PCIe w/ mSATA & 2 USB 3.0
- Supports Intel AMT9.0, iManager, SUSIAccess and Embedded Software APIs

Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus/ I²C, CPU Speed, System Throttling

Utilities: Monitoring

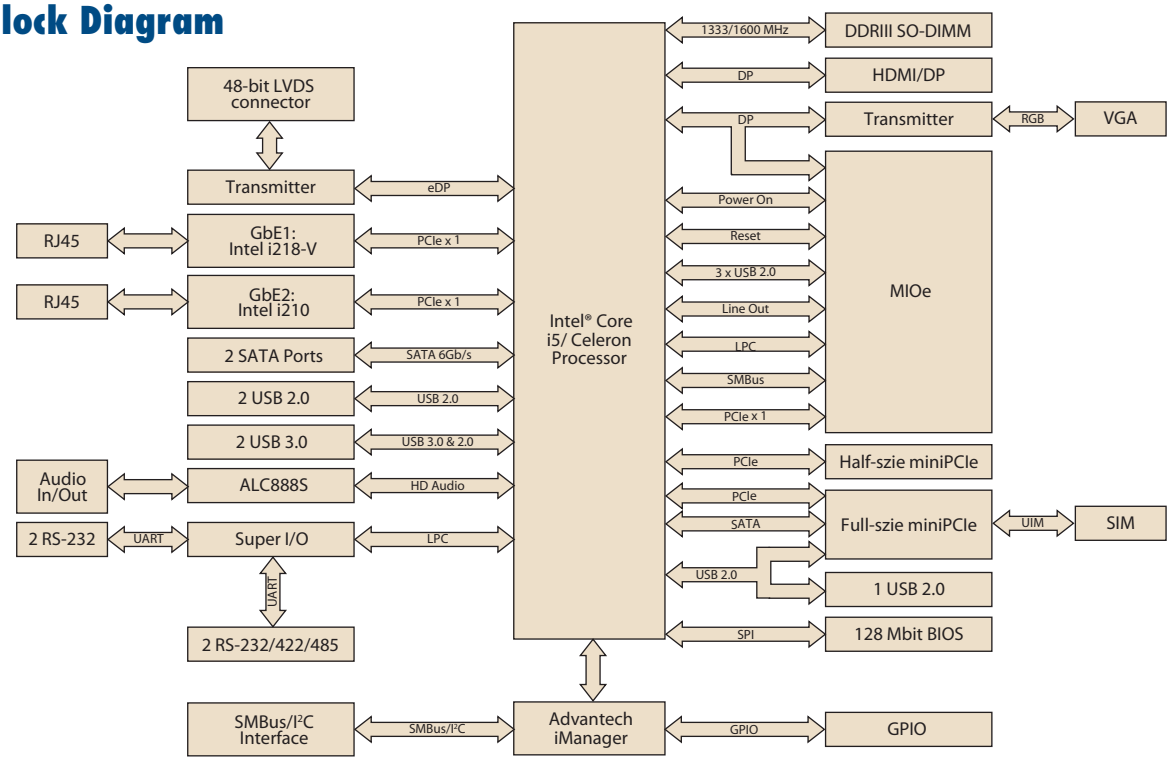
iManager SUSIAccess

Specifications

Processor System	CPU	Intel Core i5-4300U	Intel Celeron 2980U
	Base Frequency	1.9 GHz (Dual-Core)	1.6GHz (Dual-Core)
	Max Turbo Frequency	2.9 GHz	N/A
	L3 Cache	3MB	2MB
	System Chipset	Integrated Intel 8 Series Chipset	
	BIOS	AMI UEFI 128 Mbit	
Memory	Technology	DDR3L 1333/1600 MHz	
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SODIMM	
Display	Controller	Intel HD Graphics 4400 / Intel HD Graphics (Celeron)	
	Processor Graphics	DirectX11.1, OpenGL 4.0, and OpenCL 1.2 Full AVC/VC1/MPEG2 HW Decode	
	VGA	Up to 1920 x 1200 with 60 Hz, 154 MHz pixel clock rate	
	LVDS	LVDS with 3.3V, 5V and 12V on LCD VDD power, 5V and 12V support on LVDS inverter Dual channel 24-bit LVDS, max resolution up to 1920 x 1200 with 60Hz	
	HDMI / DisplayPort*	Supports HDMI 1.4 for HD Video playback Max resolution up to 3200 x 2000 at 60 Hz on DisplayPort, 4096 x 2304 at 24 Hz on HDMI	
	Multi-Display	VGA+HDMI/DP*, VGA+LVDS, HDMI/DP*+LVDS, VGA + HDMI/DP* + LVDS	
Ethernet	Speed	10/100/1000Mbps	
	Controller	GbE1: Intel i218, GbE2: Intel i210	
	Connector	2 RJ45 on Rear I/O	
Audio	Codec	Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in	
	Amplifier	Optional via MIOe	
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds	
Storage	SATA	2, up to 6.0 Gb/s (600 MB/s)	
	mSATA	1 x Full-size (support either mSATA or miniPCIe, select by switch)	
Rear I/O	Ethernet	2	
	VGA	1	
	HDMI / DisplayPort*	1	
	USB 2.0	2	
	USB 3.0	2	
	LED	Power, HDD	
	DC Jack*	1	
Internal I/O	Serial	2 x RS-232 from COM1/2, 2 x RS-232/422/485 from COM3/4 with auto flow control (ESD protection: Air gap ±15kV, Contact ±8kV)	
	USB*	1 (Shares with the USB port for Mini PCIe)	
	I²C	1 (Shares with SMBus pin)	
	SMBus	1	
	GPIO	8-bit general purpose input/output	
Expansion	Mini PCIe	1 x Full-size with SIM card holder (default support mSATA) 1 x Half-size	
	MIOe	Displayport*, SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, +5 Vsb/+12 Vsb power, Power On, Reset	
Power	Power Type	Single 12V DC power input	
	Power Supply Voltage	Supports single 12V input, ± 10%	
	Power Consumption (Typical)	MIO-5271U-S6A1E: 0.38 A @ 12 V (4.56 W) MIO-5271U-S9A1E: 0.39 A @ 12 V (4.68 W)	
	Power Consumption (Max)	MIO-5271U-S6A1E: 1.71 A @ 12 V (20.52 W) MIO-5271U-S9A1E: 2.46 A @ 12 V (29.52 W)	
	Power Management	ACPI	
	Battery	Lithium 3 V / 210 mAH	
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing	
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4"), same as 3.5"	
	Weight	0.84 kg (1.72lb), weight of total package	
	Height	Top Side: 24 mm; Bottom Side: 6.8 mm; PCB: 1.6mm	

*It will not be supported in default, please contact to Advantech if this function is needed.

Block Diagram



Ordering Information

Part No.	CPU	L3 Cache	LVDS	VGA	HDMI/DP	GbE	HD Audio	RS-232/422/485	RS-232	USB 3.0	USB 2.0	SATAIII	Half-size Mini PCIe	Full-size Mini PCIe[1]	MIOe	Power connector	Thermal Solution[2]	Operation Temp.
MIO-5271U-S9A1E	Intel i5-4300U 1.9GHz 15W	3MB	48-bit	Yes	Yes	2	1	2	2	2	2	2	1	1	1	2x2 pin	Passive	0 ~ 60° C
MIO-5271U-S6A1E	Intel Celeron 2980U 1.6GHz 15W	2MB	48-bit	Yes	Yes	2	1	2	2	2	2	2	1	1	1	2x2 pin	Passive	0 ~ 60° C

Packing List

Part No.	Description	Quantity
	MIO-5271 SBC	1
2006529000	Startup Manual	1
1700006291	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
1700018785	SATA 35cm power cable	1
1701200220	COM RS-232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM	2
1700019584	Audio Cable 2*5P-2.0/JACK*3 20cm	1
9689000002	mini Jumper pack	1
1960062041T001	Heatsink (104 x 83 x 24 mm) for MIO-5271	1

Optional Accessories

Part No.	Description
TBD	Heat spreader for MIO-5271
1700006291	SATA cable 7P/ 7P 30cm C=R 180/90
1703100260	Internal USB5/6 cable
1757003934	Adaptor 100-240V 60W 12V 5A W/O PFC

Embedded OS/API

Embedded OS/API	Part No.	Description
Windows Embedded Standard 7	2070012422	WES7E MIO-5271 x86 V5.1.6 EN/TC/SC/JP
VxWorks		6.9.2
Linux		Ubuntu 13.04
Software API		iManager 2.0

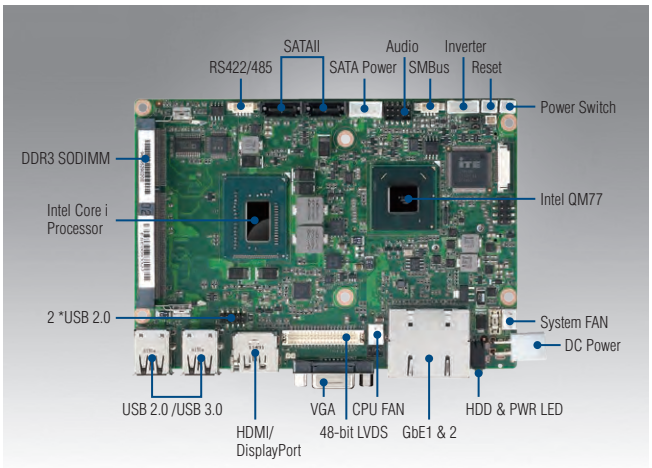
Rear I/O View



MIO-5271U-S9A1E
MIO-5271U-S6A1E

MIO-5290

Intel® Core™ i7 / i3, 3.5" MI/O-Compact SBC, DDR3/DDR3L, VGA, DP/HDMI, 48-bit LVDS, 2GbE, 2 x Mini PCIe, mSATA, iManager, MIOe



Features

- Intel® Core™ i7, i3 and Celeron processors + Intel QM77 PCH, 1 x DDR3/ DDR3L SO-DIMM support up to 8 GB
- DirectX11, OpenGL3.1, OpenCL1.1, 3 independent display: VGA or LVDS + DisplayPort + DisplayPort (from MIOe)
- Supports Intel® AMT8.0, USB 3.0, TPM1.2
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- 2 GbE support, HD Audio, Rich I/O interface with 2 COM, 2 SATA, SMBus, 8-bit GPIO, Half-size Mini PCIe, Full-size Mini PCIe & 2 USB 3.0
- Supports iManager, SUSIAccess and Embedded Software APIs

Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus/ I²C, CPU Speed, System Throttling

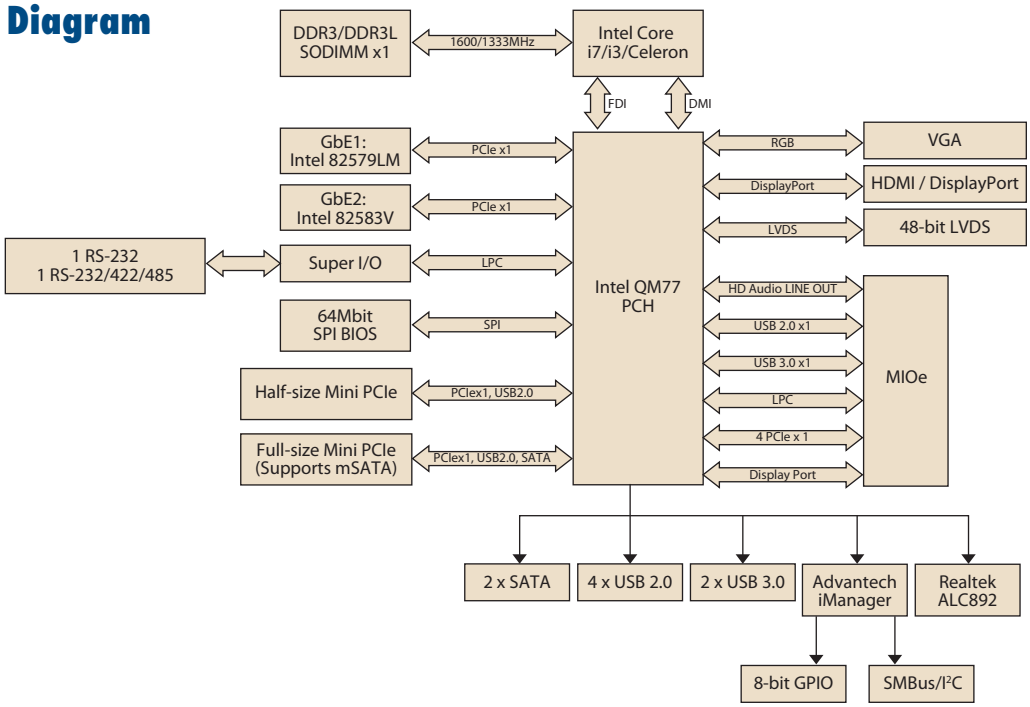
Utilities: Monitoring

Specifications

Processor System	CPU	Celeron 1047UE	ULV Core i3 3217UE	ULV Core i7 3517UE	LV Core i7 3555LE
	Frequency	1.4GHz (Dual-Core)	1.6GHz (Dual-Core)	1.7GHz (Dual-Core)	2.5GHz (Dual-Core)
	L3 Cache	2MB	3MB	4MB	4MB
	System Chipset	Intel QM77			
	BIOS	AMI EFI 64Mbit			
Memory	Technology	DDR3 1600MHz, DDR3L 1333 MHz			
	Max. Capacity	8 GB			
	Socket	1 x 204-pin SODIMM			
Display	Controller	Intel HD Graphics 4000 / Intel HD Graphics (Celeron)			
	Graphic Engine	DirectX11, OpenGL 3.1, and OpenCL 11 Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1			
	VGA	Integrated 340.4MHz RAMDAC, Max resolution up to 2048 x 1536 at 75Hz			
	LVDS	LVDS with 3.3V, 5V and 12V on LCD VDD power, 5V and 12V support on LVDS inverter Dual channel 24-bit LVDS, max resolution up to 2560 x 1600 at 60Hz			
	HDMI / DisplayPort*	Supports HDMI 1.4 for HD Video playback Max resolution up to 2560 x 1600 at 60Hz on DisplayPort, Max resolution up to 1920 x 1200 at 60Hz on HDMI			
	3 Independent Display	VGA + Displayport (coastline) + Displayport (MIOe) or LVDS + Displayport (coastline) + DisplayPort (MIOe)			
Ethernet	Speed	10/100/1000Mbps			
	Controller	GbE1: Intel 82579LM, GbE2: Intel 82583V			
	Connector	2 RJ45 on Rear I/O			
Audio	Chipset	Realtek ALC892, High Definition Audio (HD), Line-in, Line out, Mic-in			
	Amplifier	Optional via MIOe			
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds			
Storage	SATA	2, up to 6.0 Gb/s (600 MB/s)			
	mSATA	Supports either mSATA or full size miniPCIe, selected by BIOS, default support miniPCIe			
Rear I/O	Ethernet	2 (10/100/1000Mbps)			
	VGA	1			
	HDMI / DisplayPort	1			
	USB 2.0	2 x USB 2.0			
	USB 3.0	2 x USB 3,0			
	LED	Power, HDD			
	DC Jack	Only on MIO-5290U-S6A1E/MIO-5290U-S7A1E			
Internal I/O	USB	2 x USB 2.0			
	Serial	RS-232 from COM1, RS-232/422/485 from COM2 with auto flow control (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)			
	I²C	1 (Shares with SMBus pin)			
	SMBus	1			
	GPIO	8-bit general purpose input/output			
Expansion	Mini PCIe	1 x Full-size 1 x Half-size			
	MIOe	Displayport, SMBus, 1 x USB2.0, 1 x USB3.0, LPC, 4 x PCIe x1, line out, 5 Vsb/12 Vsb power, Power On Reset			
Power	Power Type	Single 12V DC power input			
	Power Supply Voltage	Supports single 12V input, ± 10%			
	Power Consumption (Typical)	MIO-5290U-S6A1E: w/DDR3: 1.615 A @ 12 V (19.38 W), w/DDR3L: 1.507 A @ 12 V (18.08 W) MIO-5290U-S7A1E: w/DDR3: 2.023 A @ 12 V (24.28 W), w/DDR3L: 1.965 A @ 12 V (23.5 W) MIO-5290L-U5A1E: w/DDR3: 2.356 A @ 12 V (28.27 W), w/DDR3L: 2.309 A @ 12 V (27.7 W) MIO-5290U-S4A1E: w/DDR3: 1.18 A @ 12 V (14.16 W), w/DDR3L: 1.1 A @ 12 V (13.2 W)			
	Power Consumption (Max, test in HCT)	MIO-5290U-S6A1E: w/DDR3: 2.024 A @ 12 V (24.29 W), w/DDR3L: 1.84 A @ 12 V (22.08 W) MIO-5290U-S7A1E: w/DDR3: 2.412 A @ 12 V (28.94 W), w/DDR3L: 2.3 A @ 12 V (27.6 W) MIO-5290L-U5A1E: w/DDR3: 2.896 A @ 12 V (34.75 W), w/DDR3L: 2.708 A @ 12 V (32.5 W) MIO-5290U-S4A1E: w/DDR3: 1.68 A @ 12 V (20.16 W), w/DDR3L: 1.49 A @ 12 V (17.88 W)			
	Power Management	ACPI			
	Battery	Lithium 3 V / 210 mAH			
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)			
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing			
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4"), same as 3.5"			
	Weight	0.84 kg (1.72lb), weight of total package			
	Height	Top Side: 37 mm (MIO-5290U series), 47.7 mm (MIO-5290L series); Bottom Side: 9 mm; PCB: 1.6mm			

* In order to have optimize compatibility on HDMI, DisplayPort is not under best configuration. If any compatibility issue occur on DP, please help to contact with technical service.

Block Diagram



Ordering Information

Part No.	CPU	L3 Cache	LVDS	VGA	HDMI/DP	GbE	HD Audio	RS-232/422/485	RS-232	USB 3.0	USB 2.0	SATA	Half-size Mini PCIe	Full-size Mini PCIe[1]	MIOe	Power connector	Thermal Solution[2]	Operation Temp.
MIO-5290U-S6A1E	Intel Core i3 ULV 1.6GHz 3217UE DC, 17W	3MB	48-bit	Yes	Yes	2	Yes	1	1	2	4	2	1	1	Yes	DC Jack	Active	0 ~ 60° C
MIO-5290U-S7A1E	Intel Core i7 ULV 1.7GHz 3517UE DC, 17W	4MB	48-bit	Yes	Yes	2	Yes	1	1	2	4	2	1	1	Yes	DC Jack	Active	0 ~ 60° C
MIO-5290L-U5A1E	Intel Core i7 LV 2.5GHz 3555LE DC, 25W	4MB	48-bit	Yes	Yes	2	Yes	1	1	2	4	2	1	1	Yes	2x2 pin	Active	0 ~ 60° C
MIO-5290U-S4A1E	Intel Celeron 1.40 GHz 1047UE DC, 17W	2MB	48-bit	Yes	Yes	2	Yes	1	1	2	4	2	1	1	Yes	2x2 pin	Active	0 ~ 60° C

[1] Full-size Mini PCIe supports mSATA
[2] Active = with fan

Packing List

Part No.	Description	Quantity
	MIO-5290 SBC	1
2006529000	Startup Manual	1
1700006291	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
1700018785	SATA 35cm power cable	1
1700019435	COM RS-485 D-SUB 9P (M)/1*5P 1.25 25cm cable	1
1701200220	COM RS-232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM	1
1700019584	Audio Cable 2*5P-2.0/JACK*3 20cm	1
9689000002	mini Jumper pack	1
1960057431N001	Cooler for MIO-5290L series only (Height: 47.7mm)	1
1960057432N001	Cooler for MIO-5290U series only (Height: 37mm)	1

Optional Accessories

Part No.	Description
1960058000N001	Heat spreader for MIO-5290
1700006291	SATA cable 7P/ 7P 30cm C=R 180/90
1703100260	Internal USB cable
1757003934	Adaptor 100-240V 60W 12V 5A W/O PFC

Embedded OS/API

Embedded OS/API	Part No.	Description
Windows Embedded Standard	2070011449	WES2009 MIO-5290 ENG
Windows Embedded Standard 7	2070011453/ 2070011452	WES7E 32/64bit MIO-5290 ENG/GER/JPN/CH
VxWorks		6.9.2
QNX		6.5
Linux		CentOS 6.3/Ubuntu 12.04
Software API		iManager 2.0

Rear I/O View



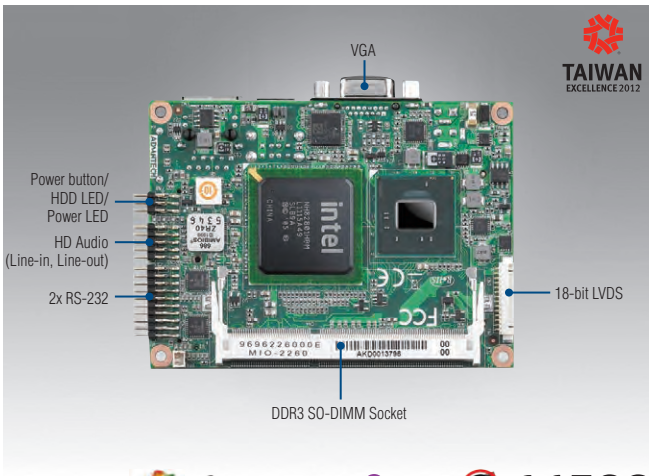
MIO-5290U-S6A1E
MIO-5290U-S7A1E



MIO-5290L-U5A1E
MIO-5290U-S4A1E

MIO-2260

Intel® Atom™ N455 Pico-ITX SBC, DDR3, 18-bit LVDS, VGA, 1 GbE, Mini PCIe, 2 USB, 2 COM, MIOe



VxWorks® Windows Embedded SUSIAccess CE FCC

Features

- Embedded Intel® Atom™ N455 Single-Core + ICH8M, DDR3 memory support
- Intel Gen 3.5 DX9, MPEG2 Decode in HW, Dual Independent display: 18-bit LVDS + VGA
- Supports 12 V +/- 10% input power and DC power hot plug design
- Intel GbE support, Rich I/O interface with 2 COM, 1 SATA, 2 USB 2.0, GPIO, SMBus, CF, and MIOe expansion interface
- Supports SUSIAccess and Embedded Software APIs

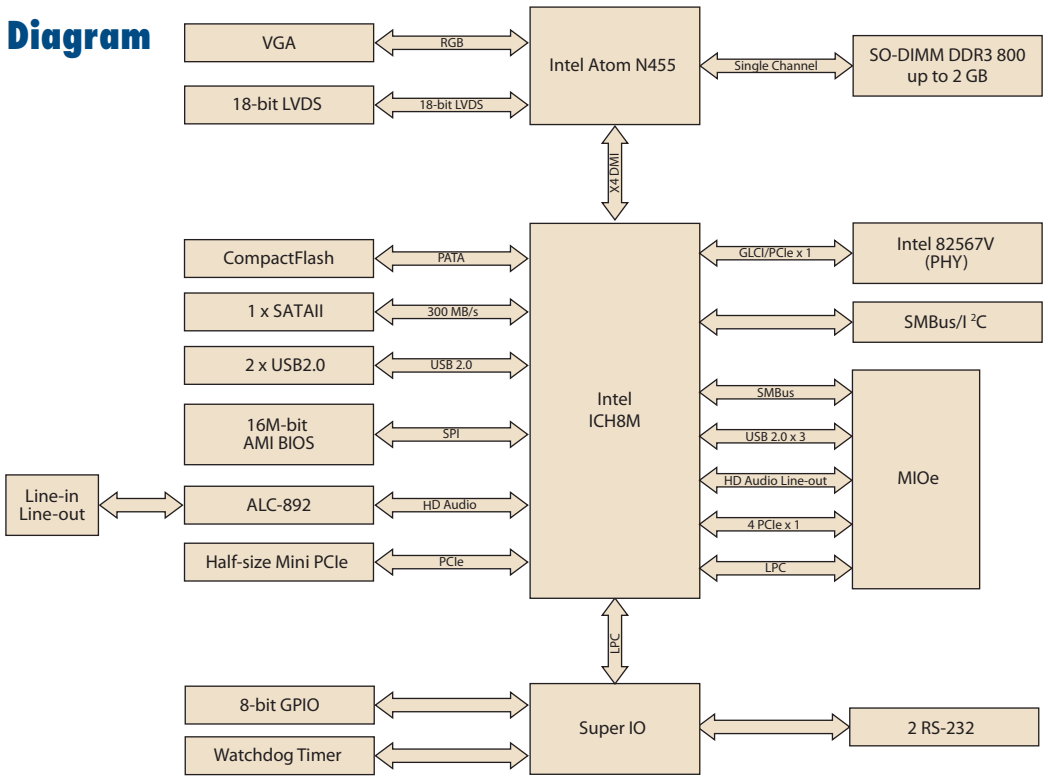
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus/ I²C, CPU Speed, System Throttling

Utilities: BIOS Flash, Monitoring, Embedded Security ID

Specifications

Processor System	CPU	Intel Atom N455 Single-Core 1.66 GHz Processor
	Frequency	1.66 GHz
	L2 Cache	512 KB
	System Chipset	Intel N455 + ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 204-pin SODIMM
Display	Controller	Integrated Intel GMA 3150
	VRAM	Optimized Shared Memory Architecture up to 224 MB system memory
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW Embedded Gen3.5+ GFX Core
	LVDS	LVDS: Single channel 18-bit LVDS up to WXGA 1366 x 768
	VGA	Intel Atom N455 Single Core up to 1400 x 1050 (SXGA)
	Dual Display	VGA+LVDS
Ethernet	Speed	10/100/1000 Mbps (Supports Wake on LAN)
	Controller	ICH8M + Intel 82567V
	Connector	RJ45
Audio	Chipset	Realtek ALC892 High Definition Audio (HD), Line-in, Line out
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	Compact Flash	CompactFlach TYPE I (Primary Master IDE Channel)
	SATA	1, up to 3Gb/s (300MB/s)
Rear I/O	Ethernet	1
	VGA	1
	USB	2
	DC Power Jack	1 (supported by request)
Internal I/O	Serial	2 x RS-232 (ESD protection for RS-232: Air gap ±15 kV, Contact ±8 kV)
	I²C	1 (Shares with SMBus pin, supported by request)
	SMBus	1
	GPIO	8-bit general purpose input/ output (5 V tolerance)
Expansion	Mini PCI Express	1 x Half-size
	MIOe	SMBus, 3 x USB2.0, LPC, 4 x PCIe x1, line out, +5 Vsb/+12 Vsb power, Power On, Reset
Power	Power Type	AT (Supports DC power hot plug design)
	Power Supply Voltage	Supports single 12V input (12 V +/- 10%)
	Total peripheral power supply output	5V@ 2.8A for CPU board and MIOe module totally, 12V@ 2A for MIOe module
	Power Consumption (Typical)	0.64 A, 12 V (7.68 W)
	Power Consumption (Max, test in HCT)	0.86 A, 12 V (10.32 W)
	Power Management	ACPI
	Battery	Lithium 3 V/210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH, Non-Condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH, Non-Condensing
Physical Characteristics	Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")
	Weight	0.42 kg (0.93 lb), weight of total package
	Total Height	33.48 mm

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	LVDS	VGA	GbE	HD Audio	RS-232	USB 2.0	SATAII	GPIO	CF	MIOe	Mini PCIe	DC power jack	Thermal Solution	Operational Temp.
MIO-2260NF-S6A1E	Intel Atom N455 1.66 GHz	512 KB	18-bit	Yes	1	Yes	2	2	1	8-bit	1	1	Half-size	-	Passive	0 ~ 60° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	MIO-2260 SBC	1
	Startup Manual	1
	Utility CD	1
1700006291	SATA Cable 30cm	1
1701200220	RS-232 x 2 ports 2.0 mm pitch 22 cm	1
1700019156	Audio cable 2.0 mm pitch 20 cm (line in & line out)	1
1700019656	SATA power cable 5P-1.25/5P-2.0+SATA 5P 15 cm	1
9666226000E	Screw and stud pack (1 screw for Mini PCIe, 4 M3 studs and screws for heatsink)	1
1960053175T001	Passive heatsink 99.5 x 70.5 x 15.7 mm	

Optional Accessories

Part No.	Description
1960053176T001	Heat spreader for MIO-2260 99.5 x 70.5 x 11.2 mm

Embedded OS/API

Embedded OS/API	Part No.	Description
Windows Embedded Standard	2070010314	WES2009 V4.0 24MUI
	2070010313	WES2009 V4.0 ENG
	2070011287	WEC7 for MIO-2260
WinCE	2070010331	CE6.0 R3 Pro V6.0.0 ENG (3COM)
Windows Embedded Standard 7	2070009835	Image WES7E Intel Lunar V5.0 ENG
QNX		6.5
Vxwork		6.8
Linux		Ubuntu 10.04
Software API		SUSI V3.0

Rear I/O View



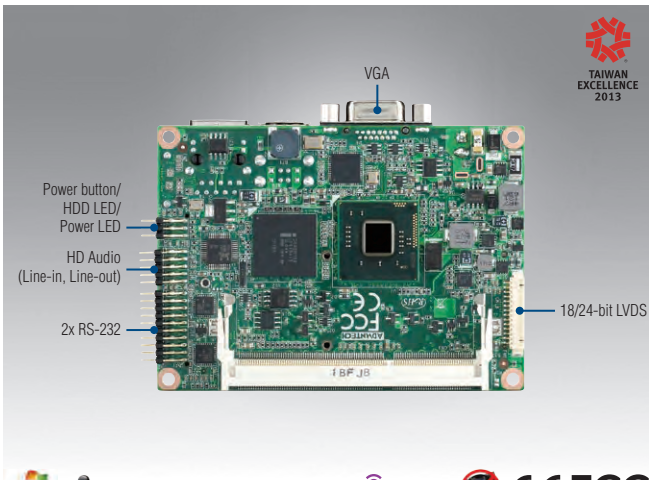
MIO-2260NF-S6A1E



MIO-2260NF-S6A1E w/ DC Jack (supported by request)

MIO-2261

Intel® Atom™ N2600/ N2800 Pico-ITX SBC, DDR3, 18/24-bit LVDS, VGA, 1 GbE, Half-size Mini PCIe, 4 USB, 2 COM, SMBus/I²C, mSATA & MIOe



Features

- Embedded Intel® Atom™ Dual-Core processor N2600/ N2800 + Intel NM10, 1 x DDR3 memory support up to 4 GB
- DirectX 9, Dual Independent display: 18/24-bit LVDS + VGA
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- Intel GbE support, Rich I/O interface with 2 COM, 1 SATA, 4 USB 2.0, GPIO, SMBus, mSATA, and MIOe expansion interface
- Supports SUSIAccess and Embedded Software APIs

Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus/ I²C, CPU Speed, System Throttling

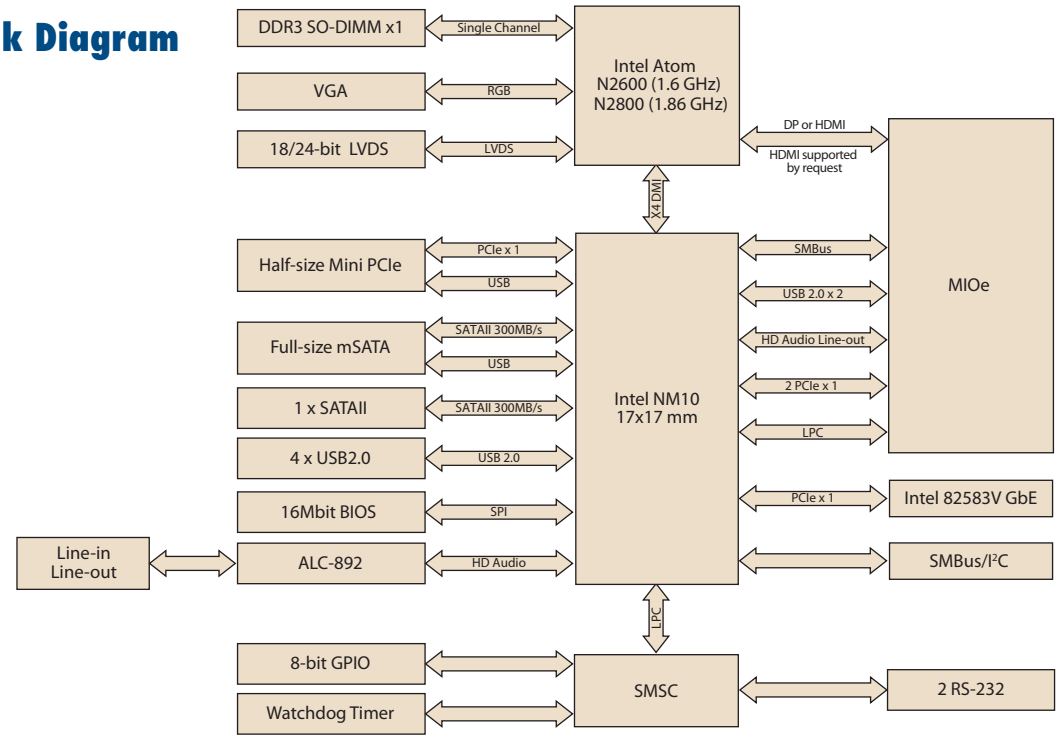
Utilities: BIOS Flash, Monitoring

Specifications

Processor System	CPU	Intel Atom Dual-Core N2600 1.6 GHz/ N2800 1.86 GHz
	Frequency	Dual Core 1.6 GHz/ 1.86 GHz
	L2 Cache	1 MB
	System Chipset	Intel Atom N2600/ N2800 + Intel NM10
	BIOS	AMI EFI 16 Mbit
Memory	Technology	DDR3 800 MHz (N2600), DDR3 1066 MHz (N2800)
	Max. Capacity	4 GB
	Socket	1 x 204-pin SODIMM
Display	Controller	Integrated Intel GMA 3600 Series
	Graphic Engine	DirectX 9 and OpenGL3.0 support HW Accelerated Decode: MPEG2, H.264, VC-1
	LVDS	18/24-bit LVDS1: up to 1366 x 768
	VGA	Up to 1920 x 1200
	Dual Display	VGA+LVDS
Ethernet	Speed	10/100/1000Mbps
	Controller	Intel 82583V
	Connector	RJ45
Audio	Chipset	Realtek ALC892, High Definition Audio (HD), Line-in, Line out
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	mSATA	1 (Integrates USB signal, supports either mSATA or USB interface module)
	SATA	1, up to 3Gb/s (300MB/s)
Rear I/O	Ethernet	1
	VGA	1
	USB	2 x USB 2.0
	DC Power Jack*	1
Internal I/O	USB	2 x USB 2.0
	Serial	2 x RS-232(ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	I²C*	1 (Shares with SMBus pin, supported by request)
	SMBus	1
	GPIO	8-bit general purpose input/output
Expansion	Mini PCI Express	1 x Half-size
	MIOe	SMBus, 2 x USB2.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset
Power	Power Type	Single 12V DC power input (Supports DC power hot plug)
	Power Supply Voltage	Supports single 12V input, ± 10%
	Total peripheral power supply output	5V @ 3A for CPU board and MIOe module totally, 12V @ 2A for MIOe module
	Power Consumption (Typical)	N2600: 0.35 A @ 12 V (4.2 W) N2800: 0.46 A@ 12 V (5.52 W)
	Power Consumption (Max, test in HCT)	N2600: 0.76 A @ 12 V (9.12 W) N2800: 0.80 A @ 12 V (9.6 W)
	Power Management	ACPI
	Battery	3 V / 210 mAH
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")
	Weight	0.48 kg (1.06 lb), weight of total package
	Total Height	Top Side: 15.65 mm (including heatsink); Bottom Side: 16.4 mm; PCB: 1.6 mm

* The specification is supported by request

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Memory	LVDS	GbE	HD Audio	VGA	USB 2.0	RS-232	mSATA	SATAII	MIOe	Mini PCIe	Power Connector	Thermal Solution	Operational Temp
MIO-2261N-S6A1E	Intel Atom N2600 1.6G	1MB	SO-DIMM	18/24-bit	1	Yes	Yes	4	2	Yes	1	Yes	Half-size	2x2 type	Passive	0 ~ 60° C
MIO-2261N-S8A1E	Intel Atom N2800 1.86G	1MB	SO-DIMM	18/24-bit	1	Yes	Yes	4	2	Yes	1	Yes	Half-size	2x2 type	Passive	0 ~ 60° C
MIO-2261Z-2GS6A1E	Intel Atom N2600 1.6G	1MB	2GB bundle	18/24-bit	1	Yes	Yes	4	2	Yes	1	Yes	Half-size	2x2 type	Passive	-20 ~ 80° C
MIO-2261Z2-2GS6A1E	Intel Atom N2600 1.6G	1MB	2GB bundle	18/24-bit	1	Yes	Yes	4	2	Yes	1	Yes	Half-size	2x2 type	Passive	-40 ~ 85° C
MIO-2261Z2-2GS8A1E	Intel Atom N2800 1.86G	1MB	2GB bundle	18/24-bit	1	Yes	Yes	4	2	Yes	1	Yes	Half-size	2x2 type	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	MIO-2261 SBC	1
	Startup Manual	1
	Utility CD	1
1700006291	SATA Cable 30cm	1
1700019656	SATA power cable 5P-1.25/5P-2.0+SATA 5P 15 cm	1
1701200220	RS-232 x 2 ports 2.0 mm pitch 22 cm	1
1700019156	Audio cable 2.0 mm pitch 20 cm (line in & line out)	1
1700002172	USB cable 2.0mm pitch USB-A(F) 17cm	1
1700019705	AT Power cable 12cm	1
9666226000E	Screw and stud pack (1 screw for Mini PCIe, 4 M3 studs and screws for heatsink)	1
1960055792T001	Heatsink (99.5 x 70.5 x 15.7 mm)	1

Optional Accessories

Part No.	Description
1960055791T001	MIO-2261 Heat spreader (99.5 x 70.5 x 15.7 mm)

Embedded OS/API

Embedded OS/API	Part Number	Description
WinCE 7.0	2070012214	WEC7 V1.0 ENG
Windows Embedded Standard		WES 2009 (graphic driver support by case)
Windows Embedded Standard 7	2070011558	WES7E MIO-2261 V5.1.4 EN/DE/JP/TC
	2070011559	WES7P MIO-2261 V5.1.3 EN/TC/SC/RU/FR/DE/ES/IT/JP/KR
VxWorks		6.9.2
Linux		Ubuntu 12.04 (graphic driver support by case)
Software API		SUSI V3.0

Rear I/O view



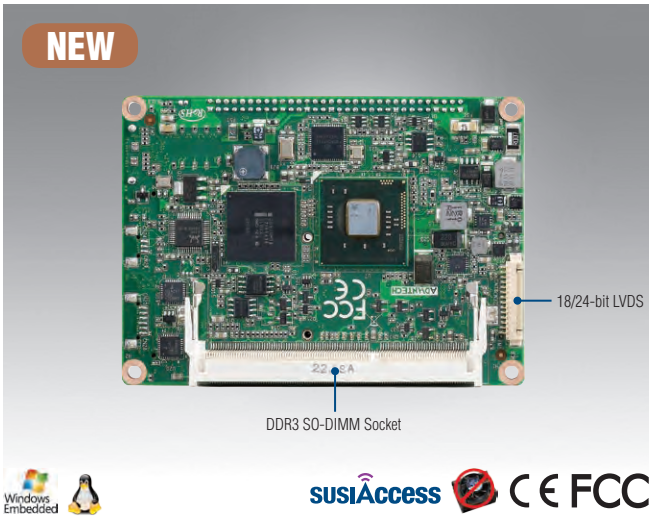
MIO-2261N-S6A1E
MIO-2261N-S8A1E



MIO-2261 w/ DC jack (by request)

MIO-2262

Intel® Atom™ N2600/ N2800 Pico-ITX SBC, DDR3, 18/24-bit LVDS, VGA, 1 GbE, Full-size Mini PCIe, 4 USB, 2 COM, SMBus, I²C, mSATA & MIOe



Features

- Embedded Intel® Atom™ Dual-Core processor N2600/ N2800 + Intel NM10, 1 x DDR3 memory support up to 4 GB
- DirectX 9, Dual Independent display: 18/24-bit LVDS + VGA
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- Intel GbE support, Rich I/O interface with 2 COM, 1 SATA, 4 USB 2.0, GPIO, SMBus, I²C, and MIOe expansion interface
- Supports SUSIAccess and Embedded Software APIs

Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus & I²C

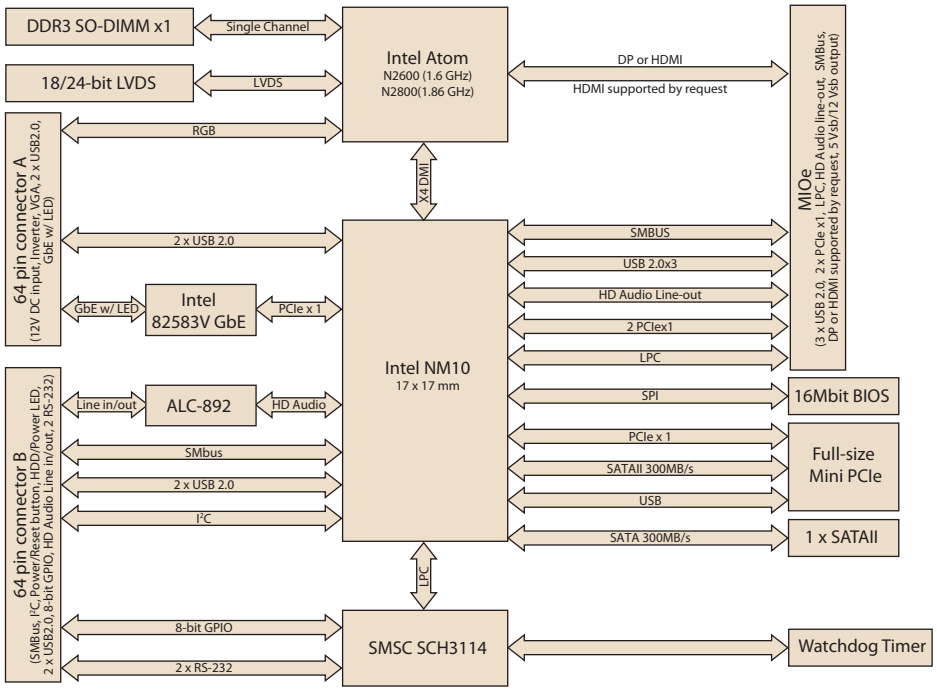
Utilities: BIOS Flash, Monitoring

Specifications

Processor System	CPU	Intel Atom Dual-Core N2600 1.6 GHz/ N2800 1.86 GHz
	Frequency	Dual Core 1.6 GHz/ 1.86 GHz
	L2 Cache	1 MB
	System Chipset	Intel Atom N2600/ N2800 + Intel NM10
	BIOS	AMI EFI 16 Mbit
Memory	Technology	DDR3 800 MHz (N2600), DDR3 1066 MHz (N2800)
	Max. Capacity	4 GB
	Socket	1 x 204-pin SODIMM
Display	Chipset	Integrated Intel GMA 3600 Series
	Graphic Engine	DirectX 9 and OpenGL3.0 support HW Accelerated Decode: MPEG2, H.264, VC-1
	LVDS	18/24-bit LVDS1: up to 1366 x 768
	VGA	Up to 1920 x 1200
	Dual Display	VGA+LVDS
Ethernet	Speed	10/100/1000Mbps
	Controller	Intel 82583V
Audio	Chipset	Realtek ALC892, High Definition Audio (HD), Line-in, Line out
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	mSATA*	1 (Supports mSATA or USB interface module or full size miniPCIe, selected by BIOS, defaulf is mSATA)
	SATA	1, up to 3Gb/s (300MB/s)
Expansion	Mini PCI Express	1 x Full-size
	MIOe	SMBus, 3 x USB2.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset
	64-pin connecter A	12V DC input, Inverter, VGA, 2 x USB2.0, 1GbE w/ LED
	64-pin connector B	SMBus, I²C, Power/Reset button, HDD/Power LED, 2 x USB2.0, 8-bit GPIO, HD Audio Line in/out, 2 x RS-232
Power	Power Type	Single 12V DC power input
	Power Supply Voltage	Supports single 12V input, ± 10%
	Total peripheral power supply output	5V @ 3A for CPU board and MIOe module totally, 12V @ 2A for MIOe module
	Power Consumption (Typical)	N2600: 0.43 A @ 12 V (5.24 W) N2800: 0.51 A@ 12 V (6.12 W)
	Power Consumption (Max, test in HCT)	N2600: 0.67 A @ 12 V (8.05 W) N2800: 0.82 A @ 12 V (9.8 W)
	Power Management	ACPI
	Battery	3 V / 210 mAH
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")
	Weight	0.37 kg (0. 82 lb), weight of total package
	Total Height	Top Side: 15.7 mm (including heatsink); Bottom Side: 8.4 mm; PCB: 1.6 mm

* The specification is supported by request

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Memory	LVDS	VGA	GbE	HD Audio	USB2.0	RS-232	SATAII	Mini PCIe*	MIOe	Thermal Solution	Operational Temp.
MIO-2262N-S6A1E	Intel Atom N2600 1.6G	1MB	SO-DIMM	18/24-bit	Yes	1	Yes	4	2	1	Full-size	Yes	Passive	0 ~ 60° C
MIO-2262N-S8A1E	Intel Atom N2800 1.86G	1MB	SO-DIMM	18/24-bit	Yes	1	Yes	4	2	1	Full-size	Yes	Passive	0 ~ 60° C

* Full-size Mini PCIe supports mSATA
Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	MIO-2262 SBC	1
	Startup Manual	1
1700006291	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
9666226200E	Screw and stud pack (2 screw for Mini PCIe, 4 M3 studs and screws for heatsink)	1
1960055792T001	Heatsink (99.5 x 70.5 x 15.7 mm)	1

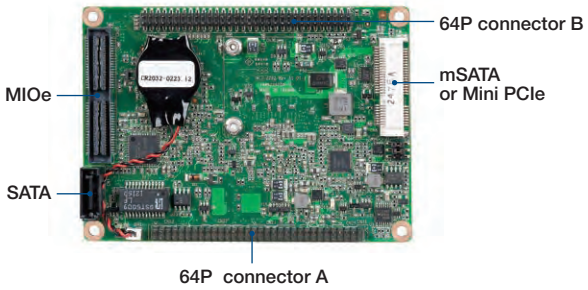
Optional Accessories

Part No.	Description
1960055791T001	MIO-2261 Heat spreader (99.5 x 70.5 x 15.7mm)
MIOE-DB2000-00A1E	MIO-2262 Evaluation Board

Embedded OS/API

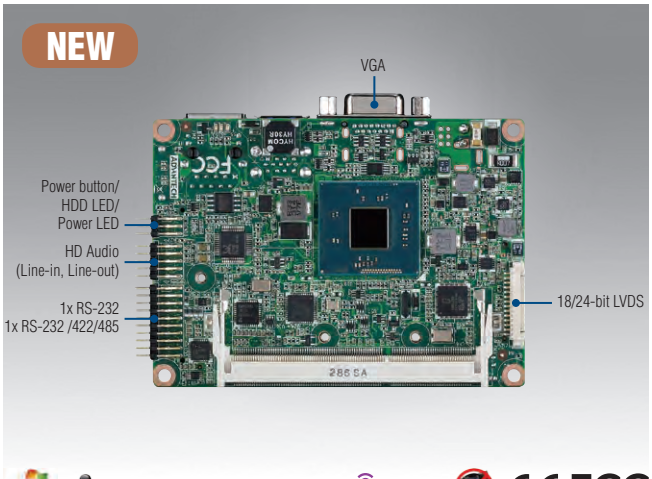
Embedded OS/API	Part Number	Description
WinCE 7.0	2070012214	WEC7 V1.0 ENG
Windows Embedded Standard		WES 2009 (graphic driver support by case)
Windows Embedded Standard 7	2070011558	WES7E MIO-2261 V5.1.4 EN/DE/JP/TC
	2070011559	WES7P MIO-2261 V5.1.3 EN/TC/SC/RU/FR/DE/ES/IT/JP/KR
VxWorks		6.9.2
Linux		Ubuntu 12.04 (graphic driver support by case)
Software API		SUSI V3.0

Bottom side view



MIO-2263

Intel® Atom™ SoC E3825/ J1900 Pico-ITX SBC, DDR3, 24-bit LVDS, VGA or HDMI, 1GbE, Half-size Mini PCIe, 4 USB, 2 COM, SMBus, I²C, mSATA & MIOe



Features

- Embedded Intel® Atom™ SoC E3825 & Celeron J1900 up to Quad-Core processor design, DDR3 1333MHz support up to 8GB
- Intel Gen 7 DirectX®11.1 support, dual independent display by 24-bit LVDS + VGA or 24-bit LVDS + HDMI
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- Rich I/O interface with 2 COM, 1 SATA, USB3.0, PCIe Mini Card and mSATA
- Supports SUSIAcccess and Embedded Software APIs

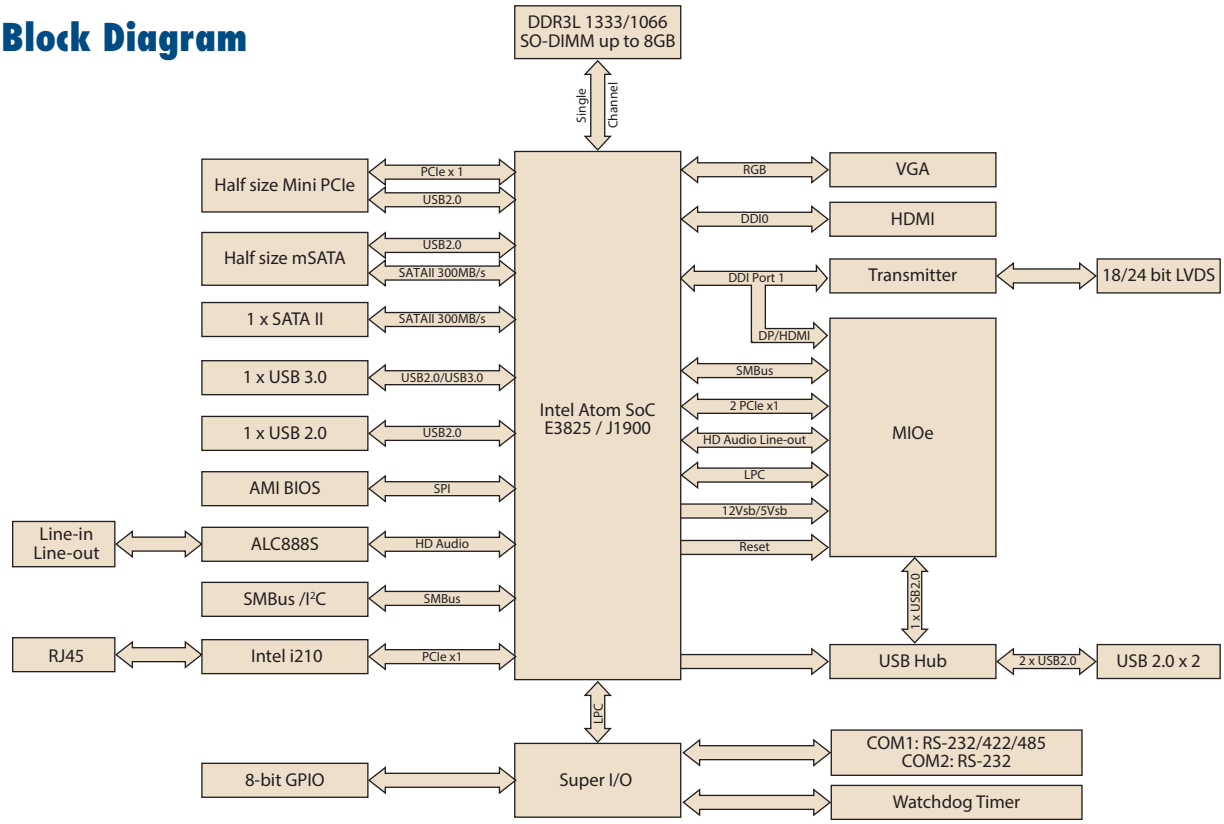
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus & I²C, CPU Speed

Utilities: BIOS Flash, Monitoring, Embedded Security ID

Specifications

Processor System	CPU	Intel Celeron J1900	Intel Atom E3825
	Frequency	2.0 GHz (Quad-Core)	1.33 GHz (Dual-Core)
	L2 Cache	2 MB	1 MB
	Max Turbo Frequency	2.42 GHz	-
	System Chipset	Intel Atom SoC processor integrated	
	BIOS	AMI EFI 64 Mbit	
Memory	Technology	DDR3L 1333 MHz for J1900 DDR3L 1066 MHz for E3825	
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SODIMM (Support 1.35V DDR3L)	
Display	Chipset	Intel® Atom SoC integrated	
	Graphic Engine	DirectX®11, Open GL3.0/ Open CL 1.1, OGL ES 2.0 Encode: H264, MPEG2/4, VC1, WMV9 Decode: H264, MPEG2	
	LVDS	Supports single channel 24-bit LVDS Resolution: 1440 x 900 at 60Hz	
	VGA	Supports 1600 x 1200 at 60Hz	
	HDMI	Supports 1920 x 1200 at 60 Hz, supported by request	
	Dual Display	Yes (VGA+LVDS or HDMI+LVDS)	
Ethernet	Speed	10/100/1000 Mbps	
	Controller	Intel i210	
	Connector	RJ45 on rear I/O	
Audio	Chipset	Realtek ALC-888S, High Definition Audio (HD), Line-in, Line-out	
Watchdog Timer		Output system reset, Programmable counter from 1~255 minutes/ seconds	
Storage	mSATA	1 x half size mini PCIe slot (Integrates USB signal, supports either mSATA or USB interface module)	
	SATA	1, up to 3Gb/s (300MB/s)	
Rear I/O	Ethernet	1	
	VGA	1	
	USB	1 x USB 3.0 compatible with USB 2.0 1 x USB 2.0	
	DC Power Jack*	1	
Internal I/O	USB	2 x USB 2.0	
	Serial	1 x RS-232 from COM2 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) 1 x RS-232/422/485 from COM1 with auto-flow control	
	I²C*	1 (Share with SMBus pin, supported by request)	
	SMBus	1	
	GPIO	8-bit general purpose input/ output	
Expansion	Mini PCI Express	1 x Half-size	
	MIOe	SMBus, 1 x USB2.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset	
Power	Power Type	Single 12V DC power input (Supports DC power hot plug)	
	Power supply voltage	Supports single 12V input, ±10%	
	Total peripheral power supply output	5V @ 3A for CPU board and MIOe module totally, 12V @ 2A for MIOe module	
	Power Consumption (Typical)	J1900: 0.86A @12V (10.59W) E3825: 0.59A @ 12V (7.08W)	
	Power Consumption (Max, test in HCT)	J1900: 1.04A @12V (12.48W) E3825: 0.76A @ 12V (9.12W)	
	Power Management	ACPI	
	Battery	3V/ 210mAH	
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	
Physical Characteristics	Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")	
	Weight	0.46 kg (1.01 lb), weight of total package	
	Total Height	33.65 mm	

Block Diagram



Ordering Information

Part Number	CPU	L2 Cache	Memory	LVDS	VGA	HDMI	Audio	RS-232	RS-232/ 422/485	USB 3.0	USB 2.0	mSATA	SATA II	MIOe	Mini PCIe	Thermal solution	Operating Temp
MIO-2263E-S3A1E	E3825, 1.33 GHz	1MB	SO-DIMM	24-bit	Yes	-	Yes	1	1	1	3	Yes	1	Yes	Half-size	Passive	0 ~ 60° C
MIO-2263J-U0A1E	J1900 2.0 GHz	2MB	SO-DIMM	24-bit	Yes	-	Yes	1	1	1	3	Yes	1	Yes	Half-size	Passive	0 ~ 60° C

* HDMI output support by request

Packing List

Part No.	Description	Quantity
	MIO-2263 SBC	1
	Startup Manual	1
1700006291	SATA cable 30cm	1
1700019656	SATA power cable 5P-1.25/5P-2.0+SATA 5P 15 cm	1
1701200220	RS-232 x 2 ports 2.0mm pitch 22cm	1
1700019156	Audio cable 2.0 mm pitch 20 cm (line-in & line-out)	1
1700002172	USB cable 2.0 mm pitch USB-A(F) 17 cm	1
1700019705	AT power cable 12 cm	1
9666226300E	Screw and stud pack (2 screw for Mini PCIe, 4 x M3 studs and screws for heatsink)	1
1960063455T001	CPU heatsink for MIO-2263E	1
TBD	CPU heatsink for MIO-2263J	1

Optional Accessories

Part No.	Description
TBD	MIO-2263 Heat spreader (LxWxH)

Embedded OS/API

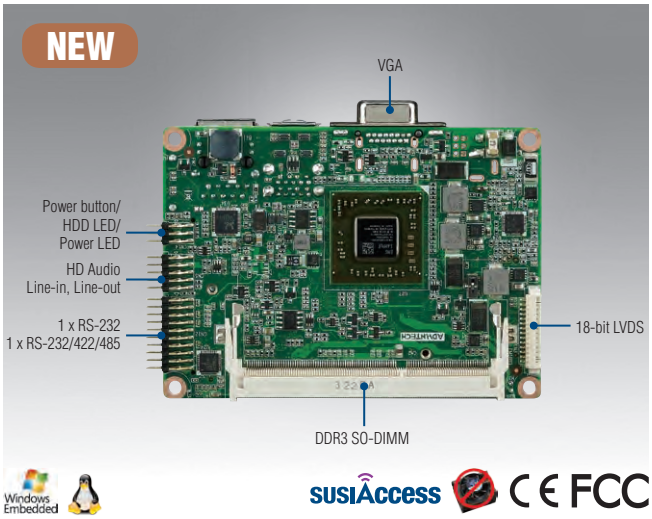
Embedded OS/API	Part No.	Description
WES8	TBD	WES8E ENG
WES7	TBD	
WEC7		
VxWorks	TBD	
Linux	TBD	
Software	TBD	SUSI V3.0

Rear I/O view



MIO-2270

AMD® G-Series SoC GX-415GA Pico-ITX SBC, DDR3, 18-bit LVDS, VGA or HDMI, 1GbE, Half-size Mini PCIe, 4 USB, 2COM, SMBus,mSATA & MIOe



Features

- Embedded AMD® G-Series SoC GX-415GA up to Quad-Core processor design, DDR3/ DDR3L 1600MHz support up to 8GB
- Outstanding graphic performance with DirectX®11.1 support, dual independent display by 18-bit LVDS + VGA or 18-bit LVDS + HDMI
- Flexible design using integrated multiple I/O: MIOe to approach vertical applications & keep domain knowhow
- Rich I/O interface with 2 COM, 1 SATA, USB3.0, PCIe Mini Card and mSATA
- Supports SUSIAcccess and Embedded Software APIs

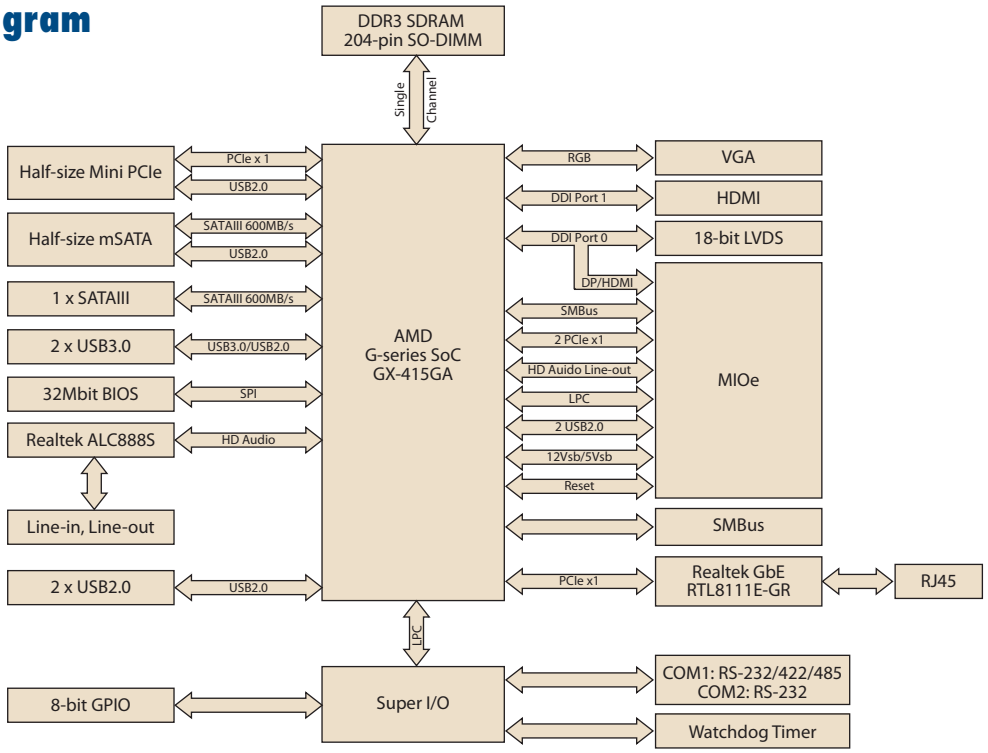
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus, CPU Speed

Utilities: BIOS Flash, Embedded Security ID

Specifications

Processor System	CPU	AMD® G-Series SoC GX-415GA Quad Core 1.5 GHz processor
	Frequency	Quad-Core 1.5 GHz
	L2 Chche	2 MB on GX-415GA
	System Chipset	AMD® G series SoC processor integrated
	BIOS	AMI EFI 32 Mbit
Memory	Technology	DDR3/ DDR3L 1600 MHz for GX-415GA
	Max. Capacity	8 GB
	Socket	1 x 204-pin SODIMM (Support 1.5V DDR3 and 1.35V DDR3L)
Display	Chipset	AMD® G series SoC
	Graphic Engine	DirectX®11.1 graphic with UVD4.2, Open GL4.1/ Open CL 1.2 2D/ 3D Acceleration, Motion Video Acceleration Hardware decode (UVD) for H.264, MPEG2/4, VC1, MVC Graphic engine HD 8330E for GX-415GA
	LVDS	Supports single channel 18-bit LVDS Resolution: 1600 x 900 at 60 Hz/ 18bpp
	VGA	Up to 2048x1536 at 60Hz
	HDMI	Supports 1920x1200 at 60 Hz/ 24bpp
	Dual Display	Yes (VGA+LVDS or HDMI+LVDS)
Ethernet	Speed	10/100/1000 Mbps
	Controller	GbE Realtek RTL8111E 10/100/1000 Mbps
	Connector	RJ45 on rear I/O
Audio	Chipset	Realtek ALC888S, High Definition Audio (HD), Line-in, Line-out
Watchdog Timer		Output system reset, Programmable counter from 1~255 minutes/ seconds
Storage	mSATA	1 x half size mini PCIe slot (Integrates USB signal, supports either mSATA or USB interface module)
	SATA	1 x SATA III (Max. Data Transfer Tate 600MB/s) support 5V HDD only
Rear I/O	Ethernet	1 (10/100/1000 Mbps)
	VGA	1
	USB	2 x USB 3.0 compatible with USB 2.0
	DC Power Jack	1 (Support by request)
Internal I/O	USB	2 x USB 2.0
	Serial	1 x RS-232 from COM2 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) 1 x RS-232/422/485 from COM1 with auto-flow control
	SMBus	1
	GPIO	8-bit general purpose input/ output
Expansion	Mini PCI Express	1 x Half-size
	MIOe	SMBus, 2 x USB2.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset
Power	Power Type	Single 12V DC power input (Supports DC power hot plug)
	Power supply voltage	Supports single 12V input, ±10%
	Total Peripheral power supply output	5V @ 3A for CPU board and MIOe module totally, 12V @ 2A for MIOe module
	Power Consumption (Typical)	MIO-2270QH-S5A1E: w/ DDR3 1.05A @ 12V (12.6W), w/ DDR3L 1.02A @ 12V (12.24W)
	Power Consumption (Max, test in HCT)	MIO-2270QH-S5A1E: w/ DDR3 1.26A @ 12V (15.12W), w/ DDR3L 1.21A @ 12V (14.52W)
	Power Management	ACPI
	Battery	3V/ 210mAH
Enviornment	Operation	0 ~ 60˚ C (32 ~ 140˚F) (Operational humidity: 40˚ C @ 95% RH Non-Condensing)
	Non-Operation	-40˚C ~ 85˚ C and 60˚ C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")
	Weight	0.45 kg (0.99 lb), weight of tatal package
	Total Height	33.65 mm

Block Diagram



Ordering Information

Part Number	CPU	L2 Cache	Memory	LVDS	VGA	HDMI	Audio	RS-232	RS-232/ 422/485	USB 3.0	USB 2.0	mSATA	SATA III	MIOe	Mini PCIe	Thermal solution	Operating Temp
MIO-2270QV-S5A1E	GX-415GA, 1.5 GHz, 15W	2MB	SO-DIMM	18-bit	Yes	-	Yes	1	1	2	2	Yes	1	Yes	Half-size	Active	0~60°C
MIO-2270QH-S5A1E	GX-415GA, 1.5 GHz, 15W	2MB	SO-DIMM	18-bit	-	Yes	Yes	1	1	2	2	Yes	1	Yes	Half-size	Active	0~60°C

Packing List

Part No.	Description	Quantity
	MIO-2270 SBC	1
	Startup Manual	1
1700006291	SATA cable 30cm	1
1700019656	SATA power cable 5P-1.25/5P-2.0+SATA 5P 15 cm	1
1701200220	RS-232 x 2 ports 2.0mm pitch 22cm	1
1700019156	Audio cable 2.0 mm pitch 20 cm (line-in & line-out)	1
1700002172	USB cable 2.0 mm pitch USB-A(F) 17 cm	1
1700019705	AT power cable 12 cm	1
9666226300E	Screw and stud pack (2 screw for Mini PCIe, 4 M3 studs and scresw for heatsink)	1
1960063062T001	CPU cooler for MIO-2270QV/QH	1

Optional Accessories

Part No.	Description
TBD	MIO-2270 Heat spreader (LxWxH)

Embedded OS/API

Embedded OS/API	Part No.	Description
Win CE	TBD	CE7.0 ENG
	TBD	CE6.0 ENG
WES	TBD	WES2009 ENG
	TBD	WES7E ENG
Linux	TBD	Ubuntu 13.04
Software	TBD	SUSI V3.0

Rear I/O view


MIO-2270QV-S5A1E

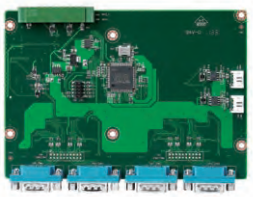

MIO-2270QH-S5A1E


MIO-2270 w/ DC Jack (by request)

MI/O Extension Modules

MIOe-210

**4 x RS232/422/485,
2 x RS422/485, 8-bit GPIO**



CE FCC

Specifications

General	
Bus Interface	MIOe LPC
Ports	4 x RS232/422/485, 2 x RS422/485
GPIO	8-bit with 3.3V level
Communications	
Data Bits	5, 6, 7, 8
Data Signals	RS-422: TxD+, TxD-, RxD+, RxD- RS-485: DATA+, DATA- RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
IRQ	Depends on MI/O CPU Board
Parity	even, odd, sticky or no
Speed	50 to 460k, 921k* and 1.5M* Baud
Stop Bits	1, 1.5, 2
Protection	
EFT Protection	Air gap ±15kV, contact ±8kV
Compatibility	
Rear I/O	MI/O-Compact
Mechanical	MI/O-Compact
Function	MI/O-Compact*, MI/O-Ultra*
Environment	
Dimensions	146 x 102 mm (5.7" x 4")
Weight	0.186 kg (0.41 lb)
Operating Humidity	0 ~ 90 % relative humidity, non-condensing
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Storage Temperature	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Power	
Power Supply Voltage	Supported by MI/O Extension SBC

* Requires customized BIOS for MI/O CPU board support.

Ordering Information

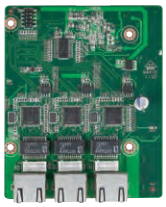
P/N	Description
MIOe-210-D6A1E	4 x RS232/422/485, 2 x RS422/485, 8-bit GPIO

Accessories

Part No.	Description	Quantity
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	2

MIOe-220

3 x Intel® Gigabit Ethernet



CE FCC

Specifications

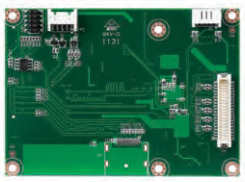
General	
Bus Interface	MIOe PCI Express
Chipset	Intel® 82583V Gigabit Ethernet Controller
PCIe Switch	PLX PEX8605
Port	3 x RJ45
Speed	10/100/1000 Mbps
Compatibility	
Rear I/O	MI/O-Compact
Mechanical	MI/O-Compact
Function	MI/O-Compact, MI/O-Ultra
Mechanical and Environmental	
Dimensions (L x W)	102 x 83 mm (4" x 3.2")
Weight	0.182 kg (0.401 lb)
Operating Temperature	Standard operating: 0 ~ 60° C (32 ~ 140° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Storage Temperature	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Power	
Power Supply Voltage	Supported by MI/O Extension SBC

Ordering Information

P/N	Description
MIOe-220-L3A1E	3 x Intel® Gigabit Ethernet without PCIe Switch
MIOe-220-B3A1E	3 x Intel® Gigabit Ethernet with PCIe Switch (for MIO-5250 /MIO-5251/ MIO-5271)

MIOe-230

**48-bit LVDS or DisplayPort[1],
2 x USB 2.0**



CE FCC

Specifications

General	
Bus Interface	MIOe Displayport & USB 2.0
Controller	Chrontel CH7511
Brightness Control	Supported
USB	2 x USB 2.0
Compatibility	
Rear I/O	MI/O-Ultra
Mechanical	MI/O-Compact, MI/O-Ultra
Function	MI/O-Compact[2], MI/O-Ultra[2]
Mechanical and Environmental	
Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")
Weight	0.084 kg (0.185 lb)
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Power	
Power Supply Voltage	Supported by MI/O Extension SBC

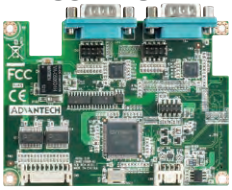
[1] On request
[2] Requires customized BIOS for or HW adjustment MI/O CPU board support.

Ordering Information

P/N	Description
MIOe-230-L0A1E	48-bit LVDS or DisplayPort, 2 x USB 2.0

MIOe-110

2 x RS-232, 2 x RS-232/422/485 (with power and isolation), 2 x USB 2.0



CE FCC

Specifications

General	
Bus Interface	MIOe LPC/USB
Super I/O	SCH3106
Rear I/O	
COM port	COM1/2: Both at coastline and internal box wafer, simultaneously COM1: RS-232/422/485 (With isolation. RS-485 with auto flow control). COM2: RS-232/422/485 (Supports wake on ring. Supply 5V/12V power selected by jumper. RS-485 with auto flow control).
Internal I/O	
COM port	COM3/4: RS-232 (Support wake on ring)
USB 2.0	2
Communications	
Data Bits	5, 6, 7, 8
Data Signals	RS-422: TxD+, TxD-, RxD+, RxD- RS-485: DATA+, DATA- RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
IRQ	Depends on MI/O CPU Board
Parity	even, odd, sticky or no
Speed	50 to 460k, 921k* and 1.5M* Baud
Stop Bits	1, 1.5, 2
Protection	
ESD	Air gap ±15kV and contact ±8kV for all COM ports
Isolation	2.5kV for COM1
Compatibility	
Rear I/O	MI/O-Ultra
Mechanical	MI/O-Ultra
Function	MI/O-Compact*, MI/O-Ultra*
Environment	
Dimensions	100 x 72 mm (3.9" x 2.8")
Weight	0.04 kg (0.09lb), only for board
Operational Temperature	0 ~ 60° C (32 ~ 140° F)
Operational Humidity	40° C @ 95% RH Non-Condensing
Storage Environment	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Power	
Power Supply Voltage	Supported by MI/O Extension SBC

* Except for MIO-2261 and MIO-5270, other MI/O CPU boards need customized BIOS.

Ordering Information

P/N	Description
MIOe-110F-00A1E	2 x RS-232/422/485, 2 x RS-232, w/ isolation, 2 x USB
MIOe-110L-00A1E	1 x RS-232/422/485, 2 x RS-232, w/o isolation, 2 x USB

Accessories

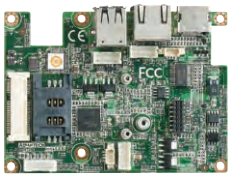
P/N	Description	Quantity
1700018999	COM3/4 cable 22cm	1

Optional Accessories

P/N	Description
1700019414	COM1/2 internal cable 30cm
1700019071	2 ports USB cable w/o bracket, 12cm

MIOe-120

2 x GbE, HDMI, Mini PCIe, SIM holder, speaker out, LPC, 2 x USB 2.0



CE FCC

Specifications

General	
Bus Interface	MIOe PCI Express/ USB/ LPC/ Audio line-out
Ethernet controller	GbE Intel® 82583V
PCIe Switch	PLX PEX8605
USB Hub Controller	Terminus FE1.1 USB 2.0 4-port hub
Rear I/O	
GbE	1 (10/100/1000 Mbps), both at coastline and internal box wafer, simultaneously
USB 2.0	2 (Both at coastline and internal box wafer, simultaneously)
HDMI	1 (by request, only for MIO-2261)
Internal I/O	
GbE	1 (10/100/1000 Mbps)
Speaker out	1 with amplifier (Max 2.2W/ch stereo into a 3Ω load)
LPC	1 (support extra four COM ports by PCA-COM232-00A1E or PCA-COM485-00A1E, TPM module by PCA-TPM-00A1E)
Expansion	
Mini PCIe	1 (full size, with SIM holder, including of USB interface)
Compatibility	
Rear I/O	MI/O-Ultra
Mechanical	MI/O-Compact, MI/O-Ultra
Function	MI/O-Compact*, MI/O-Ultra*
Mechanical and Environmental	
Dimensions (L x W)	100 x 72 mm (3.9" x 2.8")
Weight	0.04 kg (0.09lb), only for board
Operational Temperature	Standard operating: 0 ~ 60° C (32 ~ 140° F)
Operational Humidity	40° C @ 95% RH Non-Condensing
Storage Temperature	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Power	
Power Supply Voltage	Supported by MI/O Extension SBC

* 1. HDMI: Only for MIO-2261, supported by request
2. LPC: Supported by OEM BIOS for PCA-COM232-00A1E, PCA-COM485-00A1E, and PCA-TPM-00A1E
3. MIO-5250 doesn't support MIOe-120L

Ordering Information

P/N	Description
MIOe-120F-00A1E	2 x GbE w/ PCIe switch, 2 x USB, Mini PCIe, SIM holder, speaker-out with amplifier, LPC
MIOe-120L-00A1E	1 x GbE w/o PCIe switch, 2 x USB, Mini PCIe, SIM holder, speaker-out with amplifier, LPC

Optional Accessories

P/N	Description
1700019001	1 x LAN cable, 15cm
1700019071	2 ports USB cable w/o bracket, 12cm
PCA-COM232-00A1E	4 x RS-232 extension module, 31.5x48mm
PCA-COM485-00A1E	4 x RS-422/485 extension module, 31.5x48mm
PCA-TPM-00A1E	TPM module, 31.5 x 48 mm

MIOe-PWR1

12-24V DC to DC Power Module MI/O-Chassis compliant



UL CB CE FCC

Specifications

General	
Input Voltage	12 to 24 V_{DC} ±5%
Output Voltage	12V ±10%
Output Current	Max. 5A
Protection	OVP, OCP, Anti-reverse
Connector type	Input: Phoenix 2pin Output: ATX 2x2pin
Mechanical and Environmental	
Dimensions (L x W)	90 x 53 mm (3.5" x 2.1")
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Weight	0.084 kg (0.185 lb)
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Ordering Information

P/N	Description
MIOe-PWR1-00A1E	12-24V DC to DC power module
MIOe-PWR1Z-00A1E	12-24V DC power module -20 ~80 ° C

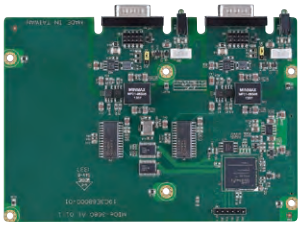
Accessories

Part No.	Description
1700021072-01	Power cable 2*2P-4.2/2*2P-4.2, 10cm

MI/O Extension Modules

MIOe-3680

2-Port CAN-Bus MIOe Module with Isolation Protection



Specifications

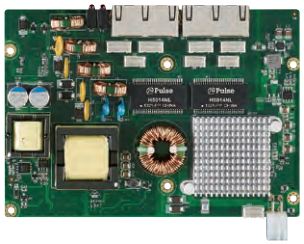
General	
Bus Interface	MIOe PCI Express
Certification	CE,FCC
Connectors	2 x DB9 male connectors / 2 x 10pin box wafer for option
Ports	2
Power Consumption	5 V @ 630 mA (Max)
Compatibility	
Rear I/O	MI/O-Compact
Mechanical	MI/O-Compact
Function	MI/O-Compact, MI/O-Ultra
Communications	
CAN Controller	NXP SJA-1000
CAN Transceiver	NXP TJA1051T
Signal Support	CAN_H, CAN_L
Protocol	CAN 2.0 A/B
Data Transfer Rate(bps)	Programmable up to 1 Mbps
CAN Frequency	16MHz
Protection	
Isolation Protection	2,500 V_{DC}
Mechanical and Environmental	
Operating Temperature	-40 ~ 85° C (-40 ~ 185° F) (refer to IEC 68-2-1, 2)
Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
Operating Humidity	5 ~ 95% Relative Humidity, non-condensing
Dimensions (L x W)	146 x 102 mm (5.7" x 4")

Ordering Information

P/N	Description
MIOe-3680-AE	2-Port CAN-Bus MIOe Module with Isolation Protection

MIOe-3674/3672

4 or 2-port 10/100/1000 BaseT(X) 802.3af (PoE) Compliant Ethernet ports



Specifications

General	
Bus Interface	MIOe PCI Express
Certification	CE,FCC
Connectors	RJ45 (10pin box wafer for option)
Power consumption	MIOe-3674: Typical: 15.4 W, Max: 70.8 W MIOe-3672: Typical: 15.4 W, Max: 35.4 W
Compatibility	
Rear I/O	MI/O-Compact
Mechanical	MI/O-Compact
Function	MI/O-Compact, MI/O-Ultra
Communications	
Compatibility	IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3af Powered Device (PD) auto detection and classification Supports IEEE 802.3u Auto-Negotiation
Speed	10/100/1000 Mbps
Ports	4 or 2 Gigabit Ethernet MAC and PHY ports.
Protection	ESD 8KV, EFT 2KV, Over current protection
Power	
Input Voltage	12 V_{DC} power input
Input Connecter	2x2 power connector (2x4 pin box wafer for option)
Output PoE Power	15.4 watts at 48 VDC per PoE port
Mechanical and Environmental	
Operating Temperature	0 ~ 50° C (32 ~ 122° F)
Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
Operating Humidity	5 ~ 95% Relative Humidity, non-condensing
Dimensions (L x W)	146 x 102 mm (5.7" x 4")

Ordering Information

P/N	Description
MIOe-3674-AE	4-port PoE ports MIOe Module
IMIOe-3672-AE	2-port PoE ports MIOe Module

MIOS-5250

Intel® Atom™ N2600/D2550 Fanless Embedded Box PC with Multiple I/O Extension Module



Features

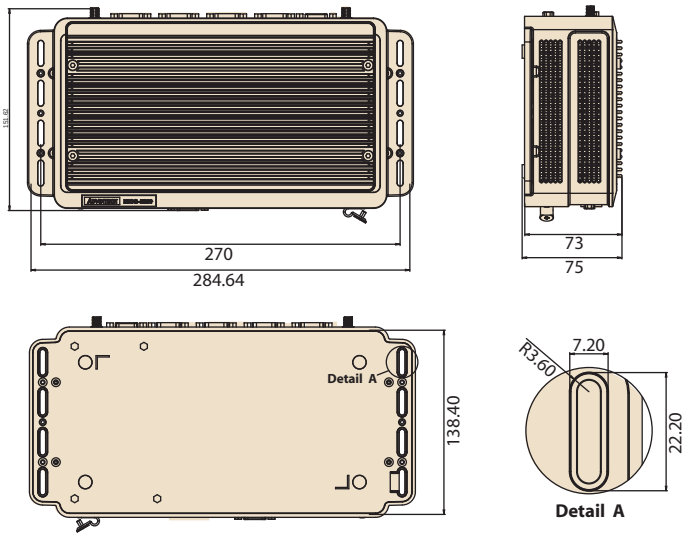
- Intel® Atom™ N2600 1.6 GHz/D2550 1.86 GHz Fanless Embedded Box PC, DDR3 memory supports up to 4 GB
- Rich I/O Expansion Possibilities through modularized design
- Various extension modules for selection: multiple serial-port / GbE, CAN Bus, PoE
- Optimized thermal design to maximize heat dissipation
- Fast customization for module, I/O bracket, color and logo
- 12~24V / 12V only DC power input for choice
- Wire clip design to prevent adapter cable losing
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

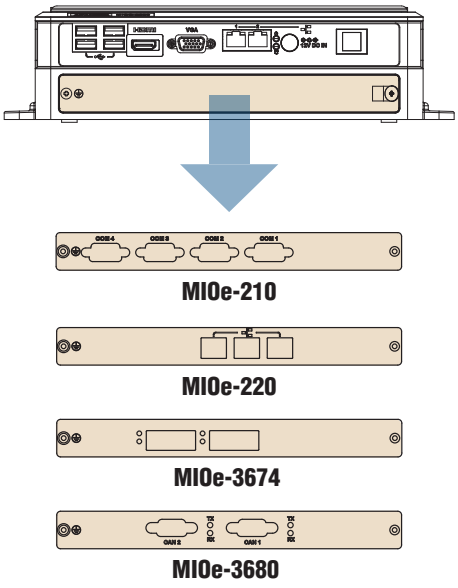
Processor System	CPU	Intel Atom Dual Core N2600 1.6 GHz/D2550 1.86 GHz
	Max. Speed	Dual Core 1.6 GHz/1.86 GHz
	L2 Cache	1 MB
	System Chipset	Intel Atom N2600/D2550 + Intel NM10
	BIOS	AMI EFI 16Mbit
Memory	Technology	DDR3 1066 MHz (D2550), DDR3 800 MHz (N2600)
	Max. Capacity	4 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Atom N2600/D2550
	Graphic Engine	DirectX 9 and OpenGL3.0 support Hardware decode H/W acceleration: MPEG2 H/W Decode/Acceleration: H.264/VC1/WMV9
	VGA	Up to 1920 x 1200
	HDMI	Supports 1920 x 1200, Max data rate: up to 1.65 Gb/s, Supports HDMI v1.3 Up to 1080p support
	Dual Display	Yes, VGA + HDMI
Ethernet	GbE1	10/100/1000 Mbps Intel 82583V Ethernet controller, support Wake On Lan
	GbE2	10/100/1000 Mbps Intel 82583V Ethernet controller, support Wake On Lan
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out,Mic-in,Line-in
IO Interface	Serial Ports	4 x RS-232 Ports with ESD protection : Air gap ±15kV, Contact ±8kV
	USB Interface	6 x USB ports, USB 2.0 Compliant
Other	Digital IO	8-bits
	Watchdog timer	255 levels timer interval, setup by software
Internal Expansion	Mini PCIe	1 x full size Mini PCIe with SIM holder
Storage	HDD	Supports one drive bay for SATA 2.5" HDD (Compatible with 9mm height HDD)
	mSATA	1 (Support either mSATA or full size miniPCIe, selected by BIOS, default support miniPCIe)
Support Extension Module	MIOe-210	4 x RS232/422/485, 2 x RS422/485
	MIOe-220	3 x Intel Gigabit Ethernet
	MIOe-3674	4 x Gigiabit Ethernet with PoE ports
	MIOe-3680	2 x CAN Bus
Power Requirement	Power Type	AT/ATX
	Power Input Votage	24 V_{DC} (Phoenix plug in rear side) / 12 V_{DC} (DC Jack in front side)
	Minimum Power Input	12 V ~ 24 V, 3.0 A ~ 1.5 A
Power Comsumption	Typical	15 Watt (with Intel Atom D2550 at 1.8 GHz)
	Max.	18 Watt (with Intel Atom D2550 at 1.8 GHz)
Mechanical	Construction	Plastic Part: PC+ABS(LG5001RFP)Chassis: SECC Bottom Cover: Aluminum Heatsink: Aluminum 6063-T5 Metal Parts: SECC
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	284.6 x 151.6 x 74.5 mm (11.2" x 5.96" x 2.9")
	Weight	2.3 kg (5.07 lb), with HDD, MIOe-210 and Wifi module inside)
Environment	Operating Temperature	0 ~ 45° C (32 ~ 113° F) with 0.7m/s air flow
	Storage Temperature	- 40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI

Dimensions

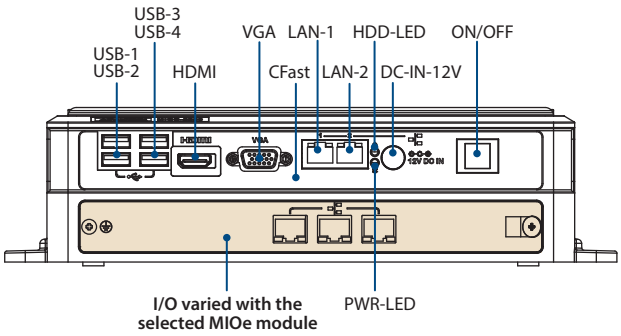
Unit: mm



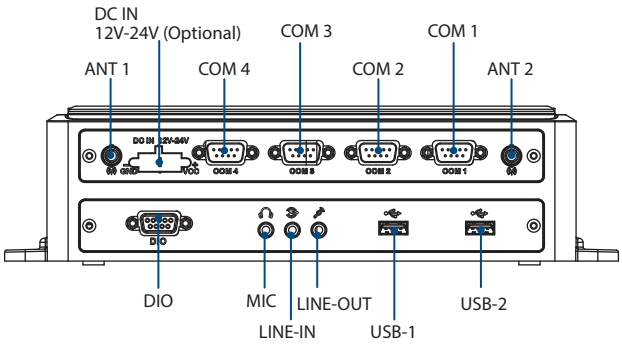
Supported Extension Modules



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Packing List

Part Number	Description
-	1 x MIOS-5250 Unit
-	1 x User Manual
-	1 x China RoHS
-	Wrench, screw and stud pack

Optional Items

Part Number	Description
1757003659	AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
1757003995	AC-to-DC Adapter, DC 12V/5A 60W, 0 ~ 40° C for Home and Office Use
1700001524	Power cable 3-pin 180 cm, USA type
170203180A	Power cable 3-pin 180 cm, UK type
170203183C	Power cable 3-pin 180 cm, Europe type
1700008921	Power cable 3-pin 180 cm, PSE
-	VESA mounting bracket
-	DIN-rail mounting kit

Ordering Information

Part Number	Description
MIOS-5250N-S6A1E	
MIOS-5250D-S8A1E	

Embedded OS

Refer to page 3-5

MIOS-5251

Intel® Atom™ E3845/E3825 & Celeron® J1900 Fanless Embedded Box PC with Multiple I/O Extension Module



Features

- Intel® Atom™ E3845/E3825 & Celeron® J1900, DDR3L-1066/1333 MHz SODIMM up to 8 GB
- Rich I/O Expansion Possibilities through modularized design
- Various extension modules for selection: multiple serial-port / GbE, CAN Bus, PoE
- Optimized thermal design to maximize heat dissipation
- Fast customization for module, I/O bracket, color and logo
- 12~24V / 12V only DC power input for choice
- Wire clip design to prevent adapter cable losing
- Supports iManager, SUSIAccess and Embedded Software APIs

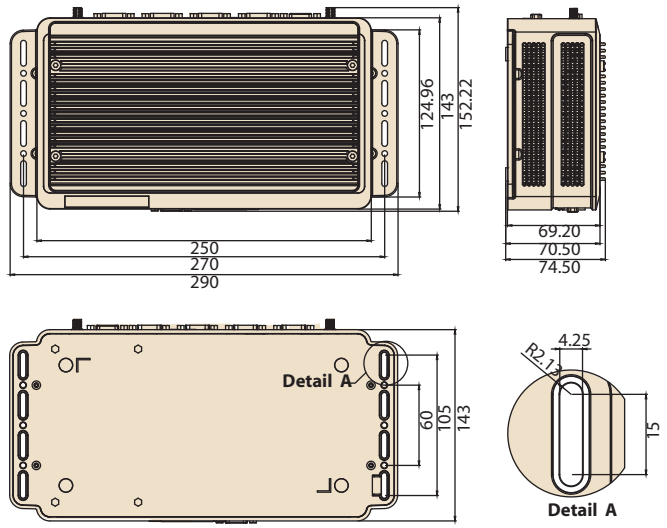
Specifications

Processor System	CPU	Intel Celeron J1900	Atom E3845	Atom E3825
	Max. Speed	2 GHz (Quad Core)	1.91 GHz (Quad Core)	1.33 GHz (Dual Core)
	L2 Cache	2 MB	2 MB	1 MB
	BIOS	AMI EFI 16Mbit		
Memory	Technology	DDR3L 1066/1333 MHz		
	Max. Capacity	8 GB		
	Socket	1 x 204-pin SO-DIMM		
Graphics	Controller	Intel Gen7 graphic engine		
	Graphic Engine	DirectX11, OpenGL3.2, OpenCL1.1 Full HW acceleration, decode: H.264, MPEG2/4, VC-1, WMV9. Encode: H.264, MPEG2		
	VGA	UXGA 1600 x 1200 @ 60Hz		
	HDMI/Display Port	HDMI 1.4a for HD video playback, 1080P @ 60Hz Displayport*, up to 2560 x 1600 @ 60Hz		
	Dual Display	Yes, VGA + HDMI		
Ethernet	GbE1	10/100/1000 Mbps Intel i210 controller		
	GbE2	10/100/1000 Mbps Intel i210 controller		
Audio	Interface	Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in		
IO Interface	Serial Ports	4 x RS-232 Ports with ESD protection : Air gap ±15kV, Contact ±8kV		
	USB Interface	4 x USB ports, 1 x USB 3.0 and 3 x USB 2.0		
Other	Digital IO	8-bits		
	Watchdog timer	255 levels timer interval, setup by software		
Internal Expansion	Mini PCIe	1 x full size Mini PCIe with SIM holder		
Storage	HDD	Supports one drive bay for SATA 2.5" HDD (Compatible with 9mm height HDD)		
	mSATA	1 x Full-size		
	SD slot*	1 (Shared with mSATA)		
Supported Extension Module	MIOe-210	4 x RS232/422/485, 2 x RS422/485		
	MIOe-220	3 x Intel Gigabit Ethernet		
	MIOe-3674	4 x Gigiabit Ethernet with PoE ports		
	MIOe-3680	2 x CAN Bus		
Power Requirement	Power Type	AT/ATX		
	Power Input Votage	24 V_{DC} (Phoenix plug in rear side) / 12 V_{DC} (DC Jack in front side)		
	Minimum Power Input	12 V ~ 24 V, 3.0 A ~ 1.5 A		
Power Comsumption	Typical	TBC		
	Max.	TBC		
Mechanical	Construction	Plastic Part: PC+ABS(LG5001RFP)Chassis: SECC Bottom Cover: Aluminum Heatsink: Aluminum 6063-T5 Metal Parts: SECC		
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting		
	Dimensions (W x H x D)	284.6 x 151.6 x 74.5 mm (11.2" x 5.96" x 2.9")		
	Weight	2.3 kg (5.07 lb), with HDD, MIOe-210 and Wifi module inside)		
Environment	Operating Temperature	0 ~ 45° C (32 ~ 113° F) with 0.7m/s air flow		
	Storage Temperature	- 40 ~ 85° C (-40 ~ 185° F)		
	Relative Humidity	95% @ 40° C (non-condensing)		
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.		
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration		
	EMC	CE/FCC Class A, CCC, BSMI		
	Safety Certifications	UL, CCC, BSMI		

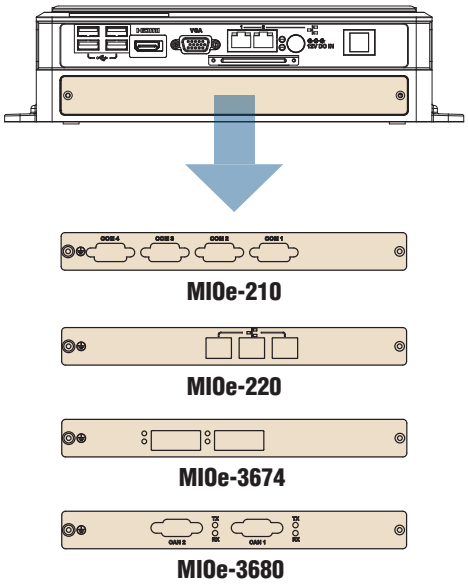
* The specification is supported by request

Dimensions

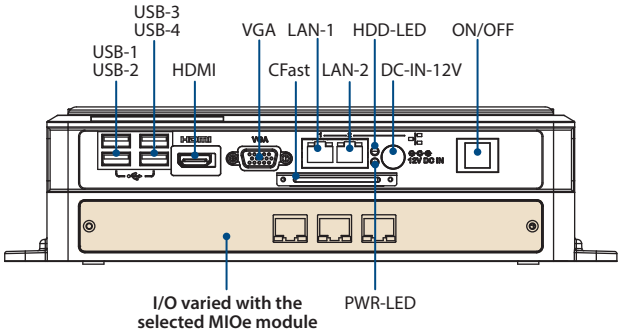
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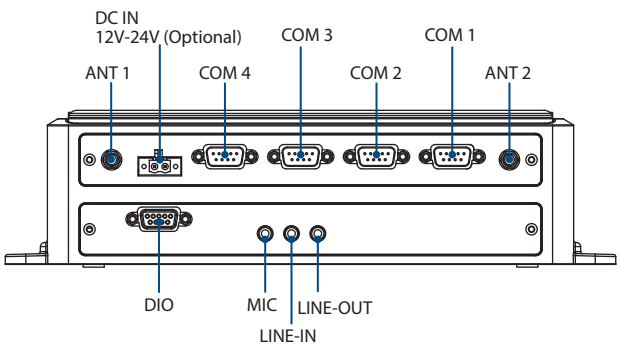
Supported Extension Modules



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Packing List

Part Number	Description
-	1 x MIOS-5251 Unit
-	1 x User Manual
-	1 x China RoHS
-	Wrench, screw and stud pack

Ordering Information

Part Number	Description
MIOS-5251J-U0A1E	
MIOS-5251E-S9A1E	
MIOS-5251E-S3A1E	

Optional Items

Part Number	Description
1757003659	AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
1757003995	AC-to-DC Adapter, DC 12V/5A 60W, 0 ~ 40° C for Home and Office Use
1700001524	Power cable 3-pin 180 cm, USA type
170203180A	Power cable 3-pin 180 cm, UK type
170203183C	Power cable 3-pin 180 cm, Europe type
1700008921	Power cable 3-pin 180 cm, PSE
-	VESA mounting bracket
-	DIN-rail mounting kit

Embedded OS

Refer to page 3-7

MIOS-5271

4th Gen Intel® Core™ U-Series Fanless Embedded Box PC with Multiple I/O Extension Module



Features

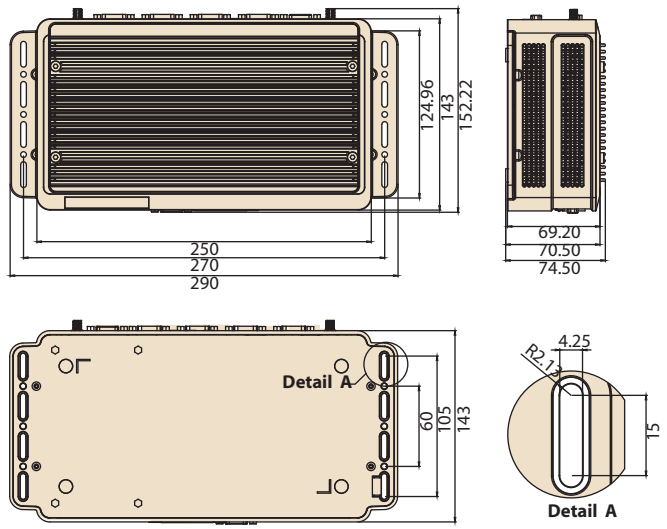
- 4th Gen Intel® Core™ U-Series (i5/Celeron), 1 x DDR3L-1600/1333 SO-DIMM support up to 8 GB
- Rich I/O Expansion Possibilities through modularized design
- Various extension modules for selection: multiple serial-port / GbE, CAN Bus, PoE
- Optimized thermal design to maximize heat dissipation
- Fast customization for module, I/O bracket, color and logo
- 12~24V / 12V only DC power input for choice
- Wire clip design to prevent adapter cable losing
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

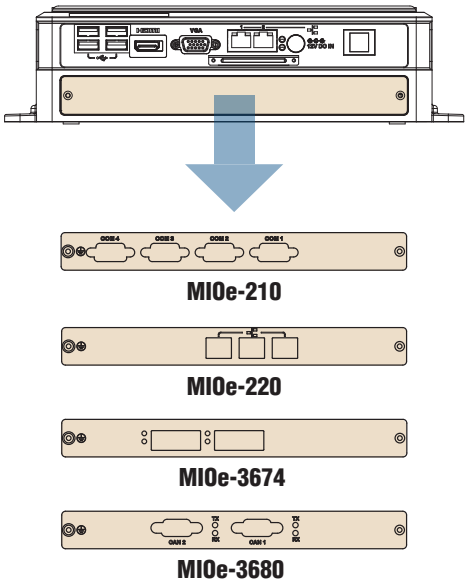
Processor System	CPU	Intel Core Core i5-4300U / Celeron 2980U
	Max. Speed	Dual Core 1.9 GHz/1.6 GHz
	L3 Cache	3 MB / 2 MB
	System Chipset	Intel 8 Series Chipset
	BIOS	AMI UEFI BIOS at 128 Mb
Memory	Technology	DDR3L 1333/1600 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel HD Graphics 4400 / Intel HD Graphics (Celeron)
	Graphic Engine	DirectX11.1, OpenGL 4.0, and OpenCL 1.3 Full AVC/VC1/MPEG2 HW Decode
	VGA	Up to 1920 x 1200 with 60 Hz, 154 MHz pixel clock rate
	HDMI / DisplayPort*	Max resolution up to 3200 x 2000 at 60 Hz on DisplayPort, 4096 x 2304 at 24 Hz on HDMI
	Dual Display	Yes, VGA + HDMI/DP*
Ethernet	GbE1	10/100/1000 Mbps Intel i218 Ethernet controller, support Wake On Lan
	GbE2	10/100/1000 Mbps Intel i210 Ethernet controller, support Wake On Lan
Audio	Interface	Realtek ALC888S, High Definition Audio. Line-out,Mic-in,Line-in
IO Interface	Serial Ports	2 x RS-232, 2 x RS-232/422/485 Ports with ESD protection : Air gap ±15kV, Contact ±8kV
	USB Interface	2 x USB 2.0 ports, 2 x USB 3.0
Other	Digital IO	8-bits
	Watchdog timer	255 levels timer interval, setup by software
Internal Expansion	Mini PCIe	1 x Full-size Mini PCIe with SIM card holder 1 x Half-size Mini PCIe
Storage	HDD	Supports one drive bay for SATA 2.5" HDD (Compatible with 9mm height HDD)
	mSATA	1 x Full-size (default with miniPCIe, support by request)
Support Extension Module	MIOe-210	4 x RS232/422/485, 2 x RS422/485
	MIOe-220	3 x Intel Gigabit Ethernet
	MIOe-3674	4 x Gigiabit Ethernet with PoE ports
	MIOe-3680	2 x CAN Bus
Power Requirement	Power Type	AT/ATX
	Power Input Votage	24 V_{DC} (Phoenix plug in rear side) / 12 V_{DC} (DC Jack in front side)
	Minimum Power Input	12 V ~ 24 V, 3.0 A ~ 1.5 A
Power Comsumption	Typical	MIO-5271U-S6A1E: 0.38 A @ 12 V (4.56 W) MIO-5271U-S9A1E: 0.39 A @ 12 V (4.68 W)
	Max.	MIO-5271U-S6A1E: 1.71 A @ 12 V (20.52 W) MIO-5271U-S9A1E: 2.46 A @ 12 V (29.52 W)
Mechanical	Construction	Plastic Part: PC+ABS(LG5001RFP)Chassis: SECC Bottom Cover: Aluminum Heatsink: Aluminum 6063-T5 Metal Parts: SECC
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	290 x 143 x 74.5 mm mm (10.41" x 2.72" x 5.24")
	Weight	2.3 kg (5.07 lb), with HDD, MIOe-210 and Wifi module inside)
Environment	Operating Temperature	0 ~ 45° C (32 ~ 113° F) with 0.7m/s air flow
	Storage Temperature	- 40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI

Dimensions

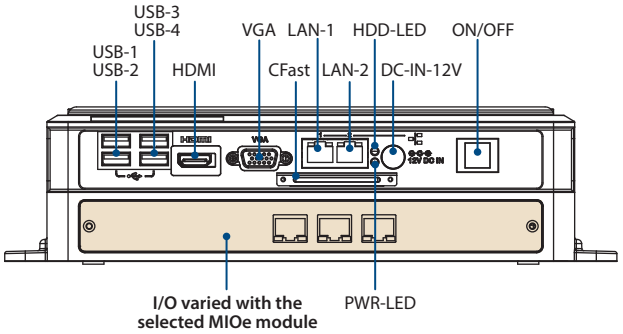
Unit: mm



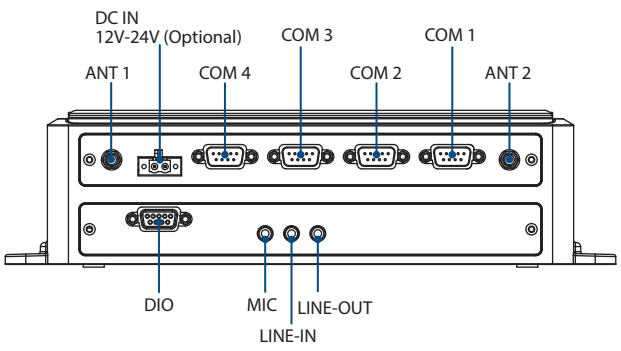
Supported Extension Modules



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Packing List

Part Number	Description
-	1 x MIOS-5271 Unit
-	1 x User Manual
-	1 x China RoHS
-	Wrench, screw and stud pack

Ordering Information

Part Number	Description
MIOS-5271U-S9A1E	
MIOS-5271U-S6A1E	

Optional Items

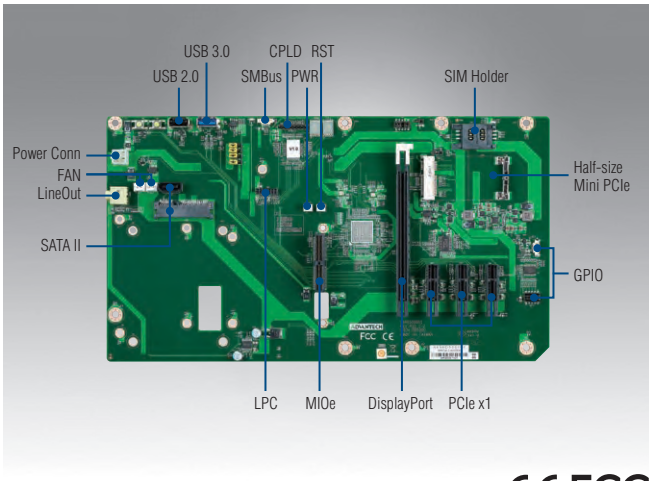
Part Number	Description
1757003659	AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
1757003995	AC-to-DC Adapter, DC 12V/5A 60W, 0 ~ 40° C for Home and Office Use
1700001524	Power cable 3-pin 180 cm, USA type
170203180A	Power cable 3-pin 180 cm, UK type
170203183C	Power cable 3-pin 180 cm, Europe type
1700008921	Power cable 3-pin 180 cm, PSE
-	VESA mounting bracket
-	DIN-rail mounting kit

Embedded OS

Refer to page 3-11

MIOe-DB5000

MIOe Evaluation Board for MI/O-Compact and MI/O-Ultra SBC



CE FCC

Features

- Supports both of MI/O-Compact SBC and MI/O-Ultra SBC
- Compatible with MIOe, evaluation board for flexible interface verification
- Interface: 1 x DP, 3 x PCIe, 1 x miniPCIe, 1 x SIM holder, 1 x USB 3.0, 1 x USB 2.0, 1 x LPC, 1 x SMBus, 1 x LineOut with amplifier, 1 x SATA with power, 2 x System FAN, +12V Power in

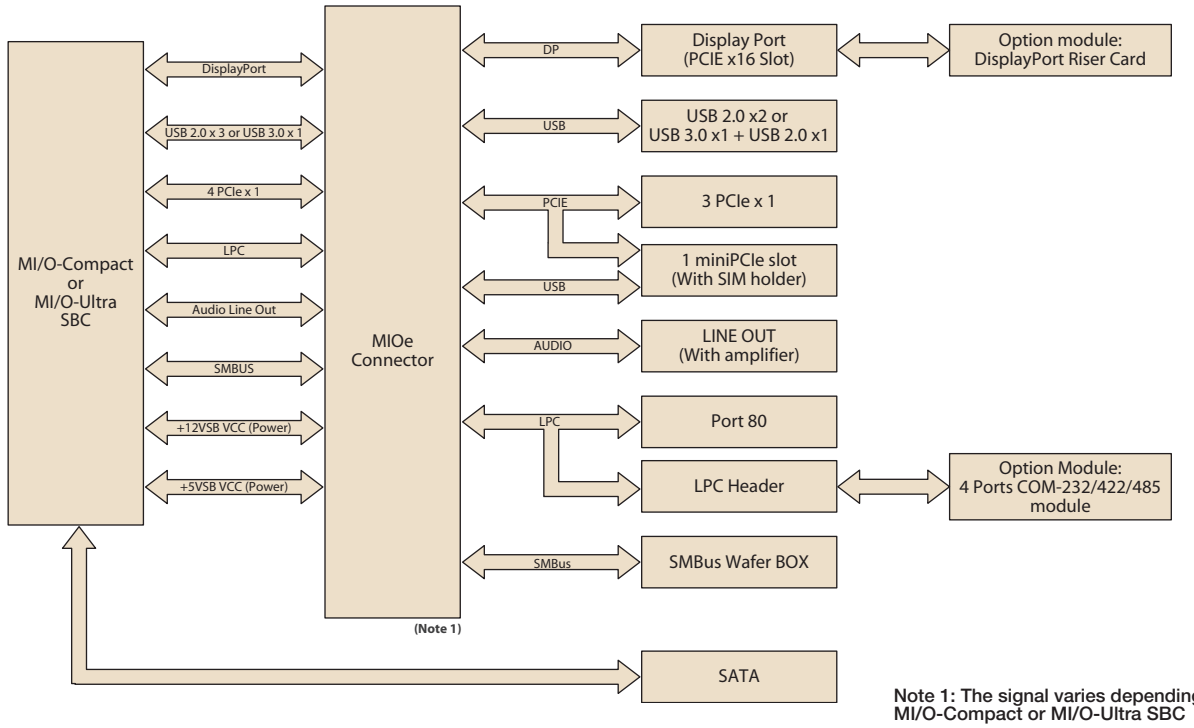
Specifications

Form Factor		ATX
Compatible Models		Advantech MI/O-Compact (146 x 102 mm), MI/O-Ultra (100 x 72 mm)
Expansion	DisplayPort	1 (only can evaluate with the 1st port of DisplayPort Riser Card)
	PCIe x1 slot	3 (MIOe-DB5000-01A1E has only two ports)
	MIOe connector	1
	SIM card Holder	1
	Full-size Mini PCIe	1
I/O	SATA with Power	1 (connect to 2.5 HDD)
	LPC	1 (evaluate by using 4 ports RS-232/422/485 Module)
	USB 2.0	1
	USB 3.0	1*
	LineOut	1 (with amplifier AMP LM4863)
	System FAN	2
	SMBus	1
Power	Independent Power voltage	Single +12V DC in (2x2 power connector is only for external power input)
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions	304.8 x 170 mm (12" x 6.69")

* For USB 3.0 to work depends on if MI/O SBC supports USB 3.0 or not

P.S. Pinout functions depend on SBC platform chipset

Block Diagram



Note 1: The signal varies depending on MI/O-Compact or MI/O-Ultra SBC

Ordering Information

Part No.	DisplayPort	PCIe x1	MIOe	Full-size Mini PCIe	SIM holder	SATA II	LPC	SMBus	USB 2.0	USB 3.0	Audio	System Fan	Power Conn
MIOe-DB5000-00A1E	1*	3	1	1	1	1	1	1	1	1***	1	1	2x2
MIOe-DB5000-01A1E	1*	2**	1	1**	1	1	1	1	1	1***	1	1	2x2

* The DisplayPort Riser Card has both HDMI and DisplayPort. Each can be supported individually by signal setting on the MI/O main board.
** MIOe-DB5000-01A1E has 2 PCIe x1 and 1 Mini PCIe.
*** For USB 3.0 to work depends on if the MI/O mainboard supports USB 3.0 or not. If the bundled MI/O main board doesn't support USB 3.0 explicitly, the USB connector supports USB 2.0 only.

Packing List

Part No.	Description	Quantity
-	MIOe-DB5000 development board	1
1700020235-01	Reset/Power button cable	2

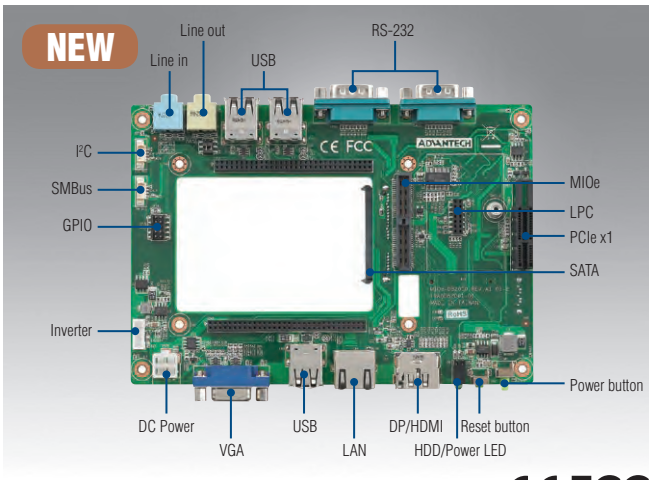
Optional Accessories

Part No.	Description
9696EA2000E	DisplayPort Riser Card
PCA-COM232-00A1E	4 ports RS-232 Module*
PCA-COM485-00A1E	4 ports RS-422/485 Module*

* Supported by request

MIOe-DB2000

Evaluation Board for MIO-2262



CE FCC

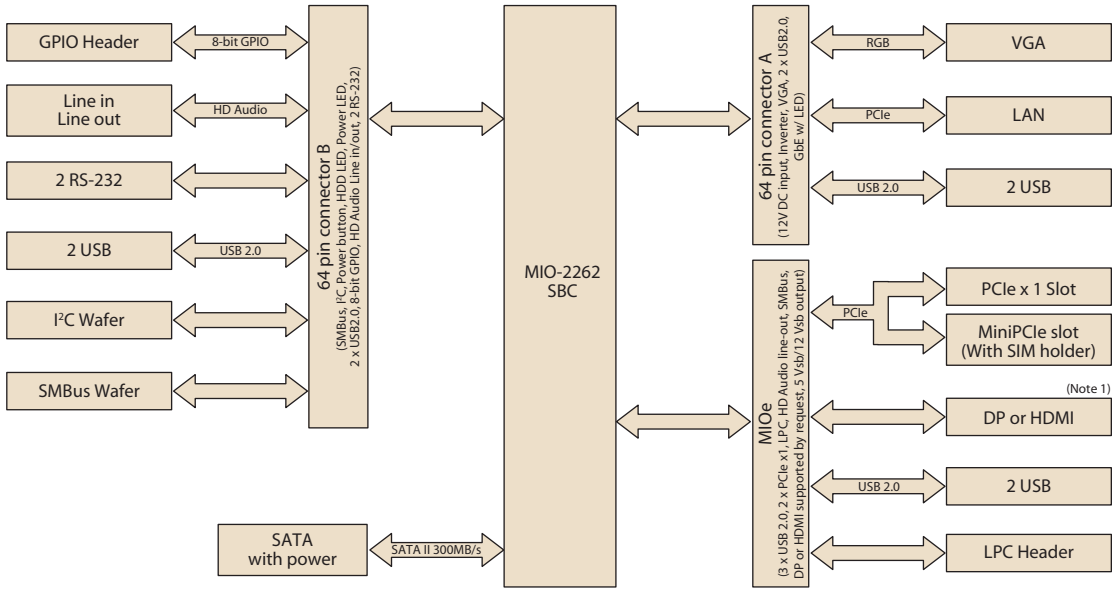
Features

- Complete and flexible interface for verification
- Expedite customer's carrier board development
- All circuit design follows MI/O extension design guide
- Uses standard EPIC form factor
- Interface: 1 x DP, 1 x PCIe, 1 x miniPCIe, 1 x SIM holder, 6 x USB 2.0, 1 x LPC, 1 x SMBus, 1 x I²C, 1 x HD Audio Line in, 1 x HD Audio Line out, 1 x SATA with power, 8-bit GPIO, PWR/HDD LED, PWR/Reset Button, Inverter, +12V Power in

Specifications

Form Factor		EPIC
Compatible Models		MIO-2262
Display	VGA	1
	DP/HDMI	1 DP or HDMI (HDMI supported by request)
Storage	SATA with Power	1 (connect to 2.5" HDD)
Rear I/O	Ethernet	1 x RJ45
	VGA	1
	DP/HDMI	1 (HDMI supported by request)
	USB	6 x USB2.0
	LED	Power, HDD
	Power Button	1
	Reset Button	1
	HD Audio	Line in, Line out
	Serial	2 x RS-232 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	DC Power Jack	1 (default 2x2pin power connector, DC jack supported by request)
Internal I/O	I²C	1
	SMBus	1
	Inverter	1
	GPIO	8-bit general purpose input/output
	LPC	1
Expansion	PCIe x1 slot	1
	Mini PCI Express	1 (Full-size)
	SIM card Holder	1
	MIOe connector	1
	64-pin Connector	2
Power	Independent Power voltage	Single +12V DC in
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Mechanical	Dimensions (L x W)	115 x 165 mm (4.5" x 6.5")
	Weight	0.25 kg (0.55 lb), weight of total package

Block Diagram



Note 1 : Supported by request

Ordering Information

Part No.	DP/HDMI	VGA	GbE	PCIe x1	RS-232	Full-size Mini PCIe	SIM holder	SATA II	LPC	SMBus	I²C	USB 2.0	Audio	MIOe	Power Conn.
MIOe-DB2000-00A1E	1*	1	1	1	2	1	1	1	1	1	1	6	Yes	Yes	2x2 pin*

* HDMI and DC jack supported by request

Packing List

Part No.	Description	Quantity
MIOe-DB2000-00A1E	Evaluation Board for MIO-2262	1

Optional Accessories

Part No.	Description
MIO-2262N-S6A1E	MIO-2262 N2600 SBC
MIO-2262N-S8A1E	MIO-2262 N2800 SBC

Rear I/O View



4

PC/104 CPU Modules

Selection Guide		*4-2*
PC/104 CPU Modules		
PCM-3343	DM&P Vortex86DX-800MHz PC/104 SBC, LCD, Ethernet, CF, Onboard Memory	*4-4*
PCM-3353	AMD LX800/LX600 PC/104-Plus SBC, VGA, LVDS, TTL, Ethernet, USB, COM, CF	*4-6*
PCM-3355	AMD LX800/LX600 PC/104 SBC, VGA, TTL, Ethernet, USB, COM, CF	*4-8*
PCM-3356	AMD T16R PC/104 SBC, VGA, LVDS, LAN, USB, COM, SATA	*4-10*
PCM-3362	Intel® Atom™ N450 PC/104-Plus SBC, VGA, LVDS, Ethernet, USB, COM, SATA, Onboard Flash	*4-12*
PCM-3363	Intel® Atom™ N455/D525 PCI-104 SBC, VGA, LVDS, Ethernet, USB, COM, SATA, Onboard Memory	*4-14*
PCM-4153	AMD LX800 PC/104-Plus SBC, Onboard Memory/ Flash, VGA, TTL, Extended Temp. -40 ~ 85° C	*4-16*
PC/104 Datacom Modules		
PCM-3117 **PCM-3614/3618** **PCM-3614I/3618I** **PCM-3620**	PCI to ISA Bridge Module 4/8-port RS-422/485 High-speed PC/104 Module 4/8-port RS-232/422/485 PCI-104 Modules USB 2.0/IEEE 1394a PC/104-Plus Module	*4-18*
PCM-3641I/3642I **PCM-3643** **PCM-3665** **PCM-3680/I**	4/8-port RS-232 PCI-104 Modules 8-port RS-232 COM Port Module Dual GbE Module 2-port CAN-bus PC/104 / PCI-104 Module with Isolation Protection	*4-19*
PC/104 I/O & Power Modules		
PCM-3718H/HG/HO **PCM-3724** **PCM-3753I** **PCM-3761I**	100 kS/s, 12-bit, 16-ch PC/104 Multi-function Modules 48-bit Digital I/O PC/104 Card 96-Ch Digital I/O PCI-104 Module 8-Ch Relay and 8-Ch Isolated Digital Input PCI-104 Module	*4-20*
PCM-3810I **PCM-3730I** **PCM-3835** **PCM-3910**	250 kS/s, 12-bit, 16-ch Multifunction PCI-104 Module 32-ch Isolated Digital I/O PCI-104 Module IDE Flash Disk Module/CompactFlash Card DC to DC Power Supply PC/104-plus Module	*4-21*

To view all of PC/104 CPU Modules, please visit www.advantech.com/products

PC/104 CPU Modules

Selection Guide







Model Name		PCM-3343	PCM-3353	PCM-3355
Form Factor		PC/104	PC/104-Plus	PC/104
Processor System	CPU	DM&P Vortex86DX 800 MHz, Supports Floating Point Unit (FPU)	AMD Geode LX800, 500 MHz AMD Geode LX600, 366 MHz	AMD Geode LX800, 500 MHz AMD Geode LX600, 366 MHz
	Frequency	800 MHz	500 MHz/366 MHz	500 MHz/366 MHz
	Core Number	1	1	1
	L2 Cache	256 KB	128 KB	128 KB
	BIOS	Award integrated 16 Mbit ROM in SOC	Award 4-Mbit	Award 4-Mbit
	Chipset	-	AMD Geode CS5536	AMD Geode CS5536
Memory	Technology	DDR2 333 MHz SDRAM on board	DDR 333 MHz	DDR 333MHz
	Max. Capacity	512 MB	1 GB	1 GB
	Socket	-	1 x 200-pin SODIMM	1 x 200-pin SODIMM
	Onboard Memory	Onboard 256 MB (512 MB supported by request)	-	-
Display	Controller	SMI SM712	AMD Geode LX800/LX600	AMD Geode LX800/LX600
	Graphics Engine	62.5 MHz single clock/cycle engine (EM+) 86 MHz single clock/cycle engine (EM4+) Designed to accelerate DirectDraw	-	-
	Graphics Memory	4 MB internal memory	Optimized Shared Memory Architecture up to 64 MB system memory	Optimized Shared Memory Architecture up to 64 MB system memory
	VGA	Up to 1024 x 768 at 85 Hz	Up to 1920 x 1440 x 32 bpp at 85 Hz Up to 1600 x 1200 x 32 bpp at 100 Hz	Up to 1920 x 1440 x 32 bpp at 85 Hz Up to 1600 x 1200 x 32 bpp at 100 Hz
	LCD (TTL/LVDS/eDP)	LVDS: Single channel 24-bit LVDS up to 1024 x 768 TTL: 24-bits up to 1024 x 768	LVDS: Single channel 18/24-bit (JEIDA format), Up to 1600 x 1200 x 32 bpp at 60 Hz TTL: Supports up to 1600 x 1200 x 32 bpp at 60 Hz for 24-bit single channel TFT Panel	TTL: Supports up to 1600 x 1200 x 32 bpp at 60 Hz for 24-bit single channel TFT
	Multiple Displays	VGA+TTL, VGA+LVDS	VGA+TTL, VGA+LVDS	VGA+TTL
Expansion Interface	Mini PCIe	-	-	-
	SMBus	-	1	1
	I²C Bus	1	-	-
	PC/104	1	-	1
	PCI-104	-	-	-
	PC/104-Plus	-	1	-
Ethernet	Controller	GbE1: Vortex86DX SOC integrated GbE2: Realtek RTL8100C-LF	GbE: Intel 82541PI	Intel 82551QM
	Speed	10/100 Mbps	10/100/1000 Mbps	10/100 Mbps
	Connector	Pin Header	Box Header	Box Header
Audio	Codecs	-	Realtek ALC203	-
WatchDog Timer		Output system reset, programmable counter from 1 ~ 255 minutes/ seconds	Output system reset, programmable counter from 1 ~ 255 minutes/ seconds	Output system reset, programmable counter from 1 ~ 255 minutes/ seconds
Storage	SATA	-	-	-
	mSATA	-	-	-
	IDE	1	1	-
	CompactFlash	CompactFlash socket (Type I/II), shared with primary IDE	CompactFlash socket (Type I)	CompactFlash socket (Type I)
	Onboard Flash	-	-	-
	Floppy	-	1 (transfer from LPT, available by custom BIOS)	1 (transfer from LPT, available by custom BIOS)
I/O	USB2.0	4	4	2
	SPI Bus	Optional onboard 4 MB SPI Flash Disk (Supported by request for boot device or storage on DOS OS)	-	-
	GPIO	16-bit GPIO	8-bit GPIO	-
	LPT	-	1	1
	COM Port	4 (3 x RS-232, 1 x RS-232/ 422/ 485) RS-422/485 with auto flow control	4 (3 RS-232, 1 RS-232/422/485)	3 (2 RS-232, 1 RS-422/485)
	PS/2 KB/Mouse	1	1	1
Power	Power Type	AT	AT	AT
	Power Supply Voltage	5V ± 5% only to boot up (12 V is optional for LCD inverter and add-on card)	5V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)	5V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Idle)	0.74 @ +5 V, 3.7 Watts (Vortex86DX 800 MHz, DDR2 256 MB)	LX800: 1.35 A @ +5 V, 0.1 A @ +12 V (7.95 Watts)	LX800: 1.45 A @ +5 V, 2 mA @ +12 V (7.27 Watts)
	Power Consumption (Full Load)	0.85 A @ +5 V, 4.25 Watts (Vortex86DX 800 MHz, DDR2 256 MB)	LX800: 1.51 A @ +5 V, 0.1 A @ +12 V (8.75 Watts)	LX800: 1.74 A @ +5 V, 0.1 A @ +12 V (9.9 Watts)
	Battery	3 V/210 mAH	Lithium 3 V / 210 mAH	Lithium 3 V/210 mAH
Environment	Operational Temperature	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operational Temperature	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W x H)	96 x 90 mm (3.8" x 3.5")	96 x 115 mm (3.8" x 4.5")	96 x 90 mm (3.8" x 3.5")
	Weight	0.508 kg (1.12 lb)	0.574 kg (1.26 lb) (with heat-sink)	0.556 kg (1.22 lb)
Operating System	Microsoft Windows	Yes	Yes	Yes
	Linux	Yes	Yes	Yes
	SUSIAccess	-	Yes	Yes
Certifications	EMC	CE, FCC	CE, FCC	CE, FCC
Page		4-4	4-6	4-8

NEW





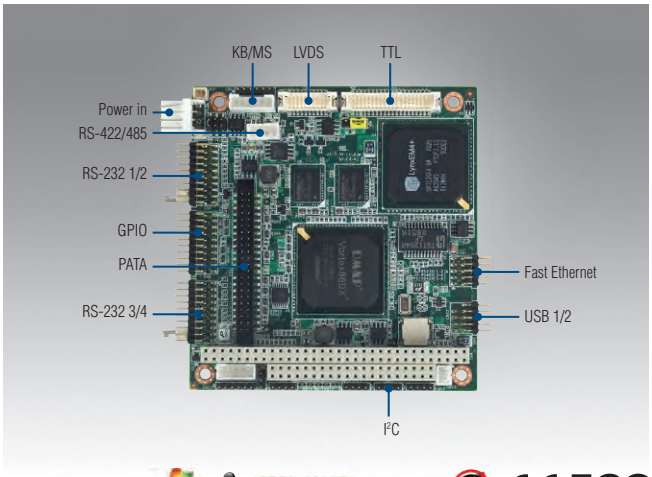




PCM-3356	PCM-3362	PCM-3363	PCM-4153
PC/104	PC/104-Plus	PCI-104	PC/104-Plus
AMD® G-Series™ Processor T16R	Intel Atom N450	Intel Atom D525/Intel Atom N455	AMD Geode™ LX800
615 MHz	1.66 GHz	1.8 GHz/1.66 GHz	500 MHz
1	1	2 / 1	1
512 KB	512 KB	1 MB/512 KB	128 KB
AMI 32-Mbit	AMI 16 Mbit	AMI 16 Mbit	Award 4-Mbit
AMD A55E	Intel ICH8M	Intel ICH8M	AMD Geode CS5536
DDR3 1066 MHz	DDR2 667 MHz	DDR3 800 MHz	DDR 333 MHz
4 GB	2 GB	1 GB	512 MB
1 x 204-pin SODIMM	1 x 200-pin SODIMM	-	-
-	-	1GB DDR3 800 MHz Memory	512 MB
AMD® G-Series™ Processor T16R	Intel Atom N450	Intel Atom D525/Intel Atom N455	AMD Geode™ LX800
DirectX 11 graphics with UVD 3.0, Open CL 1.1, Open GL 4.0 Hardware decode (UVD 3) for H.264, VC-1 and MPEG2	Intel Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware Acceleration	Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware Acceleration	-
Optimized shared memory architecture up to 384 MB system memory	Shared system memory up to 224 MB	Shared system memory up to 224 MB	Optimized shared memory architecture up to 64 MB system memory
Supports up to 1920 x 1200 at 85Hz	Supports up to SXGA 1400 x 1060 at 60 Hz	N455 single core up to 1400 x 1050 D525 dual core up to 2048 x 1536	Supports up to 1920 x 1440 x 32 bpp at 85 Hz Supports up to 1600 x 1200 x 32 bpp at 100 Hz
LVDS: Supports up to 1280 x 800 @ 18-bit	LVDS: Single channel 18-bit LVDS up to WXGA 1366 x 768	LVDS: Single channel 18/24-bit up to 1366 x 768 (WXGA)	TTL: Supports up to 1600 x 1200 x 32 bpp at 60 Hz for 24-bit single channel TFT
LVDS+VGA	VGA+LVDS	VGA+LVDS	VGA+TTL
1	-	-	-
1	-	1 (configurable to I²C by customer's request)	1
-	1	1 (supported by request)	-
1	-	-	-
-	-	1	-
-	1	-	1
GbE1: Realtek RTL8111E-VB-GR GbE2: Realtek RTL8111E-VB-GR	ICH8M + Intel 82567V (PHY)	ICH8M + Intel 82567V (PHY)	Fast Ethernet1: Intel 82551ER Fast Ethernet2: Intel 82551ER
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100 Mbps
Box Header	Pin Header	Locked Box Header	Box Header
Realtek ALC892	Intel High Definition audio interface (requires an audio extension module P/N: PCA-AUDIO-HDA1E)	Intel High Definition audio interface (requires an audio extension module P/N: PCA-AUDIO-HDA1E)	Realtek ALC203
Yes	Yes	Yes	Yes
1 SATA II	1 SATA II	1 SATA II	-
1 half size	-	-	-
-	-	-	1
-	-	1 CompactFlash socket (Type I/II)	-
-	2 GB/4 GB	-	1 GB (up to 4 GB)
-	-	-	1, 82077AA compatible (transfer from LPT, available by custom BIOS)
4	4	4	4
-	-	-	-
8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
-	-	-	1, IEEE 1284, EPP, and ECP compatible (FDD mode supported)
3 x RS-232/422/485	3 (2 RS-232, 1 RS422/485)	3 (2 x RS-232, 1 x RS-422/485)	4 (3 x RS-232, 1 x RS-232/422/485)
-	1	1	1
AT/ATX	AT/ATX	AT/ATX	AT
5 V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)	5 V ± 5% only to boot up (12 V is optional for LCD inverter and add-on card)	5 V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)	5V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)
1.38 A @ +5 V (6.9 Watts)	2 A @ +5 V, 5 mA @ +12 V (10.06 Watts)	N455: 1.404 A @ +5 V (7.02 Watts) D525: 1.85 A @ +5 V (9.25 Watts)	1.35 A @ +5 V, 0.1 A @ +12 V (7.95 Watts)
1.65 A @ +5 V (8.25 W)	2.37 A @ +5 V, 7 mA @ +12 V (11.93 Watts)	N455: 2.365 A @ +5 V (11.825 Watts) D525: 2.695 A @ +5 V (13.475 Watts)	1.51 A @ +5 V, 0.1 A @ +12 V (8.75 Watts)
Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH
0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40° C ~ 85° C and 60° C @ 95% RH non-condensing	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
96 x 115 mm (3.8" x 4.5")	96 x 90 mm (3.8" x 3.5")	96 x 90 mm (3.8" x 3.5")	96 x 115 mm (3.8" x 4.5")
0.590 kg (1.30 lb)	0.664 kg (1.46 lb) (with heat-sink)	0.664 kg (1.46 lb) (with heat-sink)	0.574 kg (1.26 lb) (with heat-sink)
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
CE, FCC	CE, FCC	CE, FCC	CE, FCC
4-10	4-12	4-14	4-16

PCM-3343

DM&P Vortex86DX-800MHz PC/104 SBC, LCD, Ethernet, CF, Onboard Memory



VxWorks® Windows Embedded Linux QNX

CE FCC

Features

- Ultra low power, fanless DM&P Vortex86DX- 800MHz and 256 MB onboard DDR2 memory
- VGA+LCD dual display outputs, 24-bit LVDS/TTL supported
- Integrated Floating Point Unit
- Supports 2 Fast Ethernet ports in standard PC/104 96 x 90 mm dimensions
- Supports embedded software APIs and Utilities

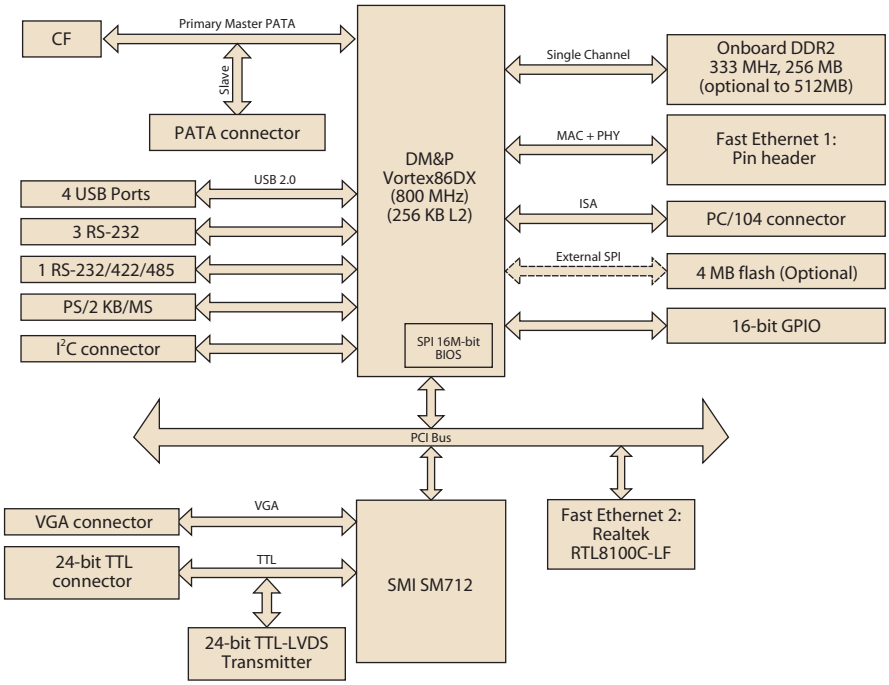
Software APIs: Watchdog, I²C, Brightness, GPIO, Backlight On/Off

Utilities: BIOS flash

Specifications

Processor System	CPU	DM&P Vortex86DX 800 MHz, supports Floating Point Unit (FPU)
	Frequency	800 MHz
	L2 Cache	256 KB
	System Chipset	DM&P Vortex86DX- 800 MHz
	BIOS	Award integrated 16 Mbit ROM in SOC
Memory	Technology	DDR2 333 MHz SDRAM on board
	Max. Capacity	512 MB
	Onboard Memory	Onboard 256 MB (512 MB supported by request)
Display	Chipset	SMI SM712
	VRAM	4 MB internal memory
	Graphics Engine	62.5 MHz single clock/cycle engine (EM+) 86 MHz single clock/cycle engine (EM4+) Designed to accelerate DirectDraw
	LVDS	Single channel 24-bit LVDS up to 1024 x 768
	VGA	Supports up to 1024 x 768 at 85 Hz
	TTL LCD	Supports up to 1024 x 768 at 24 bit single channel TFT LCD Panel
	Dual Display	VGA+TTL, VGA+LVDS
Ethernet	Speed	10/100 Mbps
	Controller	Fast Ethernet1: Vortex86DX SOC integrated Fast Ethernet2: Realtek RTL8100C-LF
	Connector	Pin Header
Watchdog Timer		System reset Software programmable counter from 30.5μ sec. to 512 sec. x 2 sets
Storage	CompactFlash	CompactFlash socket (Type I/II),shared with primary master PATA
	PATA	1 Channel
	SPI Flash	Optional onboard 4 MB SPI Flash Disk (Supported by request for boot device or storage on DOS OS)
Internal I/O	USB	4 x USB 2.0
	Serial	3 RS-232 from COM1/3/4, 1 RS-232/422/485 from COM2 with RS-485 auto flow control (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV), COM1/2 supports console mode
	Keyboard/Mouse	1
	GPIO	16-bit general purpose input/output
	I²C	1
Expansion	PC/104 Slot	1
Power	Power Type	AT
	Power Supply Voltage	5V ± 5% only to boot up (12 V is optional for LCD inverter and add-on card)
	Power Consumption (Typical: Idle in WinXPe)	0.74 @ +5 V, 3.7 Watts (Vortex86DX 800 MHz, DDR2 256 MB)
	Power Consumption (Max, test in passmark burn-in program)	0.85 A @ +5 V, 4.25 Watts (Vortex86DX 800 MHz, DDR2 256 MB)
	Battery	3 V/210 mAH
	Power Management	APM 1.2
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
	Weight	0.508 kg (1.12 lb)
	Height	Top side: 8.6 mm; Bottom side: 10.6 mm

Block Diagram



Ordering Information

Model	CPU	L2 Cache	Memory	VGA	LVDS	TTL	Fast Ethernet	USB 2.0	RS-232	RS-232/ 422/485	PATA	KB/ MS	Thermal solution	Expansion	Operational Temp
PCM-3343EL-256A1E	DM&P Vortex86DX 800 MHz	256 KB	Onboard 256 MB	-	-	-	1	2	1	1	1	Yes	Passive	PC/104	0 ~ 60° C
PCM-3343EF-256A1E	DM&P Vortex86DX 800 MHz	256 KB	Onboard 256 MB	Yes	Yes	1	2	4	3	1	1	Yes	Passive	PC/104	0 ~ 60° C
PCM-3343Z-256A1E	DM&P Vortex86DX 800 MHz	256 KB	Onboard 256 MB	Yes	Yes	1	2	4	3	1	1	Yes	Passive	PC/104	-20 ~ 80° C
PCM-3343Z2-256A1E	DM&P Vortex86DX 800 MHz	256 KB	Onboard 256 MB	Yes	Yes	1	2	4	3	1	1	Yes	Passive	PC/104	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-3343 SBC	
	Startup Manual	
	Utility CD	
1700060202	Cable 6P-6P-6P PS/2 KB & MOUSE 20 cm	1
1703060053	PS2 Cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	1
1703100260	USB cable 2 port 2.0 mm pitch w/ bracket 26 cm	1
1701200220	RS-232 x 2 ports 2.0mm pitch 22 cm	2
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	1
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 mm 15 cm	1
1700017863	LAN cable RJ45/2 x 5P-2.0 15 cm	1
9660104000	PC/104 screw and copper post package	1
1960047356N001	Heatsink for DMP Vortex86DX (27 x 27 x 6.3 mm)	1

Optional Accessories

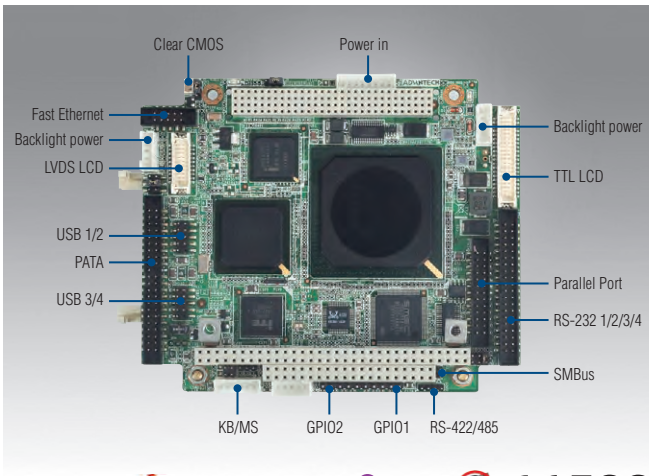
Part No.	Description
1701440350	PATA cable 44P/44P/44P 35 cm

Embedded OS/API

Embedded OS/API	Part No.	Description
WinCE	2070009763	CE 5.0 Pro PCM-3343 V1.3 ENG
	2070009536	CE 6.0 Pro PCM-3343 V1.3 ENG
	2070011080	CE 7.0 Pro PCM-3343 V1.0 ENG
Win XPE	2070009528	XPE WES2009 Vortex86DX V4.0 ENG
	2070009529	XPE WES2009 Vortex86DX V4.0 MUI24
QNX		6.4.1
Linux		Ubuntu 10.04.1
VxWorks		5.5
Software API	205E343000	SUSI 3.0 SW API for PCM-3343 B:20091209 XP

PCM-3353

AMD LX800/LX600 PC/104-Plus SBC, VGA, LVDS, TTL, Ethernet, USB, COM, CF



VxWorks® Windows Embedded QNX susiAccess CE FCC

Features

- AMD low power LX800 500 MHz/LX600 366 MHz processor
- 24-bit TFT LCD interface, 18/24-bit (JEIDA format) LVDS display
- PC/104-plus expansion
- Supports up to 4 COM ports, 4 USB ports
- Supports SUSIAccess and Embedded Software APIs

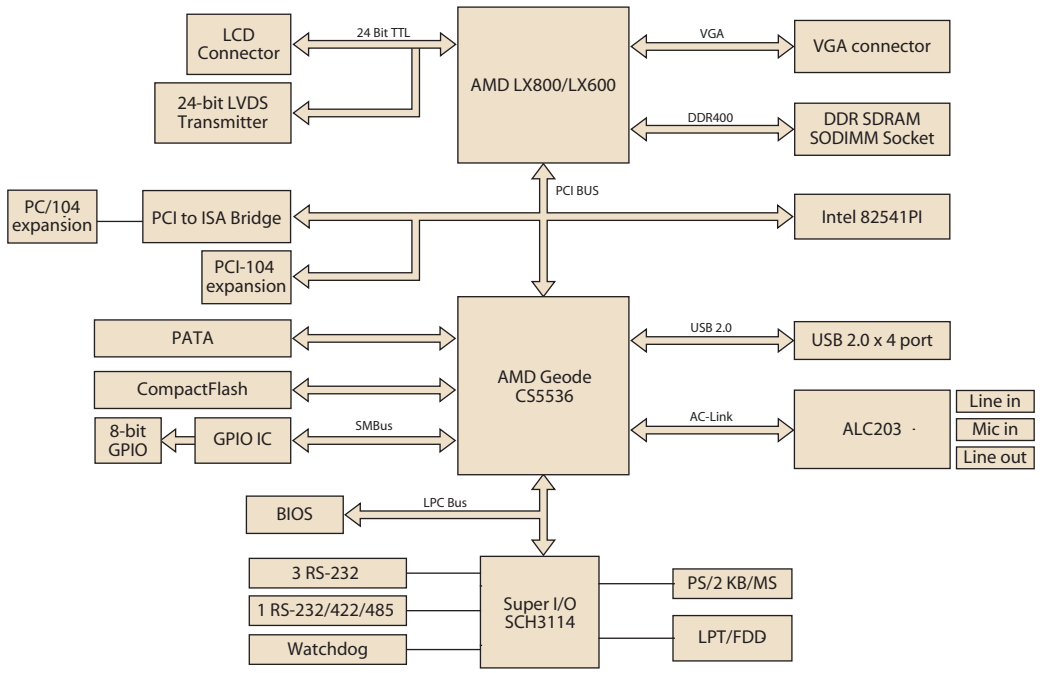
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Backlight On/Off, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD Geode™ LX800 500 MHz/AMD Geode™ LX600 366 MHz
	Frequency	500 MHz / 366 MHz
	L2 Cache	128 KB
	System Chipset	AMD CS5536
	BIOS	Award 4-Mbit
Memory	Technology	DDR 333/400 MHz
	Max. Capacity	1 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	AMD Geode LX800 / LX600
	VRAM	Optimized Shared Memory Architecture up to 64 MB system memory
	LVDS	Single channel 18/24-bit (JEIDA format) LVDS up to 1600 x 1200 x 32 bpp at 60 Hz
	VGA	Supports up to 1920 x 1440 x 32 bpp at 85 Hz Supports up to 1600 x 1200 x 32 bpp at 100 Hz
	TTL LCD	Supports up to 1600 x 1200 x 32 bpp at 60 Hz for 24-bit single channel TFT Panel
	Dual Display	VGA+TTL, VGA+LVDS
Ethernet	Speed	10/100/1000 Mbps
	Controller	Intel 82541PI
	Connector	Box Header
Audio	Chipset	Realtek ALC203 (Line-in, Line-out, Mic-in)
Watchdog Timer		Output System Reset Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	CompactFlash socket (Type I)
	PATA	1 Channel
	Floppy	1, 82077AA compatible (transfer from LPT, available by custom BIOS)
Internal I/O	USB	4 x USB 2.0
	Serial	3 RS-232 from COM1/3/4, 1 RS-232/422/485 from COM2 with RS-485 auto flow control (ESD protection for RS-232: Air gap ±15 kV, Contact ±8 kV)
	Parallel (LPT)	1, IEEE 1284, EPP, and ECP compatible (FDD mode supported)
	SMBus	1
	Keyboard/Mouse	1
	GPIO	8-bit general purpose input/output
Expansion	PC/104-Plus Slot	1
Power	Power Type	AT
	Power Supply Voltage	5V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Typical)	LX800: 1.35 A @ +5 V, 0.1 A @ +12 V (7.95 Watts)
	Power Consumption (Max, test in HCT)	LX800: 1.51 A @ +5 V, 0.1 A @ +12 V (8.75 Watts)
	Power Management	APM1.2
	Battery	Lithium 3 V / 196 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 115 mm (3.8" x 4.5")
	Weight	0.574 kg (1.26 lb) (with heat-sink)
	Height	Top side: 11.45 mm; Bottom side: 10.6 mm

Block Diagram



Ordering Information

Part No.	CPU	Memory	VGA	LVDS	TTL	GbE	USB 2.0	RS-232	RS-232/ 422/485	Audio	Expansion	Thermal Solution	Operational Temp.
PCM-3353F-L0A2E	AMD LX800	SODIMM	Yes	18/24-bit	24-bit	1	4	3	1	Yes	PC/104+	Passive	0 ~ 60° C
PCM-3353F-J0A2E	AMD LX600	SODIMM	Yes	18/24-bit	24-bit	1	4	3	1	Yes	PC/104+	Passive	0 ~ 60° C
PCM-3353Z-L0A1E	AMD LX800	SODIMM	Yes	18-bit	24-bit	1	4	3	1	Yes	PC/104+	Passive	-20 ~ 80° C
PCM-3353Z2-L0A1E	AMD LX800	SODIMM	Yes	18-bit	24-bit	1	4	3	1	Yes	PC/104+	Passive	-40 ~ 85° C

Note: Wide temperature range version (Z/Z2) should bundle with wide temp DDR SDRAM Memory (PN:SQR-SD1I-512M400SN) for shipment, otherwise it will cause unexpected system crash.
Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-3353 SBC	
	Startup Manual	
	Utility CD	
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 mm 15 cm	1
1700000918	Audio cable 10 cm	1
1700003491	AT power cable 1 x 8P-2.0/B4P-5.08 x 2 15 cm	1
1700060202	Cable 6P-6P-6P PS/2 KB & Mouse 20 cm	1
1700260250	LPT Port cable 25P to 26P 2.0 mm 25 cm	1
1701100202	LAN Flat Cable IDC10P 2.0 mm/RJ-45 20 cm	1
1701400181	COM 4 ports Flat Cable 18 cm IDC40P 2.0 mm	1
1701440350	IDE cable 44P/44P/44P 35 cm	1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	1
1703060053	PS2 Cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	1
1703100121	USB 2-Port cable 10P 12 cm IDC 2.0 mm	1
9660104000	PC/104 screw and copper post package	1
1960005764	Heatsink for PCM-3353 (80.44 x 77.97 x 7.82 mm)	1

Optional Accessories

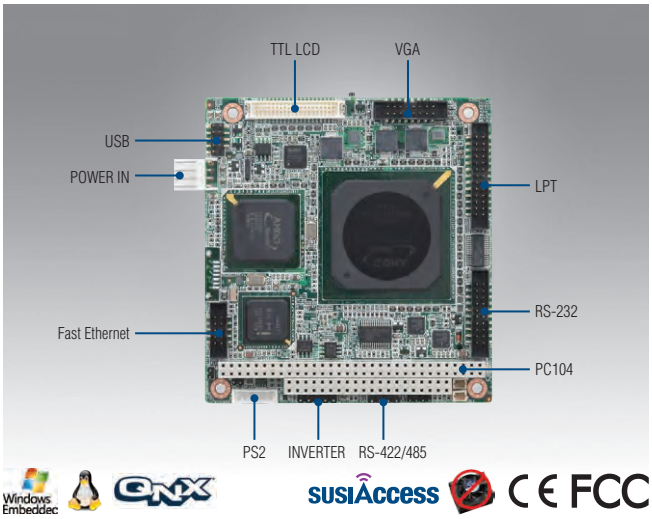
Part No.	Description
1653130421	PCI-104 connector 120-pin (Long pin)
165313222B	PC/104 connector 64-pin (Long pin)
165312022B	PC/104 connector 40-pin (Long pin)
1960037701N000	CF retainer for anti-vibration
1700001531	LPT to FDD cable

Embedded OS/API

Embedded OS/API	Part No.	Description
WinCE	2070000729	Image PCM-3353 CE 5.0 Pro Plus Eng
	2070001612	CE6.0 Pro GX3 4 COM V1.0 ENG
	2070005769	CE6.0 Pro GX3 2 COM V1.1 JPN
Win XPE	2070009905	Image XPE WES2009 PCM-3353 A2 V4.0 ENG
	2070009906	Image XPE WES2009 PCM-3353 A2 V4.0 24MUI
QNX		6.4.1/ 6.3.2
Linux		Ubuntu 10.04.1
VxWorks		5.5
Software API	205E000019	SUSI 3.0 SW API for ESBC B: 20091116 XP

PCM-3355

AMD LX800/LX600 PC/104 SBC, VGA, TTL, Ethernet, USB, COM, CF



Features

- AMD low power LX800/500 MHz and LX600/366 MHz Processor
- 24-bit TFT LCD interface
- Supports compact size 96 x 90 mm PC/104 standard dimensions
- Supports two RS-232, one RS-422/485, and two USB 2.0 ports
- Supports SUSIAccess and Embedded Software APIs

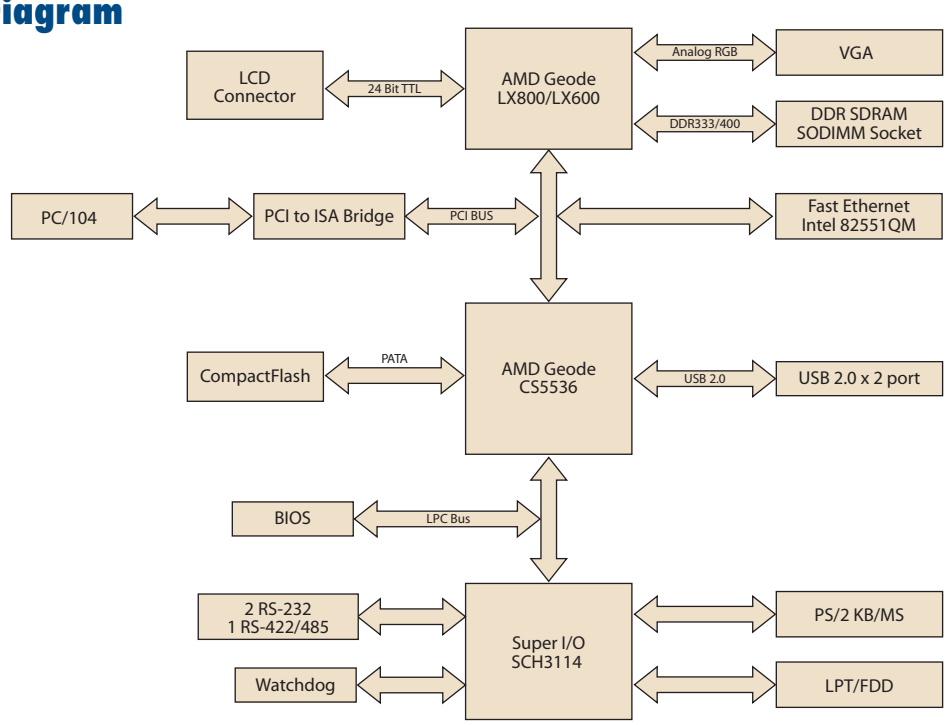
Software APIs: Watchdog, SMBus, Brightness, H/W Monitor, Backlight On/Off

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD Geode™ LX800, 500 MHz/AMD Geode™ LX600, 366 MHz
	Frequency	500 MHz/ 366 MHz
	L2 Cache	128 KB
	System Chipset	AMD CS5536
	BIOS	Award 4-Mbit
Memory	Technology	DDR 333/400 MHz
	Max. Capacity	1 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	AMD Geode LX800/LX600
	VRAM	Optimized Shared Memory Architecture up to 64 MB system memory
	VGA	Supports up to 1920 x 1440 x 32 bpp at 85 Hz Supports up to 1600 x 1200 x 32 bpp at 100 Hz
	TTL LCD	Supports up to 1600 x 1200 x 32 bpp at 60 Hz for 24-bit single channel TFT
	Dual Display	VGA+TTL
Ethernet	Speed	10/100 Mbps
	Controller	Intel 82551QM
	Connector	Box Header
Watchdog Timer		Output System Reset Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	CompactFlash socket (Type I)
	Floppy	1, 82077AA compatible (transfer from LPT, available by custom BIOS)
Internal I/O	USB	2 x USB 2.0
	Serial	2 RS-232 from COM1/2, 1 RS-422/485 from COM3 with RS-485 auto flow control (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	Parallel (LPT)	1, IEEE 1284, EPP, and ECP compatible (FDD mode supported)
	SMBus	1
	Keyboard/Mouse	1
Expansion	PC/104 Slot	1
Power	Power Type	AT
	Power Supply Voltage	5V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Typical)	LX800: 1.45 A @ +5 V, 2 mA @ +12 V (7.27 Watts)
	Power Consumption (Max, test in HCT)	LX800: 1.74 A @ +5 V, 0.1 A @ +12 V (9.9 Watts)
	Power Management	ACPI/ APM1.2
	Battery	Lithium 3 V/210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
	Weight	0.556 kg (1.22 lb)
	Height	Top side: 8.7 mm; Bottom side: 10.6 mm

Block Diagram



Ordering Information

Part No.	CPU	Memory	TTL	Fast Ethernet	USB2.0	RS-232	RS-422/485	Expansion	Thermal Solution	Operating Temp.
PCM-3355E-L0A1E	AMD LX800	SODIMM	24-bit	1	2	2	1	PC/104	Passive	0 ~ 60° C
PCM-3355L-J0A1E	AMD LX600	SODIMM	24-bit	1	2	2	1	PC/104	Passive	0 ~ 60° C
PCM-3355EZ-512LA1E	AMD LX800	512 MB bundle	24-bit	1	2	2	1	PC/104	Passive	-20 ~ 80° C
PCM-3355EZ2512LA1E	AMD LX800	512 MB bundle	24-bit	1	2	2	1	PC/104	Passive	-40 ~ 85° C

Note: Wide temperature version is bundled with extended temperature grade memory module
Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-3355 SBC	
	Startup Manual	
	Utility CD	
1700060202	Cable 6P-6P-6P PS/2 KB & Mouse 20 cm	1
1700260250	LPT Port cable 25P to 26P 2.0 mm 25 cm	1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	1
1703060053	PS2 Cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	1
1703100121	USB 2-Port cable 10P 12 cm IDC 2.0 mm	1
1701200220	RS-232 x 2 ports 2.0 mm 22 cm	1
1701160150	VGA cable 15P to 16P 2.0 mm D-SUB 15 cm	1
1700005158	LAN cable RJ-45 10P-2.0 mm 12 cm	1
9660104000	PC/104 screw and copper post package	1
1960016313T000	Heatsink for PCM-3355 (LX800/ LX600, 47.1 x 47.1 x 7.5 mm)	1
1960016315T000	Heatsink for PCM-3355 (CS5536, 22.7 x 22.8 x 6.3 mm)	1

Optional Accessories

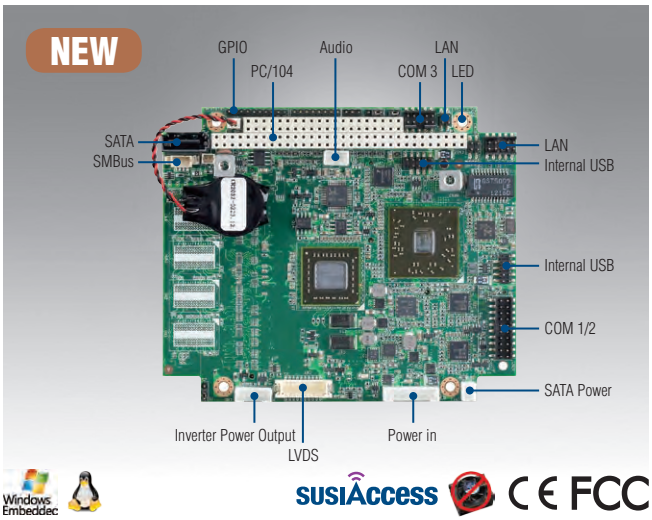
Part No.	Description
165313222B	PC/104 connector 64-pin (Long pin)
165312022B	PC/104 connector 40-pin (Long pin)
1700001531	LPT to FDD cable

Embedded OS/API

Embedded OS/API	Part No.	Description
WinCE	2070007869	Image CE 6.0 Pro PCM-3355 V1.2 ENG
Win XPE	2070007790	XPE WES2009 PCM-3355 Image GX3 V4.0 ENG
	2070007910	XPE WES2009 GX3 LX800 V4.0 MUI24
QNX		6.4.1
Linux		Ubuntu 10.04.1
VxWorks		5.5
Software API	205E000019	SUSI 3.0 SW API for ESBC B: 20091116 XP

PCM-3356

AMD T16R PC/104 SBC, VGA, LVDS, LAN, USB, COM, SATA



Features

- AMD® G-Series™ Processor T16R 615 MHz
- Supports up to 4 GB DDR3 SODIMM
- Supports 18-bit LVDS and VGA
- Supports 3 COM ports, 4 USB 2.0 ports, dual GbE and audio codec
- Supports extended temp: -40 ~ 85° C
- Expansion: PC/104 and half size mini PCIe
- Supports SUSIAccess and Embedded Software APIs

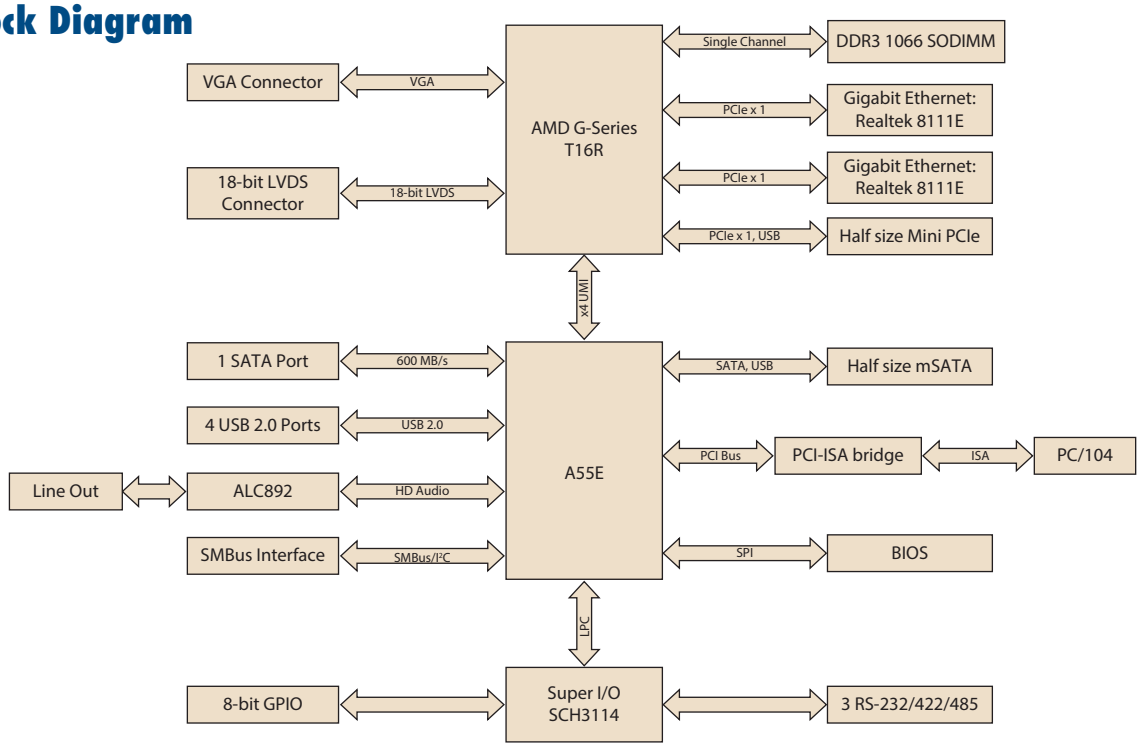
Software APIs: Watchdog, SMBus, H/W Monitor, GPIO, Brightness Control, Backlight On/Off

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD® G-Series™ Processor T16R 615MHz
	Frequency	615 MHz
	L2 Cache	512 KB
	System Chipset	AMD G-Series + A55E
	BIOS	AMI 32-Mbit
Memory	Technology	DDR3 1066 MHz
	Max. Capacity	4 GB
	Socket	1 x 204-pin SODIMM
Display	Chipset	AMD G-Series
	Graphics Engine	DirectX 11 graphics with UVD 3.0, Open CL 1.1, Open GL 4.0 Hardware decode (UVD 3) for H.264, VC-1 and MPEG2
	VRAM	Optimized shared memory Architecture up to 384 MB system memory
	LVDS	Supports up to 1280 x 800 @ 18-bit LVDS
	VGA	Supports up to 1920 x 1200 at 85Hz
	Dual Display	LVDS + VGA
Ethernet	Interface	10/100/1000 Mbps
	Controller	LAN1: Realtek RTL8111E-VB-GR LAN2: Realtek RTL8111E-VB-GR
	Connector	Box header
Audio	Chipset	Realtek ALC892, High Definition Audio (HD), Line out
WatchDog Timer		Output System reset, Programmable 1 ~ 255 sec
Internal I/O	SATA	1 x SATA 2.0
	mSATA	1 (Half size)
	USB	4 x USB 2.0
	Seriel	3 x RS-232/422/485 with auto flow control (ESD protection: Air gap ±15kV, Contact ±8kV)
	SMBUS	1
	GPIO	8-bit GPIO
Expansion	PC/104 Slot	1
	Mini PCI Express	1 (Half size)
Power	Power Type	AT/ATX
	Power Supply Voltage	5V only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Typical)	1.38 A @ +5 V (6.9 Watts)
	Power Consumption (Max, test in HCT)	1.65 A @ +5 V (8.25 W)
	Power Management	ACPI 4.0
	Battery	Lithium 3 V / 210 mAH
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 115 mm (3.8" x 4.5")
	Weight	0.590 kg (1.30 lb)
	Height	Top side:19.5 mm (F), Bottom side:10.6 mm

Block Diagram



Ordering Information

Part Number	CPU	Memory	VGA	LVDS	GbE	USB 2.0	RS-232/422/485	Audio	mSATA	miniPCIe	Expansion	Thermal Solution	Operating Temp
PCM-3356F-M0A1E	T16R	SODIMM	1	18-bit	2	4	3	Yes	1	1 (half size)	PC/104	Passive	0 ~ 60° C
PCM-3356Z-2GM0A1E	T16R	2GB Bundle	1	18-bit	2	4	3	Yes	1	1 (half size)	PC/104	Passive	-20 ~ 80° C
PCM-3356Z2-2GM0A1E	T16R	2GB Bundle	1	18-bit	2	4	3	Yes	1	1 (half size)	PC/104	Passive	-40 ~ 85° C

Packing List

Part No.	Description	Quantity
	PCM-3356 SBC	
	Startup Manual	
1700018799	M Cable SATA 7P/SATA 7P 90/180 25cm	1
1700000898	VGA cable D-SUB 15P(F)/12P-1.25MM 14CM x1	1
1703100121	2*5P-2.0/USB-A(F)*2 12CM x2	2
1701200220	COM RS-232 Cable 2*10P-2.0/D-SUB 9P(M)*1 22CM x1	1
1700019414	COM RS-422/485 Cable 2*5P-2.0/D-SUB 30CM x1	1
1700003491	ATX/AT power cable 1*8P-2.0/B4P-5.08*2 15cm x1	1
1700018259	SATA power cable for 5V connector, 1*5P-3.81/1*2P-2.0 20CM C=R,B	1
1700020638-01	Audio cable 1*3P-2.0/Phone JACK 20cm x1	1
1700017863	LAN cable RJ45/2*5P-2.0 15cm x2	2
1960058627T001	Heatsink for PCM-3356 (105 x 77.97 x 19.5 mm)	1
9689000002	mini jumper pack (black) x1	1
9660104000	PC/104 screw and copper post package x1	1

Optional Accessories

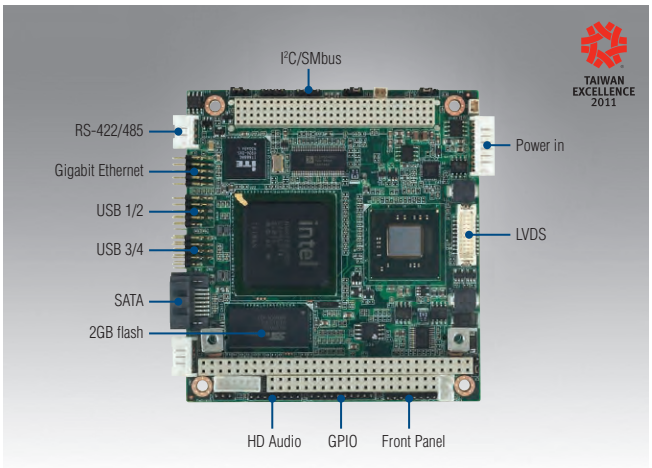
Part No.	Description
165313222B	PC/104 connector 64-pin (Long pin)
165312022B	PC/104 connector 40-pin (Long pin)
1703150102	SATA Power cable B4P-5.08/SATA 15P 10cm x1

Embedded OS/API

Embedded OS/API	Part No.	Description
WES7	2070012057	image WES7E PCM-3356 V5.1.5
Win XPE	2070012056	image WES2009 PCM-3356 V4.4 24MUI; SA
WinCE 6.0		WinCE 6.0
WinCE 7.0	2070012240	image WEC7 PCM-3356 V1.0 Eng
Linux		Ubuntu 12.04
Software API		SUSI V3.0

PCM-3362

Intel® Atom™ N450 PC/104-Plus SBC, VGA, LVDS, Ethernet, USB, COM, SATA, Onboard Flash



Features

- Intel® Atom™ N450 1.66 GHz Processor and DDR2 667 MHz SDRAM up to 2 GB
- Supports extended temperature -40 ~ 85° C
- Standard 96 x 90 mm dimensions and PC/104-Plus expansion connector
- Onboard 2 GB flash (4 GB optional)
- Supports SUSIAccess and Embedded Software APIs

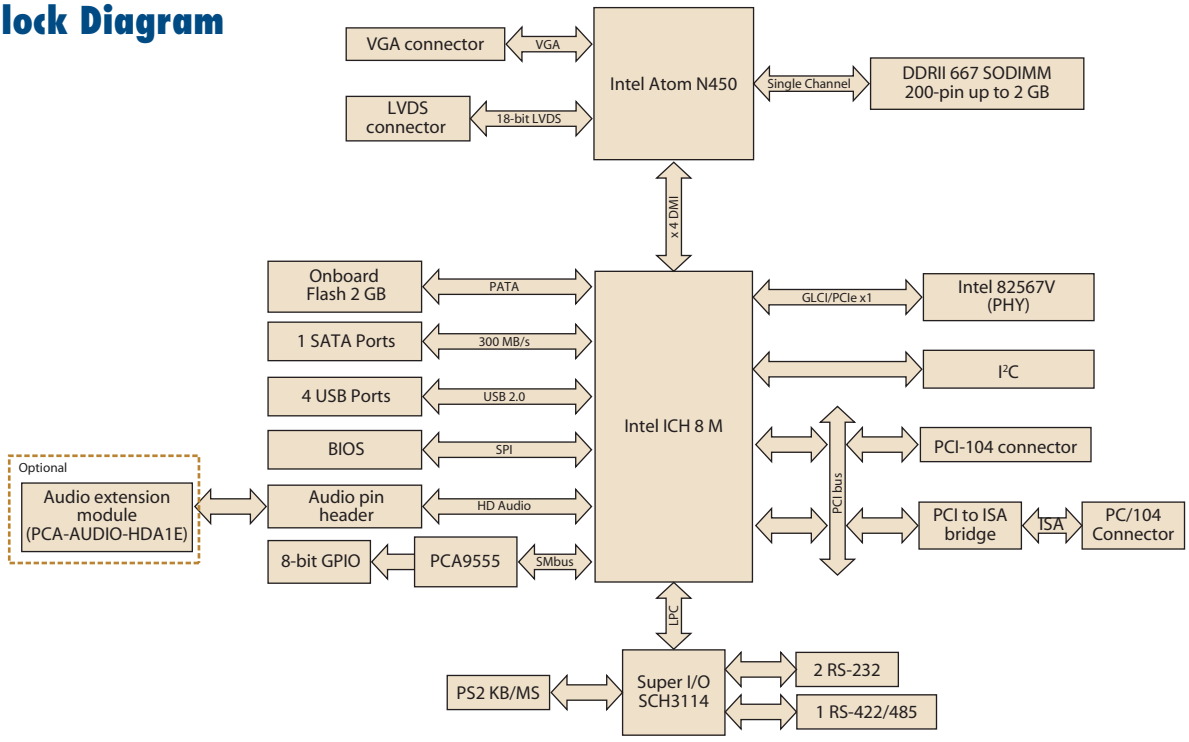
Software APIs: Watchdog, I²C, Brightness, H/W Monitor, GPIO, Backlight On/Off

Utilities: Monitoring

Specifications

Processor System	CPU	Intel Atom N450 1.66 GHz
	Frequency	1.66 GHz
	L2 Cache	512 KB
	System Chipset	Intel Atom N450 + ICH8M
	BIOS	AMI 16 Mbit
Memory	Technology	DDR2 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	Intel Atom N450 1.66 GHz
	VRAM	Shared system memory up to 224 MB
	Graphics Engine	Intel Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware Acceleration
	LVDS	Single channel 18-bit LVDS up to WXGA 1366 x 768
	VGA	Supports up to SXGA 1400 x 1060 at 60 Hz
	Dual Display	VGA+LVDS
Ethernet	Speed	10/100/1000 Mbps
	Controller	ICH8M + Intel 82567V (PHY), supports Wake-on-LAN
	Connector	Pin Header
Watchdog Timer		Output System Reset Programmable counter from 1 ~ 255 minutes/ seconds
Storage	SATA	1 SATAII, up to 3.0 GB/s (300 MB/s)
	Onboard Flash	2 GB (Up to 4 GB)
Internal I/O	USB	4 x USB 2.0
	Serial	2 RS-232 from COM1/2, 1 RS-422/485 from COM3 (ESD protection for RS-232: Air gap ±15 kV, Contact ±8 kV)
	Keyboard/Mouse	1
	GPIO	8-bit general purpose input/output
	I²C	1
	Audio	Intel High Definition audio interface
Expansion	PC/104-Plus Slot	1
Power	Power Type	AT/ATX
	Power Supply Voltage	5 V ± 5% only to boot up (12 V is optional for LCD inverter and add-on card)
	Power Consumption (Typical)	2 A @ +5 V, 5 mA @ +12 V (10.06 Watts)
	Power Consumption (Max, test in HCT)	2.37 A @ +5 V, 7 mA @ +12 V (11.93 Watts)
	Battery	Lithium 3 V / 210 mAH
	Power Management	ACPI/ APM 1.2
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
	Weight	0.664 kg (1.46 lb) (with heat-sink)
	Height	Top side: 14.4 mm, 19.4 mm (Z & Z2); Bottom side: 10.6 mm

Block Diagram



Ordering Information

Part No.	CPU	Memory	On board Flash	VGA	LVDS	Gigabit Ethernet	USB 2.0	RS-232	RS-422/485	Expansion	Thermal Solution	Operating Temp.
PCM-3362N-S6A1E	Atom N450	SODIMM	2 GB	Yes	18-bit	1	4	2	1	PC/104+	Passive	0 ~ 60° C
PCM-3362N-S6F4A1E	Atom N450	SODIMM	4 GB	Yes	18-bit	1	4	2	1	PC/104+	Passive	0 ~ 60° C
PCM-3362Z-1GS6A1E	Atom N450	1 GB bundle	2 GB	Yes	18-bit	1	4	2	1	PC/104+	Passive	-20 ~ 80° C
PCM-3362Z2-1GS6A1E	Atom N450	1 GB bundle	2 GB	Yes	18-bit	1	4	2	1	PC/104+	Passive	-40 ~ 85° C

Note: Wide temperature version is bundled with extended temperature grade memory module
Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-3362 SBC	
	Startup Manual	
	Utility CD	
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 mm15 cm	1
1700003491	AT power cable 1 x 8P-2.0/B4P-5.08 x 2 15 cm	1
1700060202	Cable 6P-6P-6P PS/2 KB & Mouse 20 cm	1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	1
1703060053	PS2 cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	1
1700002332	ATX power cable 20P-13P/8P/3P/3P 13 cm	1
1703100260	USB cable 2 ports 2.0 mm pitch w/ bracket 26 cm	1
1700071000	SATA data cable 7p 100 cm	1
1703150102	SATA power cable B4P-5.08/SATA 15P 10 cm	1
1701200220	RS-232 x 2 ports 2.0 mm 22 cm	1
1700017863	LAN cable RJ-45/2 x 5P-2.0 15 cm	1
9660104000	PC/104 screw and copper post package	1
1960045487T001	Heatsink for PCM-3362 (79.66 x 77.97 x 12.22 mm)	1
1960046618T001	Heatsink for PCM-3362Z&Z2 series only (79.66 x 77.97 x 17.22 mm)	1

Optional Accessories

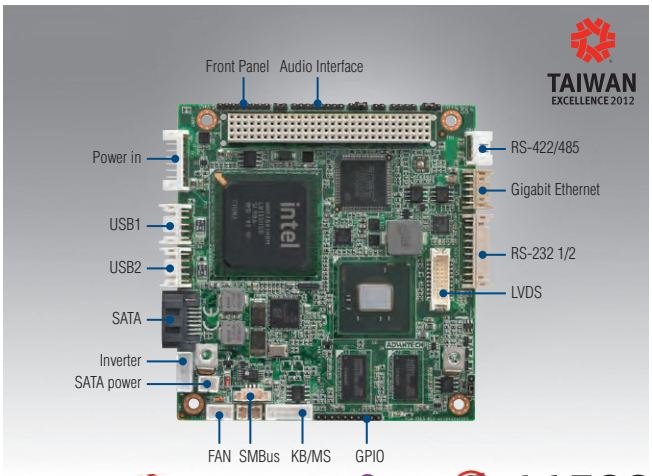
Part No.	Description
1960047106T001	Heat spreader (79.66 x 77.98 x 10.32 mm) of PCM-3362
1653130421	PCI-104 connector 120-pin (Long pin)
165313222B	PC/104 connector 64-pin (Long pin)
165312022B	PC/104 connector 40-pin (Long pin)
PCA-AUDIO-HDA1E	Audio extension module with bracket
1700018427	Audio cable connecting PCM-3362 and PCA-AUDIO-HDA1E

Embedded OS/API

Embedded OS/API	Part No.	Description
WinCE	2070009692	CE 6.0 Pro PCM-3362 V1.3 ENG
	2070011081	WinCE 7.0 Pro PCM-3362 V1.0 ENG
Win XPE	2070010323	XPE WES2009 MUI24
QNX		6.5
Linux		Ubuntu 10.04.1
VxWorks		6.8
Software API	205E362000	SUSI 3.0 SW API for PCM-3362 B:20091015 XP

PCM-3363

Intel® Atom™ N455/D525 PCI-104 SBC, VGA, LVDS, Ethernet, USB, COM, SATA, Onboard Memory



VxWorks® Windows Embedded Linux QNX SUSIAccess CE FCC

Features

- Intel® Atom N455 1.66 GHz Single Core/D525 Dual Core 1.8 GHz Processor
- Supports extended temperature -40 ~ 85° C
- 24-bit LVDS support and onboard 1 GB DDR3 800 MHz memory
- HALT tested and 100% locked connector
- Supports Lite iManager, SUSIAccess and Embedded Software APIs

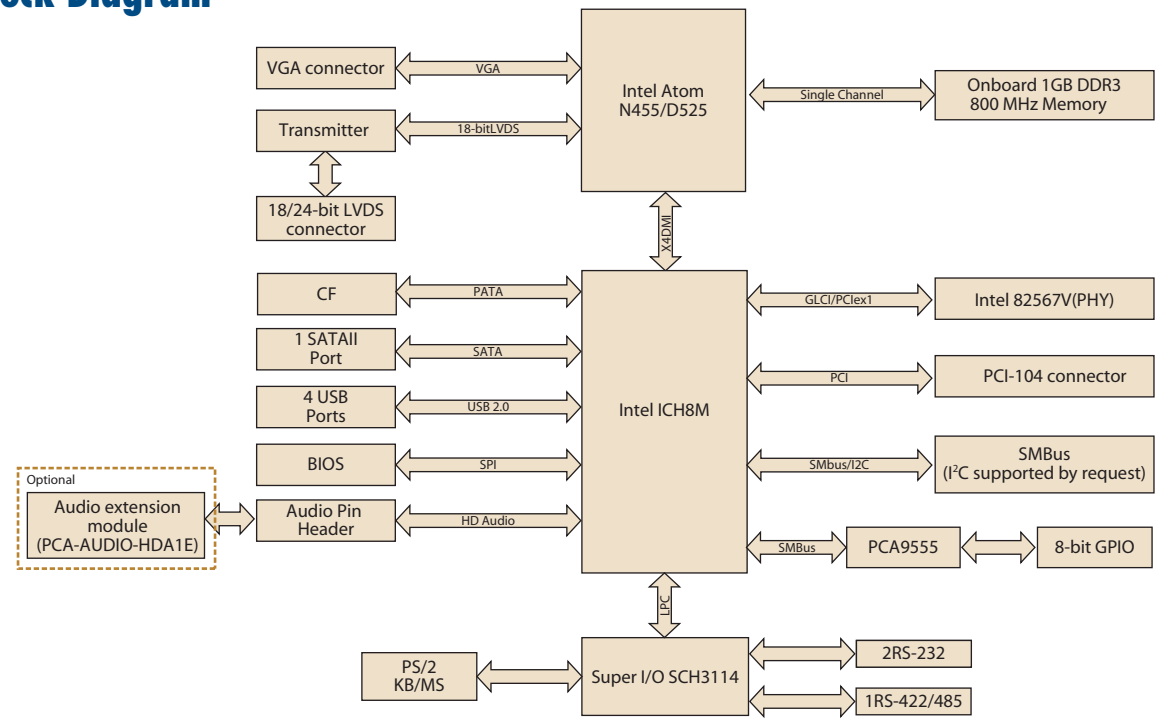
Software APIs: Watchdog, SMBus, I²C, Brightness, H/W Monitor, GPIO, Backlight On/Off

Utilities: Monitoring

Specifications

Processor System	CPU	Intel Atom N455 Single Core 1.66 GHz Intel Atom D525 Dual Core 1.8 GHz
	Frequency	1.66 GHz/1.8 GHz
	L2 Cache	512 KB/1 MB
	System Chipset	Intel Atom N455/D525 + ICH8M
	BIOS	AMI 16 Mbit
Memory	Technology	DDR3 800 MHz
	Max. Capacity	1 GB
	On board memory	1GB DDR3 800 MHz Memory
Display	Chipset	Intel Atom N455/D525
	VRAM	Shared system memory up to 224 MB
	Graphics Engine	Intel Atom N455 Single Core: Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware Acceleration, 200 MHz Intel Atom D525 Dual Core: Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware Acceleration, 400 MHz
	LVDS	Single channel 18/24-bit single channel LVDS up to 1366 x 768 (WXGA)
	VGA	Intel Atom N455 Single Core up to 1400 x 1050(SXGA) Intel Atom D525 Dual Core up to 2048 x 1536
	Dual Display	VGA+LVDS
Ethernet	Interface	10/100/1000 Mbps
	Controller	ICH8M + Intel 82567V (PHY), support Wake-on-LAN
	Connector	Locked Box Header
WatchDog Timer		Output System Reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	1 CompactFlash socket (Type I/II)
	SATA	SATAII, up to 3.0 GB/s (300 MB/s)
Internal I/O	USB	4 x USB 2.0
	Serial	2 RS-232 from COM1/2, 1 RS-422/485 from COM3 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	SMBus	1 (configurable to I²C by customer's request)
	Keyboard/Mouse	1
	GPIO	8-bit general purpose input/output
	Audio	Intel High Definition audio interface (requires an audio extension module P/N: PCA-AUDIO-HDA1E)
Expansion	PCI-104 Slot	1
Power	Power Type	ATX/AT
	Power Supply Voltage	5 V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)
	Power Management	ACPI
	Power Consumption (Typical)	N455: 1.404A @ +5 V (7.02 Watts); D525: 1.85 A @ +5 V (9.25 Watts)
	Power Consumption (Max, test in HCT)	N455: 2.365A @ +5 V (11.825 Watts); D525: 2.695 A @ +5 V (13.475 Watts)
	Battery	Lithium 3 V / 210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
	Weight	0.664 kg (1.46 lb) (with heat-sink)
	Height	Top side: 14.4 mm, 19.4 mm (D, Z & Z2); Bottom side: 10.6 mm

Block Diagram



Ordering Information

Part Number	CPU	L2 Cache	Memory	VGA	LVDS	GbE	USB 2.0	RS-232	RS-485	Expansion	Thermal Solution	Operating Temp
PCM-3363N-1GS6A1E	Atom N455 (1.66 GHz)	512 KB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	PCI-104	Passive	0 ~ 60° C
PCM-3363D-1GS8A1E	Atom D525 (1.8 GHz)	1 MB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	PCI-104	Active	0 ~ 60° C
PCM-3363Z-1GS6A1E	Atom N455 (1.66 GHz)	512 KB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	PCI-104	Passive	-20 ~ 80° C
PCM-3363Z2-1GS6A1E	Atom N455 (1.66 GHz)	512 KB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	PCI-104	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-3363 SBC	
	Startup Manual	
	Utility CD	
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 MM 15 cm	1
1700003491	ATX/AT power cable 1*8P-2.0/B4P-5.08*2 15 cm	1
1700060202	Cable 6P-6P-6P PS/2 KB & Mouse 20cm	1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	1
1703060053	PS2 cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	1
1700019000	USB cable 2-port 2.0 mm pitch w/ bracket 26 cm (w/ locked)	1
1700008941	SATA data cable 7p 32 cm (w/ locked)	1
1703150102	SATA power cable B4P-5.08/SATA 15P 10 cm	1
1700018999	RS-232 x2 ports 2.0 mm 22 cm (w/ locked)	1
1700019001	LAN cable RJ-45/2*5P-2.0 15 cm (w/ locked)	1
9660104000	PC/104 screw and copper post package	1
1960051405N001	Heatsink with FAN for PCM-3363D only (79.66 x 77.97 x 17.22 mm)	1
1960051403N001	Heatsink for PCM-3363N only (79.66 x 77.97 x 12.22 mm)	1
1960051404N001	Heatsink for PCM-3363Z&Z2 series only (79.66 x 77.97 x 17.22 mm)	1

Optional Accessories

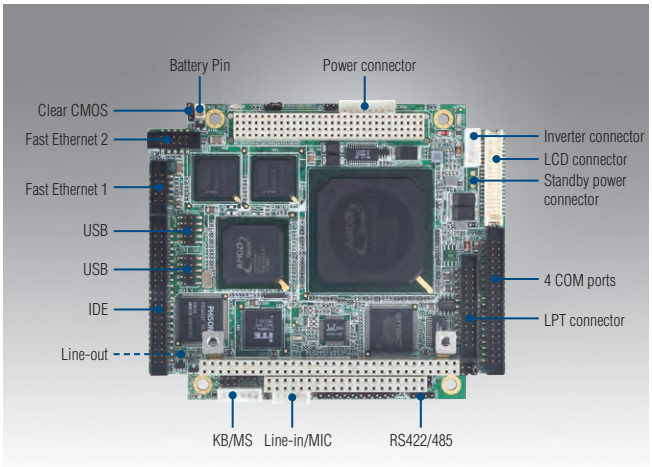
Part No.	Description
1960051701N001	Heat spreader (79.66 x 77.98 x 10.32 mm) for PCM-3363
1653130421	PCI-104 connector 120-pin (Long pin)
PCA-AUDIO-HDA1E	Audio Extension module with bracket
1700018427	Audio cable connecting PCM-3363 and PCA-AUDIO-HDA1E
1700018259	SATA power cable for onboard connector (5V only)

Embedded OS/API

Embedded OS/API	Part No.	Description
WES7	2070011094	WES7E PCM-3363 V5.1 ENG
WinCE	2070010619	WinCE 6.0 Pro PCM-3363 V1.2 ENG
	2070011056	WinCE 7.0 Pro PCM-3363 V1.0 ENG
Win XPE	2070010324	XPE WES2009 PCM-3363 V4.0 ENG
	2070010323	XPE WES2009 PCM-3363 V4.0 MUI24
QNX		6.5
Linux		Ubuntu 10.04.1
VxWorks		6.8
Software API		SUSI V3.0

PCM-4153

AMD LX800 PC/104-Plus SBC, Onboard Memory/ Flash, VGA, TTL, Extended Temp. -40 ~ 85° C



VxWorks® Windows Embedded ONX susiAccess CE FCC

Features

- AMD low power LX800 500 MHz processor
- Supports extended temperature range -40 ~ 85° C
- PC/104-plus expansion
- Onboard 1 GB Flash and onboard DDR 333MHz 512 MB memory
- Supports SUSIAccess and Embedded Software APIs

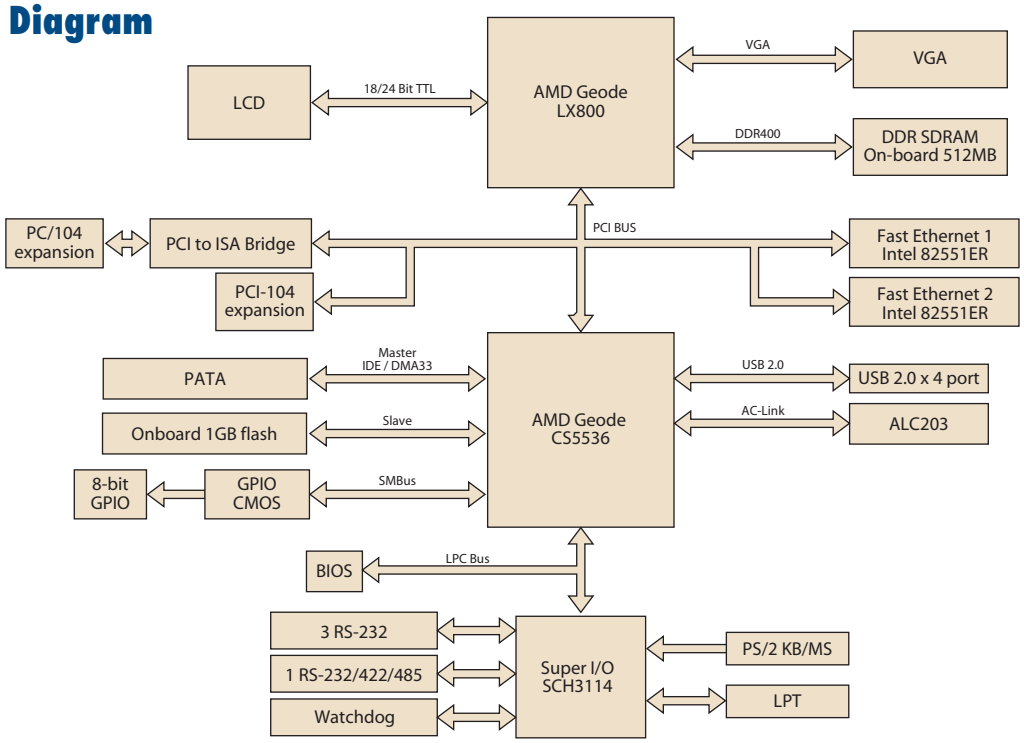
Software APIs: SMBus, H/W Monitor, Brightness, Watchdog, GPIO, Backlight On/Off

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD Geode™ LX800, 500 MHz
	Frequency	500 MHz
	L2 Cache	128 KB
	System Chipset	AMD Geode LX800, with AMD CS5536
	BIOS	Award 4-Mbit
Memory	Technology	DDR 333 MHz
	Max. Capacity	512 MB
	Onboard memory	512 MB
Display	Chipset	AMD Geode LX800
	VRAM	Optimized Shared Memory Architecture up to 64 MB system memory
	VGA	Supports up to 1920 x 1440 x 32 bpp at 85 Hz Supports up to 1600 x 1200 x 32 bpp at 100 Hz
	TTL LCD	Supports up to 1600 x 1200 x 32 bpp at 60 Hz for 24-bit single channel TFT
	Dual Display	VGA+TTL
Ethernet	Speed	10/100 Mbps
	Controller	Fast Ethernet1: Intel 82551ER Fast Ethernet2: Intel 82551ER
	Connector	Box Header
Audio	Chipset	Realtek ALC203
Watchdog Timer		Output System Reset Programmable counter from 1 ~ 255 minutes/ seconds
Storage	PATA	1 Channel
	Onboard Flash	1 GB
	Floppy	1, 82077AA compatible (transfer from LPT, available by custom BIOS)
Internal I/O	USB	4 x USB 2.0
	Serial	3 RS-232 from COM1/3/4, 1 RS-232/422/485 from COM2 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	Parallel (LPT)	1, IEEE 1284, EPP, and ECP compatible (FDD mode supported)
	SMBus	1
	Keyboard/Mouse	1
	GPIO	8-bit general purpose input/output
Expansion	PC/104-Plus Slot	1
Power	Power Type	AT
	Power Supply Voltage	5V ± 5% only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Typical)	1.35 A @ +5 V, 0.1 A @ +12 V (7.95 Watts)
	Power Consumption (Max, test in HCT)	1.51 A @ +5 V, 0.1 A @ +12 V (8.75 Watts)
	Power Management	ACPI/APM1.2
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 115 mm (3.8" x 4.5")
	Weight	0.574 kg (1.26 lb) (with heat-sink)
	Height	Top side: 11.45 mm; Bottom side: 10.6 mm

Block Diagram



Ordering Information

Part No.	CPU	Onboard Memory	VGA	TTL	Fast Ethernet	USB2.0	RS-232	RS-232/ 422/485	Onboard Flash	Audio	Expansion	Thermal Solution	Operating Temp.
PCM-4153F-L0A2E	AMD LX800	512 MB	Yes	18/24 bit	2	4	3	1	1 GB	Yes	PC/104+	Passive	0 ~ 60° C
PCM-4153FZ-L0A2E	AMD LX800	512 MB	Yes	18/24 bit	2	4	3	1	1 GB	Yes	PC/104+	Passive	-20 ~ 80° C
PCM-4153FZ2-L0A2E	AMD LX800	512 MB	Yes	18/24 bit	2	4	3	1	1 GB	Yes	PC/104+	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-4153 SBC	
	Startup Manual	
	Utility CD	
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 mm 15 cm	1
1700000918	Audio cable 10 cm	
1700003491	AT power cable 1 x 8P-2.0/B4P-5.08 x 2 15 cm	1
1700060202	Cable 6P-6P-6P PS/2 KB & Mouse 20 cm	1
1700260250	LPT port cable 25P to 26P 2.0 mm 25 cm	1
1700005158	LAN flat cable IDC10P 2.0 mm/RJ-45 20 cm	1
1701400181	COM 4 ports flat cable 18 cm IDC40P 2.0 mm	1
1701440350	IDE cable 44P/44P/44P 35 cm	1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	1
1703060053	PS2 cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	1
1703100121	USB 2-port cable 10P 12 cm IDC 2.0 mm	1
9660104000	PC/104 screw and copper post package	1
1960005764	Heatsink for PCM-4153 (80.44 x 77.97 x 7.82 mm)	1

Optional Accessories

Part No.	Dexcription
1653130421	PCI-104 connector 120-pin (Long pin)
165313222B	PC/104 connector 64-pin (Long pin)
165312022B	PC/104 connector 40-pin (Long pin)
1700001531	LPT to FDD cable

Embedded OS/API

Embedded OS/API	Part No.	Description
WinCE	2070000729	Image GX3 CE 5.0 Pro Plus Eng
	2070001612	CE 6.0 Pro GX3 4 Com V1.0 ENG
Win XPE	2070001576	XPE FP2007 GX3 (LX800) V3.0 ENG
	2070003216	XPE FP2007 GX3 Group V3.1 ENG (717.22 MB)
	2070003557	XPE FP2007 GX3 Group V3.0 CHS (641.41 MB)
QNX		V6.3.2/ 6.4.1
Linux		10.04.1
VxWorks		5.5
Software API	205E000019	SUSI 3.0 SW API for ESBC B: 20091116 XP

PC/104 Datacom Modules



PCM-3117

PCI to ISA Bridge Module

Specifications

General	
Bus Interface	PC/104-Plus
Controller	ITE IT8888F
Bus	PC/104 (ISA) and PC/104+ (PCI)
Mechanical and Environmental	
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
Weight	0.092 kg (0.203 lb)
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Storage Temperature	-40 ~ 85° C (-40 ~ 18° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Power	
Power Supply Voltage	+5 V, ±5 % tolerance on power supply
Power Consumption	+5 V @ 70 mA (typical)

Ordering Information

P/N	Description
PCM-3117-00A1E	PCI to ISA bridge module



PCM-3614/3618

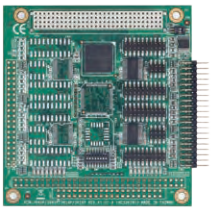
4/8-Port RS-422/485 High-speed PC/104 Module

Specifications

General	
Connectors	PC/104
Ports	PCM-3614:4 ; PCM-3618:8
Power Consumption	PCM-3614: +5 V @ 450 mA PCM-3618: +5V @ 650 mA
Communications	
Data Bits	5, 6, 7, 8
Data Signals	RS-422: TxD+, TxD-, RxD+, RxD-, CTS+, CTS-, RTS+ and RTSRS-(RTS- for PCM-3614) 485: DATA+, DATA-, CTS+, CTS-
IRQ	3, 4, 5, 6, 7, 9, 10, 11, 12, 15
Parity	None, Even and Odd
Speed	50 bps ~ 921.6 kbps
Stop Bits	1, 1.5, 2
Protection	
EFT Protection	1,000 V_{DC}
Mechanical and Environmental	
Operating Humidity	0 ~ 90 % RH
Operating Temperature	0 ~ 65°C (32 ~ 149°F) (IEC-68-1-1, 2)
Storage Temperature	-25 ~ 80°C (-13 ~ 176°F)
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")

Ordering Information

P/N	Description
PCM-3614-AE	4-port RS-422/485 High-Speed Module
PCM-3618-AE	8-port RS-422/485 High-Speed Module



PCM-3614I/3618I

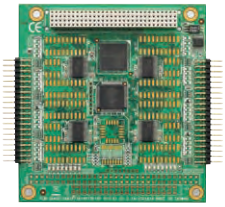
4/8-Port RS-232/422/485 PCI-104 Modules

Specifications

General	
Connectors	PCM-3614I: 1 x 40-pin box header, PCM-3618I: 2 x 40-pin box header
Ports	PCM-3614I: 4, PCM-3618I: 8
Power Consumption	+5 V @ 450 mA
Communications	
Data Bits	5, 6, 7, 8
Data Signals	RS-422: TxD+, TxD-, RxD+, RxD-, CTS+, CTS-, RTS+, RTS- RS-485: DATA+, DATA-, GND RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
IRQ	3, 4, 5, 6, 7, 9, 10, 11, 12, 15
Parity	None, even and odd
Speed	50 bps ~ 921.6 kbps
Stop Bits	1, 1.5, 2
Protection	
EFT Protection	1,000 V_{DC}
Mechanical and Environmental	
Operating Humidity	0 ~ 90 % RH
Operating Temperature	0 ~ 65° C (32 ~ 149° F)
Storage Temperature	-25 ~ 80° C (-13 ~ 176° F)
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")

Ordering Information

P/N	Description
PCM-3614I-AE	4-port RS-232/422/485 PCI-104 Module
PCM-3618I-AE	8-port RS-232/422/485 PCI-104 Module



PCM-3641I/3642I

4/8-Port RS-232 PCI-104 Modules

Specifications

General	
Connectors	PCM-3641I: 1 x 40-pin box header, PCM-3642I: 2 x 40-pin box header
Ports	PCM-3641I: 4, PCM-3642I: 8
Power Consumption	+5 V @ 250 mA (max.)
Communications	
Data Bits	5, 6, 7, 8
Data Signals	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
IRQ	3, 4, 5, 6, 7, 9, 10, 11, 12, 15
Parity	None, even and odd
Speed	50 bps ~ 460.3 kbps
Stop Bits	1, 1.5, 2
Protection	
EFT Protection	1,000 V_{DC}
Mechanical and Environmental	
Operating Humidity	0 ~ 90 % RH
Operating Temperature	0 ~ 65° C (32 ~ 149° F) (IEC-68-1-1, 2)
Storage Temperature	-25 ~ 80° C (-13 ~ 176° F)
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")

Ordering Information

P/N	Description
PCM-3641I-AE	4-port RS-232 PCI-104 Module
PCM-3642I-AE	8-port RS-232 PCI-104 Module



PCM-3680/I

2-Port CAN-bus PC/104 / PCI-104 Module with Isolation Protection

Specifications

General	
Card Interface	PCM-3680: PC/104 PCM-3680I: PCI-104
Certifications	CE, FCC
Connectors	2 x DB9-M with cable
Dimensions	90 x 96 mm (3.6" x 3.8")
Ports	2
Power Consumption	5 V @ 400 mA
Communications	
CAN Controller	SJA-1000
CAN Transceiver	82C250
Protocol	CAN2.0 A/B
Speed	Up to 1 Mbps programmable transfer rate
CAN Frequency	16 MHz
Signal Support	CAN_H, CAN_L
Protection	
Isolation Protection	2,500 V_{DC}
Environment	
Operating Temperature	-40 ~ 85° C (-40 ~ 185° F)

Ordering Information

P/N	Description
PCM-3680-BE	Dual-port Iso CAN-bus PC/104 Module
PCM-3680I-AE	Dual-port Iso CAN-bus PCI-104 Module



PCM-3620

USB 2.0/IEEE 1394a PC/104-Plus Module

Specifications

General	
Bus Interface	PC/104-Plus (PCI interface only)
Chipset	NEC® uPD720101 and TI TSB43AB23
USB	4 x USB 2.0 Compliant Ports Compliant with OHCI USB Rev 1.0a Compliant with EHCI for USB Rev 1.0 High-speed (480 Mbps), full-speed (12 Mbps) and low-speed (1.5 Mbps) transfer
IEEE 1394a	3 port compliant with 1394 Open Host Controller Interface Specification (Release 1.1)
Mechanical and Environmental	
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
Weight	0.81 kg (0.18 lb)
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Power	
Power Supply Voltage	+5 V , +12 V

Ordering Information

P/N	Description
PCM-3620-00A1E	4 x USB 2.0 and 3 IEEE 1394a PC/104-Plus Module
PCM-3620P-00A1E	4 x USB 2.0 & 3 IEEE 1394a w/pinhead PC/104-Plus module



PCM-3643

4/8 RS-232 COM Port Module

Specifications

General	
Bus Interface	PC/104 (ISA)
Chipset	Standard 16550, 16650, or 16750 compatible chipsets for serial ports
Channel	4/8 port RS-232 support
Baud Rate	50 ~ 115, 200 bps
Data Bits	5, 6, 7 or 8-bits
Stop Bit	1, 1.5, or 2
Parity	Even, odd, or none
Interrupt Level	IRQ 3, 4, 5, 6, 7, 9, 10, 11, 12 or 15
I/O Connector	40-pin header
Mechanical and Environmental	
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
Weight	0.084 kg (0.185 lb)
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Storage Temperature	-40 ~ 85° C (-10 ~ 185° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Power	
Power Supply Voltage	+5 V, ± 5 % tolerance on power supply
Power Consumption	+5 V @ 400 mA (typical)

Ordering Information

P/N	Description
PCM-3643-08A1E	8 x COM RS-232 Port Module



PCM-3665

Dual GbE Module

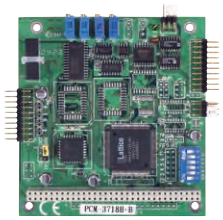
Specifications

General	
Bus Interface	PC/104-Plus (PCI interface only)
Chipset	Intel® 82541PI (PCI 10/100/1000 Mbps)
Port	Single/Twin Ethernet port
Speed	10/100/1000 Mbps
Compatibility	PCI version 2.2, 33 MHz PCI
Mechanical and Environmental	
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
Weight	0.09 kg (0.198 lb)
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Storage Temperature	-40 ~ 85° C (-10 ~ 185° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Power	
Power Consumption	Dual LAN: +5 V @ 1.2 A (typical) Single LAN: +5 V @ 0.6 A (typical)
Power Supply Voltage	+5 V, ±5 % tolerance on power supply

Ordering Information

P/N	Description
PCM-3665-00A1E	Dual GbE with RJ-45 connector Module
PCM-3665P-00A1E	Dual GbE w/o RJ-45 connector Module
PCM-3665-01A1E	Single GbE w/o RJ-45 connector Module

PC/104 I/O & Power Modules



PCM-3718H/HG/HO

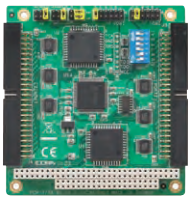
100 kS/s, 12-bit, 16-Ch PC/104 Multi-function Modules

Specifications

Analog Input		
Channels	16 single-ended / 8 differential	
Resolution	12 bits	
Max. Sampling Rate	100 KHz* (DMA transfer), *80 kHz on P4-based (or better)	
Input Impedance	10 MΩ	
Input Range		
PCM-3718H and PCM-3718HO	Bipolar:	±10, ±5, ±2.5, ±1.25, ±0.625
	Unipolar:	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25
PCM-3718HG	Bipolar:	±10, ±5, ±1, ±0.5, ±0.1, ±0.05, ±0.01, ±0.005
	Unipolar:	0 ~ 10, 0 ~ 1, 0 ~ 0.1, 0 ~ 0.01
Analog Output (PCM-3718HO only)		
Channels	1 (12 bits)	
Output Rate	Static update	
Output Range	Internal Reference	Unipolar (V): 0 ~ 5, 0 ~ 10
	External Reference (V)	0 ~10, 0 ~ -10
Output Impedance	0.1 W max.	
Digital Input/Output		
Channels	16, 5V/TTL	
General		
I/O Connectors	2 x 20-pin box header	
Power Consumption	Typical: 5 V @ 180 mA; Max.: 5 V @ 400 mA	
Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)	
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")	

Ordering Information

P/N	Description
PCM-3718H-CE	100 kS/s, 12-bit Multi. PC/104 Module
PCM-3718HG-CE	100 kS/s, 12-bit High-gain Multi. PC/104 Module
PCM-3718HO-BE	100 kS/s, 12-bit Multi. PC/104 Module w/AO



PCM-3724

48-Ch Digital I/O PC/104 Module

Specifications

Digital Input/Output	
Channels	48 (bi-directional)
Compatibility	5 V/TTL
Input Voltage	Logic 0: 0.8 V max. @ -1 μA Logic 1: 2.0 V min. @ 1 μA
Output Voltage	Logic 0: 0.4 V max. @ 35 mA max. Logic 1: 2.0 V min. @ -35 mA max
Interrupt Capable Ch.	2
General	
Bus Type	PC/104
I/O Connectors	2 x 50-pin box header
Dimensions (L x H)	96 x 90 mm (3.8" x 3.5")
Power Consumption	5 V @ 90 mA
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
Storage Humidity	0 ~90% RH, non-condensing

Ordering Information

P/N	Description
PCM-3724-BE	PC/104 48-bit Digital I/O Card



PCM-3753I

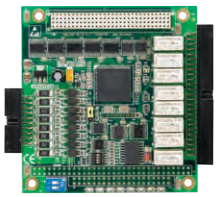
96-Ch Digital I/O PCI-104 Module

Specifications

Digital Input/Output	
Channels	96 (bi-directional)
Compatibility	5 V/TTL
Input Voltage	Logic 0: 0.8 V max. Logic 1: 2.0 V min.
Output Voltage	Logic 0: 0.4 V max. Logic 1: 2.4 V min.
Output Capability	Sink: 0.4 V @ 24 mA Source: 2.4 V @ 15 mA
General	
I/O Connectors	4 x IDC 50-pin
Operating Temperature	-20 ~ 70° C
Storage Temperature	-50 ~ 120° C
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")

Ordering Information

P/N	Description
PCM-3753I-AE	96-Ch Digital I/O PCI-104 Module



PCM-3761I

8-Ch Relay and 8-Ch Isolated Digital Input PCI-104 Module

Specifications

Isolated Digital Input	
Channels	8
Input Voltage	Logic 0: 3 V max., Logic 1: 5 V min., 30 V max.
Input Current	2.5 mA @ 5 V, 15 mA @ 30 V
Input Resistance	2 kΩ 0.5 W
Isolation Protection	2,500 V_{DC}
Overvoltage Protection	70 V_{DC}
Interrupt Capable Ch.	8
Opto-isolator Response Time	25 μs
Relay Output	
Channels	8
Relay Type	DPDT, Form C
Contact Rating	0.25 A @ 250 V_{AC}, 2 A @ 30 V_{DC}
Operate/Release Time	typ. 3 / 2 ms, max. 5 / 4 ms
Life Span	5 x 10^7 cycles typ.: 10 mA @ 12 V 2 x 10^5 cycles typ.: 2000 mA @ 30 V
Resistance Contact	50 mΩ
Insulation	1 GΩ min. (at 500 V_{DC})
General	
I/O Connectors	1 x IDC-50 pin, 1 x IDC-20 pin
Operating Temperature	0 ~ 60° C (32 ~ 140° F) (refer to IEC 68-2-1, 2)
Storage Temperature	-20 ~ 70° C (-4 ~ 158° F)
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")

Ordering Information

P/N	Description
PCM-3761I-AE	8-Ch Relay/Isolated Digital Input PCI-104 Module



PCM-3810I

250 kS/s, 12-bit, 16-Ch Multifunction PCI-104 Module

Specifications

Analog Input	
Channels	16 single-ended or 8 differential or combination
Resolution	12 bits
Max. Sampling Rate	250 kS/s
Ring Buffer Size	4,096 samples
Input Range	Bipolar: ±10, ±5, ±2.5, ±1.25, ±0.625 Unipolar: 0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25
Analog Output	
Channels	2
Output Range	Internal Reference (V): 0 ~ 5, 0 ~ 10, ±5, ±10 External Reference: 0 ~ +x V @ +x V (-10 ≤ x ≤ 10), -x ~ +x V @ +x V (-10 ≤ x ≤ 10)
Resolution	12 bits
Output Rate	250 kS/s
Ring Buffer Size	4,096 samples
Digital Input/Output	
Channels	16
Compatibility	5V/TTL
Counter/Timer	
Channels	3 (independent)
Resolution	24 bits
Compatibility	5 V/TTL
Max. Input Frequency	10 MHz
Interrupt Capable Ch.	3
PWM Channels	3
General	
Bus Type	PCI-104
I/O Connectors	1 x 26-pin, 1 x 50-pin box header
Dimensions (L x H)	96 x 90 mm (3.8" x 3.5")
Operating Temperature	0 ~ 60° C (32 ~ 140° F) (refer to IEC 68-2-1, 2)
Storage Temperature	-20 ~ 70° C (-4 ~158° F)

Ordering Information

P/N	Description
PCM-3810I-AE	250 kS/s, 12-bit Multi. PCI-104 Module



PCM-3730I

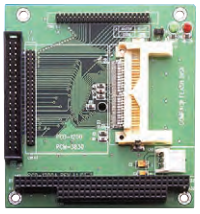
32-Ch Isolated Digital I/O PCI-104 Module

Specifications

Isolated Digital Input	
Channels	16
Input Voltage	Logic 0: 3 V max., Logic 1: 5 V min. 30 V max.
Input Resistance	2 kΩ
Isolation Voltage	2,500 V_{DC}
Opto-isolator Response Time	25 µs
Isolated Digital Output	
Channels	16
Output Voltage Open Collector	5 ~ 30 V_{DC}
Output Sink Current	300 mA max.
Isolation Voltage	2,500 V_{DC}
Opto-isolator Response Time	25 µs
General	
I/O Connectors	2 x 20-pin box header
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
Operating Temperature	-20 ~ 70° C (-4 ~ 158° F)
Storage Temperature	-50 ~ 120° C (-58~248° F)

Ordering Information

P/N	Description
PCM-3730I-AE	32-ch Isolated Digital I/O PCI-104 Module



PCM-3835

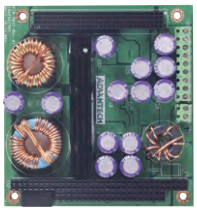
IDE Flash Disk Module/ CompactFlash Card

Specifications

General	
Bus Interface	PC/104
IDE Connector	Two onboard 44-pin 2.0 mm pitch IDE connectors and one 40-pin 2.5 mm pitch IDE connector
Power Supply Voltage	+5 V ±10%
Environment	0 ~ 60° C, operating
Power Connector	Standard 4-pin power input
Mechanical and Environmental	
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
Weight	0.084 kg (0.185 lb)
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Ordering Information

P/N	Description
PCM-3835-00A1E	IDE Flash disk module



PCM-3910

DC to DC Power Supply PC/104-plus Module

Specifications

General	
Bus Interface	PC/104-Plus
Input Voltage	10 V to 24 V_{DC} ±5%
Output Voltage	5 V output 10.0 A 12 V output 2.0 A -5 V output 0.4 A (optional) -12 V output 0.4 A
Mechanical and Environmental	
Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Weight	0.084 kg (0.185 lb)
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Ordering Information

P/N	Description
PCM-3910-00A1E	DC to DC power module PC/104-plus Module

Note: For wide temperature range, please contact sales rep.

Memo

5

Embedded Single Board Computers

Selection Guide		*5-2*
CPU Boards		
PCM-9343	DM&P Vortex86DX 800 MHz 3.5" SBC, Ultra Low Power, Onboard Memory, Dual Ethernet, CF, PC/104	*5-5*
PCM-9361	Intel® Atom™ N270 3.5" SBC, Dual LVDS/TTL, VGA, GbE, CF, PCI-104	*5-7*
PCM-9362	Intel® Atom™ N450/D510 3.5" SBC, LVDS, VGA, 2 GbE, Mini PCIe, CF, MIO-160 Expansion	*5-9*
PCM-9363	Intel® Atom™ N455/D525 3.5" SBC, DDR3, 18/24-bit LVDS, VGA, 2 GbE, Mini PCIe, CF	*5-11*
PCM-9375	AMD Geode™ LX800 3.5" SBC, VGA, LVDS/TTL, Dual Ethernet, IDE, CF, PC/104	*5-13*
PCM-9376	AMD G-Series T16R 3.5" SBC, DDR3 SODIMM, PC/104, 48-bit LVDS, VGA, 18-bit TTL, 2GbE, Mini PCIe, mSATA, LPC, iManager	*5-15*
PCM-9389	Intel® Atom™ N455/D525 3.5" SBC, DDR3 SODIMM/on-board SDRAM, PC/104, 24-bit LVDS/TTL, VGA, 2 GbE, CF, LPC, iManager	*5-17*
I/O Modules & Convert boards		
MIO-6250 **MIO-6260** **PCM-233B** **PCM-233C**	3 x 10/100 Mbps with Bypass Ethernet Ports for PCM-9362 Multi I/O Module with 1 Ethernet, 2 COM, 4 USB for PCM-9362 IDE (44-pin) to SATA Converter Module IDE (44-pin) to SATA Converter Module	*5-19*
3.5" SBC Chassis		
ACK-A001E	Compact Embedded 3.5" SBC Chassis	*5-20*
5.25" SBC & EBX		
MIO-9290	Intel® 3rd Core™ i7/i5/i3 rPGA988, 5.25" MI/O SBC, DDR3/DDR3L, DP, HDMI, DVI-I, 48-bit LVDS, 2GbE, 4 USB3.0, 2 Mini PCIe, mSATA, iManager, MIOe	*5-22*
PCM-9562	Intel® Atom™ N450/D510 EBX SBC with 3 GbE, 6 COM, 3 SATA, 8 USB 2.0, 2 Watchdog	*5-24*
Cable Kit, Riser Cards & I/O Modules		
PCM-10586-9562E **PCM-100** **PCM-261**	Installation Wiring Kit for PCM-9562 1-Slot PCI Riser Card for 5.25" Biscuit SBCs LVDS/TTL to DVI Module	*5-26*

To view all of Embedded Single Board Computers, please visit www.advantech.com/products

3.5"/5.25" Single Board Computers







Selection Guide

Model Name		PCM-9343	PCM-9361	PCM-9362
Form Factor		3.5" SBC	3.5" SBC	3.5" SBC
Processor System	CPU	DM&P Vortex86DX 800 MHz, supports Floating Point Unit (FPU)	Intel Atom N270	Intel Atom N450/D510
	CPU TDP	2.02 W @ 800 MHz	2.5W	N450 5.5W/ D510 13W
	Frequency	800 MHz	1.6 GHz	1.66 GHz
	Core Number	1	1	1/2
	L2 Cache	256 KB	512 KB	512 KB/1 MB
	BIOS	Award integrated 16 Mbit ROM in SOC	Award 4 Mbit	AMI EFI 16 Mbit
	Chipset	DM&P Vortex86DX + SMI SM712	Intel 945GSE+ICH7M	Intel ICH8M
Memory	Technology	DDR2 333 MHz	DDR2 400/533 MHz	DDR2 667 MHz
	Max. Capacity	512 MB	2 GB	2 GB
	Socket	-	1 x 200-pin SODIMM	1 x 200-pin SODIMM
	Onboard Memory	On board 256 MB/ On board 512 MB	-	-
Display	Controller	SMI SM712 2D graphics chip	Intel 945GSE	Intel Atom N450/Intel Atom D510
	Graphic Engine	62.5MHz single clock/cycle engine (EM+) 86MHz single clock/cycle engine (EM4+) Designed to accelerate DirectDraw)	Intel 3.5 Gen. Integrated graphic engine	Intel 3.5 Gen. DX9, MPEG2 Decode in HW, Embedded Gen3.5+GFX Core
	Graphic Memory	4 MB internal memory	Share with system memory up to 224 MB	Shared system memory up to 224 MB
	VGA	Supports up to 1024 x 768 @ 85Hz	Supports QXGA up to 2048 x 1536	N450 support up to 1400 x 1050 (SXVA) D510 support up to 2048 x 1536
	LCD (TTL/LVDS/eDP)	LVDS: Single channel 18/24-bit up to 1024 x 768 (1280 x 1024 supported by request) TTL: Supports up to 1024x 768 @ 24-bit	LVDS1: Single channel 18-bit or dual channel 36-bit LVDS2: Single channel 18/24-bit or dual channel 36/48-bit (For PCM-9361EVG only) LVDS2 wide screen support: 1366 x 768 (24-bit), 1440 x 900 (48-bit), 1680 x 1050 (48-bit), 1920 x 1080 (48-bit) TTL: Supports up to 800 x 600 @ 18-bit	Supports single channel 18-bit LVDS up to WXGA 1366 x 768
	DDI (HDMI/DVI/ DisplayPort)	-	-	-
	Multiple Display	VGA + TTL, VGA + LVDS	VGA + LVDS1, VGA + TTL LVDS1 + LVDS2/ VGA + LVDS2 (not supported in DOS mode, only for PCM-9361EVG)	VGA + LVDS
Expansion Interface	Mini PCIe	-	-	1 (Full size)
	LPC	-	-	-
	SMBus	-	1	1
	I²C Bus	1	-	-
	PC/104	1	-	-
	PCI-104	-	1	-
	MIO-160	-	-	1 (3 PCIex1, PCI, LPC, 1xUSB 2.0, SMBus)
Ethernet	Controller	Ethernet1: DM&P Vortex86DX Ethernet2: Realtek RTL8110SC	Realtek RTL8110SC	GbE1: Intel 82567V GbE2: Intel 82583V
	Speed	10/100 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Connector	RJ45 on Ethernet1, box header on Ethernet2	RJ45	RJ45 x 2
Audio	Audio Interface	-	HD Audio	HD Audio
	CODEC	-	Realtek ALC888, High Definition Audio (HD)	Realtek ALC886, High Definition Audio (HD)
	Amplifier	-	-	-
	Connector	-	Pin Header (Line-in, Line out, Mic-in)	Pin Header (Line-in, Line out, Mic-in)
WatchDog Timer		Output system reset, programmable counter from 1~255 min/sec	Output system reset, programmable counter from 1~255 min/sec	Output system reset, programmable counter from 1~255 min/sec
Storage	SATA	1 x SATA (Max. Data Transfer Rate 150 MB/s)	2 x SATA (Max. Data Transfer Rate 150 MB/s)	2 x SATAII (Max. Data Transfer Rate 300 MB/s)
	mSATA	-	-	-
	IDE	-	-	-
	CompactFlash	CompactFlash Type I/II (Primary Master IDE Channel) Supports 2 channels Ultra-DMA 100	CompactFlash Type I/II (Primary Master IDE Channel)	CompactFlash Type I/II (Primary Master IDE Channel)
	Floppy	-	1 (Shared with LPT)	-
I/O	USB2.0	2	5	6
	GPIO	16-bit GPIO	8-bit GPIO	8-bit GPIO
	LPT	1	1	1
	COM Port	4 (3xRS-232, 1xRS-232/422/485)	2 (1xRS-232, 1xRS-232/422/485)	4 (3xRS-232, 1xRS-232/422/485)
	PS/2 KB/Mouse	1	1	1
	Reset Button	1	-	-
	Smart Fan	-	-	1
Power	Power Type	AT	AT/ATX	AT/ ATX
	Power Supply Voltage	Single 5V,±5% (+12V option for LCD)	ATX 5V ±5%, 12V±10% AT 5V only boot up (12V is optional for LCD inverter and add on card)	ATX 5V ±5%, 5VsbV±5% AT 5V±5% (12V is optional for LCD inverter and add on card)/ AT 12V±10%, not support ATX power supply
	Connector	1x4pin	2x6pin	2x6pin for PCM-9362NC 2x2pin for PCM-9362N/D/NF/DF
	Power Consumption (Idle)	PCM-9343EL: 0.44 A @ 5 V (2.2 W) PCM-9343EF: 0.81 A @ 5 V (4.05 W) PCM-9343EFG: 1.02 A @ 5 V (5.1 W)	1.9 A @ 5 V, 0.07 A @ 12V (10.34 W)	PCM-9362N: 0.87 A @ 12 V (10.44 W) PCM-9362NC: 2.31 A @ 5 V (11.55 W) PCM-9362D: 1.14 A @ 12 V (13.68 W)
	Power Consumption (Full Load)	PCM-9343EL: 0.75 A @ 5 V (3.75 W) PCM-9343EF: 1.09 A @ 5 V (5.45 W) PCM-9343EFG: 104 A @ 5 V (5.2 W)	2.38 A @ 5 V, 0.097 A @ 12V (12.98 W)	PCM-9362N: 1.01 A @ 12 V (12.12 W) PCM-9362NC: 2.35 A @ 5 V (11.8 W) PCM-9362D: 1.43 A @ 12 V (17.16 W)
	Battery	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH
Environment	Operational Temperature	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational Temperature	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W x H)	146 x 102 mm	146 x 102 mm	146 x 102 mm
	Weight	0.64kg (1.41 lb), weight of total package	0.64kg (1.41 lb), weight of total package	0.64kg (1.41 lb), weight of total package
	Construction	Aluminum with fanless design	Aluminum with fanless design	Aluminum with fanless design
Operating System	Microsoft Windows	Yes	Yes	Yes
	Linux	Yes	Yes	Yes
	SUSIAccess	SUSI 3.0	SUSI 3.0	SUSI 3.0
Certification	EMC	CE, FCC	CE, FCC	CE, FCC
Page		5-5	5-7	5-9

NEW






PCM-9363	PCM-9375	PCM-9376	PCM-9389
3.5" SBC	3.5" SBC	3.5" SBC	3.5" SBC
Intel Atom N455/D525	AMD Geode LX800	AMD G-Series T16R	Intel Atom N455/D525
N455 6.5W/ D525 13W	3.6 W	4.5 W	N455 6.5W/D525 13W
1.66 GHz for N455/1.8 GHz for D525	500 MHz	615 MHz	1.66 GHz for N455/1.8 GHz for D525
1/2	1	1	1/2
512 KB for N455/1 MB for D525	128 KB	512 KB	512 KB for N455/1 MB for D525
AMI EFI 16Mbit	Award 4Mbit	AMI EFI 32Mbit	AMI EFI 16Mbit
Intel ICH8M	AMD CS5536	AMD A55E	Intel ICH8M
DDR3 667MHz for N455, 800MHz for D525	DDR 333/400 MHz	DDR3 1066 MHz	DDR3 667 MHz for N455, 800 MHz for D525
2 GB for N455, 4 GB for D525	1 GB	4 GB	2GB for N455, 4GB for D525
1 x 204-pin SODIMM	1 x 200-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM
-	-	(1 GB, supported by project)	1 GB
Intel Atom N455/D525	AMD Geode LX800	AMD G-series T16R	Intel Atom N455/D525
Intel 3.5 Gen. DX9, MPEG2 Decode in HW, Embedded Gen3.5+GFX Core	AMD Geode LX800 2D engine	DirectX11 graphics with UVD3.0, Open CL 1.1, Open GL 4.0 Hardware decode for H.264, VC-1 and MPEG2	Intel 3.5 Gen. DX9, MPEG2 Decode in HW, Embedded Gen3.5+GFX Core
Shared system memory up to 224 MB	Optimized shared memory architecture up to 64MB system memory	Optimized shared memory Architecture up to 384 MB system memory	Shared system memory up to 224 MB
N455 supports SXGA up to 1400 x 1050/ D525 supports up to 2048 x 1536	Supports up to 1920 x 1440 @ 32bpp (85Hz)	Supports up to 1920 x 1200 at 85Hz	N455 supports up to 1400 x 1050 (SXGA), D525 supports up to 2048 x 1536
Supports single channel 18/24-bit LVDS up to WXGA 1366 x 768	24-bit TTL (PCM-9375F) up to 1600 x 1200 @ 32bpp (60Hz) Single channel 18-bit LVDS (PCM-9375E) up to 1600 x 1200 @ 32bpp (60Hz)	Supports single/dual channel 18/24-bit LVDS up to 1920 x 1200, 18-bit TTL	Supports single channel 18/24-bit LVDS up to WXGA 1366 x 768 TTL supported by request
-	-	-	-
VGA + LVDS	VGA + LVDS	VGA+LVDS, VGA+TTL	VGA + LVDS, VGA + TTL (support by request)
1 (Full size)	-	1 (Half-size), Full-size supported by request	-
-	-	1	1
1	-	1 (shared with I²C)	1 (shared with I²C)
-	optional	1 (shared with SMBus)	1 (shared with SMBus)
-	1	1	1
-	-	-	-
-	-	-	-
GbE1: Intel 82567V GbE2: Intel 82583V	Ethernet1/2 Realtek RTL8139	GbE1/2 Realtek RTL8111E	GbE1: Intel 82567V GbE2: Intel 82583V
10/100/1000 Mbps	10/100 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
RJ45 x 2	RJ45 on Ethernet1, box header on Ethernet2	RJ45 on GbE1, box header on GbE2	RJ45 on GbE1, box header on GbE2
HD Audio	AC97	HD Audio	HD Audio
Realtek ALC892, High Definition Audio (HD)	Realtek ALC203, AC97	Realtek ALC892, High Definition Audio (HD)	Realtek ALC892, High Definition Audio (HD)
-	Max. 2.2W/ch Stereo into a 3(Ω) Load	-	-
pin header (Line-in, Line out, Mic-in)	pin header (Line-in, Line out, Mic-in, speaker-out)	pin header (Line-in, Line out, Mic-in)	pin header (Line-in, Line out, Mic-in)
Yes	Yes	Yes	Yes
2 x SATAII (Max. Data Transfer Rate 300 MB/s)	-	2 x SATAII (Max. Data Transfer Rate 300 MB/s)	2 x SATAII (Max. Data Transfer Rate 300 MB/s)
-	-	1 (Full-size)	-
-	1	-	-
CompactFlash Type I/II (Primary Master IDE Channel)	CompactFlash Type I/II (Primary Master IDE Channel)	-	CompactFlash Type I/II (Primary Master IDE Channel)
-	1 (Shared with LPT)	-	-
6	4	4	4
8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
1	1 (Shared with Floppy)	-	-
3 (2xRS-232, 1xRS-232/422/485)	4 (3xRS-232, 1xRS-232/422/485)	4 (2xRS-232, 2xRS-232/422/485)	4 (3xRS-232, 1xRS-232/422/485)
1, pin header	1	1	1
-	1	1	-
1	-	-	1
AT	AT/ ATX	AT/ ATX	AT/ ATX
AT 12V±10%	5V±5% (+12V option for LCD, PC/104)	5V±5% (+12V option for LCD, PC/104)	5V±5% (+12V option for LCD, PC/104)
2x2pin power connector	1x4pin power connector	1x4pin power connector	2x6pin power connector
PCM-9363N: 0.74A @ 12V (8.88W) PCM-9363D: 0.86A @ 12V (10.32W)	0.6 A @ 5 V, 0.03A @ 12V (3.36 W)	1.48 A @ 5 V (7.4 W)	PCM-9389N: 1.63A @ 5V (8.15W) PCM-9389D: 1.94A @ 5V (9.7W)
PCM-9363N: 0.86A @ 12V (10.32W) PCM-9363D: 1.18A @ 12V (14.16W)	1.2 A @ 5 V, 0.23A @ 12V (8.76 W)	2.28 A @ 5 V (11.4 W)	PCM-9389N: 2.23A @ 5V (11.15W) PCM-9389D: 2.9A @ 5V (14.5W)
Lithium 3 V / 210 mAH	Lithium 3 V / 196 mAH	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH
0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
-40 ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing
146 x 102 mm	146 x 102 mm	146 x 102 mm	146 x 102 mm
0.64kg (1.41 lb), weight of total package	0.64kg (1.41 lb), weight of total package	0.64kg (1.41 lb), weight of total package	0.64kg (1.41 lb), weight of total package
Aluminum with fanless design	Aluminum with fanless design	Aluminum with fanless design	Aluminum with fanless design
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
SUSI 3.0	SUSI 1.0	iManager	iManager
CE, FCC	CE, FCC	CE, FCC	CE, FCC
5-11	5-13	5-15	5-17

Single Board Computers

NEW



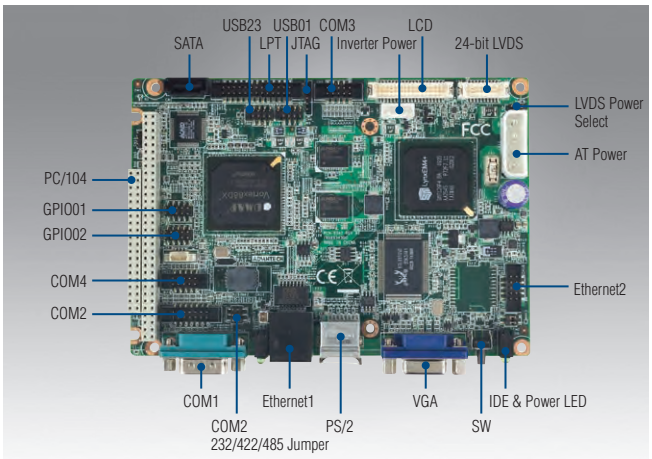


Selection Guide

Model Name		MIO-9290	PCM-9562
Form Factor		5.25"	EBX
Processor System	CPU	Intel® 3rd Core™ i7/i5/i3/Celeron (rPGA988 socket)	Intel Atom N450/Intel Atom D510
	CPU TDP	35 ~ 45 W	5.5 W/10 W
	Frequency	2.2~2.7 GHz	1.66 GHz
	Core Number	2~4	1/2
	L2 Cache	-	512 KB /1 MB
	L3 Cache	2~6 MB	-
	BIOS	AMI EFI 64Mbit	AMI 16Mbit
	Chipset	Intel QM77	Intel N450+ICH8M/Intel D510+ICH8M
Memory	Technology	DDR3/DDR3L 1333/1600 MHz	DDR2 667 MHz
	Max. Capacity	8 GB x 2	2 GB (Wide temperature SKU bundle 1 GB)
	Socket	2 x 204-pin SODIMM	1 x 200-pin SODIMM
Display	Controller	Intel Ivy Bridge Processor + Intel QM77	Intel Atom N450/Intel Atom D510
	Graphic Engine	DirectX11, OpenGL 3.1, and OpenCL 11 Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1	Embedded Gen3.5+ GFX Core, HW MPEG2 decoder
	Graphic Memory	Share with system memory up to 512 MB	Optimized Shared Memory Architecture up to 224 MB
	VGA	-	Up to 1400 x 1050/Up to 2048 x 1536
	LCD (TTL/LVDS/eDP)	LVDS: Dual channel 24-bit LVDS, up to 1920 x 1200	LVDS: Single channel 18-bit up to 1366 x 768
	DDI (HDMI/DVI/DisplayPort)	DisplayPort: up to 2560 x 1600 @ 60Hz HDMI:up to 1920 x 1200 @ 60Hz DVI-I:up to 1920 x 1200 @ 60Hz	-
	Multiple Display	Triple: DP + HDMI + DVI-I	Dual: VGA+ LVDS
Expansion Interface	Mini PCIe	2 (Full-size, shared with mSATA)	1
	PCI	-	1
	PC/104-Plus	-	1
	MIOe	SMBus, 3 x USB2.0, LPC, 4 x PCIe, line out, Displayport or 5 Vsb/12 Vsb power	-
Ethernet	Controller	GbE1: Intel 82579LM GbE2: Intel I210	GbE1: Intel 82567 GbE2: Intel 82583V GbE3: Intel 82583V
	Speed	10/100/1000Mbps	10/ 100/ 1000 Mbps
	Connector	RJ45 x 2	2~3 Box header (RJ-45 connector through the cable)
Audio	Audio Interface	HD Audio	HD Audio
	CODEC	Realtek ALC892, High Definition Audio (HD)	Realtek ALC888, High Definition Audio (HD)
	Amplifier	-	Max 2.2W/ch Stereo into a 3Ω Load
	Connector	Line-in, Line out, Mic-in	Speaker out, CD-input, Line-in, Line-out, Mic-in
WatchDog Timer		Yes	Yes
Storage	SATA	2 SATA III (Max. Data Transfer Rate 600 MB/s)	3 SATA II (Max. Data Transfer Rate 300 MB/s)
	mSATA	2 (Full-size, shared with mini PCIe)	-
	CompactFlash	-	CompactFlash type I/II
	Floppy	-	1 (Optional, shared with LPT)
I/O	USB3.0	4	-
	USB2.0	2	8
	SPI Bus	-	1
	GPIO	16-bit	16-bit
	LPT	-	1
	COM Port	4 x RS-232 (2 with Tx/Rx only) 2 x RS232/422/485	3~4 x RS-232 (COM6 is full version only) 2 x RS-422/485
	PS/2 KB/Mouse	-	1
	Reset Button	1	1
	Power Button	1	-
	Smart Fan	1	-
	SMBus	1	1
	I2C Bus	1 (Shares with SMBus pin)	1
Power	Power Type	Single 12V DC power input	ATX, AT
	Power Supply Voltage	Supports single 12V input, ± 10%	ATX: 12V ±10%, 5VSB ±5% (5V stand-by power is only for auto power off function) AT: 12V ±10% only
	Power Consumption (Idle)	i7-3610QE/ DDR3L: 0.646 A @ 12 V (7.75 W) i7-3610QE/ DDR3: 0.662 A @ 12 V (7.94 W)	PCM-9562N-S6A1E: 893 mA @ 12 V, 8 mA @ 5 VSB (10.8 W) PCM-9562D-S6A1E: 1130 mA @ 12 V, 10 mA @ 5 VSB (13.6 W)
	Power Consumption (Full Load)	i7-3610QE/ DDR3L: 3.675 A @ 12 V (44.1 W) i7-3610QE/ DDR3: 3.759 A @ 12 V (45.11 W)	PCM-9562N-S6A1E: 1159 mA @ 12 V, 6 mA @ 5 VSB (13.9 W) PCM-9562D-S6A1E: 1404 mA @ 12 V, 8 mA @ 5 VSB (16.9 W)
	Battery	Lithium 3 V / 210 mAH	Lithium 3 V / 196 mAH
Environment	Operational Temperature	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational Temperature	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing	-40 ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W x H)	203 x 146 mm	203 x 146 mm
	Weight	0.9 kg, weight of total package	0.7 kg (1.54 lb) (with heatsink)
	Construction	Copper with fan design	Aluminum with fanless design
Operating System	Microsoft Windows	Yes	Yes
	Linux	Yes	Yes
	SUSIAccess	Yes	Yes
	iManager	Yes	-
	QNX	-	Yes
Certification	EMC	CE, FCC	CE, FCC
Page		5-22	5-24

PCM-9343

DM&P Vortex86DX 800MHz 3.5" SBC, Ultra Low Power, Onboard Memory, Dual Ethernet, CF, PC/104



Features

- DM&P Vortex86DX, onboard DDR2 memory up to 512 MB
- Display type: VGA, 18/24-bit LVDS, 18/24-bit TTL
- Supports Floating Point Unit, total power consumption 4 ~ 6 Watts, supports extended temperature to -40 ~ 85° C
- Dual Ethernet: 10/100 Ethernet1 and 10/100 Ethernet2, supports PC/104 (8-bit/16-bit ISA) expansion
- Supports SUSIAccess and Embedded Software APIs

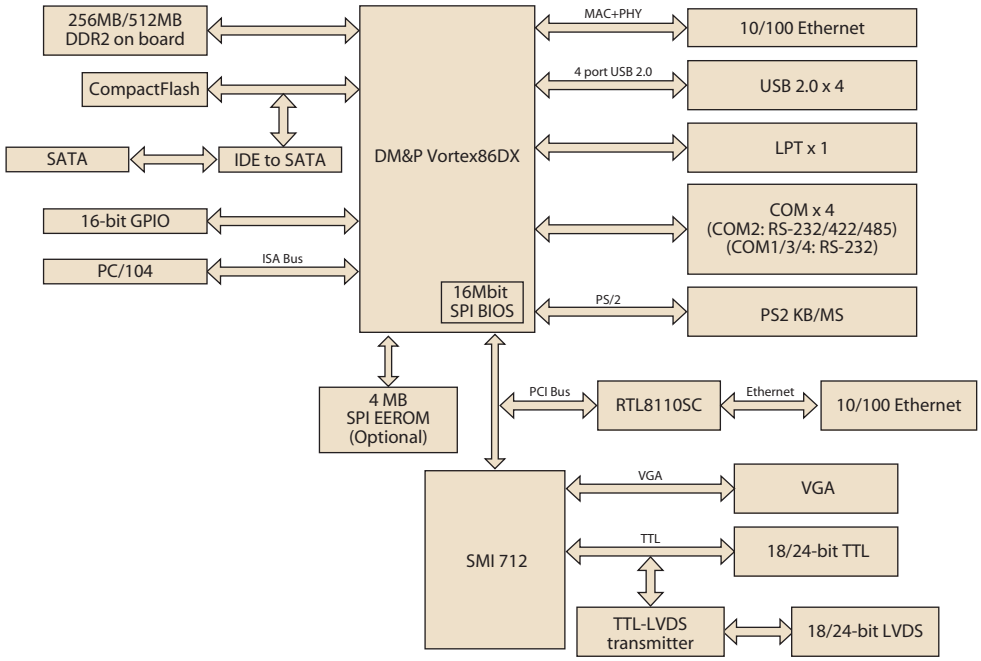
Software APIs: Watchdog, I²C, Brightness, GPIO, Backlight On/Off

Utilities: BIOS flash

Specifications

Processor System	CPU	DM&P Vortex86DX 800 MHz, supports floating Point Unit (FPU)
	Frequency	800 MHz
	L2 Cache	256 KB
	System Chipset	DM&P Vortex86DX + SMI SM712
	BIOS	Award integrated 16 Mbit ROM in SOC
Memory	Technology	DDR2 333 MHz SDRAM on board
	Max. Capacity	512 MB
	Onboard memory	Onboard 256 MB or 512 MB
Display	Chipset	SMI SM712 2D graphics chip
	VRAM	4 MB internal memory
	Graphics Engine	62.5 MHz single clock/cycle engine (EM+) 86 MHz single clock/cycle engine (EM4+) Designed to accelerate DirectDraw
	LVDS	Supports single channel 18/24-bit LVDS LCD Panel to 1024 x 768 (1280 x 1024 supported by request)
	VGA	Supports up to 1024 x 768 @ 85 Hz
	TTL LCD	Supports up to 1024 x 768 @ 24-bit TFT LCD Panel
	Dual Display	VGA + TTL, VGA + LVDS
Ethernet	Speed	10/100 Mbps
	Controller	Ethernet1: 10/100 Mbps on DM&P Vortex86DX Ethernet2: 10/100 Mbps on Realtek RTL8110SC
	Connector	RJ-45 on Ethernet1, box header on Ethernet2
WatchDog Timer		Internal: 2 sets, 32.768 KHz frequency source to count a 24-bit counter so the time range is from 30.5μ sec to 512 sec with resolution 30.5μ sec
Storage	CompactFlash	CompactFlash type I/II (Primary Master IDE Channel) Supports 2 channels Ultra-DMA 100
	SATA	1 x SATA (Max. Data Transfer Rate 150 MB/s)
	SPI Flash	Optional onboard 4MB SPI Flash Disk (Supported by request)
Rear I/O	Serial	1 (COM1 supports RS-232) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) (COM1 supports console mode)
	Ethernet	1 (10/100 Mbps Ethernet1)
	PS/2 KB/Mouse	1
	VGA	1
	IDE&PWR LED	1
	Reset Button	1
Internal I/O	USB	4 x USB 2.0
	Serial	3 COM (COM2, COM3, COM4) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) COM2 supports RS-232/422/485 (Supports RS-485 auto flow control), COM2 supports console mode COM3/COM4 supports RS-232
	Ethernet	1 (10/100 Mbps Ethernet2)
	Parallel (LPT)	1
	GPIO	16-bit GPIO
	I²C	1
Expansion	PC/104 Slot	PC/104 Expansion (8/16-Bit ISA)
Power	Power Type	AT
	Power Supply Voltage	Single +5V boot up, ± 5% (+12V option for LCD, ISA)
	Power Consumption (Typical)	PCM-9343EL: 0.44 A @ 5 V (2.2 W) PCM-9343EF: 0.81 A @ 5 V (4.05 W) PCM-9343EFG: 1.02 A @ 5 V (5.1 W)
	Power Consumption (Max, test in HCT)	PCM-9343EL: 0.75 A @ 5 V (3.75 W) PCM-9343EF: 1.09 A @ 5 V (5.45 W) PCM-9343EFG: 1.04 A @ 5 V (5.2 W)
	Power Management	APM
	Battery	Lithium 3 V / 210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.64 kg (1.41 lb), weight of total package
	Total Height	23.7 mm

Block Diagram



Ordering Information

Part No.	CPU	CPU Frequency	Onboard Memory	TTL	LVDS	VGA	10/100 Ethernet	RS-232/ 422/485	RS-232	USB 2.0	CF	SATA	Expansion	Thermal Solution	Operational Temp.
PCM-9343EL-S6A1E	Vortex86DX	800 MHz	256 MB	-	-	-	1	1	1	2	1	-	PC/104	Passive	0 ~ 60° C
PCM-9343EF-S6A1E	Vortex86DX	800 MHz	256 MB	18/24-bit	18/24-bit	Yes	1	1	3	4	1	1	PC/104	Passive	0 ~ 60° C
PCM-9343EFG-S6A1E	Vortex86DX	800 MHz	512 MB	18/24-bit	18/24-bit	Yes	2	1	3	4	1	1	PC/104	Passive	0 ~ 60° C
PCM-9343FGZ-S6A1E	Vortex86DX	800 MHz	512 MB	18/24-bit	18/24-bit	Yes	2	1	3	4	1	1	PC/104	Passive	-20 ~ 80° C
PCM-9343FGZ2-S6A1E	Vortex86DX	800 MHz	512 MB	18/24-bit	18/24-bit	Yes	2	1	3	4	1	1	PC/104	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-9343 SBC	
	Startup Manual	
	Utility CD	
1700008894	SATA 7P 30 cm cable	1
1700060202	PS2 6P x 2 20 cm cable	1
1700100250	COM3/4 IDE D-SUB 25 cm cable	2
1701140201	COM2 IDE D-SUB 20 cm cable	1
1700260250	LPT IDE 26P D-SUB 25 cm cable	1
1703100121	USB 2 x 5P-2.0 12 cm W/BKT cable	1
1700017863	Ethernet cable RJ45 15cm (PCM-9343EFG/FGZ use)	1
9689000002	mini jumper pack	1
1960047356N001	Heatsink for DM&P Vortex86DX (27x27x6.3mm)	1

Optional Accessories

Part No.	Description
1703150102	SATA 10 cm Power cable

Embedded OS/API

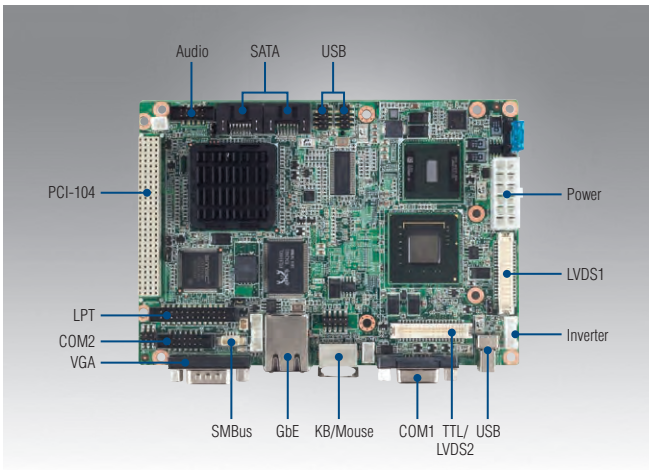
Embedded OS/API	Part No.	Description
WinCE	2070009764	CE 5.0 Pro PCM-9343 V1.3 ENG
	2070009537	Image CE 6.0 Pro PCM-9343 V1.3 ENG
	2070010821	Image CE 7.0 Pro PCM-9343 ENG
Win XPE	2070009528	Image XPE for PCM-9343 ENG
	2070009529	Image XPE for PCM-9343 24MUI
QNX		6.4.1
Vxwork		5.5
Linux		Ubuntu 10.04.1
Software API	2056343000	SUSI 3.0 SW API for PCM-9343 B:20100122 XP

Rear I/O View



PCM-9361

Intel® Atom™ N270 3.5" SBC, Dual LVDS/ TTL, VGA, GbE, CF, PCI-104



VxWorks® Windows Embedded Linux QNX SUSIAccess CE FCC

Features

- Intel® Atom™ Processor N270+ 945GSE+ ICH7M
- Supports 18-bit TTL/ VGA/ 36-bit LVDS1/ 48-bit LVDS2
- Supports extended temperature to -40 ~ 85° C
- Supports 2 COM ports, 5 USB 2.0, 2 SATA, PCI-104 expansion
- Supports embedded software API and Utilities
- Supports SUSIAccess and Embedded Software APIs

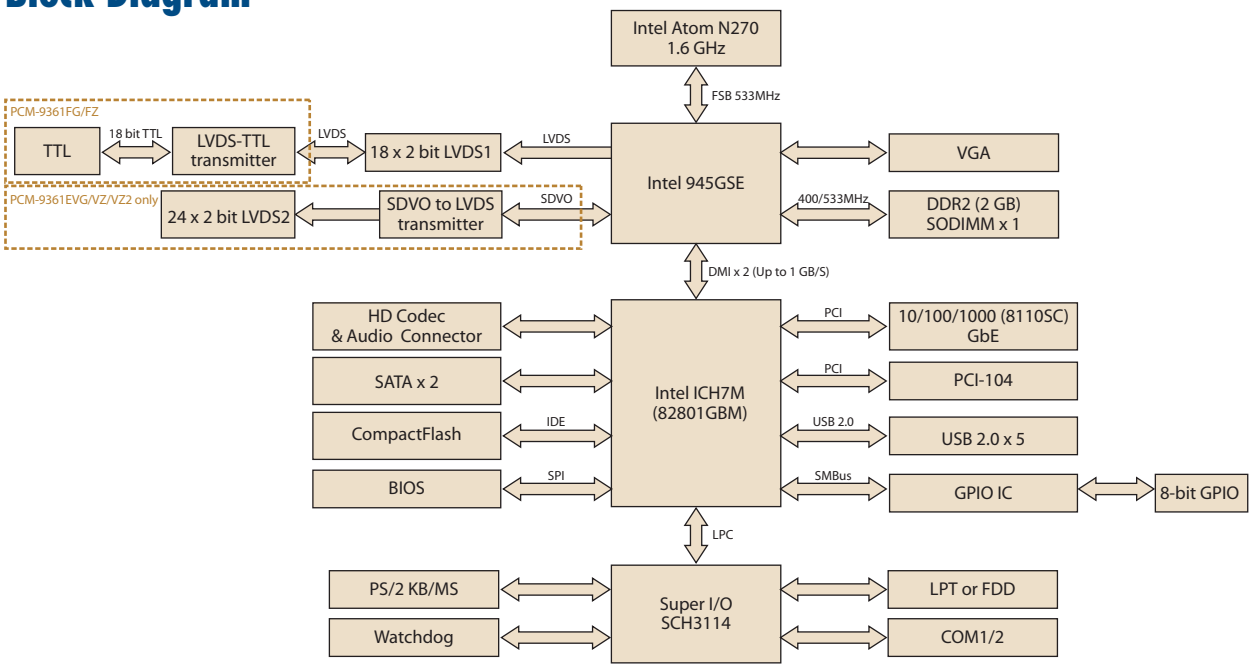
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus, CPU Speed, System Throttling

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Atom N270 1.60 GHz
	Front Side Bus	533 MHz
	Frequency	1.60 GHz
	L2 Cache	512 KB
	System Chipset	Intel 945GSE+ ICH7M
	BIOS	Award 4 Mbit
Memory	Technology	DDR2 400/533 MHz
	Max. Capacity	2 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	Intel 945GSE
	VRAM	Optimized shared memory architecture up to 224 MB system memory
	Graphics Engine	Intel 3.5 Gen integrated graphics engine
	LVDS	LVDS1: Supports single channel 18-bit or dual channel 36-bit LVDS LVDS2: Supports single channel 18/24-bit or dual channel 36/48-bit LVDS (only for PCM-9361EVG) LVDS2 wide screen supports: EX:1366 x 768 (24-bit), 1440 x 900 (48-bit), 1680 x 1050 (48-bit), 1920 x 1080 (48-bit)
	VGA	Supports QXGA Up to 2048 x 1536
	TTL LCD	18-bit TTL: Up to 800 x 600
	Dual Display	- VGA + LVDS1 - VGA + TTL - LVDS1+LVDS2 / VGA+LVDS2 (not supported in DOS mode, only for PCM-9361EVG)
Ethernet	Speed	10/100/1000 Mbps (Supports Wake on LAN)
	Controller	Realtek 8110SC
	Connector	RJ-45 on GbE
Audio	Chipset	Realtek ALC888, High Definition Audio (HD), Line-in, Line out, Mic-in
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	CompactFlash type I/II (Primary Master IDE Channel)
	SATA	2 x SATA (Max. Data Transfer Rate 150 MB/s)
	Floppy	1 (shared with LPT)
Rear I/O	Serial	1 (COM1 supports RS-232) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	Ethernet	1 (10/100/1000 Mbps GbE1)
	PS/2 KB/Mouse	1
	VGA	1
	USB	1
Internal I/O	USB	4 x USB 2.0
	Serial	1 x COM (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) COM2 supports RS-232/422/485 (Supports RS-485 auto flow control)
	Parallel(LPT)	1
	FDD	1 (shared with LPT)
	SMBus	1
	GPIO	8-bit GPIO
Expansion	PCI-104 slot	PCI-104 Expansion
Power	Power Type	AT/ATX
	Power Supply Voltage	ATX: +5 V ± 5%, +12 V ± 10% AT: 5V only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption	1.9 A @ 5 V, 0.07 A @ 12 V (10.34 W)
	Power Consumption (Max, test in HCT)	2.38 A @ 5 V, 0.09 A @ 12 V (12.98 W)
	Power Management	APM1.2, ACPI3.0, wake on LAN, and modem ring-in functions
	Battery	Lithium 3 V / 210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.64 kg (1.41 lb), weight of total package
	Total Height	28.2 mm

Block Diagram



Ordering Information

Part No.	CPU	Memory	VGA	LVDS	LVDS2	TTL	GbE	Audio	USB 2.0	RS-232	RS232/ 422/485	CF	SATA	Expansion	Thermal Solution	Operating Temp.
PCM-9361FG-S6A1E	Atom N270	SODIMM	1	-	-	1	1	Yes	5	1	1	1	2	PCI-104	Passive	0 ~ 60° C
PCM-9361EG-S6A1E	Atom N270	SODIMM	1	18/36-bit	-	-	1	Yes	5	1	1	1	2	PCI-104	Passive	0 ~ 60° C
PCM-9361EVG-S6A1E	Atom N270	SODIMM	1	18/36-bit	36/48-bit	-	1	Yes	5	1	1	1	2	PCI-104	Passive	0 ~ 60° C
PCM-9361L-S6A1E (W/O cables)	Atom N270	SODIMM	1	18/36-bit	-	-	1	Yes	5	1	1	1	2	-	Passive	0 ~ 60° C
PCM-9361FZ-1GS6A1E	Atom N270	1G bundle	1	-	-	1	1	Yes	5	1	1	1	2	PCI-104	Passive	-20 ~ 80° C
PCM-9361VZ-1GS6A1E	Atom N270	1G bundle	1	18/36-bit	36/48-bit	-	1	Yes	5	1	1	1	2	PCI-104	Passive	-20 ~ 80° C
PCM-9361VZ21GS6A1E	Atom N270	1G bundle	1	18/36-bit	36/48-bit	-	1	Yes	5	1	1	1	2	PCI-104	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-9361 SBC	
	Startup Manual	
	Utility CD	
9689000002	mini Jumper pack	1
1700000265	ATX Power Cable 10 cm	1
1700006291	SATA Cable 30 cm	1
1700060202	PS/2 cable 20 cm	1
1701140201	COM2 IDE D-SUB 20 cm cable	1
1703100121	USB 2 x 5P-2.0 12 cm W/BKT cable	2
1703100152	Audio Cable	1
1700260250	LPT IDE 26P D-SUB 25 cm cable	1
1703150102	SATA 10 cm power cable	1
1960024933S00B	ICH7M heatsink (38.1x33.6x7.5mm)	1
1960029380N000	Heatsink for N270 and 945GSE (50.77x88.59x15mm)	1

Rear I/O View



Optional Accessories

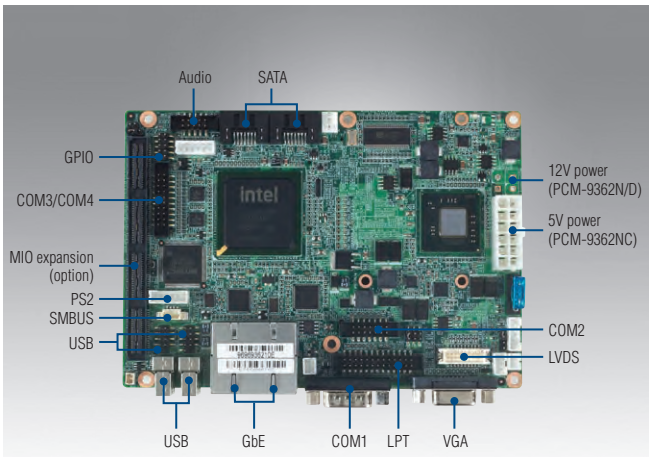
Part No.	Description
1700001531	LPT to FDD cable
1700016161	AT power cable, 2 x 6P to 3 x 4P 10 cm
1700016141	AT power cable, 2 x 6P to 2 x 10P 10 cm

Embedded OS/API

Embedded OS/API	Part No.	Description
WinCE	2070008069	Image CE 6.0 Pro PCM-9361 V1.1 JPN
	2070009850	Image CE 6.0 Pro PCM-9361 V1.2 ENG
Win XPE	2070006670	Image XPE FP2007 PCM-9361 V3.01 ENG
	2070007911	XPE WES2009 Intel-Mulitprocess V4.0 MUI24
	2070007789	XPE WES2009 Intel-Mulitprocess V4.0 ENG
QNX	2070006929	Image QNX V6.4 PCM-9361 V1.0 ENG
Vxwork		6.8
Linux		Ubuntu 10.04.1
Software API	205E936000	EmbCore PCM-9361 3.5" SUSI package V3.08

PCM-9362

Intel® Atom™ N450/D510 3.5" SBC, LVDS, VGA, 2 GbE, Mini PCIe, CF, MIO-160 Expansion



VxWorks® Windows Embedded QNX SUSIAccess CE FCC

Features

- Embedded Intel® Atom™ processor N450 Single Core/ D510 Dual Core 1.66 GHz + ICH8M
- Intel Gen 3.5 DX9, MPEG2 Decode in HW, multiple display: VGA, 18-bit LVDS
- Supports 12 V input power for PCM-9362N/D, 5V input power for PCM-9362NC, supports extended temperature -40° C ~ 85° C
- Supports 2 Intel Giga Ethernet ports; Rich I/O interfaces with 4 COM, 2 SATA, 6 USB and GPIO
- Supports SUSIAccess and Embedded Software APIs

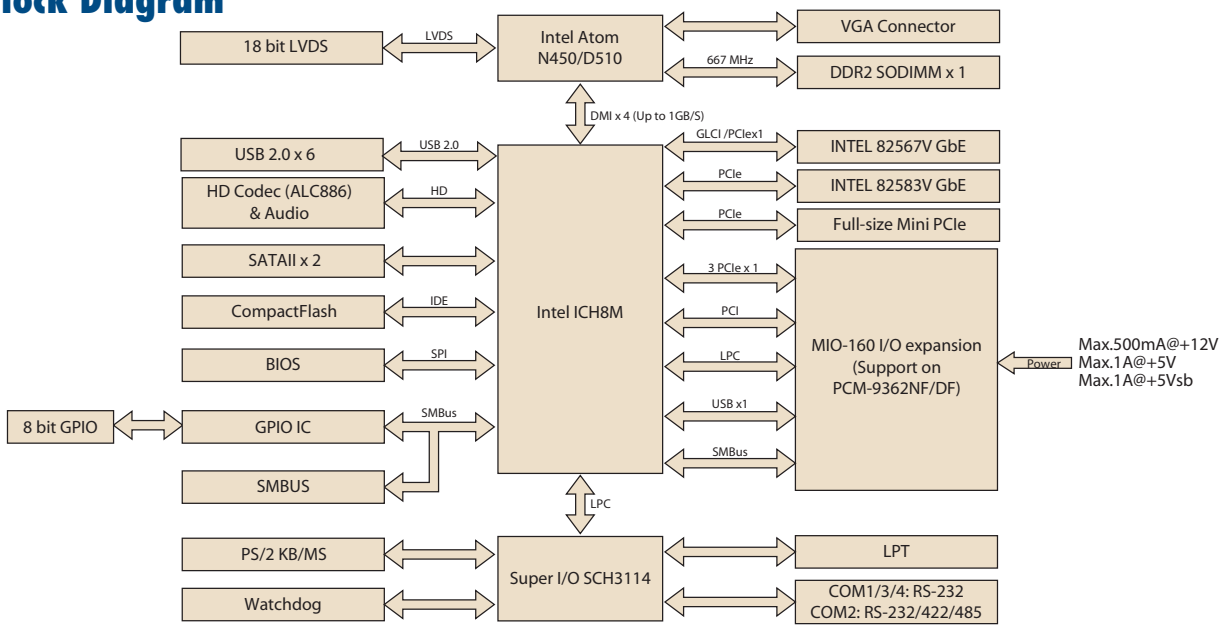
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus, CPU Speed, System Throttling

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Atom Processor, N450 Single Core 1.66 GHz Intel Atom Processor, D510 Dual Core 1.66 GHz
	Frequency	1.66 GHz
	L2 Cache	512 KB/1 MB
	System Chipset	Intel N450/D510 + ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR2 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	Intel Atom N450/D510 1.66 GHz
	VRAM	Optimized Shared Memory Architecture up to 224 MB system memory
	Graphics Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW, Embedded Gen3.5+ GFX Core
	LVDS	LVDS: Single channel 18-bit LVDS up to WXGA 1366 x 768
	VGA	Intel Atom N450 Single Core up to 1400 x 1050 (SXGA) Intel Atom D510 Dual Core up to 2048 x 1536
	Dual Display	VGA+LVDS
Ethernet	Speed	10/100/1000 Mbps (Supports Wake on LAN)
	Controller	GbE1 Intel 82567V, GbE2 Intel 82583V
	Connector	RJ-45 on GbE1, GbE2
Audio	Chipset	Realtek ALC886, High Definition Audio(HD),Line-in, Line out, Mic-in
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	CompactFlash type I/II (Primary Master IDE Channel)
	SATA	2 x SATA II (Max. Data Transfer Rate 300 MB/s)
Rear I/O	Serial	1 (COM1 supports RS-232) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	Ethernet	2 (10/100/1000 Mbps)
	VGA	1
	USB	2
Internal I/O	USB	4 x USB 2.0 ports
	Serial	3 x COM ports (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) COM3/COM4 supports RS-232 COM2 supports RS-232/422/485 (Supports RS-485 auto flow control)
	Parallel (LPT)	1
	PS/2 KB/Mouse	1
	GPIO	8-bit GPIO
	SMBus	1
Expansion	Mini PCIe	1 (Full-size)
	MIO-160	1 (Supported on PCM-9362NF/NCF/DF) (SMBus, USB2.0x1, LPC, PCI, 3 x PCIex1, 5V/12V power)
Power	Power Type	AT/ATX (ATX only support on NC/NCF sku)
	Power Supply Voltage	For NC/NCF sku AT: 5V±5% (12V is optional for LCD inverter and add-on card) ATX: 5V±5%, 5 Vsb±5% (12V is optional for LCD inverter and add on card) For D/N/DF/NF sku AT: 12V±10% (No support ATX power supply)
	Power Consumption (Typical)	PCM-9362N: 0.87 A @ 12 V (10.44 W) PCM-9362NC: 2.31 A @ 5 V (11.55 W) PCM-9362D: 1.14 A @ 12 V (13.68 W)
	Power Consumption (Max, test in HCT)	PCM-9362N: 1.01 A @ 12 V (12.12 W) PCM-9362NC: 2.36 A @ 5 V (11.8 W) PCM-9362D: 1.43 A @ 12 V (17.16 W)
	Power Management	APM, ACPI
	Battery	Lithium 3 V/210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.64 kg (1.41 lb), weight of total package
	Total Height	30.5mm for PCM-9362N/NC/NCF/NZ/NZ2 34.5mm for PCM-9362D/DF

Block Diagram



Ordering Information

Model	CPU	L2 Cache	Memory	Power	Expansion	VGA	LVDS	GbE	Audio	SATAII	USB 2.0	Mini PCIe	CF	RS-232	RS-232/ 422/485	Thermal Solution	Operating Temperature
PCM-9362NC-S6A1E	Atom N450	512 KB	SODIMM	5 V	-	1	18-bit	2	Yes	2	6	Full-size	1	3	1	Passive	0 ~ 60° C
PCM-9362N-S6A1E	Atom N450	512 KB	SODIMM	12 V	-	1	18-bit	2	Yes	2	6	Full-size	1	3	1	Passive	0 ~ 60° C
PCM-9362D-S6A1E	Atom D510	1 MB	SODIMM	12 V	-	1	18-bit	2	Yes	2	6	Full-size	1	3	1	Active	0 ~ 60° C
PCM-9362DF-S6A1E	Atom D510	1 MB	SODIMM	12 V	MIO-160	1	18-bit	2	Yes	2	6	Full-size	1	3	1	Active	0 ~ 60° C
PCM-9362NZ-1GS6A1E	Atom N450	512 KB	1GB bundle	12 V	-	1	18-bit	2	Yes	2	6	Full-size	1	3	1	Passive	-20 ~ 80° C
PCM-9362NZ21GS6A1E	Atom N450	512 KB	1GB bundle	12 V	-	1	18-bit	2	Yes	2	6	Full-size	1	3	1	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-9362 SBC	
	Startup Manual	
	Utility CD	
9689000002	mini Jumper pack	1
1700000265	ATX power cable (PCM-9362NC series only)	1
1700017838-11	SATA cable with lock 30cm	1
1703060191	PS/2 cable 19cm	1
1701140201	COM2 IDE D-SUB 20 cm cable	1
1703100121	USB 2 x 5P-2.0 12 cm W/BKT cable	2
1703100152	Audio cable 20cm	1
1700260250	LPT IDE 26P D-SUB 25 cm cable	1
1700001795	COM3/4 cable 19cm	1
1960050034N001	CPU N450 heatsink (75 x 62 19.9 mm) for PCM-9362N series	1
1960050035N001	CPU D510 cooler (75 x 62 x 24.4 mm) for PCM-9362D	1
1960024933S00B	ICH8M Heatsink for PCM-9362 series (38.1x33.6x7.5mm)	1

Rear I/O View



Optional Accessories

Part No.	Description
MIO-6250-00A1E	MIO-160 module w/ 3 10/100 Ethernet (RTL8139)
MIO-6260-00A1E	MIO-160 IO module w/2 COM, 4 USB
MIO-6260L-00A1E	MIO-160 IO module w/2 COM, 4 USB, 1 10/100 Ethernet
1700016161	AT Power cable, 2 x 6P to 3 x 4P 10 cm
1700016141	AT power cable, 2 x 6P to 2 10P 10 cm
1960047470N001	Heat spreader(97 x 75 18.5 mm)
1655003865	Right angle 12V power connector 2*2P
1655003866	Right angle 5V power connector 2*6P
1700018436	Inverter 5P to SATA power 15P cable 10cm
ACK-A001E	Embedded chassis for PCM-9362(12V)/9363 series (System dimension with mounting bracket: 230 x 65 x145 mm)

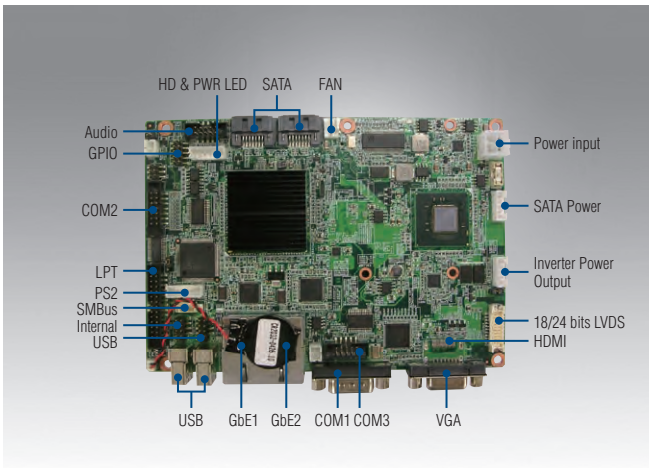
Note: MIO-160 modules are supported by PCM-9362NF/DF version

Embedded OS/API

Embedded OS/API	Part No.	Description
Win XPE	2070010314	XPE WES2009 V4.0 MUI24
WinCE	2070009693	CE 6.0 Pro PCM-9362 V1.3 ENG
	2070010935	CE 7.0 Pro PCM-9362 V1.0 ENG
WES 7	2070009835	Image WES7E V5.0 ENG
QNX		6.5
Vxwork		6.8
Linux		Ubuntu 10.04.1
Software API	205E362010	SUSI 3.0 SW API for PCM-9362 B: 20091117 XP

PCM-9363

Intel® Atom™ N455/D525 3.5" SBC, DDR3, 18/24-bit LVDS, VGA/HDMI, 2 GbE, Mini PCIe, CF



VxWorks® Windows Embedded Linux QNX SUSIAccess CE FCC

Features

- Embedded Intel® Atom™ N455 Single Core/ D525 Dual Core processor + ICH8M, DDR3 memory support
- Intel Gen 3.5 DX9, MPEG2 Hardware Decoder, multiple display: 18/24-bit LVDS, VGA or 1080P HDMI
- Supports extended temperature -40° C ~ 85° C
- Two Intel GbE connections; Rich I/O with 3 COM, 2 SATA, 6 USB and GPIO connectors
- Supports SUSIAccess and Embedded Software APIs

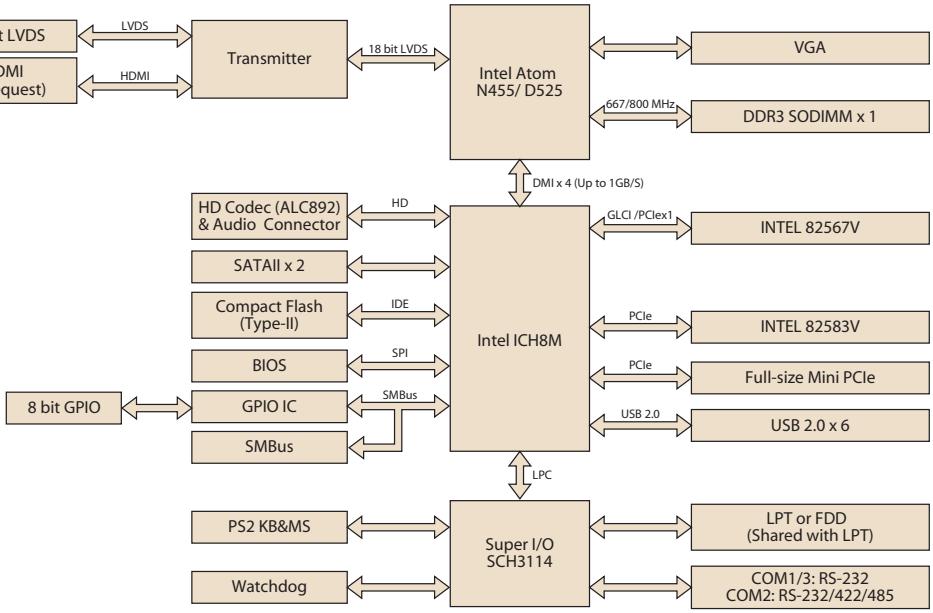
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus, CPU Speed, System Throttling

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Atom N455 Single Core 1.66 GHz Processor Intel Atom D525 Dual Core 1.8 GHz Processor
	Frequency	1.66GHz for N455, 1.8GHz for D525
	L2 Cache	512KB for N455, 1MB for D525
	System Chipset	Intel N455/D525 + ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 667 MHz for N455, 800 MHz for D525
	Max. Capacity	4GB for D525, and 2GB for N455
	Socket	1 x 204-pin SODIMM
Display	Chipset	Intel Atom Processor N455 1.66GHz/D525 1.8GHz
	VRAM	Optimized Shared Memory Architecture up to 224 MB system memory
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW Embedded Gen3.5+ GFX Core
	LVDS	LVDS: Single channel 18/24-bit LVDS up to WXGA 1366 x 768
	VGA	Intel Atom N455 Single Core up to 1400 x 1050 (SXGA), Intel Atom D525 Dual Core up to 2048 x 1536
	HDMI	Supported by request (the HDMI resolution has to be set with the Chrontel Utility in Windows XP/XP Embedded) Supports Hot Plug Detection (HPD) for HDMI
	Dual Display	VGA+LVDS
Ethernet	Speed	10/100/1000 Mbps (Supports Wake on LAN)
	Controller	GbE1 Intel 82567V, GbE2 Intel 82583V
	Connector	RJ-45 on GbE1, GbE2
Audio	Chipset	Realtek ALC892 High Definition Audio (HD), Line-in, Line out, Mic-in
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	CompactFlash type I/II (Primary Master IDE Channel)
	SATA	2 SATA II (Max. Data Transfer Rate 300 MB/s), 1 internal SATA power connector
Rear I/O	Serial	1 (COM1 supports RS-232) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	Ethernet	2 (10/100/1000 Mbps)
	VGA	1
	HDMI	1 (Support by request)
	USB	2
Internal I/O	USB	4 x USB 2.0
	Serial	2 x COM (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) COM3 supports RS-232, COM2 supports RS-232/422/485 (Supports RS-485 auto flow control)
	Parallel(LPT)	1
	SMBus	1
	PS/2 KB/Mouse	1
	GPIO	8-bit GPIO
Expansion	Mini PCIe	1 (Full-size)
Power	Power Type	AT
	Power Supply Voltage	Supports single 12V input, ± 10%
	Power Consumption (Typical)	PCM-9363N: 0.74 A @ 12 V (8.88 W) PCM-9363D: 0.86 A @ 12 V (10.32 W)
	Power Consumption (Max, test in HCT)	PCM-9363N: 0.86 A @ 12 V (10.32 W) PCM-9363D: 1.18 A @ 12 V (14.16 W)
	Power Management	APM, ACPI
	Battery	Lithium 3 V/210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.64 kg (1.41 lb), weight of total package
	Total Height	30.5mm for PCM-9363N 34.5mm for PCM-9363D

Block Diagram



Ordering Information

Part No.	CPU	L2 Cache	Memory	LVDS	VGA	GbE	Audio	RS-232	RS-232/ 422/485	USB 2.0	SATAII	CF	Mini PCIe	Thermal Solution	Operational Temp.
PCM-9363N-S6A1E	Atom N455	512 KB	SODIMM	18/24-bit	Yes	2	Yes	2	1	6	2	1	Full-size	Passive	0 ~ 60° C
PCM-9363D-S8A1E	Atom D525	1 MB	SODIMM	18/24-bit	Yes	2	Yes	2	1	6	2	1	Full-size	Active	0 ~ 60° C
PCM-9363NZ-1GS6A1E	Atom N455	512 KB	1 GB bundle	18/24-bit	Yes	2	Yes	2	1	6	2	1	Full-size	Passive	-20 ~ 80° C
PCM-9363NZ21GS6A1E	Atom N455	512 KB	1 GB bundle	18/24-bit	Yes	2	Yes	2	1	6	2	1	Full-size	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan HDMI function supported by request

Packing List

Part No.	Description	Quantity
	PCM-9363 SBC	
	Startup Manual	
	Utility CD	
9689000002	mini Jumper pack	
1700008941	SATA Cable w/lock 30 cm	1
1703060191	PS/2 cable 19 cm	1
1701140201	COM2 IDE D-SUB 20 cm cable	1
1703100121	USB 2 x 5P-2.0 12 cm W/BKT cable	2
1700018839	Audio Cable 20 cm	1
1700260250	LPT IDE 26P D-SUB 25 cm cable	1
1700018785	Internal SATA power cable 35cm	1
1700100250	COM3 Cable IDE#2 10P-2.0/D-SUB 9P (M) 25 cm	1
1960050034N001	CPU N455 heatsink (75 x 62 x 19.9 mm) for PCM-9363N series	1
1960050035N001	CPU D525 cooler (75 x 62 x 24.4 mm) for PCM-9363D	1
1960024933S00B	ICH8M Heatsink for PCM-9363 series (38.1 x 33.6 x 7.5 mm)	1
1960050034N011	PCM-9363NZ/NZ2 CPU N455 heatsink (85 x 62 x 24.9 mm)	1

Optional Accessories

Part No.	Description
1960047470N001	Heat spreader (97 x 75 x 18.5 mm)
1655003865	Right angle power connector 2*2P
ACK-A001E	Embedded Chassis for PCM-9362(12V)/9363 series (System dimensions with mounting bracket: 230 x 65 x 145 mm)

Embedded OS/API

Embedded OS/API	Part No.	Description
Win XPE	2070010314	XPE WES2009 PCM-9363 V4.0 24MUI
	2070010313	XPE WES2009 PCM-9363 V4.0 ENG
WinCE	2070010331	CE 6.0 R3 Pro PCM-9363 V6.0.0 ENG (3COM)
	2070011150	Image CE 7.0 Pro PCM-9363 V1.0 ENG
WES7	2070009835	Image WES7E Intel Lunar V5.0 ENG
QNX		6.5
Vxwork		6.8
Linux		Ubuntu 10.04.1
Software API		SUSI V3.0

Rear I/O View



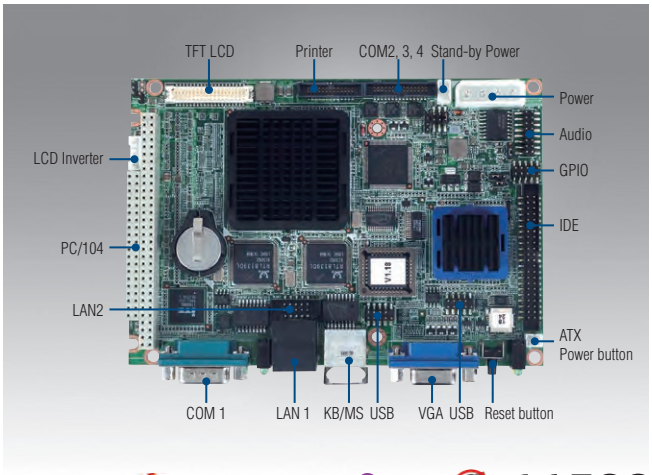
PCM-9363N-S6A1E
PCM-9363D-S8A1E
PCM-9363NZ-1GS6A1E
PCM-9363NZ21GS6A1E



HDMI supported by request

PCM-9375

AMD Geode™ LX800 3.5" SBC, VGA, LVDS/TTL, Dual Ethernet, IDE, CF, PC/104



Features

- AMD Geode™ low-power LX800 500 MHz processor
- 24-bit TFT LCD interface, 18-bit LVDS LCD display
- Low power : 7~8 Watts, supports extended temperature -40 ~ 85° C
- Dual 10/100 Mbps Fast Ethernet
- Supports up to 4 COM ports, 4 USB ports, PC/104 expansion
- Supports SUSIAccess and Embedded Software APIs

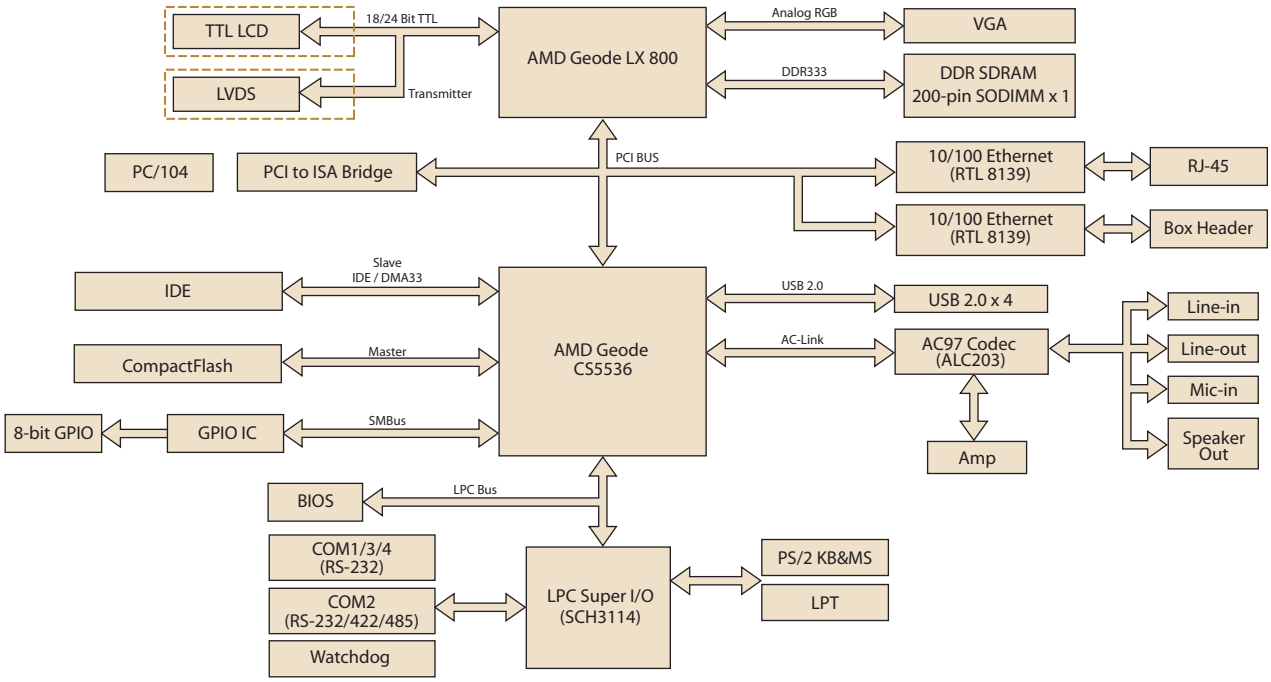
Software APIs: GPIO, H/W Monitor, Watchdog, Brightness, SMBus, Backlight On/Off

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD Geode LX800 processor, up to 500 MHz
	Frequency	500 MHz
	L2 Cache	128 KB
	System Chipset	AMD Geode CS5536
	BIOS	Award 4 Mb Flash ROM BIOS
Memory	Technology	DDR 333/400 MHz
	Max. Capacity	1 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	AMD Geode LX800
	VRAM	Optimized shared memory architecture up to 64 MB system memory
	Graphics Engine	AMD Geode LX800 2D engine
	LVDS	1 x Single channel 18-bit LVDS (PCM-9375E), up to 1600 x 1200 x 32 bpp at 60 Hz
	VGA	VGA: up to 1920 x 1440 @ 32 bpp (85 Hz)
	TTL LCD	1 x 24-bit TTL (PCM-9375F), up to 1600 x 1200 x 32 bpp at 60 Hz
	Dual Display	VGA+TTL, VGA+LVDS
Ethernet	Speed	10/100 Mbps (Supports Wake on LAN)
	Controller	Ethernet1 Realtek RTL8139 10/100 Mbps Ethernet2 Realtek RTL8139 10/100 Mbps
	Connector	RJ-45 on Ethernet1, box header on Ethernet2
Audio	Chipset	Realtek ALC203 AC97, Line-in, Line-out, Mic-in
WatchDog Timer		Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	CompactFlash type I/II (Primary Master IDE Channel)
	IDE	1
	Floppy	1 (Shared with LPT)
Rear I/O	Serial	1 (COM1 supports RS-232) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	Ethernet	1 (10/100 Mbps)
	PS/2 KB/Mouse	1
	VGA	1
	PWR&HDD LED	1
	Reset Button	1
Internal I/O	USB	4 x USB 2.0
	Serial	3 x COM (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) COM3/COM4 supports RS-232 COM2 supports RS-232/422/485 (Supports RS-485 auto flow control)
	Ethernet	1 (10/100 Mbps)
	IDE	1 UDMA 33/66
	Parallel (LPT)	1 (Shared with FDD)
	FDD	1 (Shared with LPT)
	GPIO	8-bit GPIO
	I²C	optional
Expansion	PC/104 Slot	PC/104 Expansion(8/16-Bit ISA)
Power	Power Type	AT/ATX
	Power Supply Voltage	5V + 5% (+12V option for LCD, PC/104)
	Power Consumption (Typical)	0.6 A @ 5 V, 0.03 A @ 12 V (3.36 W)
	Power Consumption (Max, test in HCT)	1.2 A @ 5 V, 0.23 A @ 12 V (8.76 W)
	Power Management	APM 1.2, ACPI
	Battery	Lithium 3 V/196 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.64 kg (1.41 lb), weight of total package
	Total Height	25.2mm

Block Diagram



Ordering Information

Part No.	CPU	Memory	VGA	LVDS	TTL	10/100 Ethernet	Audio	IDE	USB2.0	RS-232	RS-232/ 422/485	CF	Expansion	Thermal Solution	Operating Temp.
PCM-9375F-J0A1E	AMD LX800	SODIMM	1	-	1	2	Yes	1 IDE	4	3	1	1	PC/104	Passive	0 ~ 60° C
PCM-9375E-J0A1E	AMD LX800	SODIMM	1	18-bit	-	2	Yes	1 IDE	4	3	1	1	PC/104	Passive	0 ~ 60° C
PCM-9375FZ-J0A1E	AMD LX800	SODIMM	1	-	1	2	Yes	1 IDE	4	3	1	1	PC/104	Passive	-20 ~ 80° C
PCM-9375EZ-J0A1E	AMD LX800	SODIMM	1	18-bit	-	2	Yes	1 IDE	4	3	1	1	PC/104	Passive	-20 ~ 80° C
PCM-9375FZ2-J0A1E	AMD LX800	SODIMM	1	-	1	2	Yes	1 IDE	4	3	1	1	PC/104	Passive	-40 ~ 85° C
PCM-9375EZ2-J0A1E	AMD LX800	SODIMM	1	18-bit	-	2	Yes	1 IDE	4	3	1	1	PC/104	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-9375 SBC	
	Startup Manual	
	Utility CD	
1701440351	IDE cable (44p/44p) 35cm	1
1700060202	KB/MS cable 20cm	1
1701100202	LAN cable 20cm	1
1700001971	COM 2/3/4 RS-232 cable 21 cm	1
1700001977	Parallel Port cable 25cm	1
1700160160	Audio cable 16 cm	1
1703100121	USB cable (2 ports) w/ bracket 12cm	1
1960004868	LX800 heatsink for PCM-9375 39.5 x 39.6 x 9.8 mm	
1960004869	CS5536 heatsink for PCM-9375 22.6 x 22.6 x 14.5 mm	

Optional Accessories

Part No.	Description
1703040157	COM2 cable for RS-422/485
1703200201	ATX power control cable
9696937580E	PCM-9375-FDD module (must connect 1701340700 and 1700002212)
1701340700	Flat cable 34-pin for 9696937580E, 70cm (cable from 9696937580E's FDD port to FDD device)
1700002212	LPT Cable for 9696937580E , 1.27mm pitch, 10cm (cable from PCM-9375's LPT to 9696937580E's LPT)

Rear I/O View

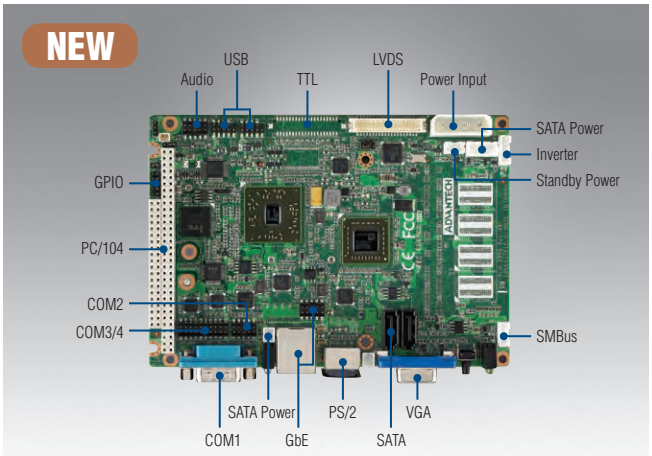


Embedded OS/API

Embedded OS/ API	Part No.	Description
WinCE	2070000729	Image PCM-9375 CE 5.0 Pro Plus Eng
	2070001612	CE 6.0 Pro GX3 4Com V1.0 ENG
	2070007509	CE 6.0 Pro PCM-9375_4COM V1.1 JPN
	2070007810	CE 6.0 Pro GX3 4COM V1.2 ENG
Win XPE	2070007790	WES2009 ENG V4.0
	2070007910	WES2009 24MUI V4.0
QNX		QNX 6.3.2, QNX 6.4.1
Vxwork		5.5
Linux	205E375000	Linux WDT Driver Ubuntu8.04 PCM-9375 V1.0 ENG Ubuntu 10.04.1
Software API	2066002300	CD SUSI Library V1.0

PCM-9376

AMD G-Series T16R 3.5" SBC, DDR3 SODIMM, PC/104, 48-bit LVDS, VGA, 18-bit TTL, 2GbE, Mini PCIe, mSATA, LPC, iManager



iManager SUSIAccess

Features

- AMD G-Series Single Core T16R processor + A55E, DDR3 SODIMM up to 4GB
- DirectX11 supported. 48-bit LVDS, VGA, 18-bit TTL
- Dual GbE, 4 COM, 2 SATA, mSATA
- Expansion: PC/104, Mini PCIe, LPC connector for additional COM ports
- iManager, SUSIAccess and Embedded software APIs supported

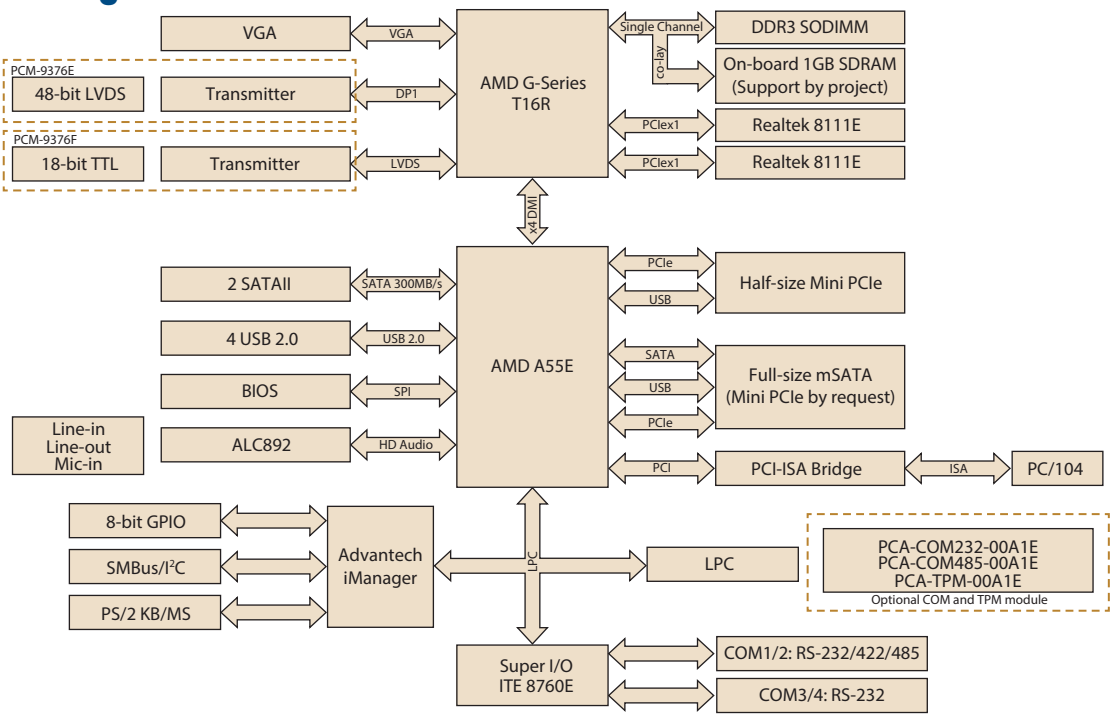
Software APIs: GPIO, H/W Monitor, Watchdog, Brightness, SMBus, Backlight On/Off

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD® G-Series™ Single Core processor T16R
	Frequency	615 MHz
	L2 Cache	512 KB
	System Chipset	AMD T16R + A55E
	BIOS	AMI 32-Mbit
Memory	Technology	DDR3 1066 MHz
	Max. Capacity	SODIMM up to 4 GB
	Socket	1 x 204-pin SODIMM
	On-board SDRAM	(1 GB 800MHz, support by request)
Display	Chipset	AMD T16R processor
	Graphic Engine	DirectX 11 graphics with UVD 3.0, Open CL 1.1, Open GL 4.0 Hardware decode (UVD 3) for H.264, VC-1 and MPEG2
	VRAM	Optimized shared memory Architecture up to 384 MB system memory
	LVDS	48-bit LVDS up to 1920 x 1200 at 60Hz (PCM-9376E)
	VGA	Up to 1920 x 1200 at 85Hz
	TTL	18-bit TTL (PCM-9376F)
	Dual Display	VGA+LVDS, VGA+TTL, LVDS+TTL
Ethernet	Speed	10/100/1000 Mbps
	Controller	GbE1/2: Realtek RTL8111E-VL-CG
	Connector	GbE1 on RJ-45, GbE2 on box wafer
Audio	Chipset	ALC892 Codec (Line-in, line-out, mic-in)
WatchDog Timer		255 levels timer interval, programmable by software, multi-level WDT set by iManager
Storage	SATA	2 SATA II (Max. Data Transfer Rate 300 MB/s)
	mSATA	1 (Full-size, Mini PCIe supported by request)
Rear I/O	Serial	1 (COM1: RS-232/422/485, supports WoR and RS-485's auto flow control) (ESD protection: air gap ±15kV, contact ±8kV)
	Ethernet	1
	PS/2 KB/Mouse	1
	VGA	1
	Reset button	1
Internal I/O	Ethernet	1
	USB	4 x USB2.0
	Serial	3 (COM2: RS-232/422/485, supports RS-485 auto flow control. COM3/4: RS-232) (ESD protection: air gap ±15kV, contact ±8kV)
	SMBus	1
	I²C	1 (Share with SMBus)
	GPIO	8-bit (5V tolerance)
Expansion	PC/104 slot	1 (8/16-bit ISA) (Booted and powered from PC/104 supports by request)
	Mini PCIe	1 (Half-size)
	LPC connector	1 (For support of COM ports by PCA-COM232 or PCA-COM485)
Power	Power Type	AT/ATX
	Power Supply Voltage	5V ±5% (12V only for LCD and PC/104)
	Power Consumption (Typical)	1.48A @ 5V (7.4 W)
	Power Consumption (Max, test in HCT)	2.28A @ 5V (11.4 W)
	Power Management	ACPI
	Battery	Lithium 3 V / 210 mAH
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.51 kg (1.12 lb) for total package
	Total Height	23.9 mm (including of heatsink)

Block Diagram



Ordering Information

Part Number	CPU	Memory	VGA	LVDS	TTL	GbE	RS-232/ 422/485	RS-232	USB2.0	SATA II	Audio	mSATA*	MiniPCIe	LPC conn.	Expansion	Thermal Solution	Operating Temp
PCM-9376E-M0A1E	AMD T16R	SODIMM	1	48-bit	-	2	2	2	4	2	Yes	Full-size	Half-size	Yes	PC/104	Passive	0 ~ 60° C
PCM-9376F-M0A1E	AMD T16R	SODIMM	1	-	18-bit	2	2	2	4	2	Yes	Full-size	Half-size	Yes	PC/104	Passive	0 ~ 60° C
PCM-9376EZ-M0A1E	AMD T16R	SODIMM	1	48-bit	-	2	2	2	4	2	Yes	Full-size	Half-size	Yes	PC/104	Passive	-20 ~ 80° C
PCM-9376EZ2-M0A1E	AMD T16R	SODIMM	1	48-bit	-	2	2	2	4	2	Yes	Full-size	Half-size	Yes	PC/104	Passive	-40 ~ 85° C

* Full-size mSATA supports Mini PCIe upon request

Packing List

Part No.	Description	Quantity
	PCM-9376 SBC	
	Startup Manual	
1700019414	COM2 cable 2*5P-2.0/D-SUB, 30cm	1
1701200220	COM3/4 cable 2*10P-2.0/D-SUB*2, 22cm	1
1700017863	LAN2 cable 2*5P-2.0/RJ45, 15cm	1
1700019071	USB cable 2*5P-2.0/USB*2 w/o bracket, 12cm	1
1700008941	SATA cable 7P/7P w/ lock, 32cm	1
1700018785	5V/12V SATA Power cable 4P-2.5/SATA 15P, 35cm	1
1703100152	Audio cable 2*5P-2.0/Jack*3, 20cm	1
1700060202	PS/2 cable M-DIN 6P/M-DIN 6P*2, 20cm	1
1960060631T001	Heatsink 134 x 6.9 x 19.5 mm	1
9689000002	mini jumper pack	1

Optional Accessories

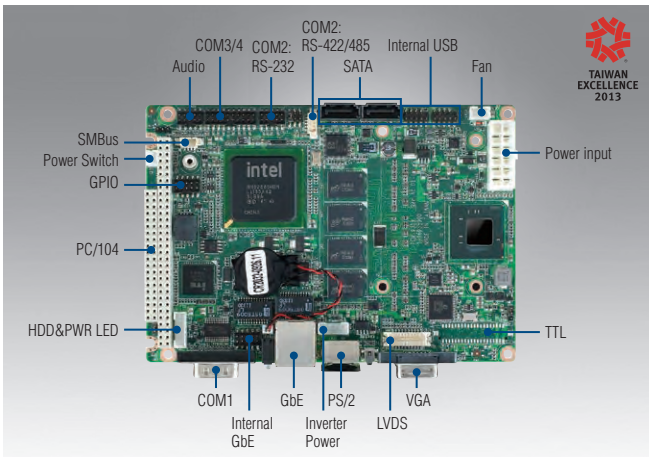
Part No.	Description
1703200201	ATX Power cable, 20cm
1700018259	5V SATA Power cable 2P-2.0/SATA 15P, 20cm
TBC	Heat spreader
PCA-COM232-00A1E	4 RS-232 LPC extension module, 31.5 x 48 mm
PCA-COM485-00A1E	4 RS-422/485 LPC extension module, 31.5 x 48 mm
PCA-TPM-00A1E	LPC extension TPM module, 31.5 x 48 mm

Embedded OS/API

Embedded OS/API	Part No.	Description
WES7	2070012057	image WES7E PCM-3356 V5.1.5
Win XPE	2070012321	image WES2009 PCM-9376 x86 MUI24 V4.5
WinCE 6.0		WinCE 6.0
WinCE 7.0		WinCE 7.0
Linux		Ubuntu 12.04
Software API		iManager2.0

PCM-9389

Intel® Atom™ N455/D525 3.5" SBC, DDR3 SODIMM/on-board SDRAM, 24-bit LVDS/TTL, VGA, 2 GbE, LPC, CF, PC/104, iManager



Features

- Intel® Atom™ N455 Single Core/ D525 Dual Core processor + ICH8M, DDR3 on-board memory or SO-DIMM support
- Intel Gen 3.5 DX9, MPEG2 Hardware Decoder, dual independent display: 18/24-bit LVDS, VGA
- Intel Dual GbE supported; Rich I/O interface with 4 COM , 2 SATA, 4 USB and GPIO connectors
- Integrates internal LPC connector to support four extra COM ports via PCA-COM232 or PCA-COM485
- Supports iManager, SUSIAccess and Embedded Software APIs

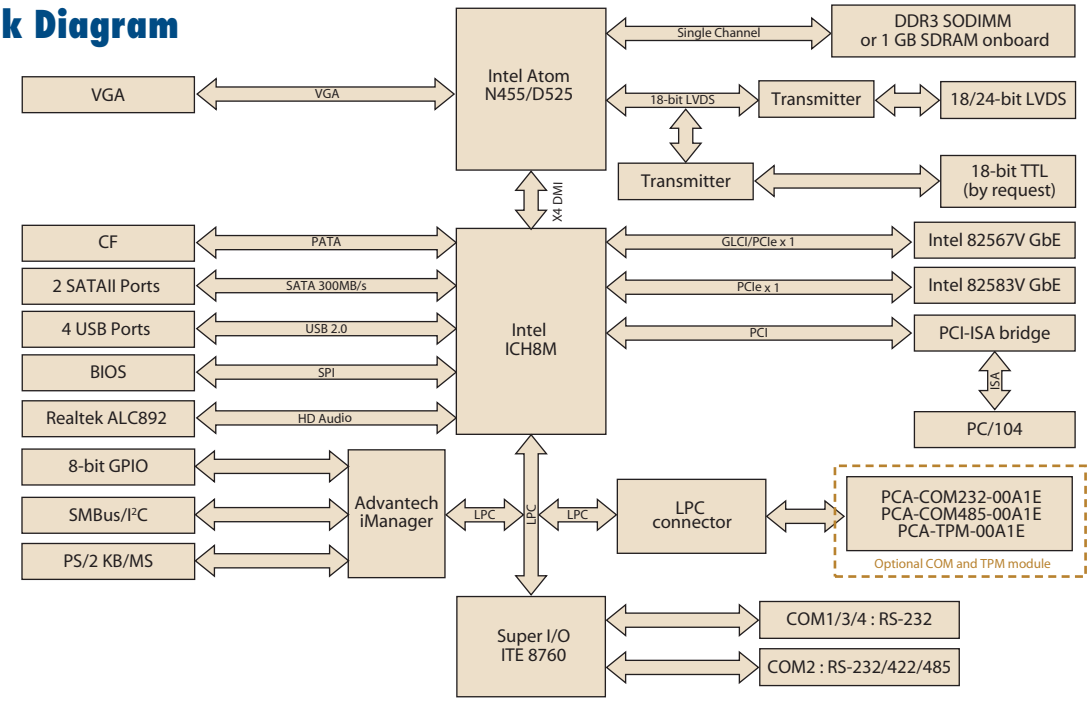
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus, CPU Speed, System Throttling

Utilities: BIOS flash

Specifications

Processor System	CPU	Intel Atom N455 Single Core 1.66 GHz Processor Intel Atom D525 Dual Core 1.8 GHz Processor
	Frequency	1.66 GHz on N455, 1.8 GHz on D525
	L2 Cache	512 KB/1 MB
	System Chipset	Intel N455/D525 + ICH8M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 667 MHz for N455, 800 MHz for D525
	Max. Capacity	SODIMM sku: 2GB for N455, 4GB for D525
	Socket	1 x 204-pin SODIMM
	Onboard Memory	1GB (D525 on board memory supported by request)
Display	Chipset	Intel Atom Processor N455 1.66GHz/D525 1.8 GHz
	VRAM	Optimized Shared Memory Architecture up to 224 MB system memory
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 hardware decoder Embedded Gen3.5+ GFX Core
	LVDS	LVDS: Single channel 18/24-bit LVDS up to WXGA 1366 x 768
	VGA	Intel Atom N455 Single Core up to 1400 x 1050 (SXGA), Intel Atom D525 Dual Core up to 2048 x 1536
	TTL	18-bit TTL (by request)
	Dual Display	VGA+LVDS, VGA+TTL (TTL support by request)
Ethernet	Speed	10/100/1000 Mbps (Supports Wake on LAN)
	Controller	GbE1 Intel 82567V, GbE2 Intel 82583V
	Connector	GbE1 on RJ-45, GbE2 on internal box wafer
Audio	Chipset	Realtek ALC892 High Definition Audio (HD), Line-in, Line out, Mic-in
WatchDog Timer		255 levels timer interval, programmable by software. Multi-level WDT (set by iManager)
Storage	CompactFlash	CompactFlash type I/II (Primary Master IDE Channel)
	SATA	2 SATA II (Max. Data Transfer Rate 300 MB/s)
Rear I/O	Serial	1 (COM1 supports RS-232) (ESD protection for COM1: Air gap ±15kV, Contact ±8kV)
	Ethernet	1 (10/100/1000 Mbps)
	PS/2 KB/Mouse	1
	VGA	1
	Reset Button	1
Internal I/O	USB	4 x USB 2.0
	Serial	3 x COM (ESD protection for all COM ports: Air gap ±15kV, Contact ±8kV) COM3/4 supports RS-232, COM2 supports RS-232/422/485 (Supports RS-485 auto flow control)
	SMBus	1
	I²C	1 (Shared with SMBus)
	Ethernet	1 (10/100/1000 Mbps)
	GPIO	8-bit GPIO (5V tolerance)
Expansion	PC/104 Expansion (8/16-bit ISA)	1 (No support ISA DMA) (Booted and powered from PC/104 supported by request)
	LPC connector	1 (For support of COM ports by PCA-COM232 or PCA-COM485)
Power	Power Type	AT/ATX
	Power Supply Voltage	5V+/-5% (12V option for LCD, PC/104)
	Power Consumption (Typical)	PCM-9389N: 1.63 A @ 5 V (8.15 W) PCM-9389D: 1.94 A @ 5 V (9.7 W)
	Power Consumption (Max, test in HCT)	PCM-9389N: 2.23 A @ 5 V (11.15 W) PCM-9389D: 2.9 A @ 5 V (14.5 W)
	Power Management	APM, ACPI
	Battery	Lithium 3 V/210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W)	146 x 102 mm (5.7" x 4")
	Weight	0.64 kg (1.41 lb), weight of total package
	Total Height	26.2 mm for PCM-9389N 29.2 mm for PCM-9389D

Block Diagram



Ordering Information

Part Number	CPU	L2 Cache	Memory	VGA	LVDS	TTL	USB 2.0	SATA II	GbE	Audio	RS-232	RS-232/422/485	CF	LPC conn.	Expansion	Thermal Solution	Operating Temp.
PCM-9389N-1GS6A1E	Atom N455	512 KB	1GB onboard	1	18/24-bit	by request	4	2	2	Yes	3	1	1	Yes	PC/104	Passive	0 ~ 60° C
PCM-9389N-S6A1E	Atom N455	512 KB	SODIMM	1	18/24-bit	by request	4	2	2	Yes	3	1	1	Yes	PC/104	Passive	0 ~ 60° C
PCM-9389D-S8A1E	Atom D525	1 MB	SODIMM	1	18/24-bit	by request	4	2	2	Yes	3	1	1	Yes	PC/104	Active	0 ~ 60° C
PCM-9389NZ-1GOBA1E	Atom N455	512 KB	1GB onboard	1	18/24-bit	by request	4	2	2	Yes	3	1	1	Yes	PC/104	Passive	-20 ~ 80° C
PCM-9389NZ-2GDMA1E	Atom N455	512 KB	2GB bundled	1	18/24-bit	by request	4	2	2	Yes	3	1	1	Yes	PC/104	Passive	-20 ~ 80° C
PCM-9389NZ21GOBA1E	Atom N455	512 KB	1GB onboard	1	18/24-bit	by request	4	2	2	Yes	3	1	1	Yes	PC/104	Passive	-40 ~ 85° C
PCM-9389NZ22GDMA1E	Atom N455	512 KB	2GB bundled	1	18/24-bit	by request	4	2	2	Yes	3	1	1	Yes	PC/104	Passive	-40 ~ 85° C

Note: Passive = fanless; Active = with fan

Packing List

Part No.	Description	Quantity
	PCM-9389 SBC	
	Startup Manual	
	Utility CD	
9689000002	mini Jumper pack	
1700060202	KB/MS cable 20cm	1
1700018730	USB cable (2 ports) w/o bracket 25cm	2
1700019584	Audio cable (Mic-in, Line-in, Line-out) 20cm	1
1700016141	AT Power Cable	1
1700017863	RJ-45 LAN cable , 15cm	1
1700006291	SATA 7P cable w/ right angle, 30cm	1
1701200220	COM3/4 10*2P-2.0/D-SUB*2, 22cm	1
1700019435	COM2: RS-422/485 5P-1.25/D-SUB, 25cm	1
1700019414	COM2: RS-232 5*2P-2.0/D-SUB, 30cm	1
1960047988T011	Heatsink for ICH8M, 28x28.4x8mm	1
1960055364T001	Heatsink for PCM-9389N, 73.5x87.5x15mm	1
1960055365T001	Cooler for PCM-9389D, 73.5x87.5x18mm	1
1960057842T001	Heatsink for PCM-9389NZ/NZ2, 73.5x87.5x20mm	1

Rear I/O View



Optional Accessories

Part No.	Description
1960056151N001	Heat spreader (113 x 69.5 x 15 mm)
PCA-COM232-00A1E	4 RS-232 ports extension module, 31.5 x 48 mm
PCA-COM485-00A1E	4 RS-422/485 ports extension module, 31.5 x 48 mm (supported by request with OEM BIOS)
PCA-TPM-00A1E	TPM module, 31.5 x 48 mm
1700001112	ATX Power Cable
1700018436	Inverter 5P to SATA power 15P cable 10cm

Embedded OS/API

Embedded OS/API	Part No.	Description
Win XPE	2070011341	XPE WES2009 PCM-9389 V4.0 24MUI
	2070010313	XPE WES2009 PCM-9389 V4.0 ENG
WinCE	2070011337	CE 6.0 R3 Pro PCM-9389 V6.0.0 ENG (4 COM)
WES7	2070009835	Image WES7E Intel Lunar V5.0 ENG
QNX		6.5
VxWorks		6.8
Linux		Ubuntu 10.04.1
Software API		iManager 2.0

I/O Modules & Converter Boards



MIO-6250

3 x 10/100 Mbps with Bypass Ethernet Ports

Specifications

Chipset	3 x RealTek RTL8139
Speed	10/100 Mbps
Interface	3 x RJ-45
Standard	IEEE 802.3 u (100Base-T) Compatible
Bypass	Ethernet Bypass in Port 2 and Port 3
Dimensions	102 x 85 mm, (4.7" x 3.3")
Environment	0 ~ 60° C, operation
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Ordering Information

P/N	Description
MIO-6250-00A1E	MIO Module with 3 10/100 Ethernet

MIO base board: (PCM-9362NCF/DF)



MIO-6260

Multi I/O Module with 1 Ethernet, 2 COM, 4 USB

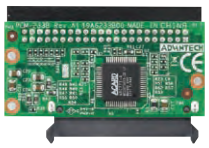
Specifications

Chipset	Intel 82551ER (MIO-6260L) NEC uD720101 PCI USB 2.0 controller SMSC SCH-3114 LPC I/O with multiple serial ports Controller
I/O Interface	1 x RJ-45 (MIO-6260L), 2 x USB connector, 2 x box header, 2 x RS-232/422/485 by D-Sub connector Serial ports jumperless, with auto flow control
Standard	USB 2.0 compliant; IEEE 802.3u 100 Mbps Fast Ethernet compatible
Dimensions	102 x 146 mm, (4.7" x 5.7")
Environment	0 ~ 60° C, operating temperature
Operating Humidity	10% ~ 90% relative humidity, non-condensing

Ordering Information

P/N	Description
MIO-6260-00A1E	MIO module with 2 COM, 4 USB
MIO-6260L-00A1E	MIO module with 1 10/100 Ethernet, 2 COM, 4 USB

MIO base board: (PCM-9362NF/NCF/DF)



PCM-233B

IDE (44-pin) to SATA Converter Module

CE FC

Specifications

General	
Chipset	ACARD ARC772-B5
PATA Connector	44-pin IDE connector
SATA Connector	7+15P SATA connector
Mechanical and Environmental	
Dimensions (L x W)	53 x 25 mm (2.1" x 1.0")
Weight	30g
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Storage Temperature	-45 ~ 85° C (-40 ~ 185° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Ordering Information

Standard

Part Number	Description
PCM-233B-00A1E	IDE (44-pin) to SATA converter module



PCM-233C

IDE (44-pin) to SATA Converter Module

CE FC

Specifications

General	
Chipset	ACARD ARC772-B5
PATA Connector	44-pin IDE Connector
SATA Connector	7P SATA Connector
Mechanical and Environmental	
Dimensions (L x W)	53 x 25 mm
Weight	30g
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Storage Temperature	-45 ~ 85° C (-40 ~ 185° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing

Ordering Information

Standard

Part Number	Description
PCM-233C-00A1E	IDE (44-pin) to SATA converter module

ACK-A001E

Compact Embedded 3.5" SBC Chassis



Features

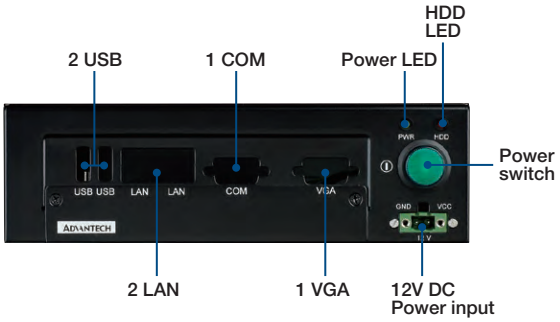
- 3.5" SBC chassis supports front & rear I/O interfaces
- Fanless system with wall-mount & desk mount support; mounting flange is removable
- Bottom door for access to devices on the solder side of motherboard
- Flexible cutouts I/O in the rear bezel up to 4 x COM , 4 x USB, audio, and LPT/PS2/LVDS
- Easy assembling & maintenance of 2.5" hard disk
- Supports dedicated Advantech 3.5" SBC: PCM-9362/PCM-9363

CE FCC RoHS

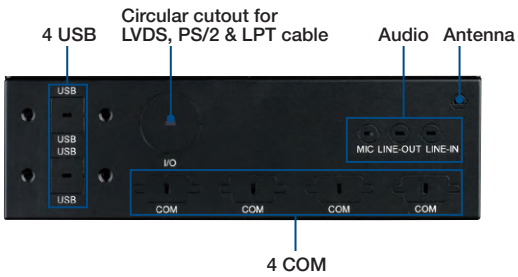
Specifications

Disk Drive Bay	2.5" (internal)	w/ PCM-9362 1	w/ PCM-9363 1
Front I/O Openings	USB	2	2
	COM	1 (1 x RS-232)	1 (1 x RS-232)
	RJ-45	2	2
	Audio	3 (Mic-in, Line-out, Line-in)	3 (Mic-in, Line-out, Line-in)
	VGA	1	1
Rear I/O Openings	COM	3 (2 x RS-232,1 RS-232/422/485)	2 (1 x RS-232,1 RS-232/422/485)
	USB	4	4
	Audio	1(Mic-in, Line-out, Line-in)	1(Mic-in, Line-out, Line-in)
	Antenna	1	1
	Circular cutouts	1(Reserved for LVDS, PS/2 & LPT cable)	1(Reserved for LVDS, PS/2 & LPT cable)
Miscellaneous	LED Indicators	Power, HDD	
	Control	Power switch (Push-on/off type)	
Environment		Operating	Non-operating
	Temperature	0 ~ 40° C (32 ~ 104° F) w/ 0.7m/s airflow w/o system Fan	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	40° C @ 95% RH Non-Condensing	60° C @ 95% RH non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms (w/o 2.5" HDD)	N/A
Physical Characteristics	Dimensions (W x H x D)	System dimension:200 x 60 x 145 mm System dimension with mounting bracket:230 x 65 x 145 mm	
	Weight	0.95 kg (2.09 lb)	

Front View

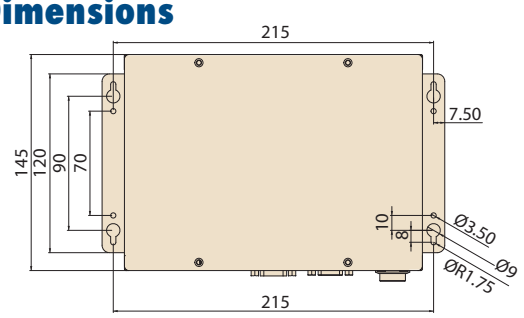


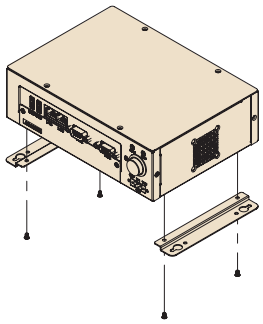
Rear View

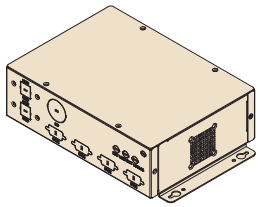


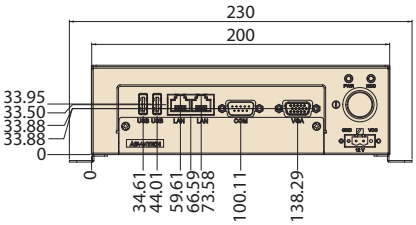
Dimensions

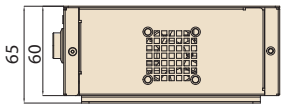
Unit: mm

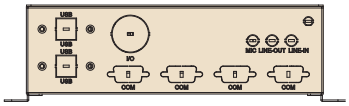












Ordering Information

Part Number	Recommended 3.5" SBC	System Fan	Power Supply	Power cable	Regulation
ACK-A001E	PCM-9362N-S6A1E, PCM-9362D-S6A1E, PCM-9363N-S6A1E, PCM-9363D-S8A1E	1750006742-01 (Optional)	1757003553	required,refer to optional accessories	CE/FCC

Power Supply Options

Part Number	Input DC power connector	Watts	Input	Output	Operating Temperature	Dimensions	Safety	MTBF
1757003553 (AC-DC, w/o PFC)	DC jack	36 W	AC 100 ~ 240 V	DC 12 V @ 3 A	0 ~ 40° C (32 ~ 104° F)	91.5 x 37.5 x 2	CE/FCC/CCC/UL/CB/ BSMI/KC/PSE/GS/GOST-R	50,000 hours @ 25° C
1757004473-01 (AC-DC, w/o PFC)	Phoenix type	36 W	AC 100 ~ 240 V	DC 12 V @ 3 A	0 ~ 40° C (32 ~ 104° F)	91.5 x 37.5 x 2	CE/FCC/CCC/UL/ CB/ BSMI/KC/PSE/ GS/ GOST-R	50,000 hours @ 25° C

Packing List

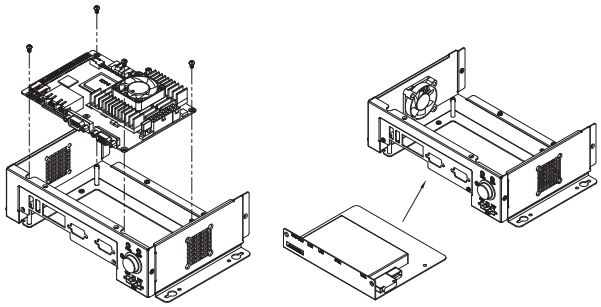
Part Number	Description	Quantity
	3.5" SBC Chassis	1
1700018730	2 ports USB cables 25cm for ACK-A001E	2
1700018436	PCM-9362 SATA power cable 10cm drained 5V power from PCM-9362 inverter connector (CN13)	1
1700009001	Phoenix to DC power cable 4.5cm	1
1930001241	Screws for 2.5" HDD installation (S/S D=4.8 H=1.0 + M3*5L ST BLACK)	2
1930004706	Screws for USB cable-1700018730 installation (M3*8L s/s D=5.3 H=1.2 + st ni)	4
1935030500	Screws for motherboard installation (R/S D=5.5 H=2 + M3*5L ST Ni)	4
1930005475	Screws for system Fan (Screw T 3.8*10L S/S D=6.0 H=1.0 + ST BZn)	4
1990020671S000	Snap bushing for circular cutout to protect finger from injury	1
1990020672S000	Hole plugs for circular cutout	1

Optional Accessories

Part Number	Description
1757003553	DC power 12V@3A /max 36Watts w/ DC jack type power connector
1757004473-01	DC power 12V@3A /max 36Watts w/ Phoenix type power connector
1700001524	Power Cable 3-pin 180cm. USA type
170203183C	Power Cable 3-pin 180cm. Europe type
170203180A	Power Cable 3-pin 180cm. EK type
1700008921	Power Cable 3-pin PSE Mark 183cm
1750006742-01	Fan 40 x 40 x 10mm 0.15A 12V 8000RPM and internal SATA power cables drained power from PCM-9362/9363 inverter connector

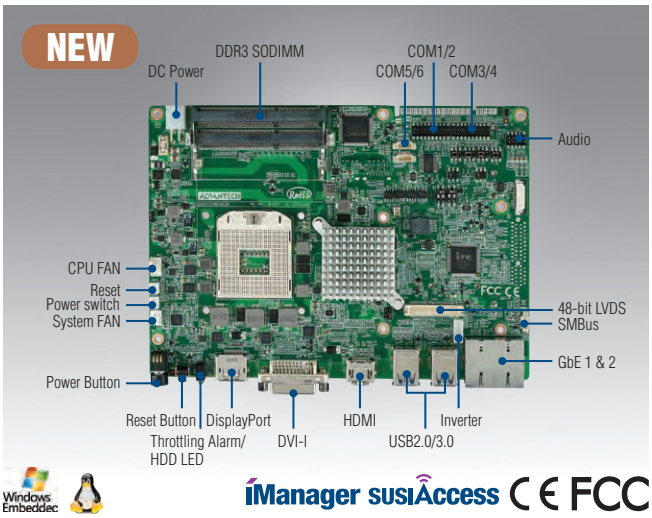
Note: DC power and power cable are required for system operation.

Installation



MIO-9290

Intel® 3rd Core™ i7/i5/i3 rPGA988, 5.25" MI/O SBC, DDR3/DDR3L, DP, HDMI, DVI-I, 48-bit LVDS, 2GbE, 2 Mini PCIe, mSATA, iManager, MIOe



Features

- Supports Intel 3rd Generation Core™ i7/i5/i3 mobile processor (rPGA) with Intel QM77 PCH, 2 x DDR3/DDR3L SO-DIMM support up to 16 GB
- DirectX11, OpenGL3.1, OpenCL1.1, 3 independent display: DP + HDMI + DVI-I
- Flexible design using integrated multiple I/O: MIOe enhances vertical applications & protects domain knowhow
- 2 GbE support, HD Audio, Rich I/O interface with 6 COM, 2 SATA, SMBUS/I²C, 16-bit GPIO, 2 Full-size Mini PCIe/mSATA, 2 USB2.0, 4 USB3.0
- Supports iManager, SUSIAccess, Embedded Software APIs & Intel iAMT 8.0

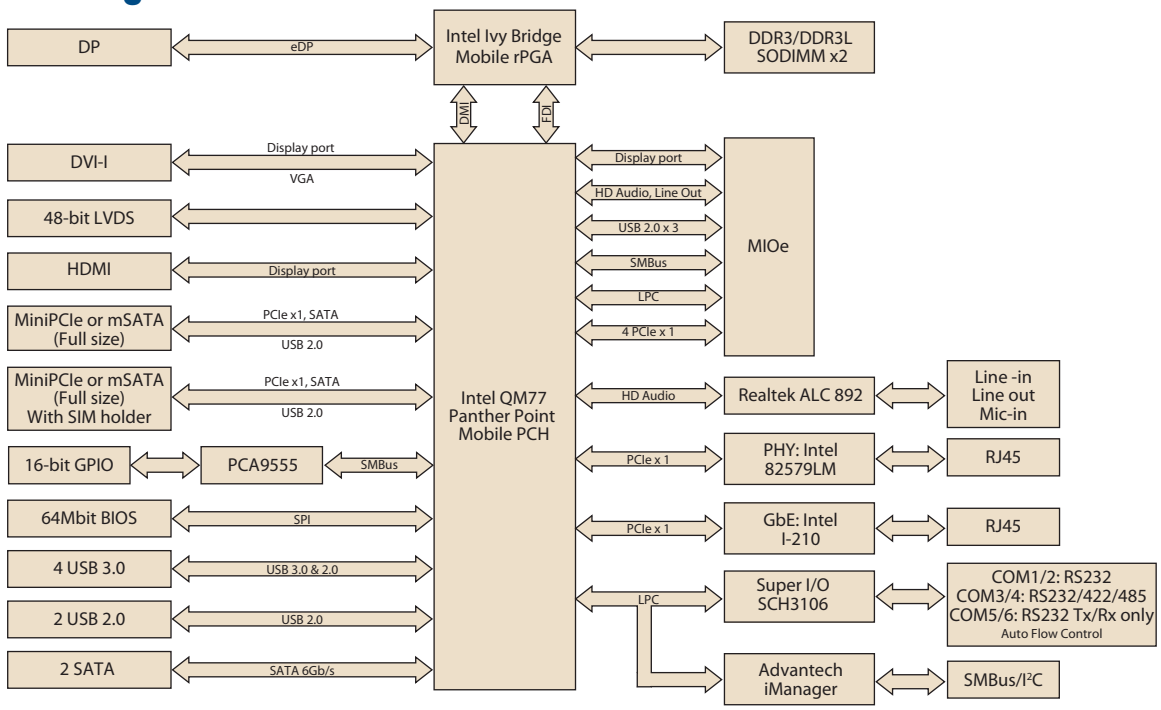
Software APIs: GPIO, H/W Monitor, Brightness, Watchdog, Backlight On/Off, SMBus/ I²C, CPU Speed, System Throttling

Utilities: Monitoring

Specifications

Processor System	CPU	Intel Core i7 3610QE	Intel Core i5 3610ME	Intel Core i3 3120ME	Intel Celeron 1020E
	Frequency	2.3 GHz (Quad Core)	2.7 GHz (Dual Core)	2.4 GHz (Dual Core)	2.2 GHz (Dual Core)
	L3 Cache	6 MB	3 MB	3 MB	2 MB
	System Chipset	Intel QM77			
	BIOS	AMI EFI 64Mbit			
Memory	Technology	Dual Channel DDR3/DDR3L 1333/1600 MHz			
	Max. Capacity	8GB x 2			
	Socket	2 x 204-pin SODIMM			
Display	Controller	Intel Ivy Bridge Processor + Intel QM77 Integrated GFX Gen 7			
	Graphic Engine	DirectX11, OpenGL 3.1, and OpenCL 11 Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1			
	DisplayPort	Max resolution up to 2560 x 1600 @ 60Hz			
	LVDS	LVDS with 3.3V, 5V on LCD VDD power, 5V and 12V support on LVDS inverter Dual channel 24-bit LVDS, max resolution up to 1920 x 1200 @ 60Hz			
	HDMI	Supports HDMI 1.4 for HD Video playback Max resolution up to 1920 x 1200 @ 60Hz			
	DVI-I	Max resolution up to 1920 x 1200 @ 60Hz			
	3 Independent Display	DP + HDMI + DVI-I			
Ethernet	Speed	10/100/1000Mbps			
	Controller	GbE1 - Intel 82579LM, GbE2 - Intel I-210IT			
	Connector	2 RJ45 on Rear I/O			
Audio	Chipset	Realtek ALC892, High Definition Audio (HD), Line-in, Line out, Mic-in			
WatchDog Timer		255 levels timer interval, programmable by software			
Storage	SATAIII	2 x Serial-ATA port, up to 6.0 Gb/s (600 MB/s)			
	mSATA	2 (Full-size, shared with mini PCIe)			
Rear I/O	Ethernet	2 (10/100/1000Mbps)			
	Display Port	1			
	DVI-I	1			
	HDMI	1			
	USB 3.0	4 (USB 3.0 compliant)			
	LED	Red: Throttling alarm, Yellow: HDD			
	Power Button	1			
	Reset Button	1			
Internal I/O	USB	2 (USB 2.0 compliant)			
	LVDS/Inverter	1			
	Serial	2 RS-232 from COM1/2, 2 RS-232/422/485 from COM3/4 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) 2 RS-232 with Tx/Rx only from COM5/6			
	I²C	1 (Shares with SMBus)			
	SMBus	1			
	GPIO	16-bit general purpose input/output			
Expansion	Mini PCIe	2 (Full-size, shared with mSATA)			
	MIOe	SMBus, 3 USB2.0, LPC, 4 PCIe x 1, line out, 5 Vsb/12 Vsb power, Displayport			
Power	Power Type	Single 12V DC power input			
	Power Supply Voltage	Supports single 12V input, ± 10%			
	Power Consumption (Typical)	i7 3610QE w/DDR3: 0.646 A @ 12 V (7.75 W), w/DDR3L: 0.662 A @ 12 V (7.94 W) i5 3610ME w/DDR3: 0.614 A @ 12 V (7.37 W), w/DDR3L: 0.606 A @ 12 V (7.27 W) i3 3120ME w/DDR3: 0.622 A @ 12 V (7.46 W), w/DDR3L: 0.612 A @ 12 V (7.34 W) Celeron 1020E w/DDR3: 0.632 A @ 12 V (7.58 W), w/DDR3L: 0.623 A @ 12 V (7.48 W)			
	Power Consumption (Max, test in HCT)	i7 3610QE w/DDR3: 3.759 A @ 12 V (45.11 W), w/DDR3L: 3.675 A @ 12 V (44.1 W) i5 3610ME w/DDR3: 2.375 A @ 12 V (28.5 W), w/DDR3L: 2.336 A @ 12 V (28.03 W) i3 3120ME w/DDR3: 1.675 A @ 12 V (20.1 W), w/DDR3L: 1.656 A @ 12 V (19.87 W) Celeron 1020E w/DDR3: 1.595 A @ 12 V (19.14 W), w/DDR3L: 1.548 A @ 12 V (18.58 W)			
	Power Management	ACPI			
	Battery	Lithium 3 V / 210 mAH			
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)			
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing			
Physical Characteristics	Dimensions (L x W)	203 x 146 mm (8" x 5.75")			
	Weight	0.9 kg (1.98 lb), weight of total package			

Block Diagram



Ordering Information

Part No.	CPU	Memory	DP	LVDS	DVI-I	HDMI	GbE	HD Audio	RS-422/485	RS-232	USB 3.0	USB 2.0	SATAIII	Full-size Mini PCIe*	MIOe	Power connector	Thermal Solution*	Operation Temp.
MIO-9290F-00A1E	Socket rPGA988*	SO-DIMM	Yes	48-bit	Yes	Yes	2	Yes	2	4	4	2	2	2	Yes	2x2 pin	Active	0 ~ 60° C

* Reserve Sandy Bridge CPU design
* Full-size Mini PCIe supports mSATA
* Active = with fan

Packing List

Part No.	Description	Quantity
	MIO-9290 SBC	1
	Startup Manual	1
1700002155-01	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
1700018785	SATA 35cm power cable	1
1701200220	COM RS-232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM	2
1700019584	Audio Cable 2*5P-2.0/JACK*3 20cm	1
9666929000E	Screw and stud pack (4 screws for Mini PCIe, 4 M3 studs and screws for MIOe module)	1
9689000002	Mini Jumper pack	1
1960054541N011	Cooler 60x60x26.5mm	1

Rear I/O View



Optional Accessories

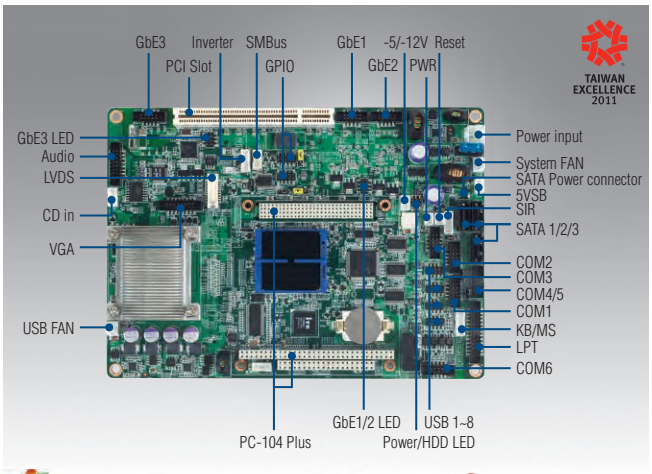
Part No.	Description
1700002155-01	SATA cable 7P/ 7P 30cm C=R 180/90
1700018785	SATA 35cm power cable
1703100260	Internal USB cable
1700021399-01	RS-232 Tx/Rx only (COM5/6) cable
1910002596-01	POST F=M3*10L M=M3*5L B=5 H=19 ST Ni
96MPI3M-2.4-3M9T	CPU i3-3120ME 2.4G 3M Dual Core
96MPI5-2.7-3M9T	CPU i5-3610ME 2.7G 3M Dual Core
96MPI7M-2.3-6M9T	CPU i7-3610QE 2.3G 6M Quad Core
96MPCM-2.2-2M9T	CPU CELERON-1020E 2.2G 2M Dual Core

Embedded OS/API

Embedded OS/API	Part No.	Description
Win XPE	2070012322	MIO-9290 XPE 24MUI
WES 7	2070012220	MIO-9290 WES7E x86 English/ Traditional Chinese/Simplified Chinese/ Japanese
	2070012219	MIO-9290 WES7E 64bit English/ Traditional Chinese/Simplified Chinese/ Japanese
Linux		Ubuntu 12.04
QNX		6.5
VxWorks		6.9
Software API		iManager 2.0

PCM-9562

Intel® Atom™ N450/D510 EBX SBC with 3 GbE, 6 COM, 3 SATA, 8 USB 2.0, 2 Watchdog



Features

- Embedded Intel® Atom™ processor N450 Single Core/D510 Dual Core 1.66 GHz + ICH8M
- Supports up to 3 Intel GbE, 6 COM, and 2 Watchdog timer
- Design complies with UL60601 on GbE3 and COM6 port isolation (PCM-9562F full version series only)
- Power off protection and Software I²C API support
- Supports SUSIAccess and Embedded Software APIs

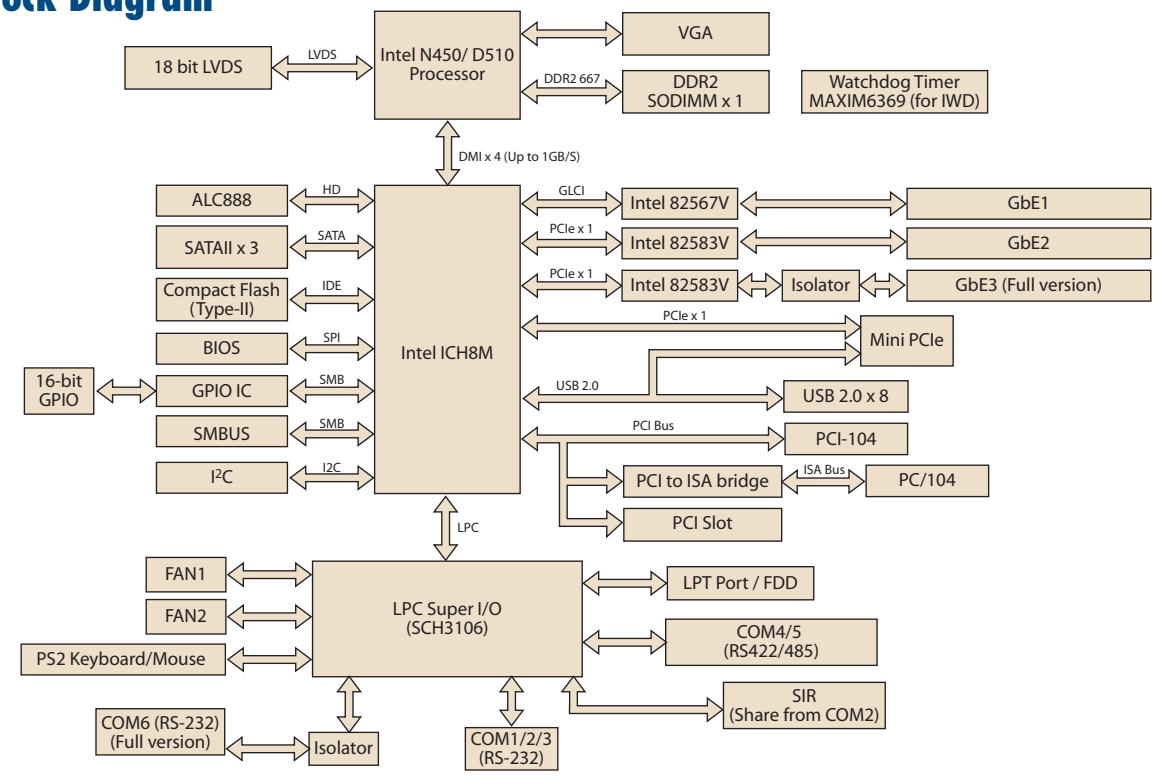
Software APIs: Watchdog, I²C, SMBus, H/W Monitor, Brightness, GPIO, Backlight On/Off

Utilities: BIOS Flash, Monitoring

Specifications

Processor System	CPU	Intel Atom N450/D510 1.66 GHz
	Frequency	Atom N450/D510 1.66 GHz
	L2 Cache	512 KB/1 MB
	System Chipset	N450/D510 + ICH8M
	BIOS	AMI 16 Mbit
Memory	Technology	DDR2 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	N450/D510
	VRAM	Optimized Shared Memory Architecture up to 224 MB
	Graphics Engine	Embedded Gen3.5+ GFX Core, HW MPEG2 decoder
	LVDS	Single channel 18-bit LVDS up to WXGA 1366 x 768
	VGA	N450: Up to SXGA 1400 x 1050 @ 60 Hz (SXGA) D510: up to 2048 x 1536 (QXGA)
	Dual Display	VGA+ LVDS
Ethernet	Interface	3 (RJ-45 connector through the cable and Ethernet3 is Full version only)
	Controller	GbE1 Intel 82567, GbE2 Intel 82583V, GbE3 Intel 82583V (UL60601 Compliant)
	Connector	Box header
Audio	Chipset	ALC888 HD Codec, Speaker out, CD-input, Line-in, Line-out, Mic-in
	Amplifier	Max 2.2W/ch Stereo into a 3Ω Load
WatchDog Timer	Output	System reset
	Internal	Watchdog timer1 (IWT): monitor the system status before OS is ready (programmable 10ms, disable, 1s, 60s) Watchdog timer2 (PWT): monitor the application status after OS is ready (programmable 1 - 255 sec/min) (Full version only)
Storage	CompactFlash	CompactFlash type I/II
	SATA	3 SATA II (Max. Data Transfer Rate 300 MB/s)
	Floppy	Share with LPT (Optional)
	SPI Flash	16 Mbit
Internal I/O	Serial	4 x RS-232 (COM1/2/3/6, isolation design in COM6 is Full version only) 2 x RS-422/485 (COM4/5, default RS-422/485, RS-232 with TX/RX only is optional by request) ESD protection for RS-232: Air gap ±15kV, Contact ±8kV
	Ethernet	GbE x 3 (RJ-45 connector through the cable and GbE3 is Full version)
	PS/2 KB/Mouse	1
	VGA	1
	Reset Button	1
	USB	8 x USB 2.0
	Parallel (LPT)	1
	FDD	Share with LPT (Optional)
	GPIO	16-bit GPIO
	SMBUS	1
	I2C	1
Expansion	PC/104-Plus slot	1
	Full-size Mini PCIe	1
	PCI Slot	1
Power	Power Type	AT / ATX (Both AT/ATX can support ACPI)
	Power Supply Voltage	ATX: 12V ±10%, 5VSB ±5% (5V stand-by power is only for auto power off function) AT: 12V ±10% only
	Power Consumption (Typical)	PCM-9562N-S6A1E: 893 mA @ 12 V, 8 mA @ 5 VSB (10.8 W) PCM-9562D-S6A1E: 1130 mA @ 12 V , 10 mA @ 5 VSB (13.6 W)
	Power Consumption (Max, test in HCT)	PCM-9562N-S6A1E: 1159 mA @ 12 V, 6 mA @ 5 VSB (13.9 W) PCM-9562D-S6A1E: 1404 mA @ 12 V, 8 mA @ 5 VSB (16.9 W)
Environment	Operating	0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)
	Non-Operating	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	203 x 146 mm (8" x 5.75")
	Weight	0.7 kg (1.54 lb) (with heatsink)
	Total Height (with cooler + PCB + Bottom)	29.6mm (PCM-9562N/NF), 38.6mm (PCM-9562D/DF), 44.6mm (PCM-9562Z/Z2)

Block Diagram



Ordering Information

Model	CPU	Memory	VGA	LVDS	GbE1	GbE2	GbE3 UL60601	HD Audio	USB 2.0	Watchdog Timer	RS-232	RS-422/ 485	PC/104-Plus	Mini PCIe	CF	Power	Thermal	Operating Temperature
PCM-9562N-S6A1E	Atom N450	SODIMM	1	18-bit	1	1	-	Yes	8	1	3	2	Yes	1	1	AT/ATX	Passive	0 ~ 60° C
PCM-9562D-S6A1E	Atom D510	SODIMM	1	18-bit	1	1	-	Yes	8	1	3	2	Yes	1	1	AT/ATX	Active	0 ~ 60° C
PCM-9562NF-S6A1E	Atom N450	SODIMM	1	18-bit	1	1	1	Yes	8	2	3+1	2	Yes	1	1	AT/ATX	Passive	0 ~ 60° C
PCM-9562DF-S6A1E	Atom D510	SODIMM	1	18-bit	1	1	1	Yes	8	2	3+1	2	Yes	1	1	AT/ATX	Active	0 ~ 60° C
PCM-9562NZ-1GS6A1E	Atom N450	Bundle 1GB	1	18-bit	1	1	Optional	Yes	8	1	3	2	Yes	1	1	AT/ATX	Passive	-20 ~ 80° C
PCM-9562Z2-1GS6A1E	Atom N450	Bundle 1GB	1	18-bit	1	1	Optional	Yes	8	1	3	2	Yes	1	1	AT/ATX	Passive	-40 ~ 85° C

* Passive = fanless; Active = with fan
* PCM-9562NF-S6A1E and PCM-9562DF-S6A1E are designed with UL60601 isolation GbE3, COM6, and Watchdog Timer2
* Both COM6 and GbE3 are optional by request for extended temperature products

Packing List

Part No.	Description	Quantity
	PCM-9562 SBC	1
9689000002	Mini Jumper Pack	1
2006956200	Startup Manual	1
2066956200	Utility CD	1
1700015741	ATX 5VSB cable	1
1960020569S000	Heatsink for PCM-9562N/NF (50 x 50 x 10 mm)	1
1960046526N001	Cooler for PCM-9562D/DF (50 x 50 x 24 mm)	1
1960002379	Heatsink for PCM-9562NZ/Z2 (50 x 50 x 30 mm)	1

Optional Accessories

Part No.	Description
PCM-10586-9562E	Wiring kit for PCM-9562
1703100260	USB cable
170304015K	AT cable 4P x 2/4200-H-4P 15 cm
1960049954N001	Heatspreader 157.4 x 100 x 24 mm
1700001531	LPT to FDD cable

Embedded OS/API

Embedded OS/API	Part No.	Description
Win XPE	2070010314	XPE WES2009 V4.0 MUI24
WES 7	2070009835	Image WES7E V5.0 ENG
WinCE7.0	2070011082	Image CE 7.0 Pro PCM-9562 V1.0 ENG
QNX		6.5
VxWorks		6.8
Linux		Ubuntu10.04.1
Software API	205E956000	SUSI 3.0 SW API for PCM-9562 B:20091009 XP

Cable kit , Riser Cards & I/O modules

PCM-10586-9562E

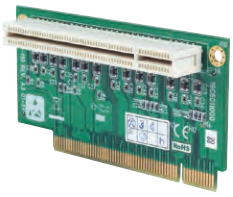
Installation Wiring Kit for PCM-9562

Part No.	Cable Description	Quantity	PCM-9562 Connector	Terminating Connector
1700160160	Audio cable	1	CN4	Cable 16-Pin (2.0 mm) Audio 16 cm
1700002142	Ethernet cable	2	CN10, CN12	Ethernet Cable IDC10P 2.0 mm/RJ45 15cm
1700260250	LPT port cable	1	CN15	Cable 25 cm 25P to 26P ASS'Y LPT Port 2.0 mm
1700019109	COM 4/5 cable	1	CN42	A Cable 2 x 5P-2.0/D-SUB(M) 9P+D-SUB(M) 9P 25 cm
1703100260	USB Port cable	4	CN20, CN21, CN28, CN29	Wire 10P 26 cm 2.0 mm For USB 2 PORT
1703060191	PS2 KB/MS Cable	1	CN25	Cable 6P-2.0 mm Housing/6P (PS/2)/6P (K/B) 19 cm
1700008941	SATA Cable	3	CN32, CN33, CN34	Cable 7P/7P SATA L=30cm Lock
1700001296	VGA cable	1	CN8	VGA Cable D-SUB 3 x 5P(F)/2x 8P-2.0 15 cm
1700100250	COM1/2/3	3	CN39, CN40, CN41	F Cable IDE#2 10P-2.0/D-SUB 9P(M) 25 cm
1703150102	SATA Power Cable	3	None	SATA Power cable L= 10 cm
170304015K	AT power cable	1	CN5	A Cable 2 x 2P-4.2/B4P-5.08 x 2 15 cm

Ordering Information

PCM-10586-9562E	PCM-9562 cable kit

PCI Riser Card



PCM-110

1-Slot PCI Riser Card for 5.25" Biscuit SBCs

CE FCC

Fits in PCM-95XX series
Provides bracket to secure Biscuit SBCs
Size: 103.7 x 56 mm (4.08" x 2.2")

Ordering Information

P/N	Description
PCM-110-00A3E	1-slot PCI riser Card for Biscuit SBCs



PCM-261

LVDS/TTL to DVI Module

Supports 18 and 24-bit LVDS to DVI
Supports 18 or 24-bit TTL LCD to DVI (optional)

Specifications

General	
Chipset	Silicon Image SiI 164; NS DS90CF364
LCD Connector	Hirose Output Connector; DVI
Mechanical and Environmental	
Dimensions (L x W)	72 x 62 mm
Weight	0.029 kg (0.064 lb)
Operating Temperature	0 ~ 60° C (32 ~ 140° F)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Power	
Power Supply Voltage	+5 V, ±5%

Ordering Information

Standard	
PCM-261L-A0A1E	24-bit LVDS to DVI Module
PCM-261L-B0A1E	18-bit LVDS to DVI Module
PCM-261T-A0A1E	24-bit TTL to DVI Module

Packing List

1 x User manual
1 x PCM-261 board

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Mini-ITX Motherboards

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Selection Guide

Model Name		AIMB-115	AIMB-201DS	AIMB-203	AIMB-212	AIMB-213
Form Factor		UTX	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX
Processor System	CPU	Intel E3826	Intel Core i7/ i5/ i3/ Celeron / Pentium	Intel Core i7/ i5/ i3/ Pentium/ Celeron	Intel Atom D510/N450	Intel Atom D525/N455
	Socket	FCBGA	µFC-PGA 988 Socket	LGA 1150	FCBGA	FCBGA
	Max. Speed	DC 1.46 GHz	2.3/2.1/2.5/2.2/1.6 GHz	3.1/ 2.9/ 2.4 GHz	DC1.66/SC1.6 GHz	DC1.8/SC1.66 GHz
	TDP	7 W	45 W/35 W	95 W/65 W/54 W/ 45 W/35 W	12 W/6 W	12 W/6 W
	Front Side Bus	533 MHz	-	-	-	-
	L2 Cache	1 MB	-	-	1 MB /512 KB	1 MB /512 KB
	L3 Cache	-	6 MB/6 MB/3 MB/ 3 MB/2 MB/2 MB	8 MB/6 MB/4 MB/3 MB	-	-
	Chipset	-	Intel QM77	Intel H81	Intel ICH8M	Intel ICH8M
	BIOS	AMI EFI 16 Mbit, SPI	AMI EFI 64 Mbit, SPI	AMI EFI 64 Mbit, SPI	AMI 16 Mbit, SPI	AMI 16 Mbit, SPI
Expansion Slot	PCI	-	-	-	1	1
	MINI PCIe	2	1	2	1	1
	PCIe	-	-	PCIe x16, 1 slot	-	-
Memory	Technology	Dual channel DDR3L 1333 MHz SDRAM	Dual channel DDR3 1333/1600 MHz SDRAM	Dual channel DDR3 / DDR3L 1333/1600 MHz SDRAM	Single channel DDR2 667 MHz SDRAM	Single channel DDR3 800 MHz SDRAM
	Max. Capacity	8 GB	16 GB	16 GB	2 GB	4 GB
	Socket	2 x 204-pin SODIMM	2 x 204-pin SODIMM	2 x 204-pin SODIMM	1 x 200-pin SODIMM	2 x 204-pin SODIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Embedded Gen3.5+ GFX Core, 200/400-MHz render clock frequency for N450/D510	Embedded Gen3.5+ GFX Core, 200/400-MHz render clock frequency for N455/D525
	LCD	Dual channel 48-bit LVDS	-	Dual channel 48-bit LVDS	Single channel 18-bit LVDS	Single channel 18-bit LVDS
	HDMI	2	3	-	-	-
	DVI	-	-	1	-	1
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel i210AT LAN2: Realtek RTL8111G	LAN1: Intel 82579LM	LAN1:Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Intel 82567V LAN2: Intel 82583V	LAN1: Intel 82567V LAN2: Intel 82583V
	Connector	RJ-45 x 2	RJ-45 x 1	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2
TPM		-	-	Optional	-	Optional
SATA	Max Data Transfer Rate	300 MB/s	600 MB/s	600 MB/s, 300MB/s	300 MB/s	300 MB/s
	Channel	1	1	2, 1	2	3
	eSATA/mSATA	-/1	-	-/1	-	-
Rear I/O	VGA/DVI/HDMI/ DP	-/-/2/-	-/-/3/-	1/1/-/1	1/-/-/-	1/-/-/-
	Ethernet	2	1	2	2	2
	USB	3 (1 x USB 3.0; 2 x USB 2.0)	3 (Rear 1 x USB 3.0; Front 2 x USB 2.0)	4 (2 x USB 3.0; 2 x USB 2.0)	4 (USB 2.0)	4 (USB 2.0)
	Audio	Line-out	Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out
	Serial	-	1 (RS-232)	1 (RS-232)	3 (2 x RS-232; 1 x RS-232/422/485)	2 (1 x RS-232; 1 x RS-232/422/485)
	PS/2	-	-	2	-	-
	DC Jack	1	1	-	1	1
Internal Connector	LVDS & Inverter	1	-	1	1	1
	DVI	-	-	-	-	1
	USB	-	-	4 (USB 2.0)	4 (USB 2.0)	4 (USB 2.0)
	Serial	2 (1 x RS-232; 1 x RS-232/422/485)	-	8 (7 x RS-232; 1 x RS-232/422/485)	3 (RS-232)	4 (4 x RS-232)
	Parallel	-	-	1	-	-
	SATA	1	1	3	2	3
	CompactFlash	-	CFast x 1	-	CF x 1	CF x 1
	GPIO	-	-	8-bit GPIO	8-bit GPIO	8-bit GPIO
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AIMB-214	AIMB-215	AIMB-223	AIMB-224	AIMB-230	AIMB-267
Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX
Intel Atom D2550/N2600	Intel Atom J1900/N2920	AMD Mobile G-series	AMD R-series processor	Intel® Core™ i5-4300U/ Celeron 2980U	Intel Core 2 Quad/Core 2 Duo/Pentium/Celeron
FCBGA	FCBGA	FCBGA	FS1r2	MCPBGA	LGA775
DC 1.86/1.6 GHz	QC 2.0/1.86 GHz	DC 1.56 GHz/1.0 GHz	2.3/1.9/2.7/1.5 GHz	1.9 GHz / 1.6 GHz	3.0/ 3.16/ 2.6 / 2.2 GHz
10 W/3.5 W	10 W/7.5 W	17 W/6.5 W	35 W	15 W / 15 W	95 W / 65 W / 35 W
-	-	-	-	-	1333/1066/800 MHz
1 MB	2 MB	1 MB /512 KB	2 MB/1MB	256 KB	12 M/6 M/2 M/512 KB
-	-	-	-	3 M/2 M	-
Intel NM10	-	AMD A55E	AMD A75M	Lynx Point	Intel G41+ICH7
AMI EFI 16 Mbit, SPI	AMI EFI 16 Mbit, SPI	AMI EFI 16 Mbit, SPI	AMI EFI 16 Mbit, SPI	AMI EFI 16 Mbit, SPI	AMI EFI 16 Mbit, SPI
1	-	1	-	-	-
1	2	1	2	2	-
-	PCIE x1, 1 slot	PCIe x1, 1 slot	PCIe x8, 1 slot	-	PCIe x1, 1 slot
Single channel DDR3 1066 MHz SDRAM	Dual channel DDR3L 1066/1333 MHz SDRAM	Single channel DDR3 1066/1333 MHz SDRAM	Dual channel DDR3 1066/1333/1600 MHz SDRAM	Dual channel DDR3L 1600 MHz SDRAM	Singel Channel DDR3 1333/1066/800 MHz SDRAM
4 GB	8 GB	4 GB	16 GB	16 GB	4 GB
1 x 204-pin SODIMM	2 x 204-pin SODIMM	1 x 204-pin SODIMM	2 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 240-pin DIMM
Embedded Gen3.5+ GFX Core, 400/640-MHz render clock frequency for N2600/D2550	Intel HD Graphics	Integrated ATI Radeon RV7x0	Integrated Radeon HD7000 series	Intel HD Graphics	Intel GMA X4500
Dual channel 48-bit LVDS; Single Channel 18/24-bit LVDS	Dual channel 48-bit LVDS	Dual channel 36/48-bit LVDS	Dual channel 36/48-bit LVDS	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS
1	-	1	-	1	-
-	-	-	-	-	-
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
LAN1: Intel 82574L LAN2: Intel 82583V	LAN1:Realtek RTL8111E LAN2:Realtek RTL8111E	LAN1:Realtek RTL8111DL LAN2: Realtek RTL8111DL	LAN1:Realtek RTL8111E LAN2:Realtek RTL8111E	LAN1:Realtek RTL8111E LAN2:Realtek RTL8111E	LAN1:Realtek RTL8111E LAN2: Realtek RTL8111E
RJ-45 x 2	RJ-45 x2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2
optional	optional	optional	optional	Optional	-
300 MB/s	300 MB/s	600 MB/s	600 MB/s	600 MB/s	300 MB/s
2	2	4	3	3	2
-/1	-/1	-	-/1	-	-
1/-/1/-	1/-/-/1	1/-/1/-	1/-/-/2	-/-/1/1	1/-/-/-
2	2	2	2	2	2
4 (USB 2.0)	4 (1 x USB 3.0, 3 x USB 2.0)	4 (USB 2.0)	4 (2 x USB 3.0, 2 x USB 2.0)	4 (USB 3.0)	4 (USB 2.0)
Mic-in, Line-in, Line-out	Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-out	Mic-in, Line-in, Line-out
2 (1 x RS-232, 1 x R-232/422/485)	-	2 (RS-232)	1 (RS-232)	-	3 (2 x RS-232; 1 x RS-232/422/485)
1	-	1	1	-	2
1	1	1	1	1	-
2	1	1	1	1	1
-	-	-	-	-	-
2 (USB 2.0)	6 (USB 2.0)	4 (USB 2.0)	6 (USB 2.0)	2 (USB 2.0)	4 (USB 2.0)
4 (RS-232)	6 (5 x RS-232; 1 x RS-232/422/485)	4 (RS-232)	5 (4 x RS-232; 1 x RS-232/422/485)	2 (1 x RS-232; 1 x RS-232/422/485)	5 (RS-232)
-	-	-	-	-	1
2	2	4	3	3	2
Cfast x 1	-	Cfast x 1	-	-	CF x 1
8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
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Mini-ITX Motherboards

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Selection Guide

Model Name		AIMB-270	AIMB-272	AIMB-273	AIMB-274	AIMB-281	SIMB-M02
Form Factor		Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX	Mini-ITX
Processor System	CPU	Intel Core i7/i5/i3/ Pentium	Intel 2nd gen. Core i7/i5/i3/Celeron	Intel 3rd gen. Core i7/ i5/i3/Celeron	Intel Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel Atom D2550/ N2600
	Socket	µFC-PGA 989 Socket	µFC-PGA 988 Socket	µFC-PGA 988 Socket	LGA 1150	LGA 1155	FCBGA
	Max. Speed	2.66/2.4/1.86 GHz	2.1/2.5/2.2/1.6 GHz	2.3/2.1/2.5/2.2/ 1.6 GHz	2.3/ 3.1/ 2.9/ 2.4 GHz	3.5/3.0/3.1/2.7 GHz	DC 1.86/1.6 GHz
	TDP	45 W/35 W	45 W/35 W	45 W/35 W	95 W / 65 W / 54 W / 45 W / 35 W	95W/ 45W/ 65W/ 55W	10 W/3.5 W
	Front Side Bus	-	-	-	-	-	-
	L2 Cache	4 MB/3 MB/2 MB	-	-	-	-	1 MB
	L3 Cache	-	6 MB/3 MB/2 MB	6 MB/3 MB/2 MB	8 MB/6 MB/4 MB/3 MB	8 MB/6 MB/3 MB/2 MB	-
	Chipset	Intel QM57	Intel QM67/HM65	Intel QM77	Intel Q87	Intel H61	NM10
	BIOS	AMI EFI 64 Mbit, SPI	AMI EFI 64 Mbit, SPI	AMI EFI 64 Mbit, SPI	AMI EFI 128 Mbit, SPI	AMI EFI 32 Mbit, SPI	AMI 16 Mbit, SPI
Expansion Slot	PCI	-	-	-	-	-	-
	MINI PCIe	1	1	1	2	1	1
	PCIe	PCIe x16, 1 slot	PCIe x16, 1 slot	PCIe x16, 1 slot	PCIe x16, 1 slot	PCIe x4, 1 slot	PCIe x1, 1 slot
Memory	Technology	Dual Channel DDR3 800/1066/1333 MHz SDRAM	Dual Channel DDR3 1066/1333 MHz SDRAM	Dual Channel DDR3 1333/1600 MHz SDRAM	Dual channel DDR3/ DDR3L 1333/1600 MHz SDRAM	Dual channel DDR3 1066/1333/1600 MHz SDRAM	Single channel DDR3 1066 MHz SDARM
	Max. Capacity	8 GB	8 GB	16 GB	16 GB	8 GB	4 GB/ 2 GB
	Socket	2x 204-pin SODIMM	2x 204-pin SODIMM	2x 204-pin SODIMM	2 x 204-pin SODIMM	2 x 204-pin SODIMM	1x 204-pin SODIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Embedded Gen3.5+ GFX Core, 400/640-MHz render clock frequency for N2600/ D2550
	LCD	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS; Single Channel 24-bit LVDS	Single channel 18-bit LVDS
	HDMI	-	1	1	1	-	1
	DVI	1	1	-	-	1	-
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel 82577LM, LAN2: Intel 82583V	LAN1: Intel 82579LM, LAN2: Intel 82583V	LAN1: Intel 82579LM, LAN2: Intel 82583V	LAN1: Intel I217LM, LAN2: Intel I211AT	LAN1:Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1:Realtek RTL8111E
	Connector	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 1
TPM		-	Optional	Optional	Optional	-	Optional
SATA	Max Data Transfer Rate	300 MB/s	600 MB/s, 300 MB/s	600 MB/s, 300 MB/s	600 MB/s	300 MB/s	300 MB/s
	Channel	4	2, 2	2, 2	4	3	2
	eSATA/mSATA	-	-	-/1	1/1	-/1	
Rear I/O	VGA/DVI/HDMI/ DP	1/1/-/-	1/1/1/-	1/-/1/2	1/-/1/1	1/1/-/-	1/-/1/-
	Ethernet	2	2	2	2	2	1
	USB	4 (USB 2.0)	4 (USB 2.0)	4 (USB 3.0)	4 (USB 3.0)	6 (USB 2.0)	4 (USB 2.0)
	Audio	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-out	Mic-in, Line-in, Line-out
	Serial	2 (RS-232)	2 (RS-232)	-	1 (RS-232)	2 (RS-232)	2 (RS-232)
	PS/2	2	2	2	-	1	1
	DC Jack	-	-	-	-	-	1
Internal Connector	LVDS & Inverter	1	1	1	1	1	1
	DVI	1	1	1	-	-	-
	USB	4 (USB 2.0)	4 (USB 2.0)	4 (USB 2.0)	6 (USB 2.0)	2 (USB 2.0)	3 (USB 2.0)
	Serial	4 (RS-232)	4 (RS-232)	2 (RS-232)	1 (RS-232/422/485)	4 (RS-232)	4 (RS-232)
	Parallel	-	-	-	-	-	-
	SATA	4	4	4	4	3	2
	CompactFlash	-	Cfast x 1	Cfast x 1	-	-	Cfast x 1
	GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO
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MicroATX Motherboards

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Selection Guide

Model Name		AIMB-501	AIMB-502	AIMB-503	AIMB-562 KIOSK	AIMB-564
Form Factor		MicroATX	MicroATX	MicroATX	MicroATX	MicroATX
Processor System	CPU	Intel Core i7/ i5/ i3/ Pentium/ Celeron	Intel Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel Core i7/ i5/ i3/ Pentium/ Celeron	Intel Core 2 Duo/Pentium 4/Pentium Dual-Core/ Celeron	Intel Core 2 Quad/Core 2 Duo/ Pentium Dual-Core/ Celeron
	Socket	LGA 1155	LGA 1155	LGA 1150	LGA775	LGA775
	Max. Speed	3.4/3.1/3.3/2.9/2.5 GHz	3.5/3.4/3.0/3.3/2.9/ 2.5 GHz	3.5/3.1/2.9/2.4 GHz	2.8/2.2/3.4/2.0 GHz	2.66/2.8/2.2/3.8/3.2 GHz
	TDP	95 W/65 W	95 W/77 W/65 W/55 W	65 W/54 W/45 W/35 W	86 W/65 W/35 W	115 W/95 W/86 W/65 W
	L2 Cache	-	-	-	4 MB/2 MB/1 MB/512 KB	8 MB/3 MB/1 MB/512 KB
	L3 Cache	8 MB/6 MB/3 MB/2 MB	8 MB/6 MB/3 MB/2 MB	8 MB/6 MB/4 MB/3 MB	-	-
	Chipset	Intel H61	Intel Q77/C216	Intel B85/H81	Intel 945G/GC + ICH7	Intel Q965 + ICH8 DO
	BIOS	AMI EFI 64 Mbit, SPI	AMI EFI 64 Mbit, SPI	AMI EFI 128 Mbit, SPI	Award 16 Mbit, SPI	AMI 16 Mbit, SPI
Expansion Slot	PCI	2	1	1 (G2)	2	2
	PCIe x16	1	1 (QG2) 2 (WG2)	1	-	1
	PCIe x4	-	-	1 (F)	-	1
	PCIe x1	1	1	1 (F); 2 (G2/L)	1	-
Memory	Technology	Dual channel DDR3 1333/1600 MHz SDRAM	Dual channel DDR3 1333/1600 MHz SDRAM	Dual channel DDR3/L 1333/1600 MHz SDRAM	Dual channel DDR2 533/667 MHz SDRAM	Dual channel DDR2 533/667/800 MHz SDRAM
	Max. Capacity	16 GB	32 GB	16 GB	4 GB	8 GB
	Socket	2 x 240-pin DIMM	4 x 240-pin DIMM	2 x 240-pin DIMM	2 x 240-pin DIMM	4 x 240-pin DIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel GMA 950	Intel GMA 3000
	VRAM	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Share with system memory up to 224 MB	Share with system memory up to 256 MB
	LCD	Dual channel 48-bit LVDS	-	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS	-
	DVI-D	1	1	1	-	-
	HDMI	-	1	-	-	-
	DP/eDP	-	-	1	-	-
	Dual Display	CRT1+LVDS, CRT1+DVI, CRT1+CRT2 (G2)	CRT+HDMI, CRT+DVI, HDMI+DVI	DP+DVI, VGA+DP,VGA+DVI	CRT+LVDS, CRT+CRT	-
	Triple Display	-	CRT + HDMI + DVI	CRT+DP+DVI, CRT+DP+LVDS, CRT+DVI+LVDS DP+DVI+LVDS (F)	-	-
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Intel 82579LM LAN2: Intel 82574L	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Realtek RTL8111C	LAN1: Intel 82566DM
	Connector	RJ-45 x2	RJ-45 x2	RJ-45 x2	RJ-45 x 1	RJ-45 x 1
TPM		Optional	Optional	Optional	-	-
SATA	Max Data Transfer Rate	300 MB/s	300 MB/s 600 MB/s	300 MB/s 600 MB/s	300 MB/s	300 MB/s
	Channel	4	6 / 2	1 / 2	2	7 (SW RAID)
	eSATA / mSATA	-	1 / 1	0 / 1	-	1 / 0
EIDE	Mode	-	-	-	ATA 100/66/33	ATA 100/66/33
	Channel	-	-	-	1	1
I/O Interface	VGA	2 (G2)/1 (L)	1	1	2	1
	USB	10 (USB 2.0)/ 8 (USB 2.0), 2 (USB 3.0)	4 (USB 3.0), 2 (USB 2.0)	4/2 (USB 3.0), 7 (USB 2.0)	8 (USB 2.0)	10 (USB 2.0)
	Serial	10 (8 x RS-232; 2 x RS-232/422/485)	6 (5 x RS-232, 1 x RS-485)	10 (8 x RS-232; 2 x RS-232/422/485)	10 (8 x RS-232; 2 x RS-232/422/485)	1 (RS-232)
	Parallel	1	-	1	1	1
	SIM Card Holder	-	-	1 (F/G2)	-	-
	FDD	-	-	-	-	1
	PS/2	2	-	2	2	2
	Ethernet (GbE)	2	2	2	1	1
	IEEE 1394	-	-	-	-	2 (1 x external & 1 x onboard)
	Audio	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Line-in, Line-out, Mic-in, CD-in, 6 jacks
	GPIO	8-bit GPIO	14-bit GPIO (6-bit non-programmable, 8-bit programmable)	8-bit GPIO	16-bit GPIO	-
Page		6-42	6-44	6-46	6-48	6-50

MicroATX Motherboards




NEW

NEW


Selection Guide

Model Name		AIMB-567	AIMB-580	AIMB-581	AIMB-582	AIMB-584
Form Factor		MicroATX	MicroATX	MicroATX	MicroATX	MicroATX
Processor System	CPU	Intel Core 2 Quad/ Core 2Duo/ Pentium Dual-Core/Celeron	Intel Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron
	Socket	LGA775	LGA 1156	LGA 1155	LGA 1155	LGA 1150
	Max. Speed	2.66/3.16/2.6/2.2 GHz	2.93/2.66/3.3/3.06/ 2.8 GHz	3.4/3.1/3.3/2.9/2.5 GHz	3.5/3.4/3.0/3.3/2.9/ 2.5 GHz	3.5/3.2/3.1/2.9/2.7/2.4/ 2.3 GHz
	TDP	95 W/65 W	95 W/73 W/65 W	95 W/65 W	95 W/77 W/65 W/55 W	95 W/65 W/54 W/ 45 W/35 W
	L2 Cache	6 MB/512 KB	8 MB/4 MB/3 MB	-	-	-
	L3 Cache	-	-	8 MB/6 MB/3 MB/2 MB	8 MB/6 MB/3 MB/2 MB	8 MB/6 MB/4 MB/3 MB
	Chipset	Intel G41 + ICH7R/ICH7	Intel Q57/3450	Intel Q67/C206	Intel Q77/C216	Intel Q87/C226
	BIOS	AMI 16 Mbit, SPI	AMI 64 Mbit, SPI	AMI EFI 64 Mbit, SPI	AMI EFI 64 Mbit, SPI	AMI EFI 128 Mbit, SPI
Expansion Slot	PCI	2	2	2	2	2
	PCIe x16	1	1	1	1	1
	PCIe x4	1 (G2)	1	1	1	1
	PCIe x1	1 (VG)	-	-	-	-
Memory	Technology	Dual channel DDR3 800/1066/1333 MHz SDRAM	Dual channel DDR3 800/1066/1333 MHz SDRAM	Dual channel DDR3 1066/1333 MHz SDRAM	Dual channel DDR3 1333/1600 MHz SDRAM	Dual channel DDR3 1333/1600 MHz SDRAM
	Max. Capacity	8 GB	16 GB	32 GB	32 GB	32 GB
	Socket	2 x 240-pin DIMM	4 x 240-pin DIMM	4 x 240-pin DIMM	4 x 240-pin DIMM	4 x 240-pin DIMM
Graphics	Controller	Intel GMA X4500	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics
	VRAM	Share with system memory up to 352MB	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory up to 1 GB
	LCD	-	-	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS
	DVI-D	1	1	2	1	1
	HDMI	-	-	-	-	-
	DP/eDP	-	-	-	1 / 1 (Optional)	1 / 1 (Optional)
	Dual Display	CRT+DVI (G2)	CRT+DVI	CRT+LVDS, CRT+DVI, LVDS+DVI	CRT+DP, CRT+DVI, DVI+DP, CRT+LVDS (or eDP), DVI+LVDS (or eDP), DP+LVDS (or eDP)	CRT+DP, CRT+DVI, DVI+DP, CRT+LVDS (or eDP), DVI+LVDS (or eDP), DP+LVDS (or eDP)
	Triple Display	-	-	-	CRT+DVI+DP, CRT+LVDS (or eDP)+DP, CRT+LVDS (or eDP)+ DVI, DVI+DP+LVDS (or eDP)	CRT+DVI+DP, CRT+LVDS (or eDP)+DP, CRT+LVDS (or eDP)+ DVI, DVI+DP+LVDS (or eDP)
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel 82583V LAN2: Intel 82583V (G2)	LAN1: Intel 82578DM LAN2: Intel 82583V	LAN1: Intel 82579LM LAN2: Intel 82583V	LAN1: Intel 82579LM LAN2: Intel 82583V	LAN1: Intel I217LM LAN2: Intel I211AT
	Connector	RJ-45 x2	RJ-45 x2	RJ-45 x2	RJ-45 x2	RJ-45 x2
TPM		-	Optional	Optional	Optional	Optional
SATA	Max Data Transfer Rate	300 MB/s	300 MB/s	300 MB/s 600 MB/s	300 MB/s 600 MB/s	600 MB/s
	Channel	4 (SW RAID - G2)	6 (SW RAID)	4 (SW RAID) / 2 (SW RAID)	4 (SW RAID) / 2 (SW RAID)	6 (SW RAID)
	eSATA / mSATA	-	-	-	-	-
EIDE	Mode	ATA 100/66/33	-	-	-	-
	Channel	1	-	-	-	-
I/O Interface	VGA	1	1	1	1	1
	USB	8 (USB 2.0)	10 (USB 2.0)	10 (USB 2.0), 2 (USB 3.0)	8 (USB 2.0), 4 (USB 3.0)	8 (USB 2.0), 4 (USB 3.0)
	Serial	4 (3 x RS-232; 1 x RS-232/422/485)	4 (3 x RS-232; 1 x RS-232/422/485)	6 (5 x RS-232, 1 x RS-232/422/485)	6 (5 x RS-232; 1 x RS-232/422/485)	6 (5 x RS-232; 1 x RS-232/422/485)
	Parallel	1	1	1	1	1
	SIM Card Holder	-	-	-	-	-
	FDD	-	1	-	-	-
	PS/2	2	2	2	2	2
	Ethernet (GbE)	2	2	2	2	2
	IEEE 1394	-	-	-	-	-
	Audio	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out
	GPIO	8-bit GPIO	-	8-bit GPIO	8-bit GPIO	8-bit GPIO
Page		6-52	6-54	6-56	6-58	6-60

ATX/Mini-ITX Chassis

ATX





Selection Guide

Model Name		SIMB-A01	SIMB-A21
Form Factor		ATX	ATX
Processor System	CPU	Intel Core 2 Quad/ Core 2 Duo/Pentium Dual-Core/ Celeron	Intel Core i7/ i5/ i3/ Celeron
	Socket	LGA775	LGA 1155
	Max. Speed	2 GHz ~ 2.66 GHz	2.5 GHz ~ 3.1 GHz
	L2 Cache	6 MB/2 MB/512 KB	8 MB/6 MB/3 MB/2 MB
	TDP	105 W / 95 W / 65 W / 35 W	95 W ~ 35 W
	Chipset	Intel Q35 + ICH9R	Intel H61
	BIOS	AMI 32 Mbit, SPI	AMI 32 Mbit, SPI
Expansion Slot	PCI	5	4
	PCIe	PCIe x16, 1 slot PCIe x1, 1 slot	PCIe x16, 1 slot PCIe x1, 1 slot
Memory	Technology	Dual channel DDR2 667/800 MHz SDRAM	Dual channel DDR3 1066/1333 MHz SDRAM
	Max. Capacity	8 GB	16 GB
	Socket	4 x 240-pin DIMM	2 x 240-pin DIMM
Graphics	Controller	Intel GMA 3100	Intel HD Graphics 2000/3000
	DVI	-	1
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1:Realtek RTL8111C LAN2:Realtek RTL8111C	LAN1:Realtek RTL8111E LAN2:Realtek RTL8111E
	Connector	RJ-45 x 2	RJ-45 x 2
TPM		Infineon® 9635 TT 1.2 on board	-
SATA	Max Data Transfer Rate	300 MB/s	300 MB/s
	Channel	6	4
EIDE	Mode	1	-
	Channel	ATA 100/66/33	-
Rear I/O	VGA/DVI/ HDMI	1/-/-	1/1/-
	Ethernet	2	2
	USB	4 (USB 2.0)	4 (USB 2.0)
	Audio	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out
	Parallel	1	-
	Serial	1 (RS-232)	1 (RS-232, supplies 5 V/ 12 V)
	PS/2	2	2
Internal Connector	USB	8 (USB 2.0)	6 (USB 2.0)
	Serial	1 (RS-232/422/485); 2 (RS-232)	1 (RS-232/422/485); 4 (RS-232)
	Parallel	-	1
	IDE	1	-
	SATA	6 (SATA II)	4 (SATA II)
	GPIO	16-bit GPIO	8-bit GPIO
Page		6-63	6-65

Mini-ITX Chassis

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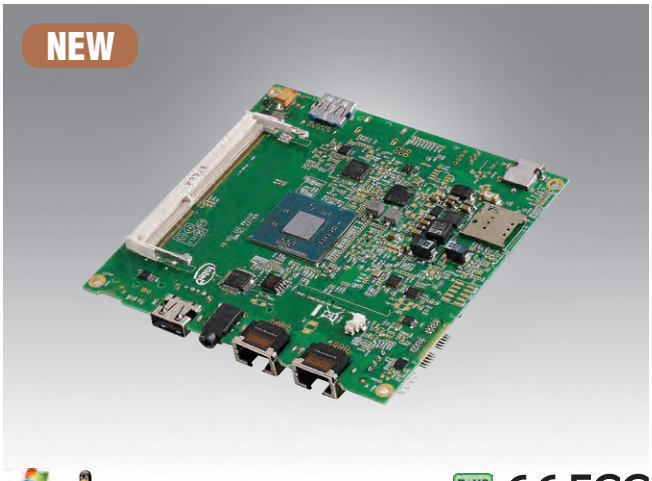


Selection Guide

Model Name		AIMB-B1000 series	AIMB-B2000
Processor Chassis/ System	Cooling	Heat Pipe up to 45W	2 x fan / 1x fan (7cm/39.45CFM each)
	CPU	Base on Mini-ITX board	Base on Mini-ITX board
	Chipset	Base on Mini-ITX board	Base on Mini-ITX board
	memory	Base on Mini-ITX board	Base on Mini-ITX board
Driver Bay	2.5" HDD and Slim ODD	1 x 2.5" HDD	2 x 2.5" HDD or 1 x 2.5" HDD + 1 x Slim ODD
Expansion slot		1 x Mini-PCIe	Base on Mini-ITX board
Front Panel	I/O ports	1 x CFAST, 2 x USB 2.0 , 1 x COM/ 2 x USB 2.0 , 2 x COM Reserved 1 x WLAN Antenna	Reserved 4 x USB 2.0, 4 x COM 2 x WLAN Antenna
	Power switch, Indicators	1 x Power Button 1 x Power LED 1 x HDD LED	1 x Power Switch 1 x Reset Button 1 x Power LED Indicator 1 x HDD LED Indicator
Rear Panel	I/O ports	3 x HDMI, 1 x Lan, 1 x USB 3.0, 1 x Audio Line-Out/ 1 x DP/HDMI, 1 x DP, 2 x Lan, 4 x USB 2.0/3.0, 2 x Audio (Line-Out, Mic-In)	Base on Mini-ITX board Reserved 1 x Expansion slot (low profile)
	Power Input	DC-in Jack	AC Inlet / DC-in Jack
Power Requirements	Voltage	19V/12V DC power input	AC input with 150 W ATX power supply/ DC input with 60 W or 84 W power adaptor
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F)	0 ~ 40° C (32 ~ 104° F)
	Non-operating Temperature	-20 ~ 60° C (-4 ~ 140° F)	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	10 ~ 85% @ 40°C, non-condensing	10 ~ 85% @ 40°C, non-condensing
	Vibration (5 ~500 Hz)	1 G (1 x 2.5" SSD HDD) 0.2 G (1 x 2.5" HDD)	1 Grms (1 x HDD + 1 x ODD); 0.5 Grms (2 x HDD)
Dimensions (W x H x D)		250 x 35 x 190 mm (9.84" x 1.38" x 7.48")	250 x 98 x 255 mm (9.84" x 3.86" x 10.04")
Weight		1.5 kg	3.8 / 3.1 kg
Page		6-67	6-69

AIMB-115

Intel® Atom™ E3826 DC 1.46 GHz UTX Industrial Motherboard with HDMI/Micro HDMI(LVDS), 2 COM, and Dual LAN



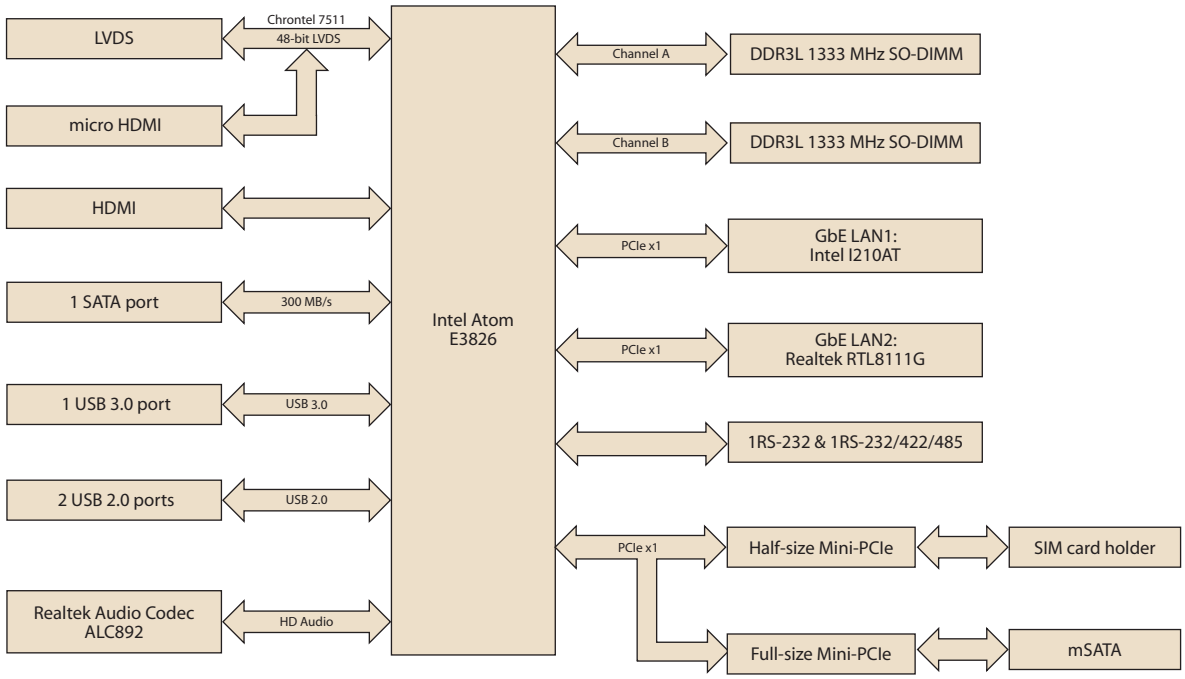
Features

- Supports Intel® Atom™ dual core E3826 1.46 GHz processor
- Two 204-pin SO-DIMM up to 8 GB DDR3L 1333 MHz SDRAM
- Supports HDMI/Micro HDMI (colay dual-channel 48-bit LVDS)
- Supports 2 mini-PCIE expansion slot, 2 COMs, I USB 3.0, 2 USB 2.0 and dual LAN
- Lower total cost of ownership with DC12V support
- Supports wide temperature and fanless solution

Specifications

Processor System	CPU (32nm)	Intel Atom E3826	
	Max. Speed	1.46 GHz (Dual Core)	
	L2 Cache	1 MB	
	BIOS	AMI 16 Mbit SPI	
Expansion Slot	PCI	-	
	Mini-PCIe	2, 1 Full-size and 1 Half-size	
	PCIe	-	
Memory	Technology	Dual channel DDR3L 1333MHz SDRAM	
	Max. Capacity	8 GB/4 GB per SO-DIMM	
	Socket	2 x 204-pin SO-DIMM (Non-ECC)	
Graphics	Controller	Intel Gen 7 Graphics Engines and media encode/decode engine; GPU Frequency: 750 MHz	
	VRAM	Shared system memory up to 224 MB SDRAM	
	LVDS	Supports 24-bit dual channel and up to 1920 x 1200 (colay micro-HDMI onboard)	
	HDMI	1, Supports HDMI1.2 up to 1920 x 1200 @ 60Hz	
	Dual Display	HDMI+LVDS, micro HDMI+HDMI (optional), Supports extended mode and clone mode	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	LAN1: Intel I210AT; LAN2:Realtek RTL8111G	
	Connector	RJ-45 x 2	
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)	
	Channel	1	
EIDE	Mode	None	
	Channel	None	
Rear I/O	HDMI	1	
	Micro HDMI	1	
	Ethernet	2	
	USB	3 (1 x USB 3.0 & 2 x USB 2.0)	
	Audio	1 (line-out)	
	DC jack	1 (2.5mm)	
Internal Connector	LVDS & Inverter	1/1	
	Serial	2 (1 x RS-232, 1 x RS-232/422/485, COM2 supports 5V/12V)	
	IDE	None	
	SATA	1 (SATA 2.0)	
	SATA PWR connector	1	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec/min	
Power	Power Type	Single voltage 12V DC input; 1 x External DC jack	
	Typical Power Consumption	TBD	
Environment		Operating	Non-Operating
	Temperature	-20 ~ 70° C (-4 ~ 158° F)	-40 ~ 85° C (-40 ~ 185° F)
Physical Characteristics	Dimensions	111.8 x 116.8 mm (4.4" x 4.6")	

Block Diagram



Ordering Information

Part Number	CPU	DC/QC	GbE	COM	Display	Thermal solution
AIMB-115G2-S6A1E	E3826	DC	2	2	HDMI/Micro HDMI (optional 48-bit-LVDS)	Passive

Note: Passive = fanless; Active = with fan

Packing List

Description	Quantity
SATA HDD cable	1
SATA power cable	1
Serial port cable	2
Startup manual	1
Driver CD	1

Optional Accessories

Part Number	Description
1757003995	Adapter AC100 to 240V 60W +12V/5A (Delta)
1757004096-01	Adapter AC to DC Adapter 12V/3A 36W
1757004522-01	AC to DC wide temerature Adapter 12V/3.33A 40W

I/O View

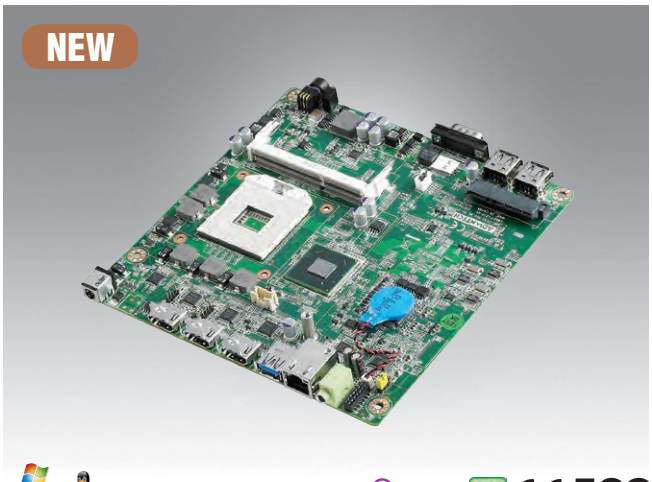


Embedded OS/API

OS/API	Part No.	Description
WES8	TBD	Windows Embedded 8
WES7	TBD	Windows Embedded 7

AIMB-201DS

Intel® Core™ i7/i5/i3/Celeron/Pentium uFC-PGA988 Mini-ITX with 3 HDMI(CEC), 1 COM, Single LAN



Windows Embedded Standard 7 | iManager | SUSIAccess | RoHS | CE | FCC

Features

- Supports Intel® Core™ i7/i5/i3 mobile processor (PGA) with Intel QM77 chipset
- Two 204-pin SO-DIMM up to 16 GB DDR3 1600 MHz SDRAM
- Supports triple independent display of 3 HDMI(CEC)
- Supports miniPCIe, CFast
- 19V_{DC} power input, supports DC power hot plug
- Supports iManager, SUSIAccess and Embedded Software APIs

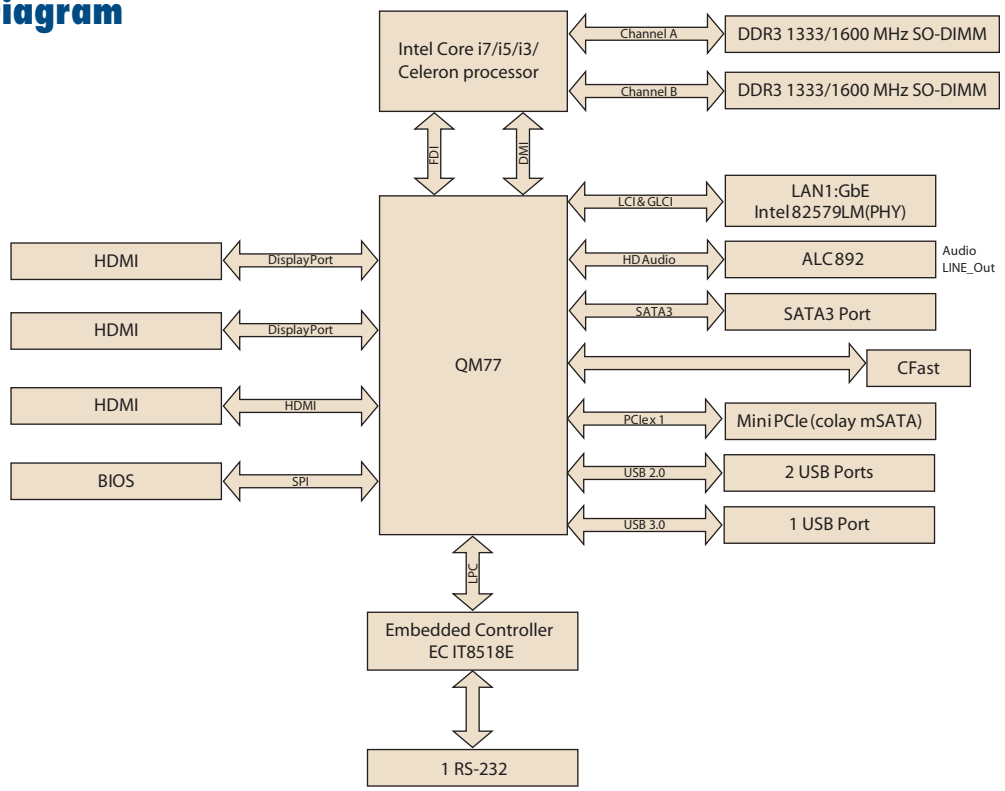
Software APIs: SMBus, H/W Monitor, Watchdog

Utilities: BIOS flash, Monitoring

Specifications

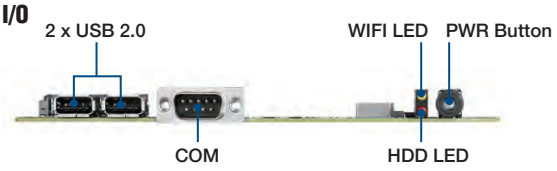
Processor System	CPU	Intel Core i7-3610QE	Intel Core i7-2710QE	Core i5-3610ME	Core i5-2510E	Core i3-3120ME	Pentium B960	Pentium B950	Pentium B970	Core i3-2330E	Celeron B810
	Core Number	4	4	2	2	2	2	2	2	2	2
	Max Speed	2.3 GHz	2.1 GHz	2.7GHz	2.5 GHz	2.4 GHz	2.2 GHz	2.1 GHz	2.3 GHz	2.2 GHz	1.6 GHz
	L3 Cache	6 MB	6 MB	3MB	3 MB	3MB	2 MB	2 MB	2 MB	3 MB	2 MB
	Chipset	QM77									
	BIOS	AMI EFI 64 Mbit SPI									
Expansion Slot	PCI	-									
	Mini-PCIe	1									
	PCIe x16 (Gen3)	-									
Memory	Technology	Dual Channel DDR3 1333/1600 MHz SDRAM									
	Max. Capacity	16 GB/8 GB per SO-DIMM									
	Socket	2 x 204 PIN DDR3 SO-DIMM (Non-ECC)									
Graphics	Controller	Integrated Gfx Gen 7, supports DirectX11, OpenGL 3.1 and OpenCL 1.1, Full AVC, VC1, MPEG2 H/W									
	VRAM	Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory									
	HDMI	3 (Supports 1920 x 1080p at 60 Hz, 36 bpp, Supports HDMI v1.3)									
Ethernet	Interface	10/100/1000 Mbps									
	Controller	GbE LAN1: Intel 82579LM									
	Connector	RJ-45 x 1									
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)									
	Channel	1									
Rear/Front I/O	CRT	-									
	HDMI	3 (Rear)									
	Display Port	-									
	Ethernet	1 (Rear)									
	USB	3 (Rear 1 x USB 3.0, Front 2 x USB 2.0)									
	Audio	1 (Line-out)									
	Serial	1 (Front)									
	DC-jack	1 (Rear)									
Internal Connector	USB	-									
	LVDS/ inverter	-									
	Serial	-									
	IDE	-									
	SATA	1 (SATA 3.0)									
	MiniPCIe (colay mSATA)	1 (for optional expansion modules)									
	Parallel	-									
	IrDA	-									
	Power input	1 (DC-in Jack)									
	cFast	1									
Watchdog Timer	Output	System reset									
	Interval	Programmable 1 ~ 255 sec/min									
Power Requirements	Management	ACPI 3.0									
	Power Consumption	19 V @ 1.95 A (Intel i5-3610ME 2.70 GHz processor/DDR3 1600 MHz 8 GB, SQFlash 16 G x 1) 19 V @ 2.97 A (Intel i7-3610QE 2.3 GHz processor/DDR3 1600 MHz 8 GB, SATA HDDx1)									
	Input Voltage	19V DC-in (ATX/AT mode, default ATX)									
Environment		Operating					Non-Operating				
	Temperature	0 ~ 55° C , depends on CPU speed and cooler solution					-40 ~ 85° C				
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")									

Block Diagram

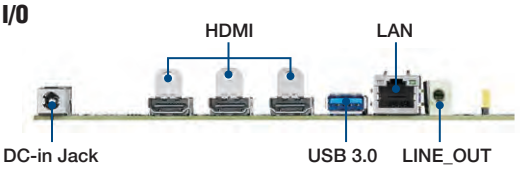


AIMB-201DS I/O Placement

Front I/O



Rear I/O



Ordering Information

Type	Part number	Chipset	GbE	I/O	Thermal solution
Industrial Motherboard	AIMB-201VG-DSA1E	QM77	1	1 COM, 3 USB (1 x USB 3.0, 2 x USB 2.0), 3 HDMI	thermal module/CPU cooler
Mini-ITX System	AIMB-B12010-00Y1E	NA	NA	Front: 1 x USB 2.0, 1 x COM Rear:3 x HDMI, 1 x USB 3.0, 1 x LAN, 1 x Audio Line-out	Barebone with thermal moudle

Packing List

Part Number	Description	Quantity
2006A20110	Startup manual	1
2066A20100	Driver CD	1

Optional Accessories

Part Number	Description
1757003734	ADAPTER 100-240V 65W 19V 3.42A
1700019384	SATA power cable 30cm
1700017999	SATA power cable 17cm
AIMB-0CLR-0003E	Thermal module solution
AIMB-0CLR-0004E	CPU cooler solution

Embedded OS/API

OS/API	Part No.	Description
Win Embedded	2070011815	WES7E AIMB-201 V5.1.4 ENG/TC/SC SA
	2070011814	WES7E 64-bits AIMB-201 V5.6.4 ENG/TC/SC
Win XPE	2070011818	WES2009 AIMB-201VG-DSA1E V4.3 ENG/TC/SC;SA
Software API		SUSI 3.0 SW API for AIMB-201 XP

AIMB-203

Intel® Core™ i7/i5/i3 LGA 1150 Mini-ITX with CRT/DP++/DVI/LVDS, 9 COM, Dual LAN, PCIe x16



Features

- Supports Intel® 4th Gen Core™ i processor (LGA1150) with Intel H81 chipset
- Two 204-pin SO-DIMM up to 16 GB DDR3 1600 MHz SDRAM
- Supports dual display of CRT/DVI/DP++/LVDs
- Supports PCIe x16 (Gen 3) and two mini PCIe
- Supports SUSIAccess and Embedded Software APIs

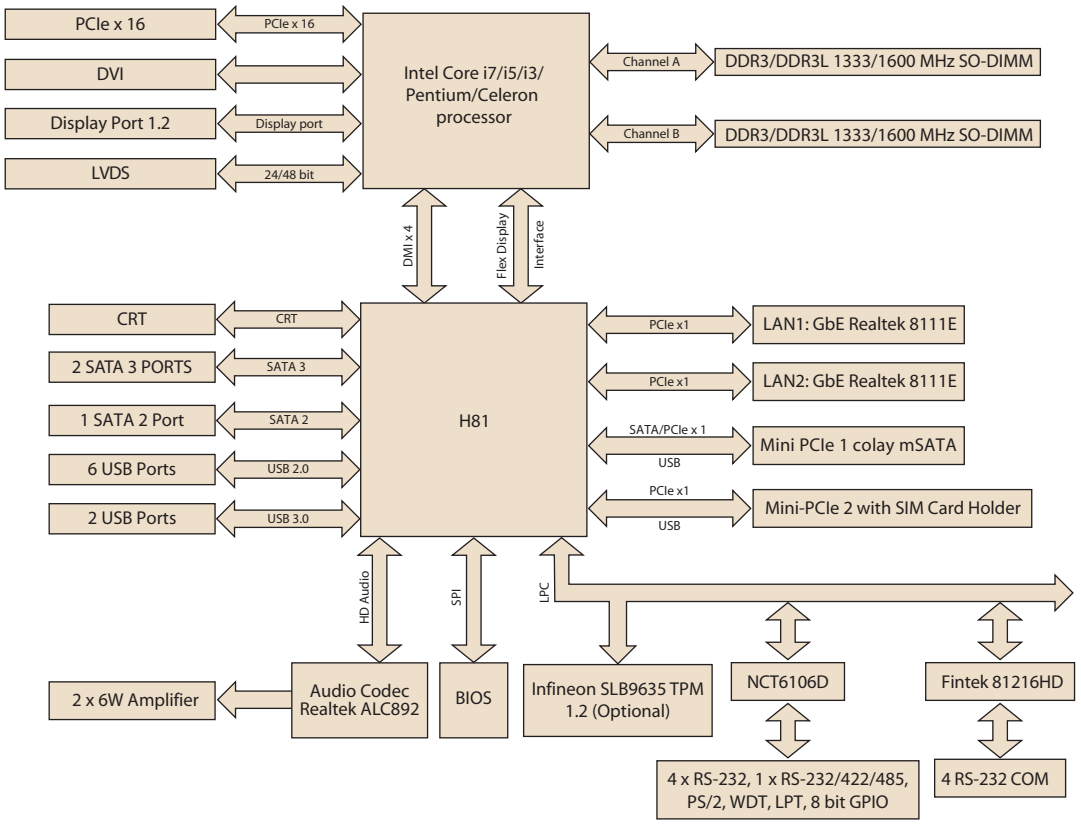
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	i7-4770S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE	Pentium G3420	Pentium G3320TE
	Core Number	4	4	4	2	2	2	2	2
	Max Speed	3.1 GHz	2.3 GHz	2.9 GHz	2.7 GHz	3.5 GHz	2.4 GHz	3.2 GHz	2.3 GHz
	L3 Cache	8M	8M	6M	4M	4M	4M	3M	3M
	TDP (W)	65W	45W	65W	35W	54W	35W	54W	35W
	Chipset	H81							
	BIOS	AMI EFI 64 Mbit SPI							
Expansion Slot	PCI	-							
	Mini-PCIe	2, F/S x 1 support mSATA, H/S x 1 with SIM card holder							
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot							
Memory	Technology	Dual Channel DDR3/DDR3L @1.5V 1333/1600 MHz SDRAM							
	Max. Capacity	16 GB/8 GB per SO-DIMM							
	Socket	2 x 204-pin DDR3 SO-DIMM (Non-ECC)							
Graphics	Controller	Supports DirectX11.1, OpenGL 4.0 and OpenCL 1.2							
	CRT	Yes, supports max. resolution 1920 x 1200 @ 60Hz							
	LVDS	Supports dual channel 48 bit up to 1920 x 1200							
	Display Part 1.2	Supports max resolution 3840 x 2160 @ 60Hz							
	DVI	Supports max. resolution 1920 x 1200 @ 60Hz							
	Dual Display	CRT/LVDS, CRT/DP, CRT/DVI, LVDS/DP, LVDS/DVI, DP/DVI							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	GbE LAN1: Realtek 8111E; GbE LAN2: Realtek 8111E							
	Connector	RJ-45 x 2							
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0) / 300MB/s (SATA 2.0)							
	Channel	2 / 1							
Rear I/O	CRT	1							
	DVI-D	1							
	Display Port 1.2	1							
	Ethernet	2							
	USB	4 (2 USB 3.0 & 2 USB 2.0)							
	Audio	3 (Mic-in, Line-out, Line-in)							
	Serial	1(RS-232; COM 1 supports 5V/12V)							
	PS/2	2 (1 x keyboard and 1 x mouse)							
Internal Connector	USB	4 (USB 2.0 compliant)							
	LVDS/inverter	1/1							
	Serial	8 (7 x RS-232, 1 x RS-232/422/485; COM 5 supports RS-232/422/485 auto flow control; COM 2 supports 5V/12V by jumper selection)							
	IDE	-							
	SATA	2 (SATA 3.0); 1 (SATA2.0)							
	Mini-PCIe	2 (1 x F/S; 1 x H/S)							
	Parallel	1							
	IrDA	-							
	GPIO	8-bit							
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Power Requirements	Power On	TBD							
		TBD							
		TBD							
Environment		Operating			Non-Operating				
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution			-40 ~ 85° C (-40 ~ 185° F)				
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")							

Block Diagram



Ordering Information

Part Number	Chipset	DP++	CRT	DVI-D	LVDS	GbE LAN	COM	SATA III/II	USB 3.0/2.0	MiniPCIe	LPT	TPM	AMP	PCIex16
AIMB-203G2-00A1E	H81	1	1	1	1	2	9	2/1	2/6	2 (1 x F/S; 1 x H/S)	1	(1)	2 x 6W	1
AIMB-203L-00A1E	H81	0	1	1	0	1	9	2/1	2/6	1 (F/S)	0	0	2 x 6W	1

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1700008876	1-to-4 serial ports, 35 cm	2
2006020310	Startup manual	1
2066020300	Driver CD	1
19Z0000567T000	I/O port bracket	1

Optional Accessories

Part Number	Description
1703100121	USB cable with two ports, 12 cm
1703100261	USB cable with two ports, 26 cm
1703100350	USB cable with two ports, 34.5 cm
1960053207N001	LGA1150 CPU cooler for CPU TDP ≦ 65W, 92.9 (W) x 92.9 (L) x 46 (H) mm
1960060732N001	LGA1150 CPU cooler for CPU TDP ≦ 45W, 80 (W) x 80 (L) x 32.2 (H) mm

Note: Purchasing AIMB-203's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-203.

Optional Chassis

Part Number	
AIMB-B2000-15ZE	Mini-ITX chassis with 150W ATX power supply

Embedded OS/API

OS/API	Part No.	Description
WES7		WES7E AIMB-203
WES8		WES8E AIMB-203
Software API		SUSI V3.0 SW API for AIMB-203 WIN7

I/O View



AIMB-203G2-00A1E

AIMB-212

Intel® Atom™ N450/D510 Mini-ITX with CRT/LVDS, 6 COM, and Dual LAN



Features

- Supports Intel® Atom™ processor N450 and D510 dual core
- One 200-pin SO-DIMM up to 2 GB DDR2 667 MHz SDRAM
- Supports 1 PCI and 1 Mini-PCIe expansion, 6 serial ports, 8 USB, and CF
- Lower total cost of ownership with DC12V support
- Supports SUSIAccess and Embedded Software APIs

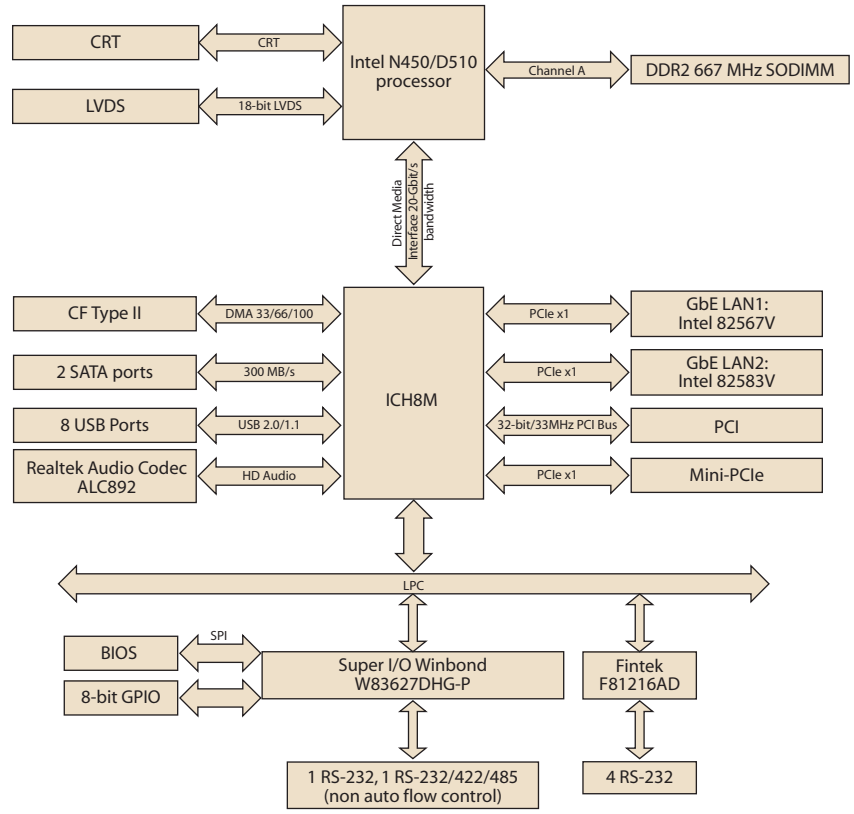
Software APIs: SMBus, H/W Monitor, Brightness, Watchdog, GPIO

Utilities: BIOS flash, Monitoring, Embedded Security ID

Specifications

Processor System	CPU (45 nm)	Intel Atom N450	Intel Atom D510
	Max. Speed	1.6 GHz (single core)	1.66 GHz (dual core)
	L2 Cache	512 KB	1 MB
	Chipset	ICH8M	
	BIOS	AMI 16 Mbit PSI	
Expansion Slot	PCI	32-bit/33 MHz, 1 slot	
	Mini-PCIe	1	
	PCIe	-	
Memory	Technology	Single channel DDR2 667 MHz not compatible with DDR2 533MHz	
	Max. Capacity	2 GB	
	Socket	1 x 200-pin SO-DIMM (Non-ECC)	
Graphics	Controller	Embedded Gen3.5+ GFX Core, 200/400-MHz render clock frequency for N450/D510	
	VRAM	Shared system memory up to 224 MB SDRAM	
	VGA	Supports up to SXGA 1400 x 1050 @ 60Hz for Atom N450, up to 2048 x 1536 for Atom D510	
	LVDS	Supports 18-bit single channel and up to WXGA 1366 x 768	
	TV-out	None	
	Dual Display	CRT + LVDS, support extended mode and clone mode	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	GbE LAN1: Intel 82567V; GbE LAN2: Intel 82583V	
	Connector	RJ-45 x 2	
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)	
	Channel	2	
EIDE	Mode	None	
	Channel	None	
SSD	CompactFlash	Supports CompactFlash Type I/II	
Rear I/O	CRT	1	
	Ethernet	2	
	USB	4 (USB 2.0)	
	Audio	3 (Mic-in, Line-out, Line-in)	
	Serial	3 (2 x RS-232,1 x RS-232/422/485)	
	Parallel	-	
	DC Jack	1 (2.5 mm)	
Internal Connector	LVDS & Inverter	1	
	USB	4 (USB 2.0)	
	Serial	3 (RS-232)	
	IDE	None	
	SATA	2 (SATA 2.0)	
	SATA PWR Connector	2	
	CompactFlash	1	
	Parallel	None	
	DIO	8-bit GPIO	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec/min	
Power	Power Type	Single voltage 12V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode	
	Power Consumption	12 V @ 3.4 A (Intel D510 1.66 GHz processor/DDR2 800 MHz 2 GB, SATA HDD x1) 12 V @ 2.73 A (Intel N455 1.66 GHz processor/DDR2 800 MHz 2GB, SATA HDD x1)	
Environment		Operating	Non-Operating
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")	

Block Diagram



Ordering Information

Part Number	CPU	SC/DC	GbE	COM	LVDS	Thermal Solution
AIMB-212N-S6A1E	Atom N450	Single core	2	6	1, 18-bit	Passive
AIMB-212D-S6A1E	Atom D510	Dual core	2	6	1, 18-bit	Active

Note: Passive = fanless; Active = with fan

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1757003995	Adapter AC100-240V 60W +12V/5A
1700018699	KB/MS cable 1*6P-2.5/DIN-6P (F)*2, 25 cm

I/O View



AIMB-212N-S6A1E
AIMB-212D-S6A1E

Optional Chassis

Part Number	Description
AIMB-B2000-00YE	Mini-ITX chassis with optional DC Adaptor

Packing List

Part number	Description	Quantity
1700003194	SATA HDD cable	2
1700017461	SATA power cable	2
1700001788	Serial port cable	3
1960046526N001	CPU cooler (For Atom D510 only)	1
1960046435T000	I/O port bracket	1
2002021210	Startup manual	1
2062021200	Driver CD	1

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070009861	XPE WES2009 AIMB-212 V4.0 JPY
Win CE	2070009695	CE 6.0 Pro AIMB-212 V1.3 ENG
	2070011085	CE 7.0 Pro AIMB-212 V1.0 ENG
Software API	205E212000	SUSI 3.0 SW API for AIMB-212 B:20091115 XP

AIMB-213

Intel® Atom™ N455/D525 Mini-ITX with CRT/DVI/LVDS, 6 COM, and Dual LAN



Features

- Supports Intel® Atom™ processor N455 and D525 dual core
- Two 204-pin SO-DIMM up to 4 GB DDR3 800 MHz SDRAM
- Supports 1 PCI and 1 Mini-PCIe expansion, 6 serial ports, 8 USB, and CF
- Lower total cost of ownership with DC12V support and supports 18/24-bit LVDS
- Onboard TPM 1.2 support (optional)
- Supports embedded software APIs and Utilities

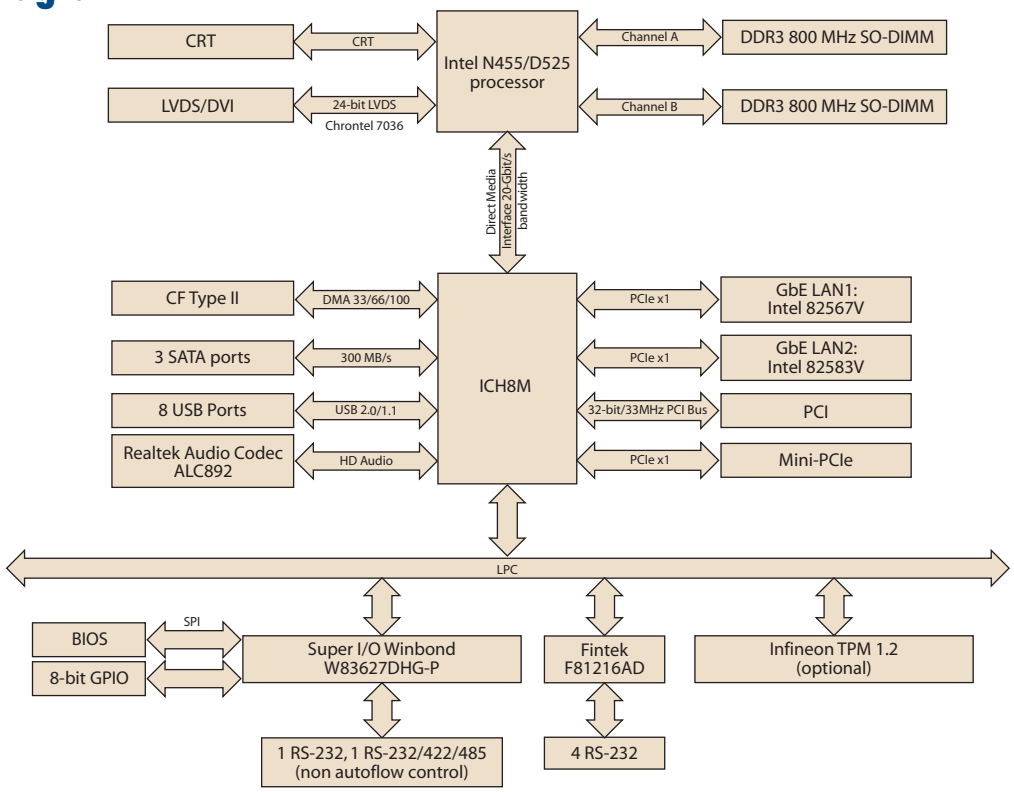
Software APIs: SMBus, H/W Monitor, Brightness, Watchdog, GPIO

Utilities: BIOS flash, eSOS, Monitoring, Flash Lock, Embedded Security ID

Specifications

Processor System	CPU (45 nm)	Intel Atom N455	Intel Atom D525
	Max. Speed	1.66 GHz (single core)	1.8 GHz (dual core)
	L2 Cache	512 KB	1 MB
	Chipset	ICH8M	
	BIOS	AMI 16 Mbit SPI	
Expansion Slot	PCI	32-bit/33 MHz, 1 slot	
	Mini-PCIe	1	
	PCIe	-	
Memory	Technology	Dual channel DDR3 800 MHz SDRAM	
	Max. Capacity	4 GB/2 GB per SO-DIMM	
	Socket	2 x 204-pin SO-DIMM (Non-ECC)	
Graphics	Controller	Embedded Gen3.5+ GFX Core, 200/400-MHz render clock frequency for N455/D525	
	VRAM	Shared system memory up to 224 MB SDRAM	
	VGA	Supports up to SXGA 1400 x 1050 @ 60Hz for Atom N455, up to 2048 x 1536 for Atom D525	
	LVDS	Supports 18/24-bit single channel and up to WXGA 1366 x 768 (through Chrontel 7036)	
	DVI	Supports up to UXGA 1600 x 1200 @ 60Hz by S/W	
	Dual Display	VGA + DVI, VGA + LVDS, support extended mode and clone mode	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	GbE LAN1: Intel 82567V; GbE LAN2: Intel 82583V	
	Connector	RJ-45 x 2	
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)	
	Channel	3	
EIDE	Mode	None	
	Channel	None	
SSD	CompactFlash	Supports CompactFlash Type I/II	
Rear I/O	CRT	1	
	DVI	1	
	Ethernet	2	
	USB	4 (USB 2.0)	
	Audio	3 (Mic-in, Line-out, Line-in)	
	Serial	2 (1 x RS-232,1 x RS-232/422/485)	
	Parallel	-	
	DC Jack	1 (2.5 mm)	
Internal Connector	LVDS & Inverter	1	
	USB	4 (USB 2.0)	
	Serial	4 (RS-232), only COM6 supply 5V/12V	
	IDE	None	
	SATA	3 (SATA 2.0)	
	SATA PWR Connector	3	
	CompactFlash	1	
	Parallel	None	
	DIO	8-bit GPIO	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec/min	
Power	Power Type	Single voltage 12V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode	
	Power Consumption	12 V @ 3.4 A (Intel D510 1.66 GHz processor/DDR2 800 MHz 2 GB, SATA HDD x1) 12 V @ 2.73 A (Intel N455 1.66 GHz processor/DDR2 800 MHz 2 GB, SATA HDD x1)	
Environment		Operating	Non-Operating
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")	

Block Diagram



Ordering Information

Part Number	CPU	SC/DC	GbE	COM	LVDS	TPM	Thermal Solution
AIMB-213N-S6A1E	Atom N455	Single core	2	6	1, 18/24-bit	(1)	Passive
AIMB-213D-S6A1E	Atom D525	Dual core	2	6	1, 18/24-bit	1	Active

Note: Passive = fanless; Active = with fan

*() BOM options available on MP version.

Packing List

Part number	Description	Quantity
1700003194	SATA HDD cable	3
1700018785	SATA power cable	3
1700008876	1-to-4 serial ports cable kit, 35 cm	1
1960046526N001	CPU cooler (For Atom D525 only)	1
1960050473T000	I/O port bracket	1
2002021310	Startup manual	1
2062021300	Driver CD	1

I/O View



AIMB-213N-S6A1E
AIMB-213D-S6A1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1757003995	Adapter AC100-240V 60 W +12V/5A FSP
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm

Optional Chassis

Part Number	Description
AIMB-B2000-00YE	Mini-ITX chassis with optional DC Adaptor

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070010792	WES09 AIMB-213 V4.0 ENG ATI PSNL
	2070010791	WES7 E SP1 x86 AIMB-213 V5.1 ENG ATI PSNL
Win CE	2070011086	CE 7.0 Pro AIMB-213 V1.0 ENG
Software API	TBD	SUSI V3.0 SW API for AIMB-213 XP

AIMB-214

Intel® Atom™ N2600/D2550 Mini-ITX with CRT/HDMI/2 LVDS, 6 COM, and Dual LAN



Features

- Supports Intel® Atom™ processor N2600, and D2550 dual core
- One 204-pin SO-DIMM up to 4 GB DDR3 1066 MHz SDRAM
- Supports 1 PCI and 1 Mini-PCIe expansion, 6 serial ports, 6 USB, and CFast
- Lower total cost of ownership with DC12V support, and supports 24/48-bit LVDS
- Onboard TPM 1.2 support (optional)
- Supports SUSIAccess and Embedded Software APIs

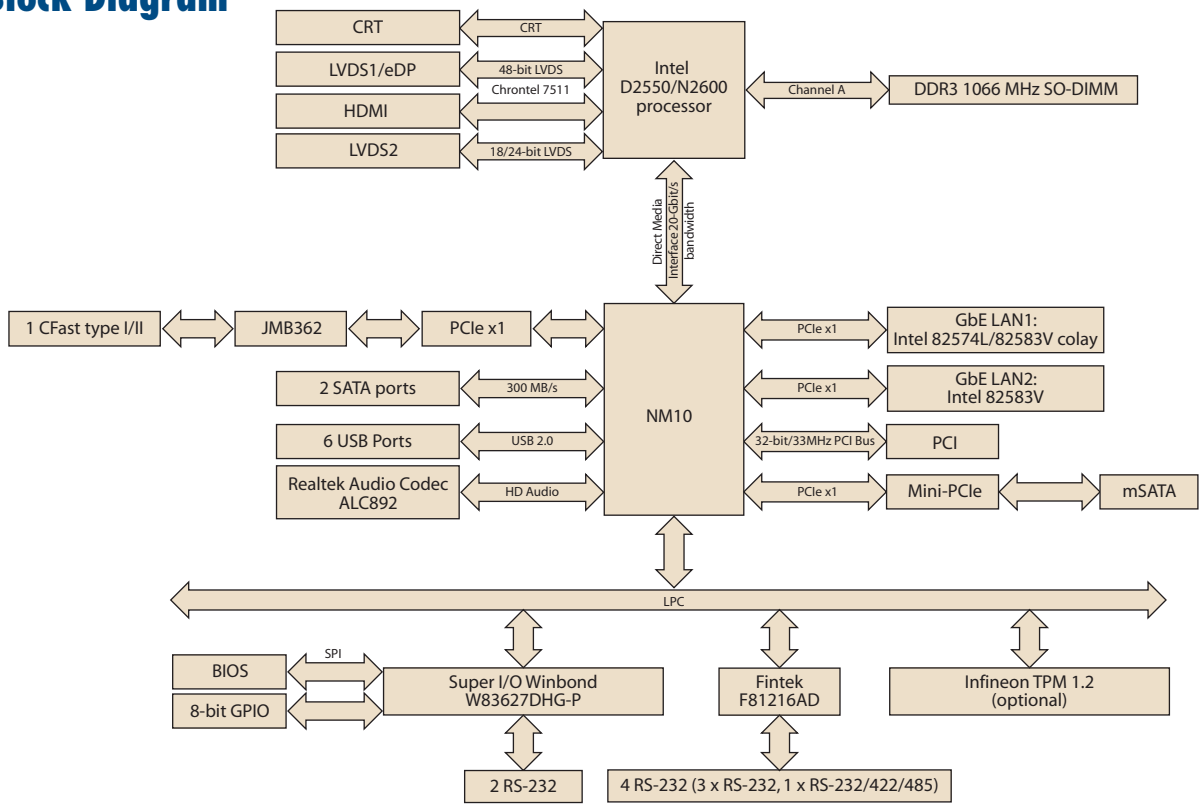
Software APIs: SMBus, H/W Monitor, Brightness, Watchdog, GPIO

Utilities: BIOS flash, Monitoring, Embedded Security ID

Specifications

Processor System	CPU (32nm)	Intel Atom N2600	Intel Atom D2550
	Max. Speed	1.6 GHz (Dual core)	1.86 GHz (Dual core)
	L2 Cache	1MB	1MB
	Chipset	NM10	NM10
	BIOS	AMI 16Mbit SPI	AMI 16Mbit SPI
Expansion Slot	PCI	32-bit/33 MHz, 1 slot	
	Mini-PCIe	1	
	PCIe	-	
Memory	Technology	Single channel DDR3 1066 MHz SDRAM	
	Max. Capacity	4 GB	
	Socket	1 x 204-pin SO-DIMM (Non-ECC)	
Graphics	Controller	Embedded Gen3.5+ GFX Core, 400/640 MHz render clock frequency for N2600/D2550	
	VRAM	Shared system memory up to 224 MB SDRAM	
	VGA	Supports up to SXGA 1920 x 1200 @ 60 MHz	
	LVDS	Supports Dual Channel 48-bit: Max. resolution up to 2560 x 1600 (D2550); 1600 x 1200 (N2600). co-lay eDP port (optional) LVDS2 Support 24-bit single channel up to 1400 x 800 on D2550; 18-bit single channel up to 1366 x 768 on N2600	
	HDMI	Supports up to 1920 x 1200 @ 60 MHz	
	Dual Display	VGA+HDMI, VGA+LVDS, VGA+eDP (optional), Supports extended mode and clone mode	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	GbE LAN1: Intel 82574L/82583V co-lay GbE LAN2: Intel 82583V	
	Connector	RJ-45 x 2	
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)	
	Channel	2	
EIDE	Mode	None	
	Channel	None	
SSD	CFast CompactFlash	Supports CFast Type I/II	
Rear I/O	CRT	1	
	HDMI	1	
	Ethernet	2	
	USB	4 (USB 2.0)	
	Audio	3 (Mic-in, Line-out, Line-in)	
	Serial	2 (1 of RS-232,1 of RS-232/422/485)	
	KB/MS	1	
	DC jack	1 (2.5 mm)	
Internal Connector	LVDS & Inverter	2	
	eDP	1 (optional, by removing LVDS1)	
	USB	2 (USB 2.0)	
	Serial	4 (RS-232), only COM6 supply 5V/12V	
	IDE	None	
	SATA	2 (SATA 2.0)	
	SATA PWR Connector	2	
	CFast	1	
	Parallel	None	
	DIO	8-bit GPIO	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec/min	
Power	Power Type	Single voltage 12V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode	
	Typical Power Consumption	Windows IDOL: 17.8 W (Intel N2600 1.6 GHz processor/DDR3 1333 MHz 4 GB)	
Environment		Operating	Non-Operating
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")	

Block Diagram



Ordering Information

Part Number	CPU	SC/DC	GbE	COM	LVDS	TPM	Thermal solution
AIMB-214E-S6A1E	D2550	Dual core	2	6	2, LVDS1: 48-bit LVDS; LVDS2: 24-bit LVDS	1	Active
AIMB-214U-S6A1E	N2600	Dual core	2	6	2, LVDS1: 48-bit LVDS; LVDS2: 24-bit LVDS	(1)	Passive
AIMB-214L-S6A1E	D2550	Dual Core	1	2	1, LVDS2: 24-bit LVDS	None	Passive

Note: Passive = fanless; Active = with fan

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1700018785	SATA power cable	2
1700008876	1-to-4 serial ports cable kit, 35 cm	1
1960046526N001	CPU cooler (For Atom D2550 only)	1
1960058596T000	I/O port bracket	1
2002021410	Startup manual	1
2062021401	Driver CD	1

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1757003995	Adapter AC100-240V 60W +12V/5A
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm
1960057364N001	AIMB-214E D2550 Fanless heatsink

I/O View



AIMB-214E-S6A1E
AIMB-214U-S6A1E

Optional Chassis

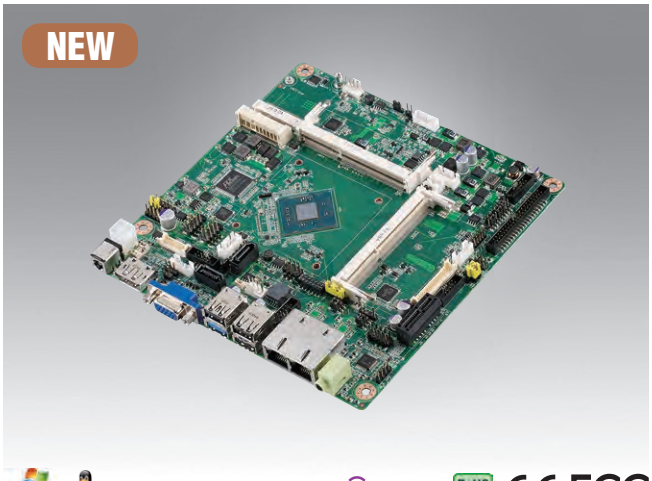
Part Number	Description
AIMB-B2000-00YE	Mini-ITX chassis with optional DC Adaptor

Embedded OS/API

OS/API	Part No.	Description
WES7	2070010955	WES7E SP1 x32 AIMB-214 V5.1 ENG ATIP
Software API	TBD	SUSI V3.0 SW API for AIMB-214 WIN7

AIMB-215

Intel® Atom™ Quad Core J1900/N2920 Mini-ITX with CRT/LVDS/DP++, 6 COM, and Dual LAN



Features

- Supports Intel ATOM Quad Core J1900/N2920 processor
- Two 204-pin SO-DIMM up to 8 GB DDR3L 1333 MHz SDRAM
- Supports VGA/DP1.2 /24-bit dual channel LVDS
- Supports 1 PCIE x1 and 2 mini-PCIE expansion slot, 6 COMs, 9 USB 2.0, and 1 USB 3.0
- Lower total cost of ownership with DC12V support and onboard TPM1.2(optional)
- Supports SUSIAccess and Embedded Software APIs

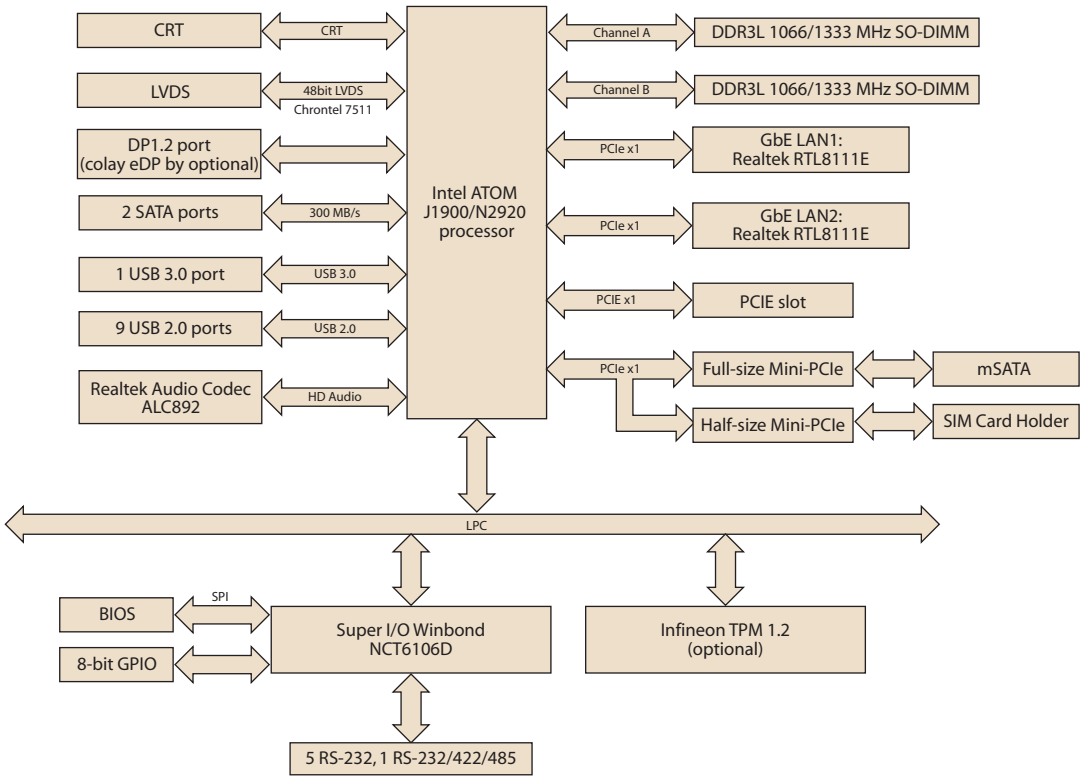
Software APIs: SMBus, H/W Monitor, Brightness, Watchdog, GPIO

Utilities: BIOS flash, Monitoring, Embedded Security ID

Specifications

Processor System	CPU (32nm)	Intel J1900	Intel N2920
	Max. Speed	2.0GHz (Quad core)	1.86GHz (Quad core)
	L2 Cache	2 Mb	2 Mb
	BIOS	AMI 16 Mbit SPI	AMI 16 Mbit SPI
Expansion Slot	PCI	-	
	Mini-PCIe	1, F/S x 1 support mSATA, H/S x 1 with SIM card holder	
	PCIe	PCI Express x1 (Gen2)	
Memory	Technology	Dual channel DDR3L 1066/1333 MHz SDRAM	
	Max. Capacity	8 GB/4 GB per SO-DIMM	
	Socket	2 x 204-pin SO-DIMM (Non-ECC)	
Graphics	Controller	Intel Gen 7 Graphics Engines and media encode/decode engine; GPU Frequency: 796 MHz for J1900; 756 MHz for N2920	
	VRAM	Shared system memory up to 224 MB SDRAM	
	VGA	Supports up to SXGA 1920 x 1200 @ 60 MHz	
	LVDS	Supports dual channel 48-bit up to 1920 x 1200	
	Display Port 1.2	1, Supports DP++, resolution up to 2560 x 1600 x 24bpp @ 60Hz colay eDP port (optional)	
	Dual Display	VGA+DP1.2, VGA+LVDS, LVDS+DP1.2, VGA+eDP (optional), LVDS+eDP (optional), Supports extended mode and clone mode	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	GbE LAN1: Realtek 8111E GbE LAN2: Realtek 8111E	
	Connector	RJ-45 x 2	
SATA	Max Data Transfer Rate	300 MB/s	
	Channel	2, SATA 2 colay mSATA (optional); SATA 1 support SATA-DOM device	
Rear I/O	CRT	1	
	DP1.2	1	
	Ethernet	2	
	USB	4 (3 x USB 2.0/1 x USB 3.0)	
	Audio	1 (Mic-in or Line out)	
	DC jack	1 (2.5 mm)	
Internal Connector	LVDS & Inverter	1/1	
	eDP	1 (optional)	
	USB	6 (USB 2.0 compliant)	
	Serial	6 (5 x RS-232, 1 x RS-232/422/485; COM 3 support RS-232/422/485 auto flow control; COM 6 support 5V/12V by jumper selection)	
	IDE	None	
	SATA	2	
	SATA PWR Connector	2	
	Parallel	None	
	DIO	8-bit GPIO	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec/min	
Power	Power Type	Single voltage 12V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode	
	Typical Power Consumption	TBD	
Environment		Operating	Non-Operating
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")	

Block Diagram



Ordering Information

Part Number	CPU	DC/QC	GbE	COM	Display	TPM	Thermal solution
AIMB-215D-S6A1E	J1900	QC	2	6	VGA/DP++/LVDS	(1)	Passive
AIMB-215N-S6A1E	N2920	QC	2	6	VGA/DP++/LVDS	(1)	Passive

Note: Passive = fanless; Active = with fan

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700018785	SATA power cable	1
1700008876	1-to-4 serial ports cable kit, 35 cm	1
1920000569T000	I/O port bracket	1
2006021500	Startup manual	1
2066021500	Driver CD	1
TBD	Fanless heatsink	1

Optional Accessories

Part Number	Description
1757003995	Adapter AC100-240V 60W +12V/5A
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm

Optional Chassis

Part Number	Description
AIMB-B2000-00YE	Mini-ITX chassis with optional DC Adaptor

I/O View

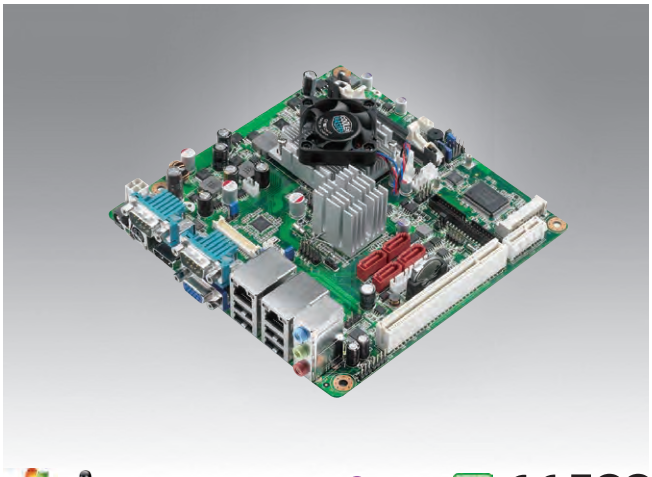


Embedded OS/API

OS/API	Part No.	Description
WES8	TBD	Windows Embedded 8
WES7	TBD	Windows Embedded 7

AIMB-223

Mobile AMD G-series Dual Core/Single Core Mini-ITX with CRT/LVDS/HDMI, 6 COM and Dual LAN



Features

- Supports AMD Mobile G-series Dual Core/Single Core processor
- One 204-pin SO-DIMM up to 4 GB DDR31066/1333 MHz SDRAM
- Supports Dual display with CRT/HDMI/LVDS (eDP)
- Dual LANs, 6COM, Mini PCIe, and CFast
- Supports SUSIAccess and Embedded Software APIs

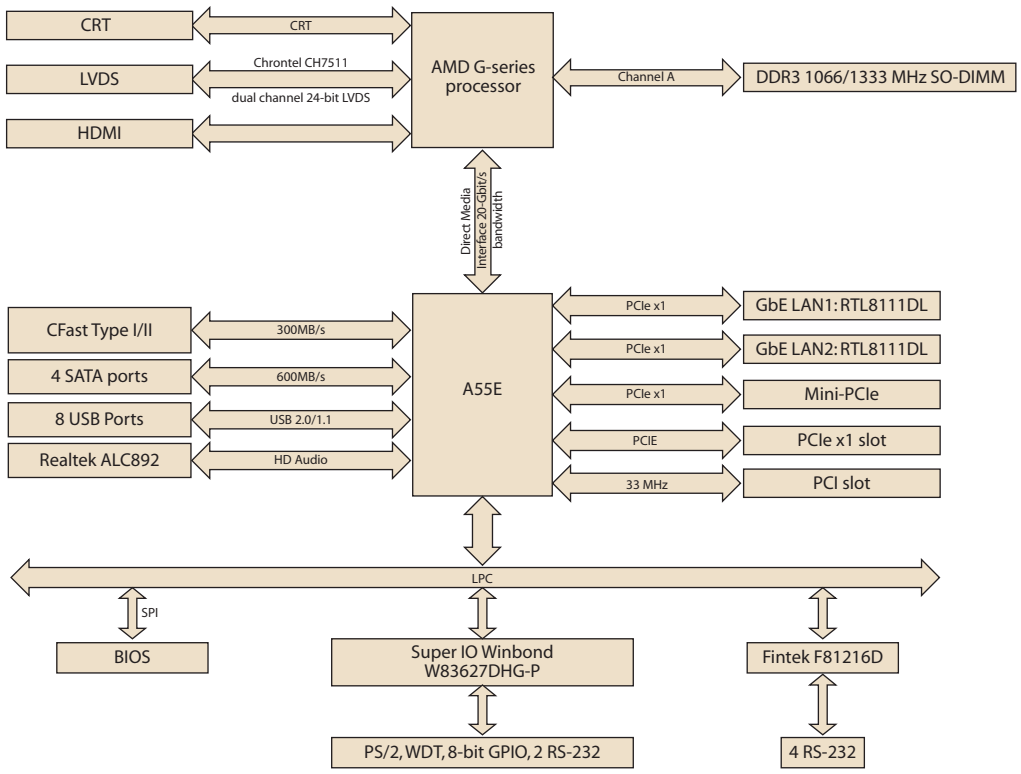
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD Dual Core T56N	AMD Single Core T44R	AMD Dual Core T40E
	Max. Speed	1.65 GHz (dual core 18W TDP)	1.2 GHz (Single core 9W TDP)	1.0 GHz (dual core 6W TDP)
	L2 Cache	512 KB		
	Chipset	AMD G-Series + A55E		
	BIOS	AMI EFI 16 Mbit SPI		
Expansion Slot	PCI	1		
	Mini-PCIe	1		
	PCIe	PCIe x1 (PCIe gen2)		
Memory	Technology	One channel DDR3 1066/1333 MHz		
	Max. Capacity	4 GB		
	Socket	1 x 204-pin SO-DIMM (Non-ECC)		
Graphics	Controller	ATI Radeon HD 6310, support DirectX 11, UVD3		
	VRAM	Shared system memory up to 224 MB SDRAM		
	CRT	Supports up to 2560 x 1536 @ 32bpp		
	LVDS	Supports dual channel 48 bit up to 1920 x 1200		
	HDMI	1920 x 1200 @ 60 MHz		
	Dual Display	CRT+LVDS, LVDS+HDMI, CRT+HDMI		
Ethernet	Interface	10/100/1000 Mbps		
	Controller	GbE LAN1: RTL8111DL; GbE LAN2: RTL8111DL		
	Connector	RJ-45 x 2		
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)		
	Channel	4		
EIDE	Mode	None		
	Channel	None		
SSD	CFast CompactFlash	CFast type I/II		
Rear I/O	CRT	1		
	HDMI	1		
	Ethernet	2		
	USB	4 (USB 2.0 compliant)		
	Audio	3 (Mic-in, Line-out, Line-in)		
	Serial	2 (RS-232)		
	DCjack	1 (2.5 mm)		
Internal Connector	LVDS & Inverter	1		
	USB	4 (USB 2.0 compliant)		
	Serial	4 (RS-232, COM3 support 5V/12V by jumper selection)		
	IDE	None		
	SATA	4		
	CFast CompactFlash	1		
	Parallel	None		
	GPIO	8-bit		
Watchdog Timer	Output	System reset		
	Interval	Programmable 1 ~ 255 sec/min		
Power	Power Type	Single voltage 12V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode		
	Power Consumption	12 V @ 2.97 A (AMD T56N 1.65 GHz processor/DDR3 1333 MHz 4 GB, SATA HDDx1) 12 V @ 1.36 A (AMD T40E 1.0 Hz processor/DDR3 1333 MHz 4 GB, SATA HDDx1)		
Environment		Operating	Non-Operating	
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)	
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")		

Block Diagram



Ordering Information

Part Number	CPU	Display	LAN	COM	TPM	Thermal solution
AIMB-223G2-S0A1E	SC 1.2 GHz	CRT/LVDS/ HDMI	2	6	(1)	Active
AIMB-223G2-S1A1E	DC 1.0 GHz	CRT/LVDS/ HDMI	2	6	(1)	Active
AIMB-223G2-S2A1E	DC 1.65 GHz	CRT/LVDS/ HDMI	2	6	1	Active

Note: Passive = fanless; Active = with fan

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700018785	SATA Power cable	2
1700003194	SATA HDD cable	2
1700008876	Serial port cable	2
1960046526N001	CPU cooler	1
1960058596T000	I/O port bracket	1
2006022310	Startup manual	1
2062022300	Driver CD	1

I/O View



AIMB-223G2-S0A1E
AIMB-223G2-S1A1E
AIMB-223G2-S2A1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1757003064	Adapter AC100-240V, 84W, +12V/ 7A FSP
1757003995	Adapter AC100-240V, 60W, +12V/ 5A FSP
1960056560T001	Fanless heatsink for T50E processor

Optional Chassis

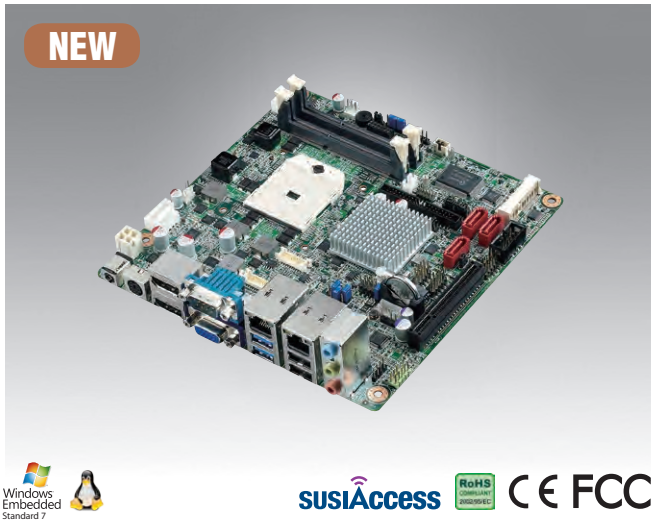
Part Number	Description
AIMB-B2000-00YE	Mini-ITX chassis with optional DC Adaptor

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070010939	WES09 AIMB-223 V4.0 ENG ATIP
WES7	2070010998	WES7E SP1 x32 AIMB-223 V5.1 ENG ATIP
Software API	TBD	SUSI V3.0 SW API for AIMB-223 XP

AIMB-224

AMD R-series Quad Core/Dual Core Mini-ITX with VGA/LVDS/DP++/eDP, 6 COM and Dual LAN



Windows Embedded Standard 7

SUSIAccess RoHS CE FCC

Features

- Supports AMD Mobile eTrinity Quad core/Dual Core processor
- Two 204-pin SO-DIMM up to 16 GB DDR3 1066/1333/1600 MHz SDRAM
- Supports triple independent display with VGA/LVDS(eDP)/Dual DP++(DP1.2)
- Dual LANs, 6 COM, 2 Mini PCIe
- Supports embedded software APIs and Utilities

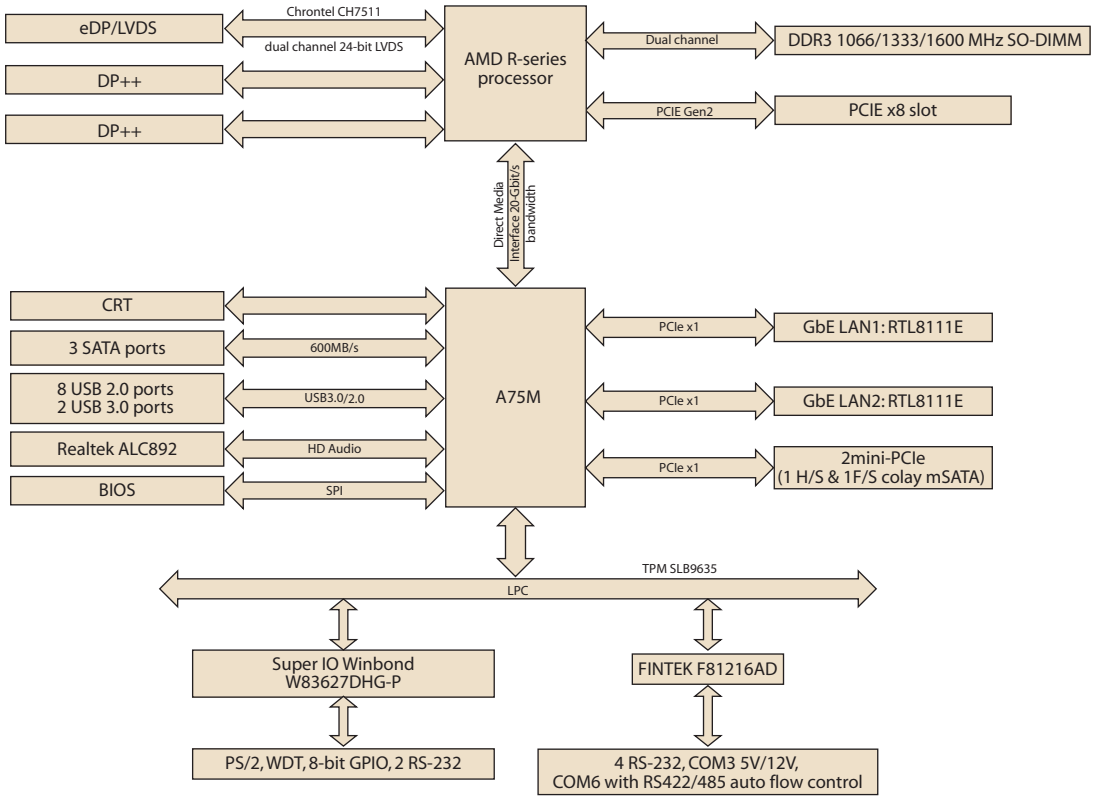
Software APIs: H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD Quad Core R-464L	AMD Quad Core R-460H	AMD Dual Core R-272F	AMD Dual Core R-268
	Max. Speed	2.3 GHz (Quad core 35W)	1.9 GHz (Quad core 35W)	2.7 GHz (dual core 35W)	2.5 GHz (dual core 35W)
	L2 Cache	1M/per core			
	Chipset	AMD R-series+A75M			
	BIOS	AMI EFI 16 Mbit SPI			
Expansion Slot	PCI	None			
	Mini-PCIe	1 x H/S & 1 x F/S colay mSATA			
	PCIe	PCIe x8			
Memory	Technology	Dual Channel DDR3 1066/1333/1600 MHz			
	Max. Capacity	16 GB/8 GB per SO-DIMM			
	Socket	2 x 204-pin SO-DIMM (Non-ECC)			
Graphics	Controller	AMD Radeon™ GPUs, support DX11, UVD3			
	VRAM	None			
	VGA	Supports up to 4096 x 2400 @ 60 Hz			
	LVDS	Supports dual channel 48 bit up to 1920 x 1200, co-lay eDP (by BOM option)			
	DP++	Two dual model display port, max resolution: 1920 x 1200 @ 60Hz			
	Triple Display	Supports triple display with CRT+DP1.2+LVDS or DP1.2+DP1.2+LVDS or CRT+DP1.2+eDP or DP1.2+DP1.2+eDP			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN1: Realtek 8111E; GbE LAN2: Realtek 8111E			
	Connector	RJ-45 x 2			
SATA	Max Data Transfer Rate	600 MB/s			
	Channel	3			
Rear I/O	VGA	1			
	DP	2			
	Ethernet	2			
	USB	4 (2 USB 3.0 & 2 USB 2.0)			
	Audio	3 (Mic-in, Line-out, Line-in)			
	Serial	1 (RS-232)			
	DCjack	1 (2.5 mm)			
	KB/MB	1			
Internal Connector	LVDS & Inverter	1			
	USB	6 (USB 2.0)			
	Serial	5 (4 x RS-232, 1 x RS-232/422/485; COM 6 support RS-232/422/485 auto flow control; COM 3 support 5V/12V by jumper selection)			
	IDE	None			
	SATA	3			
	Parallel	None			
	GPIO	8-bit			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirement	Typical	Single Voltage 12V DC input by 1x External DC phone Jack or 1x Internal 2x2-pin Power Connector; AT/ATX Supported by Jumper Max power consumption: 90W(R-464L/R-460H+16G DDR3 RAM)			
Environment		Operating		Non-Operating	
	Temperature	0 ~ 60° C (32 ~ 140° F)		-40 ~ 85° C (-40 ~ 185° F)	
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")			

Block Diagram



Ordering Information

Part Number	Display	LAN	COM	TPM
AIMB-224G2-00A1E	VGA/LVDS/2*DP++	2	6	1

Packing List

Part Number	Description	Quantity
1700018785	Sawa power cable	2
1700003194	SATA HDD cable	2
1700008876	Serial port cable	1
1960061904T000	I/O port bracket	1
2006022410	Startup manual	1
2066022400	Driver CD	1
1960051292N001	CPU cooler (1960051292N001)	1

I/O View



AIMB-224G2-00A1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1757003064	Adapter AC100-240V, 84W, +12V/ 7A FSP

Optional Chassis

Part Number	Description
AIMB-B2000-00YE	Mini-ITX chassis with optional DC Adaptor

Embedded OS/API

OS/API	Part number	Description
Software API	TBD	SUSI V3.0
WES7	2070012188	WIN 7 Embedded
WIN XPE	2070012184	WES2009

AIMB-230

Intel® Core™ i5-4300U/ Celeron 2980U Mini-ITX with eDP/DP/DP++, 2 COM, and Dual LAN



Features

- Supports Intel® Core™ i5-4300U and Intel® Celeron 2980U processor (Dual core), 15W TDP, BGA 1168 (MCP) 22nm Processor
- Two 204-pin SO-DIMM up to 16 GB DDR3L 1600 MHz SDRAM
- Multiple display I/O supports versatile Tri display functions for eDP/LVDS, DP/HDMI, and DP++
- Realtek ALC892 supports 5.1 + 2 channel HD audio
- Dual Realtek RTL8111E Gigabit LAN
- 1 Full-sized Mini-PCIe, 1 Half-sized Mini-PCIe
- 2 COM, 3 SATA III, 1 mSATA
- 4 USB 3.0, 2 USB 2.0

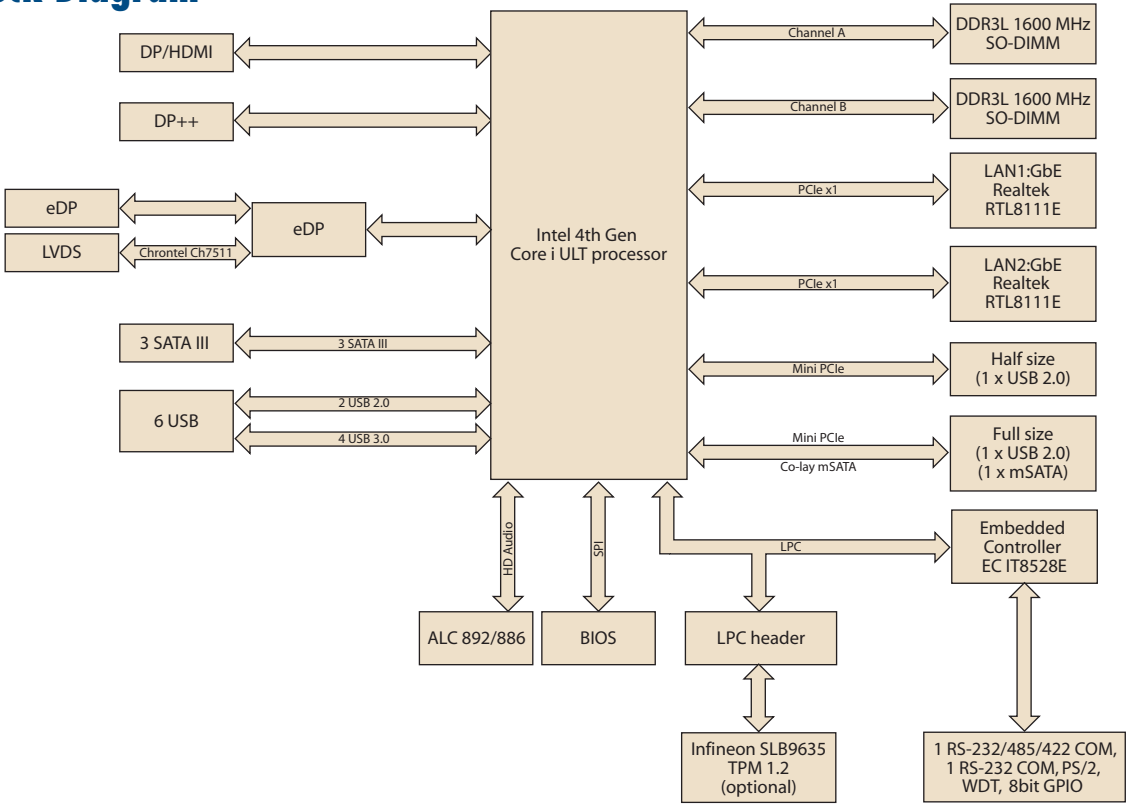
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Core i5-4300U	Intel Celeron 2980U
	Max. Speed	1.9 GHz	1.6 GHz
	L3 Cache	3 MB / 2 MB	
	Chipset	4th Generation Intel® Core™ ULT processors + Lynx Point-LP	
	BIOS	AMI EFI 16 Mbit, SPI	
Expansion Slot	Full-size Mini-PCIe	1, Supports 1 x USB 2.0 and co-lay 1 x mSATA	
	Half-size Mini-PCIe	1, Supports 1 x USB 2.0	
Memory	Technology	Dual Channel DDR3L 1600 MHz	
	Max. Capacity	16 GB/8 GB per SO-DIMM	
	Socket	2 x 204-pin SO-DIMM (Non-ECC)	
Graphics	Controller	Intel® HD Graphics 5000 Supports DirectX 11.1, OpenGL 4.0, OpenCL 1.3, Full AVC, VC1, MPEG2 H/W encoder	
	LVDS+Inverter / eDP	Supports dual channel 48-bit up to 1920 x 1200, co-lay eDP (by BOM option)	
	DP/HDMI	1, Supports HDMI 1.4 for HD Video playback Max resolution up to 3200 x 2000 at 60 Hz on DisplayPort, 4096 x 2304 at 24 Hz on HDMI	
	DP++	1, DP++ connector, available with DP-to-DVI (HDMI) cable (no transmitter) to connector to normal LCD monitor	
	Dual Display	HDMI+LVDS (eDP), HDMI+DP++, LVDS(eDP)+DP++	
	Tri Display	HDMI + HDMI + DP, DP + DP + eDP, HDMI + DP + eDP	
	Dual Display Mode	Extended Mode, Clone Mode	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	LAN1: Realtek RTL8111E-VB-GR LAN2: Realtek RTL8111E-VB-GR	
	Connector	RJ-45 x 2	
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ mSATA	
	Channel	3 / 1	
	S/W RAID	0,1,5	
Rear I/O	DP/HDMI	1	
	DP++	1	
	Ethernet	2	
	USB	4 x USB 3.0	
	Audio	2 single audio jack for Line-Out (Green), Mic-In (Red)	
	DC Jack	DC 12V Jack, single power	
Internal Connector	LVDS & Inverter	1	
	eDP	1, by BOM optional	
	LVDS Inverter	1 (5 pin support 5V and 12V)	
	LVDS Connector	1 (3.3V / 5V / 12V) by jumper selected	
	USB	2 ports USB 2.0 with 2.0mm pin-header	
	Serial	COM 1: RS-232/422/485 supports +5V, +12V(without H/W auto flow control) COM 2: RS-232	
	SATA	4 (3 x SATA 3.0, 1 x mSATA)	
	SATA Power	3	
	PS/2 K/B & M/S	Supports PS/2 K/S,M/S with 5-pin wafer	
	CPU/System/Chassis Fan Connector	1 CPU fan with 4-pin wafer 1 System fan with 4-pin wafter	
	Power Connector	4-pin ATX, DC12V	
	GPIO	8-bit (4-bit DI and 4-bit DO)	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec/min	
Power Requirement	Power Type	Single voltage 12 V DC input;1 x External DC jack;1 x Internal 4-pin (2 x 2) power connector, Supports AT/ATX mode	
	Power Consumption (Max, test in HCT)	i5-4300, 3.5" SATA HDD x 1+ 8G RAM x 1 12V 2.66A	Celeron-2980U, 3.5" SATA HDD x 1+ 8G RAM x 1 12V 2.53A
Environment	Temperature	Operating	Non-Operating
		0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution	-20 ~ 70° C (-4 ~ 158° F)
Physical Characteristics	Dimensions	170 x 170 mm (6.69" x 6.69")	

Block Diagram



Ordering Information

Order Number	CPU	Display	GbE	TPM	Storage	USB	PCIe / PCI
AIMB-230G2-U5A1E	i5	DP/HDMI, DP++/DVI/HDMI, LVDS/eDP (optional)	2	(1)	3 x SATA III 1 x mSATA	4 x USB 3.0 2 x USB 2.0	1 x Full-size Mini-PCIe 1 x Half-size Mini-PCIe
AIMB-230G2-U0A1E	Celeron						

*() BOM options available on MP version.

Order Number	CPU	Display	GbE	COM	USB	Audio	Remark
AIMB-B12305-00Y1E	i5	DP/HDMI, DP++/DVI/HDMI	2	2	4 x USB 3.0 2 x USB 2.0	Line Out Mic-In	Barebone, with thermal module
AIMB-B12300-00Y1E	Celeron						

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1700018785	SATA Power cable	2
2006023010	Startup manual	1
2066023000	Driver CD	1
1960062823N001	Fanless Heat Sink	1

Optional Accessories

Part Number	Description
1757003064	ADAPTER AC100~240V 84W +12V/7A (FSP)
1757003995	ADAPTER AC100~240V 60W +12V/5A (FSP)
1700001524	Power cable 3-pin 180 cm,USA type
170203183C	Power cable 3-pin 180 cm, Europe type
170203180A	Power cable 3-pin 180 cm, UK type
1700008921	Power cable 3-pin PSE Mark 183 cm
1960061914N001	Fan Cooler
TBD	Heat Pipe Cooling module

I/O View



AIMB-230G2-U5A1E
AIMB-230G2-U0A1E



Fanless Heat Sink



Fan Cooler



Heat Pipe Cooling Module

AIMB-267 KIOSK

Intel® Core™2 Quad LGA 775 Mini-ITX with CRT/LVDS, 8 COM, Dual LAN



Features

- Intel® G41 chipsets supports 1333/1066/800 MHz FSB
- One 240-pin DIMM up to 4 GB DDR3 800/1066/1333 MHz SDRAM
- Supports CRT and single/dual channel 24/48 bit LVDS panel and dual channel 6 W amplifier
- Supports 8 serial ports, 8 USB, 8-bit GPIO, dual LAN
- Supports PCIe x1, CF card
- Supports SUSIAccess and Embedded Software APIs

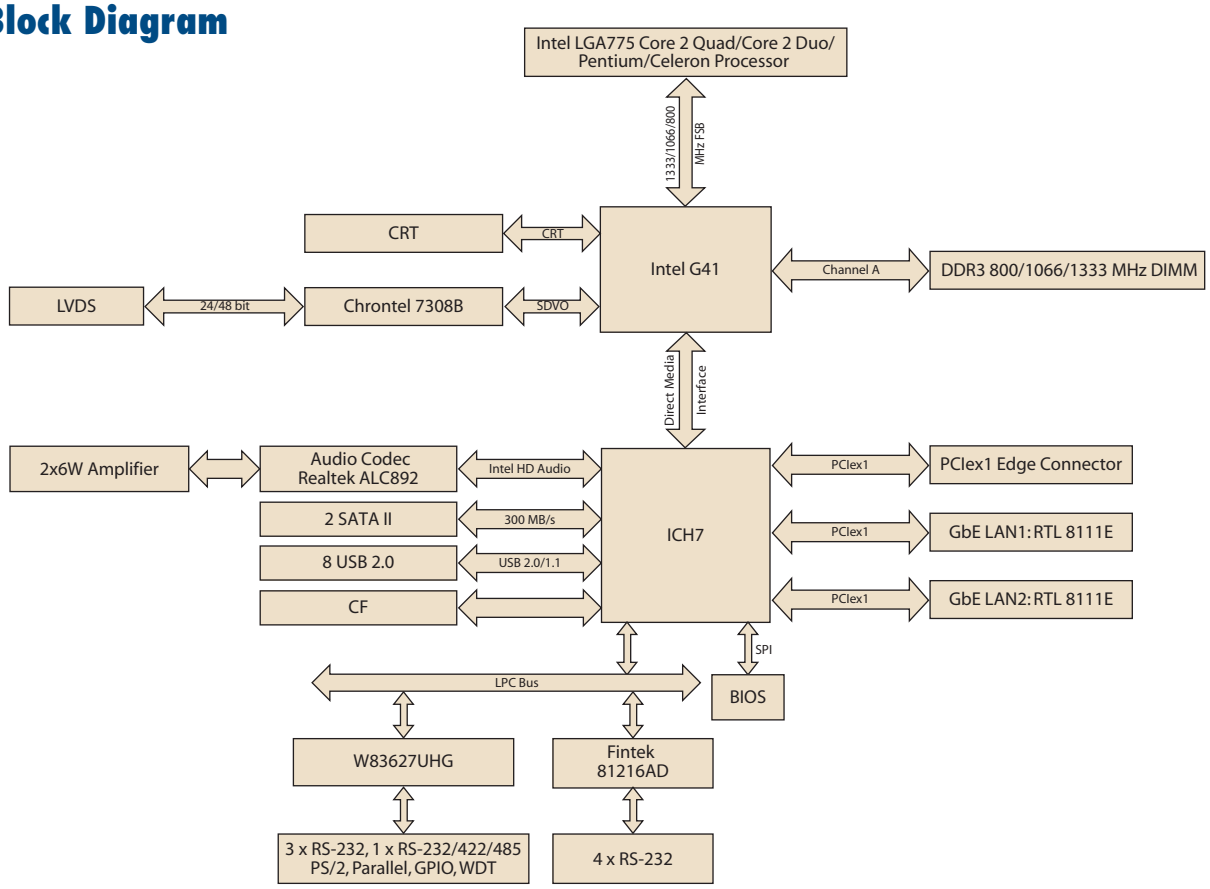
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU (45nm/65nm)	Intel Core 2 Quad	Intel Core 2 Duo	Intel Pentium	Intel Celeron
	Max. Speed	Q9650 3.0 GHz	E8400 3.0 GHz	E2160 1.80 GHz	E1500 2.20 GHz
	L2 Cache	12M	6M	1 M	512 KB
	Chipset	Intel G41+ICH7			
	BIOS	AMI 16 Mbit, SPI			
	Front Side Bus	1333/1066/800 MHz			
Expansion Slot	PCIe x16	-			
	PCIe x1	250 MB per direction, 1			
	PCI	-			
Memory	Technology	Single Channel DDR3 800/1066/1333 MHz			
	Max. Capacity	4 GB			
	Socket	1 x 240-pin DIMM (Non-ECC)			
Graphics	Embedded	Intel GMA X4500 sharing 352M system memory			
	LVDS	Supports single channel 24-bit/dual channel 48-bit LVDS, via Chrontel 7308B SDVO transmitter			
	CRT	Supports 1 CRT			
	Dual Display	CRT + LVDS			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN1:Realtek RTL8111E GbE LAN2:Realtek RTL8111E			
	Connector	RJ-45 x 2			
SATA	Max. Data Transfer Rate	300 MB/s (SATA 2.0)			
	Channel	2			
EIDE	Mode	-			
	Channel	-			
I/O Interface	CRT	1			
	USB	8 (USB 2.0)			
	Audio	3 (Mic-in, Line-in, Line-out)			
	Serial	8 (7 x RS-232, 1 x RS-232/422/485; COM 3 supports RS-232/422/485 auto flow control)			
	Parallel	1 (SPP/EPP/ECP)			
	FDD	-			
	PS/2	2 (1 x keyboard and 1 x mouse)			
	GPIO	8-bit GPIO			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirements	Power On	Intel Core 2 Quad Q9400 2.66GHz FSB 1333 MHz, 2GB DDR3 1066 SDRAM			
		3.3 V	5 V	12 V	5 Vsb	-12 V
		0.35 A	1.91 A	1.29 A	0.18 A	0.06 A
Environment		Operating		Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution		-40 ~ 85° C (-40 ~ 185° F)		
Physical Characteristics	Dimensions (W x D)	170 x 170 mm (6.69" x 6.69")				

Block Diagram



Ordering Information

Part Number	Chipset	Display	COM	GbE LAN
AIMB-267G2-KSA1E	G41	1 CRT, 1 LVDS	8	2
AIMB-267VG-KSA1E	G41	1 CRT	8	1

*We strongly suggest using only Advantech's certified LGA775 CPU cooler's to ensure board reliability under harsh conditions.

Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	2
1700000447	1-to-4 serial ports cable kit, 45 cm	1
1700100250	1-to-1 serial port cable, 25 cm	1
1960022933T100	I/O port bracket	1
2006026700	Startup Manual	1
2066026701	Utility CD	1

I/O View



AIMB-267G2-KSA1E

Optional Accessories

Part Number	Description
1700260250	Printer port cable, 25 cm
1700002314	USB cable with four ports, 30.5 cm
1700002204	USB cable with dual ports, 27 cm
1700003195	USB cable with dual ports, 17.5 cm
1750000334	LGA 775 CPU cooler (115W)

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070012364	WES2009 AIMB-267 x86 V4.5 MUI24
WES7	2070012363	WES7E AIMB-267 x86 V5.1.6 En/TC/SC/JP
Software API		SUSI V3.0 SW API for AIMB-267 XP

AIMB-270

Intel® Core™ i7/i5/Celeron uFC-PGA989 Mini-ITX with CRT/2DVI/LVDS, 6 COM, Dual LAN, PCIe x16



Features

- Supports Intel® Core™ i7 and i5 mobile processor (PGA) with Intel QM57 chipset
- Two 204-pin SO-DIMM up to 8 GB DDR3 800/1066/1333 MHz SDRAM
- Supports dual display of 2 DVI, LVDS, and CRT
- Supports PCIe x16 (Gen 2) and mini PCIe
- Supports, AMT6.0 and software RAID 0, 1, 5, 10
- Supports SUSIAccess and Embedded Software APIs

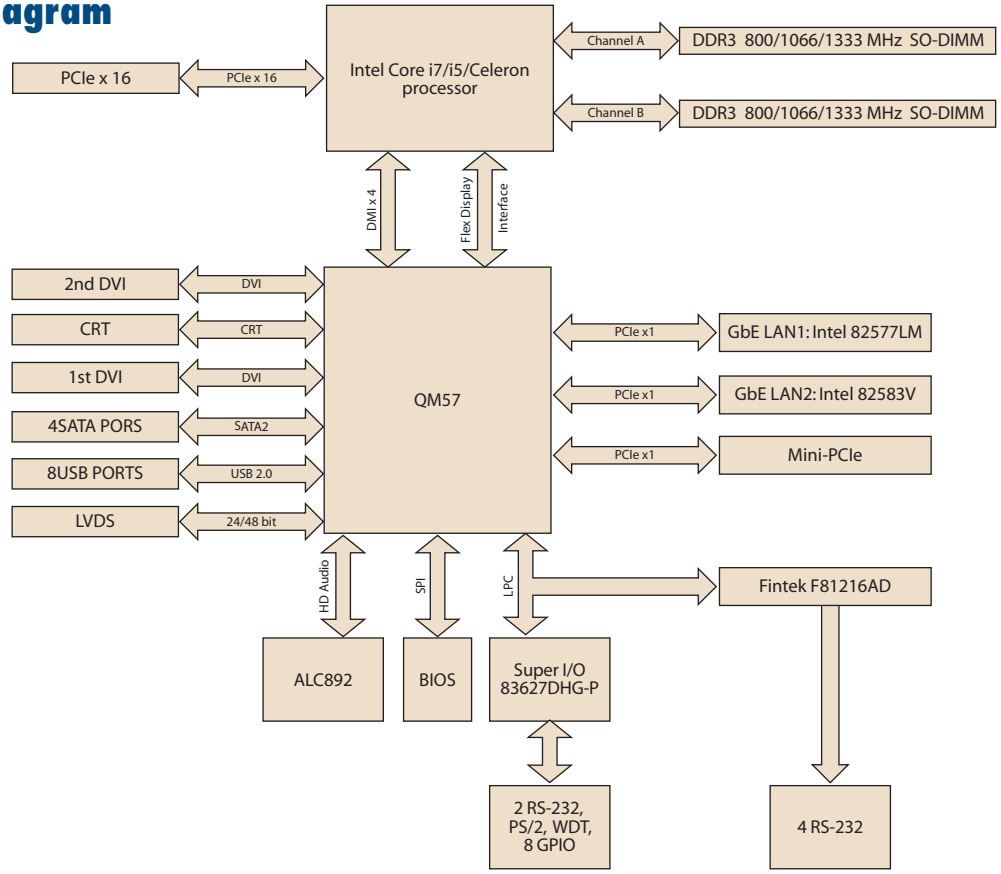
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Core i7-620M	Intel Core i5-520M	Intel Celeron		
	Max. Speed	2.66 GHz	2.4 GHz	1.86 GHz		
	DMI/FDI	DMI/FDI				
	L2 Cache	4 MB	3 MB	2 MB		
	Chipset	QM57				
	BIOS	AMI EFI 64 Mbit SPI				
Expansion Slot	PCI	-				
	Mini-PCIe	1				
	PCIe x16 (Gen2)	8 GB/s per direction, 1 slot				
Memory	Technology	Dual Channel DDR3 800/1066/1333 MHz SDRAM				
	Max. Capacity	8 GB/4 GB per SO-DIMM				
	Socket	2 x 204-pin DDR3 SO-DIMM (Non-ECC)				
Graphics	Controller	Integrated Gfx Gen5.75, supports DirectX 10 and OpenGL 2.1				
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed				
	CRT	Supports max. resolution 2048 x 1536				
	LVDS	Supports dual channel 48 bit up to 1920 x 1200				
	1st DVI	Supports max. resolution 1920 x 1200				
	2nd DVI	Internal pin header, supports max. resolution 1920 x 1200				
	Dual Display	CRT+LVDS, CRT+DVI, LVDS+DVI				
Ethernet	Interface	10/100/1000 Mbps				
	Controller	GbE LAN1: Intel 82577LM, LAN2: Intel 82583V				
	Connector	RJ-45 x 2				
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)				
	Channel	4				
Rear I/O	CRT	1				
	DVI	1				
	Ethernet	2				
	USB	4 (USB 2.0)				
	Audio	3 (Mic-in, Line-out, Line-in)				
	Serial	2 (RS-232)				
	PS/2	2 (1 x keyboard and 1 x mouse)				
Internal Connector	USB	4 (USB 2.0)				
	LVDS/Inverter	1				
	2nd DVI	1				
	Serial	4 (RS-232)				
	IDE	-				
	SATA	4 (SATA 2.0)				
	Mini-PCIe	1				
	Parallel	-				
	IrDA	-				
	GPIO	8-bit				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Power Requirements	Power On	Intel Core i7-620M 2.66 GHz, 4 GB DDR3 1333 MHz SDRAM				
		5 V	3.3 V	12 V	5 Vsb	-12 V
		3.42 A	1.1 A	1.19 A	0.5 A	0.07A
Environment		Operating		Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution		-40 ~ 85° C (-40 ~ 185° F)		
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")				

Block Diagram



Ordering Information

Part Number	CRT	2 DVI	GbE LAN	COM
AIMB-270G2-00A1E	Yes	Yes	2	6

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960051292N001	CPU cooler	1
1700008876	1-to-4 serial ports cable kit, 35 cm	1
1960019193T100	I/O port bracket	1
20060270010	Startup manual	1
20660270000	Driver CD	1

I/O View



AIMB-270G2-00A1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1700008822	DVI cable

Optional Chassis

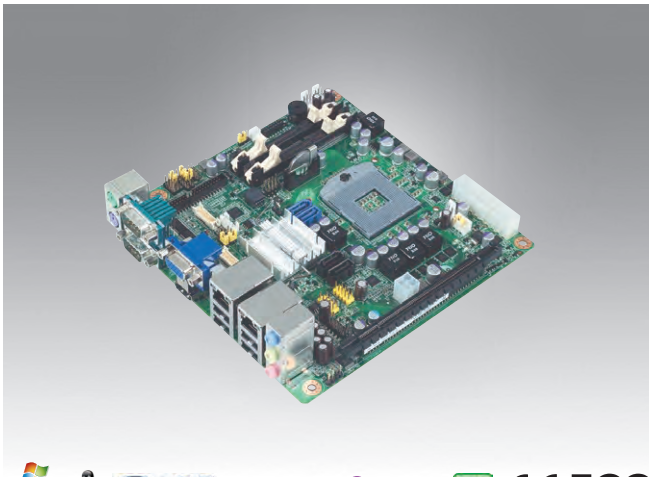
Part Number	Description
AIMB-B2000-15ZE	Mini-ITX chassis with 150W ATX power supply

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070009655	XPE WES2009 QM57 AIMB-270 V4.0 ENG
	2070009656	XPE WES2009 QM57 AIMB-270 V4.0 MUI24
Software API	205E270001	SUSI 3.0 SW API for AIMB-270 XP

AIMB-272

Intel® Core™ i7/i5/i3/Celeron uFC-PGA988 Mini-ITX with CRT/DVI/HDMI/LVDS, 6 COM, Dual LAN, PCIe x16



Features

- Supports Intel® Core™ i7/i5/i3 mobile processor (PGA) with Intel QM67/HM65 chipset
- Two 204-pin SO-DIMM up to 8 GB DDR3 1066/1333 MHz SDRAM
- Supports dual display of DVI, HDMI, LVDS, CRT
- Supports PCIe x16 (Gen 2) and mini PCIe
- Supports Inel vPro, AMT 7.0, PECI 3.0, Software RAID 0,1,5,10, TPM 1.2 (optional)
- Supports embedded software APIs and Utilities

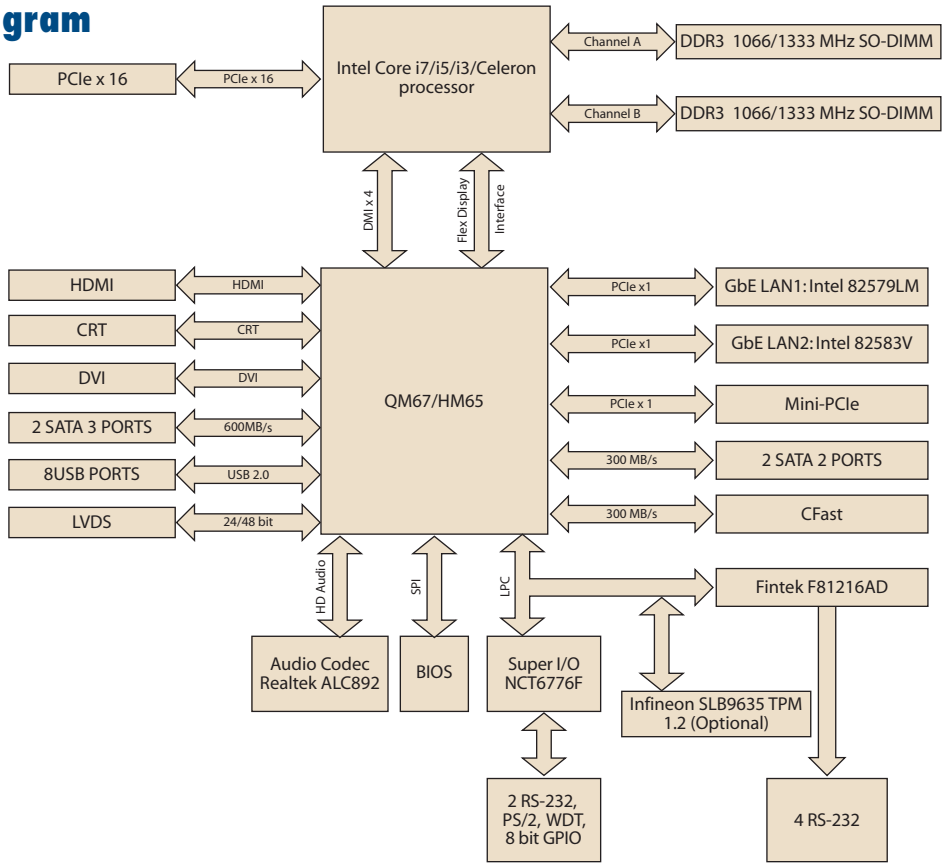
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring, Flash Lock

Specifications

Processor System	CPU	Intel Core i7-2710QE	Core i5-2510E	Core i3-2330E	Celeron B810	
	Core Number	4	2	2	2	
	Max Speed	2.1 GHz	2.5 GHz	2.2 GHz	1.6 GHz	
	L3 Cache	6 MB	3 MB	3 MB	2 MB	
	Chipset	QM67/HM65				
	BIOS	AMI EFI 64 Mbit SPI				
Expansion Slot	PCI	-				
	Mini-PCIe	1				
	PCIe x16 (Gen2)	8 GB/s per direction, 1 slot				
Memory	Technology	Dual Channel DDR3 1066/1333 MHz SDRAM				
	Max. Capacity	8 GB/4 GB per SO-DIMM				
	Socket	2x 204 PIN DDR3 SO-DIMM (Non-ECC)				
Graphics	Controller	Integrated Gfx Gen5.75, supports DirectX 10 and OpenGL 2.1				
	VRAM	Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory				
	CRT	Supports max. resolution 2048 x 1536				
	LVDS	Supports dual channel 48 bit up to 1920 x 1200				
	HDMI	Supports HDMI 1.4, 1650 Mbps/channel with 165 MHz				
	DVI	Yes, supports max resolution 1920 x 1200				
	Dual Display	CRT+LVDS, CRT+DVI, DVI+HDMI, LVDS+HDMI, CRT+HDMI, DVI+LVDS				
Ethernet	Interface	10/100/1000 Mbps				
	Controller	GbE LAN1: Intel 82579LM, LAN2: Intel 82583V				
	Connector	RJ-45 x 2				
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0)				
	Channel	2/2				
Rear I/O	VGA	1				
	HDMI	1				
	Ethernet	2				
	USB	4 (USB 2.0)				
	Audio	3 (Mic-in, Line-out, Line-in)				
	Serial	2 (RS-232)				
	PS/2	2 (1 x keyboard and 1 x mouse)				
Internal Connector	USB	4 (USB 2.0)				
	LVDS/inverter	1				
	DVI	1				
	Serial	4 (RS-232)				
	IDE	-				
	SATA	2 (SATA 3.0), 2 (SATA 2.0)				
	Mini-PCIe	1				
	Cfast	1				
	Parallel	-				
	IrDA	-				
	GPIO	8-bit				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Power Requirements	Power On	Intel Core i7-2710QE 2.1 GHz, 8 GB DDR3 1333 MHz SDRAM				
		5 V	3.3 V	12 V	5 Vsb	-12 V
		1.514 A	1.063 A	3.9 A	0.78 A	0.08 A
Environment		Operating		Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution		-40 ~ 85° C (-40 ~ 185° F)		
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")				

Block Diagram



Ordering Information

Part Number	Chipset	CRT	DVI	LVDS	HDMI	GbE LAN	COM
AIMB-272G2-00A1E	QM67	Yes	Yes	Yes	Yes	2	6
AIMB-272VG-00A1E	HM65	Yes	Yes	No	Yes	1	6

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960051292N001	CPU cooler	1
1700008876	1-to-4 serial ports cable kit, 35 cm	1
1960019192T100	I/O port bracket	1
2002027210	Startup manual	1
20660272000	Driver CD	1

I/O View



AIMB-272G2-00A1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1700008822	DVI cable

Optional Chassis

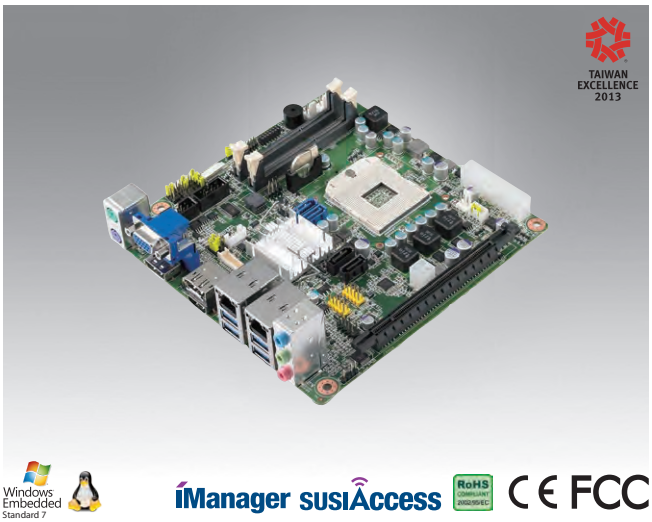
Part Number	Description
AIMB-B2000-15ZE	Mini-ITX chassis with 150W ATX power supply

Embedded OS/API

OS/API	Part Number	Description
Win XPE	2070010799	XPE WES2009 AIMB-272 V4.0 ENG with Acronis
	2070011030	IMG WES09 AIMB-272 V4.0 ENG RUS ATIP
Software API	TBD	SUSI V3.0 SW API for AIMB-272 XP

AIMB-273

Intel® Core™ i7/i5/i3/Celeron uFC-PGA988 Mini-ITX with 2 DP/HDMI/LVDS/CRT, 2 COM, Dual LAN, PCIe x16



Windows Embedded Standard 7 | iManager | SUSIAccess | RoHS | CE | FCC

Features

- Supports Intel® Core™ i7/i5/i3 mobile processor (PGA) with Intel QM77 chipset
- Two 204-pin SO-DIMM up to 16 GB DDR3 1333/1600 MHz SDRAM
- Supports triple display of 2 DP, HDMI, LVDS, CRT
- Supports PCIe x16 (Gen 3) and mini PCIe
- Supports Intel vPro, AMT 8.0, PECI 3.0, Software RAID 0,1,5,10, TPM 1.2 (optional)
- Supports iManager, SUSIAccess and Embedded Software APIs

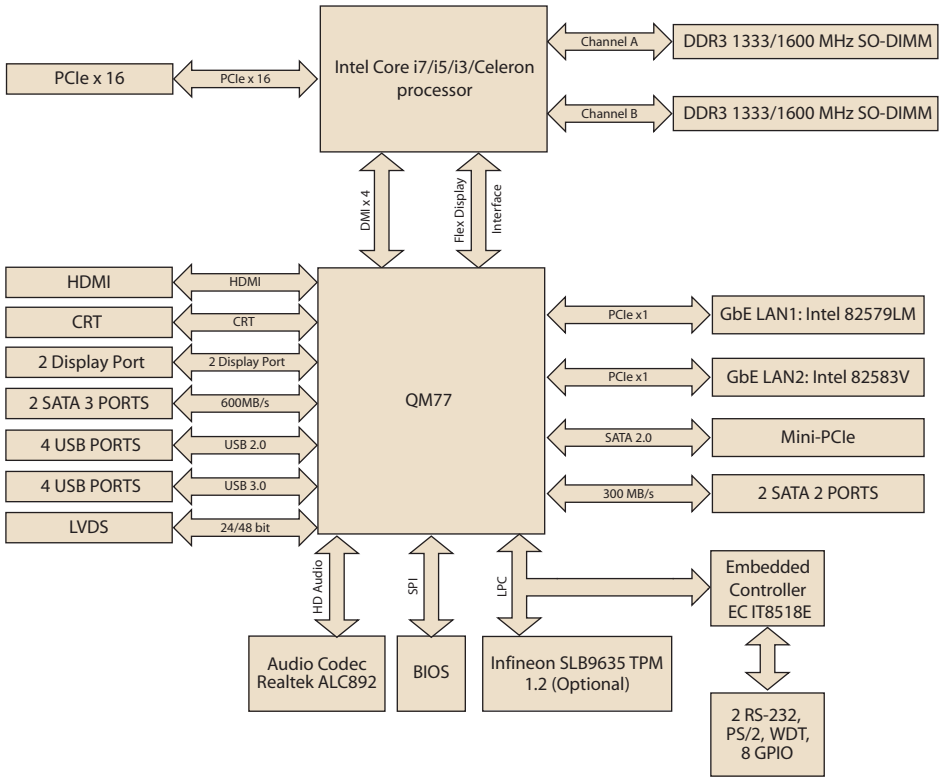
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Core i7-3610QE	Intel Core i7-2710QE	Core i5-3610ME	Core i5-2510E	Core i3-3120ME	Core i3-2330E	Celeron B810
	Core Number	4	4	2	2	2	2	2
	Max Speed	2.3 GHz	2.1 GHz	2.7GHz	2.5 GHz	2.4 GHz	2.2 GHz	1.6 GHz
	L3 Cache	6 MB	6 MB	3MB	3 MB	3MB	3 MB	2 MB
	Chipset	QM77						
	BIOS	AMI EFI 64 Mbit SPI						
Expansion Slot	PCI	-						
	Mini-PCIe	1						
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot						
Memory	Technology	Dual Channel DDR3 1333/1600 MHz SDRAM						
	Max. Capacity	16 GB/8 GB per SO-DIMM						
	Socket	2 x 204 PIN DDR3 SO-DIMM						
Graphics	Controller	Integrated Gfx Gen 7, supports DirectX11, OpenGL 3.1 and OpenCL 1.1						
	VRAM	Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory						
	CRT	Yes, supports max. resolution 2048 x 1536						
	LVDS	Supports dual channel 48 bit up to 1920 x 1080						
	HDMI	Supports HDMI 1.4, 1650 Mbps/channel with 165 MHz						
	Triple Display	DP+LVDS+HDMI, DP+DP+HDMI, DP+DP+LVDS, DP+CRT+HDMI (The Celeron B810 processor doesn't support triple display)						
Ethernet	Interface	10/100/1000 Mbps						
	Controller	GbE LAN1: Intel 82579LM, LAN2: Intel 82583V						
	Connector	RJ-45 x 2						
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0)						
	Channel	2/2						
Rear I/O	CRT	1						
	HDMI	1						
	Display Port	2						
	Ethernet	2						
	USB	4 (USB 3.0)						
	Audio	3 (Mic-in, Line-out, Line-in)						
	Serial	-						
	PS/2	2 (1 x keyboard and 1 x mouse)						
Internal Connector	USB	4 (USB 2.0)						
	LVDS/Inverter	1						
	Serial	2 (RS-232, COM2 with 5 V/12 V)						
	IDE	-						
	SATA	2 (SATA 3.0), 2 (SATA 2.0)						
	Mini-PCIe	1						
	CFast	1						
	Parallel	-						
	IrDA	-						
	GPIO	8-bit						
Watchdog Timer	Output	System reset						
	Interval	Programmable 1 ~ 255 sec/min						
Power Requirements	Power On	Intel Core i7 -3610QE 2.30GHz processor/DDR3-1333MHz 4G x2/16G SQFlash						
		5 V	3.3 V	12 V		5 Vsb		-12 V
		3.42 A	1.1 A	1.19 A		0.5 A		0.07A
Environment		Operating			Non-Operating			
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution			-40 ~ 85° C (-40 ~ 185° F)			
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")						

Block Diagram



Ordering Information

Part Number	Chipset	DP	CRT	LVDS	HDMI	GbE LAN	COM
AIMB-273G2-00A1E	QM77	2	1	1	1	2	2

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960051292N001	CPU cooler	1
1960019192T100	I/O port bracket	1
20060273010	Startup manual	1
20660273000	Driver CD	1

I/O View



AIMB-273G2-00A1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm

Optional Chassis

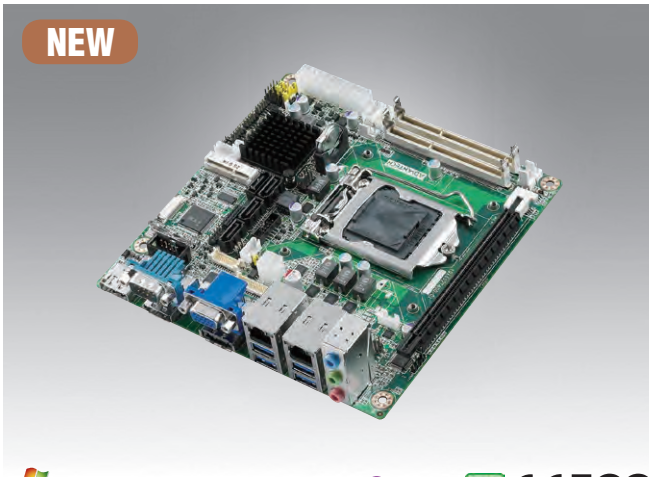
Part Number	Description
AIMB-B2000-15ZE	Mini-ITX chassis with 150W ATX power supply

Embedded OS/API

OS/API	Part number	Description
Win XPE	2070011021	XPE WES 2009
WES7	2070011359	Windows 7 Embedded English version
WES7E	2070011440	WES7E JPN/TC/SC/ENG

AIMB-274

Intel® Core™ i7/i5/i3 LGA 1150 Mini-ITX with VGA/DP++/HDMI(DP++)/LVDS(eDP), 2 COM, Dual LAN, PCIe x16



Windows Embedded Standard 7 · QNX · iManager · SUSIAccess · RoHS · CE · FCC

Features

- Supports Intel® 4th Gen Core™ i processor (LGA1150) with Intel Q87 chipset
- Two 204-pin SO-DIMM up to 16 GB DDR3/DDR3L 1333/1600 MHz SDRAM
- Supports triple display of VGA/DP/HDMI(DP)/LVDS(eDP)
- Supports PCIe x16 (Gen 3) and two mini PCIe
- Supports Intel vPro, AMT 9.0, PECI 3.0, Software RAID 0,1,5,10, TPM 1.2 (optional)
- Supports iManager, SUSIAccess and Embedded Software APIs

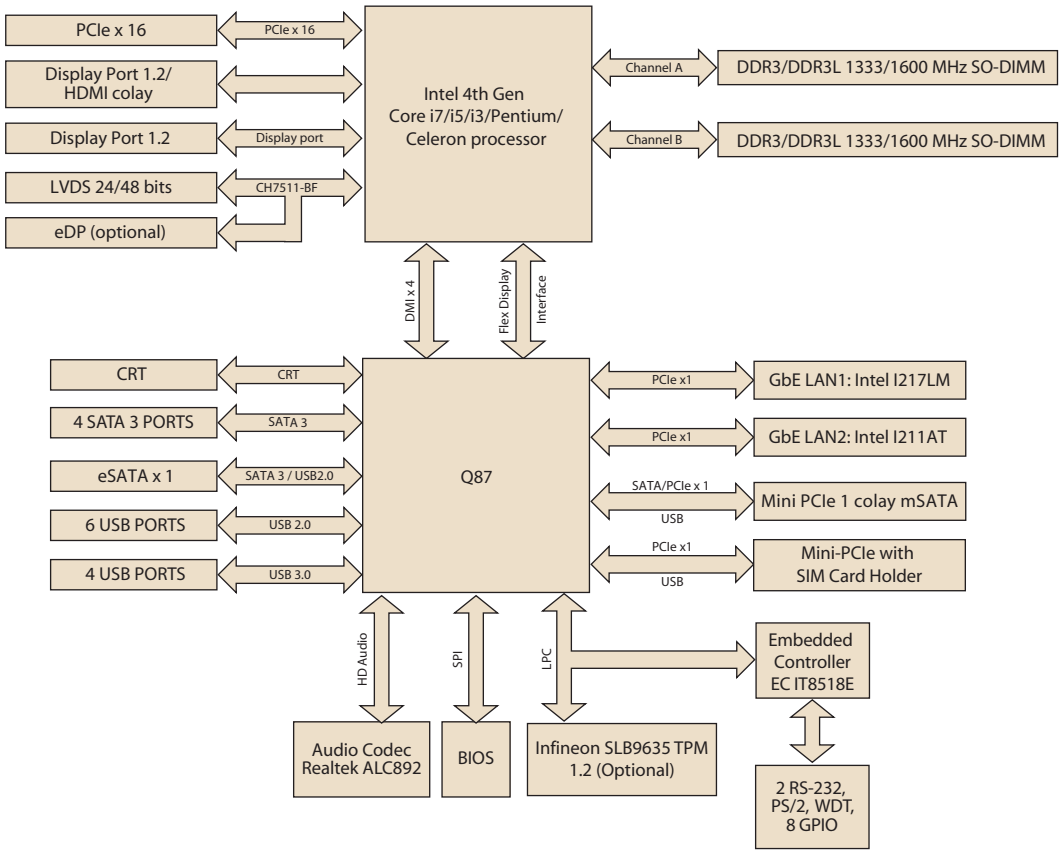
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	E3-1268L V3	i7-4770S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE	Pentium G3420	Pentium G3320TE
	Core Number	4	4	4	4	2	2	2	2	2
	Max Speed	2.3GHz	3.1 GHz	2.3 GHz	2.9 GHz	2.7 GHz	3.5 GHz	2.4 GHz	3.2 GHz	2.3 GHz
	L3 Cache	8M	8M	8M	6M	4M	4M	4M	3M	3M
	TDP (W)	45W	65W	45W	65W	35W	54W	35W	54W	35W
	Chipset	Q87								
	BIOS	AMI EFI 128 Mbit SPI								
Expansion Slot	PCI	-								
	Mini-PCIe	2, F/S x 1 support mSATA, H/S x 1 with SIM card holder								
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot								
Memory	Technology	Dual Channel DDR3/DDR3L @ 1.5V 1333/1600 MHz SDRAM								
	Max. Capacity	16 GB/8 GB per SO-DIMM								
	Socket	2 x 204 PIN DDR3 SO-DIMM (Non-ECC)								
Graphics	Controller	Supports DirectX11.1, OpenGL 4.0 and OpenCL 1.2								
	VRAM	Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory								
	CRT	Yes, supports max. resolution 1920 x 1200 @ 60 Hz								
	LVDS	Supports dual channel 48-bit up to 1920 x 1200								
	HDMI	Yes, supports max. resolution 1920 x 1200								
	eDP	Yes, with internal pin header, supports max. resolution 3840 x 2160 @ 60 Hz								
	Display Port 1.2	Yes, supports max. resolution 3840 x 2160 @ 60 Hz								
	Triple Display	VGA+LVDS+HDMI, VGA+LVDS+DP, VGA+DP+HDMI; VGA+DP+DP; VGA+eDP+HDMI, VGA+eDP+DP, LVDS+DP+HDMI, LVDS+DP+DP, eDP+DP+HDMI, eDP+DP+DP								
Ethernet	Interface	10/100/1000 Mbps								
	Controller	GbE LAN1: Intel I217LM; LAN2:Intel I211AT								
	Connector	RJ-45 x 2								
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)								
	Channel	4								
Rear I/O	CRT	1								
	HDMI (DP++)	1, shared with DP by auto detection								
	Display Port 1.2	1								
	Ethernet	2								
	USB	4 (USB 3.0)								
	Audio	3 (Mic-in, Line-out, Line-in)								
	Serial	1 (RS-232, supports 5V/12V)								
	eSATA	1								
Internal Connector	USB	6 (USB 2.0)								
	LVDS/inverter	1								
	Serial	1 (RS-232/422/485)								
	IDE	-								
	SATA	4 (SATA 3.0)								
	Mini-PCIe	2 (F/S x 1 & H/S x 1)								
	Parallel	-								
	IrDA	-								
	GPIO	8-bit								
Watchdog Timer	Output	System reset								
	Interval	Programmable 1 ~ 255 sec/min								
Power Requirements	Input power	ATX								
		Win Idle 18.725 W (Intel Core i7-4770S 3.1GHz / DDR3 1600MHz 8GB x 2								
Environment		Operating					Non-Operating			
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution					-40 ~ 85° C (-40 ~ 185° F)			
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")								

Block Diagram



Ordering Information

P/N	Chipset	DP	CRT	LVDS/ eDP	HDMI/ DP	GbE LAN	COM	eSATA	SATA	USB 3.0/2.0	MiniPCIe	TPM	AMP	PCIex16
AIMB-274G2-00A1E	Q87	1	1	1 (1)	1 (CEC)	2	2	1	4	4/6	2 (1 x F/S; 1 x H/S)	(1)	(1)	1
AIMB-274L-00A1E	Q87	0	1	0	1	1	2	0	2	4/6	1 (F/S)	0	0	1

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2 for G2 sku, 0 for L sku
1700018785	SATA power cable	2
1700001788	Serial port cable, 30cm	1
1960060539T000	I/O port bracket	1 for G2 sku
1960060539T100	I/O port bracket	1 for L sku
2006027410	Startup manual	1
2066027400	Driver CD	1

Optional Chassis

Part Number	Description
AIMB-B2000-15ZE	Mini-ITX chassis with 150W ATX power supply

I/O View



AIMB-274G2-00A1E



AIMB-274L-00A1E

Optional Accessories

Part Number	Description
1703100121	USB cable with two ports, 12 cm
1703100261	USB cable with two ports, 26 cm
1703100350	USB cable with two ports, 34.5 cm
1703060191	KB/MS cable 1*6P-2.0/M-DIN 6P(F)*2, 19cm
1960053207N001	LGA1150 CPU cooler for CPU TDP ≦ 65W, 92.9 (W) x 92.9 (L) x 46 (H) mm
1960060732N001	LGA1150 CPU cooler for CPU TDP ≦ 45W, 80 (W) x 80 (L) x 32.2 (H) mm

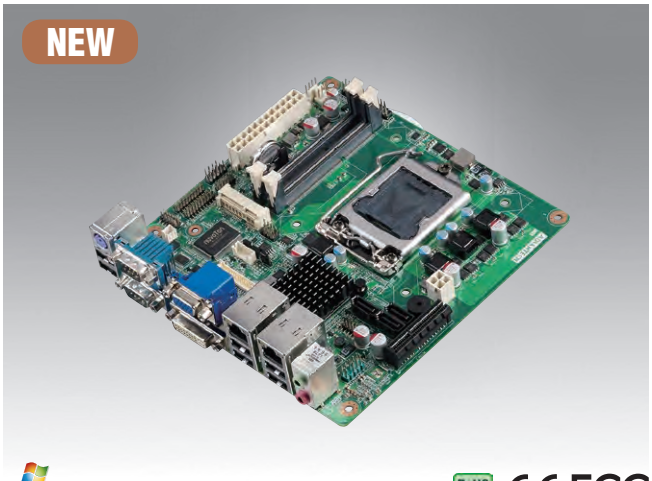
Note: Purchasing AIMB-274's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-274.

Embedded OS/API

OS/API	Part No.	Description
WES7	2070012179	WES7E AIMB-274 x86 V5.1.6 Eng/Jpn/Cht/Chn
WES8	2070012425	WES8E AIMB-274 x86 V6.0.0 Eng
iManager		Software APIs for hardware monitoring ,smart fan, watchdog, GPIO, brightness control

AIMB-281

Intel® Xeon E3/ Core™ i7/i5/i3/Celeron LGA1155 Mini-ITX with CRT/DVI/LVDS, 6 COM, Dual LAN, PCIe x4



Windows Embedded Standard 7

RoHS COMPLIANT 2002/95/EC CE FCC

Features

- Support Intel Xeon E3/ Core i7/i5/i3/ Pentium / Celeron desktop processor (LGA) with Intel H61 chipset
- Supports dual display for VGA, DVI, LVDS
- Support PCIe x4 (Gen 2) and mini PCIe
- Support 8 USB, 6 COMs, 3 SATA II, 8 bit GPIO
- Support embedded software APIs and Utilityies
- Two 204-pin SO-DIMM up to 8GB DDR3 1066/1333/1600 MHz SDRAM

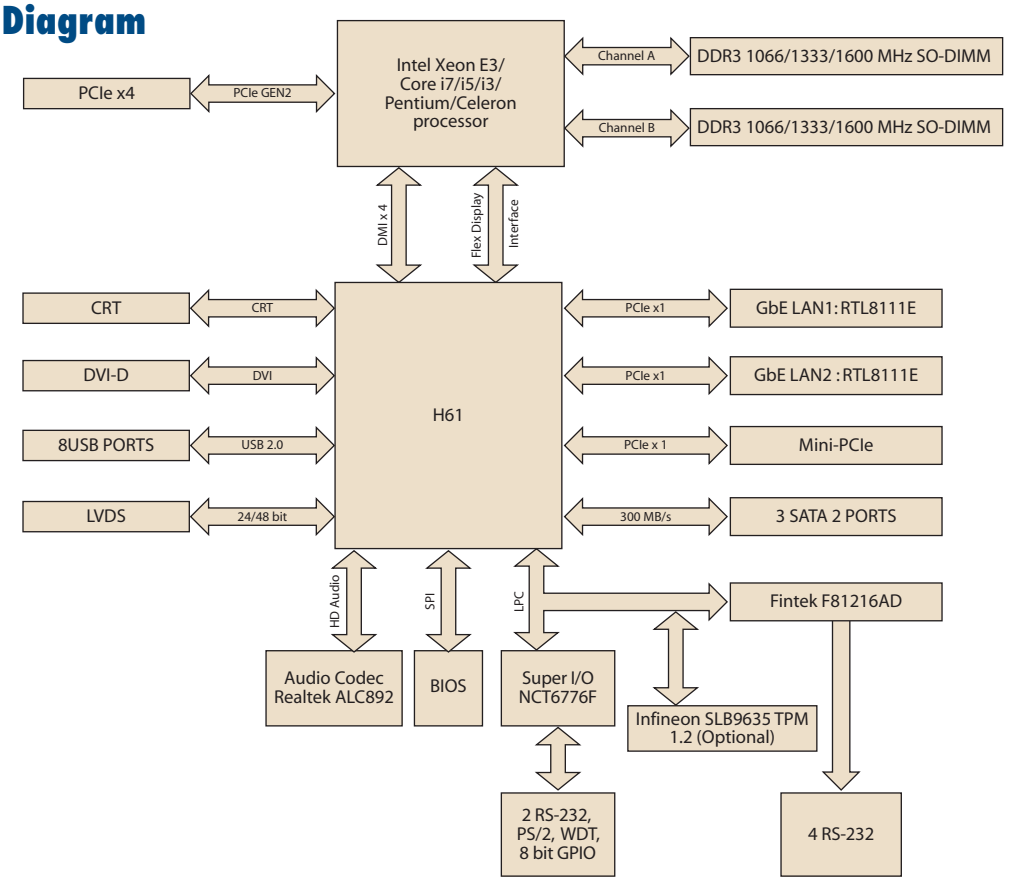
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring, Flash Lock

Specifications

Processor System	CPU	Intel Xeon E3-1275	Core i7-3770	Core i5-3550S	Core i3-3220	Pentium G2120	Celeron G1620
	Core Number	4	4	4	4	4	4
	Max Speed	3.5 GHz	3.5 GHz	3.0 GHz	3.0 GHz	3.1 GHz	2.7 GHz
	L3 Cache	8 MB	8 MB	6 MB	3 MB	3 MB	2 MB
	Chipset	H61					
	BIOS	AMI EFI 32 Mbit SPI					
Expansion Slot	PCI	-					
	Mini-PCIe	1					
	PCIe x4 (Gen2)	8 GB/s per direction, 1 slot					
Memory	Technology	Dual Channel DDR3 1066/1333/1600 MHz SDRAM					
	Max. Capacity	8 GB/4 GB per SO-DIMM					
	Socket	2x 204 PIN DDR3 SO-DIMM (Non-ECC)					
Graphics	Controller	Intel HD P3000/ 4000 graphics engine supports up to DirectX 11, Shader Model 4.1 and OpenGL 3.0					
	VRAM	Share memory up to 256MB					
	CRT	Yes, supports max. resolution 2048 x 1536					
	LVDS	Support Dual channel 48 bit and up to 1920 x 1200					
	DVI	Yes, supports max resolution 1920 x 1200					
	Dual Display	CRT+LVDS, CRT+DVI, DVI+LVDS					
Ethernet	Interface	10/100/1000 Mbps					
	Controller	2 x RTL8111E					
	Connector	RJ-45 x 2					
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)					
	Channel	3					
Rear I/O	VGA	1					
	DVI	1					
	Ethernet	2					
	USB	6 (USB2.0)					
	Audio	2 (Mic-In, Line-out)					
	Serial	2 (RS-232)					
	PS/2	1					
Internal Connector	USB	2 (USB 2.0)					
	LVDS/ inverter	1/1					
	Serial	4 (RS-232)					
	IDE	-					
	SATA	3 (SATA 2.0)					
	Mini-PCIe	1					
	Parallel	1					
	IrDA	-					
	GPIO	8-bit					
Watchdog Timer	Output	System reset					
	Interval	Programmable 1 ~ 255 sec/min					
Power Requirements	Power On	Intel Core i7-2700K 3.5GHz, 4GB DDR3 1333MHz SDRAM					
		+12V		+5V		+3.3V	
		13.35A		3.74A		2.19A	
Environment		Operating			Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution			-20 ~ 70° C (-4 ~ 158° F)		
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")					

Block Diagram



Ordering Information

Part Number	Chipset	CRT	DVI	LVDS	GbE LAN	COM
AIMB-281G2-00A1E	H61	Yes	Yes	Yes	2	6

Packing List

Part Number	Description	Quantity
1700020939-01	SATA HDD cable (180° ~ 90°)	1
1700020946-01	SATA HDD cable (180° ~180°)	1
17AD14GS0000073V04	1-to-4 serial ports cable kit	1
1960062821T000	I/O port bracket	1
2006028110	Starup manual	1
2066028100	Driver CD	1
2006028100	User manual	

I/O View



Optional Accessories

Part Number	Description
17AD14GS0300046A92	USB 2 Port Cable w/o bracket PH=2.00mm L=25cm
19AD13GS0700149C13	CPU Cooler (for standard chassis)

Embedded OS/API

OS/API	Part Number	Description
Win XPE	2070012450	WES2009
WES7	2070012451	WES7E x64 Embedded
	2070012462	WES7E x86 Embedded
WES8	TBD	Win 8 Embedded

SIMB-M02

Intel® Atom™ Mini-ITX with VGA/LVDS/HDMI, 6 COMs and LAN



"N2600" series only

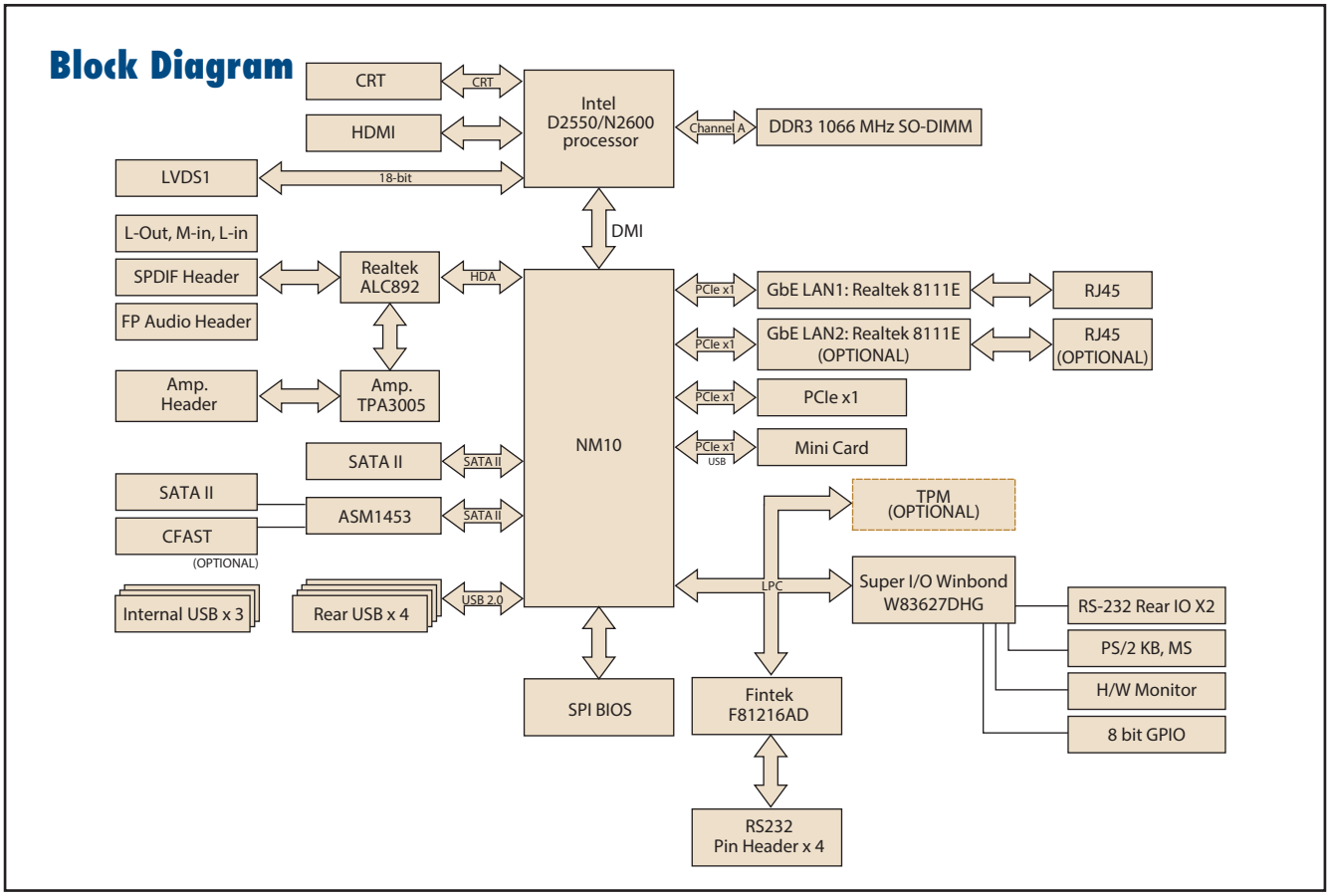
Features

- Supports Intel® N2600 / D2550 processor
- Supports Intel NM10 chipset
- One 204-pin SO-DIMM up to 4 GB DDR3 1066 MHz SDRAM
- Realtek 8111E LAN
- Supports multiple dual display functions : VGA, HDMI, Single channel 18-bit LVDS
- 1 x PCIe x 1, 1 x Full Size Mini-PCIe, 1 x CFast (Optional)
- 6 COM (with power), 2 SATA II
- 7 USB 2.0, TPM 1.2 (Optional)

Specifications

Processor System	CPU	Intel Atom N2600	Intel Atom D2550
	Max. Speed	1.6 GHz (Dual core)	1.86 GHz (Dual core)
	L2 Cache	1 MB	1 MB
	Chipset	Intel NM10	
	BIOS	AMI 16 Mbit, SPI	
Expansion Slots	PCIe	1	
	Full Size Mini-PCIe	1	
Memory	Technology	Single channel DDR3 1066 MHz	
	Max. Capacity	2 GB (for N2600), 4 GB (for D2550)	
	Socket	1 x 204-pin SO-DIMM (Non-ECC)	
Graphics	Controller	Embedded Gen3.5+ GFX Core, 400/640 MHz render clock frequency for N2600/D2550	
	VGA	Supports max. resolution 1920 x 1200	
	LVDS	Single channel 18-bit LVDS up to 1366 x 768	
	HDMI	HDMI 1.3 supports max resolution 1920 x 1200	
	Dual Display	VGA + LVDS, VGA + HDMI, LVDS + HDMI	
Ethernet	Interface	10/100/1000 Mbps	
	Controller	Realtek 8111E LAN	
	Connector	RJ-45 x 1	
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)	
	Channel	2	
SSD	Cfast	Optional (co-lay with SATA II, if it is used, only 1 SATA II can be used)	
Rear I/O	VGA	1	
	HDMI	1	
	Ethernet	1	
	USB	4 (USB 2.0)	
	Audio	3 (Line-out, Line-in, Mic-in)	
	Serial	2 (RS-232 with R1/5V/12V power)	
	PS/2	1 port (supports Y cable)	
Internal Connectors	LVDS & Inverter	1	
	USB	3 (USB 2.0)	
	Serial	4 (RS-232 with R1/5V/12V power)	
	SATA	2 (SATA 2.0)	
	GPIO	8-bit (4-bit DI and 4-bit DO)	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1~ 255 sec/min	
Security	TPM	Optional	
Power Requirements	Power Type	Single Voltage 12V DC input by 1 x External DC Jack / 1 x Internal 2x2-pin Power Connector	
	Typical Power Consumption	Windows IDOL: 24.72 W (Intel N2600 1.6 GHz processor/DDR3 1333 MHz 4 GB)	
Environment	Temperature	Operating	Non-Operating
		0 ~ 50° C (32 ~ 122° F)	-20 ~ 70° C (-4 ~ 158° F)
Physical Characteristics	Dimensions	170 x 170 mm (6.69" x 6.69")	

Block Diagram



Ordering Information

P/N	CPU	Chipset	VGA	GbE	USB	COM	SATA
SIMB-M02-N2600A1E	N2600	NM10	1	1	7 (4 Rear, 3 Internal)	6 x RS-232 (2 Rear, 4 Internal)	2 SATA II
SIMB-M02-D2500A1E	ID2550	NM10	1	1	7 (4 Rear, 3 Internal)	6 x RS-232 (2 Rear, 4 Internal)	2 SATA II

Packing List

Description	Quantity
SATA cable kit (SATA/POWER)	1
I/O shield	1
CPU Cooler	1 (D2550 only)
CPU Heatsink	1 (N2600 only)
Startup manual	1
Driver CD	1

Embedded OS/API

OS/API	Part number	Description
XPE	2070011396	XPE WES2009 SIMB-M02
WES7E	2070011561	WES7E SIMB-M02
WES7P	2070012094	WES7P SIMB-M02

I/O View



SIMB-M02-D2500A1E
SIMB-M02-N2600A1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with two ports, 30.5 cm
SIMB-0ADP-90W1E	Power Adapter 90W DC12V /7.5A
1702002600-01	Power Cord 3P 180cm, USA type (For power adapter SIMB-0ADP-90W1E)
1700018705	Power Cord 3P 180cm, Europe type (For power adapter SIMB-0ADP-90W1E)
1700018704	Power Cord 3P 180cm, UK type (For power adapter SIMB-0ADP-90W1E)
1700000237-01	Power Cord 3P 180cm, PSE type (For power adapter SIMB-0ADP-90W1E)
1700000596	Power Cord 3P 180cm, CCC type (For power adapter SIMB-0ADP-90W1E)
1700001714	Power Cord 3P 180cm, BSMI type (For power adapter SIMB-0ADP-90W1E)

Warning: It is highly recommended to purchase SIMB-0ADP-90W1E with the board, as its power PIN definition is customised to meet this board requirement.

Optional Chassis

Part Number	Description
AIMB-B2000-00YE	Mini-ITX chassis with optional DC Adaptor

AIMB-501

Intel® Core™ i7/i5/i3 LGA1155 MicroATX with CRT/DVI/LVDS, 10 COM, 10 USB 2.0, Dual LAN



Features

- Supports Intel® Core™ i7/i5/i3 processor with H61 chipset
- Two DIMM sockets support up to 16 GB DDR3 1600/1333 MHz SDRAM
- Supports dual display of VGA, DVI, LVDS and two GbE LAN
- Supports 10 COM, LPT, TPM 1.2 (Optional)
- Supports 10 USB 2.0 or 2 USB 3.0 and 8 USB 2.0
- Supports SUSIAccess, McAfee, Acronis and Embedded Software APIs

Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

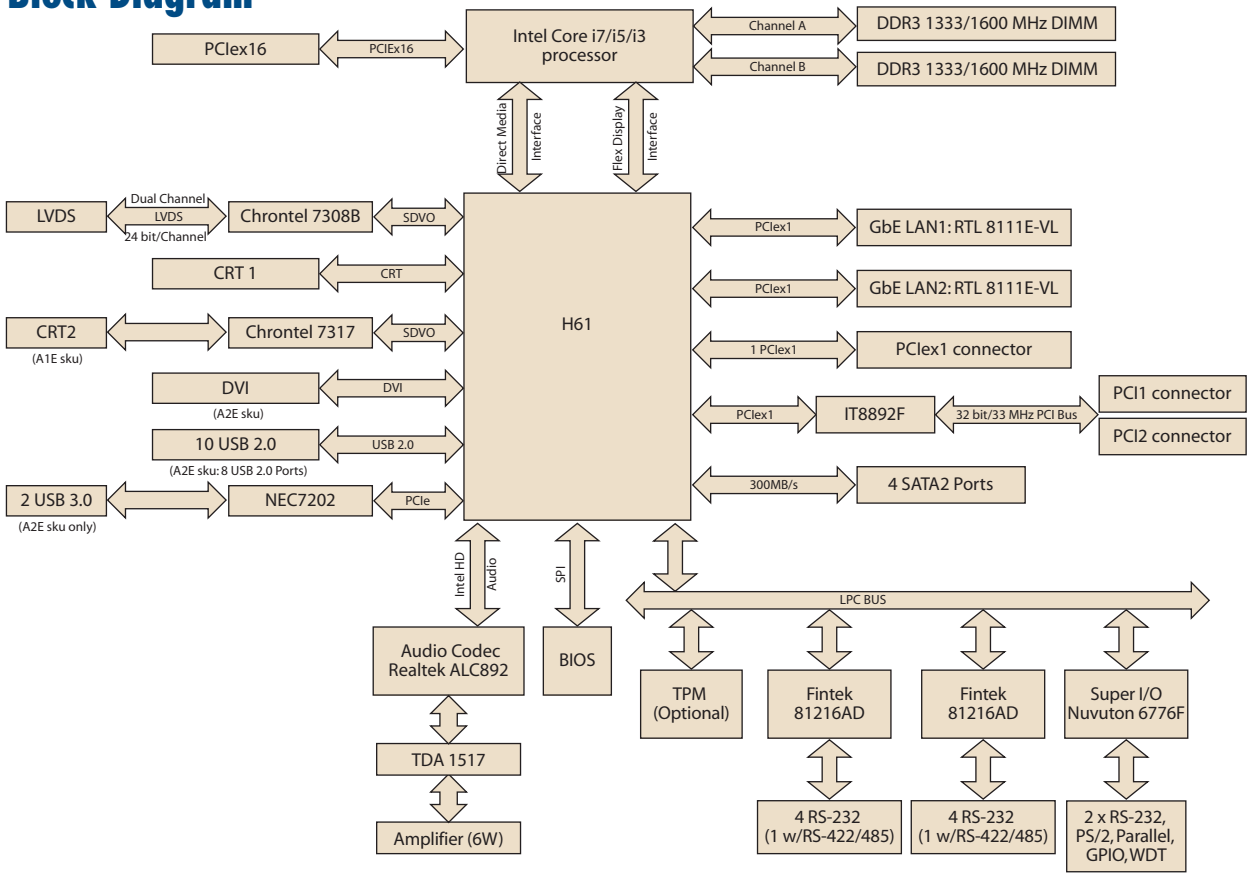
Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Core i7-3770	Intel Core i5-3550S	Intel Core i3-3220	Intel Core i7-2600	Intel Core i5-2400	Intel Core i3-2120	Pentium G850	Celeron G540
	Core Number	4	4	2	4	4	2	2	2
	Max. Speed	3.4 GHz	3.0 GHz	3.3 GHz	3.4 GHz	3.1 GHz	3.3 GHz	2.9 GHz	2.50 GHz
	Integrated Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	L3 Cache	8 MB	6 MB	3 MB	8 MB	6 MB	3 MB	3 MB	2 MB
	Chipset	H61							
	BIOS	AMI EFI 64 Mbit SPI							
Expansion Slot	PCI	32-bit/33 MHz, 2 slots							
	PCIe x 1 (Gen2)	500MB/s per direction, 1 slot							
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot							
Memory	Technology	Dual Channel DDR3 1600/1333 MHz SDRAM							
	Max. Capacity	16 GB/8 GB per DIMM							
	Socket	2 x 240-pin DIMM (Non-ECC)							
Graphics	Controller	Intel HD Graphics							
	VRAM	1GB maximum shared memory with 2GB and above system memory installed							
	LVDS	Supports dual channel 48 bit up to 1920 x 1200							
	CRT	Yes, supports max. resolution 2048 x 1536							
	DVI	1 (A2E sku)							
	Dual Display	CRT1+LVDS, CRT1+DVI; CRT1+CRT2							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	GbE LAN: Realtek 8111E							
	Connector	RJ-45 X 2							
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)							
	Channel	4							
Rear I/O	CRT	2							
	DVI	1 (A2E sku)							
	Ethernet	2							
	USB	4 (A1E: USB 2.0 x 4. A2E: USB 2.0 x 2 /USB 3.0 x 2)							
	Parallel	1							
	Audio	2 (Mic-in, Line-out)							
	Serial	-							
	PS/2	2 (1 x keyboard and 1 x mouse)							
Internal Connector	USB	6 (USB 2.0)							
	Serial	10(8 x RS-232, 2 x RS-232/422/485; COM 3 and COM 7 support RS-232/422/485 auto flow control; COM 1 and COM 2 supported 5V/12V by jumper selection)							
	IDE	-							
	SATA	4 (SATA 2.0)							
	LVDS & Inverter	1							
	IrDA	-							
	GPIO	8-bit GPIO							
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Power Requirements		Intel Core i7-2600 3.4GHz, 4GB DDR3 1333MHz x 2pcs							
	Power On	+3.3 V	+12 V	-12 V	5 VSB	5 V			
		1.05 A	6.66 A	0.13 A	0.49 A	2.25 A			
Environment		Operating						Non-Operating	
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution						-40 ~ 85° C (-40 ~ 185° F)	
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")							

All product specifications are subject to change without notice

Block Diagram



Ordering Information

Part Number	PCH	Memory	VGA	DVI	LVDS	USB 3.0/2.0	SATA 2.0	COM	TPM	LAN	PCIe x 16	PCIe x 1	PCI slot	AMP
AIMB-501G2-KSA1E	H61	Non ECC	2	(1)	1	0 /10	4	10	(1)	2	1	1	2	Yes (6W)
AIMB-501VG-KSA1E	H61	Non ECC	1	(1)	0	0 /10	4	10	(1)	1	1	1	0	Yes (6W)
AIMB-501L-KSA1E	H61	Non ECC	1	0	0	0 /10	4	2	(1)	1	1	1	0	No
AIMB-501G2-KSA2E	H61	Non ECC	1	1	1	2 / 8	4	10	(1)	2	1	1	2	Yes (6W)

*() BOM options available on MP version.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RP3PF-21A1E	2U riser card with 1 PCIe x16 and 2 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion

Packing List

Description	Quantity
Serial ATA HDD data cable	2
Com port cable kit	3
I/O port bracket	1
Startup manual	1
Driver CD	1

I/O View


AIMB-501G2-KSA1E


AIMB-501VG/L-KSA1E


AIMB-501G2-KSA2E

Optional Accessories

Part Number	Description
1700002204	USB cable with dual ports, 27 cm
1700008822	DVI cable
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm

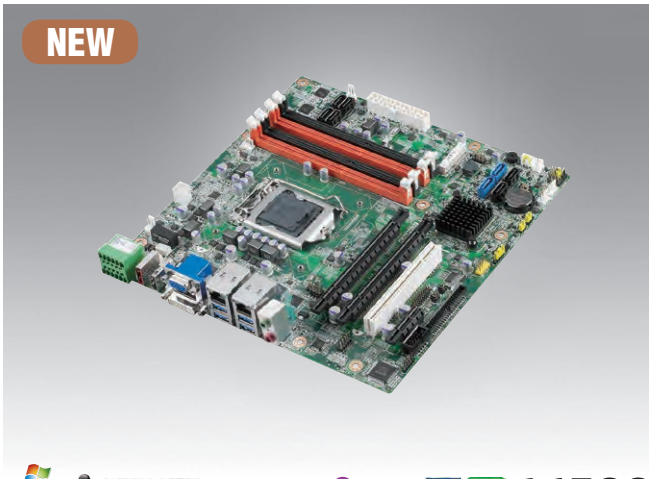
Note: Purchasing AIMB-501's proprietary CPU cooler from Advantech is a must; other brands of CPU coolers are NOT compatible with AIMB-501

Embedded OS/API

OS/API	Part No	Description
WIN XPE	2070011383	Image XPE WES2009 AIMB-501KS V4.3 ENG
WES7	2070011384	Image WES7E AIMB-501KS V5.1.2 ENG

AIMB-502

Intel® Xeon® E3/ Core™ i7/i5/i3 LGA1155 MicroATX with CRT/DVI/HDMI, 6 COM, Dual LAN, SATAIII



Features

- Supports Intel® Xeon®/ Core™ i7/i5/i3 processor with Q77/C216 chipset
- Four DIMM sockets support up to 32 GB DDR3 1333/1600 MHz SDRAM
- Supports CRT, DVI, HDMI, Phoenix connector and dual GbE LAN
- Supports Intel AMT 8.0 and Intel vPro competent
- Supports 2 SATAIII, 6 SATAII, 1 eSATA, 1 mSATA, Software RAID 0, 1, 5, 10.
- Supports PCIE Gen3, USB 3.0 x 4. TPM 1.2 (Optional)
- Supports SUSIAccess and Embedded Software APIs

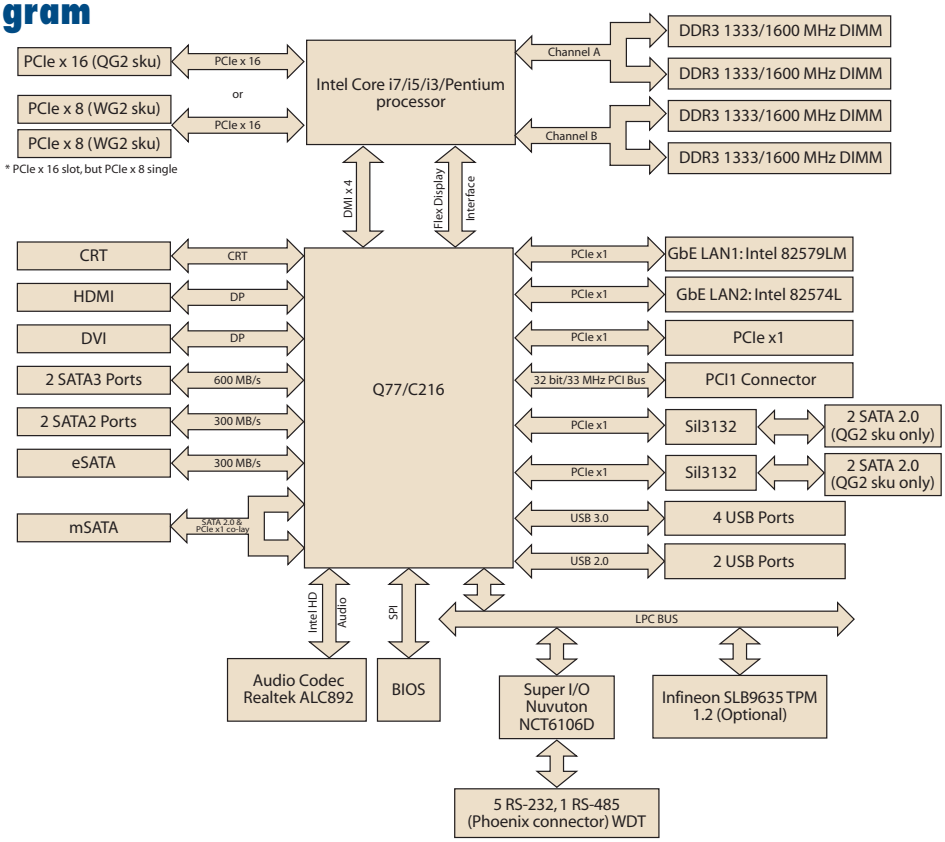
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Xeon E3-1275v2	Intel Xeon E3-1275	Intel Xeon E3-1225v2	Intel Xeon E3-1225	Intel Core i3-2120	Intel Pentium G850	Intel Core i7-3770	Intel Core i7-2600	Intel Core i5-3550S	Intel Core i3-3220	Intel Core i5-2400	Intel Celeron G540
	Core Number	4	4	4	4	2	2	4	4	4	2	4	2
	Max. Speed	3.5 GHz	3.4 GHz	3.2 GHz	3.1 GHz	3.3 GHz	2.9 GHz	3.4GHz	3.4 GHz	3.0GHz	3.3 GHz	3.1 GHz	2.5 GHz
	Integrated Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	L3 Cache	8 MB	8 MB	8 MB	6 MB	3 MB	3 MB	8 MB	8 MB	6 MB	3 MB	6 MB	2 MB
	Supports Model	WG2	WG2	WG2	WG2	WG2/ QG2	WG2/QG2	QG2	QG2	QG2	QG2	QG2	QG2
	Chipset	Q77/C216											
	BIOS	AMI EFI 64 Mbit SPI											
Expansion Slot	PCI	32-bit/33 MHz, 1 slot											
	PCIe x1 (Gen2)	500MB/s per direction, 1 slot											
	PCIe x16 (Gen3)	16GB/s per direction, 1 slot (QG2), 2 slot (WG2: PCIe x8 single per slot only)											
Memory	Technology	Dual Channel DDR3 1333/1600 MHz SDRAM											
	Max. Capacity	32 GB/8 GB per DIMM											
	Socket	4 x 240-pin DIMM (Non-ECC)											
Graphics	Controller	Intel HD Graphics											
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed											
	HDMI	Supports max resolution 1920 x 1200 (1080P)											
	CRT	Supports max resolution 2048 x 1536 at 60 Hz											
	DVI	Supports max. resolution 1920 x 1200 at 60 Hz											
	Triple Display	CRT+DVI+HDMI											
	Dual Display	CRT+DVI, CRT+HDMI, DVI+HDMI											
Ethernet	Interface	10/100/1000 Mbps											
	Controller	GbE LAN1: Intel 82579LM, GbE LAN2: Intel 82574L											
	Connector	RJ-45 x 2											
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0) / eSATA / mSATA											
	Channel	2/6/1/1											
Rear I/O	CRT	1											
	DVI	1											
	HDMI	1											
	Ethernet	2											
	USB	4 (4 USB 3.0)											
	Audio	2 (Mic-in, Line-out)											
	Serial	1 (RS-485 from Phoenix connector)											
	Phoenix	1 (1 RS-485 + 6 bit GPIO: fixed 4 in, 2 out, can't programmable)											
	eSATA	1											
Internal Connector	USB	2 (USB 2.0)											
	Serial	5 (RS-232)											
	IDE	-											
	SATA	2 x 600 MB/s (SATA 3.0)/6 x 300 MBs (SATA 2.0) / 1 x eSATA / 1 x mSATA											
	IrDA	-											
	GPIO	14 bit GPIO (6 bit non-programmable GPIO via Phoenix connector on rear side and 8 bit programmable GPIO by pin header on board)											
Watchdog Timer	Output	System reset											
	Interval	Programmable 1 ~ 255 sec/min											
Power Requirements		Intel Core i7-3770 3.4 GHz, 8 GB DDR3 1600 MHz x 4pcs											
	Power On	+5 V	3.3 V	12 V	5 Vsb	-12 V							
		2.69 A	0.93 A	5.3 A	0.0 A	0.52 A							
Environment		Operating											
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution											
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")											

Block Diagram



Ordering Information

Part Number	Chipset	Memory	USB 2.0/ 3.0	CRT	HDMI	DVI	SATA 3.0/ 2.0	eSATA/ mSATA	COM	TPM	GbE LAN	PCIe	Mini PCIe
AIMB-502QG2-00A1E	Q77	Non-ECC	2/4	Yes	1	1	2/6	1/1	6	(1)	2	PCIe 16 x 1 (Gen 3) PCIe 1 x 1 (Gen 2)	1 (co-lay with mSATA)
AIMB-502WG2-00A1E	C216	ECC/Non-ECC	2/4	Yes	1	1	2/2	1/1	6	(1)	2	PCIe 8 x 2 (Gen 3, PCIe 16 connector) PCIe 1 x 1(Gen 2)	1 (co-lay with mSATA)

*() BOM options available on MP version.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960059180T000	IO Bracket for AIMB-502	1
2002050200	Startup manual	1
2062050200	Driver CD	1

I/O View



AIMB-502QG2-00A1E
AIMB-502WG2-00A1E

Optional Accessories

Part Number	Description
1700002204	Dual port USB cable (27 cm) with bracket
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis, for CPU TDP ≦ 95W, 4.72" (W) x 4.72" (L)X 3.03" (H)
1960047831N001	LGA1156 CPU cooler for 2U and backplane version of chassis, for CPU TDP ≦ 65W, 3.27" (W) x 3.27" (L)X 2.17" (H)
1960049408N001	LGA1156 CPU cooler for 1U and wallmount chassis, for CPU TDP ≦ 65W, 3.35" (W) x 3.35" (L)X 1.02" (H)
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm

Note: Purchasing AIMB-502's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-502.

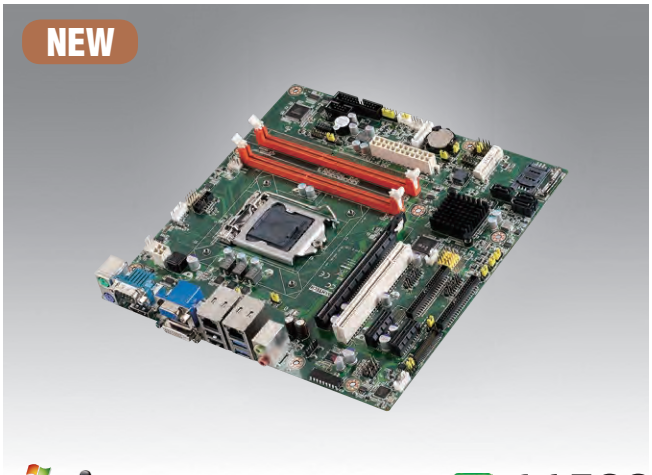
The complete thermal solution is composed of CPU cooler and system fans to support the CPU TDP as above.

Embedded OS/API

OS/API	Part No.	Description
WES 7		Image WES7E 32 bit AIMB-502 ENG/TC/SC/JPN
		Image WES7E 64 bit AIMB-502 ENG/TC/SC/JPN

AIMB-503

Intel® Core™ i7/i5/i3 LGA1150 MicroATX with CRT/DP/DVI/LVDS, 10 COM, 4 USB 3.0, 7 USB 2.0, Dual LAN



Windows Embedded Standard 7 · Quiet · SUSIAccess · RoHS · CE · FCC

Features

- Supports Intel® Core™ i7/i5/i3 processor with B85/H81 chipset
- Two DIMM sockets support up to 16 GB DDR3/DDR3L 1333/1600 MHz SDRAM
- Supports Tri display of VGA, DP, DVI, LVDS and two GbE LAN
- Supports 10 COM, 4 USB 3.0, 7 USB 2.0, TPM 1.2 (optional)
- Supports SUSIAccess, McAfee, Acronis and Embedded Software APIs

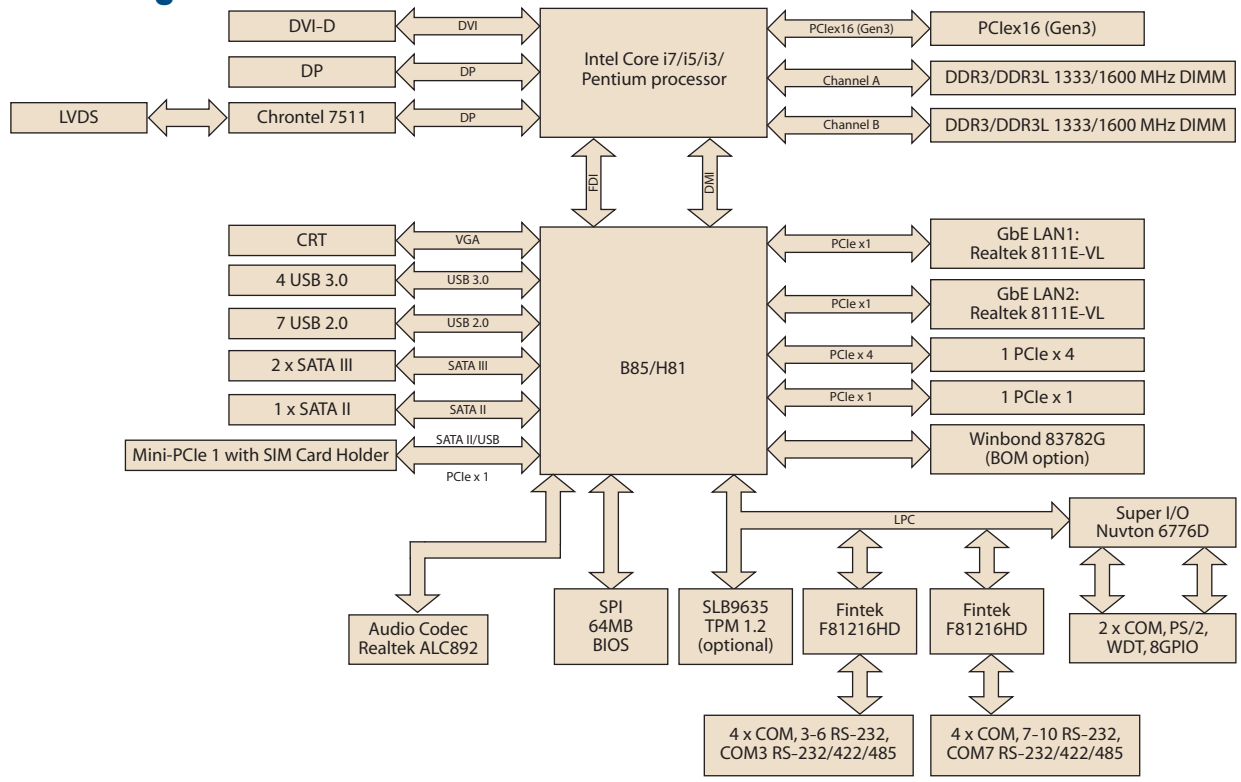
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	E3-1268L V3	i7-4770S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE	Pentium G3320TE	Pentium G3420
	Core Number	4	4	4	4	2	2	2	2	2
	Max. Speed	2.3GHz	3.1 GHz	2.3 GHz	2.9 GHz	2.7 GHz	3.5 GHz	2.4 GHz	2.3 GHz	3.2GHz
	L3 Cache	8M	8M	8M	6M	4M	4M	4M	3M	3M
	TDP (W)	45W	65W	45W	65W	35W	54W	35W	35W	54W
	Chipset	B85 / H81								
	BIOS	AMI EFI 128 Mbit SPI								
Expansion Slot	PCI	32-bit/33 MHz, 1 slot								
	PCIe x 1 (Gen2)	500 MB/s per direction, 1 slot								
	PCIe x 4 (Gen2)	2 GB/s per direction, 1 slot								
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot								
	Full-size Mini-PCIe	1/1/0, F/S support mSATA with SIM card holder								
Memory	Technology	Dual Channel DDR3/DDR3L @1.5V 1333/1600 MHz SDRAM								
	Max. Capacity	16 GB/8 GB per DIMM								
	Socket	2 x 240-pin DIMM (Non-ECC)								
Graphics	Controller	Intel HD Graphics								
	LVDS	Supports dual channel 48 bit and up to 1920 x 1200								
	CRT	Yes, supports max. resolution 1920 x 1200								
	DP	Up to 3840 x 2160 resolution								
	DVI	Up to 1920 x 1200 @ 60Hz refresh rate								
	Dual Display	DP+DVI, VGA+DP, VGA+DVI								
	Triple Display	DP+DVI+VGA, DP+DVI+LVDS, VGA+DP+LVDS, DVI+VGA+LVDS (F sku)								
Ethernet	Interface	10/100/1000 Mbps								
	Controller	GbE LAN1:Realtek RTL8111E GbE LAN2:Realtek RTL8111E								
	Connector	RJ-45 x 2								
SATA	Max Data Transfer Rate	600 / 300 MB/s (SATA 3.0 / SATA 2.0)								
	Channel	2 / 1								
Rear I/O	CRT	1								
	DVI-D	1								
	Ethernet	2 / 2 / 1								
	USB	4 (F: USB 3.0 x 4. G2/L: USB 2.0 x 2 /USB 3.0 x 2)								
	Display port	1 (F/G2)								
	Audio	2 (Mic-In, Line-out)								
	Serial	1 (RS-232, COM1 support 5V/12V)								
	PS/2	2 (1 x keyboard and 1 x mouse)								
Internal Connector	USB	7 (USB 2.0)								
	Serial	9 (7 x RS-232, 2 x RS-232/422/485; COM 3 and COM 7 support RS-232/422/485 auto flow control; COM 2 support 5V/12V by jumper selection)								
	IDE	-								
	SATA	2 x 600 MB/s (SATA 3.0), 1 x 300 MB/s (SATA 2.0)								
	LVDS & Inverter	1								
	DVI	-								
	IrDA	-								
	GPIO	8-bit GPIO								
	LPT	1								
Watchdog Timer	Output	System reset								
	Interval	Programmable 1 ~ 255 sec/min								
Power Requirements		Intel® Core™ i7-4770S CPU @ 3.10GHz + DDR3 8G X2 1600 + SATA H.D.D								
	Power On	5V		+3.3V		12V		-12V		5VSB
		1.41A		1.14A		4.8A		0.13A		0.42A
Environment		Operating					Non-Operating			
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution					-40 ~ 85° C (-40 ~ 185° F)			
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")								

Block Diagram



Ordering Information

Part Number	PCH	Memory	VGA	DVI	LVDS	USB 3.0/2.0	COM	SIM Card Holder	LAN	PCIe x 16	PCIe x 4	PCIe x 1	PCI slot	AMP
AIMB-503F-00A1E	B85	Non ECC	1	1	1	4/7	10	Yes	2	1	1	1	-	1
AIMB-503G2-00A1E	B85/H81	Non ECC	1	1	(1) Optional	2/7	10	Yes	2	1	-	2	1	(1)
AIMB-503L-00A1E	H81	Non ECC	1	1	-	2/7	2	-	1	1	-	2	-	(1)

*() BOM options available on MP version.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RP3PF-21A1E	2U riser card with 1 PCIe x16 and 2 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCIe x16 expansion

Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	2
17AD14GS1400013V04	4 in 1 COM cable 500mm (IDE 40-pin 2.0mm)	2
17AD14GS0000083V04	DB 9P/M to IDC 10P cable 600mm	1
19Z0000568T000	I/O port bracket	1
2002050300	Startup manual	1
2062050300	Driver CD	1

I/O View



AIMB-503F-00A1E
AIMB-503G2-00A1E



AIMB-503L-00A1E

Optional Accessories

Part Number	Description
1700002204	USB cable with dual ports, 27 cm
1960053207N001	LGA1150 CPU cooler for CPU TDP 65W, 92.9 (W) x 92.9 (L) x 46 (H) mm
1960060732N001	LGA1150 CPU cooler for CPU TDP 45W, 80 (W) x 80 (L) x 32.2 (H) mm
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm

Note: Purchasing AIMB-503's proprietary CPU cooler from Advantech is a must; other brands of CPU coolers are NOT compatible with AIMB-503.

Embedded OS/API

OS/API	Part No	Description
WIN XPE		Image XPE WES2009 AIMB-503 V4.3 ENG
WES7		Image WES7E AIMB-503 V5.1.2 ENG

AIMB-562 KIOSK

Intel® Core™2 Duo LGA 775 MicroATX with Dual CRT/LVDS, 10 COM, Single LAN



Features

- Intel® 945G/945GC chipset supports 533/800/1066 MHz FSB
- Two 240-pin DIMMs up to 4 GB DDR2 533/667 MHz SDRAM
- Supports dual CRT and 24-bit LVDS panel, dual channel 3 W amplifier
- Supports 10 serial ports, 8 USB, 16-bit GPIO
- Supports SUSIAccess and Embedded Software APIs

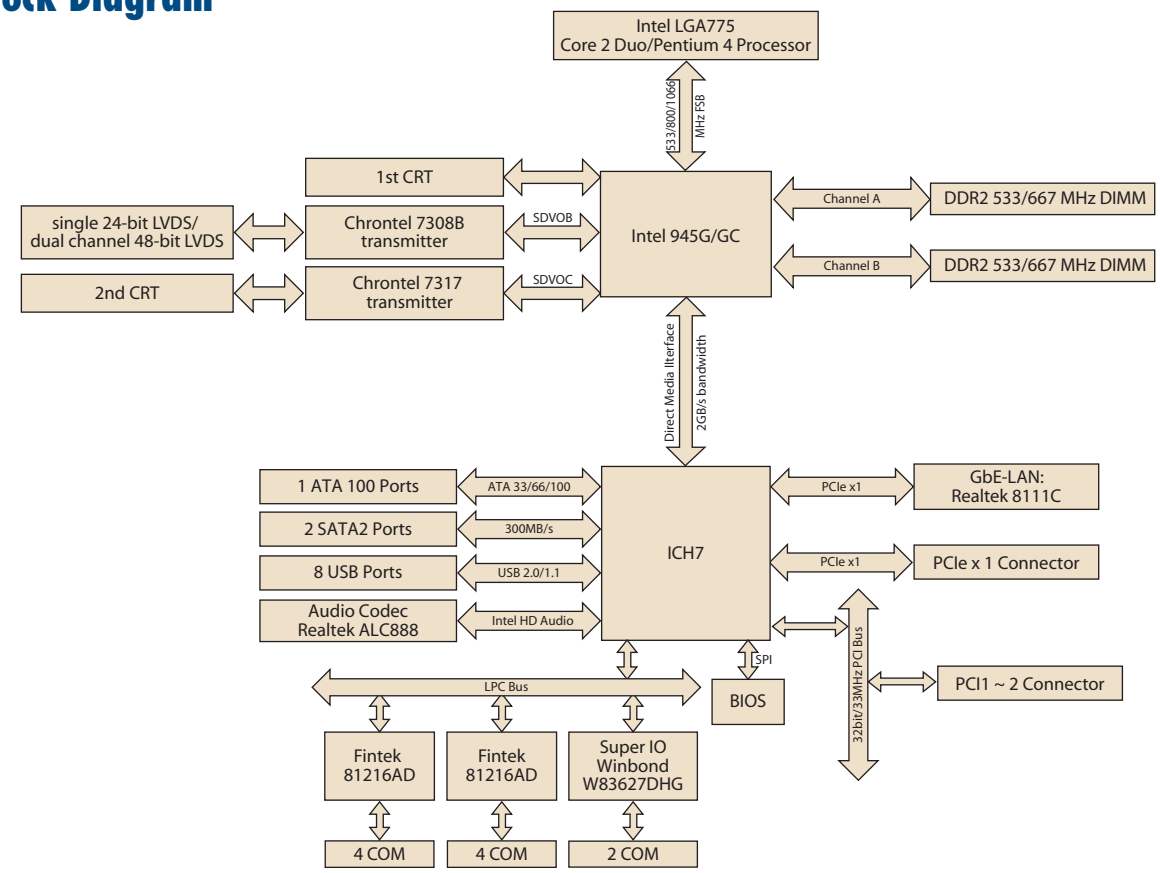
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU (65 nm/90 nm)	Intel Core 2 Duo	Intel Pentium Dual-Core	Intel Pentium 4	Intel Celeron
	Max. Speed	E7400 2.8 GHz	E2200 2.2 GHz	651 3.4 GHz	440 2.0 GHz
	L2 Cache	4 MB	1 MB	2 MB	512 KB
	Chipset	Intel 945G/945GC + ICH7			
	BIOS	Award 16 Mbit, SPI			
	Front Side Bus	533/800/1066 MHz			
Expansion Slot	PCIe x16	-			
	PCIe x1	250 MB per direction, 1 slot			
	PCI	32-bit/33 MHz, 2 slots			
Memory	Technology	Dual channel DDR2 533/667 MHz SDRAM			
	Max. Capacity	4 GB/2 GB per DIMM			
	Socket	2 x 240-pin DIMM (Non-ECC)			
Graphics	Embedded	Intel GMA 950 sharing 224 MB system memory			
	LVDS	Supports dual channel 48-bit and up to 1920 x 1200			
	2nd VGA	Supports 2nd CRT, via Chrontel 7317 SDVO transmitter			
	Dual Display	CRT + LVDS, CRT + CRT			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN: Realtek 8111C			
	Connector	RJ-45 x 1			
SATA	Max. Data Transfer Rate	300 MB/s (SATA 2.0)			
	Channel	2			
EIDE	Mode	ATA 100/66/33			
	Channel	1 (max. 2 devices)			
I/O Interface	CRT	2			
	USB	8 (USB 2.0)			
	Audio	2 (Line-out, Mic-in)			
	Serial	10 (8 x RS-232, 2 x RS-232/422/485; COM 3 and COM 7 support RS-232/422/485 auto flow control)			
	Parallel	1 (SPP/EPP/ECP)			
	FDD	-			
	PS/2	2 (1 x keyboard and 1 x mouse)			
	GPIO	16-bit GPIO			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirements	Power On	Intel Core 2 Duo E4300 1.8 GHz FSB 800 MHz, 1 GB DDR2 667 SDRAM			
		3.3 V	5 V	12 V	5 Vsb	-12 V
		1.02 A	4 A	2.35 A	0.26 A	0.12 A
Environment		Operating		Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution		-20 ~ 70° C (-4 ~ 158° F)		
Physical Characteristics	Dimensions (W x D)	244 x 244 mm (9.6" x 9.6")				

Block Diagram



Ordering Information

Part Number	Chipset	Display	COM	GbE LAN
AIMB-562VG-KSA1E	945G	2 CRT/LVDS	10	1
AIMB-562VG-GRA1E	945G	2 CRT	10	1
AIMB-562L-KSA1E	945GC	1 CRT	10	1

*We strongly suggest using only Advantech's certified LGA775 CPU coolers to ensure board reliability under harsh conditions.

Riser Card

Part Number	Description
AIMB-R430P-03A2E	2U riser card for 3 PCI expansion

I/O View



AIMB-562VG-KSA1E
AIMB-562VG-GRA1E



AIMB-562L-KSA1E

Packing List

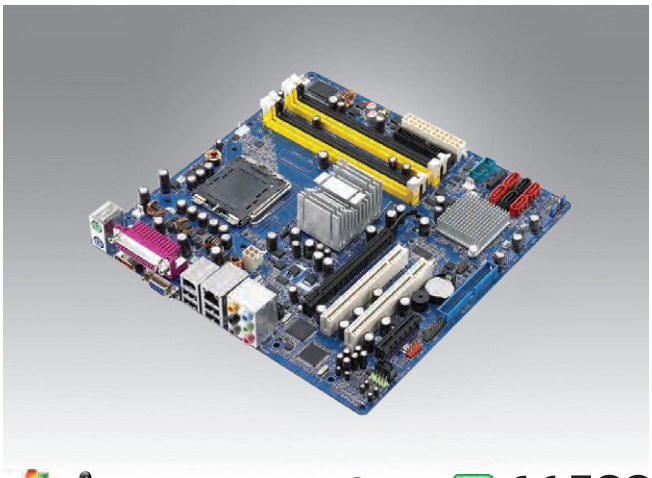
Description	Quantity
IDE HDD cable	1
Serial ATA HDD data cable	2
Serial ATA HDD power cable	2
COM port cable kit	4
I/O port bracket	1
Startup manual	1
Utility CD	1

Optional Accessories

Part Number	Description
1750000334	LGA775 CPU cooler (115 W)
1960022033T000	LGA775 CPU cooler for 2U chassis (2 VGA)
1960046434T000	LGA775 CPU cooler for 2U chassis (1 VGA)
1700008461	USB cable with four ports, 30.5 cm
1700002204	USB cable with dual ports, 27 cm
1700003195	USB cable with dual ports, 17.5 cm
1700008809	Printer port cable
1700000447	1-to-4 serial ports cable kit, 45 cm
1701400181	1-to-4 serial ports cable kit, 18 cm

AIMB-564

Intel® Core™2 Quad/Core™2 Duo LGA775 MicroATX with CRT, PCIe, SW RAID, and LAN



Features

- Intel® Q965 chipset 533/800/1066 MHz FSB
- Supports Intel® Core™ 2 Quad/Core™ 2 Duo processor
- Two 240-pin DIMMs up to 8 GB DDR2 533/667/800 MHz SDRAM
- Chipset integrated VGA sharing 256 MB system memory
- Supports SATA RAID 0, 1, 5, and 10
- Supports single 10/100/1000 Mbps Ethernet via dedicated PCIe x1 bus
- Supports SUSIAccess and Embedded Software APIs

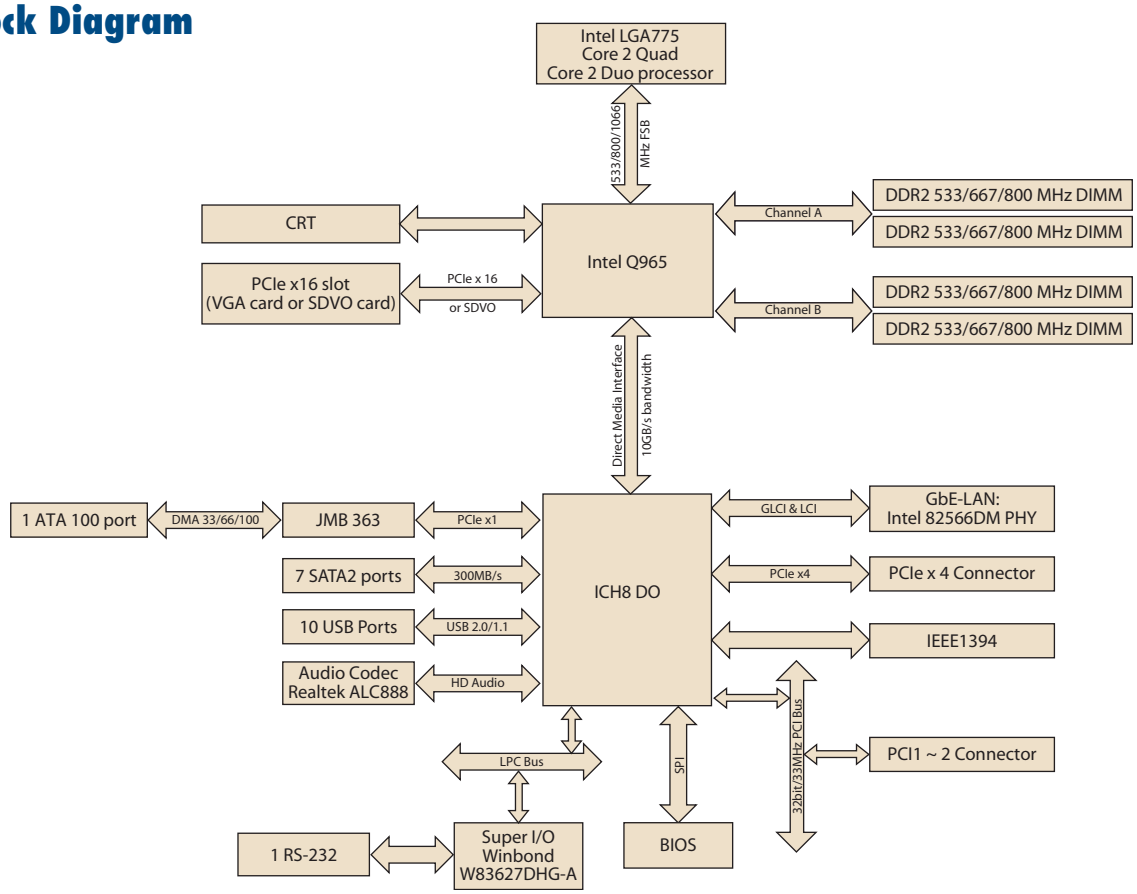
Software APIs: SMBus, H/W Monitor

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU (65nm/ 90nm)	Intel Core 2 Quad	Intel Core 2 Duo	Intel Pentium Dual-Core	Intel Pentium 4	Intel Celeron D
	Max. Speed	Q6700 2.66 GHz	E7400 2.8 GHz	E2200 2.2 GHz	672 3.8 GHz	352 3.2 GHz
	L2 Cache	8 MB	3 MB	1 MB	2 MB/1 MB	512 KB
	Chipset	Intel Q965+ICH8 DO				
	BIOS	AMI 16 Mbit, SPI				
	Front Side Bus	533/800/1066 MHz				
Expansion Slot	PCIe x16	4.0 GB/s per direction, 1 slot				
	PCIe x4	1.0 GB/s per direction, 1 slot				
	PCI	32-bit/33 MHz, 2 slots				
Memory	Technology	Dual channel DDR2 533/667/800 MHz SDRAM				
	Max. Capacity	8 GB/2 GB per DIMM				
	Socket	4 x 240-pin DIMM (Non-ECC)				
Graphics	Embedded	Intel GMA 3000 sharing 256 MB system memory				
	Add-on	PCIe x 16 slot				
Ethernet	Interface	10/100/1000 Mbps				
	Controller	GbE LAN: Intel 82566DM				
	Connector	RJ-45 x 1				
SATA	Max. Data Transfer Rate	300 MB/s (SATA 2.0)				
	Channel	7				
EIDE	Mode	ATA 100/66/33				
	Channel	1 (max. 2 devices)				
I/O Interface	CRT	1				
	USB	10 (USB 2.0)				
	Audio	8-CH HD Audio (Mic-in, Line-in, Line-out, CD-in, 6 jacks)				
	Serial	1 (RS-232)				
	Parallel	1 (SPP/EPP/ECP)				
	FDD	1				
	PS/2	2 (1 x keyboard and 1 x mouse)				
	eSATA	1				
	IEEE 1394	2 (1 on rear panel, 1 on internal connector)				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1~255 sec/min				
Power Requirements	Power On	Pentium 4 3.4 GHz, 1 GB SDRAM, 80 GB HDD				
		+12 V	+5 V	+3.3 V	5 Vsb	
		3.07A	10.37A	2.83A	0.46A	
Environment		Operating		Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 131° F), depends on CPU speed and cooler solution		-20 ~ 70° C (-4 ~ 158° F)		
Physical Characteristics	Dimensions (W x D)	244 x 244 mm (9.6" x 9.6")				

Block Diagram



Ordering Information

Part Number	CRT	GbE LAN
AIMB-564VG-00A1E	Yes	Single

*AIMB-564 cannot be installed in ACP-2000MB and 1U chassis.

**We strongly suggest using only Advantech's certified LGA 775 CPU coolers to ensure board reliability under harsh conditions.

Riser Card

Part Number	Description
AIMB-RP3PF-21A1E	2U riser card for 1 PCIe x16 and 2 PCI expansion

I/O View



AIMB-564VG-00A1E

Packing List

Description	Quantity
IDE HDD cable	1
Serial ATA HDD data cable	4
Serial ATA HDD power cable	2
I/O port bracket	1
Startup manual	1
Utility CD	1

Optional Accessories

Part Number	Description
1750000334	LGA775 CPU cooler (115 W)
1960022033T000	LGA775 CPU cooler for 2U chassis
1700006915	Power relay cable to activate ACP-4000 LED indicators
1700006916	Power relay cable to activate IPC-610H LED indicators

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070003977	XPE SP2 FP2007 AIMB-564 V3.1 ENG 792.81 MB
	2070006570	XPE FP2007 AIMB-564 V3.01 CHT
Software API	205E564010	SUSI 3.0 SW API for AIMB-564 XP

AIMB-567

Intel® Core™2 Quad LGA 775 MicroATX with VGA/DVI, 4 COM, dual LAN



Features

- Intel® G41 chipset supports 800/1066/1333 MHz FSB
- Two 240-pin DIMM up to 8 GB DDR3 800/1066/1333 MHz SDRAM
- Supports dual display, VGA and DVI-D
- Supports dual core and quad core processors with 45nm processing
- Supports SATA RAID 0,1,5,10 for G2 version
- Supports Embedded Software APIs and Utilities

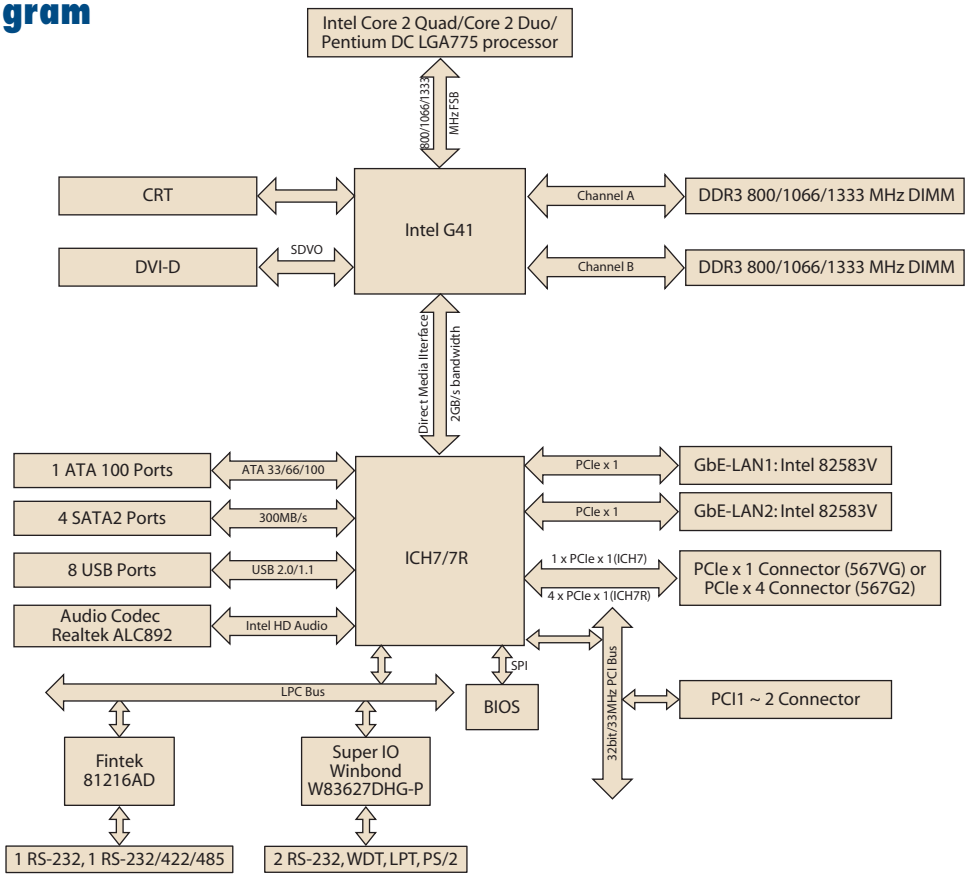
Software APIs: SMBus, H/W Monitor, GPIO, Watchdog

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU (45 nm/65 nm)	Intel Core 2 Quad	Intel Core 2 Duo	Intel Pentium Dual-Core	Intel Celeron
	Max. Speed	Q9400 2.66 GHz	E8500 3.16 GHz	E6500 2.6 GHz	E1500 2.2 GHz
	L2 Cache	6 MB	6 MB	6 MB	512 KB
	Chipset	Intel G41+ICH7(VG), Intel G41+ICH7R(G2)			
	BIOS	AMI 16 Mbit, SPI			
	Front Side Bus	800/1066/1333 MHz			
Expansion Slot	PCIe x16 (Gen2)	4.0 GB/s per direction, 1 slot			
	PCIe x4	1 GB/s per direction, 1 slot (G2)			
	PCIe x1	250 MB per direction, 1 slot (VG)			
	PCI	32-bit/33 MHz, 2 slots			
Memory	Technology	Dual channel DDR3 800/1066/1333 MHz SDRAM			
	Max. Capacity	8 GB/4 GB per DIMM			
	Socket	2 x 240-pin DIMM (Non-ECC)			
Graphics	Embedded	Intel GMA X4500 shared 352 MB system memory			
	DVI	Yes (If DVI is used, PCIe x16 is automatically disabled), via Chrontel 7318C Transmitter			
	Dual Display	CRT+DVI			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN1: Intel 82583V, GbE LAN2: Intel 82583V			
	Connector	RJ-45 x 2			
SATA II	Max. Data Transfer Rate	300 MB/s			
	Channel	4			
EIDE	Mode	ATA 100/66/33			
	Channel	1 (max. 2 devices)			
Rear I/O	VGA	1			
	DVI	1			
	Ethernet	2			
	USB	4 (USB 2.0)			
	Audio	2 (Mic-in, Line-out)			
	Serial	2 (RS-232)			
	PS/2	2 (1 x keyboard and 1 x mouse)			
Internal Connector	USB	4 (USB 2.0)			
	Serial	2 (1 x RS-232, 1 x RS-232/422/485 to support auto flow control)			
	IDE	1			
	SATA	4 (SATA 2.0)			
	FDD	-			
	Parallel	1			
	GPIO	8-bit GPIO			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirement	Power On	Intel Core 2 Quad Q9400 2.66 GHz FSB 1333 MHz, 4 GB DDR3 1066 SDRAM			
		3.3 V	5 V	12 V	5 Vsb	-12 V
		0.19 A	2.98 A	3.48 A	0.18 A	0.18 A
Environment		Operating		Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution		-40 ~ 85° C (-40 ~ 185° F)		
Physical Characteristics	Dimensions (W x D)	244 x 244 mm (9.6" x 9.6")				

Block Diagram



Ordering Information

Part Number	Chipset	Display	GbE	SW RAID	PCIe x4	PCIe x1
AIMB-567G2-00A2E	G41/ICH7R	CRT/DVI	2	Yes	1	-
AIMB-567VG-00A2E	G41/ICH7	CRT	1	No	-	1

*We strongly suggest using only Advantech's certified LGA775 CPU coolers to ensure board reliability under harsh conditions.

Riser Card

Part Number	Description
AIMB-RP3PF-21A1E	2U riser card with 1 PCIe x16 & 2 PCI slot expansion
AIMB-RP30P-03A1E	2U riser card for 3 PCI expansion
AIMB-RP10P-01A1E	1U riser card for 1 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion slot

I/O View



AIMB-567G2-00A2E



AIMB-567VG-00A2E

Packing List

Description	Quantity
IDE HDD cable	1
Serial ATA HDD data cable	2
Serial ATA HDD power cable	2
COM port cable kit	2
I/O port bracket	1
Startup manual	1
Utility CD	1

Accessories

Part Number	Description
1750000334	LGA775 CPU cooler (115 W)
1960022033T000	LGA775 CPU cooler for 2U chassis
1700008461	USB cable with four ports, 30.5 cm
1700002204	USB cable with dual ports, 27 cm
1700003195	USB cable with dual ports, 17.5 cm
1700008809	Printer port cable
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm
1960048353T000	1U I/O port bracket

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070010378	XPE WES 2009 AIMB-567 V4.0 JPN
	2070011072	XPE WES09 AIMB-567 V4.0 ENG_CHT ATIP

AIMB-580

Intel® Core™ i7/i5/i3/Pentium®/Xeon LGA1156 mATX with CRT/DVI, 4 COM, Dual LAN



Features

- Supports Intel® Core™ i7/i5/i3/Pentium/Xeon processor with Q57/3450 chipset
- Four DIMM sockets support up to 16 GB DDR3 800/1066/1333 MHz SDRAM
- Supports dual display of CRT and DVI and dual GbE LAN
- Supports SATA RAID 0, 1, 5, 10, AMT 6.0, TPM 1.2 (optional)
- Supports SUSIAccess and Embedded Software APIs

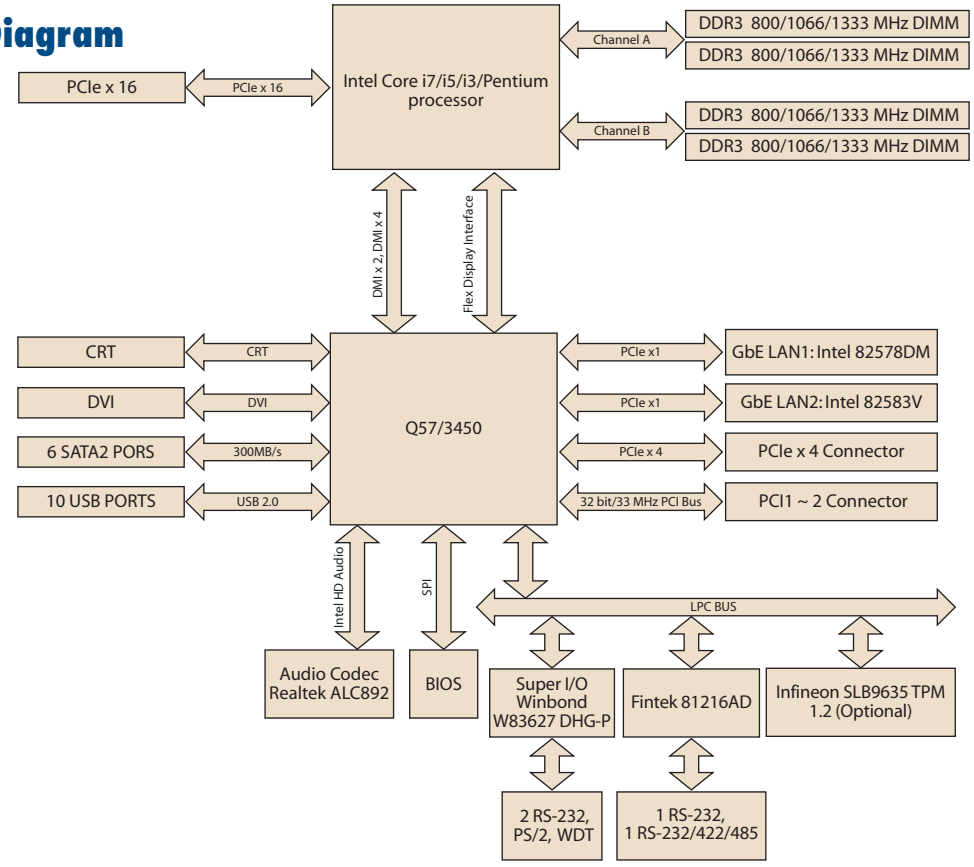
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring, Embedded Security ID

Specifications

Processor System	CPU	Xeon 34xx	Intel Core i7 8xx	Intel Core i5 7xx	Intel Core i5 6xx	Intel Core i3 5xx	Intel Pentium G69xx
	Core Number	4	4	4	2	2	2
	Max. Speed	2.93 GHz	2.93 GHz	2.66 GHz	3.3 GHz	3.06 GHz	2.8 GHz
	Integrated Graphics	No	No	No	Yes	Yes	Yes
	L2 Cache	8 MB	8 MB	8 MB	4 MB	4 MB	3 MB
	Supports Model	WG2	QG2	QG2	WG2/QG2	WG2/QG2	WG2/QG2
	Chipset	Q57/3450					
	BIOS	AMI 64 Mbit SPI					
Expansion Slot	PCI	32-bit/33 MHz, 2 slots					
	PCIe x4	1.0 GB/s per direction, 1 slot					
	PCIe x16 (Gen2)	8 GB/s per direction, 1 slot					
Memory	Technology	Dual Channel DDR3 800/1066/1333 MHz SDRAM					
	Max. Capacity	16 GB/4 GB per DIMM					
	Socket	4 x 240-pin DIMM					
Graphics	Controller	Intel HD Graphics					
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed					
	CRT	Supports max resolution 2048 x 1536 at 60 Hz					
	DVI	Supports max resolution 1920 x 1200 at 60 Hz					
	Dual Display	CRT+DVI					
Ethernet	Interface	10/100/1000 Mbps					
	Controller	GbE LAN1: Intel 82578DM, GbE LAN2: Intel 82583V					
	Connector	RJ-45 x 2					
SATA	Max Data Transfer Rate	300 MB/s (SATA 2.0)					
	Channel	6					
Rear I/O	CRT	1					
	DVI-D	1					
	Ethernet	2					
	USB	4 (USB 2.0 compliant)					
	Audio	2 (Mic-in, Line-out)					
	Serial	2 (RS-232)					
	PS/2	2 (1 x keyboard and 1 x mouse)					
Internal Connector	USB	6 (USB 2.0 compliant)					
	Serial	2 (1 x RS-232, 1 x RS-232/422/485 to support auto flow control)					
	IDE	-					
	SATA	6					
	FDD	1					
	Parallel	1					
	IrDA	-					
	GPIO	-					
Watchdog Timer	Output	System reset					
	Interval	Programmable 1 ~ 255 sec/min					
Power Requirements		Intel Core i7-860 2.8 GHz, 2 GB DDR3 1333 MHz SDRAM x 4 pcs					
	Power On	5 V	3.3 V		12 V	5 Vsb	-12 V
		4.21 A	1.22 A		8.01 A	0.78 A	0.05 A
Environment		Operating				Non-Operating	
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution				-40 ~ 85° C (-40 ~ 185° F)	
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")					

Block Diagram



Ordering Information

Part Number	Chipset	Memory	CRT	DVI	USB	COM	GbE LAN
AIMB-580QG2-00A1E	Q57	Non-ECC	Yes	Yes	10	4	2
AIMB-580WG2-00A1E	3450	ECC/Non-ECC	Yes	Yes	10	4	2

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RP3PF-21A1E	2U riser card for 1 PCIe x 16 abd 2 PCI expansion
AIMB-RP3P8-12A1E	2U riser card with 2 PCIe x 8 & 1 PCI slots expansion (For WG2 Sku)
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion slot

Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB chassis unless change special bracket to 1950014302N001.

I/O View



AIMB-580QG2-00A1E
AIMB-580WG2-00A1E

Packing List

Part Number	Description	Quantity
1700340640	FDD cable	1
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960019193T100	I/O port bracket	1
2002058000	Startup manual	1
2062058000	Driver CD	1

Optional Accessories

Part Number	Description
1701092300	1-to-4 serial ports cable kit, 28.5 cm
1700002204	Dual port USB cable (27 cm) with bracket
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis
1960047831N001	LGA1156 CPU cooler for 2U and wallmount chassis
1960049408N001	LGA1156 CPU cooler for 1U and wallmount chassis
1700008809	Printer port cable kit
1960048353T000	1U I/O port bracket
1950014302N001	Special bracket for riser card AIMB-RP3P8-12A1E

Note: Purchasing AIMB-580's proprietary CPU cooler from Advantech is a must. Other brands' CPU cooler are NOT compatible with AIMB-580.

The complete thermal solution is composed of CPU cooler and system fans to support the CPU TDP as above.

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070009652	XPE WES2009 Q57_AIMB-280/580/780 V4.0 ENG
	2070009653	XPE WES2009 Q57_AIMB-280/580/780 V4.0 MUI24
Software API	205E580000	SUSI 3.0 SW API for AIMB-580 XP

AIMB-581

Intel® Xeon® E3/ Core™ i7/i5/i3 LGA1155 MicroATX with CRT/DVI/LVDS, 6 COM, Dual LAN, SATAIII



Features

- Supports Intel® Xeon®/Core™ i7/i5/i3 processor with Q67/C206 chipset
- Four DIMM sockets support up to 32 GB DDR3 1066/1333 MHz SDRAM
- Supports dual display of CRT, DVI, LVDS (optional) and dual GbE LAN
- Supports Inel vPro, AMT 7.0, PECI 3.0, USB 3.0, Software RAID 0, 1, 5, 10, TPM 1.2 (optional)
- Supports SUSIAccess and Embedded Software APIs

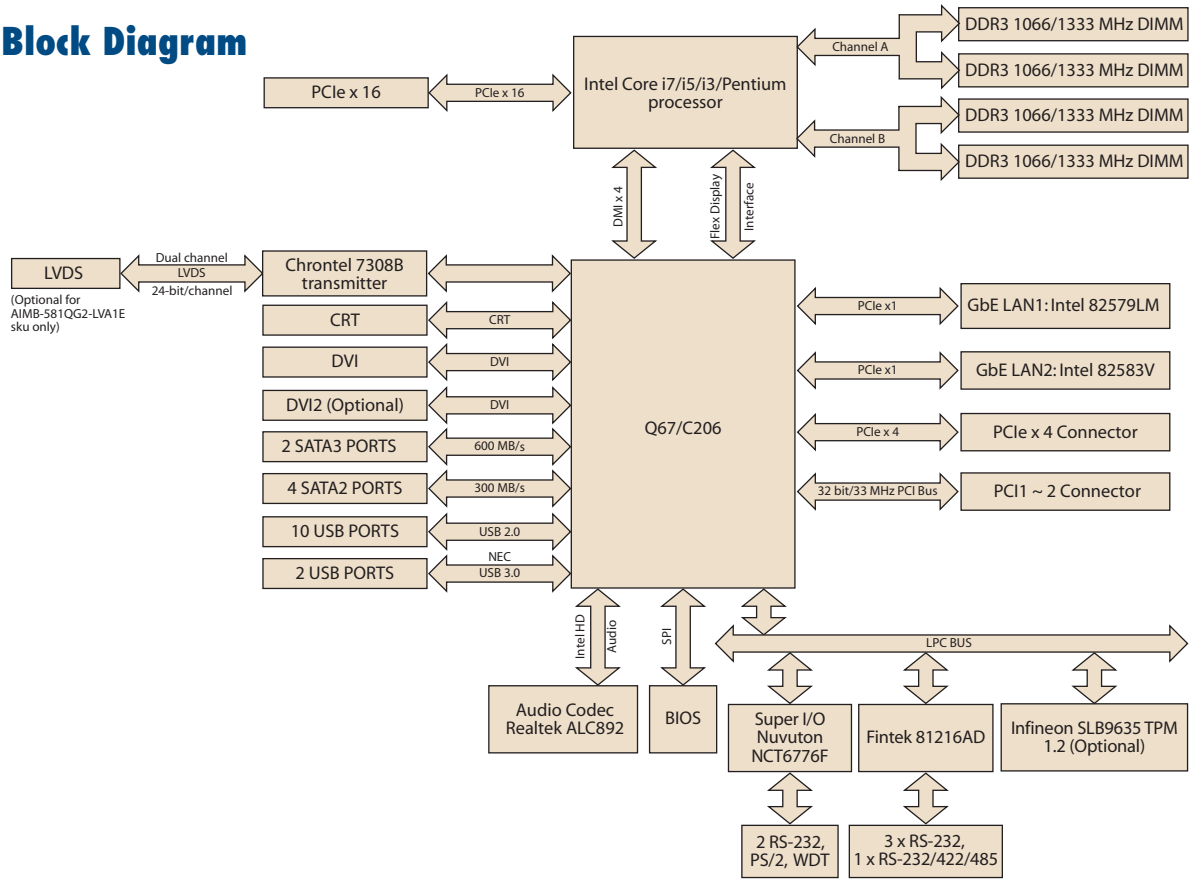
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Xeon E3-1275	Intel Xeon E3-1225	Intel Core i3-2120	Intel Pentium G850	Intel Core i7-2600	Intel Core i5-2400	Intel Core i3-2120	Intel Celeron G540
	Core Number	4	4	2	2	4	4	2	2
	Max. Speed	3.4 GHz	3.1 GHz	3.3 GHz	2.9 GHz	3.4 GHz	3.1 GHz	3.3 GHz	2.5 GHz
	Integrated Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	L3 Cache	8 MB	6 MB	3 MB	3 MB	8 MB	6 MB	3 MB	2 MB
	Supports Model	WG2	WG2	WG2	WG2/QG2	QG2	QG2	QG2	QG2
	Chipset	Q67/C206							
	BIOS	AMI EFI 64 Mbit SPI							
Expansion Slot	PCI	32-bit/33 MHz, 2 slots							
	PCIe x4 (Gen2)	2.0 GB/s per direction, 1 slot							
	PCIe x16 (Gen2)	8 GB/s per direction, 1 slot							
Memory	Technology	Dual Channel DDR3 1066/1333 MHz SDRAM							
	Max. Capacity	32 GB/8 GB per DIMM							
	Socket	4 x 240-pin DIMM							
Graphics	Controller	Intel HD Graphics							
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed							
	LVDS	Supports dual channel 48 bit and up to 1920 x 1200							
	1st DVI	Supports max. resolution 1920 x 1200							
	2nd DVI	Internal pin header, supports max. resolution 1920 x 1200 (Optional. No populated on MP version)							
	Dual Display	CRT+LVDS, CRT+DVI, LVDS+DVI							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	GbE LAN1: Intel 82579LM, GbE LAN2: Intel 82583V							
	Connector	RJ-45 x 2							
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0)							
	Channel	2/4							
Rear I/O	CRT	1							
	DVI	1							
	Ethernet	2							
	USB	4 (2 USB 2.0, 2 USB 3.0)							
	Audio	2 (Mic-in, Line-out)							
	Serial	2 (RS-232)							
	PS/2	2 (1 x keyboard and 1 x mouse)							
Internal Connector	USB	8 (USB 2.0)							
	Serial	4 (3 x RS-232, 1 x RS-232/422/485 to support auto flow control)							
	IDE	-							
	SATA	2 x 600 MB/s (SATA 3.0)/4 x 300 MB/s (SATA 2.0)							
	LVDS & Inverter	1 (Optional for AIMB-581QG2-LVA1E sku)							
	Parallel	1							
	IrDA	-							
	GPIO	8-bit GPIO							
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Power Requirements		Intel Core i7-2600 3.4GHz, 2GB DDR3 1333 MHz x 4pcs							
	Power On	5V	3.3V	12V	5Vsb	-12V			
		3.52 A	1.07 A	3.79 A	0.32 A	0 A			
Environment		Operating				Non-Operating			
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution				-20 ~ 70° C (-4 ~ 158° F)			
	Humidity	10-95% @ 40° C, non-condensing				10-95% @ 40° C, non-condensing			
	Note: The spec above is based on board test only.								
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")							

Block Diagram



Ordering Information

Part Number	Chipset	Memory	USB 3.0	CRT	DVI 1/2	LVDS	USB	COM	TPM	GbE LAN
AIMB-581QG2-00A1E	Q67	Non-ECC	2	Yes	1/(1)	(1)	12	6	(1)	2
AIMB-581WG2-00A1E	C206	ECC/ Non-ECC	2	Yes	1/(1)	(1)	12	6	(1)	2
AIMB-581QG2-LVA1E	Q67	Non-ECC	2	Yes	1/(1)	1	12	6	(1)	2

*() BOM options available on MP version.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RP3PF-21A1E	2U riser card for 1 PCIe x 16 abd 2 PCI expansion
AIMB-RP3P8-12A1E	2U riser card with 2 PCIe x 8 & 1 PCI slots expansion (For WG2 Sku)
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion slot

Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB chassis unless change special bracket to 1950014302N001.

I/O View



AIMB-581QG2-00A1E
AIMB-581WG2-00A1E
AIMB-581QG2-LVA1E

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960050472T000	I/O port braket	1
2002058100	Startup manual	1
2062058100	Driver CD	1

Optional Accessories

Part Number	Description
1700002204	Dual port USB cable (27 cm) with bracket
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis
1960047831N001	LGA1156 CPU cooler for 2U and wallmount chassis
1960049408N001	LGA1156 CPU cooler for 1U and wallmount chassis
1700008809	Printer port cable kit
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm
1700008822	DVI cable
1960055954T000	1U I/O port bracket
1950014302N001	Special bracket for riser card AIMB-RP3P8-12A1E

Note: Purchasing AIMB-581's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-581.
The complete thermal solution is composed of CPU cooler and system fans to support the CPU TDP as above.

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070010800	XPE WES 2009 V4.0 ENG with Acronis PSNL
	2070010820	XPE WES09 AIMB-581 V4.0 ENG_CHT ATI PSNL
	2070011360	WES09 AIMB-581QG2 V4.1 ENG_JPN ATIP
	2070011792	Image XPE WES2009 AIMB-581 V4.3 Multi language 24MUI
	2070011525	WES7E AIMB-581 V5.1.3 ENG/CHT/CHS/JPN SA
	2070011526	Image WES7E AIMB-581 V5.6.3 ENG/CHT/CHS/JPN SA

AIMB-582

Intel® Xeon® E3/ Core™ i7/i5/i3 LGA1155 MicroATX with CRT/DVI/eDP/LVDS/DP, 6 COM, Dual LAN, SATAIII



Features

- Supports Intel® Xeon®/ Core™ i7/i5/i3 processor with Q77/C216 chipset
- Four DIMM sockets support up to 32 GB DDR3 1333/1600 MHz SDRAM
- Supports CRT, DVI, LVDS, DP, eDP (optional) and dual GbE LAN
- Supports Intel AMT 8.0 and Intel vPro competent
- Supports PCIE Gen3, USB 3.0, Software RAID 0,1,5,10, TPM 1.2 (Optional)
- Supports SUSIAccess and Embedded Software APIs

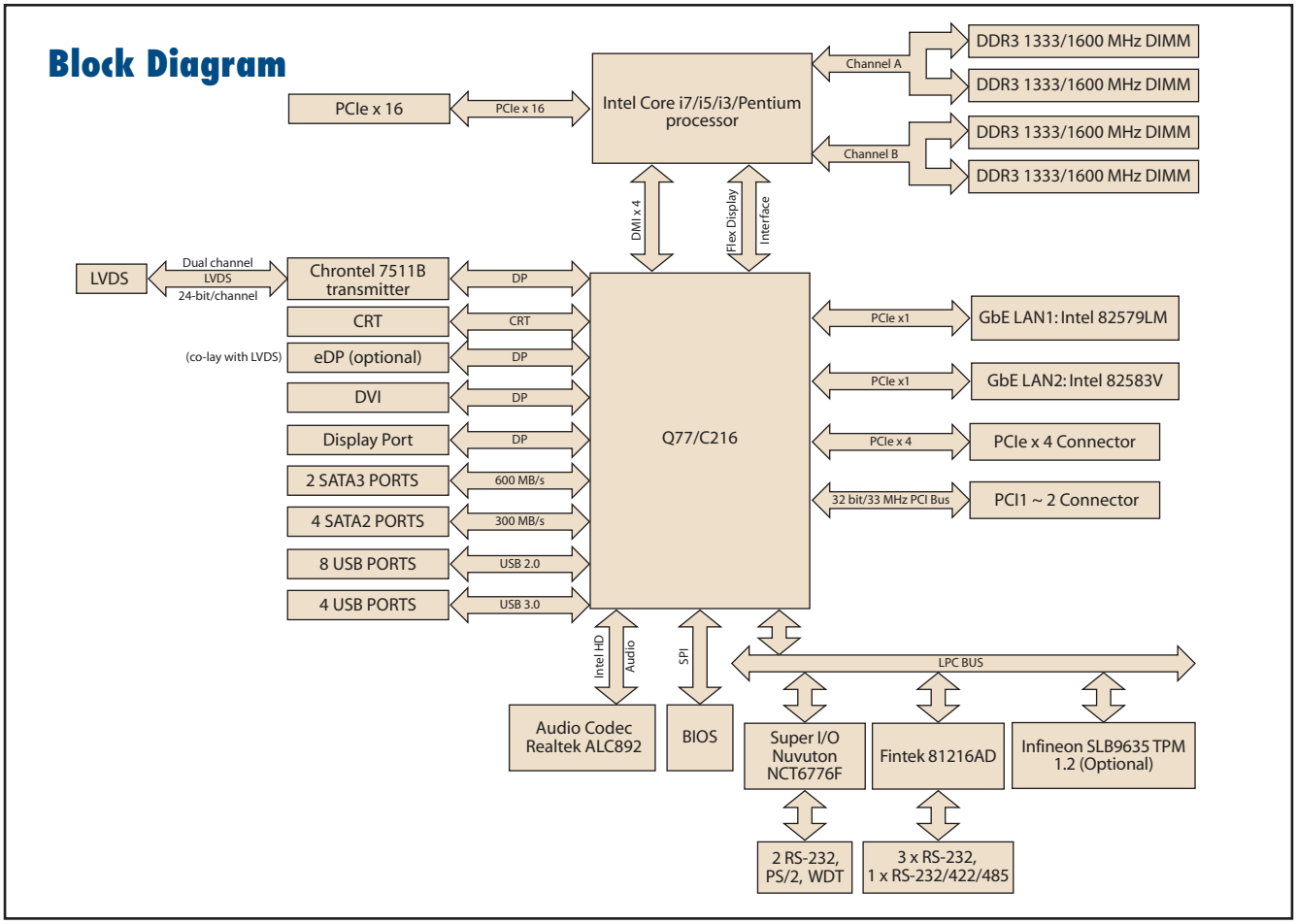
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Xeon E3-1275v2	Intel Xeon E3-1275	Intel Xeon E3-1225v2	Intel Xeon E3-1225	Intel Core i3-2120	Intel Pentium G850	Intel Core i7-3770	Intel Core i7-2600	Intel Core i5-3550S	Intel Core i3-3220	Intel Core i5-2400	Intel Celeron G540
	Core Number	4	4	4	4	2	2	4	4	4	2	4	2
	Max. Speed	3.5 GHz	3.4 GHz	3.2 GHz	3.1 GHz	3.3 GHz	2.9 GHz	3.4GHz	3.4 GHz	3.0GHz	3.3 GHz	3.1 GHz	2.5 GHz
	Integrated Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	L3 Cache	8 MB	8 MB	8 MB	6 MB	3 MB	3 MB	8 MB	8 MB	6 MB	3 MB	6 MB	2 MB
	Supports Model	WG2	WG2	WG2	WG2	WG2/QG2	WG2/QG2	QG2	QG2	QG2	QG2	QG2	QG2
	Chipset	Q77/C216											
	BIOS	AMI EFI 64 Mbit SPI											
Expansion Slot	PCI	32-bit/33 MHz, 2 slots											
	PCIe x4 (Gen2)	2.0 GB/s per direction, 1 slot											
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot											
Memory	Technology	Dual Channel DDR3 1333/1600 MHz SDRAM											
	Max. Capacity	32 GB/8 GB per DIMM											
	Socket	4 x 240-pin DIMM											
Graphics	Controller	Intel HD Graphics											
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed											
	LVDS	Supports dual channel 48 bit and up to 1920 x 1200											
	CRT	Yes, supports max resolution 2048 x 1536 at 60 Hz											
	DVI	Yes, supports max. resolution 1920 x 1200 at 60 Hz											
	eDP	Yes, with internal pin header, supports max. resolution 1920 x 1200 at 60 Hz											
	Display Port	Yes, supports max resolution 2560 x 1600 at 60 Hz											
	Triple Display	CRT+eDP (or LVDS)+DP, CRT+eDP (or LVDS)+ DVI											
	Dual Display	CRT+eDP (or LVDS), CRT+DVI, eDP (or LVDS)+ DVI											
Ethernet	Interface	10/100/1000 Mbps											
	Controller	GbE LAN1: Intel 82579LM, GbE LAN2: Intel 82583V											
	Connector	RJ-45 x 2											
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0)											
	Channel	2/4											
Rear I/O	CRT	1											
	DVI	1											
	Display Port	1											
	Ethernet	2											
	USB	4 (4 USB 3.0)											
	Audio	2 (Mic-in, Line-out)											
	Serial	1 (RS-232)											
	PS/2	2 (1 x keyboard and 1 x mouse)											
Internal Connector	USB	8 (USB 2.0)											
	Serial	5 (4 x RS-232, 1 x RS-232/422/485 to support auto flow control)											
	IDE	-											
	SATA	2 x 600 MB/s (SATA 3.0)/4 x 300 MB/s (SATA 2.0)											
	LVDS & Inverter	1 (default)											
	Extended Display Port (eDP)	1 (optional by removing LVDS)											
	Parallel	1											
	JTAG	1											
	IrDA	-											
	GPIO	8-bit GPIO											
Watchdog Timer	Output	System reset											
	Interval	Programmable 1 ~ 255 sec/min											
Power Requirements		Intel Core i7-3770 3.4 GHz, 8 GB DDR3 1600 MHz x 4pcs											
	Power On	+5 V		3.3 V		12 V		5 Vsb		-12 V			
		2.69 A		0.93 A		5.3 A		0.0 A		0.52 A			
Environment		Operating											
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution											
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")											

Block Diagram



Ordering Information

Part Number	Chipset	Memory	USB 3.0	CRT	DP	DVI	LVDS/eDP	USB	COM	TPM	GbE LAN
AIMB-582QG2-00A1E	Q77	Non-ECC	4	Yes	1	1	1/(1)	8	6	(1)	2
AIMB-582WG2-00A1E	C216	ECC/Non-ECC	4	Yes	1	1	1/(1)	8	6	(1)	2
AIMB-582QG2-TPA1E	Q77	Non-ECC	4	Yes	1	1	1/(1)	8	6	1	2

*() BOM options available on MP version.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RP3PF-21A1E	2U riser card for 1 PCIe x 16 abd 2 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion
AIMB-RP3P8-12A1E	2U riser card with 2 PCIe x 8 & 1 PCI slots expansion (For WG2 Sku)

Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB chassis unless change special bracket to 1950014302N001.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960056089T000	I/O port braket	1
2002058100	Startup manual	1
2062058100	Driver CD	1

I/O View



AIMB-582QG2-00A1E
AIMB-582WG2-00A1E
AIMB-582QG2-TPA1E

Optional Accessories

Part Number	Description
1700002204	Dual port USB cable (27 cm) with bracket
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis, for CPU TDP ≦ 95W, 4.72" (W) x 4.72" (L)X 3.03" (H)
1960047831N001	LGA1156 CPU cooler for 2U and backplane version of chassis, for CPU TDP ≦ 65W, 3.27" (W) x 3.27" (L)X 2.17" (H)
1960049408N001	LGA1156 CPU cooler for 1U and wallmount chassis, for CPU TDP ≦ 65W, 3.35" (W) x 3.35" (L)X 1.02" (H)
1700000446	Printer port cable kit
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm
1950014302N001	Special bracket for riser card AIMB-RP3P8-12A1E

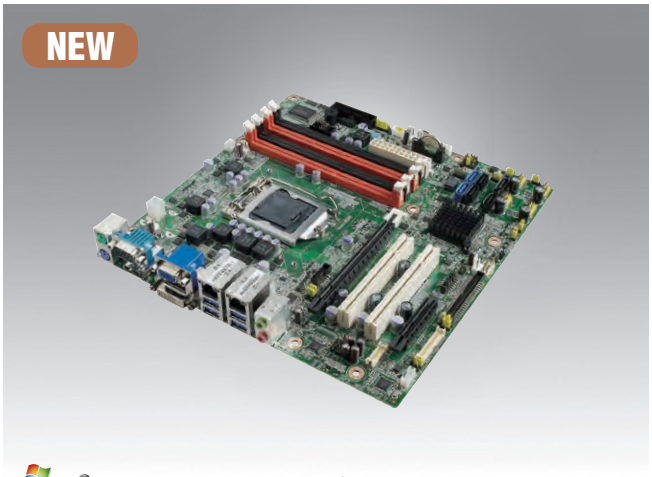
Note: Purchasing AIMB-582's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-582.
The complete thermal solution is composed of CPU cooler and system fans to support the CPU TDP as above.

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070011427	Image XPE WES2009 AIMB-582QG2-00A1E V4.1 ENG
WES 7	2070011428	Image WES7E AIMB-582QG2 V5.1.2 4Muti
WES 7	2070011429	Image WES7E AIMB-582QG2 64bit V5.6.4 Eng/Chs/Jpn

AIMB-584

Intel® Xeon® E3/ Core™ i7/i5/i3 LGA1150 MicroATX with CRT/DVI/eDP/LVDS/DP, 6 COM, Dual LAN, SATAIII



Features

- Supports Intel® Xeon®/ Core™ i7/i5/i3 processor with Q87/C226 chipset
- Four DIMM sockets support up to 32 GB DDR3 1333/1600 MHz SDRAM
- Supports CRT, DVI, LVDS, DP, eDP (optional) display
- Supports Intel AMT 9.0 and Intel vPro competent
- Supports PCIE Gen3, USB 3.0, Software RAID 0,1,5,10, TPM 1.2 (Optional)
- Supports 6 x SATAIII and dual GbE LAN
- Supports SUSIAccess and Embedded Software APIs

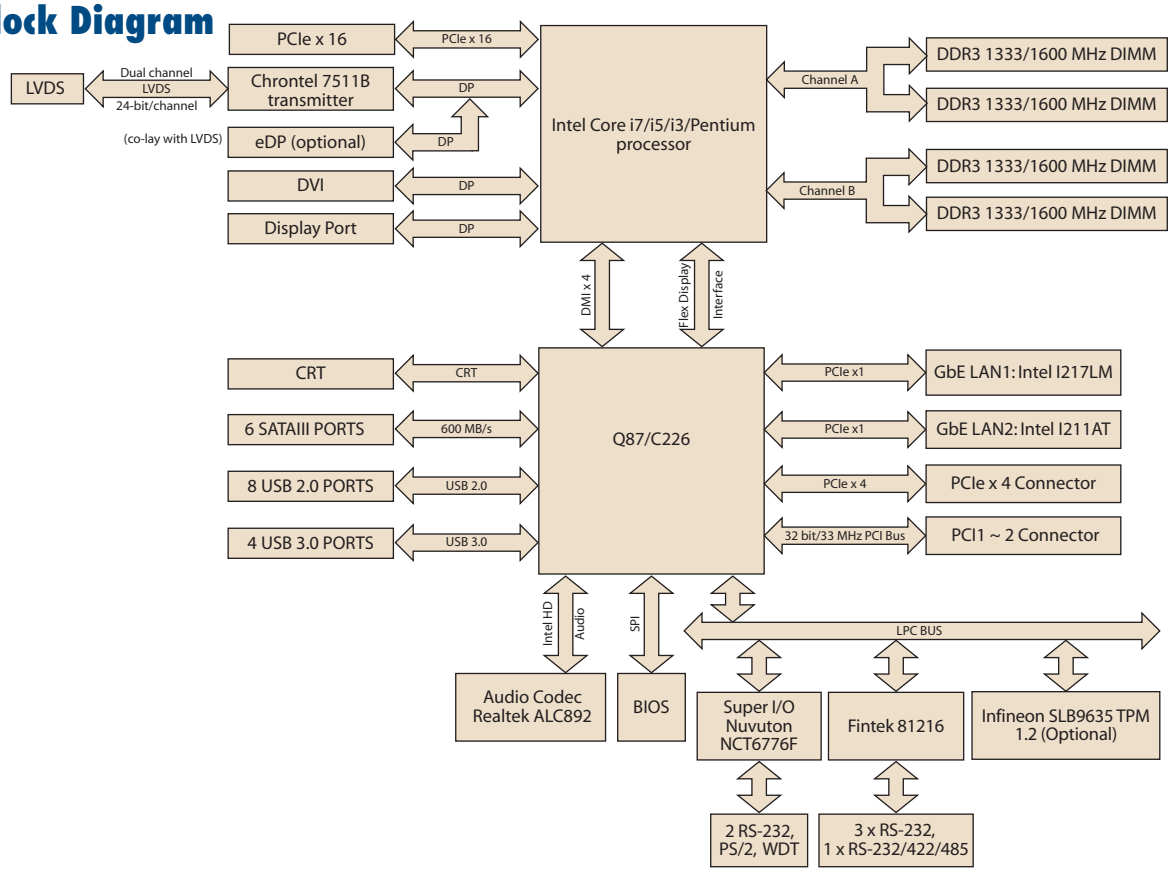
Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	E3-1275 v3	E3-1225 v3	E3-1268L v3	i7-4770S / i7-4770TE	i5-4570S / i5-4570TE	i3-4330 / i3-4330TE	Pentium G3420	Pentium G3320TE
	Core Number	4	4	4	4 / 4	4 / 2	2 / 2	2	2
	Max. Speed	3.5 GHz	3.2 GHz	2.3 GHz	3.1 GHz / 2.3 GHz	2.9 GHz / 2.7 GHz	3.5G / 2.4 GHz	3.2 GHz	2.3 GHz
	Integrated Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	L3 Cache	8M	8M	8M	8M / 8M	6M / 4M	4M/4M	3M	3M
	TDP (W)	95W	95W	45W	65W / 45W	65W / 35W	54W / 35W	54W	35W
	Supports Model	WG2	WG2	WG2/QG2	QG2	QG2/WG2 (i5-4570TE only)	WG2/QG2	WG2/QG2	WG2/QG2
	Chipset	Q87/C226							
	BIOS	AMI EFI 128 Mbit SPI							
Expansion Slot	PCI	32-bit/33 MHz, 2 slots							
	PCIe x4 (Gen2)	2.0 GB/s per direction, 1 slot							
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot							
Memory	Technology	Dual Channel DDR3 1333/1600 MHz SDRAM							
	Max. Capacity	32 GB/8 GB per DIMM							
	Socket	4 x 240-pin DIMM							
Graphics	Controller	Intel HD Graphics Supports DirectX11.1, OpenGL 4.0 and OpenCL 1.2							
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed							
	LVDS	Supports dual channel 48 bit up to 1920 x 1200							
	CRT	v max resolution 2048 x 1536 at 60 Hz							
	DVI	Supports max. resolution 1920 x 1200 at 60 Hz							
	eDP	Internal pin header, supports max. resolution 3840 x 2160 @ 60 Hz							
	Display Port	Supports max resolution 3840 x 2160 @ 60 Hz							
	Triple Display	CRT+eDP (or LVDS)+DP, CRT+eDP (or LVDS)+ DVI CRT+DP+DVI, DP+DVI+eDP (or LVDS)							
	Dual Display	CRT+eDP (or LVDS), CRT+DVI, eDP (or LVDS)+ DVI DP+DVI, DP+eDP (or LVDS)							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	GbE LAN1: Intel I217LM, GbE LAN2: Intel I211AT							
	Connector	RJ-45 x 2							
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)							
	Channel	6							
Rear I/O	CRT	1							
	DVI	1							
	Display Port	1							
	Ethernet	2							
	USB	4 (4 x USB 3.0)							
	Audio	2 (Mic-in, Line-out)							
	Serial	1 (RS-232)							
	PS/2	2 (1 x keyboard and 1 x mouse)							
Internal Connector	USB	8 (USB 2.0)							
	Serial	5 (4 x RS-232, 1 x RS-232/422/485 to support auto flow control)							
	IDE	-							
	SATA	6 (SATA 3.0)							
	LVDS & Inverter	1 (default)							
	Extended Display Port (eDP)	1 (optional by removing LVDS)							
	Parallel	1							
	JTAG	1							
	IrDA	-							
	GPIO	8-bit GPIO							
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Power Requirements		Intel Core i7-4770 3.1 GHz, 8 GB DDR3 1600 MHz x 4pcs							
	Power On	+5 V	3.3 V	12 V	5 Vsb	-12 V			
		2.22A	1.13A	5.18A	0.49A	0A			
Environment		Operating							
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution							
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")							
Power	Input Mode	ATX input (Default)							

Block Diagram



Ordering Information

Part Number	Chipset	Memory	USB 3.0/2.0	CRT	DP	DVI	LVDS/eDP	SATAIII	COM	TPM	GbE LAN
AIMB-584QG2-00A1E	Q87	Non-ECC	4/8	Yes	1	1	1(1)	6	6	(1)	2
AIMB-584WG2-00A1E	C226	ECC/Non-ECC	4/8	Yes	1	1	1(1)	6	6	(1)	2

*() BOM options available on MP version.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RP3PF-21A1E	2U riser card for 1 PCIe x 16 abd 2 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion
AIMB-RP3P8-12A1E	2U riser card with 2 PCIe x 8 & 1 PCI slots expansion (For WG2 Sku)

Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB chassis unless change special bracket to 1950014302N001.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960056089T000	I/O port braket	1
2002058400	Startup manual	1
2062058400	Driver CD	1

I/O View



AIMB-584QG2-00A1E
AIMB-584WG2-00A1E

Optional Accessories

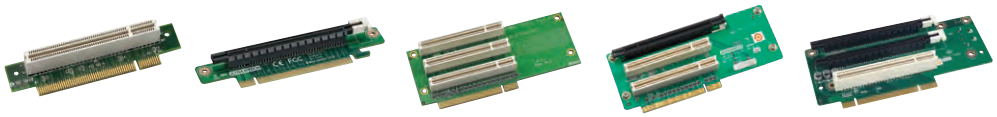
Part Number	Description
1700002204	Dual port USB cable (27 cm) with bracket
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis, for CPU TDP =< 84W, 4.72" (W) x 4.72" (L) x 3.03" (H)
1960047831N001	LGA1156 CPU cooler for 2U and backplane version of chassis, for CPU TDP =< 65W, 3.27" (W) x 3.27" (L) x 2.17" (H)
1960053207N001	LGA1155 CPU cooler for 2U and wallmount chassis, for CPU TDP =< 45W . D=3.66"(W) x 3.66"(L) x 1.81"(H)
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm
1950014302N001	Special bracket for riser card AIMB-RP3P8-12A1E

Note: Purchasing AIMB-584's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-584.
The complete thermal solution is composed of CPU cooler and system fans to support the CPU TDP as above.

Embedded OS/API

OS/API	Part No.	Description
WES7	2070012174	Image WES7E AIMB-584QG2 32bit V5.1.6 Eng/Chs/Jpn
WES7	2070012168	IMAGE WES7E AIMB-584QG2 64bit V5.6.6 Eng/Chs/Jpn
WE8	2070012169	IMAGE WE8 Std AIMB-584QG2 32bit V6.0.0 Eng
Software API		SUSI 3.0 SW API for AIMB-584 WIN 7

Riser Cards



Selection Guide

Model Name		AIMB-RP10P-01A1E	AIMB-RF10F-01A1E	AIMB-RP30P-03A1E	AIMB-RP3PF-21A1E	AIMB-RP3P8-12A1E
Interface		PCI	PCIe x 16	PCI	PCIe x16/PCI	PCIe x16/PCI
Expansion Slots		1 PCI	1 PCIe x 16	3 PCI	1 PCIe x16 + 2 PCI	2 PCIe x8 + 1 PCI
Chassis	1U	Yes	Yes	-	-	-
	2U	-	-	-	Yes	Yes
ATX	AIMB-784	-	Yes	-	-	-
	AIMB-782	-	Yes	-	-	-
	AIMB-781	-	Yes	-	-	-
	AIMB-780	Yes	Yes	Yes	Yes	Yes (WG2 Only)*
	AIMB-701	-	Yes	-	-	-
	AIMB-769	-	Yes	-	-	-
	AIMB-767	Yes	Yes	Yes	Yes	-
	AIMB-766	Yes	Yes	Yes	Yes	-
	AIMB-763	-	Yes	-	Yes	-
MicroATX	AIMB-584	Yes	Yes	Yes	Yes	Yes (WG2 Only)
	AIMB-582	Yes	Yes	Yes	Yes	Yes (WG2 Only)*
	AIMB-581	Yes	Yes	Yes	Yes	Yes (WG2 Only)*
	AIMB-580	Yes	Yes	Yes	Yes	Yes (WG2 Only)*
	AIMB-567	Yes	Yes	Yes	Yes	-
	AIMB-566	Yes	-	Yes	-	-
	AIMB-564	-	Yes	-	Yes	-
	AIMB-562	-	-	-	Yes	-
	AIMB-502	Yes	Yes	Yes	Yes	-
	AIMB-501 KIOSK	Yes	Yes	Yes	Yes	-

*Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB, IPC-603MB chassis unless changing the riser card bracket to P/N: 1950014302N001.



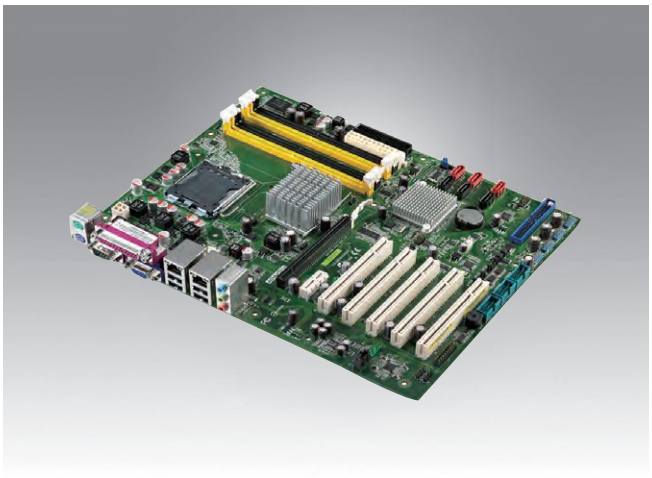
Selection Guide

Model Name		AIMB-R4104-01A1E	AIMB-R430P-03A2E	AIMB-R4301-03A1E	AIMB-R431F-21A1E	AIMB-R43PF-21A1E
Interface		PCIe x4	PCIe x4	PCIe x4	PCIe x16/PCIe x4	PCIe x16/PCIe x4
Expansion Slots		1 PCIe x4	3 PCI	3 PCIe x1	1 PCIe x16 + 2 PCIe x1	1 PCIe x16 + 2 PCI
Chassis	1U	Yes	-	-	-	-
	2U	-	Yes	Yes	Yes	Yes
ATX	AIMB-784	-	-	-	□	Yes
	AIMB-782	-	Yes	-	□	Yes
	AIMB-781	Yes	Yes	Yes	Yes	Yes
	AIMB-780	-	-	-	-	-
	AIMB-701	Yes	Yes	△	-	-
	AIMB-769	Yes	Yes	△	-	-
	AIMB-767	-	-	-	-	-
	AIMB-766	-	-	-	-	-
	AIMB-763	-	-	-	-	-
Micro ATX	AIMB-562 KIOSK	-	Yes	-	-	-
	AIMB-556	Yes	Yes	Yes	Yes	Yes
	AIMB-554	Yes	Yes	△	△	Yes

Yes: Fully compatible
□: Only the PCIe x 16 and PCIe x1 (bottom slot) connectors work.
△: Only one PCIe x1 connector works (bottom slot).

SIMB-A01

Intel® LGA775 Core™2 Quad / Core™2 Duo ATX with VGA, 4 COM and Dual LAN



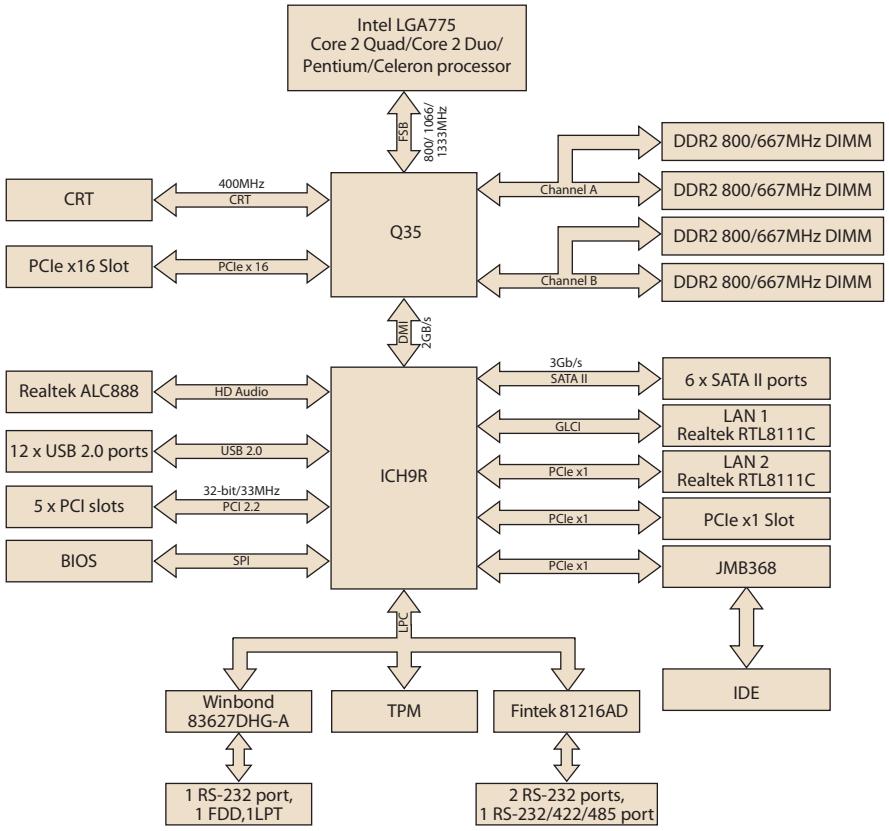
Features

- Intel LGA775 socket supports Intel® Core 2 Quad/Core 2 Duo/Pentium/ Celeron processor
- Intel Q35 + ICH9R chipset
- Four 240-pin DIMM up to 8 GB DDR2 667/800 MHz SDRAM
- Intel Graphics Media Accelerator 3100
- Realtek ALC888, 5.1 + 2 channel HD streaming audio
- Dual Realtek RTL8111C Gigabit LAN
- 1 PCIe x16, 1 PCIe x1, 5 PCI
- 4 COM (5/12 V), 12 USB, 6 SATA II, 1 IDE
- TPM 1.2, 16-bit GPIO
- Supports RAID 0, 1, 5, 10

Specifications

Processor System	CPU	Intel Core 2 Quad	Intel Core 2 Duo	Intel Pentium Dual-Core	Intel Celeron
	Max. Speed	Q9400 2.66 GHz	E8400 3.0 GHz	E6500 2.6 GHz	440 2.0 GHz
	L2 Cache	6 MB	6 MB	2 MB	512 KB
	Chipset	Intel Q35 + ICH9R			
	BIOS	AMI 32 Mbit , SPI			
	Front Side Bus	800/1066/1333 MHz			
Expansion Slots	PCI	32-bit/33 MHz, 5 slot			
	PCIe x16	4.0 GB/s per direction, 1 slot			
	PCIe x1	250 MB/s per direction, 1 slot			
	Full-size Mini-PCIe	-			
Memory	Technology	Dual channel DDR2 667/800 MHz			
	Max. Capacity	8 GB/2 GB per DIMM			
	Socket	4 x 240-pin DIMM			
Graphics	Controller	Intel Graphics Media Accelerator 3100 integrated			
	VRAM	Intel DVMT 4.0 supports up to 284 MB Video Memory			
	VGA	1, on board GMA 3100			
	LVDS	Through ADD2 LVDS Card			
	DVI	Through ADD2 DVI Card			
	HDMI	Through ADD2 HDMI Card			
	Dual Display	-			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE-LAN1: Realtek RTL8111C , GbE-LAN2: Realtek RTL8111C			
	Connector	RJ-45 x 2			
SATA	Max Data Transfer Rate	300 MB/s			
	Channel	6			
EIDE	Mode	ATA 100/66/33			
	Channel	1 (max. 2 devices)			
Rear I/O	VGA	1			
	DVI	-			
	Ethernet	2			
	USB	4 (USB 2.0)			
	Audio	3 (Line-out, Line-in, Mic-in)			
	Parallel	1 (LPT)			
	Serial	1 (RS-232)			
	PS/2	2 (1 x keyboard and 1 x mouse)			
Internal Connectors	USB	8 (USB 2.0)			
	Serial	3 (2 x RS-232, 1 x RS-232/422/485)			
	IDE	1			
	SATA	6 (SATA 2.0)			
	Parallel	-			
	GPIO	16-bit (8-bit DI and 8-bit DO)			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1~ 255 sec/min			
Security	TPM	Onboard TPM 1.2 by Infineon SLB9635			
Power Requirements	Power On	+12 V	+5 V	+3.3 V	5 Vsb
		3.52 A	3.58 A	2.86 A	0.74 A
Environment	Temperature	Operating		Non-Operating	
		0 ~ 50° C (32 ~ 122° F)		-20 ~ 70° C (-4 ~ 158° F)	
Physical Characteristics	Dimensions	305 x 244 mm (12" x 9.6")			

Block Diagram

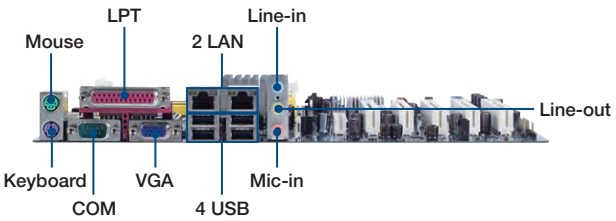


Ordering Information

P/N	CPU	Chipset	VGA	GbE	USB	COM	SATA
SIMB-A01-6G200A1E	Intel Core 2 Quad / Core 2 Duo / Pentium / Celeron	Intel Q35 + ICH9R	1	2	12 (4 Rear, 8 Internal)	4 RS-232 (1 Rear, 3 Internal)	6 SATA II

Note: Minimum order quantity is 200 pieces

I/O View



Packing List

Description	Quantity
SATA cable kit (SATA/Power)	1
I/O shield	1
Startup manual	1 (per 10 units)
Driver CD	1 (per 10 units)

Optional Accessories

Part Number	Description
1960022033T000	LGA775 CPU cooler for 2U chasis
1700002204	USB cable with two ports, 27 cm
1700003195	USB cable with two ports, 17.5 cm
1700008461	USB cable with two ports, 30.5 cm

SIMB-A21

Intel® LGA1155 Core™ i7/i5/i3, Celeron® ATX with VGA/DVI, 6 COM and Dual LAN



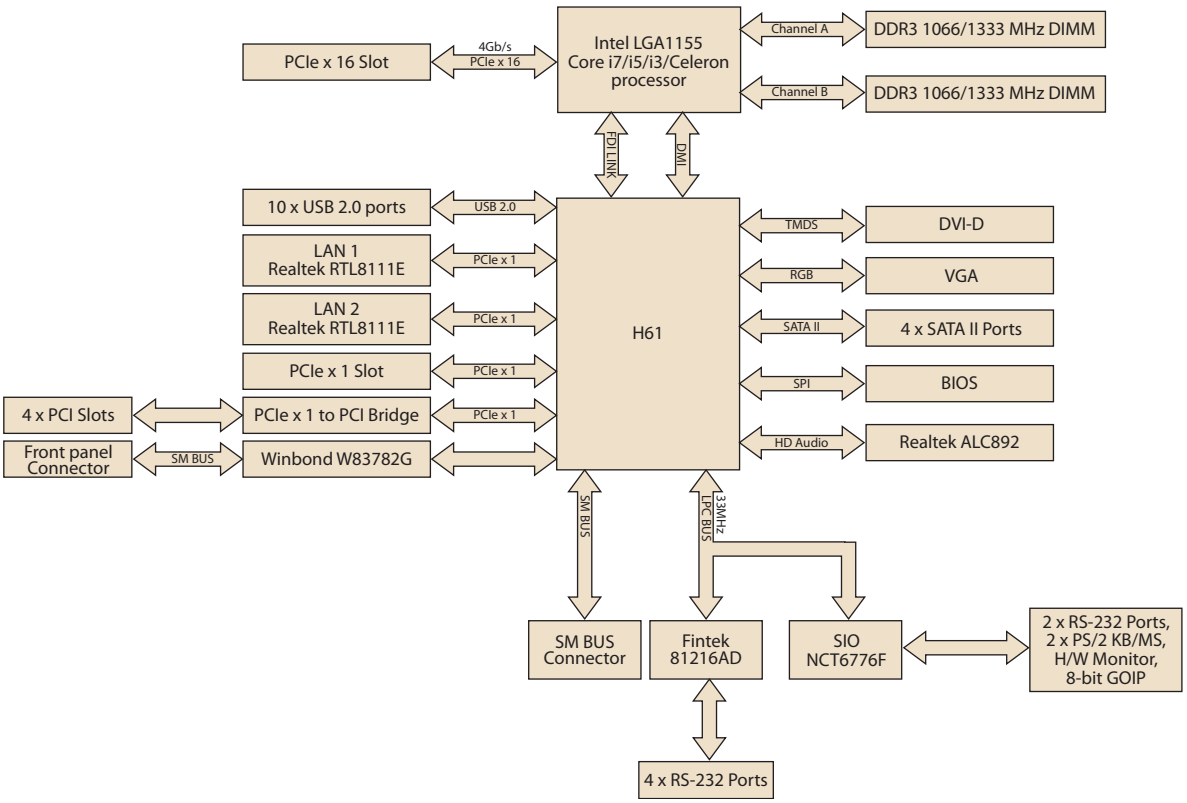
Features

- Intel® LGA1155 socket supports Intel® Core™ i7/i5/i3/Celeron® processor
- Intel H61 Chipset
- Two 240-pin DIMM sockets supports up to 16GB DDR3 1066/1333 MHz SDRAM
- Intel HD Graphics 2000/3000 supports DirectX 10
- Realtek ALC892 supports 5.1 + 2 channel HD audio
- Dual Realtek RTL8111E Gigabit LAN
- 1 PCI x 16, 1 PCIe x1, 4 PCI
- 6 COM (1 x RS-232 w/ power, 1 x RS-422/485 with power, 4 x RS-232)
- 4 SATA II, 10 USB 2.0
- 8-bit GPIO

Specifications

Processor System	CPU	Intel Core 3nd gen. i7	Intel Core 2nd gen. i7	Intel Core 3nd gen. i5	Intel Core 2nd gen. i5	Intel Core 2nd gen. i3	Intel Celeron
	Core Number	4	4	4	4	3	2
	Max Turbo Frequency	i7-3770S 3.9GHz	i7-2600 3.8 GHz	Intel i5-3550S 3.7 GHz	i5-2400 3.4 GHz	i3-2120 3.3 GHz	Celeron G540 2.5 GHz
	L2 Cache	8 MB	8 MB	6 MB	6 MB	3 MB	2 MB
	Chipset	Intel H61					
	BIOS	AMI EFI 32 Mbit, SPI					
	Front Side Bus	1066/1333 MHz					
Expansion Slot	PCI	32-bit/33 MHz, 4 slot					
	PCIe x 16	4.0 GB/s per direction, 1 slot					
	PCIe x1	250 MB/s per direction, 1 slot					
	Full-size Mini-PCIe	-					
Memory	Technology	Dual channel DDR3 1066/1333 MHz					
	Max. Capacity	16 GB/8 GB per DIMM					
	Socket	2 x 240-pin DIMM					
Graphics	Controller	Intel HD Graphics 2000/3000					
	VRAM	Shared memory up to 224 MB					
	VGA	1, supports max. resolution 2048 x 1536					
	DVI-D	1, supports max. resolution 1920 x 1200					
	Dual Display	VGA + DVI					
Ethernet	Interface	10/100/1000 Mbps					
	Controller	GbE-LAN1: Realtek RTL8111E, GbE-LAN2: Realtek RTL8111E					
	Connector	RJ-45 x 2					
SATA	Max Data Transfer Rate	300 MB/s					
	Channel	4					
SSD	SATA DOM	Power Pin7 of SATA 1					
Rear I/O	VGA	1					
	DVI-D	1					
	Ethernet	2					
	USB	4 (USB 2.0)					
	Audio	3 (Line-out, Line-in, Mic-in)					
	Serial	1 (RS-232 w/ 5V/12V)					
	PS/2	2 (1 x keyboard and 1 x mouse)					
Internal Connector	USB	6 (USB 2.0)					
	Serial	5 (4 x RS-232, 1 x RS-232/422/485)					
	SATA	4 (SATA II)					
	Parallel	1 LPT Port header (2 x 13 pin)					
	GPIO	8-bit (4-bit DI and 4-bit DO)					
Watchdog Timer	Output	System reset					
	Interval	Programmable 1~ 255 sec/min					
Security	TPM	Optional Module via TPM Header					
Power Requirements	Power On	+12 V	+5 V	+3.3 V	5 Vsb		
		6.04 A	4.34 A	2.38 A	0.82 A		
Environment	Temperature	Operating		Non-Operating			
		0 ~ 50° C (32 ~ 140° F)		-20 ~ 70° C (-4 ~ 158° F)			
Physical Characteristics	Dimensions	305mm x 203 mm (12" x 8.0")					

Block Diagram



Ordering Information

P/N	CPU	Chipset	VGA	GbE	USB	COM	SATA
SIMB-A21-8VG00A1E	Intel Core i7 / i5 / i3 / Celeron	Intel H61	1	2	10 (4 Rear, 6 Internal)	6 (1 Rear, 5 Internal)	4 SATA II

Note: Minimum order quantity is 200 pieces

I/O View



SIMB-A21-8VG00A1E

Packing List

Description	Quantity
SATA Cable Kit (SATA/POWER)	1
I/O Shield	1
Startup Manual	1 (per 10 units)
Driver CD	1 (per 10 units)

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with two ports, 30.5 cm
1960047670N001	LGA1156 CPU cooler for 2U and wallmount chassis

Remark: Using Advantech Cooler (P/N 1750000334) with SIMB-A21 is not recommended.

AIMB-B1000

Ultra Thin Embedded Mini-ITX chassis



Features

- Economical Embedded chassis for low profile Mini-ITX MB
- Ultra Slim design with 35mm in height
- Easy opening design, quick installation for additional peripherals
- Front & Back accessible I/O and supports additional interface
- Shock-resistant one 2.5" driver bay
- Low noise with thermal Module
- Power cord lock to anti-shedding

Specifications

Model Name		AIMB-B12010	AIMB-B12300
Processor System	Thermal Module	Heat Pipe up to 45W	Heat Pipe
	CPU	Core i Mobile uFC-PGA 988 processor	Core i5-4300U/Celeron 2980U
	Chipset	QM77	-
	Memory	2 x DDR3 SODIMM up to 16 GB	2 x DDR3L SODIMM up to 16 GB
Driver Bay	Slim 2.5" HDD	1 x HDD	1 x HDD
Reserved opening	Slot	1 x Mini-PCIe	2 x Mini-PCIe (mSATA)
Front Panel	I/O ports	1 x CFAST, 2 x USB 2.0,1 x COM	2 x USB 2.0 , 2 x COM Reserved 2 x WLAN Antenna
	Power switch, Indicators	1 x Power Button 1 x Power LED, 1 x HDD LED	1 x Power Button 1 x Power LED, 1 x HDD LED
Rear Panel	I/O ports	3 x HDMI, 1 x USB 3.0, 1 x Lan, 1 x Audio Line-Out) Reserved 2 x WLAN Antenna	1 x DP/HDMI, 1 x DP, 2 x Lan, 4 x USB 2.0/3.0, 2 x Audio (Line-Out, Mic-In) Reserved 2 x WLAN Antenna
	Power Input	DC jack	DC-in Jack
Power Requirements	Voltage	19V DC power input	12V DC power input
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F)	0 ~ 40° C (32 ~ 104 °F)
	Non-operating Temperature	-20 ~ 60° C (-4 ~ 140° F)	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	10 ~ 95% @ 40° C, non-condensing	10 ~ 85% @ 40° C, non-condensing
	Vibration (5 ~5 00Hz)	0.2G (Slim 2.5" HDD) / 1G (2.5" HDD)	0.5G (Slim 2.5" HDD) / 1G (2.5" HDD)
Dimensions (W x H x D)	Dimensions (W x H x D)	250 x 35 x 190 mm	250 x 35 x 190 mm (9.84" x 1.38" x 7.48")
Weight	Weight	1.5 kg	1.5 kg

Front View



AIMB-B1201x



AIMB-B1230x

Rear View



AIMB-B1201x



AIMB-B1230x

Inside View



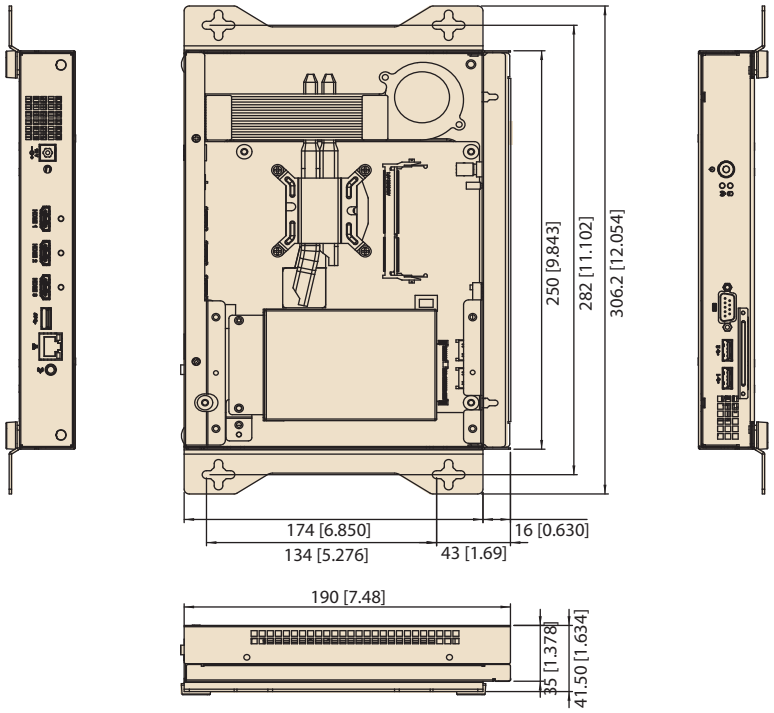
AIMB-B1201x



AIMB-B1230x

Dimensions

Unit: mm [inch]



Ordering Information

Parts Number	Description	Regulations
AIMB-B12010-00Y1E	AIMB-B1000 chassis w/ AIMB-201DS barebone, w/o Power adaptor	CE, FCC
AIMB-B12300-00Y1E	AIMB-B1000 chassis w/ AIMB-230G2-U0A1E (Intel Celeron) barebone, w/o Power adaptor	CE, FCC
AIMB-B12305-00Y1E	AIMB-B1000 chassis w/ AIMB-230G2-U5A1E(Intel Core i5) barebone, w/o Power adaptor	CE, FCC

Power Adaptor Options

Parts Number	Compatibility	Watts	Output
1757003734	Adapter DC 19V for AIMB-B1201x	65W	DC 19V
1757002944	Adapter DC 19V for AIMB-B1201x	90W	DC 19V
1757003995	Adapter DC 12V for AIMB-B1230x	60W	DC 12V
1757003064	Adapter DC 12V for AIMB-B1230x	84W	DC 12V

Optional Accessories

Part Number	Description
1960014487T001	Mounting Bracket
1990021263S000 1990021264S000	Lock harness for power cord

AIMB-B2000

Embedded Mini-ITX Chassis with One Expansion Slot



Features

- Economical Embedded chassis for Mini-ITX motherboard
- Front LED indicators for system fault detection and with one expansion slot
- Reserved USB, COM and WLAN antenna openings on front side
- Shock-resistant two 2.5" drive bay
- Two SKUs to support ATX Power Supply & AC-DC Power Adaptor

CE FCC RoHS COMPLIANT 2002/95/EC

Specifications

		AIMB-B2000-15ZE	AIMB-B2000-00YE
Drive Bay	Slim Optical Disk Drive and HDD	2.5" HDD*2 or 2.5" HDD*1 + slim ODD*1	2.5" HDD*2 or 2.5" HDD*1 + slim ODD*1
Cooling	Fan	2 (7cm/39.45CFM each)	1 (7cm/39.45CFM)
Reserved opening	USB	4	4
	Serial	4	4
	WLAN Antenna	2	2
	Expansion slot	1 (low profile)	1 (low profile)
Miscellaneous	LED Indicators	Power, HDD	Power, HDD
	Reset Buttom	1	1
	Power Switch	1	1
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F)	0 ~ 40° C (32 ~ 104° F)
	Non-operating Temperature	-20 ~ 60° C (-4 ~ 140° F)	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	10 ~ 85% @ 40° C, non-condensing	10 ~ 85% @ 40° C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms (HDD*1+ODD*1); 0.5 Grms (HDD*2)	1 Grms (HDD*1+ODD*1); 0.5 Grms (HDD*2)
	Shock	10G (with 11ms duration, half sine wave)	10G (with 11ms duration, half sine wave)
Physical Characteristics	Dimensions (W x H x D)	250 x 98 x 255 mm (9.84" x 3.86" x 10.04")	250 x 98 x 255 mm (9.84" x 3.86" x 10.04")
	Weight	3.8 kg	3.1 kg

* Top drive bay supports max. 12.5mm height HDD or slim ODD; Bottom drive bay supports max. 9.5mm height HDD.

Front View



Inside View

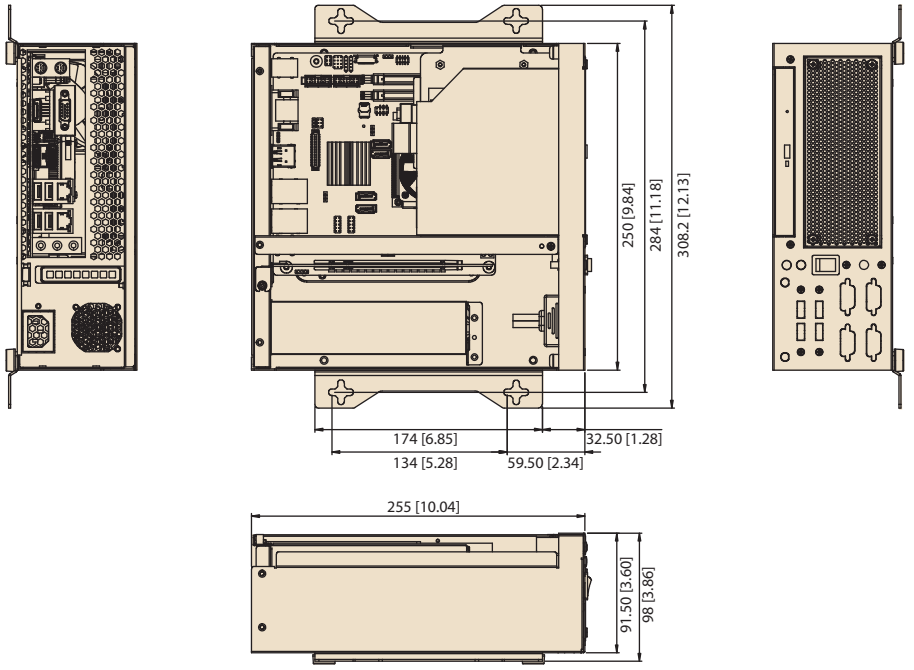


Rear View



Dimensions

Unit: mm [inch]



Ordering Information

Parts Number	Power Supply	Supported MB	Regulation
AIMB-B2000-15ZE	ATX 150W	AIMB-273/272/270	CE, FCC, UL, CB
		AIMB-274/203	CE, FCC
AIMB-B2000-00YE	Optional external AC-DC Adaptor 60W & 84W	AIMB-214/213/212/223	CE, FCC, UL, CB
		AIMB-224/215	CE, FCC

Power Supply Options

Parts Number	Watts	Input	Output	Safety
1757003464	150 W	AC 100 ~ 240 V	+3.3 V @ 10 A, +5 A @ 13 A, +12 V @ 10 A, +5 vsb @ 2 A, -12 V @ 0.3 A	CE/FCC/CCC/UL/CB/TUV
1757003995	60 W	AC 100 ~ 240 V	12 V, 5 A	CE/FCC/CCC/UL/CB/KC/PSE/GS/GOST R
1757003064	84 W	AC 100 ~ 240 V	12 V, 7 A	CE/FCC/CCC/UL/CB/KC/PSE/GS/GOST R/C-Tick/BSMI

Optional Accessories

Part Number	Description
96SDVR-8X-ST-LG-B2	Slim DVD-ROM
1700020710-02	USB cable with two ports. 25 cm, for AIMB-214/213/212/223/224/273/272/270
1703100350	USB cable wih two ports. 34.5cm, for AIMB-274
1700011772	SATA power cable for slim ODD for AIMB-274/273/272/270 with AIMB-B2000-15ZE
1700021444-11	SATA power cable for slim ODD for AIMB-214/213/223/224 with AIMB-B2000-00YE
1700021446-11	SATA power cable for slim ODD for AIMB-212 with AIMB-B2000-00YE
1700000596-01	Power cable 3-pin 183cm, China type
170203180A	Power cable 3-pin 183cm, UK type
1702002600	Power cable 3-pin 183cm, USA type
1702002605-01	Power cable 3-pin 183cm, Europe type

7

Fanless Embedded Box PCs

Selection Guide		*7-2*
Ultra Small Series		
ARK-1120L/LX	Intel® Atom™ N455 with 4 USB 2.0, Audio and Competitive Pricing	*7-8*
ARK-1120F	Intel® Atom™ N455 with 4 COM Port Extendibility	*7-10*
ARK-1122H/HS	Intel® Atom™ Dual Core N2600 with Independent Dual Displays	*7-12*
ARK-1122C	Intel® Atom™ Dual Core N2600 with 4 COM Port Extendibility	*7-14*
ARK-1122F	Intel® Atom™ Dual Core N2800 with Diversity Communications	*7-16*
ARK-1123L	Intel® Atom Dual Core E3825 SoC with Dual COM and GPIO	*7-18*
ARK-1123C	Intel® Atom Dual Core E3825 SoC with Dual GbE and Dual COM	*7-20*
ARK-1123H	Intel® Celeron Quad Core J1900 SoC with Dual HDMI and Dual GbE	*7-22*
Slim and Mountable Series		
ARK-1503	Intel® Atom™ D525/D425 with Integrated Display Interface	*7-24*
ARK-1504	Intel® Atom™ Dual Core E3825 / Celeron Quad Core J1900 SoC with Flexible Mounting	*7-26*
ARK-1550	4th Generation Intel® Core i5 4300U / Celeron 2980U SoC with Flexible Mounting	*7-28*
Multiple I/O Series		
ARK-2120L	Intel® Atom™ Dual Core N2600/D2550 with Multiple I/Os	*7-30*
ARK-2120F	Intel® Atom™ Dual Core N2600/D2550 with 3 GbE, 6 COM & Wide Range Power	*7-32*
ARK-2150L	3rd Generation Intel® Core i3/i7 with Dual Independent Display	*7-34*
ARK-2150F	3rd Generation Intel® Core i7 with 4 x GbE, Isolated DIO & Wide Range Power	*7-36*
ARK-3360L	Intel® Atom™ N450/D510 with Multiple I/O	*7-38*
ARK-3360F	Intel® Atom™ N450/D510 with 3 GbE, Isolated COM & Wide Range Power	*7-40*
High Performance & Rich Expansion Series		
ARK-3440 A2	1st Gen. Intel Core i3/i5/i7 with PCI/PCIe Expansion Slots	*7-42*
ARK-3500	3rd Gen. Intel® Core i3/ i5/ i7 with 2 Expansion Slots and Wide Range Power	*7-44*
ARK-3510	3rd Gen. Intel® Core i3/ i5/ i7 with 2 x 2.5" Removable HDD Bays	*7-46*
Value Series		
ARK-6320	Intel® Atom™ Dual Core D510/D525 with 6 COM and 8 USB	*7-48*
ARK-6322	Intel® Celeron Quad Core J1900 SoC with 6 COM and 8 USB	*7-50*
Surveillance & In-Vehicle Series		
ARK-2121S	Intel® Atom™ Quad Core E3845 SoC Outdoor NVR with 4 PoE	*7-52*
ARK-2151S	4th Generation Intel® Core i5 4300U SoC Outdoor NVR with 4 PoE	*7-54*
ARK-2121V	Intel® Atom™ Dual Core E3825 / Atom Quad Core E3845 SoC In-Vehicle NVR with 4 PoE	*7-56*
ARK-2151V	4th Generation Intel® Core i5 4300U / Celeron 2980U SoC In-Vehicle NVR with 4 PoE	*7-58*
ARK-VH200	Intel Atom Dual Core D510 In-Vehicle DVR with 4 BNC	*7-60*

To view all of Fanless Embedded Box PCs, please visit www.advantech.com/products

Ultra Small and Slim Series

Selection Guide

				NEW	NEW	NEW
						
Model Name		ARK-1120L ARK-1120LX	ARK-1120F	ARK-1122H ARK-1122HS	ARK-1122C	ARK-1122F
Processor System	CPU	Intel Atom N455	Intel Atom N455	Intel Atom N2600	Intel Atom N2600	Intel Atom N2800
	Frequency	1.66 GHz	1.66 GHz	1.6 GHz	1.6 GHz	1.86 GHz
	Core Number	1	1	2	2	2
	BIOS	AMI EFI 16Mbit	AMI EFI 16Mbit	AMI EFI 16Mbit	AMI EFI 16Mbit	AMI EFI 16Mbit
	Chipset	Intel ICH8-M	Intel ICH8-M	Intel NM10	Intel NM10	Intel NM10
Memory	Technology	DDR3 667MHZ	DDR3 667MHZ	DDR3 800MHz	DDR3 800MHz	DDR3 1066MHz
	Max. Capacity	2 GB	2 GB	4 GB	4 GB	4 GB
	Socket	1 x 204-pin SODIMM/ 2 GB Built-In (LX SKU)	1 x 204-pin SODIMM	1 x 204-pin SODIMM/ 2GB Built-In (HS SKU)	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	VGA	Up to 1600 x 1200	Up to 1600 x 1200	Up to 1920 x 1200	Up to 1920 x 1200	Up to 1920 x 1200
	LCD (TTL/LVDS/eDP)	-	-	-	-	-
	DDI (HDMI/DVI/ DisplayPort)	-	-	Lockable HDMI: 1920 x 1200, lockable supported	-	Lockable HDMI: 1920 x 1200, lockable supported
	Multiple Display	-	-	Dual	-	Dual
Expansion Interface	Mini PCIe	1 x half-size Mini PCIe	1 x half-size Mini PCIe	1 x half-size Mini PCIe	1 x half-size Mini PCIe	1 x half-size Mini PCIe 1 x full-size Mini PCIe w/ SIM Holder
	SIM Socket	-	-	-	-	1
Ethernet	Controller	GbE1: Intel 82567V, support wake on LAN	GbE1 : Intel 82567V, support wake on LAN	GbE1: Intel 82583V, support wake on LAN	GbE1: Intel 82583V, support wake on LAN	GbE1: Intel 82583V, GbE2: Intel 82583V, All support wake on LAN
	Speed	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
Audio	Audio Interface	HD Audio	-	HD Audio	-	HD Audio
	CODEC	Realtek ALC892	-	Realtek ALC892	-	Realtek ALC892
	Connector	2 (Line-in, Line out)	-	2 (Line-in, Line out)	-	2 (Line-in, Line out)
WatchDog Timer		Yes	Yes	Yes	Yes	Yes
Storage	SATA	1 x 2.5" SATA HDD bay 1 x 320 GB SATA II HDD Built-In (LX SKU)	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay 1 x 500 GB SATA II HDD Built-In (HS SKU)	1 x 2.5" SATA HDD bay (Optional by T-PN)	-
	mSATA	-	-	Support 1 x Full Size mSATA	Support 1 x Full Size mSATA	Support 1 x Full Size mSATA
	CompactFlash/ CFast	CompactFlash Type I/II	CompactFlash Type I/II	-	-	-
I/O	USB3.0	-	-	-	-	-
	USB2.0	4	2	4	4 (Standard) or 2 (Option 2.5" drive bay version)	3
	GPIO	-	-	-	-	-
	COM Port	2 (2 x RS-232)	2 x RS-232, 2 x RS-232/422/485 (by BIOS setting)	1 (1 x RS-232)	4 (2 x RS-232, 2 x RS-232/422/485, selected by BIOS)	1 (1 x RS-232)
Power	Power Type	ATX	ATX	ATX	ATX	ATX
	Power Supply Voltage	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%
	Connector	DC jack with power adaptor locker	DC jack with power adaptor locker	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack
	Power Consumption (Idle)	9.12W	9.12W	6.89W	5.4W	7.84W
	Power Consumption (Full Load)	10.8W	10.8W	11.45W	9.47W	13.15W
	Power Adaptor	AC to DC, DC12 V/3 A, 36 W	AC to DC, DC12 V/3 A, 36 W	Lockable AC to DC, DC12 V/3 A, 36 W	Lockable AC to DC, DC12 V/3 A, 36 W	Lockable AC to DC, DC12 V/3 A, 36 W
Environment	Operating Temperature (air flow 0.7 m/sec)	0 ~ 40° C	0 ~ 40° C	With standard temperature HDD/SSD/mSATA devices: 0 ~ 40° C With extended temperature SSD/mSATA devices: -20 ~ 60° C	With standard temperature HDD/SSD/mSATA devices: 0 ~ 40° C With extended temperature SSD/mSATA devices: -20 ~ 60° C	With standard temperature mSATA devices: 0 ~ 40° C With extended temperature mSATA devices: -20 ~ 60° C
	Non-operating Temperature	-40~ 85° C and 95% @ 40° C Non-Condensing	-40~ 85° C and 95% @ 40° C Non-Condensing	-40~ 85° C and 95% @ 40° C Non-Condensing	-40~ 85° C and 95% @ 40° C Non-Condensing	-40~ 85° C and 95% @ 40° C Non-Condensing
	Vibration Resistance	With CompactFlash disk: 3Grm	With CompactFlash disk: 3Grm	With SSD/mSATA: 3Grm	With SSD/mSATA: 3Grm	With mSATA: 3Grm
	Shock Protection	With CompactFlash disk: 30G	With CompactFlash disk: 30G	With SSD/mSATA: 30G	With SSD/mSATA: 30G	With mSATA: 30G
Physical Characteristics	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm
	Weight	1.2 kg (2.65 lb)	1.2 kg (2.65 lb)	1.2 kg (2.65 lb)	1.2 kg (2.65 lb)	1.2 kg (2.65 lb)
	Mounting	Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting
Operating System	Microsoft Windows	Yes/ WES2009 Built-In (LX SKU)	Yes	Yes (XP, XPE by project support)/ WES 7 Built-In (HS SKU)	Yes (XP, XPE by project support)	Yes (XP, XPE by project support)
	Linux	Yes (Ubuntu v10.04.1)	Yes (Ubuntu v10.04.1)	Yes (Ubuntu 12.04, Fedora 16)	Yes (Ubuntu 12.04, Fedora 16)	Yes (Ubuntu 12.04 ,Fedora 16)
APIs	SUSIAccess	Yes	Yes	Yes	Yes	Yes
	iManager	-	-	-	-	-
	Other	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB
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ARK-1123L	ARK-1123C	ARK-1123H	ARK-1503	ARK-1504	ARK-1550
Intel® Atom DC E3825	Intel® Atom DC E3825	Intel® Celeron QC J1900	Intel Atom D425/D525	Intel® Atom DC E3825 Intel® Celeron QC J1900	Intel® Celeron 2980U Intel® Core i5 4300U
1.33 GHz	1.33 GHz	2.0 GHz	1.8 GHz	1.33 GHz / 2.0 GHz	1.6 GHz / 1.9 GHz
2	2	4	1/2	2 / 4	2
AMI EFI 64 Mbit	AMI EFI 64 Mbit	AMI EFI 64 Mbit	AMI EFI 16Mbit	AMI EFI 64 Mbit	AMI EFI 128 Mbit
Intel® Atom DC E3825	Intel® Atom DC E3825	Intel® Celeron QC J1900	Intel ICH8-M	Intel® Atom DC E3825 Intel® Celeron QC J1900	Intel® Celeron 2980U Intel® Core i5 4300U
DDR3L 1066MHz	DDR3L 1066MHz	DDR3L 1333MHz	DDR3 1066/1333MHz	DDR3L 1066/1333MHz	DDR3L 1333/1600MHz
8GB	8GB	8GB	4 GB	8GB	8GB
1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM
-	-	-	Up to 2048 x 1536	1 (up to 1600 x 1200)	1 (up to 1920 x 1200)
-	-	-	LVDS: Single channel 24-bit LVDS up to WXGA 1366 x 768 (Integrated in I-Panel Link)	LVDS (optional)	LVDS (optional)
1 x lockable HDMI, up to 1080p	1 x lockable HDMI, up to 1080p	2 x lockable HDMI, up to 1080p	-	1 x lockable HDMI, up to 1080p	1 x lockable HDMI, up to 1080p
-	-	-	Dual	Dual	Dual
1 x Half-size Mini PCIe 1 x Full-size Mini PCIe	1 x Half-size Mini PCIe 1 x Full-size Mini PCIe	1 x Half-size Mini PCIe 1 x Full-size Mini PCIe	1 x full-size Mini PCIe	1 x Full-size Mini PCIe 1 x Full-size Mini PCIe w/ SIM	1 x Half-size Mini PCIe 1 x Full-size Mini PCIe w/ SIM
-	-	-	-	1	1
GbE 1 : Intel i210 All support Wake On LAN	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake On LAN	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake On LAN	GbE1 : Intel 82567V, GbE2 : Intel 82583V, All support wake on LAN	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake On LAN	GbE 1 : Intel i218 GbE 2 : Intel i210 All support Wake On LAN
10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
HD Audio	HD Audio	HD Audio	HD Audio	HD Audio	HD Audio
ALC-888S-VD2-GR	ALC-888S-VD2-GR	ALC-888S-VD2-GR	Realtek ALC892	ALC-888S	Realtek ALC888S
2 (Line-in, Line out)	2 (Line-in, Line out)	2 (Line-in, Line out)	1 (Line-out)	3 (Line-in, Line-out, Mic-in)	3 (Line-in, Line-out, Mic-in)
Yes	Yes	Yes	Yes	Yes	Yes
1 x 2.5" SATA HDD bay	1 x 2.5" SATA drive bay	1 x 2.5" SATA drive bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
1 x Half-Size mSATA	1 x Half-Size mSATA	1 x Half-Size mSATA	-	1 x Full-size mSATA	1 x Full-size mSATA
-	-	-	CompactFlash Type I/II	-	-
1	1	1	-	1	2
1	2	2	4	3	2
8-bit Programmable DIO	-	-	8-bit Programmable DIO	8-bit Programmable DIO	8-bit Programmable DIO
2 (1 x RS-232 & 1 x RS-232/422/485)	2 (2 x RS-232/422/485)	1 (1 x RS-232/422/485)	2 (1 x RS232, 1 x RS232/422/485)	3 (1 x RS-232, 2 x RS-232/422/485)	3 (1 x RS-232, 2 x RS-232/422/485)
ATX	ATX	ATX	AT/ATX	ATX/AT	ATX/AT
12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%
Lockable DC Jack	Lockable DC Jack	Lockable DC Jack	DC jack with power adaptor locker	DC jack with power adaptor locker	DC jack with power adaptor locker
TBD	TBD	TBD	10.92W (D425) / 11.88W (D525)	TBD	TBD
TBD	TBD	TBD	13.08W (D425) / 16.44W (D525)	TBD	TBD
Lockable AC to DC, DC12 V/3 A, 36 W	Lockable AC to DC, DC12 V/3 A, 36 W	Lockable AC to DC, DC12 V/3 A, 36 W	AC to DC, DC 12V/5A 60W (optional)	AC to DC, DC 12V/5A 60W (optional)	AC to DC, DC 12V/5A 60W (optional)
With extend temperature peripherals: -20 ~ 60° C With standard temperature peripherals: 0 ~ 40° C	With extend temperature peripherals: -20 ~ 60° C With standard temperature peripherals: 0 ~ 40° C	With extend temperature peripherals: -20 ~ 60° C With standard temperature peripherals: 0 ~ 40° C	With extended temperature peripherals: -20 ~ 60° C With standard temperature peripherals: 0 ~ 40° C	With extend temperature peripherals: -20 ~ 60° C With standard temperature peripherals: 0 ~ 40° C	With extend temperature peripherals: -20 ~ 55° C With standard temperature peripherals: 0 ~ 40° C
-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 95% @ 40° C Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing
With mSATA/SSD : 3 Grms	With mSATA/SSD : 3 Grms	With mSATA/SSD : 3 Grms	With Compact Flash/SSD: 5 Grms	With mSATA/SSD : 5 Grms	With mSATA/SSD : 5 Grms
With mSATA/SSD: 30 G	With mSATA/SSD: 30 G	With mSATA/SSD: 30 G	With Compact Flash/SSD: 50G	With mSATA/SSD: 50 G	With mSATA/SSD: 50 G
133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm	230.6 x 44.4 x 133.0 mm	223 x 46.6 x 133.0 mm	223 x 46.6 x 133.0 mm
1.2 kg (2.65 lb)	1.2 kg (2.65 lb)	1.2 kg (2.65 lb)	1.9 kg (4.18 lbs)	1.9 kg (4.18 lbs)	1.9 kg (4.18 lbs)
Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting	Wall Mounting (Standard) / VESA & DIN-Rail Mounting Kit (Optional)	Wall Mounting (Standard) / VESA & DIN-Rail Mounting Kit (Optional)	Wall Mounting (Standard) / VESA & DIN-Rail Mounting Kit (Optional)
Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)
Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (Ubuntu v10.04.1)	Yes (by Project)	Yes (by Project)
Yes	Yes	Yes	Yes	Yes	Yes
-	-	-	-	-	-
McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, BSMI, CCC, KCC	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI
UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB
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Multiple I/O Series





Selection Guide

Model Name		ARK-2120L	ARK-2120F
Processor System	CPU	Intel Atom N2600 / Intel Atom D2550	Intel Atom N2600 / Intel Atom D2550
	Frequency	1.6 GHz / 1.86 GHz	1.6 GHz / 1.86 GHz
	Core Number	2	2
	BIOS	AMI EFI 16Mbit	AMI EFI 16Mbit
	Chipset	Intel NM10	Intel NM10
Memory	Technology	DDR3 800MHz	DDR3 800MHz
	Max. Capacity	4 GB	4 GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Graphic Engine	DirectX 9 and OpenGL 3.0 support	DirectX 9 and OpenGL 3.0 support
	VGA	Up to 1920 x 1200	Up to 1920 x 1200
	LCD (TTL/LVDS/eDP)	-	LVDS: Dual channel 48-bit up to 2560 x 1600
	DDI (HDMI/DVI/DisplayPort)	HDMI:1920 x 1200 @ 60Hz	HDMI:1920 x 1200 @ 60Hz
	Multiple Display	Dual	Dual
Expansion Interface	Mini PCIe	1	1
	SIM Socket	1	1
Ethernet	Controller	GbE1: Intel 82583V, GbE2: Intel 82583V, All support wake on LAN	GbE1: Intel 82583V, GbE2: Intel 82583V, GbE3: Intel 82583V, All support wake on LAN
	Speed	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio
	CODEC	Realtek ALC892	Realtek ALC892
	Connector	1 (Line-in, Line out, Mic-in)	1 (Line-in, Line out, Mic-in)
WatchDog Timer		Yes	Yes
Storage	SATA	1 x 2.5" SATAII HDD bay	1 x 2.5" SATAII HDD bay
	mSATA	-	-
	CompactFlash/ CFast	1 CFast	1 CFast
I/O	USB3.0	-	-
	USB2.0	6	5
	GPIO	8-bit Programmable DIO	8-bit Programmable DIO
	LPT	-	-
	COM Port	4 (3 x RS232, 1 x RS232/ 422/ 485)	6 (2 x RS232, 4 x RS232/ 422/ 485)
Power	Power Type	ATX, AT	ATX, AT
	Power Supply Voltage	12 V_{DC}, ± 10%	12 ~ 24 V_{DC}
	Connector	Lockable DC Jack	2-pin phoenix head
	Power Consumption (Idle)	8.9W	9.2W
	Power Consumption (Full Load)	11W	11.59W
	Power Adaptor	Lockable AC to DC, DC12 V/3 A, 36 W (Optional)	Lockable AC to DC, DC19 V/3.42 A, 65 W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	With extend temperature peripherals: -20 ~ 60° C With HDD: 0 ~ 45° C	With extend temperature peripherals: -20 ~ 60° C With HDD: 0 ~ 45° C
	Non-operating Temperature	-40~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 40° C @ 95% RH Non-Condensing
	Vibration Resistance	With SSD: 5 Grms	With SSD: 5 Grms
	Shock Protection	With SSD: 50 G	With SSD: 50 G
Physical Characteristics	Dimensions (W x H x D)	264.5 x 68.4 x 133.0 mm	264.5 x 68.4 x 133.0 mm
	Weight	2.3 kg (5.07 lb)	2.5 kg (5.51 lb)
	Construction	Aluminum/Iron	Aluminum/Iron
	Mounting	Desk/ Wall/ VESA/ DIN-Rail mounting	Desk/ Wall/ VESA/ DIN-Rail mounting
Operating System	Microsoft Windows	Yes (XP, XPE for project support)	Yes (XP, XPE for project support)
	Linux	Yes (Ubuntu 12.04 ,Fedora 16)	Yes (Ubuntu 12.04 ,Fedora 16)
APIs	SUSIAccess	Yes	Yes
	iManager	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE, FCC, CCC, BSMI	CE, FCC, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI	UL, CCC, BSMI
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ARK-2150L	ARK-2150F	ARK-3360L	ARK-3360F
3rd Gen' Intel Celeron 1047UE / Core i3-3217UE / Core i7-3517UE	3rd Gen' Intel Core i7-3517UE	Intel Atom N450/D510	Intel Atom N450/D510
1.4GHz / 1.6 GHz/ 1.7 GHz (up to 2.8GHz)	1.7 GHz (up to 2.8GHz)	1.66 GHz	1.66 GHz
2	2	2	2
AMI EFI 64Mbit	AMI EFI 64Mbit	AMI EFI 16Mbit	AMI EFI 16Mbit
Intel QM77	Intel QM77	Intel ICH8-M	Intel ICH8-M
DDR3 1600MHz, DDR3L 1333 MHz	DDR3 1600MHz, DDR3L 1333 MHz	DDR2 667MHz	DDR2 667MHz
8 GB	8 GB	2 GB	2 GB
1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 200-pin SODIMM	1 x 200-pin SODIMM
DirectX11, OpenGL 3.1, and Open CL 11	DirectX11, OpenGL 3.1, and Open CL 11	DirectX 9 and MPEG2 HW Decode	DirectX 9 and MPEG2 HW Decode
Up to 2048 x 1536	Up to 2048 x 1536	Up to 2048 x 1563	Up to 2048 x 1563
-	-	-	-
HDMI:1920 x 1200 @ 60Hz	HDMI:1920 x 1200 @ 60Hz DVI-D: 1920 x 1200	-	-
Dual	Dual	-	-
3	3	1	1
1	1	-	-
GbE1: Intel 82579LM, GbE2: Intel 82583V, All support wake on LAN	GbE1: Intel 82579LM, GbE 2/ 3/ 4: Intel 82583V All support wake on LAN	GbE1: Intel 82567V, GbE2: Intel 82583V, All support wake on LAN	GbE1: Intel 82567V, GbE2: Intel 82583V, GbE3: Intel 82541PI, All support wake on LAN
10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
HD Audio	HD Audio	HD Audio	HD Audio
Realtek ALC892	Realtek ALC892	Realtek ALC886	Realtek ALC886
1 (Line-in, Line out, Mic-in)	1 (Line-in, Line out, Mic-in)	1 (Line-in, Line out, Mic-in)	1 (Line-in, Line out, Mic-in)
Yes	Yes	Yes	Yes
1 x 2.5" SATAIII HDD bay (Max. Data Transfer Rate 600 MB/s)	1 x 2.5" SATAIII HDD bay (Max. Data Transfer Rate 600 MB/s)	1 x 2.5" SATAII HDD bay (Max. Data Transfer Rate 300 MB/s)	1 x 2.5" SATAII HDD bay (Max. Data Transfer Rate 300 MB/s)
1 (Supports either mSATA or full size miniPCIe, selected by BIOS, default support miniPCIe)	1 (Supports either mSATA or full size miniPCIe, selected by BIOS, default support miniPCIe)	-	-
-	-	1 CompactFlash	1 CompactFlash
2	3	-	-
4	3	6	6
8-bit Programmable DIO	4ch digital input and 4ch digital output with 2.5KV isolation	8-bit Programmable DIO	8-bit Programmable DIO
-	-	-	-
4 (2 x RS232, 2 x RS232/ 422/ 485)	4 (4 x RS232/ 422/ 485)	4 (3 x RS232, 1 x RS232/422/485)	6 (1 x RS232, 3 x RS232/ 422/ 485, 2 x RS-422/ 485 with 7.5KV isolation)
ATX, AT	ATX, AT	ATX, AT	ATX, AT
12 V_{DC}, ± 10%	12 ~ 24 V_{DC}	12 V_{DC}	12 ~ 24 V_{DC}
Lockable DC Jack	2-pin phoenix head	DC Jack	2-pin phoenix head
9.6W	10.3W	11W	12.12W
24.98W	25.7W	15W	14.96W
Lockable AC to DC, DC12 V/5 A, 60 W (Optional)	Lockable AC to DC, DC19 V/3.42 A, 65 W (Optional)	ACto DC, DC12V/3A, 36W (Optional)	Lockable AC to DC, DC19 V/3.42 A, 65 W (Optional)
With extend temperature peripherals: -20 ~ 60° C With HDD: 0 ~ 45° C	With extend temperature peripherals: -20 ~ 60° C With HDD: 0 ~ 45° C	With extend temperature peripherals: -20 ~ 60° C With HDD: 0 ~ 45° C	With extend temperature peripherals: -20 ~ 60° C With HDD: 0 ~ 45° C
-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 40° C @ 95% RH Non-Condensing
With SSD: 5 Grms	With SSD: 5 Grms	With SSD: 5 Grms With HDD: 1 Grms	With SSD: 5 Grms With HDD: 1 Grms
With SSD: 50 G	With SSD: 50 G	With SSD: 50 G With HDD: 20 G	With SSD: 50 G With HDD: 20 G
264.5 x 75.1 x 133.0 mm	264.5 x 75.1 x 133.0 mm	264.5 x 69.2 x 137.25 mm	264.5 x 69.2 x 137.25 mm
2.3 kg (5.07 lb)	2.8kg (6.17lb)	2 kg (4.4 lb)	2 kg (4.4 lb)
Aluminum/Iron	Aluminum/Iron	Aluminum/Iron	Aluminum/Iron
Desk/ Wall/ VESA/ DIN-Rail mounting	Desk/ Wall/ VESA/ DIN-Rail mounting	Desk/ Wall/ VESA/ DIN-Rail mounting	Desk/ Wall/ VESA/ DIN-Rail mounting
Yes	Yes	Yes	Yes
Yes (Ubuntu v12.04/CentOS 6.6)	Yes (Ubuntu v12.04/CentOS 6.6)	Yes (Ubuntu v10.04.1)	Yes (Ubuntu v10.04.1)
Yes	Yes	Yes	Yes
Yes	Yes	-	-
Intel AMT 8.0, McAfee, Acronis	Intel AMT 8.0, McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
CE, FCC, CCC, BSMI	CE, FCC, CCC, BSMI	CE, FCC, CCC, BSMI, KC	CE, FCC, CCC, BSMI, KC
UL, CCC, BSMI	UL, CCC, BSMI	UL, CCC, BSMI, KC	UL, CCC, BSMI, KC
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High Performance and Value Series

Selection Guide

			NEW	NEW		NEW
						
Model Name		ARK-3440 A2	ARK-3500	ARK-3510	ARK-6320	ARK-6322
Processor System	CPU	Intel Core i7 610E/i5 520E/ i3 330E	3rd gen' Intel Core i7-3610QE/ i5-3610ME/i3-3120ME/ Celeron 1020E rPGA processor support	3rd gen' Intel Core i7-3610QE/ i5-3610ME/i3-3120ME/ Celeron 1020E rPGA processor support	Intel Atom Processor D510/ D525	Intel Celeron J1900 SoC
	Frequency	2.53GHz/2.4GHz/2.13GHz	2.3 GHz/2.7 GHz/2.4 GHZ/2.2 GHz	2.3 GHz/2.7 GHz/2.4 GHZ/2.2 GHz	1.66 GHz/1.8 GHz	2.0 GHz
	Core Number	2	4/2/2/2	4/2/2/2	2	4
	BIOS	AMI SPI 16Mbit	AMI EFI 64Mbit	AMI EFI 64Mbit	AMI 16 Mbit SPI	AMI 16Mbit SPI
	Chipset	Intel QM57	Intel QM77	Intel QM77	ICH8M	-
Memory	Technology	DDR3 1066/1333	DDR3/DDR3L 1600MHz	DDR3/DDR3L 1600MHz	DDR2 667MHz / DDR3 800MHz	DDR3L 1333MHz
	Max. Capacity	8GB	16GB	16GB	2GB / 4GB	8GB
	Socket	2x204-pin SODIMM	2x204-pin SODIMM	2x204-pin SODIMM	1 x 200-pin SODIMM / 2 x 204-pin SODIMM	2 x 204pin SODIMM
Display	VGA	up to 2048x1536	VGA integrated in DVI-I port	VGA integrated in DVI-I port	Supports up to SXGA 2046 x 1536 @ 60Hz	Support up to SXGA 1920 x 1200 @ 60 MHz
	LCD (TTL/LVDS/eDP)	LVDS: 24 bit up to 1920x1200(optional)	-	-	LVDS : Single channel 18-bit and up to WXGA 1366 x 768 (Optional)	-
	DDI (HDMI/DVI/ DisplayPort)	HDMI: HDMI 1.3 up to 2560x 1600p75 DVI-D: up to 1920 x 1200	DVI-I: 1920 x 1200 @ 60 Hz HDMI: HDMI 1.4, 1920 x 1200 @ 60Hz Display port: 2560 x 1600 @ 60Hz (Video only, and only on 3rd gen' processor)	DVI-I: 1920 x 1200 @ 60 Hz HDMI: HDMI 1.4, 1920 x 1200 @ 60Hz Display port: 2560 x 1600 @ 60Hz (Video only, and only on 3rd gen' processor)	DVI-D:1600 x 1200	DisplayPort : DP++1.2, resolution up to 2560 x 1600 x 24bpp @ 60Hz
	Multiple Display	Dual	Triple/Dual	Triple/Dual	Dual	Dual
Expansion Interface	PCI Express x 4	1 (optional)	1 slot, ARK-3500F	-	-	-
	PCI Express x 1	1 (default)/2/-	1 slot, ARK-3500F	-	-	-
	Mini PCIe	2	2 (share with mSATA), with SIM	2 (share with mSATA), with SIM	-	2 (1 full size, 1 half size)
	PCI	1(default)/2/NA	2 slots, ARK-3500P	-	-	-
Ethernet	Controller	GbE1: Intel 82577LM GbE2: Intel 82583V	GbE1: Intel 82579LM GbE2 : Intel I-210IT	GbE1: Intel 82579LM GbE2 : Intel I-210IT	GbE1: Intel 82567V; GbE2: Intel 82583V	GbE1: RTL8111E GbE2: RTL8111E
	Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio	HD Audio
	CODEC	Realtek ALC888	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
	Connector	1 (Line-in, Line out, Mic-in)	Line out, Mic in	Line out, Mic in	3 (Mic-In, Line-In, Line-Out)	1 (Line out)
WatchDog Timer		-	Yes	Yes	Yes	Yes
Storage	SATA	2 x 2.5" SATAII HDD bay	2 x 2.5" SATAIII HDD bay	2 x 2.5" SATAIII HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" or 3.5" SATA HDD bay
	CompactFlash/ CFast	1 CompactFlash	1 CFast	1 CFast	1 CompactFlash type I/II socket (on the solder side of the motherboard)	-
	mSATA	-	2 (Share with mini-PCIe)	2 (Share with mini-PCIe)	-	1 (Share with mini-PCIe)
I/O	USB 3.0	-	4	4	-	1
	USB2.0	6	2	2	8	7
	LPT	1 (optional)	-	-	-	-
	COM Port	2 (2 x RS232, 1 x RS232/ 422/ 485)	4 x RS232, 4 x RS232/422/485	2 x RS-232, 2 x RS-232/422/485	5 x RS232, 1 x RS232/ 422/485	5 x RS-232 1 x RS232/422/485
Power	Power Type	ATX, AT	ATX, AT	ATX, AT	ATX	ATX
	Power Supply Voltage	9 V_{DC} ~ 34 V_{DC}	9 V_{DC} ~ 34 V_{DC}	12 V_{DC}, ± 10% (optional 9 ~ 34 V_{DC})	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%
	Connector	4pin terminal block	4pin terminal block	Lockable DC jack	-	-
	Power Consumption (Idle)	38W	14.8W	14.8W	23W	TBD
	Power Consumption (Full Load)	53W	60W (w/o add on card)	60W	37W	TBD
	Power Adaptor	Optional	120W (optional)	Lockable AC to DC, 84W (Optional)	AC to DC, DC12V/5A, 60 W (Optional)	AC to DC, DC12V/5A, 60 W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	With extend temperature peripherals: -10 ~ 55° C With HDD: 0 ~ 45° C	With SSD: -10 ~ 60° C With HDD: 0 ~ 40° C	With SSD: -10 ~ 60° C With HDD: 0 ~ 40° C	0 ~ 40° C (32 ~ 104° F)	0 ~ 40° C (32 ~ 104° F)
	Non-operating Temperature	-40~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C	-40~ 85° C
	Vibration Resistance	With SSD: 5 Grms With HDD: 1 Grms	With SSD: 5 Grms With HDD: 1 Grms	With SSD : 3Grms With HDD : 1 Grms	0.5 Grm	TBD
	Shock Protection	With SSD: 50 G With HDD: 20 G	With HDD: 20G	With HDD: 20G	20G	TBD
Physical Characteristics	Dimensions (W x H x D)	220 x 117 x 200 mm	290 x 110 x 232 mm	290 x 90 x 232 mm	200 x 73 x 200 mm	200 x 62 x 200 mm
	Weight	4kg (8.8lb)	4.8kg (10.56lb)	4.53kg (10lb)	4.14 kg (8.8 lb)	4.14 kg (8.8 lb)
	Mounting	Desk/ Wallmounting	Desk/Wallmounting	Desk/Wallmounting	Desk (Optional)	Desk (Optional)
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes	Yes
APIs	SUSIAccess	Yes (don't support HW monitor)	Yes	Yes	Yes	Yes
	iManager	-	-	-	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE, FCC, CCC, BSMI, KC	CE, FCC, CCC, BSMI	CE, FCC, CCC, BSMI	CE/FCC/CCC/BSMI	CE/FCC/CCC/BSMI
	Safety Certifications	UL, CCC, BSMI, KC	UL, CCC, BSMI	UL, CCC, BSMI	CCC/BSMI	CCC/BSMI
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Surveillance & In-Vehicle Series

Selection Guide

NEW NEW NEW NEW







Model Name		ARK-2121S	ARK-2151S	ARK-2121V	ARK-2151V	ARK-VH200
Processor System	CPU	Intel® Atom QC E3845	4th Gen Intel® Core i5 4300U	Intel® Atom DC E3825 Intel® Atom QC E3845	4th Gen Intel® Celeron 2980U 4th Gen Intel® Core i5 4300U	Intel Atom™ D510
	Frequency	1.91 GHz	1.9 GHz	1.33 GHz / 1.91 GHz	1.6 GHz / 1.9 GHz	1.66 GHz
	Core Number	4	2	2 / 4	2	2
	BIOS	AMI EFI 64 Mbit	AMI EFI 128 Mbit	AMI EFI 64 Mbit	AMI EFI 128 Mbit	AMI EFI 16Mbit
	Chipset	Intel® Atom QC E3845	4th Gen Intel® Core i5 4300U	Intel® Atom DC E3825 Intel® Atom QC E3845	4th Gen Intel® Celeron 2980U 4th Gen Intel® Core i5 4300U	Intel™ ICH8-M
Memory	Technology	DDR3L 1333 MHz	DDR3L 1600 MHz	DDR3L 1066/1333 MHz	DDR3L 1333/1600 MHz	DDR2 667MHz
	Max. Capacity	8 GB	8 GB	8GB	8GB	2 GB
	Socket	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 200-pin SODIMM
Display	Graphic Memory	Intel Gen 7 Graphics Engines	GT3 Graphics, Generation 7.5 graphics core architecture	Intel Gen 7 Graphics Engines	GT3 Graphics, Generation 7.5 graphics core architecture	-
	VGA	1 (up to 1600 x 1200)	1 (up to 1920 x 1200)	1 (up to 1600 x 1200)	1 (up to 1920 x 1200)	1
	LCD (TTL/LVDS/eDP)	-	-	-	-	LVDS
	DDI (HDMI/DVI/ DisplayPort)	1 x lockable HDMI, up to 1900 x 1200	1 x lockable HDMI, up to 1900 x 1200	1 x lockable HDMI, up to 1900 x 1200	1 x lockable HDMI, up to 1900 x 1200	-
	Multiple Display	Dual	Dual	Dual	Dual	-
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe (mSATA) 1 x Full-size Mini PCIe (WLAN) 2 x Full-size Mini PCIe w/SIM holders (WWAN)	1 x Half-size Mini PCIe (WLAN) 1 x Full-size Mini PCIe (mSATA) 2 x Full-size Mini PCIe w/SIM holders (WWAN)	1 x Full-size Mini PCIe (mSATA) 1 x Full-size Mini PCIe (WLAN) 2 x Full-size Mini PCIe w/SIM holders (WWAN)	1 x Half-size Mini PCIe (WLAN) 1 x Full-size Mini PCIe (mSATA) 2 x Full-size Mini PCIe w/SIM holders (WWAN)	2 x Full-Size
	SIM Socket	2	2	2	2	1
Ethernet	Controller	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake On LAN	GbE 1 : Intel i218 GbE 2 : Intel i210 All support Wake On LAN	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake On LAN	GbE 1 : Intel I218 GbE 2 : Intel i210 All support Wake On LAN	GbE1: Intel 82574L, GbE2: Intel 82574L, All support wake on LAN
	Speed	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio	HD Audio
	CODEC	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek ALC888
	Connector	3 (Line in, Line out, Mic-in)	3 (Line in, Line out, Mic-in)	3 (Line in, Line out, Mic-in)	3 (Line in, Line out, Mic-in)	2 (Line out, Mic-in)
	Cellular Voice	-	-	Support WWAN voice function, Line-out,Mic-in	Support WWAN voice function, Line-out,Mic-in	-
WatchDog Timer		Yes	Yes	Yes	Yes	Yes
Storage	SATA	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
	CompactFlash/ CFast	-	-	-	-	CompactFlash Type I/II
	mSATA	1 x Full-size mSATA	1 x Full-size mSATA	1 x Full-size mSATA	1 x Full-size mSATA	-
I/O	USB3.0	1	2	1	2	-
	USB2.0	3	2	3	2	4
	COM Port	2 (2 x RS-232/422/485)	2 (2 x RS-232/422/485)	Up to 4 (2 x RS-232 & 2 x RS-232/422/485)	Up to 4 (2 x RS-232 &]2 x RS-232/422/485)	2 (2 x RS232, 1 x RS232/ 422/ 485 optional)
	GPIO	6 x DI & 2 x DO	6 x DI & 2 x DO	6 x DI & 2 x DO	6 x DI & 2 x DO	Yes
	Video Input	-	-	-	-	4CH Video Inputs, BNC
	Optional COM or CANBus	-	-	2 x RS-232 or 2 x CANBus 2.0A/B	2 x RS-232 or 2 x CANBus 2.0A/B	-
Other	GPS	-	-	On board high sensitivity GPS	On board high sensitivity GPS	On board GPS
	G-Sensor	-	-	Yes	Yes	-
	PoE	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 - 2ports full-load, IEEE802.3af Class 3	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 - 2ports full-load, IEEE802.3af Class 3	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 - 2ports full-load, IEEE802.3af Class 3	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 - 2ports full-load, IEEE802.3af Class 3	-
Power	Power Type	ATX/AT	ATX/AT	ATX/AT	ATX/AT	ATX, AT
	Power Supply Voltage	9 ~ 36VDC w/ isolation	9 ~ 36VDC w/ isolation	PC Mode: 9 ~ 36 V_{DC} VH Mode: 12 V battery (11 ~ 16 V_{DC}), 24 V battery (22 ~ 32 V_{DC})	PC Mode: 9 ~ 36 V_{DC} VH Mode: 12 V battery (11 ~ 16 V_{DC}), 24 V battery (22 ~ 32 V_{DC})	9 VDC ~ 32 V_{DC} (for In Vehicle)
	Power Consumption (Idle)	TBD	TBD	TBD	TBD	19W
	Power Consumption (Full Load)	TBD	TBD	TBD	TBD	22W
	Power Adaptor	AC-to-DC Adapter, DC19 Power Plug (Optional)	AC-to-DC Adapter, DC19 Power Plug (Optional)	AC-to-DC Adapter, Phoenix Power Plug (Optional)	AC-to-DC Adapter, Phoenix Power Plug (Optional)	AC to DC, DC19 V/ 3.42 A, 65 W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	With extended temperature SSD/ mSATA/RAM :-20 ~ 60° C With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C	With extended temperature SSD/ mSATA/RAM :-20 ~ 60° C With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C	With extended temperature SSD/mSATA/RAM :-20 ~ 60° C With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C	With extended temperature SSD/mSATA/RAM :-20 ~ 60° C With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C	-20 ~ 60° C (operating humidity: 40° C @ 95% RH Non-Condensing)
	Non-operating Temperature	-40~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 40° C @ 95% RH Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85° C and 40° C @ 95% RH Non-Condensing
	Vibration Resistance	With mSATA/SSD : 5 Grms	With mSATA/SSD : 5 Grms	With mSATA/SSD: IEC 60721-3-5 Class 5M3	With mSATA/SSD: IEC 60721-3-5 Class 5M3	With CF/SSD : 5 Grms With HDD : 1 Grms
	Shock protection	With mSATA/SSD: 50 G	With mSATA/SSD: 50 G	With mSATA/SSD: IEC 60721-3-5 Class 5M3	With mSATA/SSD: IEC 60721-3-5 Class 5M3	With CF/SSD : 50 G With HDD : 20 G
Physical Characteristics	Dimensions (W x H x D)	264.5 x 69.2 x 133.0 mm	264.5 x 75.1 x 133.0 mm	264.5 x 69.2 x 133.0 mm	264.5 x 75.1 x 133.0 mm	260 x 77 x 134 mm
	Weight	2.3 kg (5.07 lb)	2.5 kg (4.18 lbs)	2.3 kg (5.07 lb)	2.5 kg (4.18 lbs)	3 kg (6.6 lb)
	Mounting	Wall Mounting (Standard) / VESA & DIN-Rail Mounting Kit (Optional)	Wall Mounting (Standard) / VESA & DIN-Rail Mounting Kit (Optional)	Wall Mounting (Standard) / VESA & DIN-Rail Mounting Kit (Optional)	Wall Mounting (Standard) / VESA & DIN-Rail Mounting Kit (Optional)	Desk/ wall mounting
Operating System	Microsoft Windows	Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)	Yes (Windows 7, Windows 8)	Yes
	Linux	Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (Ubuntu v10.04.1)
APIs	SUSIAccess	Yes	Yes	Yes	Yes	Yes
	iManager	Yes	Yes	Yes	Yes	-
Certification	EMC	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE, FCC
	Safety Certifications	UL, CCC, BSMI, CB	UL, CCC, BSMI, CB	UL, CCC, BSMI, E13	UL, CCC, BSMI, E13	UL, CCC, E13
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ARK-1120L

Intel® Atom™ N455 4 USB 2.0, Audio and Competitive Pricing Fanless Box PC



Features

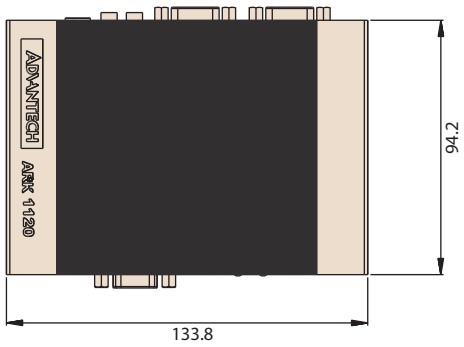
- Intel® Atom™ processor N455 1.66 GHz + ICH8M
- Low power consumption, < 10W
- Palm-size design: 133.8(W) x 43.1(H) x 94.2(D) mm
- DDR3 memory support , up to 2GB
- Supports 2.5" SATA HDD Bay
- One half-size mini-PCIe slot. Ex: Wi-Fi add-on card
- 2 x RS-232, 4 x USB ports and Audio line-in, line out
- Optional VESA/DIN-rail/Wall mount
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

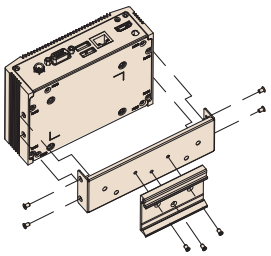
		ARK-1120L-N5A1E
Processor System	CPU	Intel Atom processor N455
	Frequency	1.66 GHz
	L2 Cache	512KB
	System Chipset	Intel ICH8-M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 up to 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 204 pin SO-DIMM
Graphics	Chipset	Intel ICH8-M
	Interface	CRT interface, up to 1600 x 1200 (SXGA)
Ethernet	LAN	1 x 10/100/1000 Mbps Intel 82567V GbE, Support Wake on LAN
Audio	Interface	Realtek ALC892, Line-out, Line-in
I/O Interface	Serial Ports	2 x RS-232
	USB Interface	4 x USB ports, USB 2.0 Compliant
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe	1 x half-size Mini PCIe
Storage	HDD	Support one SATA 2.5" HDD Bay (support 9.5mm height only)
	SSD	Supports CompactFlash socket for type I/II CompactFlash disk (only available for T-Parts and CTOS service)
Software Support	Microsoft Windows	Windows 7, XP Professional, XP Embedded, WinCE 6.0
	Linux	Ubuntu v10.04.1
Power Requirement	Power Type	ATX
	Power Input Voltage	12 V_{DC}, ± 10%
	Minimum Power Input	12 V, 1.5 A
	Power Adaptor	AC to DC, DC12 V/3 A, 36 W (Support DC Locker Design)
Power Consumption	Typical	9.12 W
	Max	10.80 W
Mechanical	Construction	Aluminum housing
	Mounting	Support DIN Rail / VESA / Wall mounts (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.70" x 3.71")
	Weight	0.7 kg (1.55 lb)
Environmental and Certifications	Operating Temperature	0 ~ 40° C (32 ~ 104° F) with 0.7m/s air flow and extend temperature HDD
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With CompactFlash disk: 3Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1hr/axis.
	Shock During Operation	With CompactFlash disk: 30Grms, IEC 60068-2-27 , half sine, 11 ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI, CB

Dimensions

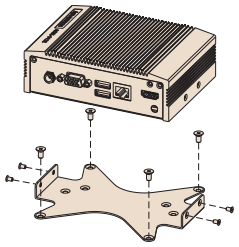
Unit: mm



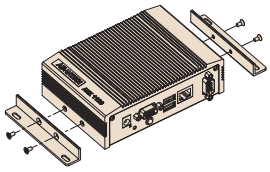
DIN Rail



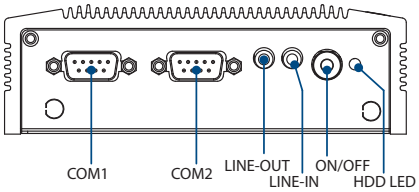
VESA mount



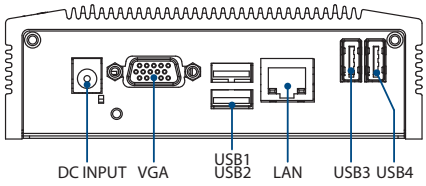
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	VGA	GbE	Audio	2.5" HDD bay	CF	USB 2.0	RS-232	RS-232/422/485	MiniPCIe	Operating Temp.	OS
ARK-1120L-N5A1E	Atom N455 1.66GHz	Up to 2GB	1	1	Line in Line out	1	1	4	2	N/A	1 Half size	0 ~ 40° C	-
ARK-1120LX-N5A1E	Atom N455 1.66GHz	2GB Built-In	1	1	Line in Line out	320GB Built-in	1	4	2	N/A	1 Half size	0 ~ 40° C	Win XPE Built-in

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1120 unit
-	1 x Driver/Utility CD/manual
-	1 x Traditional Chinese user manual for CCC
-	1 x China RoHS
1960047289T001	DC power adapter locker
1757003553	AC-to-DC Adapter DC12 V/3 A 36 W, with DC-Jack, 0 ~ 40° C for Home and Office Use

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180 cm, USA type
170203183C	Power Cable 3-pin 180 cm, Europe Type
170203180A	Power Cable 3-pin 180 cm, UK Type
1700008921	Power Cable 3-pin PSE Mark 183cm
AMK-V003E	ARK-112X series VESA mount kits
AMK-R001E	ARK-112X series DIN Rail mount kits
AMK-W001E	ARK-112X series wall mount kits

Embedded OS

Part Number	Description
2070010313	XPE WES2009 V4.0 ENG
2070010314	XPE WES2009 V4.0 24MUL
2070010919	WES7E SP1 V5.1 ENG

ARK-1120F

Intel® Atom™ N455 with 4 COM Port Extendibility Fanless Box PC



Features

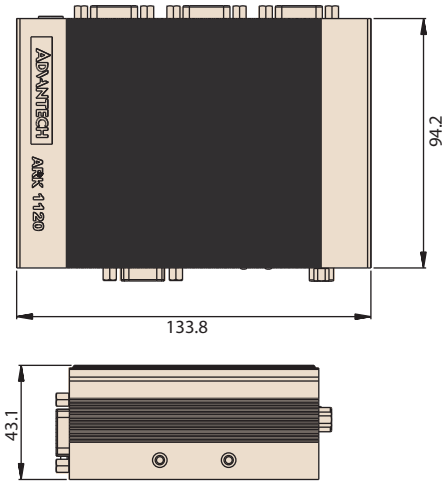
- Intel® Atom™ processor N455 1.66 GHz + ICH8M
- Low-power-consumption, <10W
- Palm-size design: 133.8(W) x 43.1(H) x 94.2(D) mm
- DDR3 memory support , up to 2GB
- Supports 2.5" SATA HDD Bay
- One half-size mini-PCIe slot. Ex: Wi-Fi add-on card
- 4COM ports (2 x RS-232, 2 x RS-232/422/485 select by BIOS)
- Optional VESA / DIN rail / Wall mounts
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

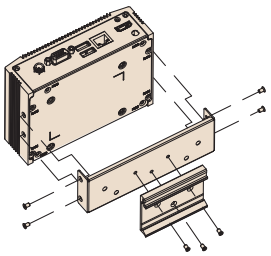
		ARK-1120F-N5A1E
Processor System	CPU	Intel Atom processor N455
	Frequency	1.66 GHz
	L2 Cache	512KB
	System Chipset	Intel ICH8-M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR3 up to 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 204 pin SO-DIMM
Graphics	Chipset	Intel ICH8-M
	Interface	CRT interface, up to 1600 x 1200 (SXGA)
Ethernet	LAN	1 x 10/100/1000 Mbps Intel 82567V GbE, Support Wake on LAN
Audio	Interface	N/A
I/O Interface	Serial Ports	2 x RS-232, 2 x RS-232/422/485 (by BIOS setting)
	USB Interface	2 x USB ports, USB 2.0 Compliant
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe	1 x half-size Mini PCIe
Storage	HDD	Support one SATA 2.5" HDD Bay (support 9.5mm height only)
	SSD	Supports CompactFlash socket for type I/II CompactFlash disk (only available for T-Parts and CTOS service)
Software Support	Microsoft Windows	Windows 7, XP Professional, XP Embedded, WinCE 6.0
	Linux	Ubuntu v10.04.1
Power Requirement	Power Type	ATX
	Power Input Voltage	12 V_{DC}, ± 10%
	Minimum Power Input	12 V, 1.5 A
	Power Adaptor	AC to DC, DC12 V/3 A, 36 W (Support DC Locker Design)
Power Consumption	Typical	9.12 W
	Max	10.80 W
Mechanical	Construction	Aluminum housing
	Mounting	Support DIN Rail / VESA / Wall mounts (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.70" x 3.71")
	Weight	0.7 kg (1.55 lb)
Environmental and Certifications	Operating Temperature	0 ~ 40° C (32 ~ 104° F) with 0.7m/s air flow and extend temperature HDD
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With CompactFlash disk: 3Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1hr/axis.
	Shock During Operation	With CompactFlash disk: 30Grms, IEC 60068-2-27 , half sine, 11 ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI, CB

Dimensions

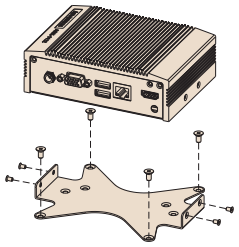
Unit: mm



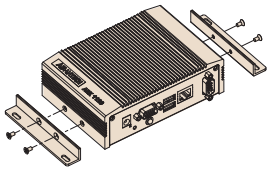
DIN Rail



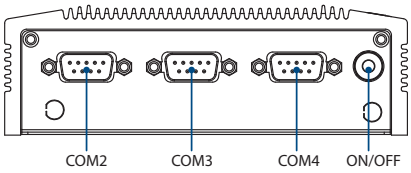
VESA mount



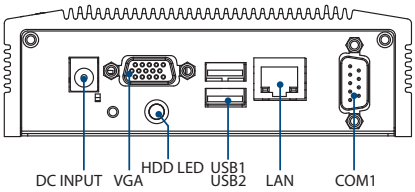
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	VGA	GbE	Audio	2.5" HDD bay	CF	USB 2.0	RS-232	RS-232/422/485	MiniPCIe	Operating Temp.
ARK-1120F-N5A1E	Atom N455 1.66GHz	Up to 2GB	1	1	N/A	1	1	2	2	2	1 Half size	0 ~ 40° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1120 unit
-	1 x Driver/Utility CD/manual
-	1 x Tranditional chinese user manual for CCC
-	1 x China RoHS
1960047289T001	DC power adapter locker
1757003553	AC-to-DC Adapter DC12 V/3 A 36 W, with DC-Jack, 0 ~ 40° C for Home and Office Use

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180 cm, USA type
170203183C	Power Cable 3-pin 180 cm, Europe Type
170203180A	Power Cable 3-pin 180 cm, UK Type
1700008921	Power Cable 3-pin PSE Mark 183cm
AMK-V003E	ARK-112X series VESA mount kits
AMK-R001E	ARK-112X series DIN Rail mount kits
AMK-W001E	ARK-112X series wall mount kits

Embedded OS

Part Number	Description
2070010313	XPE WES2009 V4.0 ENG
2070010314	XPE WES2009 V4.0 24MUL
2070010919	WES7E SP1 V5.1 ENG

ARK-1122H

Intel® Atom™ Dual Core N2600 with Independent Dual Displays Fanless Box PC



Features

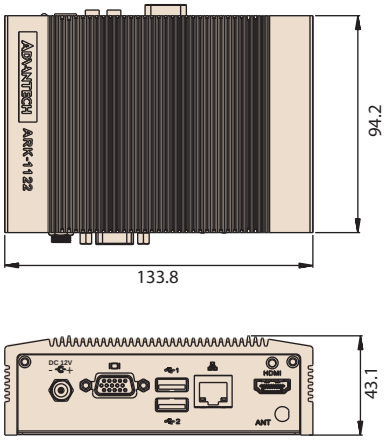
- Intel® Atom™ Dual Core N2600, 1.6 GHz
- Palm-size form factor : 133.8(W) x 43.1(H) x 94.2(D) mm
- Supports independent dual displays interfaces : VGA + HDMI
- Supports 1 x GbE and 4 USB 2.0 ports
- Supports 1 x RS-232 and Audio line in / line out
- Built-in 1 x half size Mini PCIe expansion slot (i.e.: Wi-Fi module)
- Supports mSATA and/or 2.5" SATA HDD bay
- Wide operating temperature -20 ~ 60° C support
- Optional VESA / DIN-Rail / Wall mounts
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

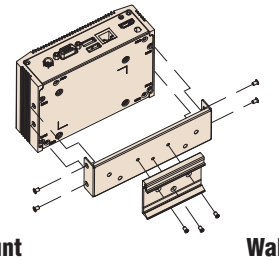
		ARK-1122H-S6A1E
Processor System	CPU	Intel Atom Dual Core N2600 1.6 GHz
	L2 Cache	1MB
	System Chipset	Intel NM10
	BIOS	AMI EFI 16 Mbit
Memory	Technology	DDR3 800 MHz up to 4 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Atom N2600
	Interface	VGA (1920 x 1200) HDMI (1920 x 1200) with lockable design (please choose the lockable HDMI cable)
Ethernet	LAN	1 x 10/100/1000 Mbps Intel 82583V GbE, supports wake on LAN
Audio	Chipset	Realtek ALC892, High Definition Audio (HD)
	Interface	Line-in and Line-out
I/O Interface	Serial Ports	1 x RS-232
	USB Interface	4 x USB ports, USB2.0 Compliant
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe	1 x half-size Mini PCIe
Storage	2.5" HDD/SSD	1 x SATA II HDD Bay
	mSATA	1 x full-size Mini PCIe slot
Software Support	Microsoft Windows	Windows 7 Pro, WES7, XP Embedded (XP Embedded by project support)
Power Requirement	Power Input Voltage	12 V_{DC}, ± 10%
	DC Jack Type	Support lockable design
	Power Adaptor	AC to DC, DC12 V/3 A, 36 W with lockable design
Power Consumption	Typical	6.89 W
	Max	11.45 W
Mechanical	Construction	Aluminum housing
	Mounting	Support VESA/DIN Rail/Wall mounting (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.7" x 3.71")
Environmental and Certifications	Operating Temperature	With standard temperature HDD/SSD/mSATA devices: 0 ~ 40° C With extended temperature SSD/mSATA devices: -20 ~ 60° C
	Storage Temperature	-40 ~ 85° C
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With SSD/mSATA: 3Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1hr/axis
	Shock During Operation	With SSD/mSATA:30Grms, IEC 60068-2-27, half sine, 11ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI

Dimensions

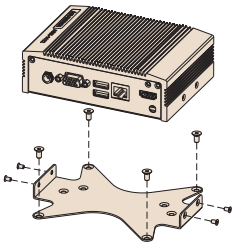
Unit: mm



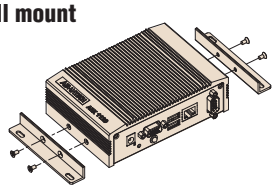
DIN Rail



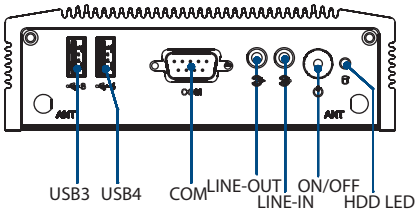
VESA mount



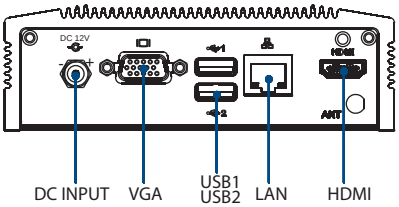
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	VGA	HDMI	Audio	GbE	2.5" HDD bay	mSATA Storage	USB 2.0	RS-232	RS-232/ 422/485	MiniPCIe	Operating Temp.	OS
ARK-1122H-S6A1E	Atom N2600 1.6GHz	Up to 4GB	1	1	Line in Line out	1	1	1	4	1	N/A	1 Half size	-20 ~ 60° C	-
ARK-1122HS-S6A1E	Atom N2600 1.6GHz	2GB Built in	1	1	Line in Line out	1	500GB HDD built in	1	4	1	N/A	1 Half size	0 ~ 40° C	WES7 Built-in

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1122 unit
-	1 x Driver/Utility CD/Manual
-	1 x Traditional Chinese user manual for CCC
-	1 x China RoHS
1757004096-01	1 x AC to DC adapter DC12 V/3 A 36 W, 0 ~ 40° C with lockable design

Embedded OS (Only available for T-Parts OEM, and CTOS service)

Part Number	Description
2070011879	WES7 for ARK-1122H & ARK-1122F

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type (For power adapter 1757004096-01)
170203183C	Power Cable 3-pin 180cm, Europe type (For power adapter 1757004096-01)
170203180A	Power Cable 3-pin 180cm, UK type (For power adapter 1757004096-01)
1700008921	Power Cable 3-pin PSE Mark 183cm (For power adapter 1757004096-01)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit
AMK-W001E	ARK-112X series Wall mounting kit

ARK-1122C

Intel® Atom™ Dual Core N2600 with 4 COM Port Extendibility Fanless Box PC



Windows Embedded SUSIAccess CE FCC RoHS

Features

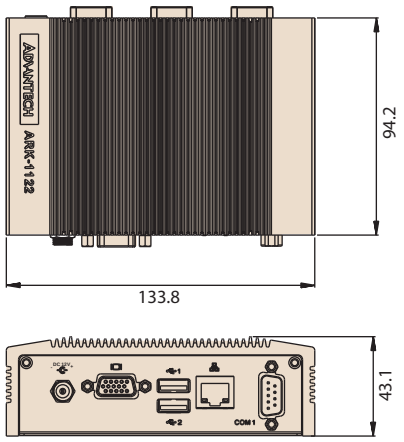
- Intel® Atom™ Dual Core N2600, 1.6 GHz
- Palm-size form factor : 133.8(W) x 43.1(H) x 94.2(D) mm
- Supports 4 x COM ports (2 x RS-232 & 2 x RS-232/422/485, select by BIOS)
- Supports 1 x VGA and 4 x USB 2.0 ports
- Built-in 1 x half size Mini PCIe expansion slot (i.e.: Wi-Fi module)
- Supports mSATA storage (Hard drive bay by request)
- Wide operating temperature -20 ~ 60° C support
- Optional VESA / DIN-Rail / Wall mounts
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

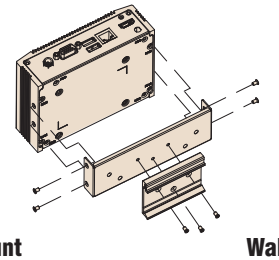
		ARK-1122C-S6A1E
Processor System	CPU	Intel Atom Dual Core N2600 1.6 GHz
	L2 Cache	1MB
	System Chipset	Intel NM10
	BIOS	AMI EFI 16 Mbit
Memory	Technology	DDR3 800 MHz, up to 4 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Atom N2600
	Interface	VGA (1920 x 1200)
Ethernet	LAN	1 x 10/100/1000 Mbps Intel 82583V GbE
I/O Interface	Serial Ports	2 x RS-232, 2 x RS-232/422/485, selected by BIOS
	USB Interface	4 x USB ports, USB2.0 Compliant (Standard) or 2 x USB ports (Option 2.5" drive bay version)
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe	1 x half-size Mini PCIe
Storage	2.5" HDD/SSD	1 x SATA II HDD bay (Optional by T-Part)
	mSATA	1 x full-size Mini PCIe slot
Software Support	Microsoft Windows	Windows 7 Pro, WES7, XP Embedded (XP Embedded by project support)
Power Requirement	Power Input Voltage	12 V_{DC}, ± 10%
	DC Jack Type	Support lockable design
	Power Adaptor	AC to DC, DC12 V/3 A, 36 W with lockable design
Power Consumption	Typical	5.4 W
	Max	9.47 W
Mechanical	Construction	Aluminum housing
	Mounting	Support VESA/DIN Rail/Wall mounting (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.7" x 3.71")
Environmental and Certifications	Operating Temperature	With standard temperature HDD/SSD/mSATA devices: 0 ~ 40° C With extended temperature SSD/mSATA devices: -20 ~ 60° C
	Storage Temperature	-40 ~ 85° C
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With SSD/mSATA: 3Grms, IEC 60068-2-27, half sine, 11ms duration
	Shock During Operation	With SSD/mSATA: 30Grms, IEC 60068-2-27, half sine, 11ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI

Dimensions

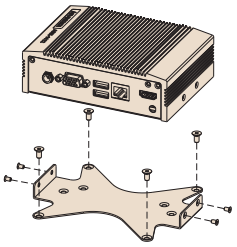
Unit: mm



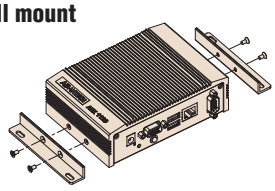
DIN Rail



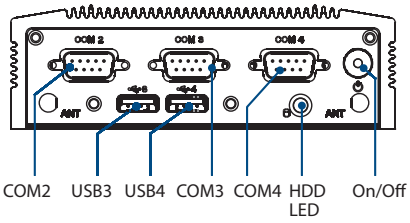
VESA mount



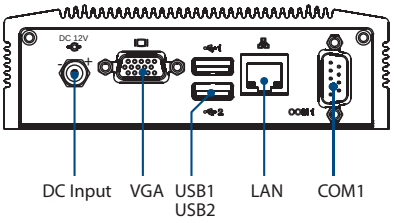
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	VGA	HDMI	Audio	GbE	2.5" HDD bay	mSATA Storage	USB 2.0	RS-232	RS-232/ 422/485	MiniPCIe	Operating Temp.
ARK-1122C-S6A1E	Atom N2600 1.6GHz	Up to 4GB	1	N/A	N/A	1	Optional by T-PN	1	4 (Standard) ; 2 (Option 2.5" HDD bay version)	2	2	1 Half size	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1122 unit
-	1 x Driver/Utility CD/Manual
-	1 x Traditional Chinese user manual for CCC
-	1 x China RoHS
1757004096-01	1 x AC to DC adapter DC12 V/3 A 36 W, 0 ~ 40° C with lockable design

Embedded OS

Part Number	Description
2070011881	WES7 for ARK-1122C
2070012167	XPE for ARK-1122C

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type (For power adapter 1757004096-01)
170203183C	Power Cable 3-pin 180cm, Europe type (For power adapter 1757004096-01)
170203180A	Power Cable 3-pin 180cm, UK type (For power adapter 1757004096-01)
1700008921	Power Cable 3-pin PSE Mark 183cm (For power adapter 1757004096-01)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit
AMK-W001E	ARK-112X series Wall mounting kit

ARK-1122F

Intel® Atom™ Dual Core N2800 with Diverse Communications Fanless Box PC



Features

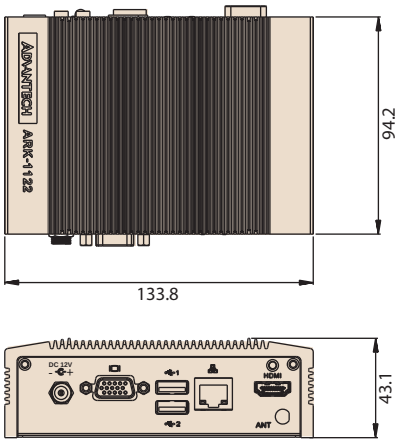
- Intel® Atom™ Dual Core N2800, 1.86 GHz
- Palm-size form factor : 133.8(W) x 43.1(H) x 94.2(D) mm
- Supports 2 x Intel GbE
- Built-in 2 x Mini PCIe slots for Wi-Fi/3G communications (1 w/ SIM)
- Supports independent dual displays interfaces : VGA + HDMI
- Supports 1 x RS-232, Audio line in / line out and 3 USB 2.0 ports
- Supports mSATA storage
- Wide operating temperature -20 ~ 60 C support
- Optional VESA / DIN-Rail / Wall mounts
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

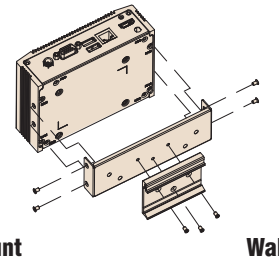
		ARK-1122F-S8A1E
Processor System	CPU	Intel Atom Dual Core N2800 1.86 GHz
	L2 Cache	1MB
	System Chipset	Intel NM10
	BIOS	AMI EFI 16 Mbit
Memory	Technology	DDR3 1066 MHz up to 4 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Atom N2800
	Interface	VGA (1920 x 1200) HDMI (1920 x 1200) with lockable design (please choose the lockable HDMI cable)
Ethernet	LAN	2 x 10/100/1000 Mbps Intel 82583V GbE
Audio	Chipset	Realtek ALC892, High Definition Audio (HD)
	Interface	Line-in and Line-out
I/O Interface	Serial Ports	1 x RS-232
	USB Interface	3 x USB ports, USB2.0 Compliant
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe	1 x half-size Mini PCIe 1 x full-size Mini PCIe w/SIM Holder
Storage	mSATA	1 x full-size Mini PCIe slot
Software Support	Microsoft Windows	Windows 7 Pro, WES7, XP Embedded (XP Embedded by project support)
Power Requirement	Power Input Voltage	12 V_{DC}, ± 10%
	DC Jack Type	Support lockable design
	Power Adaptor	AC to DC, DC12 V/3 A, 36 W with lockable design
Power Consumption	Typical	7.84 W
	Max.	13.15 W
Mechanical	Construction	Aluminum housing
	Mounting	Support VESA/DIN Rail/Wall mounting (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.7" x 3.71")
Environmental and Certifications	Operating Temperature	With standard temperature mSATA devices: 0 ~ 40° C With extended temperature mSATA devices: -20 ~ 60° C
	Storage Temperature	-40 ~ 85° C
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With mSATA: 3Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1hr/axis
	Shock During Operation	With mSATA:30Grms, IEC 60068-2-27, half sine, 11ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI

Dimensions

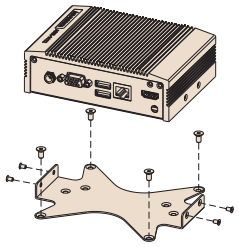
Unit: mm



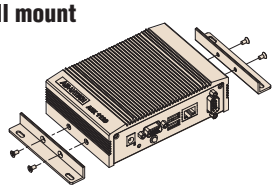
DIN Rail



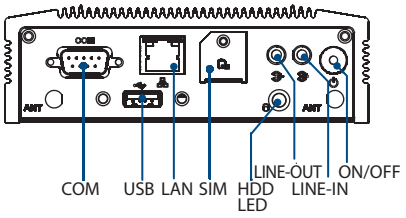
VESA mount



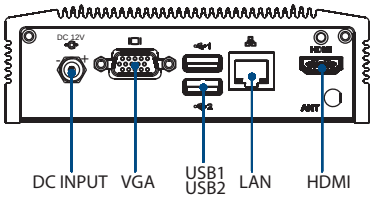
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	VGA	HDMI	Audio	GbE	2.5" HDD bay	mSATA Storage	USB 2.0	RS-232	RS-232/ 422/485	MiniPCIe	Operating Temp.
ARK-1122F-S8A1E	Atom N2800 1.8GHz	Up to 4GB	1	1	Line in, Line out	2	N/A	1	3	1	N/A	1 Half size, 1 Full size w/ SIM	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1122 unit
-	1 x Driver/Utility CD/Manual
-	1 x Traditional Chinese user manual for CCC
-	1 x China RoHS
1757004096-01	1 x AC to DC adapter DC12 V/3 A 36 W, 0 ~ 40° C with lockable design
9680015085	1 x L type Wrench 18x51mm for SIM cover

Embedded OS (Only available for T-Parts OEM, and CTOS service)

Part Number	Description
2070011879	WES7 for ARK-1122H & ARK-1122F

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type (For power adapter 1757004096-01)
170203183C	Power Cable 3-pin 180cm, Europe type (For power adapter 1757004096-01)
170203180A	Power Cable 3-pin 180cm, UK type (For power adapter 1757004096-01)
1700008921	Power Cable 3-pin PSE Mark 183cm (For power adapter 1757004096-01)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit
AMK-W001E	ARK-112X series Wall mounting kit

ARK-1123L

Intel® Atom E3825 SoC with Dual COM and GPIO Palm-Size Fanless Box PC



Features

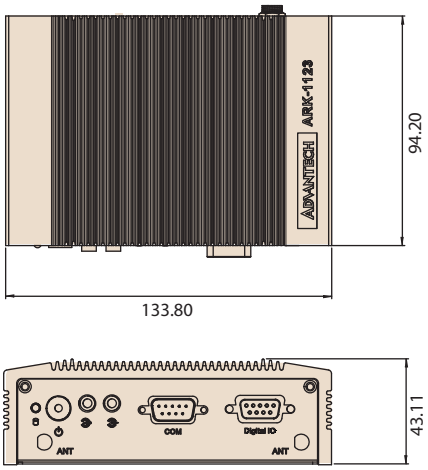
- Intel® Atom™ Processor E3825 Dual Core 1.33 GHz SoC
- 1 x 2.5" SATA HDD/SSD Bay
- 1 x GbE & 1 x HDMI & 1 x GPIO
- 1 x RS-232 & 1 x RS-232/422/485
- 1 x Full-Size MiniPCIe (ex. WLAN or WWAN module)
- 1 x Half Size MiniPCIe (ex. mSATA)
- Optional VESA / DIN Rail / Wall Mounting kits
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

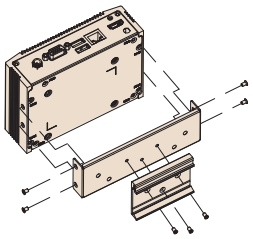
		ARK-1123L-S3A1E
Processor System	CPU	Intel Atom E3825 Dual Core SoC
	Frequency	1.33 GHz
	L2 Cache	1 MB
	BIOS	AMI EFI
Memory	Technology	DDR3L 1066MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	7th Gen. Intel Graphic core
	Graphic Engine	DirectX* 11.1, OGL 3.0, OCL 1.1, OGL ES 2.0 support Encode: H264, MPEG2/4, VC1, WMV9 Decode: H264, MPEG2
	HDMI	1 x Lockable HDMI connector (please choose the lockable HDMI cable)
Audio	Main System	ALC-888S, High Definition Audio. Line-out & Line-in
Ethernet	LAN #1	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN
I/O Interface	Serial Ports	1 x RS-232 & 1 x RS-232/422/485 (BIOS selectable)
	USB Interface	1 x USB 2.0 & 1 x USB3.0
Other	Watchdog timer	255-level timer interval, setup by software
	GPIO	8 bit GPIO
Expansion	Mini PCIe #1	1 x Full-size Mini PCIe, support WLAN or WWAN module
	Mini PCIe #2	1 x Half-size Mini PCIe, support mSATA module
Storage	2.5" Drive Bay	1 x 2.5" SATA HDD Bay (Max Height 9.5mm)
	mSATA	Leverage MiniPCIe #2 slot
Software Support	Microsoft Windows	WES8, Windows 8, WES7 (TBC), Windows 7 (TBC)
	Linux	Support (by Project)
Power Requirement	Power Input Voltage	12 V_{DC}, ± 10%
	Power Adapter	AC to DC, DC12 V/3 A, 36 W with lockable design
Mechanical	Construction	Aluminum housing
	Mounting	VESA/DIN Rail/Wall Mounting Kits (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.7" x 3.71")
Environment	Operating Temperature	With extended temperature SSD/mSATA/RAM : -30 ~ 60° C with 0.7m/s air flow With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C with 0.7m/s air flow
	Storage Temperature	-40 ~ 85° C (-40~185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With mSATA/SSD: 3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis With HDD: 0.5Grms, IEC 60068-2-64, random, 5~500Hz, 3 axes, 1hr/axis
	Shock During Operation	With mSATA/SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration With HDD: 0.5G, IEC 60068-2-27, half sine, 11 ms duration
Regulation	EMC	CE/FCC Class A, CCC, BSMI
	Safety	UL, CCC, BSMI, CB

Dimensions

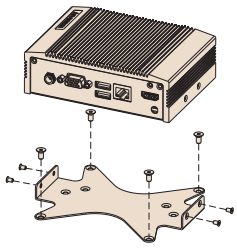
Unit: mm



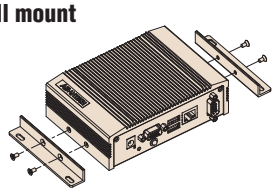
DIN Rail



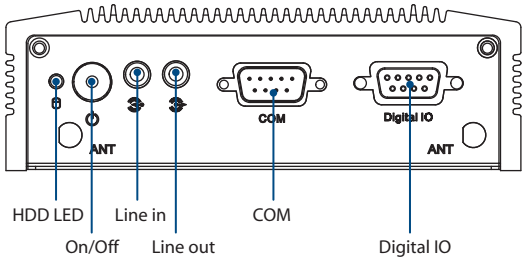
VESA mount



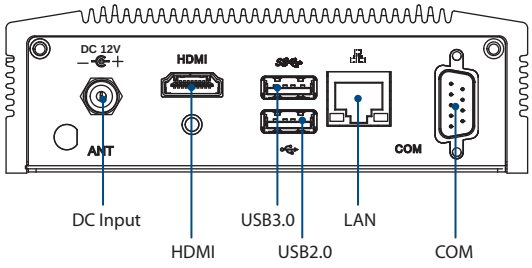
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	HDMI	GbE	USB 2.0	USB 3.0	RS-232	RS-232/ 422/485	GPIO	Audio	MiniPCIe	2.5" HDD bay	mSATA	Operating Temperature
ARK-1123L-S3A1E	Intel Atom E3825	Up to 8GB	1	1	1	1	1	1	1	Line in Line out	1 Half size 1 Full size	1	1	-30 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1123L Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
1757004096-01	1 x AC to DC adapter DC12 V/3 A 36 W, 0 ~ 40° C with lockable design

Embedded OS (Only available for T-Parts OEM, and CTOS service)

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type (For power adapter 1757004096-01)
170203183C	Power Cable 3-pin 180cm, Europe type (For power adapter 1757004096-01)
170203180A	Power Cable 3-pin 180cm, UK type (For power adapter 1757004096-01)
1700008921	Power Cable 3-pin PSE Mark 183cm (For power adapter 1757004096-01)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit
AMK-W001E	ARK-112X series Wall mounting kit

ARK-1123C

Intel® Atom E3825 SoC with Dual GbE and Dual COM Fanless Box PC



Features

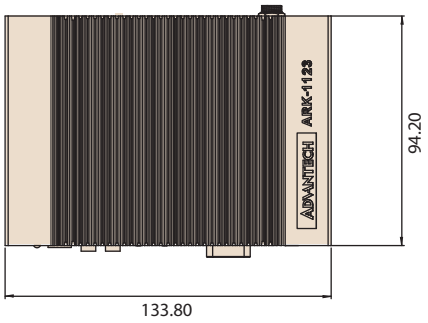
- Intel® Atom™ E3825 Dual Core 1.33 GHz SoC
- 1 x 2.5" SATA HDD/SSD Bay & 1 x HDMI
- 2 x GbE for Multiple Internet Transmission
- 2 x RS-232/422/485 (BIOS selection)
- 1 x Full-Size MiniPCIe (ex. WLAN or WWAN module)
- 1 x Half Size MiniPCIe (ex. mSATA)
- Optional VESA / DIN Rail / Wall Mounting kits
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

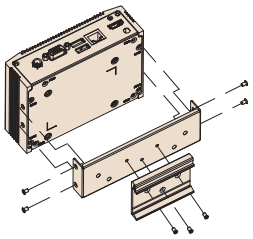
		ARK-1123C-S3A1E
Processor System	CPU	Intel Atom Processor E3825 Dual Core SoC
	Frequency	1.33 GHz
	L2 Cache	1 MB
	BIOS	AMI EFI
Memory	Technology	DDR3L 1066MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	7th Gen. Intel Graphic core
	Graphic Engine	DirectX* 11.1, OGL 3.0, OCL 1.1, OGL ES 2.0 support Encode: H264, MPEG2/4, VC1, WMV9 Decode: H264, MPEG2
	HDMI	1 x Lockable HDMI connector (please choose the lockable HDMI cable)
Audio	Main System	ALC-888S, High Definition Audio. Line-out & Line-in
Ethernet	LAN #1	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN
	LAN #2	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN
I/O Interface	Serial Ports	2 x RS-232/422/485 (BIOS selectable)
	USB Interface	2 x USB 2.0 & 1 x USB3.0
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe #1	1 x Full-size Mini PCIe, support WLAN or WWAN module
	Mini PCIe #2	1 x Half-size Mini PCIe, support mSATA module
Storage	2.5" Drive Bay	1 x 2.5" SATA HDD Bay (Max Height 9.5mm)
	mSATA	Leverage MiniPCIe #2 slot
Software Support	Microsoft Windows	WES8, Windows 8, WES7 (TBC), Windows 7 (TBC)
	Linux	Support (by Project)
Power Requirement	Power Input Voltage	12 V_{DC}, ± 10%
	Power Adapter	AC to DC, DC12 V/3 A, 36 W with lockable design
Mechanical	Construction	Aluminum housing
	Mounting	VESA/DIN Rail/Wall Mounting Kits (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.7" x 3.71")
Environment	Operating Temperature	With extended temperature SSD/mSATA/RAM : -30 ~ 60° C with 0.7m/s air flow With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C with 0.7m/s air flow
	Storage Temperature	-40 ~ 85° C (-40~185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With mSATA/SSD: 3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis With HDD: 0.5Grms, IEC 60068-2-64, random, 5~500Hz, 3 axes, 1hr/axis
	Shock During Operation	With mSATA/SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration With HDD: 0.5G, IEC 60068-2-27, half sine, 11 ms duration
Regulation	EMC	CE/FCC Class A, CCC, BSMI
	Safety	UL, CCC, BSMI, CB

Dimensions

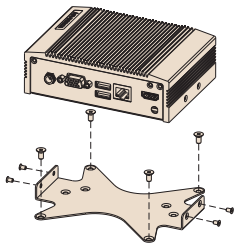
Unit: mm



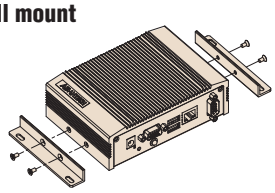
DIN Rail



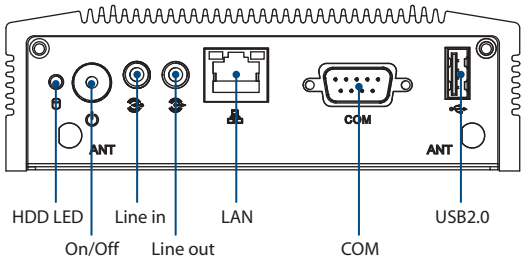
VESA mount



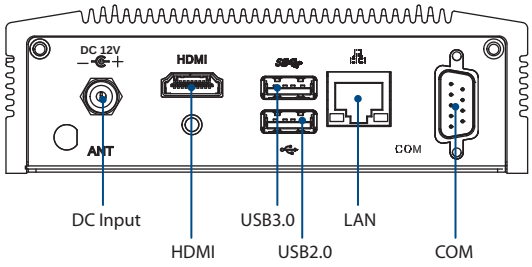
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	CPU	RAM	HDMI	GbE	USB 2.0	USB 3.0	RS-232/ 422/485	Audio	MiniPCIe	2.5" HDD bay	mSATA	Operating Temperature
ARK-1123C-S3A1E	Intel Atom E3825	Up to 8GB	1	2	2	1	2	Line in Line out	1 Half size 1 Full size	1	1	-30 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1123C Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
1757004096-01	1 x AC to DC adapter DC12 V/3 A 36 W, 0 ~ 40° C with lockable design

Embedded OS (Only available for T-Parts OEM, and CTOS service)

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type (For power adapter 1757004096-01)
170203183C	Power Cable 3-pin 180cm, Europe type (For power adapter 1757004096-01)
170203180A	Power Cable 3-pin 180cm, UK type (For power adapter 1757004096-01)
1700008921	Power Cable 3-pin PSE Mark 183cm (For power adapter 1757004096-01)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit
AMK-W001E	ARK-112X series Wall mounting kit

ARK-1123H

Intel® Celeron Quad Core J1900 SoC with Dual HDMI and Dual GbE Fanless Box PC



Features

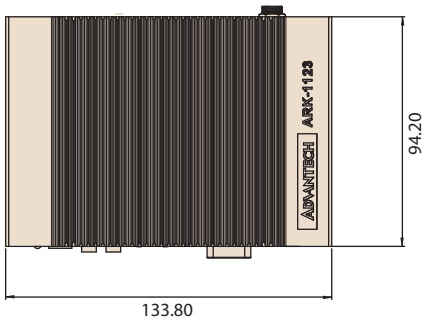
- Intel® Celeron™ J1900 Quad Core 2.0 GHz SoC
- 1 x 2.5" SATA HDD/SSD Bay
- 2 x GbE for Multiple Internet Transmission
- 2 x Independent HDMI
- 1 x RS-232/422/485 (BIOS selection)
- 1 x Full-Size MiniPCIe (ex. WLAN or WWAN module)
- 1 x Half Size MiniPCIe (ex. mSATA)
- Optional VESA / DIN Rail / Wall Mounting kits
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

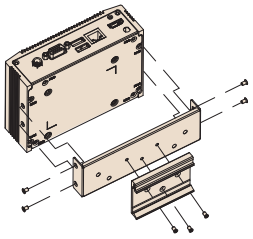
		ARK-1123H-U0A1E
Processor System	CPU	Intel Celeron Processor J1900 Quad Core SoC
	Frequency	2.0 GHz
	L2 Cache	2 MB
	BIOS	AMI EFI
Memory	Technology	DDR3L 1333MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	7th Gen. Intel Graphic core
	Graphic Engine	DirectX* 11.1, OGL 3.0, OCL 1.1, OGL ES 2.0 support Encode: H264, MPEG2/4, VC1, WMV9 Decode: H264, MPEG2
	HDMI	2 x Lockable HDMI connector (please choose the lockable HDMI cable)
Audio	Main System	ALC-888S, High Definition Audio. Line-out & Line-in
Ethernet	LAN #1	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN
	LAN #2	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN
I/O Interface	Serial Ports	1 x RS-232/422/485 (BIOS selectable)
	USB Interface	2 x USB 2.0 & 1 x USB3.0
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe #1	1 x Full-size Mini PCIe, support WLAN or WWAN module
	Mini PCIe #2	1 x Half-size Mini PCIe, support mSATA module
Storage	2.5" Drive Bay	1 x 2.5" SATA HDD Bay (Max Height 9.5mm)
	mSATA	Leverage MiniPCIe #2 slot
Software Support	Microsoft Windows	WES8, Windows 8, WES7 (TBC), Windows 7 (TBC)
	Linux	Support (by Project)
Power Requirement	Power Input Voltage	12 V_{DC}, ± 10%
	Power Adapter	AC to DC, DC12 V/3 A, 36 W with lockable design
Mechanical	Construction	Aluminum housing
	Mounting	VESA/DIN Rail/Wall Mounting Kits (Optional)
	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm (5.27" x 1.7" x 3.71")
Environment	Operating Temperature	With extended temperature SSD/mSATA/RAM : -20 ~ 60° C with 0.7m/s air flow With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C with 0.7m/s air flow
	Storage Temperature	-40 ~ 85° C (-40~185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With mSATA/SSD: 3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis With HDD: 0.5Grms, IEC 60068-2-64, random, 5~500Hz, 3 axes, 1hr/axis
	Shock During Operation	With mSATA/SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration With HDD: 0.5G, IEC 60068-2-27, half sine, 11 ms duration
Regulation	EMC	CE/FCC Class A, CCC, BSMI
	Safety	UL, CCC, BSMI, CB

Dimensions

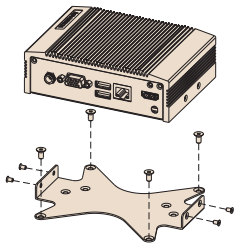
Unit: mm



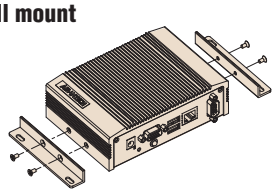
DIN Rail



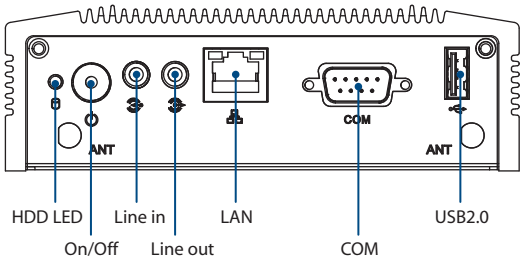
VESA mount



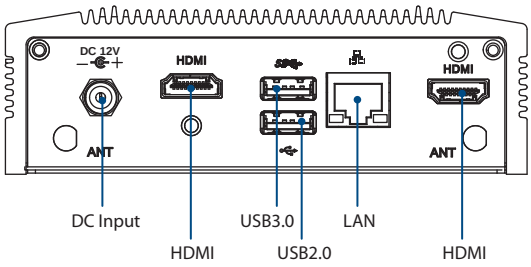
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	CPU	RAM	HDMI	GbE	USB 2.0	USB 3.0	RS-232/ 422/485	Audio	MiniPCIe	2.5" HDD bay	mSATA	Operating Temperature
ARK-1123H-U0A1E	Intel Celeron J1900	Up to 8GB	2	2	2	1	1	Line in Line out	1 Half size 1 Full size	1	1	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1123H Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
1757004096-01	1 x AC to DC adapter DC12 V/3 A 36 W, 0 ~ 40° C with lockable design

Embedded OS (Only available for T-Parts OEM, and CTOS service)

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type (For power adapter 1757004096-01)
170203183C	Power Cable 3-pin 180cm, Europe type (For power adapter 1757004096-01)
170203180A	Power Cable 3-pin 180cm, UK type (For power adapter 1757004096-01)
1700008921	Power Cable 3-pin PSE Mark 183cm (For power adapter 1757004096-01)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit
AMK-W001E	ARK-112X series Wall mounting kit

ARK-1503

Intel® Atom™ D525 with Integrated Display Interface Fanless Box PC



Features

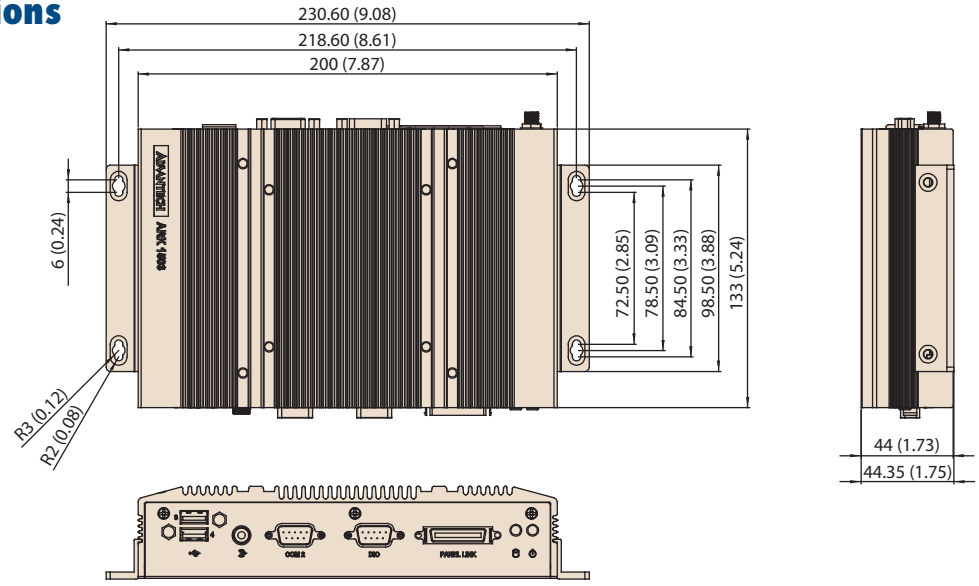
- Intel® Atom® D525 Dual Core 1.8 GHz
- Supports integrated LVDS interface, with LVDS/2 x USB/Rx/Tx signal (compliant with ITM-5115)
- Supports 2 x Intel GbE and 4 USB 2.0 ports
- Supports 1 x RS-232, 1 x RS-232/422/485 with Auto-flow control
- Built-in 1 x Mini PCIe expansion slot for communication module, like WLAN
- Supports external CF socket, 2.5" SATA HDD Bay
- DC 12V power input
- Lockable DC jack design
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

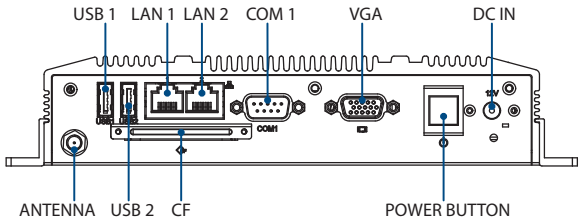
		ARK-1503F-D6A1E
Processor System	CPU	Intel Atom D525
	Frequency	1.8 GHz (Dual Core)
	L2 Cache	1MB
	System Chipset	Intel ICH8-M
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	Single channel DDR3 1066/1333 MHz
	Max. Capacity	4 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Gen 3.5 DX9, MPEG2 Decode in HW
	VRAM	Optimized Shared Memory Architecture up to 224 MB system memory
	Interface	VGA: Supports up to 2048 x 1536 @ 60 Hz LVDS: Single channel 24-bit LVDS up to WXGA 1366 x 768 (Integrated in I-Panel Link)
	Dual Display	VGA + LVDS
Ethernet	LAN1	10/100/1000 Mbps Intel 82567V GbE, support Wake On LAN
	LAN2	10/100/1000 Mbps Intel 82583V GbE, support Wake On LAN
Audio	Interfaces	Realtek ALC892, Line-out
IO Interface	Serial Ports	1 x RS-232, 1 x RS-232/422/485 port, support Auto-flow control
	USB Interface	4 x USB ports, USB 2.0 Compliant
	Digital I/O	8-bit programmable DIO
	Watchdog timer	255-level timer interval, setup by software
	Integrated LVDS Interface	DB36 with LVDS, 2 x USB, Rx/Tx and backlight control
Storage	HDD	Supports one SATA 2.5" HDD Bay (support 9.5 mm height only)
	SSD	Supports one external CompactFlash socket for type I/II CompactFlash disk
Expansion	Mini PCIe	1 x full-size Mini PCIe
Software Support	Microsoft Windows	Windows 7, XP Professional, XP Embedded
Power Requirement	Power Type	AT/ATX
	Power Input Voltage	12 V_{DC}, ± 10%
	Minimum Power Input	DC 12V @ 3A (without supplying power to panel)
	Power Adapter	AC-to-DC, 60W DC12V/5A
Power Consumption	Typical	11.88 W (with Intel Atom D525 at 1.8 GHz and w/o supplying power to panel)
	Max.	16.44 W (with Intel Atom D525 at 1.8 GHz and w/o supplying power to panel)
Mechanical	Construction	Aluminum housing
	Mounting	Desk/wall-mounting
	Dimensions (W x H x D)	230.6 x 44.4 x 133.0 mm (9.08" x 1.75" x 5.24")
	Weight	1.9 kg (4.18 lbs)
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60° C, w/extend temperature HDD: 0-45° C
	Storage Temperature	- 40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration Loading During Operation	With Compact Flash/2.5" SATA SSD only: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis
	Shock During Operation	With Compact Flash/2.5" SATA SSD only: 50 G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class A, BSMI, CCC, KCC
	Safety Certifications	UL, CCC, BSMI, KCC

Dimensions

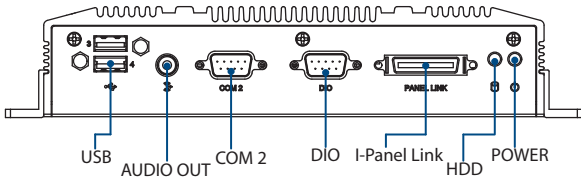
Unit: mm



Front Panel External I/O



Rear Panel External I/O



Ordering Information

Part Number	Intel CPU	RAM	VGA	LVDS	Audio	GbE	2.5" HDD bay	CF	USB 2.0	RS-232	RS-232/ 422/485	8-bit GPIO	MiniPCIe	Operating Temp.
ARK-1503F-D6A1E	Atom D525 1.8GHz	Up to 4GB	1	1	Line out	2	1	1	4	1	1	1	1 Full size	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1503 Unit
-	1 x Driver/Utility CD/Manual
-	1 x Power bracket
1700001967	1 x Flat cable for RS-485/422 mode of COM2 (ARK-1503F-D6A1E & ARK-1503F-D4A1E only)

Embedded OS

Part Number	Description
2070010408	Image XPE WES2009 ARK-1503 V4.0 ENG
2070010409	Image XPE WES2009 ARK-1503 V4.0 24MUI

Optional Items

Part Number	Description
1757003934	AC-to-DC Adapter, DC 12V/5A 60W, with DC Jack Plug, 0 ~ 40° C for Home and Office Use
1700001947	Power cable 2-pin 180 cm, USA type (For power adapter 1757003934)
1700001948	Power cable 2-pin 180 cm, Europe type (For power adapter 1757003934)
1700001949	Power cable 2-pin 180 cm, UK type (For power adapter 1757003934)
1700002141	Power cable 2-pin 180 cm, PSE type (For power adapter 1757003934)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V004E	VESA mounting kit
AMK-R002E	DIN-rail mounting kit

ARK-1504

Intel® Atom™ E3825 / Celeron® J1900 SoC Slim and Panel Mountable Fanless Box PC



Features

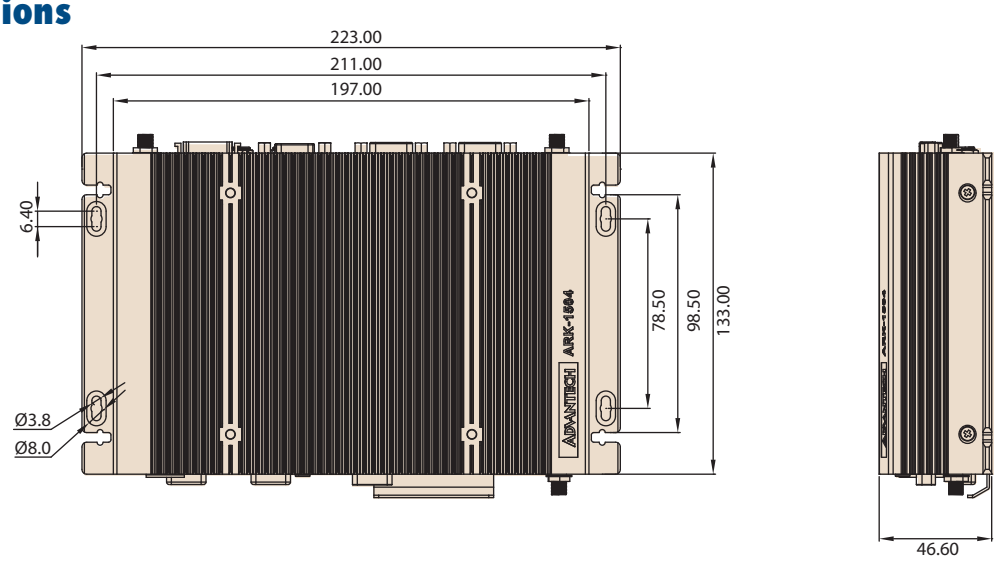
- Intel® Atom E3825 Dual Core 1.3GHz & Celeron® J1900 Quad Core 2.0GHz
- One Removable 2.5" SATA HDD Bay and mSATA slot
- Triple Independent Displays by VGA + HDMI + LVDS (LVDS option)
- Optional VESA / DIN Rail Mounting kits
- Supports 2 x Intel GbE and GPIO
- Built-in 1 x full size MiniPCIe (i.e.: mSATA) and 1 x full size MiniPCIe w/ SIM (i.e.: 3G or Wi-Fi module)
- Lockable DC jack design
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

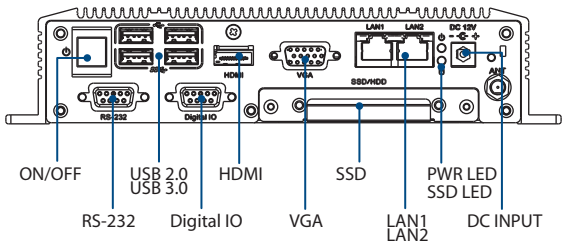
		ARK-1504-S3A1E	ARK-1504-U0A1E
Processor System	CPU	Intel® Atom E3825 Dual Core	Intel® Celeron J1900 Quad Core
	Frequency	1.3 GHz	2.0 GHz
	L2 Cache	1 MB	2 MB
	BIOS	AMI EFI 64 Mbit	
Memory	Technology	DDR3L 1066 MHz	DDR3L 1333 MHz
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SO-DIMM	
Graphics	Chipset	Intel Gen7 graphic engine	
	Graphic Engine	DirectX* 11.1, OpenGL* 4.0 support. Full AVC/VC1/MPEG2 HW Decode	
	VGA	DB15, up to 1600 x 1200	
	HDMI	Lockable HDMI connector, up to 1080p (please choose the lockable HDMI cable)	
	LVDS (Option)	Up to 1920 x 1200	
Audio	Main System	ALC-888S, High Definition Audio. Line-out,Mic-in,Line-in	
Ethernet	LAN #1	10/100/1000 Mbps Intel i210 GbE, support Wake on LAN	
	LAN #2	10/100/1000 Mbps Intel i210 GbE, support Wake on LAN	
I/O Interface	Serial Ports	1 x RS-232 & 2 x RS-232/422/485 (BIOS selectable)	
	USB Interface	3 x USB 2.0 & 1 x USB3.0	
	GPIO	8-bit Programmable	
Other	Watchdog timer	255-level timer interval, setup by software	
Expansion	Mini PCIe #1	1 x Full-size Mini PCIe, support mSATA storage or WWAN module	
	Mini PCIe #2	1 x Full-size Mini PCIe w/ SIM, support WLAN or WWAN module	
Storage	2.5" Drive Bay	1 x Removable 2.5" SATA HDD bay (Max Height 9.5mm)	
	mSATA	Leverage MiniPCIe #1 slot	
Software Support	Microsoft Windows	WES8, WES7, Windows 8, Windows 7	
	Linux	Support (by Project)	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage	12 V_{DC}, ± 10%	
Mechanical	Construction	Aluminum housing	
	Mounting	Desk/Wall Mounting (Standard), VESA & DIN-Rail Mounting Kit (Optional)	
	Dimensions (W x H x D)	223 x 46.6 x 133.0 mm	
Environment	Operating Temperature	With extended temperature SSD/mSATA/RAM :-20 ~ 60° C with 0.7m/s air flow With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration During Operation	With mSATA/SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis	
	Shock During Operation	With mSATA/SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration	
Regulation	EMC	CE/FCC Class A, CCC, BSMI	
	Safety	UL, CCC, BSMI, CB	

Dimensions

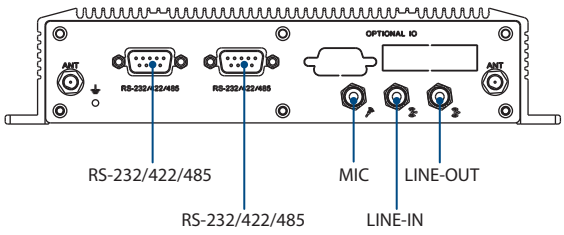
Unit: mm



Front Panel External I/O



Rear Panel External I/O



Ordering Information

Part Number	Intel CPU	VGA	HDMI	GbE	USB2.0	USB3.0	GPIO	RS-232	RS-232/ 422/485	Audio	MiniPCIe	RAM	2.5" HDD bay	mSATA	Operating Temperature
ARK-1504-S3A1E	Intel® Atom E3825 DC 1.3GHz	1	1	2	3	1	1	1	2	Line in Line out Mic in	2 Full size (1 w/ SIM)	Up to 8GB	1	1	-20 ~ 60° C
ARK-1504-U0A1E	Intel® Celeron J1900 QC 2.0GHz														

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1504 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
-	1 x Power bracket

Embedded OS

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
1757003934	AC-to-DC Adapter, DC 12V/5A 60W, with DC Jack Plug, 0 ~ 40° C for Home and Office Use
1700001947	Power cable 2-pin 180 cm, USA type (For power adapter 1757003934)
1700001948	Power cable 2-pin 180 cm, Europe type (For power adapter 1757003934)
1700001949	Power cable 2-pin 180 cm, UK type (For power adapter 1757003934)
1700002141	Power cable 2-pin 180 cm, PSE type (For power adapter 1757003934)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V004E	VESA mounting kit
AMK-R002E	DIN-rail mounting kit
TBC	LVDS Module

ARK-1550

Intel® 4th Generation Core i5 4300U / Celeron 2980U SoC Slim and Panel Mountable Fanless Box PC



Features

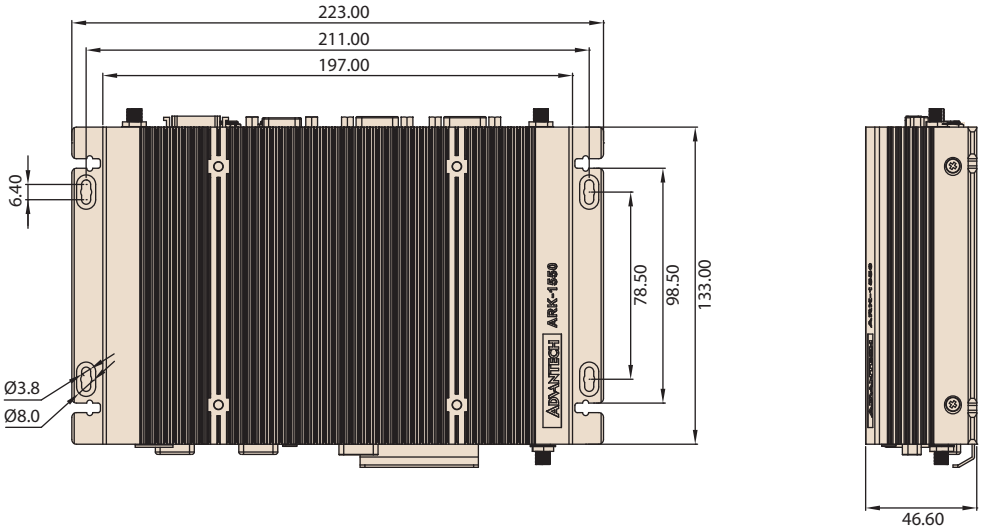
- Intel® Dual Core Celeron 2980U 1.6 GHz / Core i5 4300U 1.9 GHz SoC
- One Removable 2.5" SATA HDD Bay and mSATA slot
- Triple Independent Displays by VGA + HDMI + LVDS (LVDS option)
- Optional VESA / DIN Rail Mounting kits
- Supports 2 x Intel GbE and GPIO
- Built-in 1 x full size MiniPCIe (i.e.: 3G module) and 1 x half size MiniPCIe slot (i.e.: WIFI module)
- Lockable DC jack design
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

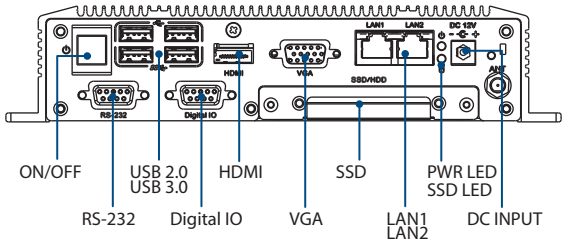
		ARK-1550-S6A1E	ARK-1550-S9A1E
Processor System	CPU	Intel Celeron 2980U Dual Core	Intel i5-4300U Dual Core
	Frequency	1.6 GHz	1.9 GHz
	L3 Cache	2 MB	3 MB
	BIOS	AMI EFI 128 Mbit	
Memory	Technology	DDR3L 1333 MHz	DDR3L 1600 MHz
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SO-DIMM	
Graphics	Chipset	GT3 Graphics, Generation 7.5 graphics core architecture	
	Graphic Engine	DirectX* 11.1, OpenGL* 4.0 support. Full AVC/VC1/MPEG2 HW Decode	
	VGA	DB15, up to 1920 x 1200.	
	HDMI	Lockable HDMI connector, up to 1920 x 1200 (please choose the lockable HDMI cable)	
	LVDS (Option)	Up to 1900 x 1200	
Audio	Main System	Realtek ALC888, High Definition Audio. Line-out,Mic-in,Line-in	
Ethernet	LAN #1	10/100/1000 Mbps Intel I218 GbE, support Wake on LAN	
	LAN #2	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN	
I/O Interface	Serial Ports	1 x RS-232 & 2 x RS-232/422/485 (BIOS selectable)	
	USB Interface	2 x USB 2.0 & 2 x USB3.0	
	GPIO	8 bit GPIO	
Other	Watchdog timer	255-level timer interval, setup by software	
Expansion	Mini PCIe #1	1 x Full-size Mini PCIe, support mSATA storage or WWAN module	
	Mini PCIe #2	1 x Half-size Mini PCIe, support WLAN module	
Storage	2.5" Drive Bay	1 x Removable 2.5" SATA drive bay (Max Height 9.5 mm)	
	mSATA	Laverage MiniPCIe #1 slot	
Software Support	Microsoft Windows	WES8, WES7, Windows 8, Windows 7	
	Linux	Support (by Project)	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage	12 V_{DC}, ± 10%	
Mechanical	Construction	Aluminum housing	
	Mounting	Desk/Wall Mounting (Standard), VESA & DIN-Rail Mounting Kit (Optional)	
	Dimensions (W x H x D)	223 x 46.6 x 133.0 mm	
Environment	Operating Temperature	With extended temperature SSD/mSATA/RAM :-20 ~ 55° C with 0.7m/s air flow With standard temperature HDD/SSD/mSATA/RAM peripherals:0 ~ 40° C with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration During Operation	With mSATA/SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis	
	Shock During Operation	With mSATA/SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration	
Regulation	EMC	CE/FCC Class A, CCC, BSMI	
	Safety	UL, CCC, BSMI, CB	

Dimensions

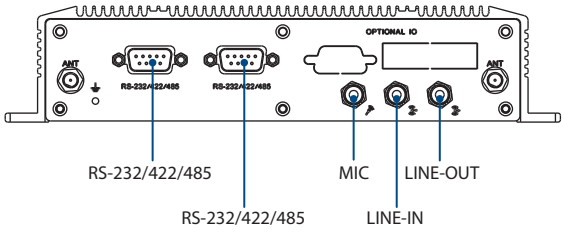
Unit: mm (inch)



Front Panel External I/O



Rear Panel External I/O



Ordering Information

Part Number	Intel CPU	RAM	VGA	HDMI	GbE	USB 2.0	USB 3.0	GPIO	RS-232	RS-232/ 422/485	Audio	MiniPCIe	2.5" HDD bay	mSATA	Operating Temperature
ARK-1550-S6A1E	Intel Celeron 2980U 1.6GHz	Up to 8GB	1	1	2	2	2	1	1	2	Line in Line out Mic in	1 Half size 1 Full size w/SIM	1	1	-20 ~ 55° C
ARK-1550-S9A1E	Intel Core i5 4300U 1.9GHz														

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1550 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
-	1 x Power bracket

Embedded OS

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
1757003934	AC-to-DC Adapter, DC 12V/5A 60W, with DC Jack Plug, 0 ~ 40° C for Home and Office Use
1700001947	Power cable 2-pin 180 cm, USA type (For power adapter 1757003934)
1700001948	Power cable 2-pin 180 cm, Europe type (For power adapter 1757003934)
1700001949	Power cable 2-pin 180 cm, UK type (For power adapter 1757003934)
1700002141	Power cable 2-pin 180 cm, PSE type (For power adapter 1757003934)
1757004522-01	AC-to-DC Wide Temperature Adapter, DC 12V/3.33A 40W, -20° C ~ 70° C
1702002600-01	Power cable 3-pin 183 cm, USA type (For power adapter 1757004522-01)
1700018705	Power cable 3-pin 183 cm, Europe type (For power adapter 1757004522-01)
1700018704	Power cable 3-pin 183 cm, UK type (For power adapter 1757004522-01)
1700000237-01	Power cable 3-pin 183 cm, PSE type (For power adapter 1757004522-01)
AMK-V004E	VESA mounting kit
AMK-R002E	DIN-rail mounting kit
TBC	LVDS Module

ARK-2120L

Intel® Atom™ Dual Core N2600/D2550 with Multiple I/Os Fanless Box PC



Features

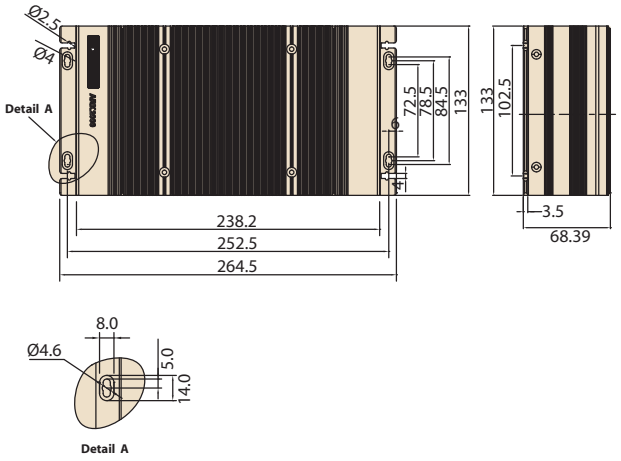
- Intel® Atom™ Dual Core N2600 1.6 GHz/D2550 1.86 GHz, DDR3 memory supports up to 4 GB
- VGA and HDMI dual independent display, supports DirectX 9
- Mini PCIe expansion with SIM holder for communication module, i.e. HSDPA, WLAN
- Supports up to 2 Intel GbE, 6 x USB 2.0 and 4 x COMs ports
- Supports external CFast socket and 1 x 2.5" SATA HDD Bay
- Lockable DC jack design
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

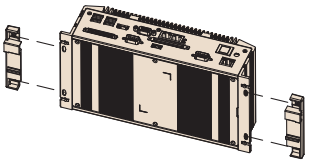
		ARK-2120L-S6A1E	ARK-2120L-S8A1E
Processor System	CPU	Intel Atom N2600	Intel Atom D2550
	Frequency	1.6 GHz (Dual Core)	1.86 GHz (Dual Core)
	L2 Cache	1 MB	1MB
	System Chipset	Intel Atom N2600/D2550 + Intel NM10	
	BIOS	AMI EFI 16Mbit	
Memory	Technology	DDR3 1066 MHz (D2550), DDR3 800 MHz (N2600)	
	Max. Capacity	4 GB	
	Socket	1 x 204-pin SO-DIMM	
Graphics	Chipset	Intel Atom N2600/D2550	
	Graphic Engine	DirectX 9 and OpenGL3.0 support Hardware decode H/W acceleration: MPEG2 H/W Decode/Acceleration: H.264/VC1/WMV9	
	VGA	Up to 1920 x 1200	
	HDMI	Supports 1920 x 1200, Max data rate: up to 1.65 Gb/s, Supports HDMI v1.3 Up to 1080p support	
	Dual Display	Yes, VGA + HDMI	
Ethernet	LAN1	10/100/1000 Mbps Intel 82583V GbE, support Wake On Lan	
	LAN2	10/100/1000 Mbps Intel 82583V GbE, support Wake On Lan	
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out,Mic-in,Line-in	
IO Interface	Serial Ports	3 x RS-232 ports, 1 x RS-232/422/485 port with auto flow control	
	USB Interface	6 x USB ports, USB 2.0 Compliant	
Other	Digital IO	8-bits	
	Watchdog timer	255 levels timer interval, setup by software	
Expansion	Mini PCIe	1 x full size Mini PCIe with SIM holder	
Storage	HDD	Supports one SATA 2.5" HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 300 MB/s)	
	SSD	Supports one external CFast socket	
Software Support	Microsoft Windows	Windows 7, Windows 7 Embedded (XP Professional & XP Embedded support by project)	
	Linux	buntu v12.04	
Power Requirement	Power Type	AT/ATX	
	Power Input Voltage	12 V_{DC}, ± 10%	
	Minimum Power Input	12 V, 1.5 A	
	Power Adapter	AC to DC, DC12 V/3 A, 36 W (Optional)	
Power Consumption	Typical	8.9 Watt (with Intel Atom D2550 at 1.8 GHz)	
	Max.	11 Watt (with Intel Atom D2550 at 1.8 GHz)	
Mechanical	Construction	Aluminum housing	
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting	
	Dimensions (W x H x D)	264.5 x 69.2 x 133.0 mm (10.41" x 2.72" x 5.24")	
	Weight	2.3 kg (5.07 lb)	
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60° C (-4 ~ 140° F) with 0.7m/s air flow With 2.5-inch hard disk 0 ~ 45° C (32 ~ 112° F) with 0.7m/s air flow	
	Storage Temperature	- 40 ~ 85° C (-40 ~ 185° F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.	
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration	
	EMC	CE/FCC Class A, CCC, BSMI	
	Safety Certifications	UL, CCC, BSMI	

Dimensions

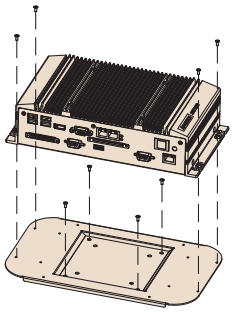
Unit: mm



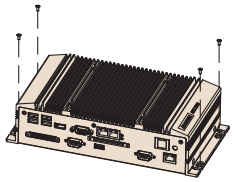
DIN Rail



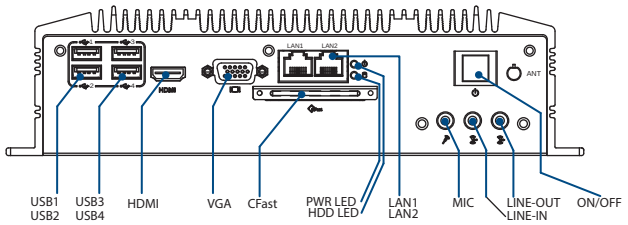
VESA mount



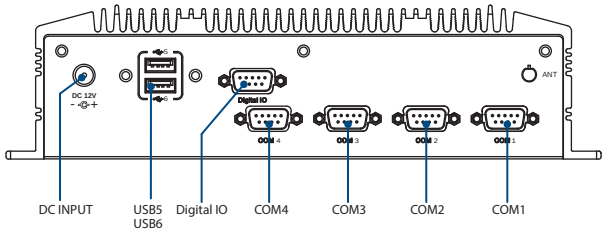
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI/ DP	GbE	USB 2.0	RS-232	RS-232/ 422/485	DIO	Audio	Full-size MiniPCIe	SIM	CFast	2.5" SATA II HDD Bay	Power Input	Operating Temp.
ARK-2120L-S6A1E	Intel Atom N2600 1.6 GHz	Yes	Yes	2	6	3	1	8-bits	Lin-out, Line-in, MIC	1	1	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C
ARK-2120L-S8A1E	Intel Atom D2550 1.86 GHz	Yes	Yes	2	6	3	1	8-bits	Lin-out, Line-in, MIC	1	1	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-2120 Unit
-	1 x Utility CD
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
1700020143	1 x Cable for RS-422/485 mode of COM2

Embedded OS

Part Number	Description
2070011953	Image WES7E SP1 x32 ENG/GER/JPN/CT

Optional Items

Part Number	Description
1757004096-01	AC-to-DC Adapter, DC 12V/3A 36W, 0 ~ 40° C for Home and Office Use
1757004522-01	AC-to-DC Adapter, DC 12V/3.33A 40W, -20 ~ +70° C
1700001524	Power cable 30pin 180cm, USA type, for 1757004096-01
170203180A	Power cabel 3-pin 180cm, UK type, for 1757004096-01
170203183C	Power cable 3-pin 180cm, Europe type for 1757004096-01
1702002600	Power cable 3-pin 180cm, USA type, for 1757004522-01
1702002605	Power cable 3-pin 180cm, EU type, for 1757004522-01
1702031801	Power cable 3-pin 180cm, UK type, for 1757004522-01
1700008921	Power cable 3-pin 180cm, PSE for 1757004096-01
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-2120F

Intel® Atom™ Dual Core N2600/D2550 with 3 GbE, 6 COM & Wide Range Power Fanless Box PC



Features

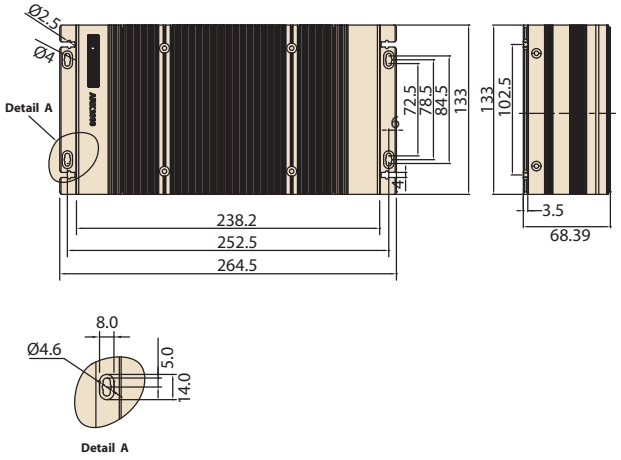
- Intel® Atom™ Dual Core N2600 1.6 GHz/D2550 1.86 GHz, DDR3 memory supports up to 4 GB
- VGA, HDMI, 48-bit LVDS, support dual independent display and DirectX 9
- Mini PCIe expansion with SIM holder for communication module, i.e. HSDPA, WLAN
- Supports up to 3 x GbE, 5 x USB 2.0 and 6 x COMs ports
- Supports external CFast socket and 1 x 2.5" SATA HDD Bay
- Supports 12 ~ 24V wide range DC input
- Lockable DC jack design
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

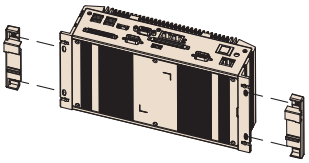
		ARK-2120F-S6A1E	ARK-2120F-S8A1E
Processor System	CPU	Intel AtomN2600	Intel Atom D2550
	Frequency	1.6 GHz (Dual Core)	1.86 GHz (Dual Core)
	L2 Cache	1 MB	1MB
	System Chipset	Intel Atom N2600/D2550 + Intel NM10	
	BIOS	AMI EFI 16Mbit	
Memory	Technology	DDR3 1066 MHz (D2550), DDR3 800 MHZ (N2600)	
	Max. Capacity	4 GB	
	Socket	1 x 204-pin SO-DIMM	
Graphics	Chipset	Intel Atom N2600/D2550	
	Graphic Engine	DirectX 9 and OpenGL3.0 support Hardware decode H/W acceleration: MPEG2 H/W Decode/Acceleration: H.264/VC1/WMV9	
	VGA	Up to 1920 x 1200	
	HDMI	Supports 1920 x 1200, Max data rate: up to 1.65 Gb/s, Supports HDMI v1.3 Up to 1080p support	
	LVDS	Supports 48-bit LVDS, up to 1600 x 1200 (N2600), 2560 x 1600 (D2550)	
	Dual Display	Yes, (VGA + HDMI, VGA + LVDS, HDMI + LVDS)	
Ethernet	LAN1	10/100/1000 Mbps Intel 82583V GbE, support Wake On Lan	
	LAN2	10/100/1000 Mbps Intel 82583V GbE, support Wake On Lan	
	LAN3	10/100/1000 Mbps Intel 82583V GbEr, support Wake On Lan	
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out,Mic-in,Line-in	
IO Interface	Serial Ports	2 x RS-232 ports, 4 x RS-232/422/485 port with auto flow control (by BIOS setting)	
	USB Interface	5 x USB ports, USB 2.0 Compliant	
Other	Digital IO	8-bit	
	Watchdog Timer	255 levels timer interval, setup by software	
Expansion	Mini PCIe	1 x full size Mini PCIe with SIM holder	
Storage	HDD	Supports one SATA 2.5" SATA HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 300 MB/s)	
	SSD	Supports one external CFast socket	
Software Support	Microsoft Windows	Windows 7, Windows 7 Embedded (XP Professional & XP Embedded support by project)	
	Linux	Ubuntu v12.04	
Power Requirement	Power Type	AT/ATX	
	Power Input Voltage	12 V_{DC} ~ 24 V_{DC}	
	Minimum Power Input	12 V ~ 24 V, 3.0 A ~ 1.5 A	
	Power Adapter	AC to DC, DC19 V/3.42 A, 65 W (Optional)	
Power Consumption	Typical	9.2 Watt (with Intel Atom D2550 at 1.8 GHz)	
	Max.	11.59 Watt (with Intel Atom D2550 at 1.8 GHz)	
Mechanical	Construction	Aluminum housing	
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting	
	Dimensions (W x H x D)	264.50 x 68.39 x 133.0 mm (10.41" x 2.69" x 5.24")	
	Weight	2.5 kg (5.51 lb)	
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60° C (-4 ~ 140° F) with air flow With 2.5-inch hard disk 0 ~ 45° C (32 ~ 112° F) with air flow	
	Storage Temperature	- 40 ~ 85° C (-40 ~ 185° F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.	
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration	
	EMC	CE/FCC Class A, CCC, BSMI	
	Safety Certifications	UL, CCC, BSMI	

Dimensions

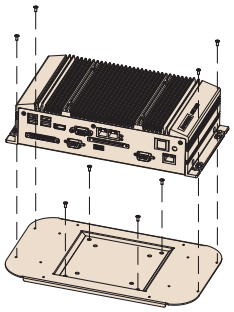
Unit: mm



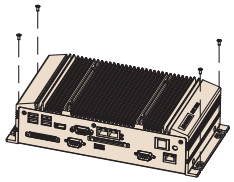
DIN Rail



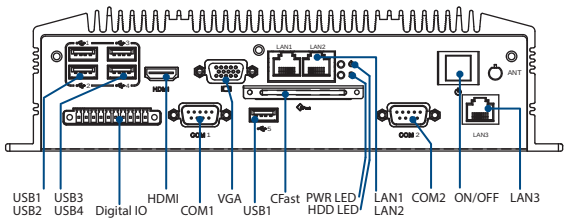
VESA mount



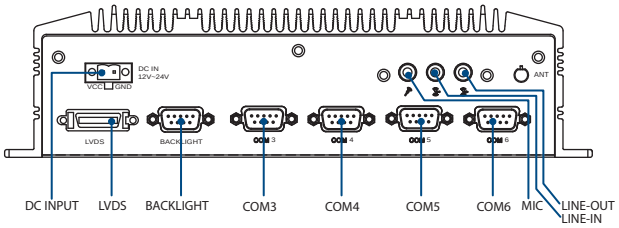
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI/ DP	LVDS	GbE	USB 2.0	RS-232	RS-232/ 422/485	DIO	Audio	Full-size MiniPCIe	SIM	CFast	2.5" SATA II HDD Bay	Power Input	Operating Temp.
ARK-2120F-S6A1E	Intel Atom N2600 1.6 GHz	Yes	Yes	48-bits	3	6	2	4	8-bits	Lin-out, Line-in, MIC	1	1	1	1	DC 12V-24V 2-pin phoenix head	-20 ~ 60° C
ARK-2120F-S8A1E	Intel Atom D2550 1.86 GHz	Yes	Yes	48-bits	3	6	2	4	8-bits	Lin-out, Line-in, MIC	1	1	1	1	DC 12V-24V 2-pin phoenix head	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-2120 Unit
-	1 x Utility CD
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
1700009001	1 x 2-pin Phoenix to DC-Jack power cable

Embedded OS

Part Number	Description
2070011953	Image WES7E SP1 x32 ENG/GER/JPN/CT

Optional Items

Part Number	Description
1757003659	AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
TBD	AC-to-DC Adapter, DC 12V/3.33A 40W, -20 ~ +70° C
1702002600	Power cable 3-pin 180cm, USA type, for extend temperature power adapter
1702002605	Power cable 3-pin 180cm, EU type, for extend temperature power adapter
1702031801	Power cable 3-pin 180cm, UK type, for extend temperature power adapter
1700001947	Power cable 2-pin 180 cm, USA type (For adapter 1757003659)
1700001948	Power cable 2-pin 180 cm, Europe type (For adapter 1757003659)
1700001949	Power cable 2-pin 180 cm, UK type (For adapter 1757003659)
1700002141	Power cable 2-pin 180 cm, PSE type (For adapter 1757003659)
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-2150L

3rd Generation Intel® Core™ i3/i7 with Dual Independent Display Fanless Box PC



Features

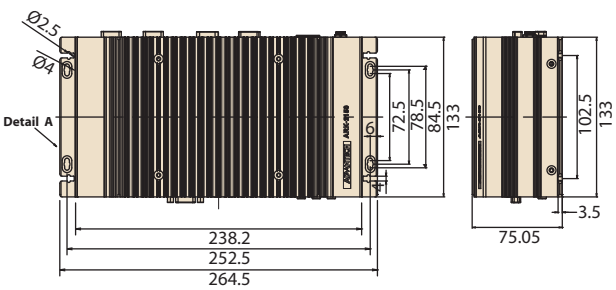
- Intel® Core i7, i3 and Celeron processors + Intel QM77 PCH
- 1 x DDR3/DDR3L, SO-DIMM support up to 8 GB
- DirectX11, OpenGL3.1, OpenCL1.1, dual independent display: VGA + HDMI/ DisplayPort
- Supports Intel AMT8.0,
- Supports up to 2 x GbE, 2 x USB 3.0, 4 x USB 2.0 and 4 x COMs ports
- Supports 1 x internal mSATA socket and 1 x 2.5" SATA HDD Bay
- Lockable DC jack design
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

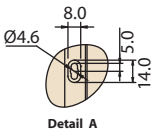
Specifications

		ARK-2150L-S4A1E	ARK-2150L-S6A1E	ARK-2150L-S7A1E
Processor System	CPU	Intel Celeron 1047UE	Intel ULV Core i3 3217UE	Intel ULV Core i7 3517UE
	Frequency	Dual Core 1.4 GHz	Dual Core 1.6 GHz	Dual Core 1.7 GHz (Max Turbo Frequency 2.8 GHz)
	L3 Cache	2 MB	3 MB	4 MB
	System Chipset	Intel QM77		
	BIOS	AMI EFI 64Mbit		
Memory	Technology	DDR3 1600MHz, DDR3L 1333 MHz		
	Max. Capacity	8 GB		
	Socket	1 x 204-pin SO-DIMM		
Graphics	Chipset	Intel QM77 Integrated GFX Gen 7		
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 11 Hardware decode acceleration: AVC/H.264, M PEG-2, VC-1		
	VGA	Integrated 340.4MHz RAMDAC, Max resolution up to 2048 x 1536 @ 75Hz		
	HDMI	Supports HDMI 1.4 for HD Video playback Max resolution up to 2560 x 1600 @ 60Hz on DisplayPort, Max resolution up to 1920 x 1200 @ 60Hz on HDMI		
	Dual Display	Yes, VGA + HDMI or VGA + DisplayPort		
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan		
	LAN2	10/100/1000 Mbps Intel 82583V GbE, support Wake On Lan		
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out,Mic-in,Line-in		
I/O Interface	Serial Ports	2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control		
	USB Interface	2 x USB 3.0 ports and 4 x USB 2.0 ports		
Other	Digital I/O	8-bits programmable general purpose input/output		
	Watchdog timer	255 levels timer interval, setup by software		
Expansion	Mini PCIe	2 x Full-size Mini PCIe (One supports mSATA & the other with SIM holder) 1 x Half-size Mini PCIe		
Storage	HDD	Supports one SATA 2.5" SATA HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 600 MB/s)		
	SSD	Supports one internal mSATA socket		
Software Support	Microsoft Windows	Windows 7, Windows 7 Embedded, XP Professional, XP Embedded		
	Linux	Ubuntu 12.04		
Power Requirement	Power Type	AT/ATX		
	Power Input Voltage	12 V_{DC}, ± 10%		
	Minimum Power Input	12 V, 4 A		
	Power Adapter	AC to DC, DC12 V/5 A, 60 W (Optional)		
Power Consumption	Typical	9.6 Watt (with Intel Core i7 3517UE CPU and 2 GB memory)		
	Max.	24.96 Watt (with Intel Core i7 3517UE CPU and 2 GB memory)		
Mechanical	Construction	Aluminum housing		
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting		
	Dimensions (W x H x D)	264.5 x 75.1 x 133.0 mm (10.41" x 2.96" x 5.24")		
	Weight	2.3 kg (5.07 lb)		
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60° C (-4 ~ 140° F) with 0.7m/s air flow With 2.5-inch hard disk 0 ~ 45° C (32 ~ 112° F) with 0.7m/s air flow		
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)		
	Relative Humidity	95% @ 40° C (non-condensing)		
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.		
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration		
	EMC	CE/FCC Class A, CCC, BSMI		
	Safety Certifications	UL, CCC, BSMI		

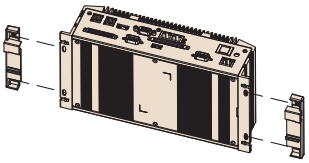
Dimensions

Unit: mm (inch)

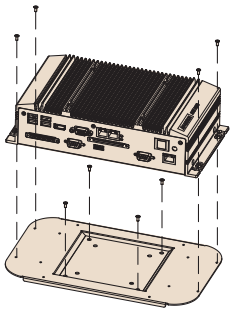




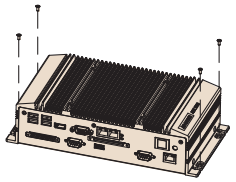
DIN Rail



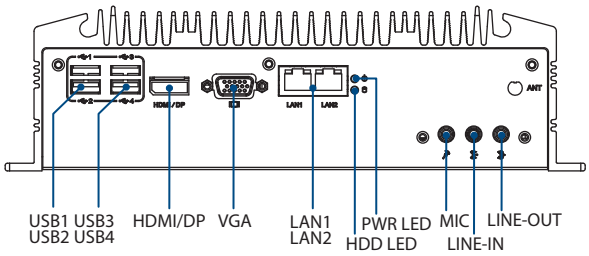
VESA mount



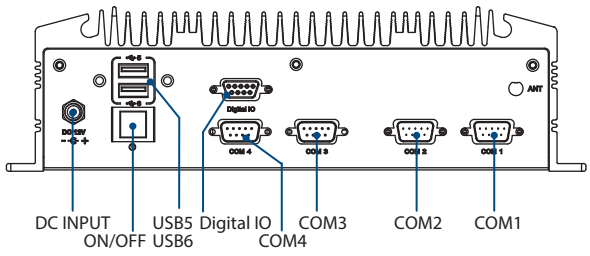
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI/ DP	GbE	USB 3.0	USB 2.0	RS-232	RS-232/ 422/485	DIO	Audio	Half-size Mini PCIe	Full-size Mini PCIe	SIM	2.5" SATAII HDD Bay	Power Input	Operation Temp.
ARK-2150L-S4A1E	Intel Celeron 1.4GHz 1047UE	Yes	Yes	2	2	4	2	2	8-bits	Line-out, Line-in, MIC	1	2	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C
ARK-2150L-S6A1E	Intel Core i3 ULV 1.6GHz 3217UE	Yes	Yes	2	2	4	2	2	8-bits	Line-out, Line-in, MIC	1	2	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C
ARK-2150L-S7A1E	Intel Core i7 ULV 1.7GHz 3517UE	Yes	Yes	2	2	4	2	2	8-bits	Line-out, Line-in, MIC	1	2	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-2150 Unit
-	1 x Utility CD
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS

Embedded OS

Part Number	Description
2070011831	Image WES7E SP1 x32 ENG/JP/TC/SC
2070011830	Image WES2009 V4.2 multi 24 language

Optional Items

Part Number	Description
Number	Description
1757004349-01	AC to DC Adaptor, DC 12V/5A 60W, with lock, 0 ~ 40° C, for Home and Office use
1757004522-01	AC-to-DC Adapter, DC 12V/3.33A 40W, -20 ~ +70° C
1702002600	Power cable 3-pin 180cm, USA type, for 1757004522-01 and 1757004349-01
1702031801	Power cable 3-pin 180cm, UK type, for 1757004522-01 and 1757004349-01
1702002605	Power cable 3-pin 180cm, EU type, for 1757004522-01 and 1757004349-01
1700000237	Power cable 3-pin 180cm, with PSE, for 1757004349-01
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-2150F

3rd Generation Intel® Core™ i7 with 4 x GbE, Isolated DIO & wide range power Fanless Box PC



Features

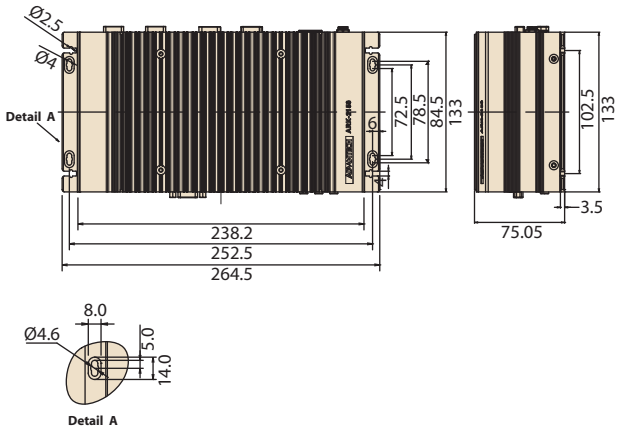
- Intel® Core™ i7 processors + Intel QM77 PCH
- 1 x DDR3/DDR3L SO-DIMM, support up to 8 GB
- DirectX11, OpenGL3.1, OpenCL1.1, triple independent display: VGA + HDMI/ DisplayPort+DVI-D
- Supports Intel AMT8.0
- Supports 4 x Intel GbE
- Support 4ch digital input and 4ch digital output with 2.5KV isolation
- Supports 2 x USB 3.0, 3 x USB 2.0, 4 COMs ports
- Supports 1 x internal mSATA socket and 1 x 2.5" SATA HDD Bay
- 12~24V wide range DC input with lockable connector
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

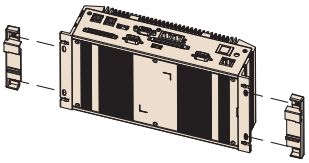
		ARK-2150F-S7A1E
Processor System	CPU	Intel ULV Core i7 3517UE
	Frequency	Dual Core 1.7 GHz (Max Turbo Frequency 2.8 GHz)
	L3 Cache	4 MB
	System Chipset	Intel QM77
	BIOS	AMI EFI 64Mbit
Memory	Technology	DDR3 1600MHz, DDR3L 1333 MHz
	Frequency	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel QM77 Integrated GFX Gen 7
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 11 Hardware decode acceleration: AVC/H.264, M PEG-2, VC-1
	VGA	Integrated 340.4MHz RAMDAC, Max resolution up to 2048 x 1536 @ 75Hz
	HDMI/DP	Supports HDMI 1.4 for HD Video playback Max resolution up to 2560 x 1600 @ 60Hz on DisplayPort, Max resolution up to 1920 x 1200 @ 60Hz on HDMI
	DVI-D	Max resolution up to 1920 x 1200
	Dual independent display	Yes, VGA+HDMI/DisplayPort, VGA+HDMI/DVI-D, VGA+DVI-D, HDMI/DisplayPort+DVI-D
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan
	LAN2/LAN3/LAN4	10/100/1000 Mbps Intel 82583V GbE
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out,Mic-in,Line-in
I/O Interface	Serial Ports	4 x RS-232/422/485 port with auto flow control
	USB Interface	3 x USB 3.0 ports and 3 x USB 2.0 ports
Other	Digital I/O	4ch digital input and 4ch digital output with 2.5KV isolation
	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	2 x Full-size Mini PCIe (Supports mSATA & SIM) 1 x Half-size Mini PCIe
Storage	HDD	Supports one SATA 2.5" HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 600 MB/s)
	SSD	Supports one internal mSATA socket
Software Support	Microsoft Windows	Windows 7, Windows 7 Embedded, XP Professional, XP Embedded
	Linux	Ubuntu 12.04
Power Requirement	Power Type	AT/ATX
	Power Input Voltage	12 ~ 24 V_{DC}
	Minimum Power Input	12 V ~ 24 V, 4.0 A ~ 2 A
	Power Adapter	AC to DC, DC 19V/3.42A 65W (Optional)
Power Consumption	Typical	10.3 Watt
	Max.	25.7 Watt
Mechanical	Construction	Aluminum housing
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	264.5 x 75.1 x 133.0 mm (10.41" x 2.96" x 5.24")
	Weight	2.8kg (6.17lb)
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60° C (-4 ~ 140° F) with 0.7m/s air flow With 2.5-inch hard disk 0 ~ 45° C (32 ~ 112° F) with 0.7m/s air flow
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI

Dimensions

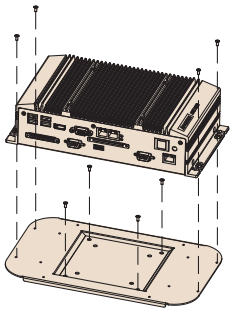
Unit: mm (inch)



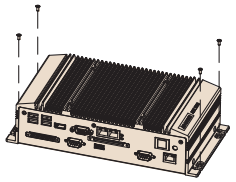
DIN Rail



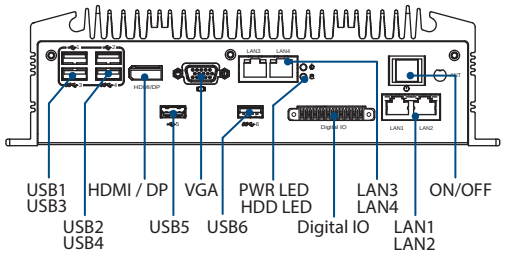
VESA mount



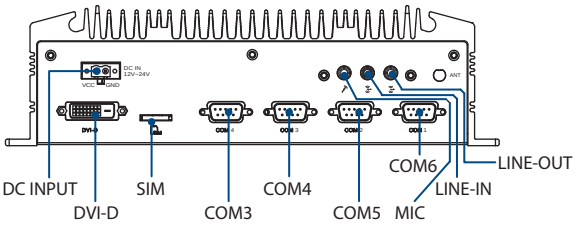
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI/ DP	DVI-D	GbE	USB 3.0	USB 2.0	RS-232/ 422/485	DIO	Audio	Half-size Mini PCIe	Full-size Mini PCIe	SIM	2.5" SATAII HDD Bay	Power Input	Operation Temp.
ARK-2150F-S7A1E	Intel Core i7 ULV 1.7GHz 3517UE	Yes	Yes	Yes	4	3	3	4	4ch DI and 4ch DO with 2.5KV isolation	Line-out, Line-in, MIC	1	2	1	1	DC 12-24V 2-pin phoenix head	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-2150 Unit
-	1 x Utility CD
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
1700009001	1 x 2-pin Phoenix to DC-Jack power cable

Embedded OS

Part Number	Description
2070011831	Image WES7E SP1 x32 ENG/JP/TC/SC
2070011830	Image WES2009 V4.2 multi 24 language

Optional Items

Part Number	Description
1757003659	AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
TBD	AC-to-DC Adapter, DC 12V/3.33A 40W, -20 ~ +70° C
1702002600	Power cable 3-pin 180cm, USA type, for extend temperature power adapter
1702002605	Power cable 3-pin 180cm, EU type, for extend temperature power adapter
1702031801	Power cable 3-pin 180cm, UK type, for extend temperature power adapter
1700001947	Power cable 2-pin 180 cm, USA type (For adapter 1757003659)
1700001948	Power cable 2-pin 180 cm, Europe type (For adapter 1757003659)
1700001949	Power cable 2-pin 180 cm, UK type (For adapter 1757003659)
1700002141	Power cable 2-pin 180 cm, PSE type (For adapter 1757003659)
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-3360L

Intel® Atom™ N450/D510 with Multiple I/O High Value Fanless Box PC



Features

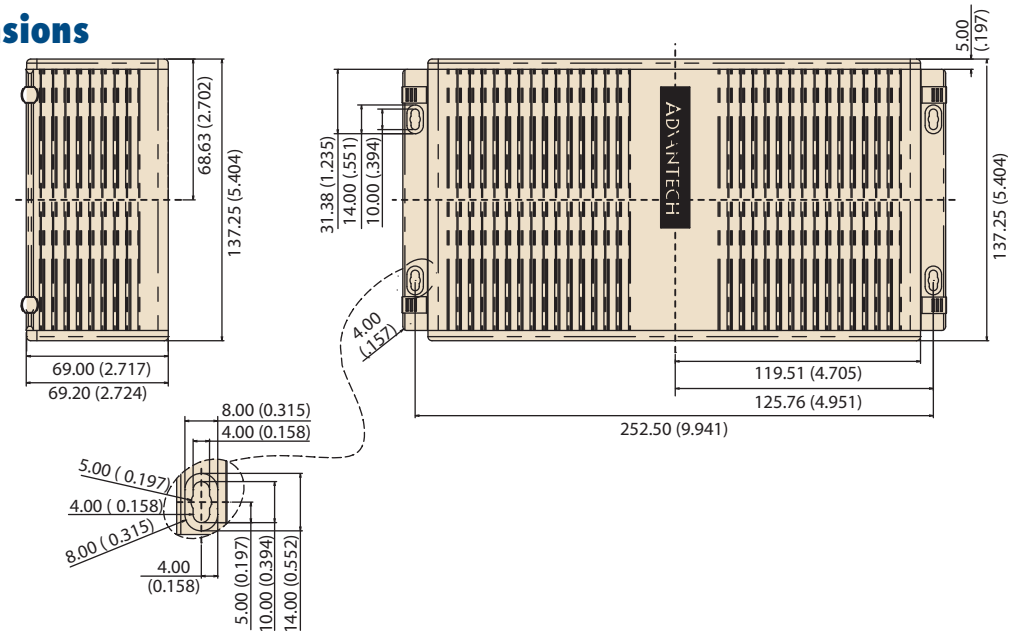
- Intel® Atom™ N450/D510 1.66 GHz Fanless Embedded Box PC
- Supports extend temperature -40 ~ 70° C (ARK-3360LZ-N4A1E)
- Mini PCIe expansion for communication module, i.e. HSDPA, WLAN
- Dual display and supports for wide screen with high resolution
- Supports up to 2 x GbE, 6 x USB 2.0 and 4 x COMs ports
- Serial port RS-485 auto-flow support
- Easy integration, easy maintenance
- Supports SUSIAccess and Embedded Software APIs
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

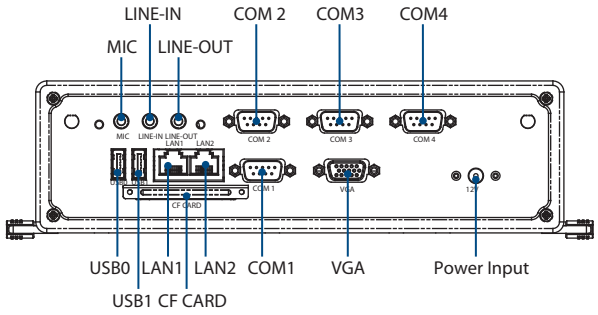
		ARK-3360L-N4A1E	ARK-3360L-D5A1E
Processor System	CPU	Intel Atom N450 Single Core	Intel Atom D510 Dual Core
	Frequency	1.66 GHz	
	L2 Cache	512 KB	1 MB
	System Chipset	Intel ICH8-M	
	BIOS	AMI 16 Mbit Flash BIOS	
Memory	Technology	DDR2 667 MHz	
	Max. Capacity	2 GB	
	Socket	1 x 200-pin SO-DIMM	
Graphics	Chipset	Intel 3.5 Gen Integrated Graphic Engine	
	Interface	VGA: N450 up to 1400 x 1050, D510 up to 2048 x 1536 18-bit LVDS interface (Optional)	
Ethernet	LAN 1	10/100/1000 Mbps Intel 82567V GbE, support Wake On LAN	
	LAN 2	10/100/1000 Mbps Intel 82583V GbE, support Wake On LAN	
Audio	Amplifier	-	
	Interface	Line-in, Line-out, Mic-in	
IO interface	Serial Interface	3 x RS-232 port, 1 x RS-232/422/485 port w/Auto flow control	
	USB Interface	6 x USB ports, Compliant with USB 2.0	
Other	Digital I/O	8-bits	
	Watchdog timer	255-level timer interval, setup by software	
Expansion	Mini PCI	-	
	Mini PCIe	1 x full-size Mini PCIe	
Storage	HDD	Supports 1 x SATA 2.5" HDD Bay (support 9.5 mm height only)	
	SSD	Supports CompactFlash socket for type I/II CompactFlash disk	
Software Support	Microsoft Windows	Windows 7, XP Professional, XP Embedded, WinCE 6.0	
	Linux	Ubuntu 10.04, QNX 6.5, Vxwork 6.8	
Power Requirement	Power Type	AT/ATX	
	Power Input Voltage	12 V_{DC}, ± 10%	
	Minimum Power Input	12 V, 1.12 A	
	Power Adapter	AC to DC, DC 12 V/3.0 A, 36 W (Optional)	
Power Consumption	Typical	11 W (with Intel Atom D510 at 1.66 GHz)	
	Max.	15 W (with Intel Atom D510 at 1.66 GHz)	
Mechanical	Construction	Aluminum housing	
	Mounting	DIN-rail mounting, Desk/wall-mounting	
	Dimensions (W x H x D)	264.5 mm x 69.2 mm x 137.25 mm (10.41" x 2.72" x 5.4")	
	Weight	2 kg (4.4 lb)	
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60° C (-4 ~ 140°F); -40 ~ 70° C (-40 ~ 158° F) for ARK-3360LZ-N4A1E With 2.5-inch hard disk 0 to 45° C (32 ~ 112° F), with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85° C (-40 ~ 185°F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration Loading During Operation	With CompactFlash disk: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis. With 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.	
	Shock During Operation	With CompactFlash disk: 50 G, IEC 60068-2-27, half sine, 11 ms duration With hard disk: 20 G, IEC 60068-2-27, half sine, 11 ms duration	
	EMC	CE/FCC Class A, CCC, BSMI, KC	
	Safety Certifications	UL, CCC, BSMI, KC	

Dimensions

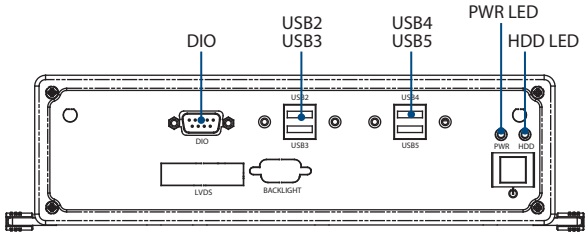
Unit: mm (inch)



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	GbE	USB 2.0	RS-232	RS-232/ 422/485	DIO	Audio	Full-size MiniPCIe	CF	2.5" SATAII HDD Bay	Power Input	Operation Temp.
ARK-3360L-N4A1E	Intel Atom N450 1.66 GHz	Yes	2	6	3	1	8-bits	Lin-out, Line-in, MIC	1	1	1	12VDC	-20 ~ 60° C
ARK-3360L-D5A1E	Intel Atom D510 1.66 GHz	Yes	2	6	3	1	8-bits	Lin-out, Line-in, MIC	1	1	1	12VDC	-20 ~ 60° C
ARK-3360LZ-N4A1E	Intel Atom N450 1.66 GHz	Yes	2	6	3	1	8-bits	Lin-out, Line-in, MIC	1	1	1	12VDC	-40 ~ 70°C

* Full-size Mini PCIe supports mSATA

Packing List

Part Number	Description
-	1 x ARK-3360 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
1960047289T001	Power adapter locker

Embedded OS

Part Number	Description
2070009030	XPE WES2009 V4.0 ENG
2070009031	XPE WES2009 V4.0 MUI24

Optional Items

Part Number	Description
1757003553	Adapter AC 90-264V 36W/12V FSP036-RAB for ARK-3360L
1757004522-01	AC-to-DC Adapter, DC 12V/3.33A 40W, -20 ~ +70° C
1700008921	Power cable 3-Pin 180cm, with PSE for 1757003553
170203180A	Power cable 3-Pin 180cm, UK type, for 1757003553
170203183C	Power cable 3-Pin 180cm, EU type for 1757003553
1700001524	Power cable 3-Pin 180cm, USA type for 1757003553
1702002600	Power cable 3-pin 180cm, USA type, for 1757004522-01
1702002605	Power cable 3-pin 180cm, EU type, for 1757004522-01
1702031801	Power cable 3-pin 180cm, UK type, for 1757004522-01
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-3360F

Intel® Atom™ N450/D510 with 3 GbE, Isolated COM & wide range power Fanless Box PC



Features

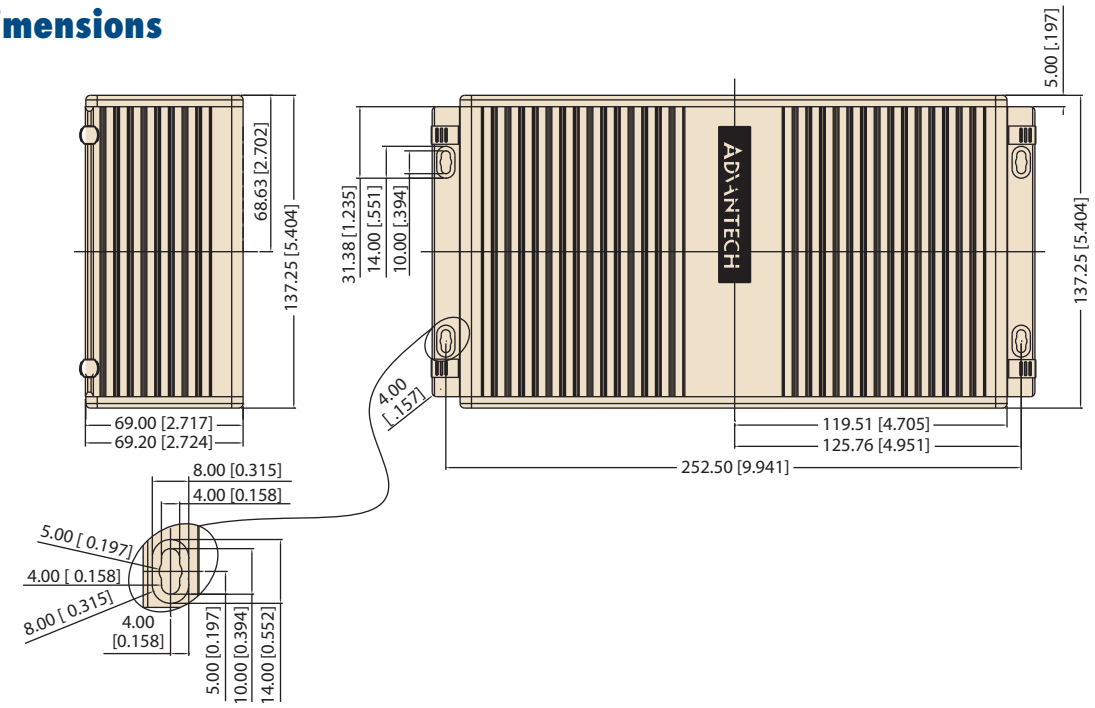
- Intel® Atom™ N450/D510 1.66 GHz Embedded Box PC
- Mini PCIe and Mini PCI expansion for communication module, i.e. HSDPA, WLAN
- Supports 12 ~ 24 V wide range DC input
- Supports up to 3 x GbE, 6 x USB 2.0 and 6 x COMs ports
- Serial ports support RS-485 auto flow control and isolation (up to 7.5Kv)
- Easy integration, easy maintenance, and wide input voltage range
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

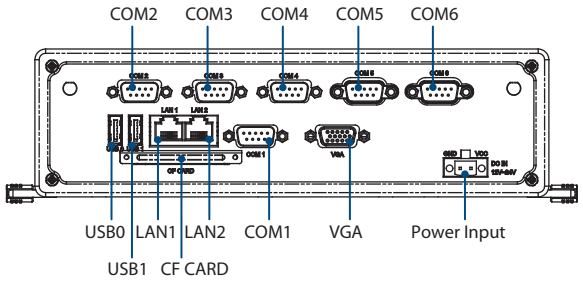
		ARK-3360F-N4A1E	ARK-3360F-D5A1E
Processor System	CPU	Intel Atom N450 (Single Core)	Intel Atom D510 (Dual Core)
	Frequency	1.66GHz	1.66GHz
	L2 Cache	512KB	1MB
	System Chipset	Intel ICH8-M	
	Front Side Bus	667 MHz	
	BIOS	AMI 16 Mbit Flash BIOS	
Memory	Technology	DDR2 667 MHz	
	Max. Capacity	2 GB	
	Socket	1 x 200-pin SO-DIMM	
Graphics	Chipset	Intel 3.5 Gen Integrated Graphic Engine	
	Interface	VGA: N450 up to 1400 x 1050, D510 up to 2048 x 1536 18-bit LVDS interface (Optional)	
Ethernet	LAN 1	10/100/1000 Mbps Intel 82567V GbE, support Wake On LAN	
	LAN 2	10/100/1000 Mbps Intel 82583V GbE, support Wake On LAN	
	LAN 3	10/100/1000 Mbps Intel 82541PI GbE, support Wake On LAN	
Audio	Amplifier	-	
	Interface	Line-in, Line-out, Mic-in	
IO interface	Serial Interface	1 x RS-232, 3 x RS-232/422/485, 2 x RS-422/485 with 7.5Kv isolation protection & auto flow control	
	USB Interface	6 x USB ports, Compliant with USB 2.0	
Other	Digital I/O	8-bits	
	Watchdog timer	255-level timer interval, setup by software	
Expansion	Mini PCI	1 x Mini PCI	
	Mini PCIe	1 x full-size Mini PCIe	
Storage	HDD	Supports 1 x SATA 2.5" HDD Bay (support 9.5 mm height only)	
	SSD	Supports CompactFlash socket for type I/II CompactFlash disk	
Software Support	Microsoft Windows	Windows 7, XP Professional, XP Embedded, WinCE 6.0	
	Linux	Ubuntu 10.04	
Power Requirement	Power Type	AT/ATX	
	Power Input Voltage	12 V_{DC} ~ 24 V_{DC}	
	Minimum Power Input	12V-24 V, 3.0A-1. 5A	
	Power Adapter	AC to DC, DC19 V/3.42 A, 65 W(Optional)	
Power Consumption	Typical	12.12 W (with Intel Atom D510 at 1.66 GHz)	
	Max.	14.96 W (with Intel Atom D510 at 1.66 GHz)	
Mechanical	Construction	Aluminum housing	
	Mounting	DIN-rail mounting, Desk/wall-mounting	
	Dimensions (W x H x D)	264.5 mm x 69.2 mm x 137.25 mm (10.41" x 2.72" x 5.4")	
	Weight	2 kg (4.4 lb)	
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60° C (32 ~ 140° F), with 0.7m/s air flow With 2.5-inch hard disk 0 to 45° C (32 ~ 112° F), with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration Loading During Operation	With CompactFlash disk: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis. With 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.	
	Shock During Operation	With CompactFlash disk: 50 G, IEC 60068-2-27, half sine, 11 ms duration With hard disk: 20 G, IEC 60068-2-27, half sine, 11 ms duration	
	EMC	CE/FCC Class A, CCC, BSMI, KC	
	Safety Certifications	UL, CCC, BSMI, KC	

Dimensions

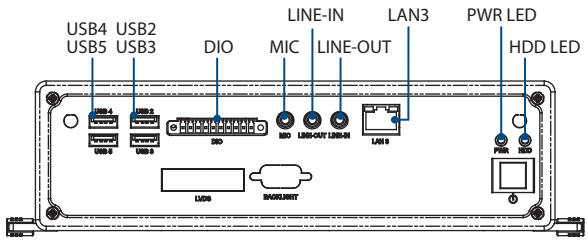
Unit: mm (inch)



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	GbE	USB 2.0	RS-232	RS-232/ 422/485	RS-422/485	DIO	Audio	Full-size MiniPCIe	CF	2.5" SATAII HDD Bay	Power Input	Operation Temp.
ARK-3360F-N4A1E	Intel Atom N450 1.66 GHz	Yes	3	6	1	3	2 (with 7.5KV isolation)	8-bits	Lin-out, Line-in, MIC	1	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C
ARK-3360F-D5A1E	Intel Atom D510 1.66 GHz	Yes	3	6	1	3	2 (with 7.5KV isolation)	8-bits	Lin-out, Line-in, MIC	1	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-3360 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
1700009001	1 x 2-pin Phoenix DC power connector

Embedded OS

Part Number	Description
2070009030	XPE WES2009 V4.0 ENG
2070009031	XPE WES2009 V4.0 MUI24
2070009835	WES7E V5.0 ENG

Optional Items

Part Number	Description
1757003659	AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
TBD	AC-to-DC Adapter, DC 12V/3.33A 40W, -20 ~ +70° C
1702002600	Power cable 3-pin 180cm, USA type, for extend temperature power adapter
1702002605	Power cable 3-pin 180cm, EU type, for extend temperature power adapter
1702031801	Power cable 3-pin 180cm, UK type, for extend temperature power adapter
1700001947	Power cable 2-pin 180 cm, USA type (For adapter 1757003659)
1700001948	Power cable 2-pin 180 cm, Europe type (For adapter 1757003659)
1700001949	Power cable 2-pin 180 cm, UK type (For adapter 1757003659)
1700002141	Power cable 2-pin 180 cm, PSE type (For adapter 1757003659)
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-3440 A2

1st Gen. Intel® Core™ i3/i5/i7 with PCI/PCIe Expansion Slots Fanless Box PC



Features

- Intel® Core™ i3/i5/i7 Fanless Embedded Box PC
- Multi-display and support for wide screen with high resolution
- Supports 2 GbE, eSATA, 6 USB 2.0, audio and 3 COM ports
- Two internal 2.5" SATA HDD bays
- Various expansion interfaces for diverse applications
- Easy integration, easy maintenance, and wide input voltage range 9 ~ 34 V
- IP40 sealed design

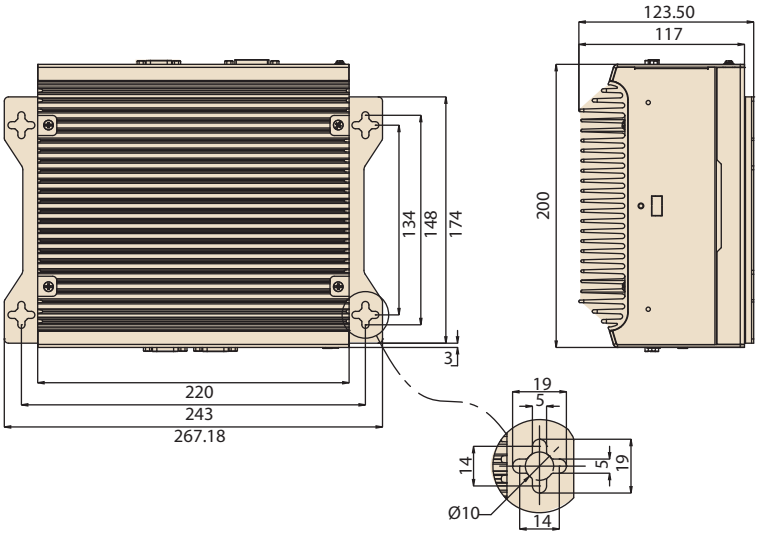
Windows Embedded

Specifications

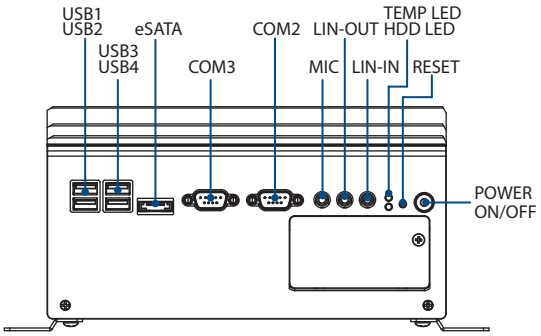
Processor System	CPU	Intel Core i7 610E (Dual Core)	Intel Core i5 520E (Dual Core)	Intel Core i3 330E (Dual Core)
	Frequency	2.53 GHz	2.4 GHz	2.13 GHz
	L2 Cache	4MB	3MB	3MB
	System Chipset	Intel QM57		
	BIOS	AMI 16 Mbit SPI BIOS		
Memory	Technology	DDR3 1066 MHz		
	Max. Capacity	8 GB		
	Socket	2 x 204-pin SO-DIMM		
Graphics	Chipset	Integrated graphics built in Intel QM57		
	Interface	VGA: up to 2048 x 1536 (By DVI-I to VGA adaptor) DVI-D: up to 1920 x 1200 HDMI 1.3 up to 1920 x 1200 24-bit LVDS: up to 1920 x 1200 (Optional)		
Ethernet	LAN 1	10/100/1000 Mbps, Intel 82577LM, support Wake On LAN		
	LAN 2	10/100/1000 Mbps, Intel 82583V, support Wake On LAN		
Audio	Amplifier	-		
	Interface	Line-in, Line-out, Mic-in		
IO interface	Serial Interface	2 x RS232, 1 x RS232/422/485 (w/auto flow control)		
	USB Interface	6 x USB ports, compliant with USB 2.0		
	Parallel Port	Supports D-sub 25-pin connector (optional)		
	Digital I/O	-		
Expansion	PCI/PCIe Slot	1 Slot PCI and 1 Slot PCIe x1 (default); 2 Slots PCIe x1 (optional); 2 Slots PCI (optional) ; 1 Slot PCI and 1 Slot PCIe x4 (optional) Supports maximum dimension of 167 mm (width) x 106 mm (length) for expansion PC board		
	Mini PCIe	2 x Mini PCIe		
Storage	HDD	Supports 2 x SATA 2.5" HDD Bays (Max. Data Transfer Rate 300 MB/s) (Internal bay: up to 12.8mm height, Removable bay: up to 9.5mm height)		
	SSD	Supports CompactFlash socket for type I/II CompactFlash disk		
Software Support	Microsoft Windows	Windows 7, XP Professional, XP Embedded		
	Linux	Fedora 14		
Power Requirement	Power Type	AT/ATX		
	Power Input Voltage	9 V_{DC} ~ 34 V_{DC}		
	Minimum Power Input	DC 9-34V @ 6.0-1.5A		
	Power Adapter	AC to DC, DC19V/7.89A, 150W (Optional)		
Power Consumption	Typical	17.1 W		
	Max.	53 W		
Mechanical	Construction	Aluminum housing		
	Mounting	Desk/wall-mounting		
	Dimensions (W x H x D)	220 mm x 117 mm x 200 mm (8.66" x 4.61" x 7.87")		
	Weight	4 kg (8.8 lb)		
Environment	Operating Temperature	With extended temperature peripherals CompactFlash disk: 0 ~ 50° C, with 0.7m/sec air flow With extended temperature memory and consumer grade 2.5-inch hard disk on internal drive bay 0 ~ 45° C, with 0.7m/sec air flow		
	Storage Temperature	-40 ~ 85° C (-40~185°F)		
	Relative Humidity	95% @ 40° C (non-condensing)		
	Vibration Loading During Operation	With CompactFlash disk: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis. With 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.		
	Shock During Operation	With CompactFlash disk: 50 G, IEC 60068-2-27, half sine, 11 ms duration With hard disk: 20 G, IEC 60068-2-27, half sine, 11 ms duration		
	EMC	CE/FCC Class A, CCC, BSMI		
	Safety Certifications	UL, CCC, BSMI		

Dimensions

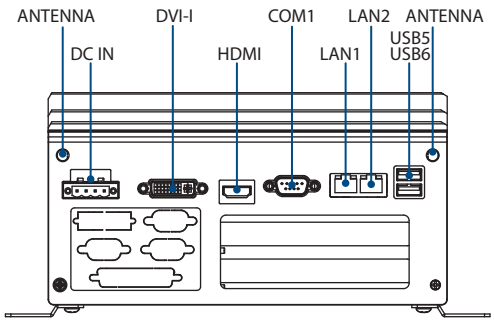
Unit: mm (inch)



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	L2 Cache	HDMI	DVI-I	GbE	RS-232/422/485	RS-232	USB 2.0	MiniPCIe	DC input	Expansion
ARK-3440F-U5A2E	Intel Core i7 610E 2.53 GHz	4 MB	Yes	Yes	2	1	2	6	2	9 ~ 34 V_{DC}	1 PCIEx1 + 1 PCI
ARK-3440F-U4A2E	Intel Core i5 520E 2.4 GHz	3 MB									
ARK-3440F-U1A2E	Intel Core i3 330E 2.13 GHz	3 MB									

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-3440 Unit
-	1 x Driver/Utility CD/Manual
1960014487T00C	2 x desk/wall mount plate
1652003234	1 x 4-pin Phoenix DC power connector
1654009744	1 x DVI-I to CRT connector
1990020592N001	1x HDD thermal pad
1990020828N001	1 x CPU thermal grease pad

Embedded OS

Part Number	Description
2070009811	WES2009 ARK-3440 ENG_FRE_GER_ITA_SPA
2070009812	WES2009 ARK-3440 ENG_CHT_CHS_JPN
2070011270	WES7E ARK-3440 ENG 32 bit

Optional Items

Part Number	Description
1757002161	AC-to-DC adapter, DC19 V/7.89A 150 W, with phoenix power plug, 0 ~ 40° C for home and office Use
1757004529-01	AC-to-DC Adapter, DC 19V/6.84A 130W, -20 ~ +70° C
1702002600	Power cable 3-pin 180cm, USA type, for 1757002161 and 1757004529-01
1700004713	CABLE DVI-I to DVI-D and CRT
1702002605	Power cable 3-pin 180cm, EU type, for for 1757002161 and 1757004529-01
1702031801	Power cable 3-pin 180cm, UK type, for for 1757002161 and 1757004529-01
1700018187	LPT cable 2 x 130-2.0/D-SUB 25P(F) 20 cm for ARK-3440
1700008871	COM Cable D-SUB 9P(M)/IDE#2 10P-2.0 20 cm
AMO-R010E	2 slot riser card, 1 x PCIe x1 + 1 x PCI
AMO-R009E	2 slot riser card, 2 x PCIe x1
AMO-R013E	2 slot riser card, 2 x PCI
AMO-R014E	2 slot riser card, 1 x PCI + 1 x PCIe x4 with BIOS V2.01 (P/N: 1420032188)

ARK-3500

3rd Gen. Intel® Core™ i3/ i5/ i7 with 2 Expansion slots and wide range power Fanless Box PC



Features

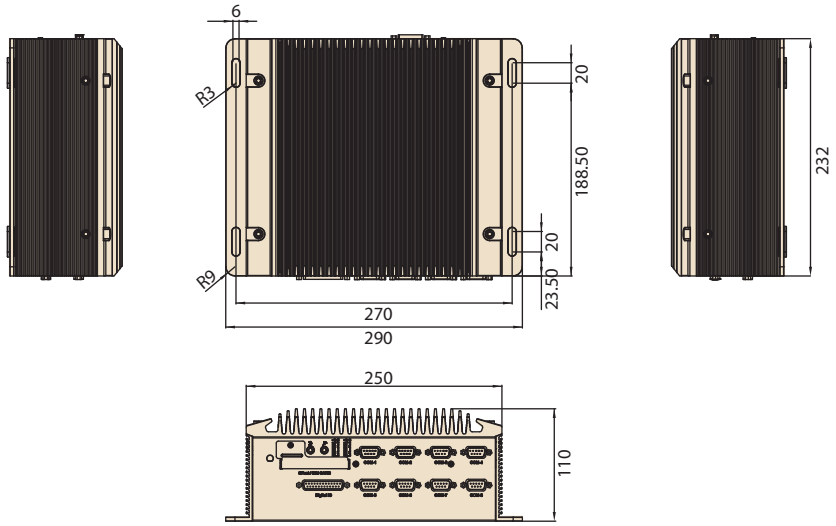
- Supports Intel® Core™ i3/i5/i7 mobile processor(rPGA) + Intel QM77 PCH
- Triple independent display with 3rd gen Core i processor : DVI + HDMI + DisplayPort
- DDR3/DDR3L SO-DIMM memory support up to 16 GB
- 2 expansion slots with vary interface: PCI, PCIe x 1 & PCIe x 4
- 2 x miniPCIe slots with SIM card holders
- 9-34V wide range lockable DC jack design
- Versatile I/Os including 4 x high speed USB 3.0 and 8 x COM ports
- Flexible Storage Support including 2x mSATA, 1x CFast and 2x 2.5" SATA HDD/ SSD bays
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

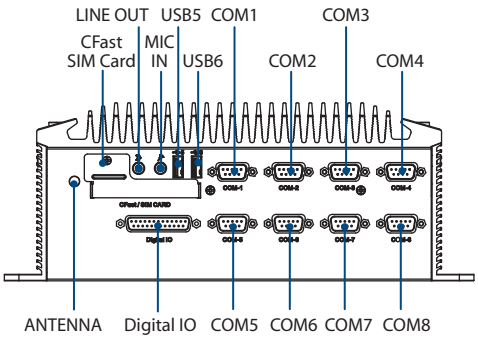
Processor System	CPU (rPGA)	Intel Core i7-3610QE	Intel Core i5-3610ME	Intel Core i3-3120ME	Celeron 1020E
	Frequency	2.3 GHz (Quad Core)	2.7 GHz (Dual Core)	2.4 GHz (Dual Core)	2.2 GHz (Dual Core)
	L3 Cache	6 MB	3 MB	3 MB	2 MB
	Watts	45W	35W	35W	35W
	System Chipset	Intel QM77			
	BIOS	AMI EFI 64Mbit			
Memory	Technology	DDR3/DDR3L 1600MHz			
	Max. Capacity	16 GB			
	Socket	2 x 204-pin SO-DIMM			
Graphics	Chipset	Intel QM77 Integrated GFX Gen 7			
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 11; Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1			
	CRT	VGA integrated in DVI-I port			
	DVI-I	1920 x 1200 @ 60 Hz			
	HDMI	Support HDMI 1.4, 1920 x 1200 @ 60 Hz			
	Display port	2560 x 1600 @ 60Hz (Video only, and only support on 3rd generation processor)			
	Dual Display	VGA+DVI, VGA+HDMI, VGA+DP, DVI+HDMI, DVI+DP, HDMI+DP			VGA+DVI, DVI+HDMI, VGA+HDMI
	Triple Display	DVI-D + HDMI + DisplayPort (Main display)			N/A
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan			
	LAN2	10/100/1000 Mbps Intel I-210IT GbE, support Wake On Lan			
Audio	Interface	Realtek ALC892, High Definition Audio, Line-out, Mic-in			
I/O Interface	Serial Port	4 x RS-232 ports, 4 x RS-232/422/485 port with auto flow control			
	USB	4 x USB 3.0 ports (USB1,2,3,4); 2 x USB 2.0 ports (USB5,6)			
	DIO	16 bit DIO			
Expansions	Mini PCIe	2 x Full-size Mini PCIe with SIM holder (Supports mSATA)			
	Add-on Card Slot	ARK-3500P-00A1E : 2 x PCI ARK-3500F-00A1E : PCIe x 1 + PCIe x 4; Maximum card size: 110 mm (H) x 180 mm (L) Suggested add-on card operating temperature support: TBD			
Storage	HDD	Two 2.5" SATA HDD Bays with maximum device height 9.5mm, SATA III, Gen 3 Support (Max. Data Transfer Rate 600 MB/s), Support SATA RAID 0, 1			
	Solid State Disk	1 x CFast Card slot			
Software Support	Microsoft Windows	Windows 8 , Windows 7, XP Professional (32bit), XP Embedded (32bit)			
	Linux	Ubuntu 12.04			
Power Requirements	Power Type	AT/ATX			
	Power Input Voltage	9 ~ 34 V_{DC}			
	Power Adapter	AC to DC, DC19V / 6.32A, 120W (Optional)			
Power Consumption	Typical	19.2W	16.4W	14.8W	16.4W
	Max.	60W	36.5W	30W	31.8W
Mechanical	Construction	Aluminum housing			
	Mounting	Desk/wall-mounting			
	Dimensions (W x H x D)	290 x 110 x 232mm (11.4" x 4.33" x 9.13")			
	Weight	4.8 kg			
Environment	Operating Temperature	with SSD: -10 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° C with 0.7m/s air flow			
	Storage Temperature	-40 ~ 85° C			
	Relative Humidity	95% @ 40° C (non-condensing)			
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.			
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration			
	EMC	CE/FCC Class A, CCC, BSMI			
	Safety	CB, UL, CCC, BSMI			

Dimensions

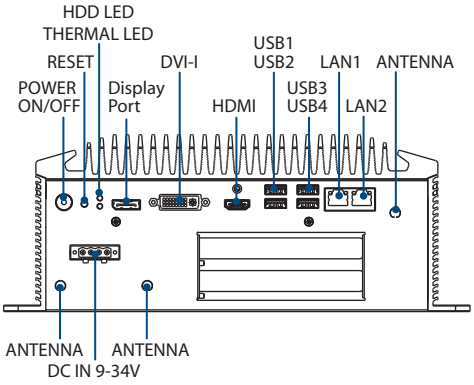
Unit: mm



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	DDR3	DP	HDMI	DVI-I	RS-232/ 422/485	RS-232	USB 3.0	USB 2.0	MiniPCIe	SIM	DC input	Expansion
ARK-3500P-00A1E	PGA Socket Type	up to 16 GB	1	1	2	4	4	4	2	2	2	9 ~ 34 V	2 x PCI
ARK-3500F-00A1E	PGA Socket Type	up to 16 GB	1	1	2	4	4	4	2	2	2	9 ~ 34 V	1 x PCIe x 1 1 x PCIe x 4

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
1654009744	DVI-I to VGA adaptor
968EMLSAP2	SUSI CD
-	User Manual (Simplified Chinese)
-	China RoHS for ARK-3500 Electronic Pollution 1st
1652003234	4 pin DC in terminal block
1930001241	HDD screws
2190000902	CARDBOARD-WARRANTY REV. A2

Embedded OS

Part Number	Description
TBD	WES2009 32bit ENG/CHT/CHS/JPN
TBD	WES7E 64bit ENG/CHT/CHS/JPN
TBD	WES7E 32bit ENG/CHT/CHS/JPN

Optional Items

Part Number	Description
1757004523-01	AC-to-DC Adapter, DC 19V/6.32A 120W, 0~40° C for Home and Office Use
1757004529-01	AC-to-DC Adaptor, DC 19V/6.84A, 130W, -20 ~ 70° C
1702002600	Power cable 3-pin 180cm, USA type, for 1757004523-01 and 1757004529-01
1702031801	Power cable 3-pin 180cm, UK type, for 1757004523-01 and 1757004529-01
1702002605	Power cable 3-pin 180cm, EU type, for 1757004523-01 and 1757004529-01
1700000237	Power cable 3-pin 180cm, with PSE, for 1757004523-01
96MPI7M-2.3-6M9T	CORE 2.3G 6M 988P 4CORE I7-3610QE(G)
96MPI5-2.7-3M9T	CORE 2.7G 3M 988P 2CORE I5-3610ME(G)
96MPI3M-2.4-3M9T	CORE 2.4G 3M 988P 2CORE I3-3120ME(G)
96MPCM-2.2-2M9T	CELERON M 2.2G 2M 988P 2CORE 1020E(G)

ARK-3510

3rd Gen. Intel® Core™ i3/ i5/ i7 with 2 x 2.5" Removable HDD Bays Fanless Box PC



Features

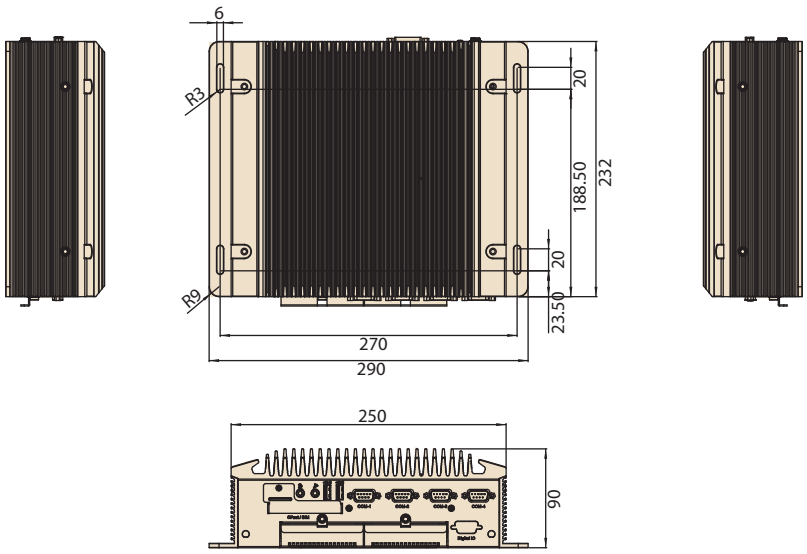
- Supports Intel® Core™ i3/i5/i7 mobile processor(rPGA) + Intel QM77 PCH
- Triple independent display with 3rd gen Core I processor : DVI + HDMI + DisplayPort
- DDR3/DDR3L SO-DIMM memory support up to 16 GB
- Supports 2 x 2.5" removable SATAIII drive bays
- 2 x miniPCIe cards with SIM card holders
- Versatile I/Os including 4 x high speed USB 3.0 and 4 x COM ports
- Lockable 12V DC jack design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

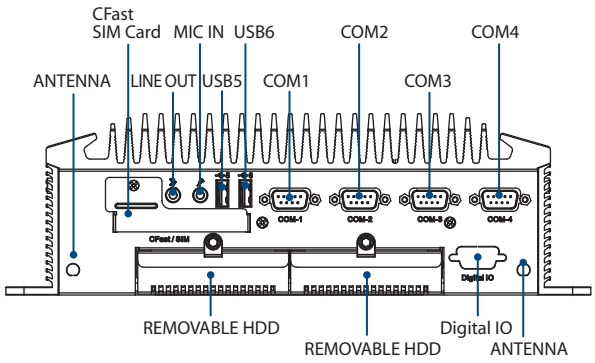
Processor System	CPU (rPGA)	Intel Core i7-3610QE	Intel Core i5-3610ME	Intel Core i3-3120ME	Celeron 1020E
	Frequency	2.3 GHz (Quad Core)	2.7 GHz (Dual Core)	2.4 GHz (Dual Core)	2.2 GHz (Dual Core)
	L3 Cache	6 MB	3 MB	3 MB	2 MB
	Watts	45W	35W	35W	35W
	System Chipset	Intel QM77			
	BIOS	AMI EFI 64Mbit			
Memory	Technology	DDR3/DDR3L 1600 MHz			
	Max. Capacity	16 GB			
	Socket	2 x 204-pin SO-DIMM			
Graphics	Chipset	Intel QM77 Integrated GFX Gen 7			
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 11; Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1			
	CRT	VGA integrated in DVI-I port			
	DVI-I	1920 x 1200 @ 60 Hz			
	HDMI	Support HDMI 1.4, 1920 x 1200 @ 60Hz			
	Display port	2560 x 1600 @ 60Hz (Video only, and only support on 3rd generation processor)			
	Dual Display	VGA+DVI, VGA+HDMI, VGA+DP, DVI+HDMI, DVI+DP, HDMI+DP			VGA+DVI, DVI+HDMI, VGA+HDMI
	Triple Display	DVI-D + HDMI + DisplayPort(Main Display)			N/A
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan			
	LAN2	10/100/1000 Mbps Intel I-210IT GbE, support Wake On Lan			
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out,Mic-in			
I/O Interface	Serial Port	2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control			
	USB	4 x USB 3.0 ports (USB1,2,3,4) and 2 x USB 2.0 ports (USB5,6)			
Expansion	Mini PCIe	2 x Full-size Mini PCIe with SIM holder (Supports mSATA)			
Storage	HDD	Two 2.5" SATA removable HDD Bays with maximum device height 9.5mm, SATA III, Gen 3 Support (Max. Data Transfer Rate 600 MB/s), Support SATA RAID 0, 1			
	Solid State Disk	1 x CFast Card			
Software Support	Microsoft Windows	Windows 8 , Windows 7, XP Professional (32bit), XP Embedded (32bit)			
	Linux	Ubuntu 12.04			
Power Requirements	Power Type	AT/ATX			
	Power Input Voltage	12 V_{DC}, ± 10% (9 ~ 34 V_{DC} support by request)			
	Power Adapter	AC to DC, DC12V / 7A, 84 W (Optional)			
Power Consumption	Typical	19.2W	16.4W	14.8W	16.4W
	Max.	60W	36.5W	30W	31.8W
Mechanical	Construction	Aluminum housing			
	Mounting	Desk/wall-mounting			
	Dimensions (W x H x D)	290 x 90 x 232 mm (11.4" x 3.54" x 9.13")			
	Weight	4.63kg			
Environment	Operating Temperature	with SSD: -10 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° C with 0.7m/s air flow			
	Storage temperature	-40 ~ 85° C			
	Relative Humidity	95% @ 40° C (non-condensing)			
	Vibration During Operation	With SSD: 3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.			
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration			
	EMC	CE/FCC Class A, CCC, BSMI			
	Safety	CB, UL, CCC, BSMI			

Dimensions

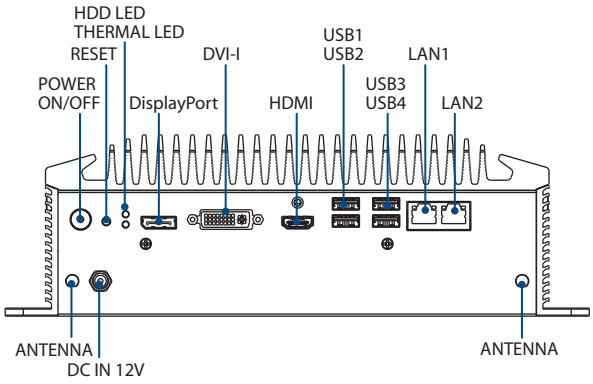
Unit: mm



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	DDR3	DP	HDMI	DVI-I	RS-232/ 422/485	RS-232	USB 3.0	USB 2.0	MiniPCIe	SIM	DC input	Expansion
ARK-3510L-00A1E	PGA Socket Type	up to 16 GB	1	1	2	2	2	4	2	2	2	12V	MIOe

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
1654009744	DVI-I to VGA adaptor
968EMLSAP2	SUSI CD
2006351010	User Manual (Simplified Chinese)
-	China RoHS for ARK-3510 Electronic Pollution 1st
2190000902	CARDBOARD-WARRANTY REV. A2

Embedded OS

Part Number	Description
TBD	WES2009 32bit ENG/CHT/CHS/JPN
TBD	WES7E 64bit ENG/CHT/CHS/JPN
TBD	WES7E 32bit ENG/CHT/CHS/JPN

Optional Items

Part Number	Description
1757004519-01	AC-to-DC Adapter, DC 12V/7A 84W, 0~40° C for Home and Office Use
1757004530-01	AC-to-DC Adaptor, DC 12V/8.33A, 100W, -20 ~ 70° C
1702002600	Power cable 3-pin 180cm, USA type, for 1757004519-01 and 1757004530-01
1702031801	Power cable 3-pin 180cm, Uk type, for 1757004519-01 and 1757004530-01
1702002605	Power cable 3-pin 180cm, EU type, for 1757004519-01 and 1757004530-01
1700000237	Power cable 3-pin 180cm, with PSE, for 1757004519-01
96MPI7M-2.3-6M9T	CORE 2.3G 6M 988P 4CORE I7-3610QE(G)
96MPI5-2.7-3M9T	CORE 2.7G 3M 988P 2CORE I5-3610ME(G)
96MPI3M-2.4-3M9T	CORE 2.4G 3M 988P 2CORE I3-3120ME(G)
96MPCM-2.2-2M9T	CELERON M 2.2G 2M 988P 2CORE 1020E(G)

ARK-6320

Intel® Atom™ Dual Core D510/D525 with 6 COM and 8 USB Fanless Box PC



Features

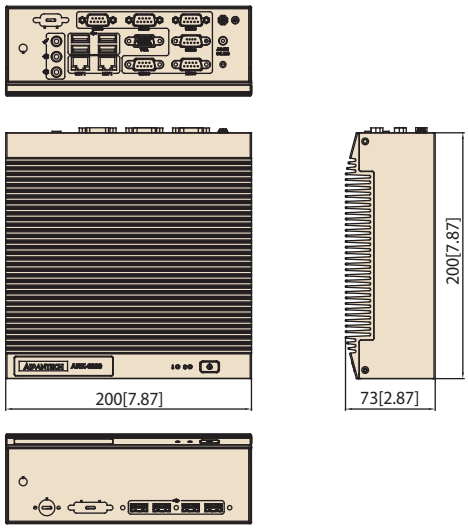
- Built-in Intel® Atom™ Dual Core D510 1.66 GHz/D525 1.8GHz
- Comprehensive I/O: Dual GbE, 8 x USB, 6 x COM, 1 x VGA, and audio
- Mini PCIe expansion slot
- Accepts DC12 V input
- Anti-vibration design for 2.5" SATA HDD Bay to ensure maximum reliability
- Built-in mounting bracket supports wall and table-mounting, with optional VESA mounting bracket
- Supports SUSIAccess and Embedded Software APIs

Specifications

		ARK-6320-6M01E	ARK-6320-6M02E
Processor System	CPU	Intel Atom Dual Core D510 1.66 GHz	Intel Atom Dual Core D525 1.8 GHz
	L2 Cache	1MB	1MB
	System Chipset	Intel ICH8-M	
	BIOS	AMI 16 Mbit SPI Flash	
Memory	Technology	Single Channel DDR2 667 MHz	Single Channel DDR3 1066/1333 MHz
	Max. Capacity	2 GB	4 GB
	Socket	1 x 200-pin SO-DIMM	2 x 204-pin SO-DIMM
Graphics	Chipset	Embedded Gen 3.5 + GFX Core	
	VRAM	Optimized Shared Memory Architecture up to 224 MB system memory	
	Interface	VGA: Supports up to 2048 x 1536 @ 60 Hz LVDS: Single channel 18-bit up to 1366 x 768 (optional)	VGA: Supports up to 2048 x 1536 @ 60 Hz DVI-D: Supports up to 1600 x 1200 LVDS: Single channel 18/24-bit up to 1366 x 768 (optional)
	Dual Display	VGA+LVDS	VGA+DVI-D
Ethernet	LAN1	10/100/1000 Mbps Intel 82567V GbE, support Wake On LAN	
	LAN2	10/100/1000 Mbps Intel 82583V GbE, support Wake On LAN	
Audio	Interfaces	Line-in, Line-out, Mic-in	
IO Interface	Serial Ports	5 x RS232, 1 x RS232/422/485	
	USB Interface	8 x USB ports, USB 2.0 Compliant	
	watchdog timer	Programmable, 1~255 sec/min	
Storage	HDD	Supports one SATA 2.5" HDD Bay (support 9.5mm height only)	
	SSD	Supports one internal CompactFlash socket for type I/II CompactFlash disk	
Expansion	miniPCIe	1 x miniPCIe	
Software Support	Microsoft Windows	Win 7, XP Professional, XP Embedded	
Power Requirement	Power Type	ATX	
	Power Input Voltage	12 V_{DC}, ± 10%	
	Minimum Power Input	DC 12V @ 3.75A	
	Power Adapter	AC-to-DC, 60W DC12V/5A (optional)	
Power Consumption	Typical	23 W (with Intel Atom D525 1.8 GHz)	
	Max.	37 W (with Intel Atom D525 1.8 GHz)	
Mechanical	Construction	Aluminum housing	
	Mounting	Desk/wall-mounting	
	Dimensions (W x H x D)	200 x 73 x 200 mm (7.9" x 2.9" x 7.9")	
	Weight	4.14 kg (8.8 lb)	
Environment	Operating Temperature	0 ~ 40° C with 2.5" HDD, 0.7m/sec air flow	
	Storage Temperature	- 40 ~ 85° C (-40 ~185° F)	
	Relative Humidity	10 ~ 85% @ 50° C, non-condensing	
	Vibration Loading During Operation	With 2.5-inch HDD: 0.5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis	
	Shock During Operation	With 2.5-inch HDD: 20 G, IEC 60068-2-27, half sine, 11 ms duration	
	EMC	CE, FCC, CCC, BSMI	
	Safety Certifications	CCC, BSMI, UL	

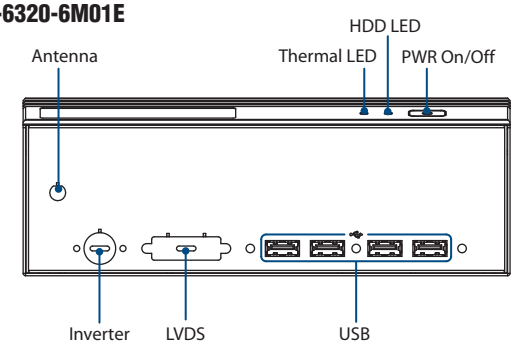
Dimensions

Unit: mm (inch)



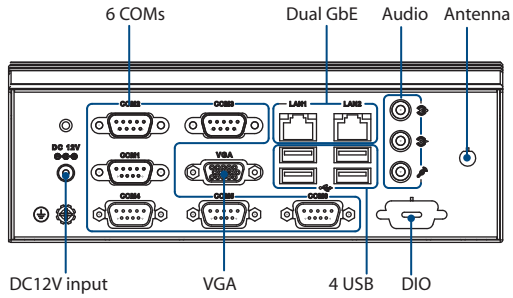
Front Panel External I/O Mechanical Layout/Drawing

ARK-6320-6M01E



Rear Panel External I/O Mechanical Layout/Drawing

ARK-6320-6M01E



Ordering Information

Part No.	CPU	L2 Cache	Memory	DVI-I	RS-232/422/485	RS-232	USB 2.0	MiniPCIe	DC input
ARK-6320-6M01E	Intel Atom D510 1.66 GHz	1 MB	1 DDR2	-	1	5	8	1	12V
ARK-6320-6M02E	Intel Atom D525 1.8 GHz	1 MB	2 DDR3	DVI-D	1	5	8	1	12V

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-6320 unit
-	1 x Driver/Utility CD/Manual
-	1 x Traditional Chinese user manual for CCC
-	1 x China RoHS sheet
1960014487T001	2 x Mounting bracket
1990005896S000	4 x Rubber foot pad
1939000410	4 x Screw for rubber foot pad
1930002235	4 x Screw for hard drive mounting
2000017557	1 x IO label sticker

Optional Accessories

External AC-to-DC Adapter and Accessories

Part Number	Description
1757003934	AC to DC adapter, DC12V/60W
989K008732	VESA mounting plate for ARK-6620/6310/6320
2070010875	WES 2009 ENG for ARK-6320-6M01E
2070010897	WES 2009 MUI 24 for ARK-6320-6M01E
2070010707	WES7 ENG 32 bit for ARK-6320-6M01E
2070010896	WES 2009 ENG for ARK-6320-6M02E
2070010933	WES 2009 MUI 24 for ARK-6320-6M02E
2070010932	WES7 ENG 32 bit for ARK-6320-6M02E

ARK-6322

Intel Celeron Quad Core J1900 SoC 6 COM and 8 USB Fanless Box PC



Features

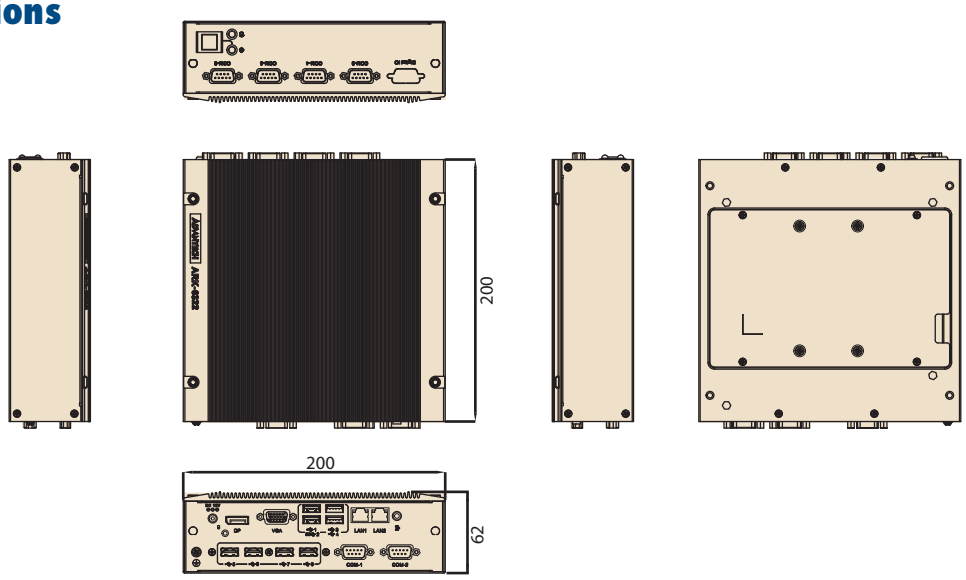
- Support Intel Celeron Quad Core J1900 2.0GHz SoC
- DDR3L SO-DIMM memory support up to 8GB
- Dual display : VGA + DisplayPort
- Support 1 x 3.5" or 2.5" SATA HDD Bay
- Multiple I/O: 1 x USB 3.0, 7 x USB 2.0, and 6 x COM
- Support 2 mini-PCIe slots and 1 SIM holder
- Lockable DC jack design
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

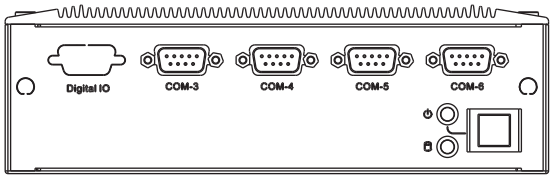
Processor System	CPU	Intel Celeron Processor J1900 Quad Core
	Max. Speed	2.0 GHz
	L2 Cache	2 MB
	BIOS	AMI 16 Mbit SPI
Memory	Technology	Dual channel DDR3L 1333MHz SDRAM
	Max. Capacity	8 GB
	Socket	2 x 204-pin SO-DIMM
Graphics	Controller	Intel Gen 7 Graphics Engines and media encode/decode engine; GPU Frequency: 750MHz
	VRAM	Shared system memory up to 224 MB SDRAM
	CRT	Support up to SXGA 1920 x 1200 @ 60 MHz
	Display port	Supports DP++1.2, resolution up to 2560 x 1600x24bpp @ 60Hz
	Dual Display	VGA+DP
Ethernet	LAN1	10/100/1000 Mbps RTL8111E GbE
	LAN2	10/100/1000 Mbps RTL8111E GbE
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out
I/O Interface	Serial Port	5 x RS-232 port, 1 x RS-232/422/485 port
	USB	1 x USB 3.0 ports and 7 x USB 2.0 ports
Expansion	Mini PCIe	1 x Full-size Mini PCIe with SIM holder (Supports mSATA), 1 x half-size Mini PCIe
Storage	HDD	1 x SATA HDD Bay for 2.5" or 3.5" device with maximum height 26mm
	Solid State Disk	1 x mSATA share with mini-PCIe slot
Software Support	Microsoft Windows	Windows 8 , Windows 7
	Linux	Ubuntu 12.04
Power Requirements	Power Type	AT/ATX
	Power Input Votage	12 V_{DC}, ± 10%
	Power Adapter	AC to DC, DC12V / 5A, 60W (Optional)
Mechanical	Construction	Aluminum housing
	Mounting	Desk/wall-mounting
	Dimensions (W x H x D)	200 x 62 x 200 mm (11.4" x 3.54" x 9.13")
	Weight	TBD
Environment	Operating Temperature	0 ~ 40° C with 0.7m/s air flow
	Storage temperature	-40 ~ 85° C
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	TBD
	Shock During Operation	TBD
	EMC	CE/FCC Class A, CCC, BSMI
	Safety	UL, CCC, BSMI

Dimensions

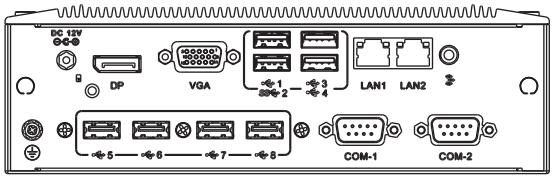
Unit: mm (inch)



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	DDR3	VGA	DP	RS-232/422/485	RS-232	USB 3.0	USB 2.0	MiniPCIe*	SIM	HDD Bay	DC input
ARK-6322-Q0A1E	Intel Celeron J1900 2.0GHz	Up to 8 GB	1	1	1	5	1	7	2	1	1 x 3.5" or 2.5"	12V

*co-lay with mSATA

Note: Memory, storage and operating system bundled by request.

Packing List

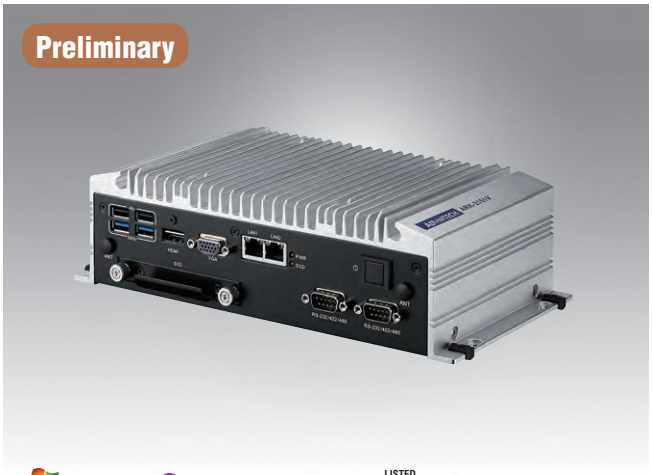
Part Number	Description
-	Driver CD
-	SUSI CD
-	User Manual (Simplified Chinese)
-	China RoHS for ARK-6322 Electronic Pollution 1st
2190000902	CARDBOARD-WARRANTY REV. A2

Optional Items

Part Number	Description
1757003934	AC-to-DC adapter, DC12V/60W
1702002600	Power cable 3-pin 180 cm, USA type
1702031801	Power cable 3-pin 180 cm, UK type
1702002605	Power cable 3-pin 180 cm, Europe type
1700000237	Power cable 3-pin 180 cm, PSE

ARK-2121S

Outdoor NVR w/4 PoE Ports
Intel® Atom E3845 SoC Fanless Box PC



Features

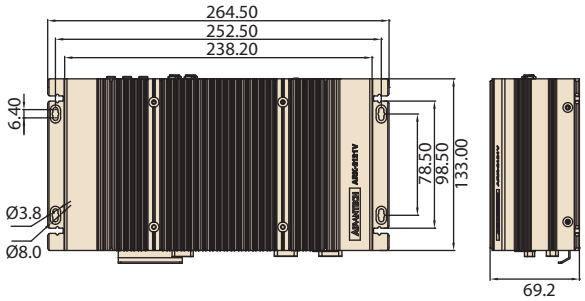
- Intel® Atom E3845 Quad Core 1.91 GHz SoC
- 4 PoE Ports to Support Mainstream IP Cameras
- 3KV isolation for 6 x Di & 2 x Do
- Diversity Communication Abilities, ex. WWAN, WLAN
- 9 ~ 36 V_{DC} Wide Power Input w/isolation
- Removable 2.5" SATA HDD Bay
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

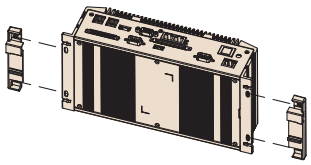
		ARK-2121S-S9A1E
Processor System	CPU	Intel Atom E3845 QC SoC
	Frequency	1.91 GHz
	L2 Cache	2 MB
	BIOS	AMI EFI 64 Mbit
Memory	Technology	DDR3L 1333 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Atom SoC
	Graphic Engine	Intel Gen 7 Graphics Engines, DirectX 11 graphics, OCL 1.1, OGL 3.2
	VGA	DB15, up to 1600 x 1200
	HDMI	Lockable HDMI connector, up to 1080p
Audio	Main System	Realtek ALC888S, High Definition Audio. Line-out, MIC-in, Line-in
Ethernet	LAN #1	10/100/1000 Mbps Intel I210-IT GbE, support Wake on LAN
	LAN #2	10/100/1000 Mbps Intel I210-IT GbE, support Wake on LAN
I/O Interface	Power over Ethernet, PoE	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 (7Watt) - 2ports full-load, IEEE802.3af Class 3 (15.4Watt)
	Serial Ports	2 x RS-232/422/485 ports (support auto flow control, BIOS selectable)
	GPIO	6 x DI & 2 x DO w/ 3KV isolation Input Voltage: 0 to 30 V_{DC} at 25 Hz, Output Current: Max. 500 mA per channel On-state Voltage: 24 V_{DC} nominal, open collector to 30 V_{DC}
	USB	3 x USB 2.0 & 1 x USB3.0
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe #1	Full-size Mini PCIe, support mSATA
	Mini PCIe #2	Full-size Mini PCIe, support WLAN module
	Mini PCIe #3/4	2x Full-size Mini PCIe w/SIM holders, support WWAN module
Storage	2.5" HDD Bay	One removable 2.5" SATA HDD bay (Max Height 9.5mm)
	Solid-State Drive	Laverage MiniPCIe #1 slot for mSATA
Software Support	Microsoft Windows	WES8, WES7, Windows 8, Windows 7 (TBC)
	Linux	Support (TBC)
Power Requirement	Power Type	ATX/AT
	Power Input Voltage	9 ~ 36 V_{DC} w/ isolation
	Isolation	1.5KV Isolated
Mechanical	Construction	Aluminum housing, Silver
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	264.5 x 69.2 x 133.0 mm
Environment	Operating Temperature	With extended temperature peripherals:-20 ~ 60° C with 0.7m/s air flow With standard temperature peripherals:0 ~ 45° C with 0.7m/s air flow
	Storage Temperature	-40 ~ 85° C (-40~185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With mSATA/SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis
	Shock During Operation	With mSATA/SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration
Regulation	EMC	CE/FCC Class A, CCC, BSMI
	Safety	CB, UL, CCC, BSMI

Dimensions

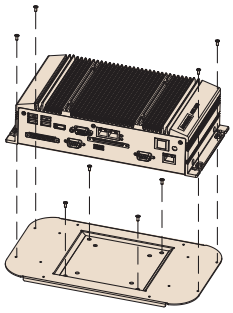
Unit: mm



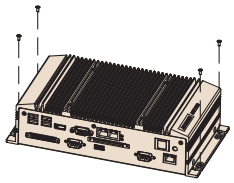
DIN Rail



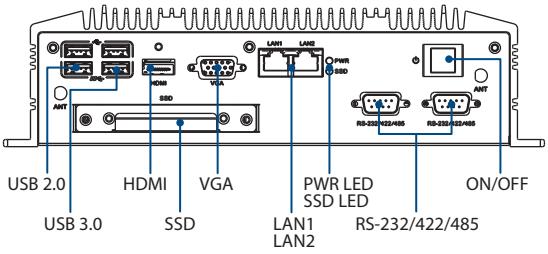
VESA mount



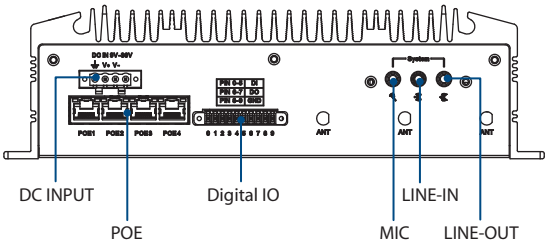
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	2.5" HDD bay	mSATA	Display	GbE	PoE	USB	DIO	RS-232/422/485	Audio	MiniPCIe	SIM Holder	Power Input	Operating Temperature
ARK-2121S-S9A1E	Intel Atom E3845 QC 1.91 GHz	Up to 8GB	1	1	1 x HDMI 1 x VGA	2	4	3 x USB2.0 1 x USB3.0	6Di 2Do	2	Line-out, Line-In, MIC	4 x Full Size	2	9 ~ 36 V_{DC}	-20 ~ 60° C

Packing List

Part Number	Description
-	1 x ARK-2121 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
TBC	4-pole Phoenix Power BLOCK 5.0mm

Optional Items

Part Number	Description
TBC	AC-to-DC Adapter with Phoenix Power Plug
1700001947	Power cable 2-pin 180 cm, USA type
1700001948	Power cable 2-pin 180 cm, Europe type
1700001949	Power cable 2-pin 180 cm, UK type
1700002141	Power cable 2-pin 180 cm, PSE type
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

Embedded OS

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

ARK-2151S

Outdoor Full HD NVR w/4 PoE Ports 4th Gen. Intel Core i5 4300U SoC Fanless Box PC



Features

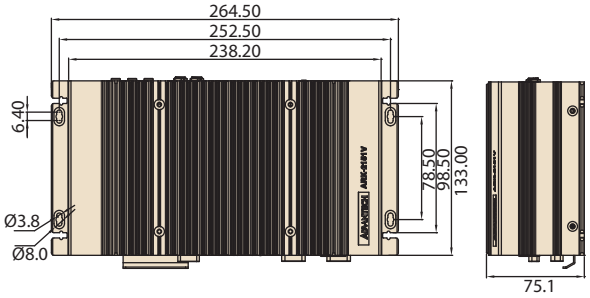
- Intel® Core i5-4300U Dual Core 1.9 GHz SoC
- 4 PoE Ports to Support Mainstream IP Cameras
- Diversity Communication Abilities, ex. WWAN, WLAN
- 3KV isolation for 6 x Di & 2 x Do
- 9 ~ 36 V_{DC} Wide Power Input w/isolation
- Removable 2.5" SATA HDD Bay
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

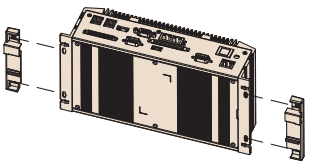
		ARK-2151S-S9A1E
Processor System	CPU	Intel i5-4300U
	Frequency	1.9 GHz
	L3 Cache	3 MB
	BIOS	AMI EFI 128 Mbit
Memory	Technology	DDR3L 1600 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	GT3 Graphics, Generation 7.5 graphics core architecture
	Graphic Engine	DirectX* 11.1, OpenGL* 4.0 support. Full AVC/VC1/MPEG2 HW Decode
	VGA	DB15, up to 1920 x 1200
	HDMI	Lockable HDMI connector, up to 1920 x 1200
Audio	Main System	Realtek ALC892, High Definition Audio. Line-out,Mic-in,Line-in
Ethernet	LAN #1	10/100/1000 Mbps Intel I218 GbE, support Wake on LAN
	LAN #2	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN
I/O Interface	Power over Ethernet, PoE	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 (7Watt) - 2ports full-load, IEEE802.3af Class 3 (15.4Watt)
	Serial Ports	2 x RS-232/422/485 ports (BIOS selectable)
	USB Interface	2 x USB 2.0 & 2 x USB3.0
	GPIO	6 x DI & 2 x DO w/ 3KV isolation Input Voltage: 0 to 30 V_{DC} at 25 Hz, Output Current: Max. 500 mA per channel On-state Voltage: 24 V_{DC} nominal, open collector to 30 V_{DC}
Other	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe #1	Full-size Mini PCIe, support mSATA
	Mini PCIe #2	Half-size Mini PCIe, support WLAN module
	Mini PCIe #3/4	2x Full-size Mini PCIe w/SIM holders, support WWAN module
Storage	2.5" HDD Bay	One removable 2.5" SATA HDD bay (Max Height 9.5mm)
	Solid-State Drive	Laverage MiniPCIe #1 slot for mSATA
Software Support	Microsoft Windows	WES8, WES7, Windows 8, Windows 7, WES2009 (TBC)
	Linux	Support (TBC)
Power Requirement	Power Type	ATX/AT
	Power Input Voltage	9 ~ 36 V_{DC} w/ isolation
	Isolation	1.5 KV Isolated
Mechanical	Construction	Aluminum housing, Silver
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	264.5 x 75.1 x 133.0 mm (10.41" x 2.96" x 5.24")
Environment	Operating Temperature	With extended temperature peripherals:-20 ~ 60° C with 0.7m/s air flow With standard temperature peripherals:0 ~ 45° C with 0.7m/s air flow
	Storage Temperature	-40 ~ 85° C (-40~185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With mSATA/SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis
	Shock During Operation	With mSATA/SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration
Regulation	EMC	CE/FCC Class A, CCC, BSMI
	Safety	CB, UL, CCC, BSMI

Dimensions

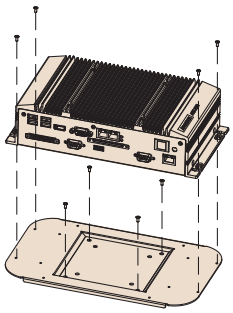
Unit: mm



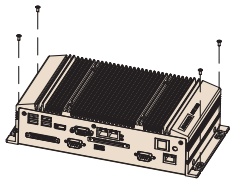
DIN Rail



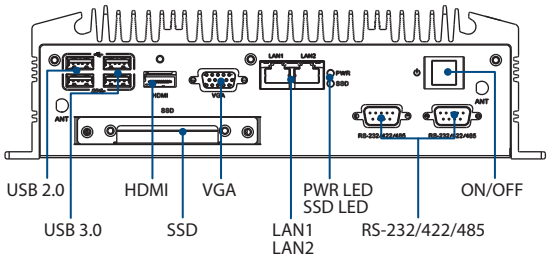
VESA mount



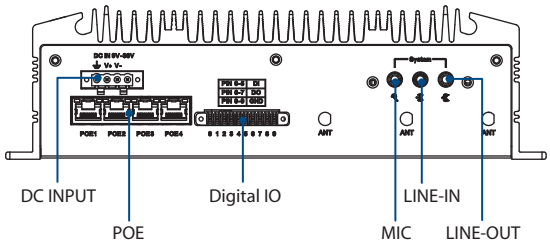
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	2.5" HDD bay	mSATA	Display	GbE	PoE	USB	DIO	RS-232/422/485	Audio	MiniPCIe	SIM Holder	Power Input	Operating Temperature
ARK-2151S-S9A1E	Intel i5-4300U DC 1.9 GHz	Up to 8GB	1	1	1 x HDMI 1 x VGA	2	4	2 x USB2.0 2 x USB3.0	6Di 2Do	2	Line-out, Line-In, MIC	3 x Full Size 1 x Half Size	2	9 ~ 36 V_{DC}	-20 ~ 60° C

Packing List

Part Number	Description
-	1 x ARK-2151 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
TBC	4-pole Phoenix Power BLOCK 5.0mm

Embedded OS

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
TBC	AC-to-DC Adapter with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
1700001947	Power cable 2-pin 180 cm, USA type
1700001948	Power cable 2-pin 180 cm, Europe type
1700001949	Power cable 2-pin 180 cm, UK type
1700002141	Power cable 2-pin 180 cm, PSE type
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-2121V

In-Vehicle NVR w/4 PoE Ports Intel® Atom E3825 / Atom E3845 SoC Fanless Box PC



Features

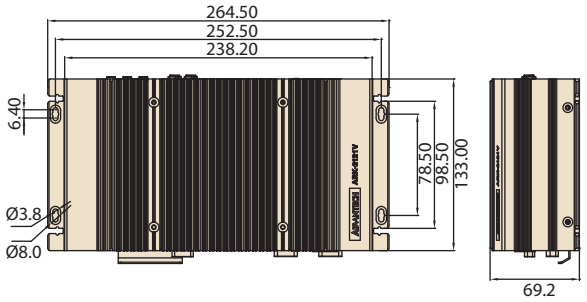
- Intel® Atom E3825 Dual Core 1.33 GHz & E3845 Quad Core 1.91 GHz SoC
- 4 PoE Ports to Support Mainstream IP Cameras
- Isolated COM ports and DIO
- Diversity Communication Abilities, ex. WWAN, WLAN
- Built-in GPS and G-Sensor for GIS application
- Intelligent Vehicle Power Ignition
- 9 ~ 36 V_{DC} Wide Power Input w/isolation
- Removable 2.5" SATA HDD Bay
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

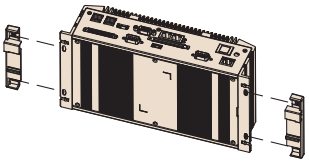
		ARK-2121V-S9A1E	ARK-2121V-S3A1E
Processor System	CPU	Intel Atom E3845 QC SoC	Intel Atom E3825 DC SoC
	Frequency	1.91 GHz	1.33 GHz
	L2 Cache	2 MB	1 MB
	BIOS	AMI EFI 64 Mbit	
Memory	Technology	DDR3L 1333 MHz	DDR3L 1066 MHz
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SO-DIMM	
Graphics	Chipset	Intel Atom SoC	
	Graphic Engine	Intel Gen 7 Graphics Engines, DirectX 11 graphics, OCL 1.1, OGL 3.2	
	VGA	DB15, up to 1600 x 1200	
	HDMI	Lockable HDMI connector, up to 1080p	
Audio	Main System	Realtek ALC888S, High Definition Audio. Line-out, MIC-in, Line-in	
	Celular Voice	Support WWAN voice function, Line-out, Mic-in	
Ethernet	LAN #1	10/100/1000 Mbps Intel I210-IT GbE, support Wake on LAN	
	LAN #2	10/100/1000 Mbps Intel I210-IT GbE, support Wake on LAN	
I/O Interface	Power over Ethernet, PoE	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 (7Watt) - 2ports full-load, IEEE802.3af Class 3 (15.4Watt)	N/A
	Serial Ports	2 x RS-232/422/485 ports (support auto flow control, BIOS selectable)	2 x RS-232 or 2 x RS-422/485 ports w/ 3KV isolation (support auto flow control)
	Optional COM or CANBus	N/A	2 x RS-232 (Standard) or 2 x CANBus 2.0 A/B (T-P/N)
	GPIO	6 x DI & 2 x DO w/ 3KV isolation Input Voltage: 0 to 30 VDC at 25 Hz, Output Current: Max. 500 mA per channel On-state Voltage: 24 V_{DC} nominal, open collector to 30 V_{DC}	6 x DI & 2 x DO w/ 3KV isolation Input Voltage: 0 to 30 VDC at 25 Hz, Output Current: Max. 500 mA per channel On-state Voltage: 24 V_{DC} nominal, open collector to 30 V_{DC}
	USB	3 x USB 2.0 & 1 x USB3.0	
Other	GPS	On board high sensitivity GPS	
	G-Sensor	On board G-Sensor	
	Watchdog timer	255-level timer interval, setup by software	
Expansion	Mini PCIe #1	Full-size Mini PCIe, support mSATA	
	Mini PCIe #2	Full-size Mini PCIe, support WLAN module	
	Mini PCIe #3/4	2x Full-size Mini PCIe w/SIM holders, support WWAN module	
Storage	2.5" HDD Bay	One removable 2.5" SATA HDD bay (Max Height 9.5mm)	
	Solid-State Drive	Laverage MiniPCIe #1 slot for mSATA	
Software Support	Microsoft Windows	WES8, WES7, Windows 8, Windows 7, WES2009 (TBC)	
	Linux	Support (TBC)	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage	PC Mode: 9 ~ 36 V_{DC} VH Mode: 12 V battery (11 ~ 16 V_{DC}), 24V battery (22 ~ 32 V_{DC})	
	Vehicle Power Ignition	Selectable boot-up & shut-down voltage, on/off delay time	
	Isolation	1.5KV Isolated	
Mechanical	Construction	Aluminum housing, Silver	
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting	
	Dimensions (W x H x D)	264.5 x 69.2 x 133.0 mm	
Environment	Operating Temperature	With extended temperature peripherals:-20 ~ 60° C with 0.7m/s air flow With standard temperature peripherals:0 ~ 45° C with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85° C (-40~185° F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration/Shock	With mSATA/SSD: IEC 60721-3-5 Class 5M3	
Regulation	EMC	CE/FCC Class A, CCC, BSMI	
	Safety	UL, CCC, BSMI, E-Mark (E13)	

Dimensions

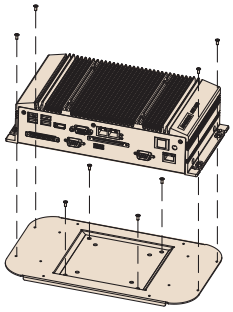
Unit: mm



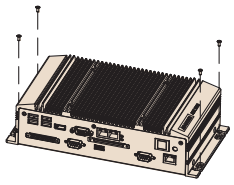
DIN Rail



VESA mount

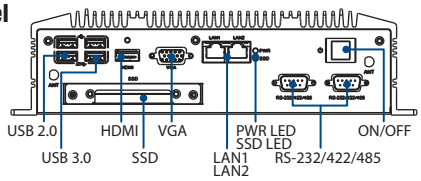


Wall mount

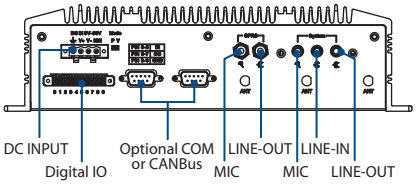


ARK-2121V-S6A1E External I/O Mechanical Layout/Drawing

Front Panel

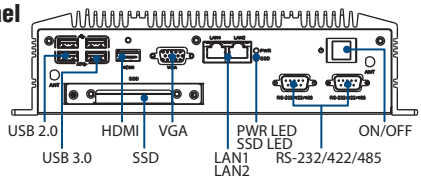


Rear Panel

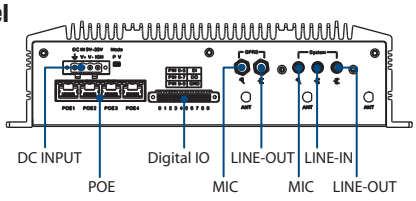


ARK-2121V-S9A1E External I/O Mechanical Layout/Drawing

Front Panel



Rear Panel



Ordering Information

Part Number	Intel CPU	RAM	2.5" HDD bay	mSATA	Display	GbE	PoE	USB	DIO	Optional COM or CANBus	RS-232/422/485	Audio	MiniPCIe	SIM Holder	Power Input	Operating Temperature
ARK-2121V-S3A1E	Intel Atom E3825 DC 1.33 GHz	Up to 8GB	1	1	1 x HDMI 1 x VGA	2	N/A	3 x USB2.0 1 x USB3.0	6Di 2Do	2 x RS-232 or 2 x CANBus 2.0A/B	2	System: Line-out, Line-In, MIC Cellular Voice: Line-out, MIC	4 x Full Size	2	9 ~ 36 V_{DC}	-20 ~ 60° C
ARK-2121V-S9A1E	Intel Atom E3845 QC 1.91 GHz						4			N/A						

Packing List

Part Number	Description
-	1 x ARK-2121 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
TBC	4-pole Phoenix Power BLOCK 5.0mm
1750001782	1 x GPS antenna Active with 5M SMA cable

Embedded OS

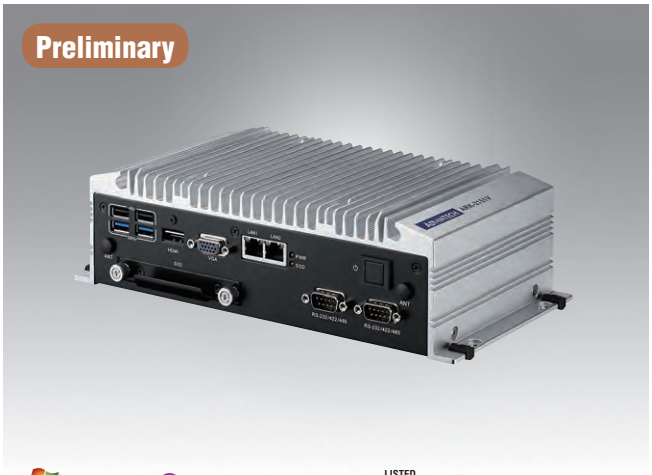
Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
TBC	AC-to-DC Adapter with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
1700001947	Power cable 2-pin 180 cm, USA type
1700001948	Power cable 2-pin 180 cm, Europe type
1700001949	Power cable 2-pin 180 cm, UK type
1700002141	Power cable 2-pin 180 cm, PSE type
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-2151V

In-Vehicle Full HD NVR w/4 PoE Ports 4th Gen. Intel® Core i5 4300U / Celeron 2980U SoC Fanless Box PC



Features

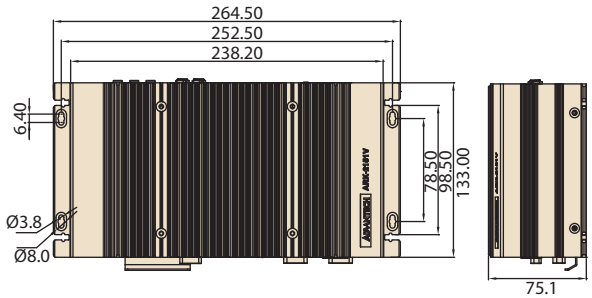
- Intel® Celeron 2980U 1.6GHz / Core i5-4300U 1.9 GHz SoC
- 4 PoE Ports to Support Mainstream IP Cameras
- Diversity Communication Abilities, ex. WWAN, WLAN
- Built-in GPS and G-Sensor for GIS application
- Intelligent Vehicle Power Ignition
- 9 ~ 36 V_{DC} Wide Power Input w/isolation
- Removable 2.5" SATA HDD Bay
- IP40 sealed design
- Supports iManager, SUSIAccess and Embedded Software APIs

Specifications

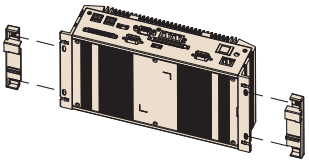
		ARK-2151V-S6A1E	ARK-2151V-S9A1E
Processor System	CPU	Intel Celeron 2980U Dual Core	Intel i5-4300U Dual Core
	Frequency	1.6 GHz	1.9 GHz
	L3 Cache	2 MB	3 MB
	BIOS	AMI EFI 128 Mbit	
Memory	Technology	DDR3L 1333 MHz	DDR3L 1600 MHz
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SO-DIMM	
Graphics	Chipset	GT3 Graphics, Generation 7.5 graphics core architecture	
	Graphic Engine	DirectX* 11.1, OpenGL* 4.0 support. Full AVC/VC1/MPEG2 HW Decode	
	VGA	DB15, up to 1920 x 1200	
	HDMI	Lockable HDMI connector, up to 1920 x 1200	
Audio	Main System	Realtek ALC892, High Definition Audio. Line-out,Mic-in,Line-in	
	Celular Voice	Support WWAN voice function, Line-out,Mic-in	
Ethernet	LAN #1	10/100/1000 Mbps Intel I218 GbE, support Wake on LAN	
	LAN #2	10/100/1000 Mbps Intel I210 GbE, support Wake on LAN	
I/O Interface	Power over Ethernet, PoE	N/A	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 (7Watt) - 2ports full-load, IEEE802.3af Class 3 (15.4Watt)
	Serial Ports	2 x RS-232 or 2 x RS-422/485 ports w/ 3KV isolation (support auto flow control)	2 x RS-232/422/485 ports (BIOS selectable)
	Optional COM or CANBus	2 x RS-232 (Standard) or 2 x CANBus 2.0 A/B (T-P/N)	N/A
	USB Interface	2 x USB 2.0 & 2 x USB3.0	
	GPIO	6 x DI & 2 x DO w/ 3KV isolation Input Voltage: 0 to 30 VDC at 25 Hz, Output Current: Max. 500 mA per channel On-state Voltage: 24 V_{DC} nominal, open collector to 30 V_{DC}	6 x DI & 2 x DO w/ 3KV isolation Input Voltage: 0 to 30 V_{DC} at 25 Hz, Output Current: Max. 500 mA per channel On-state Voltage: 24 V_{DC} nominal, open collector to 30 V_{DC}
Other	GPS	On board high sensitivity GPS	
	G-Sensor	On board G-Sensor	
	Watchdog timer	255-level timer interval, setup by software	
Expansion	Mini PCIe #1	Full-size Mini PCIe, support mSATA	
	Mini PCIe #2	Half-size Mini PCIe, support WLAN module	
	Mini PCIe #3/4	2x Full-size Mini PCIe w/SIM holders, support WWAN module	
Storage	2.5" HDD Bay	One removable 2.5" SATA HDD bay (Max Height 9.5mm)	
	Solid-State Drive	Laverage MiniPCIe #1 slot for mSATA	
Software Support	Microsoft Windows	WES8, WES7, Windows 8, Windows 7, WES2009 (TBC)	
	Linux	Support (TBC)	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage	PC Mode: 9 ~ 36 V_{DC} VH Mode: 12 V battery (11 ~ 16 V_{DC}), 24 V battery (22 ~ 32 V_{DC})	
	Vehicle Power Ignition	Selectable boot-up & shut-down voltage, on/off delay time	
	Isolation	1.5 KV Isolated	
Mechanical	Construction	Aluminum housing, Silver	
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting	
	Dimensions (W x H x D)	264.5 x 75.1 x 133.0 mm (10.41" x 2.96" x 5.24")	
Environment	Operating Temperature	With extended temperature peripherals:-20 ~ 60° C with 0.7m/s air flow With standard temperature peripherals:0 ~ 45° C with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85° C (-40~185° F)	
	Relative Humidity	95% @ 40° C (non-condensing)	
	Vibration/Shock	With mSATA/SSD: IEC 60721-3-5 Class 5M3	
Regulation	EMC	CE/FCC Class A, CCC, BSMI	
	Safety	UL, CCC, BSMI, E-Mark (E13)	

Dimensions

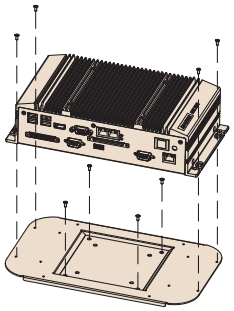
Unit: mm



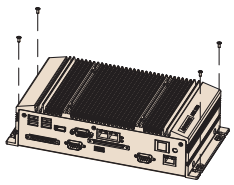
DIN Rail



VESA mount

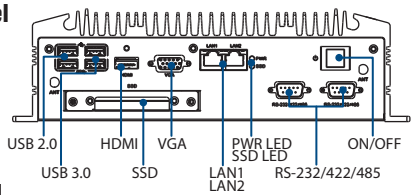


Wall mount

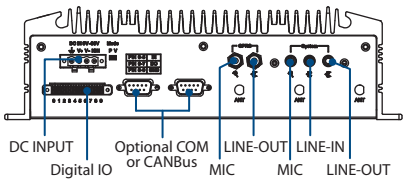


ARK-2151V-S6A1E External I/O Mechanical Layout/Drawing

Front Panel

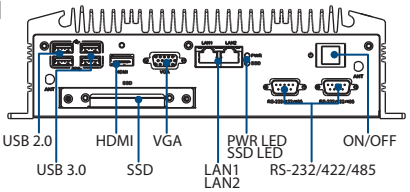


Rear Panel

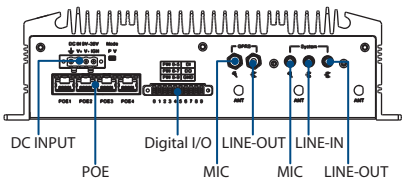


ARK-2151V-S9A1E External I/O Mechanical Layout/Drawing

Front Panel



Rear Panel



Ordering Information

Part Number	Intel CPU	RAM	2.5" HDD bay	mSATA	Display	GbE	PoE	USB	DIO	Optional COM or CANBus	RS-232/422/485	Audio	MiniPCIe	SIM Holder	Power Input	Operating Temperature
ARK-2151V-S6A1E	Intel Celeron 2980U 1.6 GHz	Up to 8GB	1	1	1 x HDMI 1 x VGA	2	N/A	2 x USB2.0 2 x USB3.0	6Di 2Do	2 x RS-232 or 2 x CANBus 2.0A/B	2	System: Line-out, Line-In, MIC Cellular Voice: Line-out, MIC	3 x Full Size 1 x Half Size	2	9 ~ 36 V_{DC}	-20 ~ 60° C
ARK-2151V-S9A1E	Intel i5-4300U 1.9 GHz						4			N/A						

Packing List

Part Number	Description
-	1 x ARK-2151 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
TBC	4-pole Phoenix Power BLOCK 5.0mm
1750001782	1 x GPS antenna Active with 5M SMA cable

Embedded OS

Part Number	Description
TBC	WES8 OS image
TBC	WES7 OS image

Optional Items

Part Number	Description
TBC	AC-to-DC Adapter with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
1700001947	Power cable 2-pin 180 cm, USA type
1700001948	Power cable 2-pin 180 cm, Europe type
1700001949	Power cable 2-pin 180 cm, UK type
1700002141	Power cable 2-pin 180 cm, PSE type
1960025333N011	VESA mounting bracket
9666K10000E	DIN-rail mounting kit

ARK-VH200

Intel® Atom™ Dual Core D510 In-Vehicle DVR with 4 BNC Fanless Box PC



Features

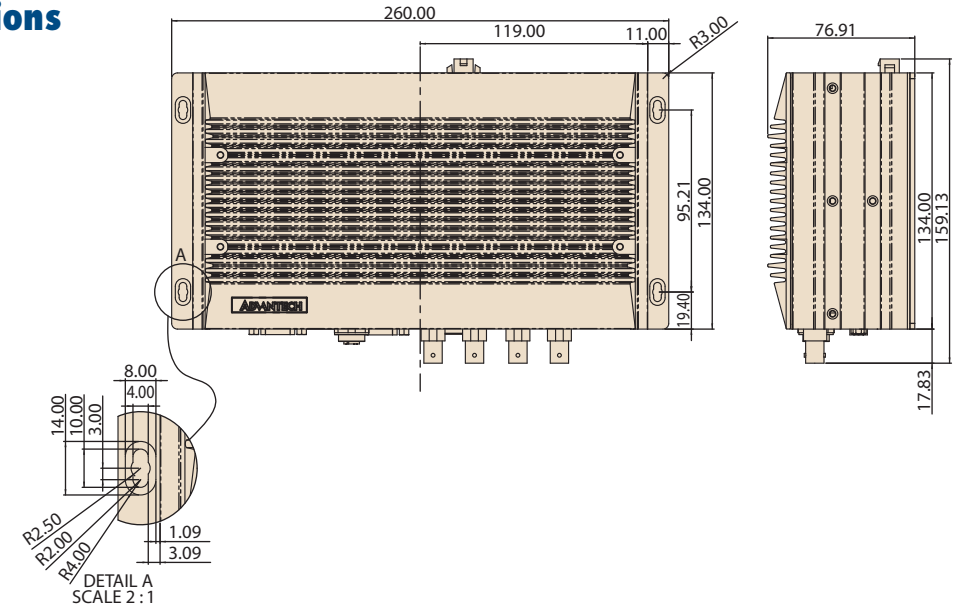
- Intel® Atom™ D510 processor at 1.66 GHz
- 120/100 FPS D1 resolution video recorders
- Optional add-on Mini PCIe card for wireless applications, e.g. WLAN or 3.5G module
- eSATA for large capacity external HDD
- In-vehicle power design and IGN support, compliant with ISO-7637-2
- 4 x USB 2.0 ports (2 x USB ports are lockable for secure connection)
- Compliant with EN50155 for rail transportation applications
- IP40 sealed design
- Supports SUSIAccess and Embedded Software APIs

Specifications

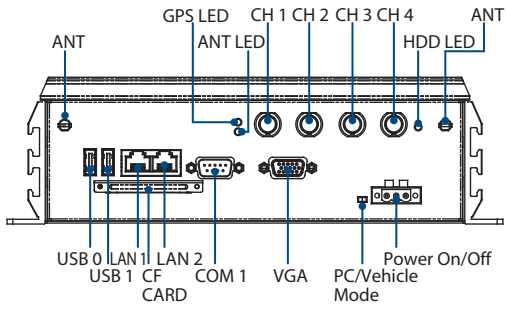
Processor System	CPU	Intel Atom Dual Core D510
	Frequency	1.66 GHz
	L2 Cache	1 MB
	BIOS	AMI 16 Mbit Flash BIOS
Memory	Technology	DDR2 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 200-pin SO-DIMM
Graphics	Chipset	Embedded Gen 3.5G+GFX Core, Intel Gen 3.5 DX9, MPEG2 Decode in HW
	Interface	CRT Interface 18-bit LVDS interface (Optional by T-PN)
Ethernet	LAN 1	10/100/1000 Mbps Intel 82567V GbE, support Wake On LAN
	LAN 2	10/100/1000 Mbps Intel 82583V GbE, support Wake On LAN
Audio	Interface	Line-out, Mic-in
IO interface	Serial Interface	2 x RS-232 port, 1 x RS-232/422/485 (Optional)
	USB Interface	4 x USB ports, Compliant with USB 2.0 (2 x USB ports are lockable)
Other	Digital I/O	Supports up to 4-bit DIO
	GPS	On-board GPS
	eSATA	1 x eSATA
	Watchdog timer	255-level timer interval, setup by software
Expansion	Mini PCIe	2 x Mini PCIe
	SIM Socket	1 x SIM Socket
Video Recording	Video Compression	H/W H.264
	Video Input	4 x Ch Video Inputs, BNC
	Audio Input	4 x Ch Audio Inputs (Optional)
	Video Resolution	Preview@D1; Record@D1+CIF (dual stream)
	Video Frame	Total 120/100 FPS (NTSC/PAL) @ D1 resolution
	SDK Support	VC++/.NET/VB/V4L2
Storage	HDD	Supports 1 x SATA 2.5" HDD Bay (9.5 mm height only)
	SSD	Supports CompactFlash socket for type I/II CompactFlash disk
Software Support	Microsoft Windows	WES2009, WES7
	Linux	Fedora v10.04.1
Power Requirement	Power Type	AT/ATX
	Power Input Voltage	PC Mode: 9 V_{DC} ~ 32 V_{DC} VH Mode: 12 V battery (11 V_{DC} ~ 16 V_{DC}), 24V battery (22 V_{DC} ~ 32 V_{DC})
	Ignition	Supports ignition function
	PIC Firmware	Battery status check, and Off-delay support
	Minimum Power Inputs	36W
	Power Adapter	AC to DC, DC19V/3.42A, 65W (Optional)
Power Consumption	Typical	19 W
	Max.	22 W
Mechanical	Construction	Aluminum housing
	Mounting	Desk/wall-mounting
	Dimensions (W x H x D)	260 mm x 77 mm x 134 mm
	Weight	3 kg (6.6 lb)
Environment	Operating Temperature	With extend temperature peripherals CompactFlash disk: -20 ~ 60° C (-4 ~ 140° F) With extend temperature peripherals 2.5-inch hard disk 0 to 45° C (32 ~ 113° F) , with air flow
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration Loading During Operation	With CompactFlash disk: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis. With 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
	Shock During Operation	With CompactFlash disk: 50 G, IEC 60068-2-27, half sine, 11 ms duration With hard disk: 20 G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class A
	Safety Certifications	CE/FCC, CCC, UL/cUL
	In-Vehicle Certification	EN50155, E-Mark E13

Dimensions

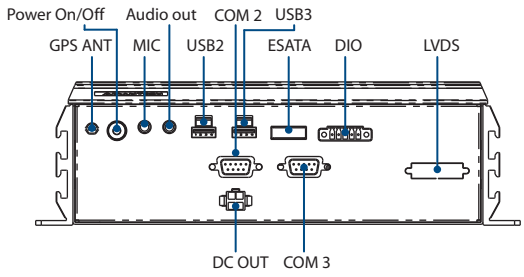
Unit: mm (inch)



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part Number	Intel CPU	RAM	Display	Audio	GbE	Storage	USB 2.0	COM	On board GPS	4-bit GPIO	MiniPCIe	eSATA	Video	Operating Temp.
ARK-VH200A-D5A2E	Intel Atom D510 1.6GHz	Up to 2 GB	VGA LVDS (Optional by T-PN)	Line-out Mic-in	2	1x 2.5" HDD bay & 1 x CF Card	4	2 x RS-232 & 1 x RS-232/422/485 (Optional)	1	1	2 (1 w/ SIM)	1	4 Ch Video Inputs (BNC) & 4 Ch Audio Inputs (Optional)	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-VH200 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
1652004519	1 x 3-pole Phoenix Power BLOCK 5.0mm
1750001782	1 x GPS antenna Active with 5M SMA cable

Embedded OS

Part Number	Description
TBC	XPE WES 2009 OS Image
TBC	WES7 OS Image

Optional Items

Part Number	Description
1757003659	AC-to-DC Adapter DC19 V/3.42 A 65 W, 0 ~ 40°C for Home and Office Use
1700001947	Power cable 2-pin 180 cm, USA type
1700001948	Power cable 2-pin 180 cm, Europe type
1700001949	Power cable 2-pin 180 cm, UK type
AMK-C001E	In-vehicle Cradle, SAE J1445 Standard

Memo

8

Digital Signage Platforms

Selection Guide		*8-2*
Ultra Slim Series		
DS-060 Series	3rd Generation Intel® Core™ i7/Celeron®/Atom™ Ultra Slim Digital Signage Platform	*8-4*
OPS Series		
ARK-DS262	3rd Generation Intel® Core™ i7 OPS Digital Signage Platform	*8-6*
Value Series		
ARK-DS306	AMD G-Series Fanless Digital Signage Platform	*8-8*
Mainsteam Series		
DS-570	Intel® Celeron® N2920 Quad-Core™ SoC with Advanced NVIDIA Graphics Digital Signage Platform	*8-10*
Multi-Display Series		
ARK-DS762	3rd Generation Intel® Core™ i7/i5/i3 with 3 HDMI Independent Displays Digital Signage Platform	*8-12*
DS-862	3rd Generation Intel® Core™ i7 with 4 DP Independent Displays Digital Signage Platform	*8-14*

To view all of Digital Signage Platforms, please visit www.advantech.com/products

Digital Signage Platforms

Selection Guide

Model Name		DS-060	DS-061	DS-062	DS-063	DS-065
		NEW	NEW	NEW	NEW	NEW
						
Processor System	CPU	Intel Core i7-3615QE	Intel Core i7-3517UE	Intel Celeron B810E	Intel Atom D2550	Intel Atom N2600
	BIOS	AMI uEFI 64 Mbit	AMI uEFI 64 Mbit	AMI uEFI 64 Mbit	AMI uEFI 16 Mbit	AMI uEFI 16 Mbit
	Chipset	Intel QM77	Intel QM77	Intel QM77	Intel NM10	Intel NM10
Memory	Technology	DDR3 1333/1600MHz	DDR3 1333/1600MHz	DDR3 1066/1333 MHz	DDR3 800/1066 MHz	DDR3 800/1066 MHz
	Max. Capacity	8 GB	8 GB	8 GB	4 GB	2 GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Controller	CPU Integrated	CPU Integrated	CPU Integrated	CPU Integrated	CPU Integrated
	Graphic Engine	Intel Integrated HD 4000	Intel Integrated HD 4000	Intel HD Graphics	Intel GMA 3650	Intel GMA 3650
	Video Format	Full AVC, VC1, MPEG2 H/W decode	Full AVC, VC1, MPEG2 H/W decode	Full AVC, VC1, MPEG2 H/W decode	MPEG2, MPEG4, H.264, VC1, DivX v3.11	MPEG2, MPEG4, H.264, VC1, DivX v3.11
	Graphic Memory	Shared with system memory up to 1 GB	Shared with system memory up to 1 GB	Shared with system memory up to 1 GB	Shared with system memory up to 512 MB	Shared with system memory up to 512 MB
	Multiple Display	Dual	Dual	Dual	Dual	Dual
	Interface	DisplayPort x 1, VGA x 1	DisplayPort x 1, VGA x 1	DisplayPort x 1, VGA x 1	HDMI x 1, VGA x 1	HDMI x 1, VGA x 1
Expansion Interface	Mini PCIe	1	1	1	1	1
Ethernet	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Connector	RJ-45 x 1	RJ-45 x 1	RJ-45 x 1	RJ-45 x 1	RJ-45 x 1
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio	HD Audio
	Connector	2 (Line-out, Mic-in)	2 (Line-out, Mic-in)	2 (Line-out, Mic-in)	2 (Line-out, Mic-in)	2 (Line-out, Mic-in)
WatchDog Timer		Yes	Yes	Yes	Yes	Yes
Storage	SATA	1 x 2.5-inch SATA II HDD	1 x 2.5-inch SATA II HDD	1 x 2.5-inch SATA II HDD	1 x 2.5-inch SATA II HDD	1 x 2.5-inch SATA II HDD
	mSATA	-	-	-	-	-
	CFast	-	-	-	-	-
I/O	USB3.0	2	2	2	-	-
	USB2.0	2	2	2	4	4
	COM Port	1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)
	Power Button	1	1	1	1	1
	Smart Fan	Yes	Yes	Yes	Yes	-
Power	Power Type	ATX, AT	ATX, AT	ATX, AT	ATX, AT	ATX, AT
	Power Supply Voltage	DC 19V input	DC 19V input	DC 19V input	DC 19V input	DC 19V input
	Power Consumption (Idle)	8.1W (w/o expansion)	6.6W (w/o expansion)	10.0W (w/o expansion)	11.3W (w/o expansion)	8.3W (w/o expansion)
	Power Consumption (Full Load)	26.0W (w/o expansion)	22.4W (w/o expansion)	19.9W (w/o expansion)	16.5W (w/o expansion)	11.3W (w/o expansion)
	Power Adaptor	Input 100-240V_{AC}, Output 19V_{DC}, 65W	Input 100-240V_{AC}, Output 19V_{DC}, 65W	Input 100-240V_{AC}, Output 19V_{DC}, 65W	Input 100-240V_{AC}, Output 19V_{DC}, 65W	Input 100-240V_{AC}, Output 19V_{DC}, 65W
Environment	Operational Temperature	0 ~ 40° C (32 ~ 104° F) (w / HDD)	0 ~ 40° C (32 ~ 104° F) (w / HDD)	0 ~ 40° C (32 ~ 104° F) (w / HDD)	0 ~ 40° C (32 ~ 104° F) (w / HDD)	0 ~ 40° C (32 ~ 104° F) (w / HDD)
	Operational Humidity	40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W x H)	180 x 190 x 19 mm	180 x 190 x 19 mm	180 x 190 x 19 mm	180 x 190 x 19 mm	180 x 190 x 19 mm
	Weight	0.87 kg (1.92 lb)	0.87 kg (1.92 lb)	0.87 kg (1.92 lb)	0.87 kg (1.92 lb)	0.87 kg (1.92 lb)
	Mounting	VESA/Desk/Wall mounting	VESA/Desk/Wall mounting	VESA/Desk/Wall mounting	VESA/Desk/Wall mounting	VESA/Desk/Wall mounting
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes
	Linux	Yes, Fedora 14	Yes, Fedora 14	Yes, Fedora 14	Yes, Fedora 16	Yes, Fedora 16
APIs	SUSIAccess	Yes	Yes	Yes	Yes	Yes
	iManager	Yes	Yes	Yes	Yes	Yes
	Others	Yes, McAfee, Acronis	Yes, McAfee, Acronis	Yes, McAfee, Acronis	Yes, McAfee, Acronis	Yes, McAfee, Acronis
Certifications	EMC	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI	UL, CCC, BSMI	UL, CCC, BSMI	UL, CCC, BSMI	UL, CCC, BSMI
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NEW

NEW







ARK-DS262	ARK-DS306	DS-570	ARK-DS762	DS-862
Intel Core i3-3217UE/ Intel Core i7-3555LE/ Intel Celeron 1020E	AMD G-Series T40N	Intel Celeron N2920	Socket rPGA 988B/ Intel Core i7-3610QE/ Core i5-3610ME/ Core i3-3120ME/ Celeron M 1020E	Intel Core i7-3555LE/ Intel Core i3-3217UE/ Intel Celeron 1020E
AMI uEFI 64 Mbit	AMI EFI 16 Mbit	AMI uEFI 64 Mbit	AMI uEFI 64 Mbit	AMI uEFI 64 Mbit
Intel QM77	AMD A50M FCH	Integrated in CPU	Intel QM77	Intel QM77
DDR3-1066/1333/1600MHz	DDR3 800MHz	DDR3L 1333MHz	DDR3-1066/1333/1600MHz	DDR3-1066/1333/1600MHz
16 GB (8 GB per SODIMM)	4 GB	8 GB (4 GB per SODIMM)	16 GB (8 GB per SODIMM	16 GB (8 GB per SODIMM)
2 x 204-pin SODIMM	1 x 204-pin SODIMM	2 x 204-pin SODIMM	2 x 204-pin SODIMM	2 x 204-pin SODIMM
CPU Integrated	CPU Integrated	nVidia N14M-GS	CPU Integrated	AMD Radeon E6460
Intel Integrated HD 4000	AMD Radeon HD 6290		Intel Integrated HD 4000	
Full AVC, VC1, MPEG2 H/W decode	H.264,VC1, MPEG2, DivX version 3.11 and later, MPEG4 Part 2 SP & ASP	H.264, VC1, MPEG2 1080p video decoder	Full AVC, VC1, MPEG2 H/W decode	H.264, VC1, MPEG2 1080p video decoder
1 GB	Shared system memory	1 GB (On board memory)	1 GB	512 MB
Dual	Dual	Four	Triple	Four
JAE TX25 80-pin x 1, HDMI x 1	HDMI x 1, VGA x 1	HDMI x 2, DP^{++} x 1, VGA x 1	HDMI x 3	DP x 4
1	1	2	1	1
10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
RJ-45 x 1	RJ-45 x 2	RJ-45 x 2	RJ-45 x 1	RJ-45 x 1
HD Audio	HD Audio	HD Audio	HD Audio	HD Audio
1 (Line-out), supports Jack Sense	3 (Line-in, Line-out, Mic-in)	1 x SPDIF, 1 x Line-out, supports Jack Sense	1 (Line-out) supports Jack Sense	1 (Line-out) supports Jack Sense
Yes	Yes	Yes	Yes	Yes
1 x 2.5-inch SATA III HDD	1 x 2.5-inch SATA II HDD	1 x 2.5-inch SATA II HDD	1 x 2.5-inch SATA II HDD	1 x 2.5-inch SATA III HDD
-	-	Yes	Yes	-
-	1	-	1	-
2	-	1	1	4
-	2	3	2	-
1 (RS-232)	2 (RS-232)	2 (RS-232)	1 (RS-232)	1 (RS-232)
1	1	1	1	1
Yes	-	Yes	Yes	Yes
ATX	ATX, AT	ATX, AT	ATX, AT	ATX, AT
DC 12V-24V input (via OPS connector)	DC 12V input	DC 19V input	DC 19V input	DC 19V input
15.25W (w/o expansion)	9 W (w/o expansion)	TBD	17.4W (Core i7 45W CPU, w/o expansion)	TBD
28.61W (w/o expansion)	13W (w/o expansion)	TBD	43.8W (Core i7 45W CPU, w/o expansion)	TBD
-	Input 90-264 V_{AC}, Output 12 V_{DC}, 36W	Input 100-240 V_{AC}, Output 19 V_{DC}, 65W	Input 100-240 V_{AC}, Output 19 V_{DC}, 90W	Input 100-240 V_{AC}, Output 19 V_{DC}, 90W
0 ~ 40° C (32 ~ 104° F) (w/ HDD)	0 ~ 40° C (32 ~ 104° F) (w / HDD)	0 ~ 40° C (32 ~ 104° F) (w/ HDD)	0 ~ 40° C (32 ~ 104° F) (w/ HDD)	0 ~ 40° C (32 ~ 104° F) (w/ HDD)
40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing	40° C @ 95% RH Non-Condensing
200 x 119 x 30 mm	204 x 44.2 x 118.2 mm	220 x 150 x 44.2 mm	249.6 x 190 x 35 mm	249.6 x 190 x 35 mm
1.5 kg (3.3 lb)	1.1 kg (2.42 lb)	1.7 kg (3.74 lb)	2.0 kg (4.41 lb)	2.0 kg (4.41 lb)
-	VESA/Desk/Wall mounting	VESA/Desk/Wall mounting	VESA/Desk/Wall mounting	VESA/Desk/Wall mounting
Yes	Yes	Yes	Yes	Yes
Yes, Fedora 14	Yes, Fedora 14	TBD	Yes, Fedora 14	Yes, Fedora 14
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Yes, McAfee, Acronis	Yes, McAfee, Acronis	Yes, McAfee, Acronis	Yes, McAfee, Acronis	Yes, McAfee, Acronis
CE, FCC Class B, CCC, C-Tick, BSMI	CE, FCC Class A, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI
UL, CCC	UL, CCC, BSMI	UL, CCC, BSMI	UL, CCC, BSMI	UL, CCC, BSMI
8-6	8-8	8-10	8-12	8-14

DS-060 Series

Ultra-slim 3rd Generation Intel® Core™ i7/Celeron®/Atom™ Digital Signage Platform



Features

- Unified 19 mm-thin chassis powered by Intel® multiple platforms (TDP up to 45W)
- Dual 1080P displays by on-board VGA & DisplayPort (HDMI)
- DC input 19V
- Compact in size allows installation in limited space
- Highly expandable via internal Mini-PCIe interface (e.g. WLAN, 3G or TV tuner)
- Supports iManager, SUSIAccess and Embedded Software APIs
- Design compliant with Energy Star 5.2

Acronis McAfee SUSIAccess iManager

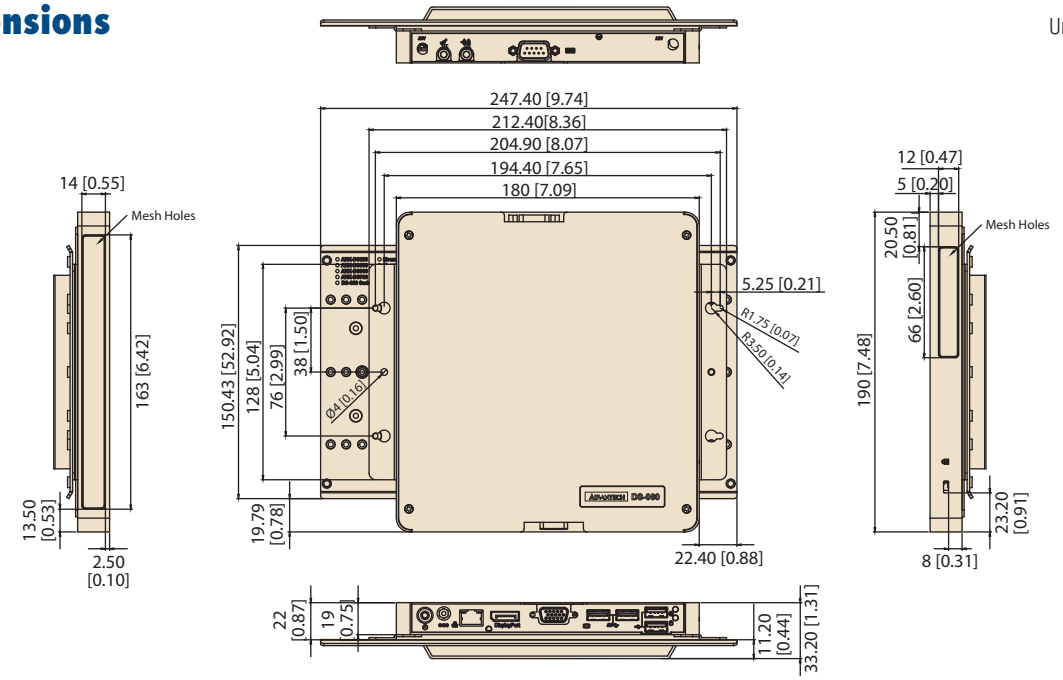
Windows Embedded Windows 7 Windows XP Professional Windows 8

Specifications

		DS-060	DS-061	DS-062	DS-063	DS-065
Features		3rd Generation Intel Core i7 Platform	3rd Generation Intel Core i7 Platform	Intel Celeron Mobile Platform	Intel Atom Platform	Intel Atom Platform
Processor system	Processor	Core i7-3615QE	Core i7-3517UE	Celeron B810E	Atom D2550	Atom N2600
	PCH chipset	Intel QM77 Express	Intel QM77 Express	Intel QM77 Express	Intel NM10	Intel NM10
	BIOS	AMI uEFI 64 Mbit	AMI uEFI 64 Mbit	AMI uEFI 64 Mbit	AMI uEFI 16 Mbit	AMI uEFI 16 Mbit
Memory	Technology	DDR3 1333/1600MHz	DDR3 1333/1600MHz	DDR3 1066/1333MHz	DDR3 800/1066MHz	DDR3 800/1066MHz
	Max. Capacity	8 GB	8 GB	8 GB	4 GB	2 GB
Thermal Solution		FAN	FAN	FAN	FAN	FANLESS
Display	Chipset	Embedded in Processor				
	Output	VGA x 1; DP x 1	VGA x 1; DP x 1	VGA x 1; DP x 1	VGA x 1; HDMI x 1	VGA x 1; HDMI x 1
	Resolution	1920 x 1080P				
Ethernet	Interface	Gigabit LAN Controller				
	Controller	Intel 82579LM	Intel 82579LM	Intel 82579LM	Intel 82583V	Intel 82583V
	Connector	1 x RJ-45				
I/O Interfaces	Audio	Line-Out, Mic-In				
	Ethernet	1 x RJ-45 (GigaLAN)				
	Wireless LAN	via optional WLAN module				
	USB 2.0	2	2	2	4	4
	USB 3.0	2	2	2	-	-
	Serial Port	1 x RS-232				
	Expansion	1 x Mini PCIe (internal)				
	PSW	1 x Power on/off button				
	LED Indicators	1 x Power, 1 x HDD Access				
Storage		1 x 2.5-inch SATA II HDD/ SSD (only support 7 mm height)				
Power Requirement	Power Management	ACPI 3.0				
	Input Voltage	19 V DC-in (ATX/AT mode)				
Watchdog Timer	Output	Interrupt, system reset				
	Interval	255-level timer interval, setup by software				
Physical Characteristics	Mounting	Easy mounting kits for LCD or Plasma				
	Dimensions (W x D x H)	180 x 190 x 19 mm				
	Weight	0.87 kg (1.92 lb)				
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F) (w / HDD); 0 ~ 50° C (32 ~ 122° F) (w / SSD)				
	Relative Humidity	95% @ 40°C (non-condensing), operating				
Software Development Kit	Operating System	Supports Microsoft Windows 8, Windows 7, Android 4.0				
	Linux	Linux Fedora 14			Linux Fedora 16	Linux Fedora 16
Certifications	EMC	CE/FCC Class B, CCC, BSMI				
	Safety	UL, CCC, BSMI				

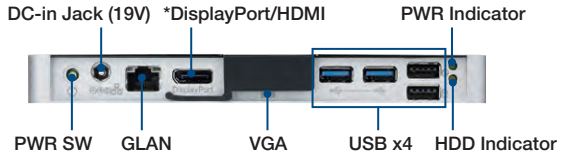
Dimensions

Unit: mm [inch]

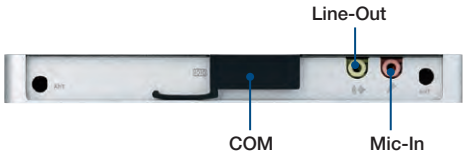


DS-060 External I/O

Front



Back



Note: DS-063/DS-065 is with on-board HDMI.

Packing List

Part Number	Description
-	1 x DS-06X Unit
-	1 x 19V Power adapter
-	1 x Driver/Utility DVD
-	1 x China RoHS
-	1 x Simplified Chinese Manual
-	1 x Mounting bracket kit (supports VESA/Wall mount)

Ordering Information

Part Number	Description
DS-060GB-U3A1E	DS-060, Intel Core i7-3615QE, Barebone
DS-061GB-S7A1E	DS-061, Intel Core i7-3517UE, Barebone
DS-062GB-S6A1E	DS-062, Intel Celeron B810E, Barebone
DS-063GB-S8A1E	DS-063, Intel Atom D2550, Barebone
DS-065GB-S6A1E	DS-065, Intel Atom N2600, Barebone
DS-060GF-U3A1E	DS-060, Intel Core i7-3615QE, 4G RAM, 250G HDD
DS-061GF-S7A1E	DS-061, Intel Core i7-3517UE, 4G RAM, 250G HDD
DS-062GF-S6A1E	DS-062, Intel Celeron B810E, 2G RAM, 250G HDD
DS-063GF-S8A1E	DS-063, Intel Atom D2550, 2G RAM, 250G HDD
DS-065GF-S6A1E	DS-065, Intel Atom N2600, 2G RAM, 250G HDD

Power Cord

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
170203180A	3-pin power cord (UK)
1700008921	3-pin power cord with PSE (Japan)
1700019146	3-pin power cord (CCC)

Embedded OS

Part Number	Description
2070012198	Image WES7E 64-bit, DS-060/DS-061/DS-062, ENG/JP/TC/SC
2070012197	Image WES7E 32-bit, DS-060/DS-061/DS-062, ENG/JP/TC/SC
2070012165	Image WES7E 32-bit, DS-063/DS-065, ENG/JP/TC/SC

Optional Items

Part Number	Description
AMO-WIFI06E	Wi-Fi 802.11 b/g/n Mini-PCIe Module (including Antenna & Cable)
AMO-HSDPA02E	3.75G HSPA Full-size Mini-PCIe Module (including Antenna & Cable)
AMK-S001E	Table Stand for DS-060 series
AMK-V006E	Power Adapter Supporter for VESA Mounting

ARK-DS262

3rd Generation Intel® Core™ i7 OPS Digital Signage Platform



Windows Embedded Windows 7 Windows XP Professional Windows 8

Features

- 3rd generation Intel® Core™ i7 processor-based platform
- Design compliant with OPS (Open Pluggable Standardization)
- Supports HDMI, eDP, UART, USB3.0/2.0 via JAE 80-pin connector
- Supports PCIe x 4, USB3.0/2.0, SATA, LPC & SMB optional 2nd JAE 60-pin connector
- Slot-in integration, easy maintenance
- Design compliant with Energy Star 5.0
- Supports iManager, SUSIAccess and Embedded Software APIs

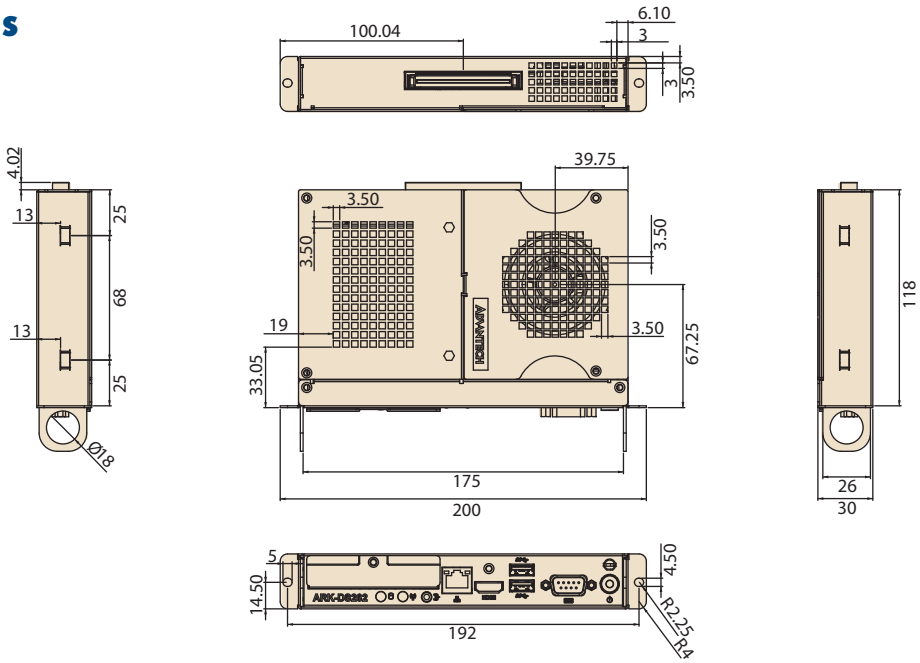
Acronis McAfee SUSIAccess iManager

Specifications

Processor System	CPU	3rd generation Intel Core i7-3555LE 2.5 GHz	3rd generation Intel Core i3-3217UE 1.6 GHZ	Intel Celeron 1020E 2.2 GHz
	System Chipset	Intel QM77		
	BIOS	AMI uEFI 64 Mbit		
Memory	Technology	2 x DDR3 204-pin SODIMM		
	Max. Capacity	Max. up to 16 GB (8 GB per SODIMM)		
Display	Chipset	Embedded in Processor		
	Processor Graphics	Intel HD Graphics 4000		
	Resolution (Chipset support)	HDMI/eDP: up to 1920 x 1080 (via OPS interconnection)		
	Output	HDMI x 1		
Storage	SATA Interface	1 x 2.5-inch SATA III HDD/SSD (support max 9.5 mm height)		
Ethernet	Interface	Gigabit LAN Controller		
	Controller	Intel 82579LM		
	Connector	1 x RJ-45		
I/O Interface	*JAE Connector	1 (JAE TX25 80-pin)/ 2 (JAE TX25 80-pin + JAE TX25 60-pin optional)		
	HDMI	1		
	LAN	1 (RJ-45)		
	USB	2 (USB 3.0 compliant)		
	Audio	1 x Line-out (supports Jack Sense via OS setting)		
	Serial Port	1 x COM (RS-232)		
	Mini-PCIe (Internal)	1		
Power Requirement	Management	ACPI 3.0		
	Power Consumption	Average 19 W		
	Input Voltage	12 V-24 V DC-in (via OPS interconnection)		
Watchdog Timer	Output	Interrupt, system reset		
	Interval	255-level timer interval, setup by software		
Physical Characteristics	Dimensions (W x H x D)	200 x 30 x 119 mm (OPS compliant)		
	Weight	1.5 kg (3.3 lb)		
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F) (w / HDD); 0 ~ 50° C (32 ~ 122° F) (w / SSD)		
	Relative Humidity	95% @ 40° C (non-condensing), operating		
	Vibration Resistance	0.5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.		
Software Development Kit	Operating System	Supports Microsoft Windows 8, Windows 7, WES7E, XP Embedded		
	Linux	Fedora 14		
Certification	Electromagnetic	CE/FCC Class B, CCC, BSMI, C-Tick		
	Safety	UL, CCC		

Dimensions

Unit: mm [inch]



JAE TX25 Signal Allocation

Signal via JAE TX25 80-pin	Signal via JAE TX25 60-pin (optional)
HDMI (supports HDMI-CEC)	PCIe x 4
eDP	USB 2.0/3.0
UART	SATA
USB 2.0	LPC
Audio	SMBus

Packing List

Part Number	Description
-	1 x ARK-DS262 Unit
-	1 x Driver/Utility DVD
-	1 x Simplified Chinese User Manual
-	1 x China RoHS
-	1 x OPS Sticker
-	SUSIAccess DVD

Ordering Information

Part Number	Description
ARK-DS262GF-U5A1E	ARK-DS262, i7-3555LE, 250G HDD, 2G RAM
ARK-DS262GF-S6A1E	ARK-DS262, i3-3217UE, 250G HDD, 2G RAM
ARK-DS262GF-U2A1E	ARK-DS262, Celeron 1020E, 250G HDD, 2G RAM
ARK-DS262GB-U5A1E	ARK-DS262, i7-3555LE, Barebone unit
ARK-DS262GB-S6A1E	ARK-DS262, i3-3217UE, Barebone unit
ARK-DS262GB-U2A1E	ARK-DS262, Celeron 1020E, Barebone unit
ARK-DS262GQ-U5A1E	ARK-DS262, i7-3555LE, 250G HDD, 2G RAM, WES7E, SUSIAccess, McAfee, Acronis
ARK-DS262GQ-S6A1E	ARK-DS262, i3-3217UE, 250G HDD, 2G RAM, WES7E, SUSIAccess, McAfee, Acronis
ARK-DS262GQ-U2A1E	ARK-DS262, Celeron 1020E, 250G HDD, 2G RAM, WES7E, SUSIAccess, McAfee, Acronis

Embedded OS

Part Number	Description
2070011432	WES7E ARK-DS262 ENG/JPN/CHT/CHS w/Kinect SDK, SUSIAccessPro, iManager 2.0
2070011538	WES7P 64-bit ARK-DS262 w/Kinect SDK, SUSIAccessPro, iManager 2.0
2070011436	XPE WES2009 ARK-DS262 24MUI w/SUSIAccess Pro
2070011560	WIN7-Pro ARK-DS262 Eng
2070012365	WE8S 32-bit ARK-DS262 24MUI

Optional Items

Part Number	Description
AMO-I013E	Docking Board, OPS JAE TX24/DC-in Jack/HDMI/DP/COM/USB
AMO-WIFI06E	Wi-Fi 802.11 b/g/n Mini-PCIe module (including Antenna & Cable)
AMO-HSDPA02E	HSDPA Mini-PCIe module (including antenna & cable)

ARK-DS306

AMD G-Series Digital Signage platform



Features

- AMD G-series T40N (DC 1.0 GHz) + A50M FCH, 1 x DDR3 SODIMM, supports up to 4 GB
- DirectX® 11, 2D/3D acceleration, dual display: HDMI, VGA
- Built-in Mini-PCIe slot for easy expansion
- Supports 2 Gigabit LAN connectors, HD audio, 2 x COM, 2 x USB I/O interfaces
- Storage: 1 x 2.5" SATA HDD drive bay, 1 x CFast slot
- Supports VESA mounting (Optional)
- Supports iManager, SUSIAccess and Embedded Software APIs

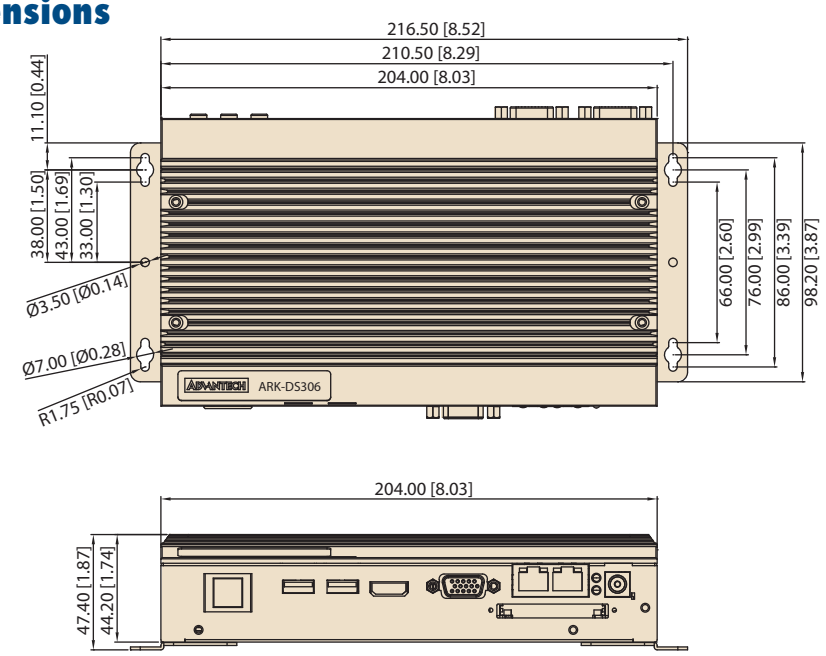
Specifications

Processor System	CPU	AMD G-Series, T40N 1.0GHz dual core
	System Chipset	AMD G-Series + A50M FCH
	BIOS	AMI EFI 16 Mbit
Memory	Technology	1 x DDR3 204-pin SODIMM
	Max. Capacity	Max. up to 4 GB
Display	Chipset	AMD G-Series
	Graphic Engine	DirectX 11 graphics with UVD 3.0 2D Acceleration, 3D Acceleration, Motion Video Acceleration, Supports DVD, Blu-ray*
	Output	HDMI x 1, VGA x 1
	Resolution	VGA: 1920 x 1080 at 60 Hz HDMI: Supports 1920 x 1080p at 60 Hz, 36 bpp, Supports HDMI v1.3, using TMDS data encoding
	Dual display	Yes
Storage	SATA	1 x 2.5-inch SATA II HDD/SSD (support 9.5 mm / 7 mm height)
	Cfast (socket)	1
Ethernet	Interface	2 Gigabit LAN Controller Realtek RTL8111E-VB-GR 10/100/1000Mbps
	Connector	2 x RJ-45
Audio	Chipset	Realtek ALC892, High Definition Audio (HD)
I/O Interface	HDMI	1
	VGA	1 (D-sub 15-pin)
	LAN	2 (RJ-45)
	USB	2 (USB 2.0 compliant)
	Audio	3 audio phone jacks for Line-in, Line-out, Mic-in
	Serial	2 x COM (RS-232)
	Mini-PCIe (Internal)	1 (for optional expansion modules)
	Power input	1 (DC-in Jack)
Power Requirement	Management	ACPI 2.0
	Power Consumption	Typical: 9 W (w/o expansion) Max.: 13W (w/o expansion)
	Input Voltage	12V DC-in (ATX/AT mode, default ATX)
	Others	Supports boot on power back and schedule boot up function
Watchdog Timer	Output	Interrupt, system reset
	Interval	255 levels timer interval, programmable by software
Physical Characteristics	Mounting	Easy mounting kits for LCD or Plasma
	Dimensions (W x H x D)	204 x 44.2 x 118.2 mm
	Weight	1.1 kg
Environment	Operating Temperature	Operating: 0 ~ 40° C (32 ~ 104° F) (w / HDD); 0 ~ 50° C (32 ~ 122° F) (w / CFast Card)
	Relative Humidity	95% @ 40° C (non-condensing), Operating
Software Development Kit	Operating System	Supports Microsoft Windows 8, Windows 7, XP with SP3, XP Embedded
	EWF & WDT SDK	EWF and WDT libraries for signage stability design in XPE
	Linux	Linux Fedora 14
Certifications	Electromagnetic	CE/FCC Class A, CCC, BSMI
	Safety	UL, CCC, BSMI

* Playback is supported by software not provided by Advantech.

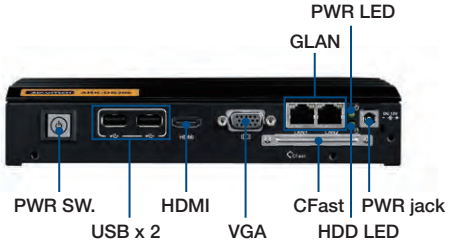
Dimensions

Unit: mm [inch]



ARK-DS306 External I/O

Front



Back



Packing List

Part Number	Description
-	1 x ARK-DS306 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
-	1 x Power adapter AC 90-264V, 36W
-	1 x China RoHS
-	1 x Mounting plate set

Ordering Information

Part Number	Description
ARK-DS306B-D0A1E	ARK-DS306 Barebone, AMD T40N w/o RAM, HDD
ARK-DS306F-D0A1E	ARK-DS306 Barebone, AMD T40N w/1G RAM, 250G HDD

Power Cord

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
170203180A	3-pin power cord (UK)
1700008921	3-pin power cord with PSE (Japan)
1700019146	3-pin power cord (CCC)

Embedded OS

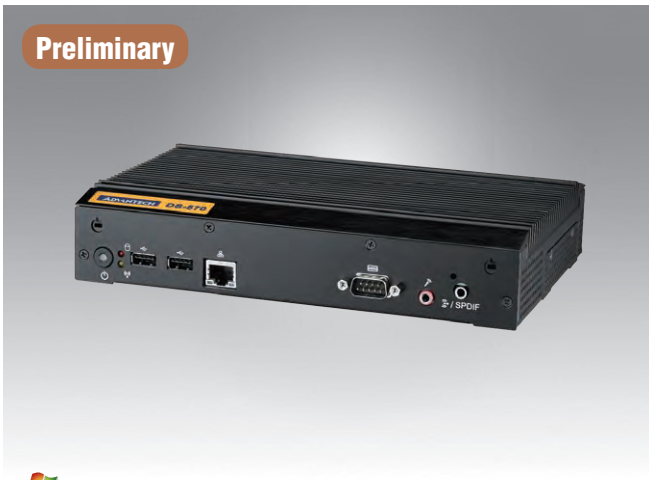
Part Number	Description
2070010844	XPE WES2009 V4.0 Multi-24
2070010845	WES7E V5.1 ENG w/Acronics
2070010845	WES7P, 32-bit, EN/JP/TC/SC
2070012483	WES8, 32-bit, EN/JP/TC/SC

Accessories

Part Number	Description
AMO-WIFI06E	Wi-Fi 802.11 b/g/n Mini-PCIe module (w/ antenna)
AMO-HSDPA02E	3.75G HSDPA Mini-PCIe module
AMK-V001E	VESA mount kit
AMK-V002E	VESA mount kit for ARM
AMK-V005E	VESA mount kit (Generic for ARK-DS/DS products)

DS-570

Intel® Celeron® N2920 Quad-Core™ SoC with Advanced (nVidia N14M) Graphics Digital Signage Platform



Windows Embedded Windows 7 Windows 8

Features

- Embedded Intel® Celeron® N2920 low power Quad-Core™ SoC platform (fanless)
- Integrated NVIDIA N14M graphic module for Full HD playback
- Supports simultaneous multi-display output (any 2,3 or 4 outputs)
- Compact size mechanical design for easy installation in application field
- Highly expandable via internal Mini-PCIe interface (e.g. WLAN, 3G or TV tuner)
- Two COM (RS-232) ports for system integration and application
- Consumer Electronic Control (CEC*) implemented on HDMI x 2 ports
- Supports SUSIAccess and Embedded Software APIs

Acronis McAfee SUSIAccess iManager

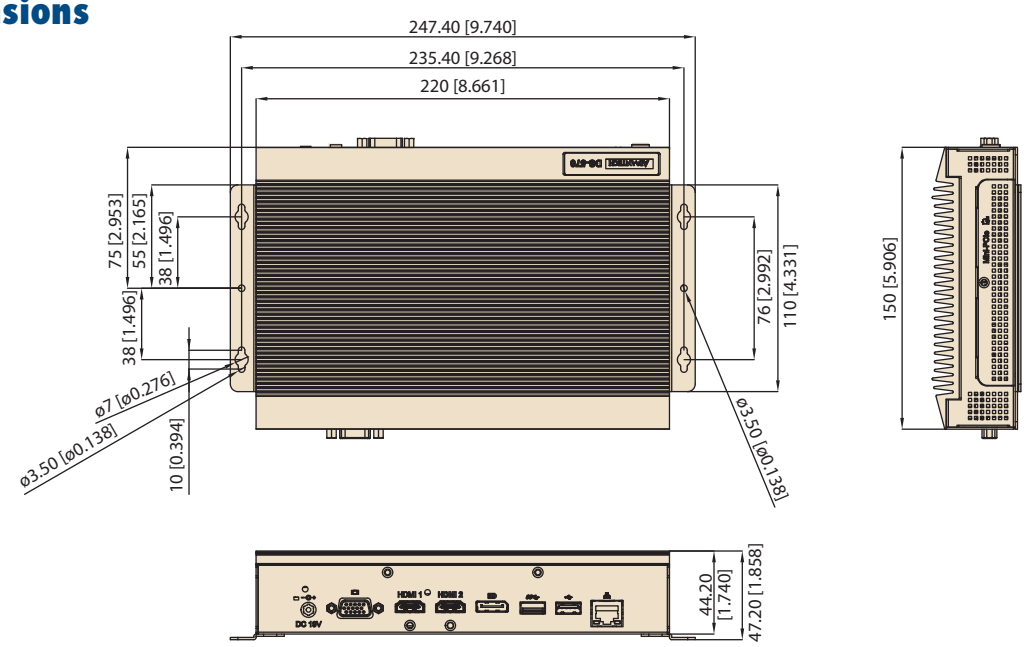
Specifications

Processor System	CPU	Intel Celeron N2920 Quad Core 1.86 GHz
	System Chipset	Integrated in CPU
	L2 Cache	2 MB
	BIOS	AMI uEFI 64 Mbit
Memory	Technology	2 x DDR3L 204-pin DIMM
	Max. Capacity	8GB (up to 4 GB per each SODIMM)
Display	Chipset	nVidia N14M-GS
	Memory Size	Independent display memory 1024 MB
	Resolution	VGA: up to 2048 x 1536 @ 60Hz HDMI: up to 1920 x 1080p DP++: up to 3840 x 2160
	Output	HDMI x 2, DP++ x 1, VGA x 1
	Multi display	Any 2, 3 or 4 outputs
	Video format	H.264, VC1, MPEG2 1080p video decoder
Storage	SATA	1 x 2.5-inch SATA II HDD/SSD (only support 7 mm height)
Ethernet	Interface	Gigabit LAN Controller
	Controller	Intel I211 x 2
	Connector	2 x RJ-45
I/O Interface	HDMI	2 (Support CEC)
	DP++	1
	VGA	1 (D-sub 15-pin)
	LAN	2 (RJ-45)
	USB 2.0	3
	USB 3.0	1
	Audio	1 x audio phone jack for Line-Out, 1 x SPDIF, supports jack sense via OS setting
	Serial	2 x COM (RS-232)
	Mini-PCIe (Internal)	2 (full-size for optional expansion modules)
	Power input	1 (DC-in jack)
Power Requirement	Management	ACPI
	Power Consumption Input Voltage	TBD
	Input Voltage	19V DC-in (ATX/AT mode, default ATX)
	Others	Supports boot on power back and schedule boot up function
Watchdog Timer	Output	Interrupt, system reset
	Interval	Programmable by SUSIAccess
Physical Characteristics	Mounting	Easy mounting kits for LCD or Plasma
	Dimensions (W x H x D)	220 x 44.2 x 150 mm
	Weight	1.7 kg
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F) (w / HDD); 0 ~ 50° C (32 ~ 122° F) (w / SSD)
	Relative Humidity	95% @ 40° C (non-condensing),Operating
	Vibration Resistance	TBD
Software Development Kit	Operating System	Supports Microsoft Windows 8, Windows 7
	Linux	TBD
Certification	Electromagnetic	CE/FCC Class B, CCC, BSMI
	Safety	UL, CCC, BSMI

*1 CEC pin definition reserved in HDMI, needs software to enable it

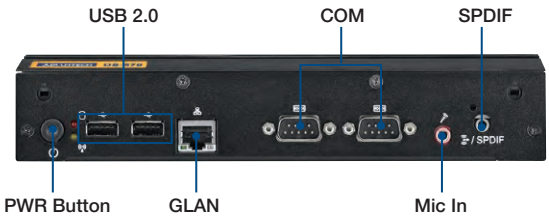
Dimensions

Unit: mm [inch]

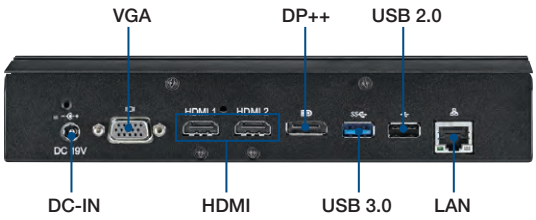


DS-570 External I/O

Front



Back



ARK-DS762

3rd Generation Intel® Core™ i7/i5/i3 Digital Signage Platform with 3 x HDMI Independent Display



Windows Embedded Windows 7 Windows XP Professional Windows 8

Features

- 3rd generation Intel® Core™ i7/i5/i3 processor, up to 45W
- Supports Direct X11, and OCL 1.1
- 3 independent displays; 3 x HDMI
- Flexibility for expansion and storage options (HDD/Cfast/Mini PCIe/USB2.0 & 3.0)
- 19 VDC power input , supports DC power hot plug
- Operating temperature: 0 ~ 40° C (0 ~ 50° C is an option)
- Supports iManager, SUSIAccess and Embedded Software APIs

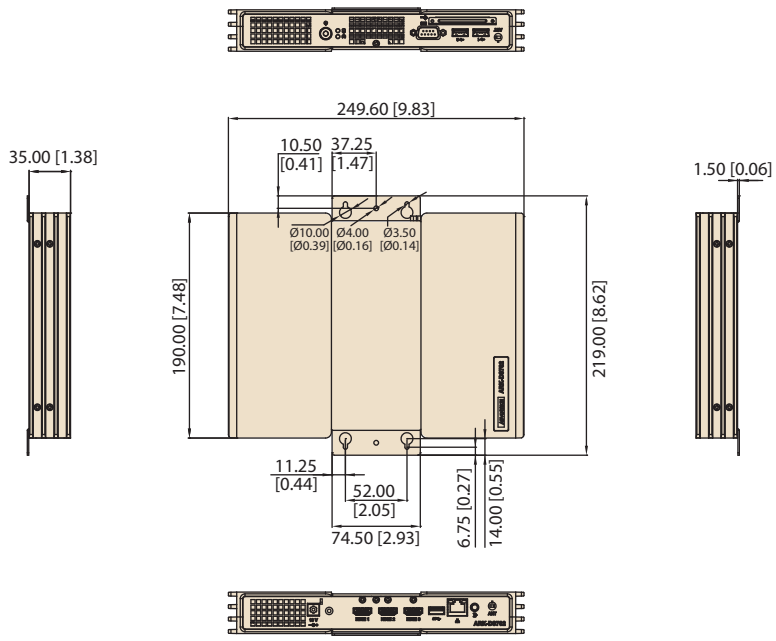
Acronis McAfee SUSIAccess iManager

Specifications

Processor System	CPU	3rd Gen. Intel Core i7/i5/i3 CPU, (uPGA 988B socket, up to 45W)
	System Chipset	QM77
	BIOS	AMI uEFI 64 Mbit
Memory	Technology	2 x DDR3 204-pin SODIMM
	Max. Capacity	16 GB (up to 8 GB per each SODIMM)
Display	Chipset	Embedded in Processor
	Processor Graphics	Intel HD Graphics 4000
	Output	3 x HDMI
	Resolution	HDMI: Supports 1920 x 1080p at 60 Hz, 36 bpp, Supports HDMI v1.3
Storage	SATA	1 x 2.5-inch SATA II HDD/SSD (support 9.5 mm / 7 mm height)
	Cfast (socket)	1
Ethernet	Interface	Gigabit LAN Controller
	Controller	Intel 82579LM
	Connector	1 x RJ-45
Audio	Chipset	Realtek ALC892, High Definition Audio(HD)
I/O Interface	HDMI	3 (Support CEC)
	LAN	1 (RJ-45)
	USB 2.0	2
	USB 3.0	1
	Audio	1 audio phone jack for Line-Out, Jack sensor support via OS setting
	Serial	1 x COM (RS-232)
	Mini-PCIe (Internal)	1 (for optional expansion modules)
	Power input	1 (DC-in Jack)
Power Requirement	Management	ACPI 3.0
	Power Consumption	17.4W (idle) 43.8W (full load)
	Input Voltage	19 V DC-in (ATX/AT mode, default ATX)
	Others	Supports boot on power back and schedule boot up function
Watchdog Timer	Output	Interrupt, system reset
	Interval	Programmable by SUSIAccess
Physical Characteristics	Mounting	Easy mounting kits for LCD or Plasma
	Dimensions (W x D x H)	249.6 x 190.0 x 35 mm
	Weight	2.0 kg (4.41 lb)
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F) (w / HDD); 0 ~ 50° C (32 ~ 122° F) (w / SSD)
	Relative Humidity	95% @ 40° C (non-condensing),Operating
	Vibration Resistance	0.2 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
Software Development Kit	Operating System	Supports Microsoft Windows 8, Windows 7, XP Embedded
	EWF & WDT SDK	EWF and WDT library for signage stability design in Windows OS
	Linux	Linux CentOS, Fedora 14
Certifications	Electromagnetic	CE/FCC Class B, CCC, BSMI
	Safety	UL, CCC, BSMI

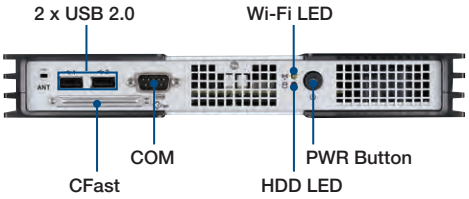
Dimensions

Unit: mm [inch]

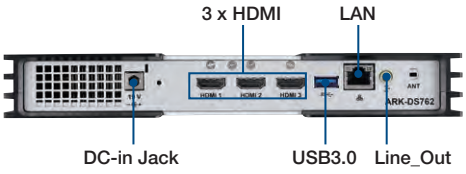


ARK-DS762 External I/O

Front



Rear



Packing List

Part Number	Description
-	1 x ARK-DS762 Unit
-	1 x Driver/Utility DVD/Manual
-	1 x User Manual (Simplified Chinese)
-	1 x Power adapter AC-DC 100-240V, 90W
-	1 x China RoHS
-	1 x Mounting bracket kit

Ordering Information

Part Number	Description
ARK-DS762GQ-U3A1E	Intel 3rd Gen. Core i7-3610QE, 4G RAM, 250G HD, WES7P w/ SUSIAccess Pro
ARK-DS762GQ-U2A1E	Intel 3rd Gen. Celeron 1020E, 4G RAM, 250GB HD, WES7P w/ SUSIAccess Pro
ARK-DS762GB-00A1E	Intel 3rd Gen. Core i7/5/3 Digital Signage computer box (barebone)
96MPI7M-2.3-6M9T	Intel 3rd Gen. Core i7-3610QE Quad Core CPU 2.3GHz
96MPI5-2.7-3M9T	Intel 3rd Gen. Core i5-3610ME Dual Core CPU 2.7GHz
96MPI3M-2.4-3M9T	Intel 3rd Gen. Core i3-3120ME Dual Core CPU 2.4GHz
96MPCM-2.2-2M9T	Intel Celeron 1020E Dual core CPU 2.2GHz

Embedded OS

Part Number	Description
2070011542	IMG WES7P (32-bit) ARK-DS762 V5.1.2 ENG/TC/SC/JP w/ SA Pro
2070011223	IMG WES7E (32-bit) ARK-DS762 V5.1.3 ENG/TC/SC/JP w/ SA Pro
2070011553	IMG XPE WES09 ARK-DS762 V4.1 24 muti w/ SA Pro
2070011686	IMG WES7E (64-bit) ARK-DS762 V5.6.4 ENG w/ SA Pro
2070011749	IMG WES7P (64-bit) ARK-DS762 V5.6.3 ENG w/ SA Pro

Power Cord

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
170203180A	3-pin power cord (UK)
1700008921	3-pin power cord with PSE (Japan)
1700019146	3-pin power cord (CCC)

Accessories

Part Number	Description
AMO-WIFI06E	Wi-Fi 802.11 b/g/n Mini-PCIe module (w/ antenna)
AMO-HSDPA02E	3.75G HSDPA Mini-PCIe module
AMK-V005E	VESA mount kit

DS-862

3rd Generation Intel® Core™ i Digital Signage Platform with 4 independent displays



Features

- 3rd Generation Intel® Core™ i7/i3 and Celeron® 1020E
- AMD Radeon E6460 GPU
- 4 independent displays: 4 x DisplayPort
- Slim and compact design
- Supports iManager, SUSIAccess and Embedded Software APIs
- Supports AMD Eyefinity function for multidisplay flexibility (2x2 or 1x4)

Acronis McAfee SUSIAccess iManager

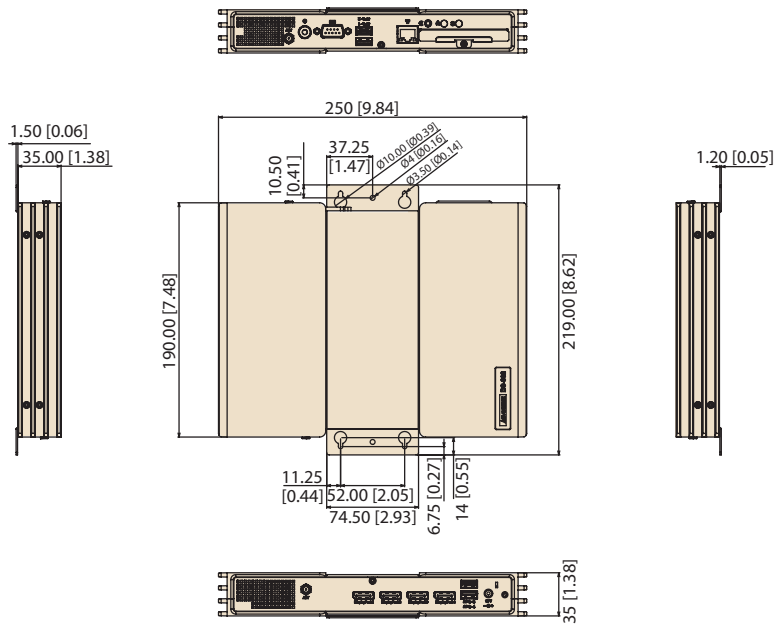
Windows Embedded Windows 7 Windows 8

Specifications

Processor System	CPU	3rd Generation Intel Core i7-3555LE/ i3-3217UE / Celeron 1020E
	System Chipset	Intel QM77
	BIOS	AMI uEFI 64 Mbit
Memory	Technology	2 x DDR3 204-pin SODIMM
	Max. Capacity	Max. up to 16 GB (8 GB per SODIMM)
Display	Chipset	AMD Radeon E6460
	Output	4 x DisplayPort
	Resolution	Supports 1920 x 1080p at 60 Hz, 36 bpp
Storage	SATA	1 x 2.5-inch SATA III HDD/SSD (only support 7mm height)
Ethernet	Interface	Gigabit LAN Controller
	Controller	Intel 82579LM
	Connector	1 x RJ-45
Audio	Chipset	Realtek ALC892, High Definition Audio (HD)
I/O Interface	DisplayPort	4
	LAN	1 (RJ-45)
	USB	4 (USB 3.0 compliant)
	Audio	1 audio phone jack for Line-Out, Support jack sense via OS setting
	Serial	1 x COM (RS-232)
	Mini-PCIe (Internal)	1 (for optional expansion modules)
	Power input	1 (DC-in Jack)
Power Requirement	Management	ACPI 3.0
	Power Consumption	TBD
	Input Voltage	19 V DC-in (ATX/AT mode, default ATX)
Watchdog Timer	Output	Interrupt, system reset
	Interval	Programmable 1~255sec.
Physical Characteristics	Mounting	Easy mounting kits for LCD or Plasma
	Dimensions (W x D x H)	249.6 x 190.0 x 35 mm
	Weight	2.0 kg (4.41 lb)
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F) (w / HDD); 0 ~ 50° C (32 ~ 122° F) (w / SSD)
	Relative Humidity	95% @ 40° C (non-condensing),Operating
	Vibration Resistance	TBD
Software Development Kit	Operating System	Supports Microsoft Windows 8, Window 7
	EWF & WDT SDK	EWF and WDT library for signage stability design in Windows OS
	Linux	Fedora 14
Certifications	Electromagnetic	CE/FCC Class B, CCC, BSMI
	Safety	UL, CCC, BSMI

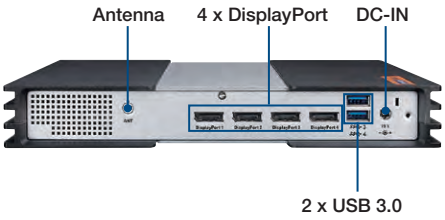
Dimensions

Unit: mm [inch]

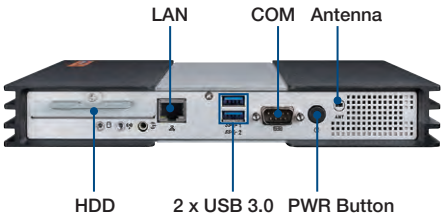


DS-862 External I/O

Front



Back



Memo

9

Gaming Platforms

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To view all of Gaming Platforms, please visit www.advantech.com/products

Gaming Platforms

Selection Guide

○ = optional; ● = standard; "-"= not supported

Model Name		DPX-E120	DPX-E130	DPX-S415	DPX-S430	DPX-S425	DPX-S435	DPX-C710/SC710
Family	Standalone	-	-	●	●	●	●	-
	Economy	●	●	-	-	-	-	-
	ConnectBus®	-	-	-	-	-	-	●
Market		All	Italy	All	All	All	All	All
Enclosure/System		●	●	○ S-Series	○ S-Series	○ S-Series	○ S-Series	○ C-Series (SC710)
Segment	Entry	●	●	-	-	-	-	-
	Scalable	-	●	●	●	●	●	●
	Performance	-	-	●	●	●	●	●
Chipset/CPU	Chipset Manufacturer	AMD	AMD	AMD	AMD	Intel	Intel	AMD
	AMD 785E/Athlon X2, Turion Neo X2	-	-	●	-	-	-	-
	Intel® HM55/ Core™ i7, Core™ i5, Celeron®	-	-	-	-	●	-	-
	AMD G-Series APU	●	●	-	-	-	-	-
	AMD R-Series APU	-	-	-	●	-	-	●
	Intel Q87 4th Gen. Core i7, i5, i3, Celeron	-	-	-	-	-	●	-
IGP Graphics	GPU Brand Name	Radeon HD6130	Radeon HD6130	Radeon HD4270	Radeon 7660	GMA HD	Intel HD4600	Radeon 7660
	Dual Independent Screen	●	●	●	●	●	●	●
	Triple independent Screen	-	-	-	●	-	● (3rd from IGP)	●
	Quad Independent Screen	-	-	-	● (W/MST)	-	● (4th from IGP)	● (W/MST)
Performance GPU	Quad Screen Support with Select PCIe Video Cards	-	-	●	● (up to 10)	●	● (up to 6)	● (up to 10)
	PCIe x16 slot	-	-	●	● (Gen. 3)	●	● (Gen. 3)	● (Gen. 3, MXM)
Max. RAM (GB)	DDR2	-	-	-	-	-	-	-
	DDR3	8	8	8	16	8	16	16
Ethernet	LAN 1	GbE	GbE	GbE	GbE	GbE	GbE	GbE
	LAN 2	GbE	-	GbE	GbE	GbE	GbE	GbE
Storage	SATA	2	1, O(1x mSATA)	2	3	2	3 (3.0)	2 (3.0)
	Compact Flash	2	1	2	2	2	0	0
	CFast	0	1	2	2	2	2 (v1.0, v2.0)	2 (v1.0, v2.0)
Ports	USB 2.0	6	4	12	8	12	8	11
	USB 3.0	0	0	0	4	0	4	3
	RS232	3 ○ (5)	2, O(3)	5	5	5	5	3
	RS232/TTL	2	-	2	2	2	2	2
	RS232/422/485	○ (1)	-	1	1	1	1	1
	CCTALK/RS232/TTL	1 ○ (2)	1 CCTALK	2	2	2	2	2
I/O	32/32 on board	●	JAMMA	●	●	●	●	●
Audio Amplification on board		●	●	●	●	●	●	-
SRAM	1 MB (2 x 512 KB)	●	●	-	-	-	-	-
	2 MB (2 x 1024 KB)	-	-	●	-	-	-	-
	4 MB (2 x 2048 KB)	○	○	○	●	●	-	●
	8 MB (2 x 4096 KB)	-	-	-	-	-	●	-
ROM Sockets	PLCC 32 (8Mbit each)	1 ○ (2)	-	1	1	1	1	1
TPM		● (v1.2)	-	● (v1.2)	● (v1.2)	● (v1.2)	● (v1.2)	● (v1.2)
Serial EEPROM	32 KB	●	-	●	●	●	●	●
Smart card socket	on-board (ISO:7810, 7816)	-	●	-	-	-	-	-
Intrusion Inputs	Battery backed	6	5	6	6	6	8	8
iButton®/GPIO		○	-	○	○	○	○	○
DPCI Expansion	Serial Bus (DPCI+)	-	-	●	●	●	●	-
Size	170 x 200 mm (6.7 x 7.9")	-	-	●	●	●	●	-
	229 x 180 x 77 mm (9.0 x 7.1 x 3.0")	●	-	-	-	-	-	-
	225 x 218 mm (8.9 x 8.6")	-	-	-	-	-	-	●
	273 x 150 mm (10.7 x 5.9")	-	●	-	-	-	-	-
Software	DPCI Advanced Gaming API & Runtime	●	●	●	●	●	●	●
	DPX®-Connector Peripherals Libraries	●	●	●	●	●	●	●
	Embedded OS Support	●	●	●	●	●	●	●
	BIOS Customization	●	●	●	●	●	●	●
	TPM Suite (Requires TPM hardware option if not standard)	○	-	○	○	○	○	○
	DPX®-SAS Connector (SAS 6.01 Driver and Libraries)	○	-	○	○	○	○	○
	SecureBoot™ (Media validation toolkit)	○	○	○	○	○	○	○

Selection Guide

NEW






Part Number		DPX-E120	DPX-E130	DPX-S415	DPX-S430
Processor	Processor	AMD G Series APU	AMD G Series APU	AMD Mobile Athlon II Neo, Turion II Neo	AMD R Series APU
	Max Speed	1.65 GHz	1.65 GHz	2.2 GHz	2.3 (3.2) GHz
Memory	(Max)	8 GB, DDR3	8 GB, DDR3	8 GB, DDR3	16 GB, DDR3
I/O	Digital IO	32 input, 32 output	JAMMA	32 input, 32 output	32 input, 32 output
	COM	6 (2 x RS232/TTL, 3x RS232, 1x CCTALK)	3 (2 x RS232, 1x CCTALK)	10 (5 x RS232, 1x RS232/422/485, 2x CCTALK/RS232, 2x RS232/TTL)	10 (5 x RS232, 1x RS232/422/485, 2x CCTALK/RS232, 2x RS232/TTL)
	USB	6	4	12	12 (4 USB 3.0)
Network	LAN	GbE x2	Gbe x1	GbE x2	GbE x2
Security	SRAM	1 MB	1 MB	2 MB	4 MB
	Intrusion inputs	6	6	6	6
	TPM	V1.2	-	V1.2	V1.2
	EEPROM, ROM, IDROM	●	-	●	●
Video	Chipset	AMD 55E (Radeon HD6130)	AMD 55E (Radeon HD6130)	AMD 785E (Radeon HD4270)	A75 (Radeon 7660)
	Output	VGA x1, DVI x1	VGA x1, VGA2 option	VGA x2, DVI x1	VGA x2, DVI x2, DP v1.2
	Expansion	No	No	PCI-E x16 graphics card slot	PCI-E x16 graphics card slot
Audio	On board amplified audio	2.1 channel, 10W per ch.	Class AB 3W+3W, total 6W	2.1 channel, 13W per ch.	2.1 channel, 13W per ch.
Page		9-4	9-6	9-8	9-10

NEW



NEW



NEW



Part Number		DPX-S425	DPX-S435	DPX-C710/SC710
Processor	Processor	Intel® PPGA Core i5, Core i7, Celeron P4500	Intel 4th Gen. Xeon, Core i7, i5, i3, Pentium, Celeron	AMD R Series APU
	Max Speed	2.66 GHz	2.7 (3.3) GHz	2.3 (3.2) GHz
Memory	(Max)	8 GB, DDR3	16 GB, DDR3	16 GB, DDR3
I/O	Digital IO	32 input, 32 output	32 input, 32 output	32 input, 32 output
	COM	10 (5 x RS232, 1x RS232/422/485, 2x CCTALK/RS232, 2x RS232/TTL)	10 (5 x RS232, 1x RS232/422/485, 2x CCTALK/RS232, 2x RS232/TTL)	10 (5 x RS232, 1x RS232/422/485, 2x CCTALK/RS232, 2x RS232/TTL)
	USB	12	12 (4 USB 3.0)	14 (3 USB 3.0)
Network	LAN	GbE x2	GbE x2	GbE x2
Security	SRAM	4 MB	8 MB	4 MB
	Intrusion inputs	6	8	8
	TPM	V1.2	V1.2	V1.2
	EEPROM, ROM, IDROM	●	●	●
Video	Chipset	HM55 (GMA HD)	Intel Q87 (HD4600)	AMD A75 (Radeon 7660)
	Output	VGA x2, DVI x1	VGA x1, DVI x2, DP v1.2	7 x DP (3x DP v1.2), (DVI, VGA, HDMI with customised backplanes
	Expansion	PCIe x16 graphics card slot	PCIe x16 graphics card slot	PCIe x16 graphics card slot
Audio	On board amplified audio	2.1 channel, 13W per ch.	2.1 channel, 13W per ch.	-
Page		9-12	9-14	9-16

DPX®-E120

AMD G-Series (Fusion) Industrial Computer System



Features

- Comprehensive gaming features
- Low power and compact design
- Easy integration for gaming applications
- Dual monitor support

Introduction

The DPX®-E120 is a complete industrial computer system that offers good performance and very low power with the AMD G-Series embedded platform. A full feature set of I/O, COMs and security designed specifically for gaming devices is also included, making the DPX®-E120 an ideal integrated platform for many gaming, amusement and kiosk applications. The overall system is housed in an attractive extruded case and the gaming functions share the same API as Advantech-Innocore's other DPX® Series boards.

Specifications

System	Complete system solution, enclosure, field proven API and drivers
	AMD G series APU performance & low power
	1.65 GHz Dual core, 1.5 GHz Single core and 1.2 GHz Single core options
	Gaming hardware, security and I/O
	Audio amplifier for 2.1 channels.
	Attractive Aluminum enclosure
CPU/Chipset	AMD G-Series embedded BGA APUs. T56N 1.65 GHz 18W Dual core and T52R 1.5 GHz 18W Single core T44R 1.2 GHz 9W Single Core APU options
	AMD 55E Fusion controller hub
Memory	2 x SODIMM sockets
	Up tp 8GB DDR3 PC3-10600 (1333MT/s) – T56N, T52R Up to 8GB DDR3 PC3-8500 (1066MT/s) – T44R
BIOS	AMI PCI/PnP/ACPI BIOS
Video	Integrated – AMD Radeon HD 6320/6310/6250 Direct X 11, Open GL 4.1
	Video Ports:
	Primary:- Analog VGA
	Secondary:- DVI-D
Security	Intrusion switch inputs (4 external, 2 internal)
	BIOS customization
	1 x iButton® socket
	1 x Security ROM socket
	TPM 1.2 (trusted platform module)
Audio	High definition audio codec
	Amplified outputs for 2.1 channels, 13W per channel.
	Audio line out (SL, SR, LFE), audio line in (stereo)

LAN	2 x Ethernet Gigabit LAN
	Full duplex operation
	Wake-On-LAN capability
Storage	2 x CompactFlash Type I/II (Flash/MicroDrive)**
	Optional* :-
	1 x SD card**
	1 x SSD 2.5"**
Ports	5 x RS232 Serial, 16550 compatible (2 x available as TTL)
	1 x CCTalk
	4 x USB 2.0
	4 x USB 2.0**
	Optional* :-
	1 x CCTalk
	2 x RS232
	1 x RS485
I/O	32 ESD protected inputs
	32 OC Outputs (500mA, 50V)
	(of which 6 I/O ports can be configured as meter outputs with disconnect detect)
	Optional* :-
	4 Opto-isolated outputs
	4 high current outputs (3A)
	Power Fail Detect, External sensor input for advanced warning of AC power failure
SRAM	1024kB fast SRAM (1 bank) on PCI bus
	Battery state software readable
	Optional* :- Up to 4096kB
EEPROM	Optional* :-
	32kB user EEPROM

Specifications Cont.

iButton	1 x iButton® socket for special purpose device or security modules**
	Optional* :- 1 x iButton®** (range of devices available)
Security ROM	1 x Socket for 1MB EPROM/OTPROM PLCC32 (PCI, Bootable)
	Optional* :- 1 x Socket for 1MB EPROM/OTPROM PLCC32 (PCI, Bootable)
Watchdog Timer	Programmable time-out of 1-255 seconds
	"Always on" design (default 255 seconds)
Intrusion Detection	Six Intrusion detection input lines (1 used for 'case open')
	Operates with and without system active
	Logs date/time of last 254 events
	Logs system resets/brownouts as events
	EEPROM backup for 10 years retention
System Health Monitoring	Measurement of CPU core temp. With thermal trip.

Power	ATX or AT mode
	External PSU.
Enclosure	Aluminum extruded with status LEDs.
	Passive or active cooling system
	Compact size
	Optional:- rear access door for compact flash
Approvals	EMC: CE, FCC Class A
	RoHS, WEEE
Dimensions	229 x 180 x 77 mm (9.0 x 7.1 x 3.0")
Software	Edge-to-edge drivers and API/SDK.
	Code portability through consistent API with other Advantech-Innocore boards.
	Range of Advantech-Innocore software products for Gaming

Notes:

* Minimum order quantities may apply for options

** Internal access with intrusion access control

Benefits

- Low Power
- Single integrated solution
- Small size: 229 x 180 x 77mm (9.0 x 7.1 x 3.0")
- Designed for the Gaming Industry
- Low Cost

Optional Accessories

- Edge card connector set
- Compact Flash cards other SSD
- Microsoft operating system licenses
- External power supply
- iButtons®

OEM Customization and Product Development

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Front I/O



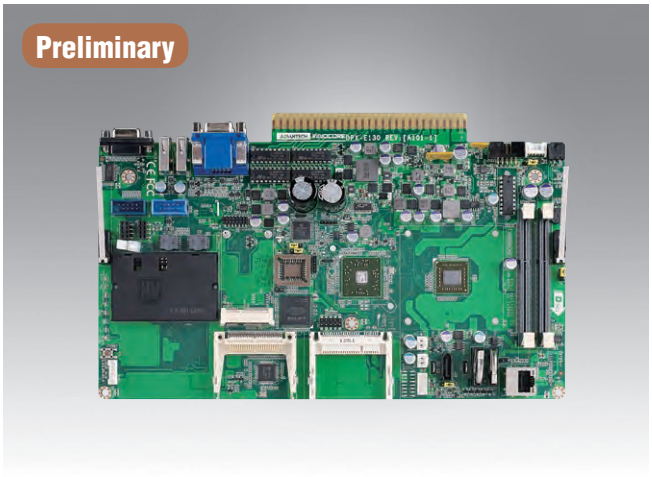
Rear I/O



Shown with optional compact flash access door

DPX®-E130

AMD G-Series Gaming Platform for Italy AWP3



Features

- Compliant with Italian AAMS 'AWP3' (2013 requirements)
- Powered via 5v through JAMMA interface
- Complete software API package for all AAMS functions
- Full set of gaming features, security, COMs, I/O
- Fully cased design; low power, passive cooled options
- High performance, low cost AMD G-Series platform

Introduction

The DPX®-E130 is a complete gaming solution designed specifically for the revised Italian AWP3 regulations of 2013. A fully featured AAMS compliant software API and libraries are provided for simple integration of the smart card, fiscal interfaces, security, I/O and COMs to the AAMS servers. The system needs very little power which is drawn from 5V DC through the JAMMA interface with onboard regulation to provide a robust power interface for new and retrofit applications under AWP3 and Comma6a. The system, based on the AMD G-Series embedded chipset, is designed to be low power, high performance with a 5 year life cycle - all at a competitive price.

Specifications

System	Complete system solution, enclosure, field proven API and drivers
	AMD G series APU, Dual and Single core performance & low power
	Italian JAMMA interface
	Gaming hardware, security and I/O
	Audio amplifier for 2 channels. Stereo 3W+3W or Mono 6W into 4 ohms
	Fanless enclosure
CPU/Chipset	AMD G-Series embedded BGA APUs. T56N 1.65 GHz 18W Dual core, T48N 1.4 GHz 18W Dual core, T40E 1.0 GHz 6.5W Dual core and T40R 1.0 GHz 5.5W Single core APU options
	AMD 55E Fusion controller hub
Memory	1 x SODIMM sockets (option for 2)
	1 GB DDR3-8500 (1066MT/s)
	Optional* :- Up to 8 GB
BIOS	AMI UEFI SPI BIOS (Write protectable)
Video	Integrated – AMD Radeon HD6130 Direct X 11, Open GL 4.1
	Video Ports:
	Primary:- Analog VGA
	Option for Secondary:- Analog VGA
Security	AAMS Smart Card ISO7816-1,2,3 and ISO / IEC 7810:2003.
	Intrusion switch inputs (3 external, 2 internal)
	BIOS customization
Audio	High definition audio Codec
	Amplified outputs for Stereo 2 channels, 3W per channel
	Stereo line out (option)

LAN	1 x Ethernet Gigabit LAN
	Full duplex operation
	Wake-On-LAN capability
Storage	1 x CompactFlash Type I/II (Flash/MicroDrive)**
	1 x C-Fast Socket
	1 x SATA, 1 x mSATA connector (optional)
Ports	2 x USB front panel (optional)
	2 x USB on a 2x5 pin header
	AAMS Port (DB9 Female), Tx/Rx Only (optional full RS232)
	Optional Debug COM Port (DB9 Male)
	1 x ccTalk available on the JAMMA (COM3)
	1 x ccTalk on front panel
JAMMA	JAMMA 28 + 28 way edge connector for I/O, power, audio, security, and COMs
NVRAM	Fast SRAM 1 MB on PCI bus. Option for up to 4 MB
	Battery state software readable
Watchdog Timer	Programmable time-out of 1-255 seconds
Intrusion Detection	Six Intrusion detection input lines (3 used for 'case open' and JAMMA disconnect)
	Operates with and without system active
	Logs date/time of last 254 events
	Logs system resets/brownouts as events
	EEPROM backup for 10 years retention
System Health Monitoring	Measurement of CPU core temp. With thermal trip.
Power	5V DC powered from JAMMA
	wide range 4.5V-5.75 with power-on conditioning
Enclosure	Sheet metal
	Compact size
Approvals	EMC: CE Class A
	RoHS, WEEE

*Minimum order quantities may apply for options
** Internal access with intrusion access control

Specifications Cont.

Dimensions	273 x 150 mm (10.7" x 5.9")
Software	Edge-to-edge drivers and API/SDK.
	Code portability through consistent API with other Advantech-Innocore boards.
	AAMS
	Range of Innocore software products for Gaming

Benefits

- Low Power
- Single integrated solution
- Small size: 273 x 150 mm (10.7" x 5.9")
- Designed for the Italian Gaming Industry
- Low Cost

Optional Accessories

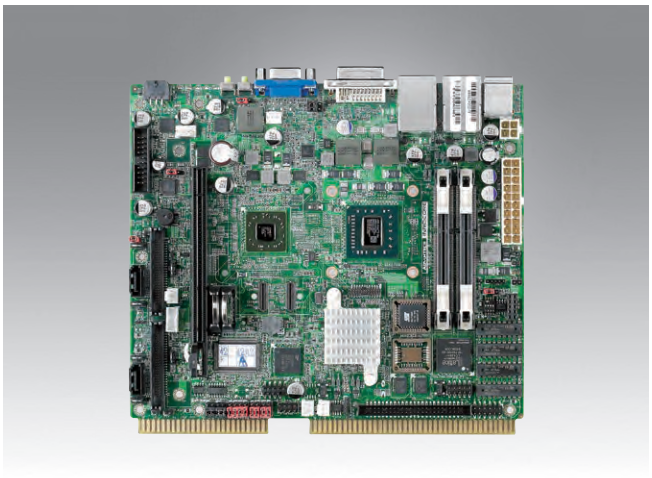
- CFast Flash cards other SSD
- Microsoft operating system licenses
- External power supply
- AAMS Smart Card

OEM Customization and Product Development

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DPX®-S415

AMD® Athlon™ II Neo, Turion™ II Neo Gaming Platform



Features

- Very high performance AMD® platform
- Comprehensive gaming features
- High performance integrated or PCI-Express graphics
- Low power consumption
- Small format

Introduction

The DPX®-S415 is the latest, highly integrated industrial single board computer from Advantech-Innocore. The DPX®-S415 offers unrivalled performance, long lifecycle and low power with AMD's Athlon X2 and Turion Neo processors and includes lightning fast chipset graphics (Radeon HD4270). A full feature set of I/O and COMs designed specifically for gaming devices is also included on the board and it is backward compatible both mechanically and in the software API with the DPX®-S410 series.

Specifications

System	Mobile AMD Athlon II X2, Turion II X2 Neo performance
	AMD 785E Embedded chipset
	High performance chipset graphics Radeon HD4270
	Max. 8 GB DDR3 SDRAM
	2 x Gigabit Ethernet LAN
	2 x Compact Flash 2 x SATA DOM sockets
	2 x CFast™ (Option)
	Sound (on-board 3 channel amp)
	2 MB SRAM, 1 MB ROM, EEPROM
I/O	5 x RS232
	2 x CCTalk/RS232
	2 x RS232/TTL
	1 x RS232/485
	12 x USB 2.0
	GPIO
	32 inputs and 32 outputs
Video	Embedded Chipset Radeon HD4270
	Dual independent monitor support (on-board)
	Full speed PCI-Express X16 v2.0 slot to support a range of PCI-Express graphics cards; ATi®, Nvidia®, S3 Graphics
	Dual, triple and quad independent monitor
Security	TPM security device on board
	iButton® option
	Intrusion switch inputs
	BIOS customisation
Software	Edge-to-edge drivers and API/SDK
	Range of Advantech-Innocore software products for Gaming

CPU/Chipset	Mobile AMD Athlon X2 Neo, Turion X2 Neo performance
	Up to 2.2 GHz HT3 CPUs
	Very low power operation (CPU 8 to 25W)
	AMD 785E chipset. Embedded/long lifecycle chipset and CPUs
	Highest performance chipset graphics – Radeon HD4270
Memory	2 x SO-DIMM socket, 8 GB Max
	DDR3 up to 800 MHz (1600 MT/s)
	64 bit OS and RAM in excess of 4 GB
BIOS	AMI PCI/ PnP/ ACPI BIOS
	BIOS Flash can be write protected
	Fast boot option. "No user menu" option
Video	Integrated (Chipset) Embedded Radeon HD4270 DirectX® 10.1-compliant, Shader Model 4.1,Open GL 2.0 Dedicated UVD (Unified Video Decoder) 2.0 hardware for H.264,VC-1, and MPEG-2 decode
	PCI-Express x16 v2.0 slot A range of PCI-Express graphics cards from ATi, Nvidia, S3 Graphics
	multiple displays with ATI Crossfire
Video Ports	Primary: Analog VGA (15 pin D-Sub)
	Secondary: Analog VGA or Digital DVI (DVI-I)
	PCI-E graphics card installed. Dependent on PCI-E adapter card
LAN 1,2	Gigabit Ethernet
	Full duplex operation
	Wake-On-LAN capability
SATA Controller	2 x SATA 6Gbps ports
	Power header for SATA DOM support

Specifications Cont.

Compact Flash	2 x CompactFlash Type I/II headers (Flash/MicroDrive)
CFast™ (Option)	2x CFast connectors on underside
Ports	5 x RS232
	2 x CCTalk/RS232
	2 x RS232/TTL
	1 x RS232/485
	12 x USB 2.0 (4 with over-current detect)
	Keyboard/Mouse on-board
	2 x I2C ports on board headers
iButton/GPIO	Bi-Directional, programmable GPIO header for iButton, special purpose device or security module
I/O	32 ESD protected inputs
	32 OC Outputs (500 mA, 50 V)
	Meter Connect Sensing up to 6 meters
Sound	Onboard 13 W+13 W+13 W class D audio amp with FL + FR + LF speaker connectors
	6 channel line level outputs
	Stereo line in, SPDIF (Digital) audio in/out
ROM	1MB EPROM/OTPROM PLCC32 socket (PCI, Bootable)
SRAM On-Board	2048 KB fast SRAM (2 banks) on PCI bus
	Battery state software readable (Option 4 MB)
Security	TCPA/TPM 1.2 compliant security device

Watchdog Timer	Programmable time-out of 1-255 seconds
	"Always on" design (default 255 seconds)
EEPROM	Serial EEPROM for storage of serial numbers, data, security keys. 32 KB (option for larger)
Intrusion Detection	Six Intrusion detection input lines
	Operates with and without system active
	Logs date/time of last 48 events
	Logs system resets/ brownouts as events
	EEPROM backup for 10 years retention
System Health Monitoring	Measurement of CPU core temp. With thermal trip. PWM fan for CPU. Monitoring up to 3 fans.
Power Fail Detect	External sensor input for advanced warning of AC power fail
Expansion	1) Up to 240 Bytes of PCI-based I/O expansion available through DirectPCI + interface on board header.
	2) PCI-Express x16 graphics card
Power	ATX or AT mode, typical 45-65W
Environment	Operating Temperature: 0 – 50 °C
	Storage Temperature: -20 – 85 °C
Approvals	EMC: CE, FCC Class A RoHS, WEEE
Dimensions	170 x 200mm (6.7 x 7.9")

Optional Accessories

- Full System chassis
- Range of PCI-E graphics cards
- I/O Connector breakout board
- iButton Carrier
- Compact Flash, SATA DOM, SSD storage devices

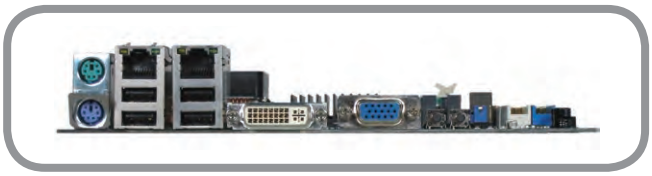
Benefits

- High performance integrated and expandable graphics capabilities
- Low Power (CPU power between 8 W and 25 W)
- Single board solution
- Edge connector for I/O
- Small size – 170 x 200 mm (6.7 x 7.9")
- Long Life Cycle
- Designed for the Gaming Industry
- Meets GLI and other regulatory standards
- Backward compatible with DPX-S410, 112
- Low Cost

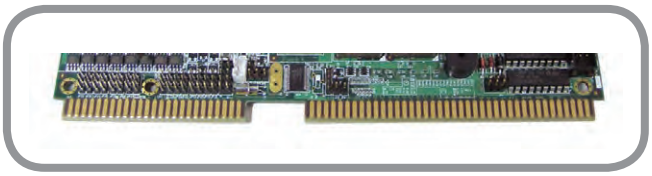
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Front I/O



Rear I/O



DPX®-S430

AMD® Embedded R-Series (Fusion) Gaming Platform



Features

- Very high performance AMD platform
- Comprehensive gaming features
- High performance integrated or PCI-Express graphics
- Easy integration for gaming applications
- Quad monitor supported
- VESA DisplayPort v1.2 supported

Introduction

The DPX®-S430 is a complete integrated gaming platform on one board. AMD's latest Fusion chipset on the DPX®-S430 consists of a choice of several high performance APUs with "Discrete-level Graphics". The integrated graphics core out-performs many discrete graphics ASICS and represents a significant step up in what chipset graphics can do. Furthermore the chipset graphics can output to 4 independent monitors and supports DisplayPort 1.2 daisy-chaining topology whereby two monitors are driven from one DisplayPort output. A full feature set of I/O and COMs designed specifically for gaming devices is also included making the DPX®-S430 an ideal integrated platform for many high end gaming, amusement and kiosk applications.

Specifications

System	AMD Embedded R-Series Low Power Dual and Quad Core APUs
	Highest performance chipset graphics system
	DDR3-1600, 2 SODIMMs
	2 x Gigabit Ethernet LAN
	2 x Compact Flash sockets, 2 x C-Fast™ sockets, 2 x SATA DOM sockets
	Audio (on-board 3 channel amp)
	4096 kB SRAM (NVRAM), 1MB ROM, EEPROM
I/O	10 x Serial Ports (RS232/TTL/CCTalk/RS485)
	4x USB 3.0, 8 x USB 2.0
	GPIO/iButton®
	32 inputs and 32 outputs (6 Meter outputs with disconnect detect)
Video	Integrated – AMD next generation "Devastator" Radeon 7000 Series Direct X 11 Graphics core
	Dual, Triple (and Quad*) monitor support
	Full speed PCI-Express X16 v2.0 slot to support a range of PCI-Express graphics cards; AMD, Nvidia®, S3 Graphics
Security	TPM security device on board
	Intrusion switch inputs (6 dedicated)
	BIOS customization
	1 x iButton® socket
	1 x Security ROM socket
Software	Edge-to-edge drivers and API/SDK.
	Code portability through consistent API with other Advantech-Innocore boards.
	Range of Advantech-Innocore software products for gaming
CPU/Chipset	AMD R-Series Dual and Quad Core APUs
	AMD A75 FCH
Memory	2 x SODIMM sockets
	Up to 16GB DDR3 -1600 MT/s SDRAM

BIOS	AMI APTIO UEFI BIOS
	BIOS can be write protected
Video Ports	2 x Analog VGA (15 pin D-Sub)*
	2 x DVI-D (MicroCross™)
	1 x DisplayPort v1.2 with 5.4Gb/s link speed and daisy chaining
LAN	2 x Ethernet Gigabit LAN
	Full duplex operation
	Wake-On-LAN capability
Storage	2 x CompactFlash Type I/II (Flash/MicroDrive)
	2 x C-Fast™ socket on underside
	3 x SATA 3 for HDD, SSD or SATA DOM
Ports	5 x RS232 Serial, 16550 compatible
	2 x CCTalk/RS232
	2 x RS232/TTL
	1 x RS232/485
	12 x USB (2 USB 3.0 and 2 USB 2.0 on front panel, 6 USB 2.0 and 2 USB 3.0 on board headers)
	2 x I2C on board header
	Audio out (SPKR, SPDIF, line out, line in)
iButton/GPIO	Bi-Directional, programmable GPIO header for iButton®, special purpose device or security module
Discrete I/O	32 ESD protected inputs
	32 OC Outputs (500mA, 50V)
	(of which 6 I/O ports can be configured as meter outputs with disconnect detect)
Sound	HD Audio
	On board 13W + 13W + 13W Class D audio amps with FL, FR, LF speaker connections
Security ROM	1 x Socket for 1MB EPROM/OTPROM PLCC32 (PCI, Bootable)

*VGA#2 and DVI-D#2 Option - TBC

Specifications Cont.

SRAM	4096 KB fast SRAM (2 banks) on PCI bus
	Battery state software readable
TPM	TCPA/TPM 1.2 compliant security device on board.
Watchdog Timer	Programmable time-out of 1-255 seconds
	"Always on" design (default 255 seconds)
EEPROM	32kB user EEPROM (option for larger)
Intrusion Detection	Six Intrusion detection input lines
	Operates with and without system active
	Logs date/time of last 254 events
	Logs system resets/brownouts as events
	EEPROM backup for 10 years retention
System Health Monitoring	Measurement of CPU core temp. With thermal trip. PWM fan for APU.

Power Fail Detect	External sensor input for advanced warning of AC power fail
Expansion	1) Up to 240 Bytes of PCI-based I/O expansion available through DirectPCI + interface on board header.
	2) PCI-Express x16 graphics card
Power	ATX or AT mode
Environment	Operating Temperature: 0 ~ 50° C TBC
	Storage Temperature: -20 ~ 85° C
Approvals	EMC: CE, FCC Class A
	RoHS, WEEE
Dimensions	170 x 200 mm (6.7 x 7.9")

Optional Accessories

- Full system chassis
- Range of PCI-Express graphics cards
- I/O connector breakout board
- Edge card connector set
- Compact Flash cards, SATA DOM, SSD storage devices
- iButtons®, iButton carrier

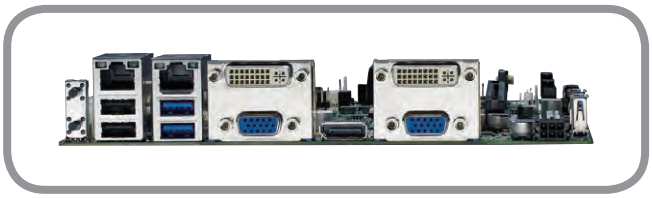
Benefits

- Best in class integrated and expandable graphics
- Single integrated solution
- Designed for the Gaming Industry
- Backwards compatible with DPX®-S series boards
- Small size
- Low power
- Long lifecycle

OEM Customization and Product Development

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Front I/O



Rear I/O



DPX®-S425

Intel® Core™ i5, Core i7 Gaming Platform



Features

- Very high performance Intel® platform
- Comprehensive gaming features
- High performance integrated or PCI-Express graphics
- Low power consumption
- Small format

Introduction

The DPX®-S425 is a ground breaking computer platform from Advantech-Innocore. The DPX®-S425 is the first gaming board to use the revolutionary Intel® single chip architecture and Core™ i5 and Core™ i7 CPUs for the most demanding, compute-intensive environments. A full feature set of I/O, COMs and security designed specifically for gaming devices is also included on the board. The board is backed by Innocore's usual guaranteed long production life and backward compatible both mechanically and in the software API with the DPX®-S410 series.

Specifications

System	Mobile Intel Core i5, i7 and Celeron performance
	Intel HM55 Embedded chipset
	High performance chipset graphics core – Intel GMA HD with up to 1GB shared video RAM.
	Max. 8GB DDR3 SDRAM
	2 x Gigabit Ethernet LAN
	2 x Compact Flash, 2 x CFast™, 2 x SATA DOM sockets Sound (on-board 3 channel amp)
	4 MB SRAM, 1 MB ROM, EEPROM
I/O	5 x RS232
	2 x CCTalk/RS232
	2 x RS232/TTL
	1 x RS232/485
	12 x USB 2.0
	GPIO
	32 inputs and 32 outputs
Video	Embedded Chipset Intel GMA HD
	Dual independent monitor support (on-board)
	Full speed PCI-Express X16 v2.0 slot to support a range of PCI-Express graphics cards; ATi®, Nvidia®, S3 Graphics
	Dual, triple and quad independent monitor
Security	TPM security device on board
	iButton® option
	Intrusion switch inputs
	BIOS customisation
Software	Edge-to-edge drivers and API/SDK
	Range of Advantech-Innocore software products for Gaming

CPU/Chipset	Mobile Intel Core i5, i7 and Celeron performance: Up to 2.66GHz, 4MB of Intel® Smart Cache Intel® Turbo Boost Technology Intel® Hyper-Threading Technology (2 Cores, 4 threads) Low power operation (CPU up to 38W including GMA and DRAM controller)
	Intel HM55 chipset. Embedded/long lifecycle chipset and CPUs
	High performance chipset graphics – Intel GMA HD
Memory	2 x SO-DIMM socket, 8GB Max
	800 MT/s (PC3-6400), and 1066 MT/s (PC3-8500)
	64bit OS and RAM in excess of 4GB
BIOS	AMI PCI/PnP/ACPI BIOS
	BIOS Flash can be write protected
	Fast boot option. "No user menu" option
Video	Integrated (Chipset) Embedded GMA HD DVMT (shared video RAM) up to 1GB DirectX® 10.0, Shader Model 4.0, Open GL 2.1 Hardware acceleration for H.264,VC-1, and MPEG-2 decode
	PCI-Express x16 v2.0 slot A range of PCI-Express graphics cards from ATi, Nvidia, S3 Graphics
	multiple displays with Hybrid
Video Ports	Primary:- VGA
	Secondary:- Analog VGA or Digital DVI (DVI-I)
	PCI-E graphics card installed. Dependent on PCI-E adapter card:

Specifications Cont.

LAN 1, 2	Gigabit Ethernet
	Full duplex operation
	Wake-On-LAN capability
SATA Controller	2 x SATA 3 Gbps ports
	Power header for SATA DOM support
Compact Flash	2 x CompactFlash Type I/II headers (Flash/MicroDrive)
CFast™	2x CFast connectors on underside
Ports	5 x RS232
	2 x CCTalk/RS232
	2 x RS232/TTL
	1 x RS232/485
	12 x USB 2.0
	Keyboard/Mouse on-board
	2 x I2C ports on board headers
iButton/GPIO	Bi-Directional, programmable GPIO header for iButton, special purpose device or security module
I/O	32 ESD protected inputs
	32 OC Outputs (500mA, 50V)
	Meter Connect Sensing up to 6 meters
Sound	Onboard 13W+13W+13W class D audio amp with FL + FR + LF speaker connectors
	6 channel Line level outputs
	Stereo line in, SPDIF (Digital) audio in/out
ROM	1MB EPROM/OTPROM PLCC32 socket (PCI, Bootable)

SRAM On-Board	4096kB fast SRAM (2 banks) on PCI bus
	Battery state software readable
Security	TCPA/TPM 1.2 compliant security device
Watchdog Timer	Programmable time-out of 1-1024 seconds
EEPROM	Serial EEPROM for storage of serial numbers, data, security keys. 32 KB (option for larger)
Intrusion Detection	Six Intrusion detection input lines
	Operates with and without system active
	Logs date/time of last 48 events
	Logs system resets/brownouts as events
	EEPROM backup for 10 years retention
System Health Monitoring	Measurement of CPU core temp. With thermal trip. PWM fan for CPU. Monitoring up to 3 fans.
Power Fail Detect	External sensor input for advanced warning of AC power fail
Expansion	1) Up to 240 Bytes of PCI-based I/O expansion available through DirectPCI + interface on board header.
	2) PCI-Express x16 graphics card
Power	ATX or AT mode, typical 45-65W
Environment	Operating Temperature: 0 – 50 °C
	Storage Temperature: -20 – 85 °C
Approvals	EMC: CE, FCC Class A RoHS, WEEE
Dimensions	170 x 200mm (6.7 x 7.9")

Optional Accessories

- Full System chassis
- Range of PCIe graphics cards
- I/O Connector breakout board
- iButton Carrier
- DPX-IRC Range Reel controllers
- Audio Amplifier modules
- Compact Flash, SATA DOM, SSD storage devices

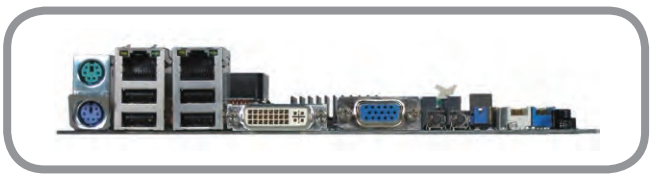
Benefits

- Best-in-class integrated and expandable graphics capabilities
- Low Power
- Single board solution
- Edge connector for I/O
- Small size – 170 x 200 mm (6.7 x 7.9")
- Long Life Cycle
- Designed for the Gaming Industry
- Meets GLI and other regulatory standards
- Backward compatible with DPX-S410, 112

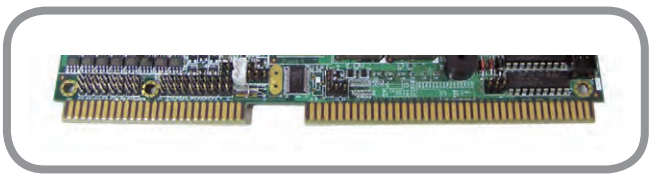
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Front I/O

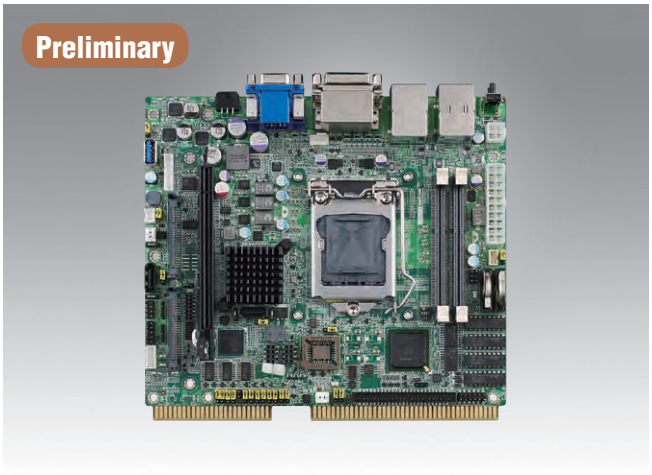


Rear I/O



DPX®-S435

4th Generation Intel® Core™ Gaming platform



Features

- Very high performance Intel platform
- Dual and Quad Core CPUs from Celeron to Xeon®
- Comprehensive gaming features
- High performance integrated or PCI-Express graphics
- Easy integration for gaming applications
- Full featured Driver API for IO and security

Introduction

The DPX®-S435 is the latest single board computer in the proven DPX-S series of integrated gaming platforms. Intel's latest embedded chipset provides an unrivalled range of price and performance choices from dual core Celeron up to Quad Core Xeon and Core i7 CPUs. The DPX-S435 is the highest performance gaming platform available and suitable for the most demanding applications. The integrated graphics core (Intel HD4600) represents a significant step up in chipset graphics performance and the standard PCI-Express x16 graphics card slot allows the S435 to support todays latest discrete graphics cards for stunning gaming graphics. A full feature set of I/O and COMs designed specifically for gaming devices is also included making the DPX®-S435 an ideal integrated platform for many high end gaming, amusement and kiosk applications.

Specifications

System	4th Generation Intel® Core™ Low Power Dual and Quad Core CPUs
	High performance chipset graphics system (HD4600)
	DDR3-1600, 2 SODIMMs up to 16GB total RAM
	2 x Gigabit Ethernet LAN
	2 x CFast™ sockets (CFast 1.0 and 2.0 support), 3 x SATA DOM sockets (SATA 3.0, 6Gbps)
	Audio (on-board 3 channel amp)
	8192 kB SRAM (NVRAM), 1MB ROM, EEPROM
I/O	10 x Serial Ports (RS232/TTL/CCTalk/RS485)
	4 x USB 3.0, 8 x USB 2.0
	GPIO/iButton
	32 inputs and 32 outputs (6 Meter outputs with disconnect detect)
Video	Integrated – Intel next generation HD4600 Direct X 11.1 Graphics core
	Dual, triple monitor support from integrated CPU graphics
	Full speed PCI-Express X16 v3.0 slot to
Security	TPM security device on board
	Intrusion switch inputs (8 dedicated)
	BIOS customization
	1 x Security ROM socket
Software	Edge-to-edge drivers and API/SDK
	Code portability through consistent API with other Advantech-Innocore boards.
	Range of Innocore software products for Gaming
CPU/Chipset	Intel 4th Generation Core Dual and Quad Core CPUs: Core i5, i7 up to 2.7 (3.3) GHz Xeon, Core i3, Pentium and Celeron options
	Intel PCH
Memory	2 x SODIMM sockets
	Up to 16GB DDR3 -1600 MT/s SDRAM

BIOS	AMI APTIO UEFI BIOS
	BIOS can be write protected, support for legacy ROM extensions
Video	Integrated – Intel next generation HD4600 Direct X 11, Open GL 3.2, OCL 1.2 Graphics core 1 GB VRAM maximum shared memory (with 2 GB or more system memory installed)
	Video Ports:
	2 x DVI-D (MicroCross™)
	1 x Analog VGA (15 pin D-Sub)
	1 x DisplayPort v1.2 with 5.4Gb/s link speed and daisy chaining
LAN	2 x Ethernet Gigabit LAN
	Full duplex operation
	Wake-On-LAN capability
Storage	2 x C-Fast™ socket
	3 x SATA 3.0 for HDD, SSD or SATA DOM
Ports	5 x RS232 Serial, 16550 compatible
	2 x CCTalk/RS232
	2 x RS232/TTL
	1 x RS232/485
	12 x USB (2 x USB 3.0, 2 x USB 2.0 on front panel, 6 x USB 2.0, 2 x USB 3.0 on board headers)
	2 x I2C on board header
	Audio out - SPKR (left, right and LF), SPDIF, line out 5.1 channels
iButton/GPIO	Bi-Directional, programmable GPIO header for iButton, special purpose device or security module
Discrete I/O	32 ESD protected inputs
	32 OC Outputs (500mA, 50V)
	(of which 6 I/O ports can be configured as meter outputs with disconnect detect)
Sound	HD Audio On board 13W + 13W + 13W Class D audio amps with FL, FR, LF speaker connections

Specifications Cont.

Security ROM	1 x Socket for 1MB EPROM/OTPROM PLCC32 (PCI, Bootable)
SRAM	8192 KB fast SRAM (2 banks) on PCI bus
	Battery state software readable
TPM	TCPA/TPM 1.2 compliant security device on board.
Watchdog Timer	Programmable time-out of 1-255 seconds
	"Always on" design (default 255 seconds)
EEPROM	32kB user EEPROM (option for larger)
Intrusion Detection	Eight Intrusion detection input lines
	Operates with and without system active
	Logs date/time of last 254 events
	Logs system resets/brownouts as events
	EEPROM backup for 10 years retention
System Health Monitoring	Measurement of CPU core temp. with thermal trip. Configurable smart fan control for CPU and 2x System fans
Power Fail Detect	External sensor input for advanced warning of AC power fail
Expansion	1) Up to 240 Bytes of PCI-based I/O expansion available through DirectPCI + interface on board header
	2) PCI-Express x16 graphics card
Power	ATX or AT mode
Environment	Operating Temperature: 0 ~ 50° C TBC
	Storage Temperature: -20 ~ 85° C
Approvals	EMC: CE, FCC Class A
	RoHS, WEEE
Dimensions	170 x 200 mm (6.7" x 7.9")

Optional Accessories

- Full system chassis
- Range of PCI-E graphics cards
- I/O connector breakout board
- Edge card connector set
- CFast cards, SATA DOM, SSD storage devices
- iButtons®, iButton carrier

Benefits

- Best in class CPU performance
- Single integrated solution
- Designed for the Gaming Industry
- Backwards compatible with DPX-S series boards
- Small size
- Low power
- Long Lifecycle

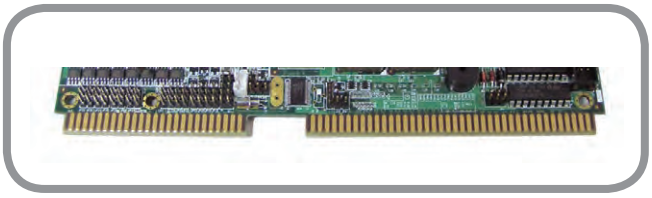
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Front I/O



Rear I/O



DPX®-C710

AMD® Embedded R-Series Gaming Platform

Preliminary



Features

- Very high performance AMD platform
- Versatile ConnectBus® backplane architecture
- Comprehensive gaming features
- High performance integrated graphics and PCI-Express graphics module (MXM)
- Up to 10 monitors supported

Introduction

The DPX®-C710 is a completely integrated motherboard for gaming applications. Based on the 3rd generation of Advantech-Innocore's ConnectBus® backplane architecture, the DPX-C710 offers un-paralleled ease of installation and field service. The board uses AMD's latest high performance dual and quad core APUs with "Discrete-level Graphics". The chipset graphics (AMD Radeon HD7000 series) can output to 4 independent monitors and supports DisplayPort 1.2. In addition, the MXM graphics card slot allows the DPX-C710 to be fitted with a selection of discrete high performance graphics modules. The MXM slot ensures the system is "future proof", ready for the next generation of graphics technology. A full feature set of I/O and COMs designed specifically for gaming devices is also included making the DPX-C710 an ideal integrated platform for many high end gaming, amusement and kiosk applications.

Specifications

System	3rd Generation ConnectBus® architecture - "Pluggable" CPU board and robust backplane
	All cable connections are made through the backplane
	Standard backplane available
	Easily customized backplane for specific applications and retrofit projects
	Removable CPU board for easy install, service and maintenance
	AMD Embedded R-Series Dual and Quad Core APUs
	Long life cycle 5 years availability
	DDR3-1600, 2 SODIMMs up to 16GB
	2 x Gigabit Ethernet LAN
	HD Audio 7.1 channel
Video (Integrated)	Integrated – AMD Radeon 7000 series graphics engine
	Dual, triple and Quad monitor support from APU
	Three DP++ interfaces support DisplayPort, DVI, HDMI and VGA (customizable on backplane)
	Incl. one DP v1.2 with MST (multi-monitor, daisy chain) support
	Direct X 11, OpenGL 4.2, OpenCL, DirectCompute support
	UVD3 Multimedia hardware decode and encode.
Video (Discrete)	Full speed PCI-Express x16 MXM v3.0 slot to support optional high performance graphics cards; AMD Radeon E6000 series, Radeon E8000 series, Nvidia®
	Field or factory upgradeable
Security	TPM security device on board
	Intrusion switch inputs (8 dedicated)
	BIOS customization
	1 x iButton® socket (option)
	1 x Security ROM socket

Software	Edge-to-edge drivers and Software API/SDK.
	Code portability through consistent API with other Innocore boards.
	Range of Advantech-Innocore software products for Gaming
CPU/Chipset	AMD Embedded R-Series FS1r2 Accelerated Processing Unit (APU)
	Dual and Quad Core APUs up to 2.7GHz (3.2GHz Turbo)
	Up to 4MB L2 cache
	Low power (35W) APUs
	AMD A75 FCH
Memory	2 x SODIMM sockets
	Up to16GB DDR3 1600 MT/s SDRAM system RAM
BIOS	AMI APTIO UEFI BIOS
	BIOS can be write protected
LAN	2 x Ethernet Gigabit LAN
	Full duplex operation
	Wake-On-LAN capability
Storage	2 x C-Fast™ sockets
	2 x SATA 3 (up to 6Gb/s) headers for HDD, SSD or SATA DOM
	1 x eSATA front access
Ports	3 x RS232 Serial, 16550 compatible
	2 x CCTalk/RS232
	2 x RS232/TTL
	1 x RS232/485
	14 x USB (2x USB 3.0 on front panel, 1x USB 3.0 + 4x USB 2.0 on board headers, 7x USB 2.0 on backplane)
	2 x I2C, 1x SPI interfaces through backplane
	24 channel LED drive output
iButton/GPIO	Bi-Directional, programmable GPIO header for iButton, special purpose device or security module

Specifications Cont.

Discrete I/O	32 ESD protected inputs
	32 OC Outputs (500mA, 50V)
	Of which 6 I/O ports can be configured as meter outputs with disconnect detect
LED drive	24 channel LED Intelligent PWM output driver, 256 brightness levels, programmable group brightness, blinking, (8 channel with 350mA, 16 ch. 100mA)
Sound	HD 7.1 channel Audio
SRAM (NVRAM)	4096 KB fast SRAM (2 banks) on PCI bus
	Battery state software readable
TPM	TCPA/TPM 1.2 compliant security device on board.
Watchdog Timer	Programmable time-out
EEPROM	32kB user EEPROM (option for larger)
Asset Tag	Unique serial number devices on motherboard
Intrusion Detection	8x Intrusion detection input lines
	Operates with and without system active
	Logs date/time of last 254 events
	Logs system resets/brownouts as events
	EEPROM backup for 10 years retention

System Health Monitoring	Measurement of CPU core temp. With thermal trip PWM fan control for APU, MXM, system fans, and 2 other fans through backplane
Diagnostic LED display	Optional riser board provides : Dual 7- segment LED display for POST and diagnostic codes And 4 USB 2.0 Type A ports
Power Fail Detect	External sensor input for advanced warning of AC power fail
Expansion	1) 2 x I2C, SPI
	2) PCI-Express x16 MXM format graphics card
Power	12V DC single input Intelligent power control CPU board Backplane “insertion-sense” and protection for accidental removal
Environment	Operating Temperature: 0 ~ 50° C TBC
	Storage Temperature: -20 ~ 85° C
Approvals	EMC: CE, FCC Class A
	RoHS, WEEE
Dimensions (D x W)	Motherboard: 225 x 218 mm (8.9" x 8.6")

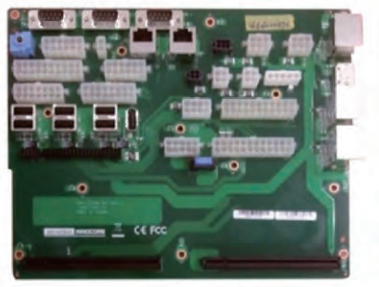
Optional Accessories

- DPX C-series backplane
- Range of PCI-E MXM graphics cards
- POST Diagnostic LED display and USB riser board
- Compact Flash cards, SATA DOM, SSD storage devices
- iButtons®, iButton carrier
- System level enclosure and CPU cassette

Benefits

- Best in class integrated and expandable graphics
- Single integrated solution
- Designed for the Gaming Industry
- Serviceable CPU board and backplane
- Small size
- Low power
- Long Lifecycle

DPX C-series backplane board



DPX C-series POST Diagnostic and USB Riser board

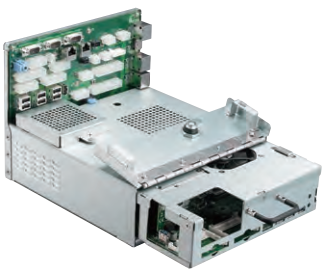


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System Level DPX-SC710 Product

The DPX-C710 is also available as a system level product with logic box and CPU cassette enclosures. See separate datasheet and product information





Memo

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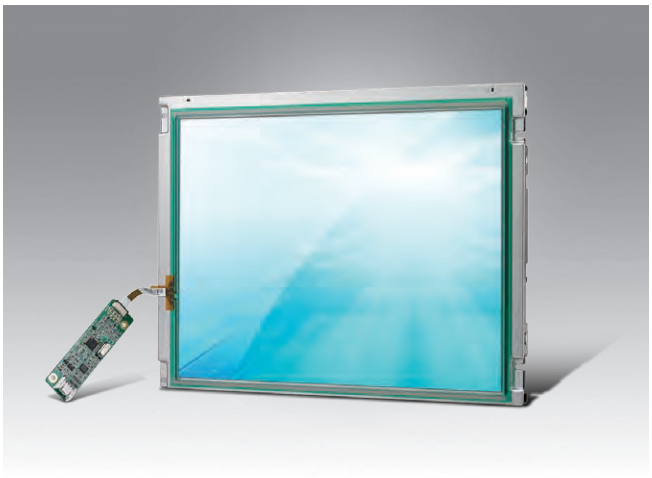
Intelligent Display Solutions

Industrial Display Kit		
IDK-1000 Selection Guide	5.7" ~ 21.5" Industrial Touch LCD Kit with LED B/L	*10-2*
IDK-2000 Selection Guide	8.4" ~ 31.5" Ultra High Brightness LCD Kit with LED B/L	*10-3*
Slim Open Frame Monitors		
IDS-3106/IDS-3110/ IDS-3112/IDS-3115/ IDS-3117/IDS-3119	6.5" ~ 19" 4:3 Slim Open Frame Monitors	*10-4*
IDS-3121	21.5" Widescreen Slim Open Frame Monitor	*10-5*
Panel Mount Monitors		
IDS-3210	10.4" SVGA Industrial Panel Mount Monitor	*10-7*
IDS-3215	15" XGA Industrial Panel Mount Monitor	*10-9*
Application Focused Solutions		
Gaming Display Solutions		*10-11*
Medical Display Solutions		*10-12*
Digital Signage Display Solutions		*10-13*

To view all of Intelligent Display Solutions, please visit www.advantech.com/products

IDK-1000

Industrial Touch LCD Kit with LED B/L



Features

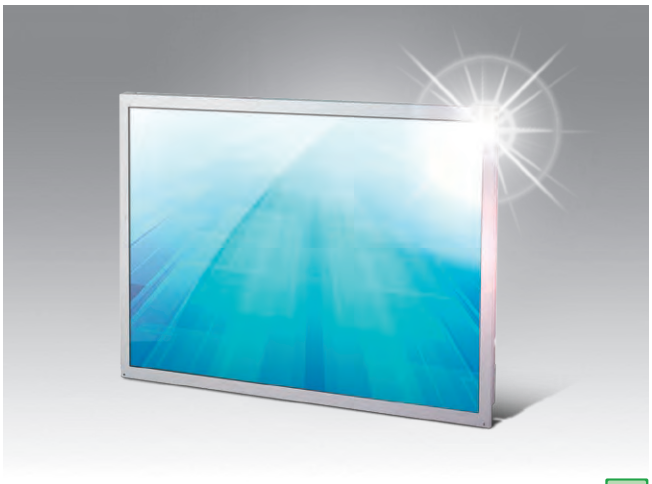
- 5.7" ~ 21.5" industrial-grade LCD panel with LED backlight
- Resistive touchscreen support
- LVDS signal interface
- Perfect for indoor applications
- Full compatibility with embedded boards
- Maximum flexibility for mechnical design
- Touch controller included with USB cable

Specifications

		IDK-1105	IDK-1107	IDK-1108	IDK-1110W	IDK-1110	IDK-1112	IDK-1115	IDK-1115P	IDK-1119	IDK-1121W
LCD Display	Size	5.7"	7"	8.4"	10.1"	10.4"	12.1"	15"	15"	19"	21.5"
	Resolution	640 x 480, VGA	1024 x 600, WSVGA	800 x 600, SVGA	1024 x600, WSVGA	800 x 600, SVGA	800 x 600, SVGA	1024 x 768, XGA	1024 x 768, XGA	1280 x 1024, SXGA	1920 x 1080, FHD
	Brightness	500 cd/m^2	500 cd/m^2	450 cd/m^2	550 cd/m^2	400 cd/m^2	450 cd/m^2	400 cd/m^2	400 cd/m^2	350 cd/m^2	300 cd/m^2
	Colors	262 k	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	16.7M	16.7M
	Viewing Angle (H/V°)	140/100	150/145	160/140	120/140	160/140	160/140	160/140	160/140	170/160	178/178
	Contrast Ratio	250 : 1	700 : 1	600 : 1	500 : 1	700 : 1	700 : 1	700 : 1	700 : 1	1000 : 1	5000 : 1
	Response Time (ms)	50	50	30	25	30	35	16	16	5	16
	Touchscreen	4-Wire Resistive Touch	4-Wire Resistive Touch	4-Wire Resistive Touch	4-Wire Resistive Touch	4-Wire Resistive Touch	5-Wire Resistive Touch	5-Wire Resistive Touch	Projective Capacitive Touch	5-Wire Resistive Touch	5-Wire Resistive Touch
	Signal Interface	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	2 Channel LVDS	2 Channel LVDS
	Backlight Type	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED
	Backlight Life (hrs)	30000	50000	50000	50000	50000	50000	50000	50000	50000	50000
	Power Consumption (W)	1.8	3.57	2.94	8.99	4.8	6.7	10.8	10.8	20.55	24
	Dimensions (mm)	127 x 98.43 x 9.1	165.5 x 104.44 x 10.52	203 x 142.5 x 10.3	235 x 145.8 x 10.25	243 x 184 x 10.6	276 x 209 x 11.3	326.5 x 253.5 x 14.4	323.5 x 259.7 x 14.6	396 x 324 x 20.7	495.6 x 292.2 x 20.8
	Weight (g)	200	190	250	420	530	980	835	990	2750	3100
Touchscreen	Durability	1 million touches	1 million touches	1 million touches	1 million touches	1 million touches	10 million touches	10 million touches	50 million touches	10 million touches	10 million touches
	Surface Hardness	3H	3H	3H	3H	3H	3H	3H	5H	3H	3H
	Transparency	80%	82.5%	82.5%	82.5%	82.5%	80%	80%	91%	80%	80%
Environment	Temperature (Operating)	-20 ~ 70° C	-20 ~ 70° C	-10 ~ 60° C	-5 ~ 60° C	-10 ~ 60° C	-20 ~ 70° C	-20 ~ 70° C	-20 ~ 70° C	0 ~ 50° C	0 ~ 60° C

IDK-2000

1200 cd/m² Ultra High Brightness Industrial LCD Kit with LED B/L



Features

- 8.4" ~ 32" industrial-grade LCD panel with wide operating temperature support
- 1200-cd/m² ultra high brightness with LED backlight
- Optional resistive touchscreen solution
- High uniformity of 85%
- Superior sunlight readability for outdoor applications
- LVDS signal interface
- Auto-dimming light sensor (optional)
- Full compatibility with embedded boards

Specifications

		IDK-2108	IDK-2110	IDK-2112	IDK-2115	IDK-2117	IDK-2119	IDK-2121	IDK-2132
LCD Display	Size	8.4"	10.4"	12.1"	15"	17"	19"	21.5"	31.5"
	Resolution	800 x 600, SVGA	800 x 600, SVGA	800 x 600, SVGA	1024 x 768, XGA	1280 x 1024, SXGA	1280 x 1024, SXGA	1920 x 1080, FHD	1920 x 1080, FHD
	Brightness	1200 cd/m²	1200 cd/m²	1200 cd/m²	1200 cd/m²	1200 cd/m²	1200 cd/m²	1200 cd/m²	2000 cd/m²
	Colors	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	16.7 M	16.7 M	16.7M	16.7M
	Viewing Angle (H/V°)	160/140	160/130	160/140	160/140	170/160	170/160	178/178	178/178
	Contrast Ratio	600 : 1	500 : 1	700 : 1	700 : 1	1000 : 1	1100 : 1	5000:1	3000 : 1
	Response Time (ms)	30	35	35	16	5	5	16	8
	Touchscreen	4-Wire Resistive Touch	4-Wire Resistive Touch	5-Wire Resistive Touch	5-Wire Resistive Touch	5-Wire Resistive touch	5-Wire Resistive Touch	5-Wire Resistive Touch	-
	Signal Interface	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	1 Channel LVDS	2 Channel LVDS	2 Channel LVDS	2 Channel LVDS	2 Channel LVDS
	Backlight Type	LED	LED	LED	LED	LED	LED	LED	LED
	Backlight Life (hrs)	50000	50000	50000	50000	50000	50000	50000	50000
	Power Consumption (W)	5.35	7.1	9.48	16.06	29.47	36.64	46.9	61.9
	Dimensions (mm)	203.0 x 142.5 x 8.0	236.0 x 176.9 x 5.7	279 x 209.0 x 9.0	326.5 x 253.5 x 11.5	358.5 x 296.5 x 16.65	396 x 324 x 18.65	495.6 x 292.2 x 17.7	760 x 450 x 46.9
	Weight (g)	260	350	600	1350	2200	2500	2400	7000
Touchscreen (Optional)	Durability	1 million touches	1 million touches	10 million touches	10 million touches	10 million touches	10 million touches	10 million touches	-
	Surface Hardness	3H	3H	3H	3H	3H	3H	3H	-
	Transparency	82.5%	82.5%	80%	80%	80%	80%	80%	-
Environment	Temperature (Operating)	-20 ~ 70° C	-20 ~ 70° C	-20 ~ 70° C	-20 ~ 70° C	0 ~ 50° C	0 ~ 50° C	0 ~ 60° C	0 ~ 50° C

IDS-3100

Ultra Slim Open Frame Monitors



Features

- 6.5" ~ 21.5" LCD panel with LED backlight for 20% power saving
- -20 ~ 60° C wide operating temperature
- Optional resistive touchscreen solution
- Combo touch interface of RS-232 and USB
- Dual signal interface with VGA/DVI
- Integrated bracket for easy installation
- Versatile mounting support of rear/VESA mounting
- Easy integration with Advantech embedded box PCs

Specifications

		IDS-3106	IDS-3110	IDS-3112 (SVGA)	IDS-3112 (XGA)	IDS-3115	IDS-3115P (HB)	IDS-3117	IDS-3119	IDS-3121W
LCD Display	Size	6.5"	10.4"	12.1"	12.1"	15"	15"	17"	19"	21.5"
	Resolution	640 x 480, VGA	800 x 600, SVGA	800 x 600, SVGA	1024 x 768, XGA	1024 x 768, XGA	1024 x 768, XGA	1280 x 1024, SXGA	1280 x 1024, SXGA	1920 x 1080, FHD
	Colors	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	262K/16.2M	16.7 M	16.7 M	16.7M
	Viewing Angle (H/V°)	160/140	160/140	160/140	160/140	160/140	160/140	170/160	170/160	178/178
	Contrast Ratio	600 : 1	700 : 1	700 : 1	700 : 1	700 : 1	700 : 1	800 : 1	1000 : 1	5000 : 1
	Response Time (ms)	25	30	35	16	16	16	30	5	16
	Brightness	800 cd/m²	400 cd/m²	450 cd/m²	600 cd/m²	400 cd/m²	1200 cd/m²	350 cd/m²	350 cd/m²	300 cd/m²
	Touchscreen	4-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	Projected Capacitive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
	Backlight Type	LED	LED	LED	LED	LED	LED	LED	LED	LED
	Backlight Life (hrs)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
	Dimensions (mm)	215 x 160 x 32.1	279.4 x 220 x 30	320.2 x 252 x 30.7	320.2 x 252 x 30.7	362 x 288 x 32.8	362 x 288 x 36.2	400 x 344.7 x 33.4	438 x 369.7 x 34.3	546.6 x 295.2 x 46
	Weight (kg)	0.8	1.6	2.15	2.13	4	4.5	4.05	5.14	7.3
Touchscreen (Optional)	Durability	1 million touches	36 million touches	10 million touches	10 million touches	10 million touches	50 million touches	10 million touches	10 million touches	10 million touches
	Surface Hardness	3H	3H	3H	3H	3H	5H	3H	3H	3H
	Transparency	80%	82%	80%	80%	80%	91%	80%	80%	80%
Environment	Temperature (Operating)	0 ~ 50° C	- 20 ~ 60° C	-20 ~ 60° C	-20 ~ 60° C	-20 ~ 60° C	-20 ~ 60° C	-20 ~ 60° C	0 ~ 45° C	0 ~ 55° C
	Temperature (Storage)	-20 ~ 60° C	-30 ~ 70° C	-30 ~ 70° C	-30 ~ 70° C	-30 ~ 70° C	-30 ~ 70° C	-30 ~ 70° C	-20 ~ 60° C	-20~60° C
	Humidity	5 ~ 95% @ 40° C, non-condensing	5 ~ 95% @ 40° C, non-condensing	5 ~ 95% @ 40° C, non-condensing	5 ~ 95% @ 40° C, non-condensing	5 ~ 95% @ 40° C, non-condensing	5 ~ 95% @ 40° C, non-condensing	10 ~ 90% @ 40° C, non-condensing	5 ~ 90% @ 40° C, non-condensing	10 ~ 90% @ 40 °C, non-condensing
System	I/O Ports	VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1 (USB is reserved for the connection to enable touch usage only)	VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)				VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1 (USB is reserved for the connection to enable touch usage only)	VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)		
	OSD	Keys: Power on/off, Menu/Enter, Left/Up, Right/Down, Exit/Auto, Source Menu Functions: Brightness, Contrast, Screen Setting, Color Temp, OSD Language, VGA/DVI, Reset, Auto Adjust								
	Power	36W power adapter, with AC 100 ~ 240V input and DC +12V @ 3A output				60W power adapter, with AC 100 ~ 240V input and DC +12V @ 5A output				

IDS-3121W

21.5" FHD OpenFrame Monitor



Features

- 21.5" Full HD 1920 x 1080 LCD panel with LED backlight for 20% power saving and environmental protection
- 0° C ~ 55° C range operating temperature
- Optional resistive touchscreen solution(USB interface)
- Signal interface: VGA & DVI with optional HDMI
- Integrated bracket for easy installation
- Versatile mounting method for rear mounting and VESA mounting

Introduction

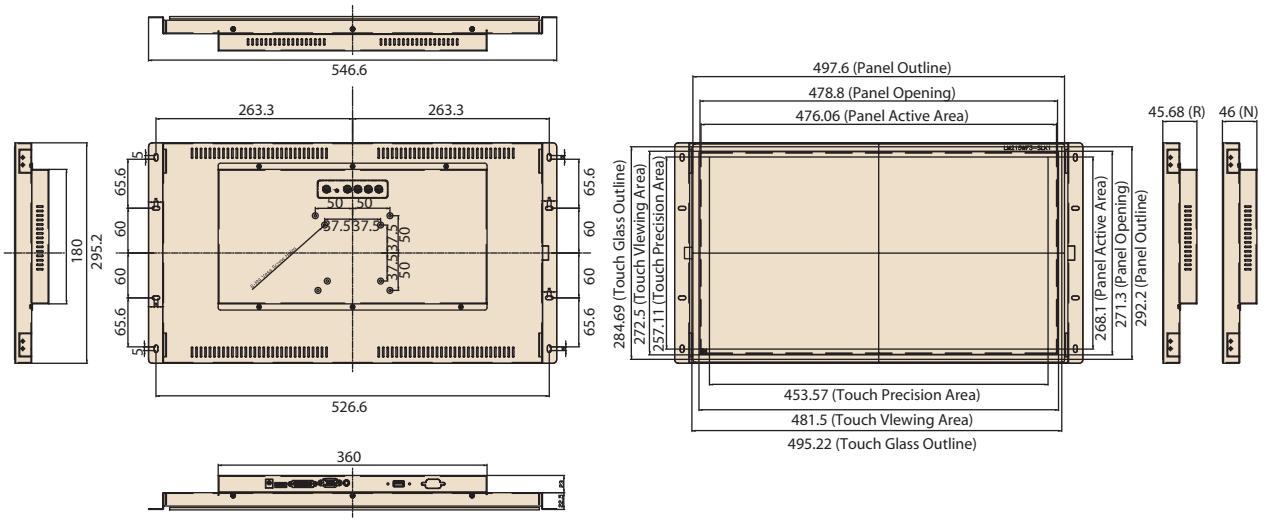
The Advantech IDS-3121W Embedded Open Frame Monitor series offers flexible options for LCD, touchscreen, signal interface and chassis mounting.The series supports rear and VESA mounting. The integrated brackets bring the benefits of easy installation and provide flexibility for different applications.

Specifications

Display	Model	IDS-3121W
	Size	21.5" LED panel
	Resolution	1920 x 1080 (FHD)
	ViewingAngle	178°(H), 178°(V)
	Brightness	300 (cd/m^2)
	ColorSupport	16.7M colors
	ContrastRatio	5000:1
	ResponseTime	16ms (Typ.)
	Backlight Life (hrs)	50,000 hrs
Touchscreen (Optional)	TouchscreenType	5-Wire Resistive
	Surface Hardness	3H
	Durability	10 million touches
	Transparency	80%+/-3%
Environment	Operating Temperature	0 ~ 55° C
	Storage Temperature	-20 ~ 60° C
	Humidity	10 ~ 90% @ 40° C,non-condensing
	Vibration	TBD
System	I/O	VGA x 1; DVI-D x 1; 12V$_{DC}$ Jack x 1; USB x 1, RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)
	OSD	Keys: Power on/off, Menu/Enter, Left/Up, Right/Down, Exit/Auto, Source Menu Functions: Brightness, Contrast, Screen Setting, Color Temp, OSD Language, Reset, Auto Adjust
	Power	60W power adapter, with AC 100 ~ 240V input and DC +12V @ 5A output Consumption: 30 W (Max.)
	EMC Compliance	CE/FCC/CCC

Dimensions

Unit: mm



Packing List

Description
1 x M Cable USB-A(M)/USB-A(M) 1.8 meter
1 x VGA cable 15P (M) 1.8 meter

*USB cable is only included in the touch series.

Note: Package contents are subject to change without prior notice

Optional Items

PartNumber	Description
1702002600	3-Pin powercord(USA)
1700000596	3-Pin powercord(EU)
1700018705	3-Pin powercord with PSE(Japan)
1700000243	DVI cable 2.0 meter
1757003934	Adapter AC100-240V 60W +12V/5A DPS-60PB A

Ordering Information

ModelName	Description
IDS-3121WR-30FHA1E	21.5" FHD 300 cd/m² LED Open Frame touch monitor
IDS-3121WN-30FHA1E	21.5" FHD 300 cd/m² LED Open Frame monitor

IDS-3210

10.4" SVGA Industrial Panel Mount Monitor



Features

- 10.4" SVGA LCD panel with LED backlight for 20% power saving and environmental protection
- -20° C ~ +60° C wide range operating temperature
- 5-wire resistive touchscreen solution or 3mm tempered smudge resistant protected glass
- Combo touch interface: RS-232 and USB
- Dual signal interface with VGA & DVI
- Standard integrated frame
- Versatile mounting methods for front mounting and VESA mounting
- Anti-Reflective treatment (optional)
- Ultra high brightness solution of 1200 cd/m² for outdoor application (optional)

Introduction

The Advantech IDS-3210 Embedded Panel Mount Monitor series offers flexible options for LCD, touchscreen, signal interface and chassis mounting. The series with standard integrated frame design, supports front and VESA mounting which brings the benefits of easy installation and provides flexibility for different applications.

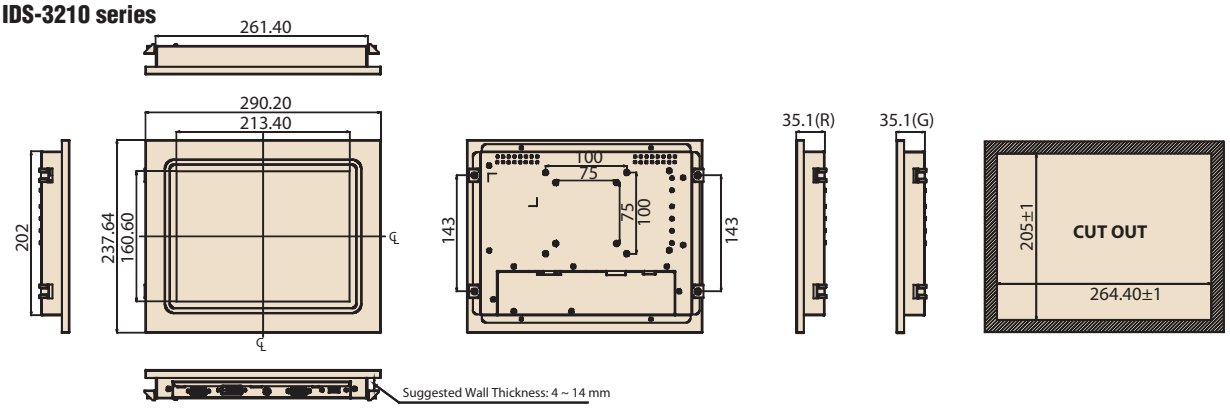
Specifications

Display	Model	IDS-3210	IDS-3210E
	Size	10.4" LED panel	10.4" LED panel
	Resolution	800 x 600 (SVGA)	800 x 600 (SVGA)
	Viewing Angle	80°/80° (H), 60°/80° (V)	80° /80° (H), 60° /70° (V)
	Brightness	400 (cd/m²)	230 (cd/m²)
	Color Support	16.2M / 262K colors	16.2M / 262K colors
	Contrast Ratio	700:1	500:1
	Response Time	30 [msec]	35 [msec]
	Backlight Life (hrs)	50,000 hrs	30,000 hrs
Touchscreen	Touchscreen Type	5-Wire Resistive Touchscreen	
	Surface Hardness	3H	
	Durability	36 million touches	
	Transparency	81%+/-3%	
Environment	Operating Temperature	-20 ~ 60° C (-4 ~ 140° F)	0~ 45° C (32 ~ 113° F)
	Storage Temperature	-30 ~ 70° C (-22 ~ 158° F)	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	5 ~ 95% @ 40° C, non-condensing	
	Vibration	5-500Hz, 0.026G²/Hz, 2.16Grms, X, Y, Z 1 hour per axis	
System	I/O	VGA x 1; DVI-D x 1; 12 V_{DC} Jack x 1; USB x1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)	VGA x 1; 12 V_{DC} Jack x 1; USB x1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only
	OSD	Keys: menu, up, down, auto adjust, monitor power on/off Menu Functions: brightness, contrast, screen settings, color temp, language OSD settings, VGA/DVI, recall, auto adjust	Keys: menu, up, down, auto adjust, monitor power on/off Menu Functions: brightness, contrast, color adjust, color temp, auto color and language
	Power	36 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 3 A output	
	EMC Compliance	CE/FCC/CCC	

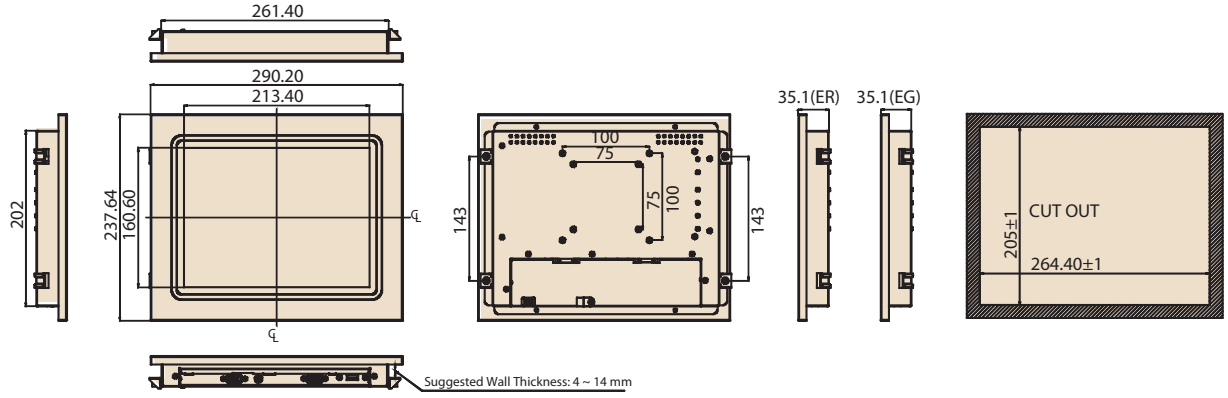
Dimensions

Unit: mm

IDS-3210 series



IDS-3210E series



Packing List

Part Number	Description
1700002215	1 x M Cable USB-A(M)/USB-A(M) 180 cm
1700021332-01	1 x VGA cable 15P(M) 180 cm
1962055040	4 x clamper
1935042520	4 x clamper screws M4_25L
1992610005	1 x cable clamp
1933030500	1 x cable clamp screw
1992602010	1 x cable tie

* USB Cable is only included in IDS-3210R and IDS-3210ER series.
Note: Package contents are subject to change without prior notice

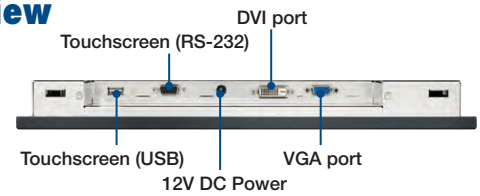
Optional Items

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
1700008921	3-pin power cord with PSE (Japan)
1757003553	Adapter 100-240V 36W 12V 3A W/O PFC 9NA
1700000243	DVI cable 2.0 meter
1700091800	Cable 9P/9P 1.8M M/F (Touchscreen RS-232 cable)

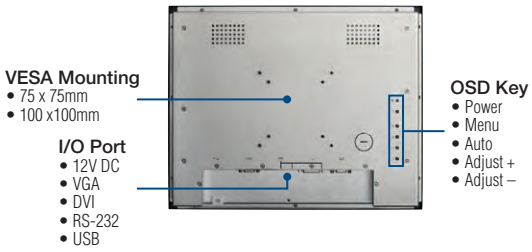
Ordering Information

Model Name	Description
IDS-3210G-40SVA1E	10.4" SVGA 400 cd/m² LED Panel Mount Monitor
IDS-3210R-40SVA1E	10.4" SVGA 400 cd/m² LED Panel Mount Touch Monitor
IDS-3210EG-23SVA1E	10.4" SVGA 230 cd/m² LED Panel Mount Monitor
IDS-3210ER-23SVA1E	10.4" SVGA 230 cd/m² LED Panel Mount Touch Monitor

IO view



Rear View



IDS-3215

15" XGA Industrial Panel Mount Monitor



Features

- 15" XGA LCD panel with LED backlight for 20% power saving and environmental protection
- -20° ~ +60° C wide range operating temperature
- 5-wire resistive touchscreen solution or 3mm tempered smudge resistant protected glass
- Combo touch interface: RS-232 and USB
- Dual signal interface with VGA & DVI
- Standard integrated frame
- Versatile mounting methods for front mounting and VESA mounting
- Anti-Reflective treatment (optional)
- Ultra high brightness solution of 1200 cd/m² for outdoor applications (optional)

Introduction

The Advantech IDS-3215 Embedded Industrial Panel Mount Monitor series offers flexible options for LCD, touchscreen, signal interface and chassis mounting. The series with standard integrated frame design, supports front and VESA mounting which brings the benefits of easy installation and provides flexibility for different applications.

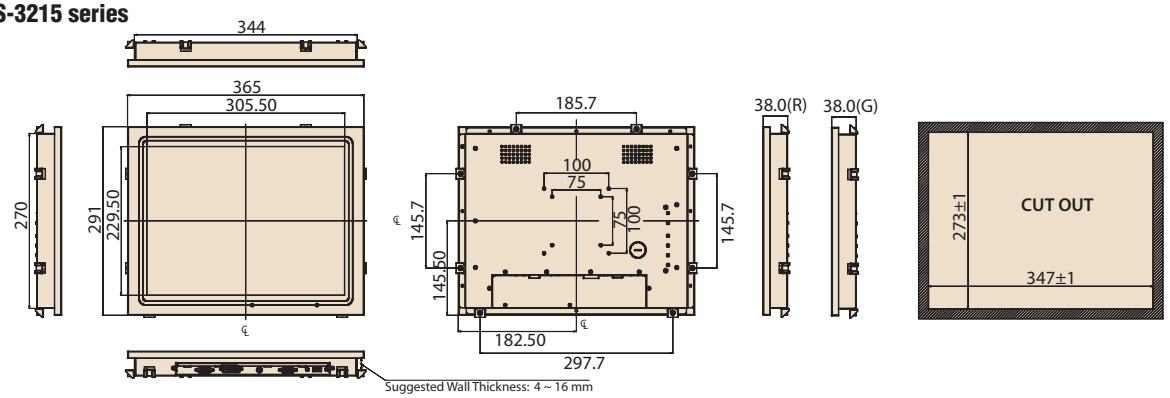
Specifications

Display	Model	IDS-3215	IDS-3215E
	Size	15" LED panel	15" CCFL panel
	Resolution	1024 x 768 (XGA)	1024 x 768 (XGA)
	Viewing Angle	80°/80° (H), 70°/70° (V)	80°/80° (H), 80°/80° (V)
	Brightness	400 (cd/m²)	250 (cd/m²)
	Color Support	16.2M / 262K colors	16.7M
	Contrast Ratio	700:1	600:1
	Response Time	16 [msec]	8 [msec]
	Backlight Life (hrs)	50,000 hrs	40,000 hrs
Touchscreen	Touchscreen Type	5-Wire resistive touchscreen	
	Surface Hardness	3H	
	Durability	10 million touches	
	Transparency	80%+/-3%	
Environment	Operating Temperature	-20 ~ 60° C (-4 ~ 140° F)	0~ 45° C (32 ~ 113° F)
	Storage Temperature	-30 ~ 70° C (-22 ~ 158° F)	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	5 ~ 95% @ 40° C, non-condensing	
	Vibration	5-500 Hz, 0.026G²/Hz, 2.16Grms, X, Y, Z 1 hour per axis	
System	I/O	VGA x 1; DVI-D x 1; 12 V_{DC} Jack x 1; USB x1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)	VGA x 1; 12 V_{DC} Jack x 1; USB x1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)
	OSD	Keys: menu, up, down, auto adjust, monitor power on/off Menu Functions: brightness, contrast, screen settings, color temp, language OSD settings, VGA/ DVI, recall, auto adjust	Keys: menu, up, down, auto adjust, monitor power on/off Menu Functions: brightness, contrast, color adjust, color temp, auto color, and language
	Power	60 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 5 A output	
	EMC Compliance	CE/FCC/CCC	

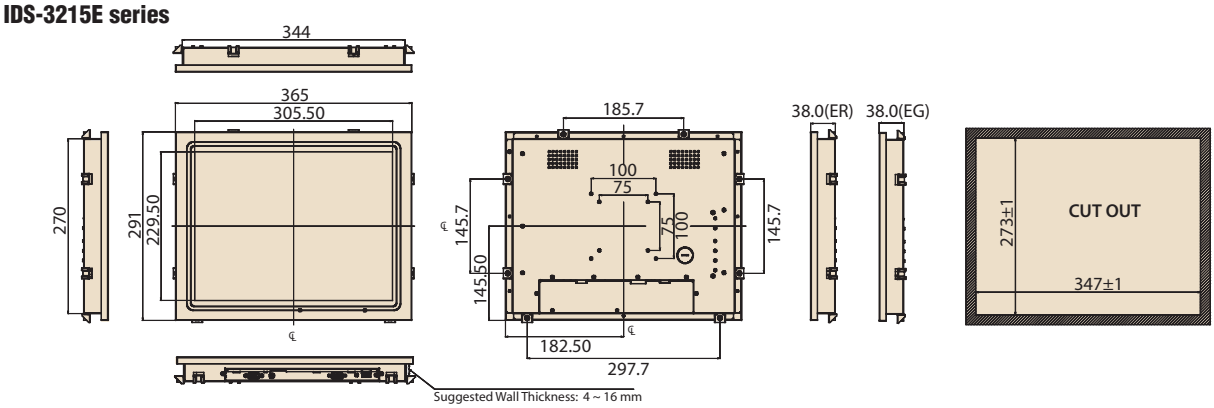
Dimensions

Unit: mm

IDS-3215 series



IDS-3215E series



Packing List

Part Number	Description
1700002215	1 x M cable USB-A(M)/USB-A(M) 180 cm
1700021332-01	1 x VGA cable 15P(M) 180 cm
1962055040	8 x clamper
1935042520	8 x clamper screw M4_25L
1992610005	1 x cable clamp
1933030500	1 x cable clamp screw
1992602010	1 x cable tie

* USB Cable is only included in IDS-3215R and IDS-3215ER series.

Note: Package contents are subject to change without prior notice

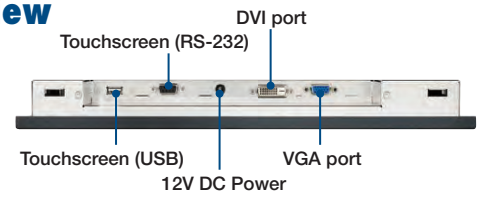
Optional Items

Part Number	Description
1702002600	Power cord 3P (USA)
1700000596	Power cord 3P (China)
1700018705	Power cord 3P (EU)
1757003934	Adapter AC100-240V 60W +12V/5A DPS-60PB A
1700000243	DVI cable 2.0 meter
1700091800	Cable 9P/9P 1.8M M/F (Touchscreen RS-232 cable)

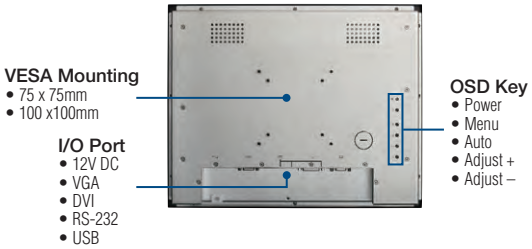
Ordering Information

Model Name	Description
IDS-3215G-40XGA1E	15" XGA 400 cd/m² LED Panel Mount Monitor
IDS-3215R-40XGA1E	15" XGA 400 cd/m² LED Panel Mount Touch Monitor
IDS-3215EG-25XGA1E	15" XGA 250 cd/m² CCFL Panel Mount Monitor
IDS-3215ER-25XGA1E	15" XGA 250 cd/m² CCFL Panel Mount Touch Monitor

IO view



Rear View



Gaming Display Solutions



Features

- Wide viewing angle of 178°(H) and 178°(V)
- Optional reliable surface capacitive touch solution
- Touch interface : USB
- Dual interface of DVI and VGA
- Customized mechanical design support

Applications

- Slot machine, lottery terminals, jackpot systems

Introduction

Designed exclusively for gaming applications, Advantech gaming display solution provides a wide range of gaming monitors to meet special requirements of applications such as slot machine, casino, etc. Our solutions include open frame monitors and stretched displays. These display solutions are featured with widescreen, reliable touchscreens and flexible mechanical design and can be integrated with Advantech gaming platforms for a total solution.

Selection Guide







		IDS-3119GD	IDS-3121GD	DSD-5028
LCD Display	Size	19"	21.5"	28" (16:3)
	Resolution	1280x1024 , SXGA	1920 x 1080, FHD	1920 x 358
	Colors	16.7M	16.7M	16.7M
	Viewing Angle (H/V°)	160/170	178/178	178/78
	Contrast Ratio	1000:1	1000:1	3000:1
	Response Time (ms)	5 (Typ.)	14 (Typ.)	6.5 (Typ.)
	Brightness	350 (Typ.)	250 (Typ.)	700 (Typ.)
	Touchscreen	Surface Capacitive Touch	Surface Capacitive Touch	N/A
	Backlight Type	LED	LED	LED
	Backlight Life (hrs)	50,000	30,000	50000
	Dimensions (mm)	438(W)x369.7(H)x35.8(D)	546.6(W) x 295.2(H) x 45.68(D)	736.6 (W) x 167.3 (H) x 44.35(D)
	Weight (kg)	5(estimation)	6.3	3
Touchscreen	Type	Surface Capacitive Touch	Surface Capacitive Touch	N/A
	Durability	200 million touches	200 million touches	N/A
	Surface Hardness	Hardness MoHS 7	Hardness MoHS 7	N/A
	Transparency	91.5% ± 1.5%	91.5% ± 1.5%	N/A
Environment	Temperature (Operating)	0 ~ 45° C	0 ~ 45° C	0 ~ 45° C
	Temperature (Storage)	-20 ~ 60° C	-20 ~ 60° C	-20 ~ 60° C
	Humidity	10 ~ 90% @ 40° C, non-condensing	10 ~ 90% @ 40° C, non-condensing	80%
System	I/O Ports	VGA/DVI	VGA/DVI	VGA/DVI/RS-232
	OSD	Keys: Power on/off, Menu/Enter, Left/Up, Right/Down, Exit/Auto, Source Menu Functions: Brightness, Contrast, Screen Setting, Color Temp, OSD Language, Reset, Auto Adjust		Keys: Power on/off, Source,Menu, Left/Up, Right/Down, Exit/ Auto, Source Menu Functions: Brightness, Contrast, Screen Setting, Color Temp, OSD Language, Reset, Auto Adjust.
	Power	60 W power adapter, with AC 100 ~ 240 V input and DC +12 V @ 5 A output		40 W

Medical Display Solutions



Features

- 15"/19" LCD kit and open frame monitor solutions
- DICOM fully compliant
- Adjustable gamma levels to 72% NTSC
- Wide viewing angles of 178°(H) and 178°(V)
- High uniformity of 80%
- Dual signal interface of VGA and DVI

Applications

- Ultrasound, clinical, surgical applications

Introduction

Medical imaging applications require highly consistent image reproduction. Advantech provides sophisticated medical display solutions that can help improve performance and diagnostic accuracy through diagnostic systems. Our solutions include LCD kit with an AD board and open frame monitor both equipped with gamma correction function. All of our displays are designed with IPS technology which offers superior color accuracy and featured with high brightness stability and uniformity. Most important of all, our solution is fully compliant with the DICOM standard to assure accurate image communication and image file formats.

Selection Guide






			IDK-1115MD	IDK-1119MD	IDS-3115MD	IDS-3119MD
LCD Display	Size		15"	19"	15"	19"
	Resolution		1024 x 768	1280 x 1024	1024 x 768	1280 x 1024
	Brightness		300 cd/m²	300 cd/m²	300 cd/m²	300 cd/m²
	Colors		16.2M/262K colors	16.7M colors	16.2M/262K colors	16.7M colors
	Viewing Angle (H/V°)		170/170	178/178	170/170	178/178
	Contrast Ratio		1500:1	1000:1	1500:1	1000:1
	Response Time (ms)		35	TBD	35	TBD
	Backlight Type		LED	LED	LED	LED
	Backlight Life (hrs)		50,000	50,000	50,000	50,000
System	I/O Ports		VGA / DVI	VGA / DVI	VGA / DVI	VGA / DVI
	Power		60W power adapter with AC 100-240V input and DC +12V @ 5A output			
	Dimensions (mm)		326.5 x 253.5 x 9.6	396 x 324 x 17	362 x 288 x 35.7	438 x 369.7 x 35.8
	Weight (g)		835	1600	4000	5140
	Temperature (Operating)		0 ~ 60° C	0 ~ 50° C	0 ~ 60° C	0 ~ 45° C
	OSD	Color Management Program	◎	◎	◎	◎
		Color Temperature	◎	◎	◎	◎
		Color Gamma	◎	◎	◎	◎
		Gray Scale	◎	◎	◎	◎

Digital Signage Display Solutions



Features

- Large format displays and stretched displays
- Wide viewing angle of 178°(H) and 178°(V)
- Dual signal interface of VGA and DVI (Display port)
- Supports wall mount solution
- Supports vertical/horizontal installation
- Fanless design

Applications

- Retail, Transportation, E-Bulletin

Introduction

Advantech digital signage displays are not only attractive, but reliable enough to hold up to constant use in public areas. Our solutions include large format professional monitors and innovative stretched displays which can be easily integrated with Advantech signage players.

Selection Guide







		DSD-3032	DSD-3042	DSD-3055	DSD-5028	DSD-5038
LCD Display	Size	32"	42"	55"	28"	38"
	Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 358	1920 x 538
	Colors	16.7 M	1073M	1073M	16.7M	16.7M
	Viewing Angle (H/V°)	178/178	178/178	178/178	178/178	176/176
	Contrast Ratio	3000:1	4000:1	4000:1	3000:1	4000:1
	Response Time (ms)	8	8	6.5	6.5	9.5
	Brightness	350	500	450	700	800
	Backlight Type	LED	LED	LED	LED	LED
	Backlight Life (hrs)	50000	50000	60000	50000	50000
	Dimensions (mm)	743.6 x 438.11 x 73	961 x 555 x 72.7	1238.6 x 709.4 x 72.5	736.6x 167.3 x 44.35	980.9 x 303.2 x 44.35
	Weight (kg)	14	18	31	3	6.4
Touchscreen (Optional)	Type	Optical Touch	Optical Touch	Optical Touch	N/A	N/A
	Durability	10 million touches	10 million touches	10 million touches	N/A	N/A
	Surface Hardness	7H	7H	7H	N/A	N/A
	Transparency	92%	92%	92%	N/A	N/A
Environment	Temperature (Operating)	5 ~ 45° C	5 ~ 45° C	5 ~ 45° C	0 ~ 45° C	0 ~ 45° C
	Temperature (Storage)	-20 ~ 55° C	-20 ~ 55° C	-20 ~ 55° C	-10 ~ 60° C	-10 ~ 60° C
	Humidity	20 ~ 80 % RH	20 ~ 80 % RH	20 ~ 80 % RH	20 ~ 80 % RH	20 ~ 80 % RH
System	I/O Ports	HDMI/VGA/DisplayPort	HDMI/VGA/DisplayPort	HDMI/VGA/DisplayPort	VGA/DVI	VGA/DVI
	OSD control	RS-232/RS-485/ Remote	RS-232/RS-485/ Remote	RS-232/RS-485/ Remote	RS-232	RS-232
	Power Consumption (W)	80	130	150	40	76

Memo

11 Embedded M2M/IoT Modules

Storage Module	
Selection Guide	*11-2*
PATA	*11-4*
SATA	*11-6*
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To view all of Embedded M2M/IoT Modules, please visit www.advantech.com/products

Storage Modules

Selection Guide









Model Name	SQF-P10 P8/P9	SQF-PDM	SQF-P25 P9	SQF-S10 630 CFast	SQF-SHM 630 H/S mSATA	SQF-SMS 630 mSATA	SQF-SMS 820 mSATA
Interface	IDE / PCMCIA	IDE	IDE	SATA	SATA	SATA	SATA
Transfer Protocol	UDMA 2 / UDMA 4 / UDMA 5	UDMA 2 / UDMA 4	UDMA 4	SATA III (6.0Gb)	SATA III (6.0Gb)	SATA III (6.0Gb)	SATA III (6.0Gb)
Connector	CF Type-I	44-pin Female / 40-pin Female	44-pin Male	CFast Type-I	Mini PCIe with SATA pin-out	Mini PCIe with SATA pin-out	Mini PCIe with SATA pin-out
Flash Type	SLC / Ultra MLC / MLC	SLC	SLC / MLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC
Maximum Power Consumption	160 mA	160 mA	210 mA	480 mA	480 mA	500 mA	780 mA
Capacity	256 MB / 512 GB / 1 GB / 2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB	1 GB / 2 GB / 4 GB / 8 GB / 16 GB	4 GB / 8 GB / 16 GB / 32 GB / 64 GB / 128 GB / 256GB	1 GB / 2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB	1 GB / 2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB	1 GB / 2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB	16 GB / 32 GB / 64 GB / 128 GB / 256 GB
Maximum Read / Write Performance (MB/s)	4 channel: 83/87 2 channel: 43/40 1 channel: 22/15	2 channel: 40/29	SLC: 65/55 MLC: 63/28	SLC: 500/150 Ultra MLC: 250/120 MLC: 250/100	SLC: 500/150 Ultra MLC: 250/120 MLC: 250/100	SLC: 500/150 Ultra MLC: 500/150 MLC: 500/150	SLC: 525/400 Ultra MLC: 525/450 MLC: 520/350
Op. Temperature	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C
SQFlash Utility	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Shock	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms
Vibration	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz
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SQF-SLM 630 SATA Slim	SQF-S25 820 SSD	SQF-SDM 630	SQF-SDM 530	SQF-ISD	SQF-UDM
SATA	SATA	SATA	SATA	SD	USB
SATA III (6.0Gb)	SATA III (6.0Gb)	SATA III (6.0Gb)	SATA III (6.0Gb)	SDIO	USB 2.0
7 + 15 pin SATA	7 + 15 pin SATA	7-pin Female	7-pin Female	SD 9-pin	10-pin, 2.54mm pitch
SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC	SLC / MLC	SLC / MLC	SLC / MLC
370 mA	980 mA	480 mA	250 mA	100 mA	145 mA
1 GB / 2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB	16 GB / 32 GB / 40 GB / 64 GB / 80 GB / 128 GB / 160 GB / 256 GB / 512 GB / 1TB	2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB / 128 GB	2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB / 128 GB	1 GB / 2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB	1 GB / 2 GB / 4 GB / 8 GB / 16 GB / 32 GB / 64 GB
SLC: 500/150 Ultra MLC: 500/150 MLC: 500/150	SLC: 520/4000 Ultra MLC: 520/480 MLC: 520/420	SLC: 500/150 Ultra MLC: 250/120 MLC: 250/100	SLC: 120/100 MLC: 450/150	SLC: 25/15 MLC: 22/10	SLC: 32/26 MLC: 30/12
0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C	0 ~ 70° C / -40 ~ 85° C
Supported	Supported	Supported	Not Supported	Not Supported	Not Supported
1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms
20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz	5G, Peak / 10 ~ 2,000 Hz	20G, Peak / 80 ~ 2,000 Hz
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SQF-P10

Industrial CompactFlash



Features

- Compliant with CFA 3.0 specification
- Built-in EDC/ECC up to 44 random bit errors per 1K bytes
- Advanced wear-leveling and block management
- Shock resistance, anti-vibration and low power consumption
- GUI Management Tool & Software API Package

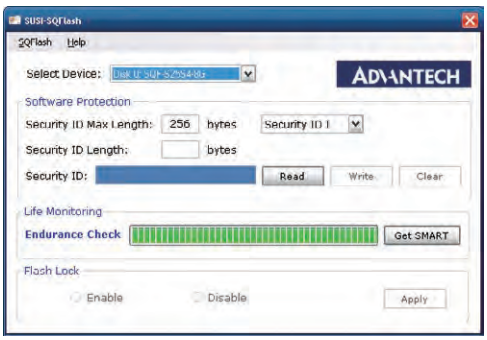
GUI Management Tool & Software API Package

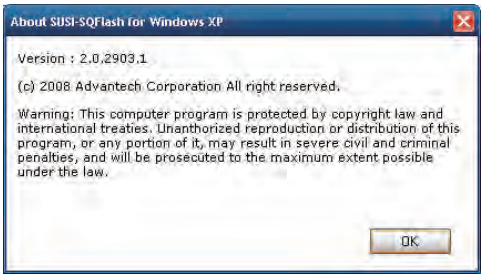
Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Specifications

Capacity	256MB/1G/2G/4G/8G/16G/32G/64G
Flash Type	SLC / Ultra MLC / MLC
Compatibility	CF 3.0, PC Card, Socket Services
Form Factor	CF Type-I
Voltage	3.3 V / 5.0 V
Data Transfer Mode	PIO Mode-6 MWDMA Mode-2 UDMA Mode-4 (4CH UDMA5)
Sustained R/W Performance (*)	SLC 4 channel: 83/87 MB/sec SLC 2 channel: 43/40 MB/sec Ultra MLC 2 channel: 43/40 MB/sec MLC 2 channel: 43/20 MB/sec
Operation Temperature	Commercial Grade: 0 to +70° C Extended Grade: -40 to +85° C
Host interface	8/16 bit access
ECC (BCH)	Corrects up to 48 random bit errors per 2K bytes
Endurance	> 2,000,000 program/erase cycles
Shock resistance	1,500 G, Peak / 0.5 ms
Vibration resistance	20 G, Peak / 80 ~ 2000 Hz

(*)The values are for reference only; they may change according to the flash memory used.





Ordering Information

Part No.	Product Description
SQF-P10S1-XX-P8C	SQFlash SLC 256M/1G CF, 1-CH, DMA (0 ~ 70° C)
SQF-P10S2-XG-P8C	SQFlash SLC 2/4/8/16G/32G CF, 2-CH, DMA (0 ~ 70° C)
SQF-P10S1-1G-P8E	SQFlash SLC 1G CF, 1-CH, DMA (-40 ~ 85° C)
SQF-P10S2-XG-P8E	SQFlash SLC 2/4/8/16G/32G CF, 2-CH, DMA (-40 ~ 85° C)
SQF-P10S4-XG-P8C	SQFlash SLC 4/8/16G/32G/64G CF, 4-CH, DMA (0 ~ 70° C)
SQF-P10S4-XG-P8E	SQFlash SLC 4/8/16G/32G/64G CF, 4-CH, DMA (-40 ~ 85° C)
SQF-P10U2-XG-P9C	SQFlash Ultra MLC 8G/16G/32G CF, 2-CH, DMA (0 ~ 70° C)
SQF-P10U2-XG-P9E	SQFlash Ultra MLC 8G/16G/32G CF, 2-CH, DMA (-40 ~ 85° C)
SQF-P10M2-XG-P9C	SQFlash MLC 16G/32G/64G CF, 2-CH, DMA (0 ~ 70° C)
SQF-P10M2-XG-P9E	SQFlash MLC 16G/32G/64G CF, 2-CH, DMA (-40 ~ 85° C)

Note: X stands for different capacities

SQF-PDM
PATA Disk Module



RoHS CE FCC

Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- Capacity 1GB ~ 16GB
- Supports SLC (single level cell) NAND Flash Memory
- Supports for PIO Mode 4 / Multi Word DMA Mode 2 / Ultra DMA Mode 4
- GUI Management Tool & Software API Package

Specifications

Capacity	1 to 16GB
Flash Type	SLC
Compatibility	ATA command set
Connector Type	40-pin 2.54 mm pitch/44-pin 2.0 mm pitch Receptacle Housing Connector
Voltage	3.3 V / 5.0 V
Data Transfer Mode	PIO Mode 4 MWDMA Mode 2 UDMA Mode 4
Sustained R/W Performance (*)	40/29 MB/sec
Operation Temperature	Commercial Grade : 0 to +70° C Extended Grade : -40 to +85° C
Host interface	8/16 bit access
ECC (BCH)	Correct up to 6/12 random bits/sector
Endurance	> 2,000,000 program/erase cycles
Shock Resistance	1,500 G (0.5 msec)
Vibration Resistance	20 G, Peak / 80 ~ 2000 Hz

(*)The values are for reference only; they may change according to the flash memory used.

Ordering Information

Part No.	Product Description
SQF-PDMS2-XG-HACE	Advantech SQFlash PDM 44-pin Hor. 2/4/8/16 GB, (0 ~ 70° C)
SQF-PDMS2-XG-HAEE	Advantech SQFlash PDM 44-pin Hor. 2/4/8/16 GB, (-40 ~ 85° C)
SQF-PDMS2-XG-VACE	Advantech SQFlash PDM 44-pin Vert. 2/4/8/16 GB, (0 ~ 70° C)
SQF-PDMS2-XG-VAEE	Advantech SQFlash PDM 44-pin Vert. 2/4/8/16 GB, (-40 ~ 85° C)
SQF-PDMS2-XG-HBCE	Advantech SQFlash PDM 40-pin Hor. Top 2/4/8/16 GB, (0 ~ 70° C)
SQF-PDMS2-XG-HBEE	Advantech SQFlash PDM 40-pin Hor. Top 2/4/8/16 GB, (-40 ~ 85° C)
SQF-PDMS2-XG-HCCE	Advantech SQFlash PDM 40-pin Hor. Bottom 2/4/8/16 GB, (0 ~ 70° C)
SQF-PDMS2-XG-HCEE	Advantech SQFlash PDM 40-pin Hor. Bottom 2/4/8/16 GB, (-40 ~ 85° C)
SQF-PDMS2-XG-VBCE	Advantech SQFlash PDM 40-pin Vert. 2/4/8/16 GB, (0 ~ 70° C)
SQF-PDMS2-XG-VBEE	Advantech SQFlash PDM 40-pin Vert. 2/4/8/16 GB, (-40 ~ 85° C)
SQF-PDMS1-1G-44CE	Advantech SQFlash PDM 44-pin Vert. 1 GB, Housing, (0 ~ 70° C)
SQF-PDMS2-XG-44CE	Advantech SQFlash PDM 44-pin Vert. 2/4/8/16 GB, Housing, (0 ~ 70° C)
SQF-PDMS1-1G-44EE	Advantech SQFlash PDM 44-pin Vert. 1 GB, Housing, (-40 ~ 85° C)
SQF-PDMS2-XG-44EE	Advantech SQFlash PDM 44-pin Vert. 2/4/8/16 GB, Housing, (-40 ~ 85° C)

Note: X stands for different capacities

SQF-P25
2.5" PATA SSD



RoHS CE FCC

Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- Capacity SLC 4 GB ~ 256 GB / MLC 16 GB ~ 512 GB
- Supports SLC (single level cell) and MLC (multi level cell) NAND Flash memory
- Supports PIO mode 4 / multi word DMA mode 2 / ultra DMA mode 4
- GUI Management Tool & Software API Package

Specifications

Capacity	SLC: 4 to 256GB MLC: 16 to 512GB
Compatibility	ATA command set
Voltage	3.3 V / 5.0 V
Data Transfer Mode	PIO Mode 4 MWDMA Mode 2 UDMA Mode 4
Sustained R/W Performance (*)	SLC: 65/55 MB/sec MLC: 60/25 MB/sec
Operating Temperature	Commercial Grade : 0 to +70° C Industrial Grade: -40 to +85° C
Host Interface	8/16 bit access
ECC (BCH)	Correct up to 68 bit per 1K Byte
Endurance	> 2,000,000 program/erase cycles
Shock Resistance	2,500 G (0.5 msec)
Vibration Resistance	20 G, Peak / 80 ~ 2000 Hz

(*)The values are for reference only; they may change according to the flash memory used.

Ordering Information

Part No.	Product Description
SQF-P25S4-XG-P9C	Advantech SQFlash 2.5" PATA SSD SLC, DMA, 4/8/16/32/64/128/256 GB (0 ~ 70° C)
SQF-P25S4-XG-P9E	Advantech SQFlash 2.5" PATA SSD SLC, DMA, 4/8/16/32/64/128/256 GB (-40 ~ 85° C)
SQF-P25M4-XG-P9C	Advantech SQFlash 2.5" PATA SSD MLC, DMA, 16/32/64/128/256/512 GB (0 ~ 70° C)
SQF-P25M4-XG-P9E	Advantech SQFlash 2.5" PATA SSD MLC, DMA, 16/32/64/128/256/512 GB (-40 ~ 85° C)

Note: X stands for different capacities

SQF-S10 630

SATA III (6.0Gb) CFast



RoHS CE FCC

Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- Compliant with standard CFast card Type 1 specifications
- Interface: SATA Gen. 3
- Supports 72 bit ECC correct per 1K Byte data
- Universal wear-leveling and bad block management
- Shock resistance, anti-vibration and low power consumption
- GUI management tool & software API package

Specifications

Connector Type	CFast Type 1 Connector
Flash type	SLC / Ultra MLC / MLC
Capacity	SLC: 1 to 32GB Ultra MLC: 4 to 32GB MLC: 4 to 64GB
Transfer Mode	SATA III (6.0 Gbps)
Sustained R/W Performance (*)	SLC: up to 500/150 MB/sec MLC: up to 250/100 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1,500 G, peak / 0.5 ms
Vibration Resistance	20 G, peak / 80 ~ 2000 Hz
Endurance	2,000,000 program/erase cycles
Dimensions (mm)	42.8 x 36.4 x 3.3

(*) These values are for reference only; they may change according to the flash memory used.

Ordering Information

PN	Description
SQF-S10S1-1G-S9C	SQFlash 630 series CFast SLC, DMA, 1 GB (0 ~ 70° C)
SQF-S10S1-1G-S9E	SQFlash 630 series CFast SLC, DMA, 1 GB (-40 ~ 85° C)
SQF-S10S2-XG-S9C	SQFlash 630 series CFast SLC, DMA, 2/4/8/16/32 GB (0 ~ 70° C)
SQF-S10S2-XG-S9E	SQFlash 630 series CFast SLC, DMA, 2/4/8/16/32 GB (-40 ~ 85° C)
SQF-S10U2-XG-S9C	SQFlash 630 series CFast Ultra MLC, DMA, 4/8/16/32 GB (0 ~ 70° C)
SQF-S10U2-XG-S9E	SQFlash 630 series CFast Ultra MLC, DMA, 4/8/16/32 GB (-40 ~ 85° C)
SQF-S10M1-4G-S9C	SQFlash 630 series CFast MLC, DMA, 4 GB (0 ~ 70° C)
SQF-S10M1-4G-S9E	SQFlash 630 series CFast MLC, DMA, 4 GB (-40 ~ 85° C)
SQF-S10M2-XG-S9C	SQFlash 630 series CFast MLC, DMA, 8/16/32/64 GB (0 ~ 70° C)
SQF-S10M2-XG-S9E	SQFlash 630 series CFast MLC, DMA, 8/16/32/64 GB (-40 ~ 85° C)

Note: X stands for different capacities

SQF-SHM 630

SATA III (6.0Gb) Half-Size mSATA



RoHS CE FCC

Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- Half-Size Mini PCIe Form Factor
- Interface: SATA Gen. 3
- Supports 72 bit ECC correct per 1K Byte data
- Universal wear-leveling and bad block management
- Shock resistance, anti-vibration and low power consumption
- GUI management tool & software API package

Specifications

Connector Type	Mini PCIe 52pin connector with SATA pin-out
Flash type	SLC / Ultra MLC / MLC
Capacity	SLC: 1 to 32GB Ultra MLC: 4 to 32GB MLC: 4 to 64GB
Transfer Mode	SATA III (6.0 Gbps)
Sustained R/W Performance (*)	SLC: up to 500/150 MB/sec MLC: up to 250/100 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1,500 G, peak / 0.5 ms
Vibration Resistance	20 G, peak / 80 ~ 2000 Hz
Endurance	2,000,000 program/erase cycles
Dimensions (mm)	26.8 x 30 x 4.2

(*) These values are for reference only; they may change according to the flash memory used.

Ordering Information

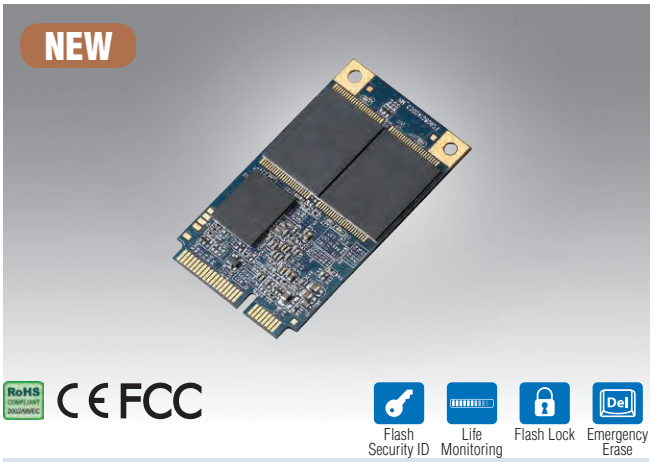
PN	Description
SQF-SHMS1-1G-S9C	SQFlash 630 series HS mSATA SLC, DMA, 1 GB (0 ~ 70° C)
SQF-SHMS1-1G-S9E	SQFlash 630 series HS mSATA SLC, DMA, 1 GB (-40 ~ 85° C)
SQF-SHMS2-XG-S9C	SQFlash 630 series HS mSATA SLC, DMA, 2/4/8/16/32 GB (0 ~ 70° C)
SQF-SHMS2-XG-S9E	SQFlash 630 series HS mSATA SLC, DMA, 2/4/8/16/32 GB (-40 ~ 85° C)
SQF-SHMU2-XG-S9C	SQFlash 630 series HS mSATA Ultra MLC, DMA, 4/8/16/32 GB (0 ~ 70° C)
SQF-SHMU2-XG-S9E	SQFlash 630 series HS mSATA Ultra MLC, DMA, 4/8/16/32 GB (-40 ~ 85° C)
SQF-SHMM1-4G-S9C	SQFlash 630 series HS mSATA MLC, DMA, 4 GB (0 ~ 70° C)
SQF-SHMM1-4G-S9E	SQFlash 630 series HS mSATA MLC, DMA, 4 GB (-40 ~ 85° C)
SQF-SHMM2-XG-S9C	SQFlash 630 series HS mSATA MLC, DMA, 8/16/32/64 GB (0 ~ 70° C)
SQF-SHMM2-XG-S9E	SQFlash 630 series HS mSATA MLC, DMA, 8/16/32/64 GB (-40 ~ 85° C)

Note: X stands for different capacities

SQF-SMS 630

SATA III (6.0Gb) mSATA

NEW



RoHS CE FCC

Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- MO-300 mSATA Module
- Compliant with SATA III and SATA v 3.0 standard
- Supports 72 bit ECC correct per 1K Byte data
- Low power consumption SATA III storage module
- Shock resistance, anti-vibration and low power consumption
- GUI management tool & software API package
- Support hardware write protect

Specifications

Connector Type	Mini PCIe 52pin connector with SATA pin-out
Flash type	SLC / Ultra MLC / MLC
Capacity	SLC: 1 to 32GB Ultra MLC: 8 to 32GB MLC: 4 to 64GB
Transfer Mode	SATA III (6.0 Gbps)
Max. Power Consumption	500 mA
Sustained R/W Performance (*)	SLC and MLC up to 510/150 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1,500 G, peak / 0.5 ms
Vibration Resistance	20 G, peak / 80 ~ 2000 Hz
Endurance	2,000,000 program/erase cycles
Dimensions (mm)	50.8 x 30 x 4.2

(*) These values are for reference only; they may change according to the flash memory used.

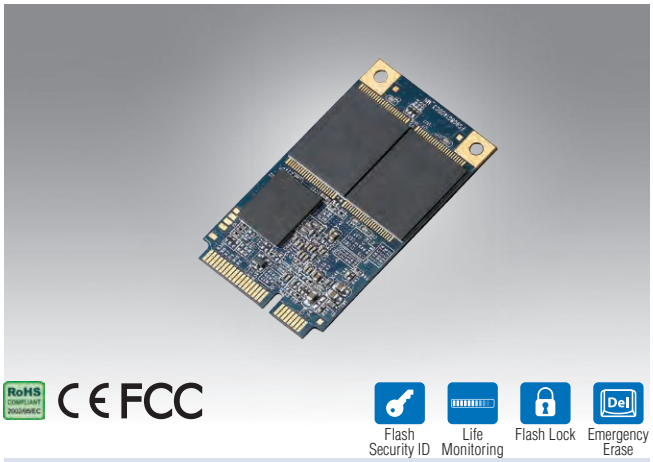
Ordering Information

PN	Description
SQF-SMSS1-1G-S9C	SQFlash 630 series mSATA 1 GB SLC, 1-CH (0 ~ 70° C)
SQF-SMSS1-1G-S9E	SQFlash 630 series mSATA 1 GB SLC, 1-CH (-40 ~ 85° C)
SQF-SMSS2-2G-S9C	SQFlash 630 series mSATA 2 GB SLC, 2-CH (0 ~ 70° C)
SQF-SMSS2-2G-S9E	SQFlash 630 series mSATA 2 GB SLC, 2-CH (-40 ~ 85° C)
SQF-SMSS4-XG-S9C	SQFlash 630 series mSATA 4/8/16/32 GB SLC, 4-CH (0 ~ 70° C)
SQF-SMSS4-XG-S9E	SQFlash 630 series mSATA 4/8/16/32 GB SLC, 4-CH (-40 ~ 85° C)
SQF-SMSU4-XG-S9C	SQFlash 630 series mSATA Ultra MLC, DMA, 8/16/32 GB (0 ~ 70° C)
SQF-SMSU4-XG-S9E	SQFlash 630 series mSATA Ultra MLC, DMA, 8/16/32 GB (-40 ~ 85° C)
SQF-SMSM1-4G-S9C	SQFlash 630 series mSATA 4 GB MLC, 1-CH (0 ~ 70° C)
SQF-SMSM1-4G-S9E	SQFlash 630 series mSATA 4 GB MLC, 1-CH (-40 ~ 85° C)
SQF-SMSM2-8G-S9C	SQFlash 630 series mSATA 8 GB MLC, 2-CH (0 ~ 70° C)
SQF-SMSM2-8G-S9E	SQFlash 630 series mSATA 8 GB MLC, 2-CH (-40 ~ 85° C)
SQF-SMSM4-XG-S9C	SQFlash 630 series mSATA 16/32/64 GB MLC, 4-CH (0 ~ 70° C)
SQF-SMSM4-XG-S9E	SQFlash 630 series mSATA 16/32/64 GB MLC, 4-CH (-40 ~ 85° C)

Note: X stands for different capacities

SQF-SMS 820

SATA III (6.0Gb) mSATA



RoHS CE FCC

Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- MO-300 mSATA Module
- Compliant with SATA III and SATA v 3.0 standard
- Supports 72 bit ECC correct per 1K Byte data
- Supports Fragment Writing and Flush Manager
- Shock resistance, anti-vibration and low power consumption
- GUI management tool & software API package

Specifications

Connector Type	Mini PCIe 52pin connector with SATA pin-out
Flash type	SLC / Ultra MLC / MLC
Capacity	SLC: 16 to 128GB Ultra MLC: 16 to 128GB MLC: 16 to 256GB
Transfer Mode	SATA III (6.0 Gbps)
Max. Power Consumption	780 mA
Sustained R/W Performance (*)	SLC and MLC up to 510/300 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1,500 G, peak / 0.5 ms
Vibration Resistance	20 G, peak / 80 ~ 2000 Hz
Endurance	2,000,000 program/erase cycles
Dimensions (mm)	50.8 x 30 x 4.2

(*) These values are for reference only; they may change according to the flash memory used.

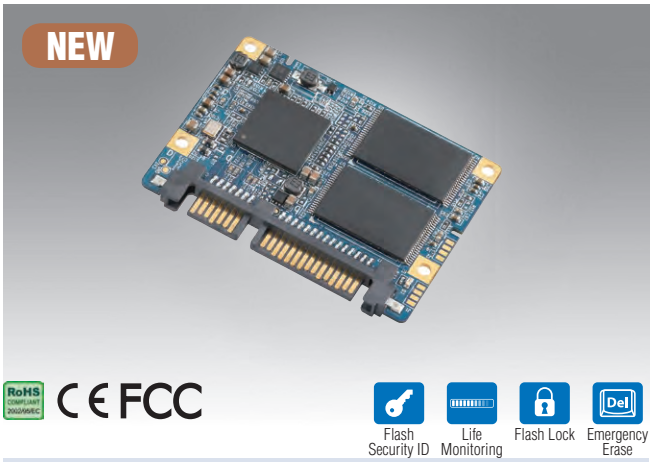
Ordering Information

PN	Description
SQF-SMSS4-XG-S8C	SQFlash 820 series mSATA SLC 16/32/64/128G (0 ~ 70° C)
SQF-SMSS4-XG-S8E	SQFlash 820 series mSATA SLC 16/32/64/128G (-40 ~ 85° C)
SQF-SMSM4-XG-S8C	SQFlash 820 series mSATA MLC 16/32/64/128G (0 ~ 70° C)
SQF-SMSM4-XG-S8E	SQFlash 820 series mSATA MLC 16/32/64/128G (-40 ~ 85° C)
SQF-SMSU4-XG-S8C	Advantech SQFlash mSATA Ultra MLC, DMA, 16/32/64/128 GB (0 ~ 70° C)
SQF-SMSU4-XG-S8E	Advantech SQFlash mSATA Ultra MLC, DMA, 16/32/64/128 GB (-40 ~ 85° C)
SQF-SMSM8-256G-S8C	SQFlash 820 series mSATA MLC 256G (0 ~ 70° C)
SQF-SMSM8-256G-S8E	SQFlash 820 series mSATA MLC 256G (-40 ~ 85° C)

Note: X stands for different capacities

SQF-SLM 630

SATA III (6.0Gb) Half-Slim Module



Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- MO-297 Half-Slim SATA Module
- Compliant with SATA III and SATA v 3.0 standard
- Supports 72 bit ECC correct per 1K Byte data
- Low power consumption SATA III storage module
- Shock resistance, anti-vibration and low power consumption
- GUI management tool & software API package
- Supports hardware write protect

Specifications

Connector Type	Standard 7+15-pin SATA connector
Flash type	SLC / Ultra MLC / MLC
Capacity	SLC: 1 to 32GB Ultra MLC: 8 to 32GB MLC: 4 to 64GB
Transfer Mode	SATA III (6.0 Gbps)
Max. Power Consumption	370 mA
Sustained R/W Performance (*)	SLC and MLC up to 510/150 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1,500 G, peak / 0.5 ms
Vibration Resistance	20 G, peak / 80 ~ 2000 Hz
Endurance	2,000,000 program/erase cycles
Dimensions (mm)	54.0 x 39.0 x 4.5

(*) These values are for reference only; they may change according to the flash memory used.

Ordering Information

PN	Description
SQF-SLMS1-1G-S9C	SQFlash 630 series SATA Slim 1 GB SLC, 1-CH (0 ~ 70° C)
SQF-SLMS1-1G-S9E	SQFlash 630 series SATA Slim 1 GB SLC, 1-CH (-40 ~ 85° C)
SQF-SLMS2-2G-S9C	SQFlash 630 series SATA Slim 2 GB SLC, 2-CH (0 ~ 70° C)
SQF-SLMS2-2G-S9E	SQFlash 630 series SATA Slim 2 GB SLC, 2-CH (-40 ~ 85° C)
SQF-SLMS4-XG-S9C	SQFlash 630 series SATA Slim 4/8/16/32 GB SLC, 4-CH (0 ~ 70° C)
SQF-SLMS4-XG-S9E	SQFlash 630 series SATA Slim 4/8/16/32 GB SLC, 4-CH (-40 ~ 85° C)
SQF-SLMU4-XG-S9C	SQFlash 630 series SATA Slim Ultra MLC, DMA, 8/16/32 GB (0 ~ 70° C)
SQF-SLMU4-XG-S9E	SQFlash 630 series SATA Slim Ultra MLC, DMA, 8/16/32 GB (-40 ~ 85° C)
SQF-SLMM1-4G-S9C	SQFlash 630 series SATA Slim 4 GB MLC, 1-CH (0 ~ 70° C)
SQF-SLMM1-4G-S9E	SQFlash 630 series SATA Slim 4 GB MLC, 1-CH (-40 ~ 85° C)
SQF-SLMM2-8G-S9C	SQFlash 630 series SATA Slim 8 GB MLC, 2-CH (0 ~ 70° C)
SQF-SLMM2-8G-S9E	SQFlash 630 series SATA Slim 8 GB MLC, 2-CH (-40 ~ 85° C)
SQF-SLMM4-XG-S9C	SQFlash 630 series SATA Slim 16/32/64 GB MLC, 4-CH (0 ~ 70° C)
SQF-SLMM4-XG-S9E	SQFlash 630 series SATA Slim 16/32/64 GB MLC, 4-CH (-40 ~ 85° C)

Note: X stands for different capacities

SQF-S25 820

SATA III (6.0Gb) 2.5" SSD



Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- Compliant with SATA III and SATA v3.0 standard
- Supports 72 bit ECC correct per 1K Byte data
- Supports Fragment Writing and Flush Manager
- Shock resistance, anti-vibration and Low power consumption
- GUI Management Tool & Software API Package

Specifications

Connector Type	Standard 7+15-pin SATA connector
Flash Type	SLC / Ultra MLC / MLC
Capacity	SLC: 32 to 512GB Ultra MLC: 16 to 512GB MLC: 32GB to 1TB
Transfer Mode	SATA III (6.0 Gbps)
Max. Power Consumption	980 mA
Sustained R/W Performance (*)	SLC and MLC up to 510/400 MB/sec
Operating Temperature	Commercial Grade: 0 to +70° C Industrial Grade: -40 to +85° C
Shock Resistance	1,500 G, Peak / 0.5 ms
Vibration Resistance	20 G, Peak / 80 ~ 2000 Hz
Dimensions (mm)	100.20 x 69.85 x 7

(*) The values are for reference only; they may change according to the flash memory used.

Ordering Information

Part No.	Product Description
SQF-S25S8-XG-S8C	SQFlash 820 series 2.5" SSD SLC 32/64/128/256/512G (0 ~ 70° C)
SQF-S25S8-XG-S8E	SQFlash 820 series 2.5" SSD SLC 32/64/128/256/512G (-40 ~ 85° C)
SQF-S25U5-XG-S8C	SQFlash 820 series 2.5" SSD Ultra MLC 40/80/160/320G (0 ~ 70° C)
SQF-S25U5-XG-S8E	SQFlash 820 series 2.5" SSD Ultra MLC 40/80/160G (-40 ~ 85° C)
SQF-S25U8-X-S8C	SQFlash 820 series 2.5" SSD Ultra MLC 16/32/64/128/256/512G (0 ~ 70° C)
SQF-S25U8-X-S8E	SQFlash 820 series 2.5" SSD Ultra MLC 16/32/64/128/256G (-40 ~ 85° C)
SQF-S25M5-XG-S8C	SQFlash 820 series 2.5" SSD MLC 40/80/160G/320G/640G (0 ~ 70° C)
SQF-S25M5-XG-S8E	SQFlash 820 series 2.5" SSD MLC 40/80/160/320G (-40 ~ 85° C)
SQF-S25M8-X-S8C	SQFlash 820 series 2.5" SSD MLC 32/64/128/256/512G/1T (0 ~ 70° C)
SQF-S25M8-X-S8E	SQFlash 820 series 2.5" SSD MLC 32/64/128/256/512G (-40 ~ 85° C)

Note: X stands for different capacities

SQF-SDM 630

SATA III (6.0Gb) Disk Module

NEW



RoHS CE FCC

Flash Security ID | Life Monitoring | Flash Lock | Emergency Erase

Features

- Compliant with SATA III and SATA v3.0 standard
- Supports 72 bit ECC correct per 1K Byte data
- Universal Wear-leveling and Bad Block Management
- Shock resistance, anti-vibration and Low power consumption
- GUI Management Tool & Software API Package
- Supports hardware write protect

Specifications

Connector Type	Standard 7-pin SATA connector
Flash type	SLC / Ultra MLC / MLC
Capacity	SLC: 1 to 32GB Ultra MLC: 4 to 32GB MLC: 4 to 64GB
Transfer Mode	SATA III (6.0 Gbps)
Sustained R/W Performance (*)	SLC: up to 500/150 MB/sec MLC: up to 250/100 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1,500 G, peak / 0.5 ms
Vibration Resistance	20 G, peak / 80 ~ 2000 Hz
Endurance	2,000,000 program/erase cycles
Dimensions (mm)	26.8 x 30 x 4.2

(*) These values are for reference only; they may change according to the flash memory used.

Ordering Information

PN	Description
SQF-SDMS1-1G-S9C(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) SLC, DMA, 1 GB (0 ~ 70° C)
SQF-SDMS1-1G-S9E(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) SLC, DMA, 1 GB (-40 ~ 85° C)
SQF-SDMS2-XG-S9C(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) SLC, DMA, 2/4/8/16/32 GB (0 ~ 70° C)
SQF-SDMS2-XG-S9E(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) SLC, DMA, 2/4/8/16/32 GB (-40 ~ 85° C)
SQF-SDMU2-XG-S9C(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) Ultra MLC, DMA, 4/8/16/32 GB (0 ~ 70° C)
SQF-SDMU2-XG-S9E(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) Ultra MLC, DMA, 4/8/16/32 GB (-40 ~ 85° C)
SQF-SDMM1-4G-S9C(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) MLC, DMA, 4 GB (0 ~ 70° C)
SQF-SDMM1-4G-S9E(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) MLC, DMA, 4 GB (-40 ~ 85° C)
SQF-SDMM2-XG-S9C(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) MLC, DMA, 8/16/32/64 GB (0 ~ 70° C)
SQF-SDMM2-XG-S9E(T/B)	SQFlash 630 series SATA DOM V (Top/Bottom) MLC, DMA, 8/16/32/64 GB (-40 ~ 85° C)

Note: X stands for different capacities

SQF-SDM 530

SATA III (6.0Gb) Disk Module

NEW



RoHS CE FCC

Features

- Vertical type SATA DOM with housing
- Compliant with SATA III and SATA v3.0 standard
- Supports 40 bit ECC correct per 1K Byte data
- Universal wear-leveling and bad block management
- Shock resistance, anti-vibration and low power consumption
- GUI management tool & software API package

Specifications

Connector Type	Standard 7-pin SATA connector
Flash Type	SLC / MLC
Capacity	SLC: 2 to 32GB MLC: 8 to 128GB
Transfer Mode	SATA III (6.0 Gbps)
Sustained R/W Performance (*)	SLC: up to 120/100 MB/sec MLC: up to 450/150 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1500, peak / 0.5 ms
Vibration Resistance	20 G, peak / 80 ~ 2000 Hz
Endurance	2,000,000 program/erase cycles
Dimensions (mm)	39.4 (L) x 25 (W) x 6.5 (H)

(*)These values are for reference only; they may change according to the flash memory used.

Ordering Information

PN	Description
SQF-SDMS2-2G-J6C	SQFlash 530 series SATA DOM V 2 GB SLC 2-CH (0 ~ 70° C)
SQF-SDMS2-2G-J6E	SQFlash 530 series SATA DOM V 2 GB SLC 2-CH (-40 ~ 85° C)
SQF-SDMS4-XG-J6C	SQFlash 530 series SATA DOM V 4/8/16/32/64 GB SLC 4-CH (0 ~ 70° C)
SQF-SDMS4-XG-J6E	SQFlash 530 series SATA DOM V 4/8/16/32/64 GB SLC 4-CH (-40 ~ 85° C)
SQF-SDMM1-8G-J6C	SQFlash 530 series SATA DOM V 8 GB MLC 1-CH (0 ~ 70° C)
SQF-SDMM1-8G-J6E	SQFlash 530 series SATA DOM V 8 GB MLC 1-CH (-40 ~ 85° C)
SQF-SDMM2-16G-J6C	SQFlash 530 series SATA DOM V 16 GB MLC 2-CH (0 ~ 70° C)
SQF-SDMM2-16G-J6E	SQFlash 530 series SATA DOM V 16 GB MLC 2-CH (-40 ~ 85° C)
SQF-SDMM4-XG-J6C	SQFlash 530 series SATA DOM V 32/64/128 GB MLC 4-CH (0 ~ 70° C)
SQF-SDMM4-XG-J6E	SQFlash 530 series SATA DOM V 32/64/128 GB MLC 4-CH (-40 ~ 85° C)

Note: X stands for different capacities

SQF-ISD
Industrial SD Card



RoHS CE FCC

Features

- SLC and MLC NAND Flash and wide range temperature support
- Compliant with SD system specification version 2.0 and 3.0
- Write protection feature using mechanical switch
- Shock resistance, anti-vibration and low power consumption

Specifications

Connector Type	SD Card
Flash Type	SLC / MLC
Capacity	SLC: 1 to 32 GB MLC: 4 to 64 GB
Sustained R/W Performance (*)	SLC: up to 25/15 MB/sec MLC: up to 22/10 MB/sec
Operating Temperature	Commercial grade: 0 to +70° C Industrial grade: -40 to +85° C
Shock Resistance	1,500 G, Peak / 0.5 ms
Vibration Resistance	5 G, Peak / 10 ~ 2000 Hz
Endurance	> 2,000,000 program/erase cycles
Dimensions (mm)	32 (L) x 24 (W) x 2.1 (H)

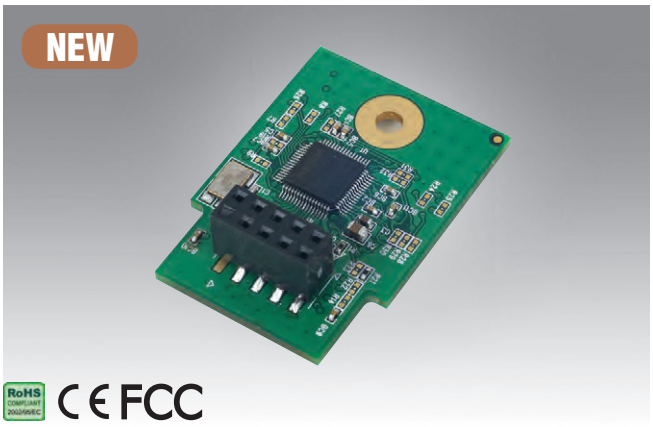
(*) These values are for reference only; they may change according to the flash memory used.

Ordering Information

Part No.	Product Description
SQF-ISDS1-XG-86C	Advantech SQFlash SD Card C6 SLC 1/2 G (0 ~ 70° C)
SQF-ISDS1-XG-86E	Advantech SQFlash SD Card C6 SLC 1/2 G (-40 ~ 85° C)
SQF-ISDS1-XG-82C	Advantech SQFlash SD Card C10 SLC 4/8/16/32 G (0 ~ 70° C)
SQF-ISDS1-XG-82E	Advantech SQFlash SD Card C10 SLC 4/8/16/32 G (-40 ~ 85° C)
SQF-ISDM1-XG-82C	Advantech SQFlash SD Card C10 MLC 4/8/16/32/64 G (0 ~ 70° C)
SQF-ISDM1-XG-82E	Advantech SQFlash SD Card C10 MLC 4/8/16/32/64 G (-40 ~ 85° C)

Note: X stands for different capacities

SQF-UDM
Industrial USB Disk Module



RoHS CE FCC

Features

- Compliant with standard USB specifications
- Built-in EDC/ECC up to 12 random bits error per 512 bytes
- Advanced wear-leveling and block management
- Shock resistance, anti-vibration and low power consumption

Specifications

Connector Type	10-pin 2.54 mm pitch receptacle housing connector
Flash Type	SLC / MLC
Capacity	SLC: 1 to 32 GB MLC: 4 to 64 GB
DC Supply Voltage	5V (±10%)
Sustained R/W Performance (*)	SLC: up to 32/26 MB/sec MLC: up to 30/12 MB/sec
Operating Temperature	Commercial Grade: 0 to +70° C
Shock Resistance	2,500 G, Peak / 0.5 ms
Vibration Resistance	20 G, Peak / 80 ~ 2000 Hz
Endurance	> 5,000,000 program/erase cycles
Dimensions (mm)	26.5 x 37.8 x 10.6 (PCB Size)
Orientation	Horizontal

(*) These values are for reference only; they may change according to the flash memory used.

Ordering Information

Part No.	Product Description
SQF-UDMS1-1G-HDC	Advantech SQFlash USB DOM SLC 1 G, 1-CH (0 ~ 70° C)
SQF-UDMS1-1G-HDE	Advantech SQFlash USB DOM SLC 1 G, 1-CH (-40 ~ 85° C)
SQF-UDMS2-XG-HDC	Advantech SQFlash USB DOM SLC 2/4/8/16/32 G, 2-CH (0 ~ 70° C)
SQF-UDMS2-XG-HDE	Advantech SQFlash USB DOM SLC 2/4/8/16/32 G, 2-CH (-40 ~ 85° C)
SQF-UDMM1-4G-HDC	Advantech SQFlash USB DOM MLC 4 G, 1-CH (0 ~ 70° C)
SQF-UDMM1-4G-HDE	Advantech SQFlash USB DOM MLC 4 G, 1-CH (-40 ~ 85° C)
SQF-UDMM2-XG-HDC	Advantech SQFlash USB DOM MLC 8/16/32/64 G, 2-CH (0 ~ 70° C)
SQF-UDMM2-XG-HDE	Advantech SQFlash USB DOM MLC 8/16/32/64 G, 2-CH (-40 ~ 85° C)

Note: X stands for different capacities

Wireless Modules

WiFi



Model Name	EWM-W151H	EWM-W142	EWM-W135	EWM-W152H	EWM-W136M	EWM-W153H	EWM-W148H	EWM-W150H	EWM-W149P
Form Factor	Half Size Mini PCIe Card	Full/Half size Mini PCIe Card	Full/Half size Mini PCIe Card	Half size Mini PCIe Card	Mini PCI type IIIA	Half Size Mini PCIe Card	Half Size Mini PCIe Card	Half Size Mini PCIe Card	USB 4-pin
Wireless Standard	802.11 b/g/n	802.11 b/g/n	802.11 a/b/g/n	802.11 ac/a/b/g/n	802.11 a/b/g/n	802.11 b/g/n	802.11 a/b/g/n	802.11 b/g/n	802.11 a/b/g/n
Chipset	Realtek RTL8188EE	Atheros AR9287	Atheros AR9382	Broadcom BCM4352 and BCM20702	Atheros AR9220	Atheros AR9485 and AR3012	Intel 6235	Ralink RT5390	Ralink RT5572
Signal Protocol	PCIe Differential	PCIe Differential	PCIe Differential	WiFi: PCIe & BT: USB Differential	PCI	WiFi: PCIe & BT: USB Differential	WiFi: PCIe & BT: USB Differential	USB Differential	USB Differential
Antenna	1 x U.FL connectors (1T/1R)	2 x U.FL connectors (2T/2R)	2 x U.FL connectors (2T/2R)	2 x U.FL connectors (2T/2R)	2 x U.FL connectors (2T/2R)	2 x U.FL connectors (1T/1R)	2 x U.FL connectors (2T/2R)	2 x U.FL connectors (1T/1R)	2 x U.FL connectors (2T/2R)
Operating Voltage	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 5V ± 10%
Temperature Range	0 ~ 80° C (Operating)	0 ~ 60° C (Operating)	-10 ~ 70° C (Operating)	0 ~ 80° C (Operating)	0 ~ 60° C (Operating)	0 ~ 60° C (Operating)	0 ~ 80° C (Operating)	0 ~ 70° C (Operating)	0 ~ 60° C (Operating)
Dimensions (L x W x H)	26.65 x 29.85 x 3.05 mm	26.65 x 29.85 x 2.27 mm	26.65 x 29.85 x 3.25 mm	26.65 x 29.85 x 3.25 mm	50.95 x 59.75 x 3.55 mm	26.65 x 29.85 x 3.75 mm	26.80 x 30.00 x 3.75 mm	26.65 x 29.85 x 3.05 mm	42 x 25 x 6.0 mm
Security	64/128-bit WEP, WPA, WPA2	64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128-bit WEP, AES-CCMP,TKIP; WPA, WPA2, 802.1X,EAP-SIM, EAP-AKA	64/128-bit WEP, AES-CCMP,TKIP; WPA, WPA2, 802.1X,EAP-SIM, EAP-AKA	64/128-bit WEP, WPA, WPA2	64/128-bit WEP, WPA, WPA2
MIMO	--	2T x 2R	2T x 2R	2T x 2R	2T x 2R	--	2T x 2R	--	2T x 2R
Data Rate	150Mbps	300Mbps	300Mbps	867Mbps	300Mbps	150Mbps	300Mbps	150Mbps	300Mbps
Bluetooth	--	--	--	2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE)	--	2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE)	2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE)	--	--
O.S Supported	Win XP/ Vista/ 7/ 8, Linux	Win XP/ Vista/ 7, Linux	Win XP/ Vista/ 7, Linux	Win 7/ 8	Win XP/ Vista/ 7, Linux	Win XP/ Vista/ 7/ 8, Linux	Win XP/ Vista/ 7, Linux	Win XP/ VISTA/ 7, Win CE5.0/6.0, Linux	Win XP/ Vista/ 7, Linux
Host Type	PCIe Mini card	PCIe Mini card	PCIe Mini card	PCIe Mini card	Mini PCI type IIIA	PCIe Mini card	PCIe Mini card	PCIe Mini card	4-pin Pin-header
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Cellular



Model Name	EWM-C106FT01E	EWM-C109F601E	EWM-C112FE	EWM-C109F6G1E
Radio Technology	HSPA	HSPA	CDMA/EVDO	HSPA
Downlink/ Uplink	7.2 Mbps/ 5.76 Mbps	7.2 Mbps/ 5.76 Mbps	3.2 Mbps/ 1.8 Mbps	7.2 Mbps/ 5.76 Mbps
Frequency Band	Tri-band WCDMA 850/ 1900/ 2100 MHz, Quad-band GSM/ GPRS/ EDGE	6-band UMTS/HSPA network, 800/850/900/ 1700/1900/2100 MHz	Dual band 800/1900 MHz	6-band UMTS/ HSPA network, 800/850/900/1700/ 1900/2100 MHz
Main Chipset	Qualcomm MDM6290	u-blox LISA-U200	u-blox FW2770p	u-blox LISA-U200 and MAX-6
Operating Temperature	-20 to +65° C	-40 to +85° C	-30 to +85°C	-40 to +85° C
size	Full-size Mini PCIe	Full-size Mini PCIe	Full-size Mini PCIe	Full-size Mini PCIe
SIM slot	-	With SIM card slot	-	With SIM card slot
GPS RF Receiver Type	--	--	--	50-channel, GPS L1 C/A code, SBAS: WAAS, EGNOS, MSAS
GPS Acquisition	--	--	--	Cold starts: 26s/ Aided starts: 1s/ Hot starts: 1s
GPS Accuracy	--	--	--	Position 2.5m / SBAS 2.0m
GPS Sensitivity	--	--	--	Tracking: -162 dBm/ Cold starts: -148 dBm / Hot starts: -157 dBm
GPS Type	--	--	--	Hardware standalone
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GPS



Model Name	EWM-G108H
GPS Mini Card	Half-size Mini PCIe card
GPS Type	Hardware standalone
Signal Protocol	USB
Chipset	NEO-7
Operating Temperature	-40 to +85° C
RF Receiver Type	56-channel, GPS L1 C/A, GLONASS L1 FDMA, QZSS L1 C/A, Galileo E1B/C, Compass ready SBAS: WAAS, EGNOS, MSAS
Acquisition	Cold starts: 29s / Aided starts: 5s / Reaquistion: 1s
Accuracy	Position 2.5m / SBAS 2.0m
Sensitivity	Tracking: -162 dBm/ Cold starts: -148 dBm / Reacquisition: -148 dBm
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EWM-W151H

Advantech 802.11 b/g/n Mini PCIe Card



Features

- IEEE 802.11 b/g/n (2.4 GHz) standard
- Half-size Mini PCIe Card Interface
- Up to 150 Mbps data rate
- Operating temperature: 0 to +80° C
- One-antenna connector

Specifications

Main Chipset	Realtek RTL8188EE
Tx/Rx	1 antennas to support Rx/Tx technology
Standard Conformance	802.11 b/g/n
Form Factor	PCIe signal with Half-size Mini PCIe card
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ±5%
Power Consumption	Continue Tx: 900.24 mA (HT40) Continue Rx:621.06 mA (HT40)
Security	WEP 64/128-bit, WPA, WPA2
OS Supported	Windows XP/ Vista/ 7, Win8 , Linux
Temperature Ranges	Operation: 0 to +80° C
Dimensions (L x W x H)	26.65 x 29.85 x 3.05 mm

Ordering Information

Part No.	Product Description
EWM-W151H01E	Advantech 802.11 b/g/n, Realtek RTL8188EE 1T1R, Half-size Mini PCIe Card

Suggestion: Antenna and Cable

Part No.	Specifications
1750000318	Wi-Fi 2.4 GHz 2dBi dipole Antenna
1750003222	Wi-Fi 2.4 GHz 5dBi dipole Antenna
1750003418	Wi-Fi 2.4 GHz 9dBi dipole Antenna
1750006043	Wi-Fi Coaxial Cable, 150 mm
1750006010	Wi-Fi Coaxial Cable, 200 mm
1750005885	Wi-Fi Coaxial Cable, 230 mm

EWM-W142

802.11 b/g/n Mini PCIe Card



Features

- IEEE 802.11 b/g/n standard (2.4 GHz)
- 2Tx/ 2Rx MIMO
- Up to 300 Mbps data rate
- 64/ 128/ 152 bit WEP, WPA, WPA2, 802.1x, AES & TKIP Encryption
- Operating temperature: 0 to 60° C

Specifications

Main Chipset	Atheros AR9287
Tx/Rx	2Tx/ 2Rx MIMO
Standard Conformance	802.11 b/g/n
Form Factor	EWM-W142H01E: Half-size Mini PCIe card EWM-W142F01E: Full-size Mini PCIe card
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ±5%
Power Consumption	Continue TX: 1749 mW (Avg.)
Security	64/ 128/ 152 bit WEP, WPA, WPA2, 802.1x, AES & TKIP Encryption
OS Supported	Windows XP/ Vista/ 7 (32 and 64 bit)
Temperature Ranges	Operation: 0 to +60° C
Dimensions (L x W x H)	EWM-W142H01E: 26.80 x 29.85 x 2.27 mm EWM-W142F01E: 51.00 x 29.85 x 2.27 mm

Ordering Information

Part No.	Product Description
EWM-W142H01E	802.11 b/g/n, Atheros AR9287, Half-size Mini PCIe Card
EWM-W142F01E	802.11 b/g/n, Atheros AR9287, Full-size Mini PCIe Card

Suggested Antenna and Cable

Part No.	Specifications
1750000318	WiFi 2.4 GHz 2dBi dipole Antenna
1750003222	WiFi 2.4 GHz 5dBi dipole Antenna
1750003418	WiFi 2.4 GHz 9dBi dipole Antenna
1750006043	WiFi Coaxial Cable, 150 mm
1750006010	WiFi Coaxial Cable, 200 mm
1750005885	WiFi Coaxial Cable, 230 mm

EWM-W135

802.11 a/b/g/n Mini PCIe Card



RoHS CE FCC

Features

- IEEE 802.11 a/b/g/n dual-band (2.4 and 5 GHz) standard
- 2Tx / 2Rx MIMO
- Up to 300 Mbps data rate
- 64/128/152 bit WEP, WPA, WPA2, 802.1x, AES-CCM & TKIP
- Operating temperature: -10 to +70° C

Specifications

Main Chipset	Atheros AR9382
Tx/Rx	2Tx/ 2Rx MIMO
Standard Conformance	802.11 a/b/g/n
Form Factor	EWM-W135H01E: Half-size Mini PCIe card EWM-W135F01E: Full-size Mini PCIe card
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ±5%
Power Consumption	Continue TX: 1815 mW (Avg.) (802.11 a)
Security	64/128/152 bit WEP, WPA, WPA2, 802.1x, AES-CCM & TKIP
OS Supported	Windows XP/ Vista/ 7 (32 and 64 bit)
Temperature Ranges	Operation: -10 to +70° C
Dimensions (L x W x H)	EWM-W135H01E: 26.80 x 29.85 x 2.27 mm EWM-W135F01E: 51.00 x 29.85 x 2.27 mm

Ordering Information

Part No.	Product Description
EWM-W135H01E	802.11 a/b/g/n, Atheros AR9382, Half-size Mini PCIe Card
EWM-W135F01E	802.11 a/b/g/n, Atheros AR9382, Full-size Mini PCIe Card

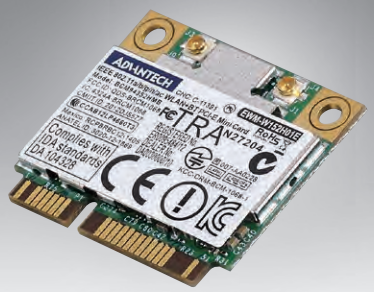
Suggested Antenna and Cable

Part No.	Specifications
1750002842	WiFi Dual band-2.4 and 5G Antenna
1750006043	WiFi Coaxial Cable, 150 mm
1750006010	WiFi Coaxial Cable, 200 mm
1750005885	WiFi Coaxial Cable, 230 mm

EWM-W152H

802.11 ac/a/b/g/n + Bluetooth 4.0 Half-size Mini PCIe Card

NEW



RoHS CE FCC

Features

- IEEE 802.11 ac/a/b/g/n + Bluetooth 4.0 HS standard
- 2Tx/ 2Rx
- Up to 867 Mbps data rate
- 64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES
- Operating temperature: 0 to +80° C

Specifications

Main Chipset	Broadcom BCM4352 and BCM20702
Tx/Rx	2Tx/ 2Rx (2 U.FL connectors)
Standard Conformance	802.11 ac/a/b/g/n
Form Factor	Half-size Mini PCIe card
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ±9%
Power Consumption	WiFi Continue Tx: 2498 mW (Avg.)
Security	64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES
OS Supported	Windows 7/ 8
Temperature Ranges	Operation: 0 to +80° C
Dimensions (L x W x H)	26.65 x 29.85 x 3.8 mm

Ordering Information

Part No.	Product Description
EWM-W52H01E	802.11 a/b/g/n/ac, BCM4352 + BCM20702 (BT), WiFi 2T2R, BT4.0, Half-size Mini PCIe Card

Suggested Antenna and Cable

Part No.	Specifications
1750002842	WiFi Dual band-2.4 and 5G Antenna
1750006043	WiFi Coaxial Cable, 150 mm
1750006010	WiFi Coaxial Cable, 200 mm
1750005885	WiFi Coaxial Cable, 230 mm

EWM-W136M

802.11 a/b/g/n Mini PCI Card



Features

- IEEE 802.11 a/b/g/n dual-band (2.4 and 5 GHz) standard
- 2Tx/ 2Rx MIMO
- Up to 300 Mbps data rate
- 64/ 128/ 152 bit WEP, 802.1x, AES-CCM & TKIP
- Operating temperature: 0 to +60° C

Specifications

Main Chipset	Atheros AR9220
Tx/Rx	2Tx/ 2Rx MIMO
Standard Conformance	802.11 a/b/g/n
Form Factor	Mini PCI card
Interface	32-bit mini-PCI Type IIIA
Operation Voltage	DC 3.3V ±5%
Power Consumption	Continue TX: 2036.1 mW (Avg.) (802.11 a)
Security	64/ 128/ 152 bit WEP, 802.1x, AES-CCM & TKIP,
OS Supported	Windows XP/ Vista/ 7 (32 and 64 bit)
Temperature Ranges	Operation: 0 to +60° C
Dimensions (L x W x H)	59.60 x 50.80 x 1.00 mm

Ordering Information

Part No.	Product Description
EWM-W136M01E	802.11 a/b/g/n, Atheros AR9220, Mini PCI Card

Suggested Antenna and Cable

Part No.	Specifications
1750002842	WiFi Dual band-2.4 and 5G Antenna
1750006043	WiFi Coaxial Cable, 150 mm
1750006010	WiFi Coaxial Cable, 200 mm
1750005885	WiFi Coaxial Cable, 230 mm

EWM-W153H

802.11 b/g/n + Bluetooth 4.0 Half-size Mini PCIe Card



Features

- IEEE 802.11 b/g/n + Bluetooth 4.0 HS standard
- 1Tx/ 1Rx
- Up to 150 Mbps data rate
- 64/128/152-bit WEP, 802.1x, TKIP and AES
- Operating temperature: 0 to +60° C

Specifications

Main Chipset	Atheros AR9485 and AR3012
Tx/Rx	1Tx/ 1Rx (2 U.FL connectors)
Standard Conformance	802.11 b/g/n with Bluetooth4.0
Form Factor	Half-size Mini PCIe card
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ±5%
Power Consumption	WiFi Continue TX: 878 mW (Avg.)
Security	64/128 bit WEP
OS Supported	Windows 2000/ XP/ Vista/ 7
Temperature Ranges	Operation: 0 to +60° C
Dimensions (L x W x H)	26.65 x 29.85 x 3.95 mm

Ordering Information

Part No.	Product Description
EWM-W153H01E	802.11 b/g/n, Atheros AR9485 + AR3012, WiFi 1T1R, BT4.0, Half-size Mini PCIe Card

Suggested Antenna and Cable

Part No.	Specifications
1750000318	WiFi 2.4 GHz 2dBi dipole Antenna
1750003222	WiFi 2.4 GHz 5dBi dipole Antenna
1750003418	WiFi 2.4 GHz 9dBi dipole Antenna
1750006043	WiFi Coaxial Cable, 150 mm
1750006010	WiFi Coaxial Cable, 200 mm
1750005885	WiFi Coaxial Cable, 230 mm

EWM-W148H

802.11 a/b/g/n + Bluetooth 4.0 Half-size Mini PCIe Card



Features

- IEEE 802.11 a/b/g/n dual-band (2.4 and 5 GHz) with Bluetooth 4.0 standard
- 2Tx / 2Rx MIMO, Up to 300 Mbps data rate
- Operating temperature: 0 to +80° C
- Support for Cisco Compatible Extensions (CCX) v4
- Supports Intel® AMT 8.0

Specifications

Main Chipset	Intel 6235, Jackson Peak 2
Tx/Rx	2Tx / 2Rx MIMO
Standard Conformance	802.11 a/b/g/n with Bluetooth 4.0
Form Factor	Half-size Mini PCIe card
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ±5%
Power Consumption	Max WiFi: 1920 mW
Security	WEP (64-bit, and 128-bit), WPA2 and AES-CCMP
OS Supported	Windows XP/7 (32 and 64 bit)
Temperature Ranges	Operation: 0 to +80° C
Dimensions (L x W x H)	26.80 x 30.00 x 3.75 mm

Ordering Information

Part No.	Product Description
EWM-W148H01E	802.11 a/b/g/n + Bluetooth 4.0, Intel 6235, Half-size Mini PCIe Card

Suggested Antenna and Cable

Part No.	Specifications
1750002842	WiFi Dual band-2.4 and 5G Antenna
1750006043	WiFi Coaxial Cable, 150 mm
1750006010	WiFi Coaxial Cable, 200 mm
1750005885	WiFi Coaxial Cable, 230 mm

EWM-W150H

Advantech USB 802.11 b/g/n Mini PCIe Card

NEW



Features

- IEEE 802.11 b/g/n (2.4 GHz) standard
- USB signal with half-size Mini PCIe Card Interface
- 1Tx / 1Rx , Up to 150 Mbps data rate
- Operating temperature: 0 to +70° C
- Supports Win XP/ VISTA/ 7, Win CE5.0/6.0, Linux

Specifications

Main Chipset	Ralink RT5390
Tx/Rx	1Tx / 1Rx
Standard Conformance	802.11 b/g/n
Form Factor	USB signal with Half-size Mini PCIe card
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ±5%
Power Consumption	Continue Tx: 384.5 mA (HT40) Continue Rx: 262.4 mA (HT40)
Security	WEP 64/128-bit, WPA, WPA2
OS Supported	Win XP/ VISTA/ 7, Win CE5.0/6.0, Linux
Temperature Ranges	Operation: 0 to +70° C
Dimensions (L x W x H)	26.65 x 29.85 x 3.25 mm

Ordering Information

Part No.	Product Description
EWM-W150H01E	Advantech USB 802.11 b/g/n, Ralink RT5390 1T1R, Half-size Mini PCIe Card

Suggested Antenna and Cable

Part No.	Specifications
1750000318	Wi-Fi 2.4 GHz 2dBi dipole Antenna
1750003222	Wi-Fi 2.4 GHz 5dBi dipole Antenna
1750003418	Wi-Fi 2.4 GHz 9dBi dipole Antenna
1750006043	Wi-Fi Coaxial Cable, 150 mm
1750006010	Wi-Fi Coaxial Cable, 200 mm
1750005885	Wi-Fi Coaxial Cable, 230 mm

EWM-W149P

802.11 a/b/g/n USB 4-Pin WiFi Module Card



Features

- IEEE 802.11 a/b/g/n dual-band (2.4 and 5 GHz) standard
- 2Tx / 2Rx
- Up to 300 Mbps data rate
- 64/128-bit WEP, WPA, WPA2
- Operating temperature: 0 to +60° C

Specifications

Main Chipset	Ralink RT5572
Tx/Rx	2Tx/ 2Rx
Standard Conformance	802.11 a/b/g/n
RF Connector	2 x U.FL connectors
Form Factor	USB 4-Pin
Interface	4-pin pin-Header
Operation Voltage	DC 5V ±10%
Power Consumption	Max: 410mA
Security	WEP 64/128-bit, WPA, WPA2
OS Supported	Windows XP/ Vista/ 7, Linux
Temperature Ranges	Operation: 0 to +60° C
Dimensions (L x W x H)	42 x 25 x 6.0 mm

Ordering Information

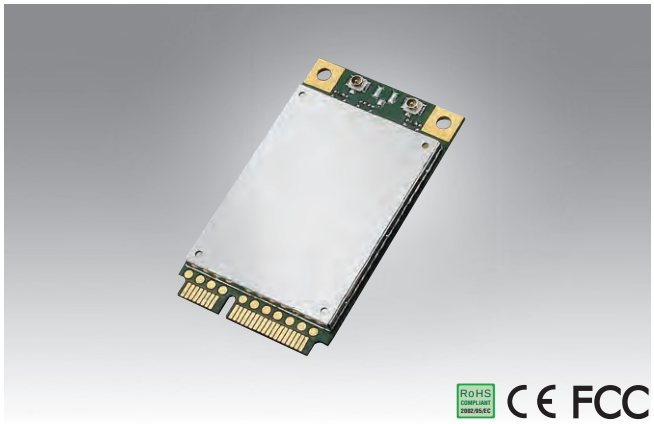
Part No.	Product Description
EWM-W149P01E	802.11 a/b/g/n, Ralink RT5572, USB 4-pin Module Card

Suggested Antenna and Cable

Part No.	Specifications
1750002842	WiFi Dual band-2.4 and 5G Antenna
1750006043	WiFi Coaxial Cable, 150 mm
1750006010	WiFi Coaxial Cable, 200 mm
1750005885	WiFi Coaxial Cable, 230 mm

EWM-C106FT

HSPA Full-size Mini PCIe Card



Features

- 850/1900/2100 MHz for WCDMA network
- 850/900/1800/1900 MHz for EDGE/GPRS/GSM network
- Downlink: 7.2 Mbps, Uplink: 5.76 Mbps
- Operating temperature: -20 to +65° C

Specifications

Main Chipset	Qualcomm MSM6290
Antenna	2 RF Antenna Coaxial Connectors
Band	WCDMA: 850/ 1900/ 2100 MHz
	EDGE/ GPRS/ GSM: 850/ 900/ 1800/ 1900 MHz
Data throughput	Downlink: 7.2 Mbps
	Uplink: 5.76 Mbps
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3 ~ 3.6V
Power Consumption	< 800 mA (HSUPA data transfer)
Peak Current (Max.)	2.5 A
OS Supported	Win XP/Vista/7, ARM WinCE 5.0/6.0, Linux
Temperature Ranges	Operation: -20 to +65° C
Dimensions (L x W x H)	51.00 x 30.00 x 4.60 mm

Ordering Information

Part No.	Product Description
EWM-C106FT01E	HSPA Full-size Mini PCIe Card

Suggested Antenna and Cable

Part No.	Specifications
1750005865	824~960 MHz, 1710~2170 MHz dipole antenna, 109 mm
1750006083	900/ 1800/ 1900/ 2100 MHz dipole antenna, 92 mm
1750006426	824~960 MHz, 1710~2170 MHz dipole antenna, 169.5 mm
1750005866	Coaxial GSM/ GPS Cable, 100 mm
1750006009	Coaxial GSM/ GPS Cable, 250 mm

EWM-C109F601E

Wide-Temp 3.75G HSPA, Full-size Mini PCIe Card with SIM Card holder



Features

- 6-bands, 800/850/900/1700/1900/2100 MHz for UMTS/HSPA network
- 850/900/1800/1900 MHz for EDGE/GPRS/GSM network
- With SIM card holder
- HSDPA 7.2Mbps, HSUPA 5.76Mbps
- Operating temperature: -40 to +85° C

Specifications

Main Chipset	U-blox LISA-U200
Antenna	1 RF Antenna Coaxial Connectors
Band	UMTS/HSPA: 800/850/900/1700/1900/2100 MHz EDGE/ GPRS/ GSM: 850/ 900/ 1800/ 1900 MHz
Data throughput	Downlink: 7.2 Mbps Uplink: 5.76 Mbps
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	3.3V ~ 3.6V
Power Consumption	< 700 mA (HSPA connected Mode)
Peak Current (Max.)	1.5 A
OS Supported	Win XP/Vista/7, ARM WinCE 5.0/6.0, Linux 2.4.x/2.6.x, Mac
Temperature Ranges	Operation: -40 to +85° C
Dimensions (L x W x H)	50.85 x 29.9 x 6.2 mm

Ordering Information

Part No.	Product Description
EWM-C109F601E	Wide-Temp 3.75G HSPA Full-size Mini PCIe Card with SIM Card holder

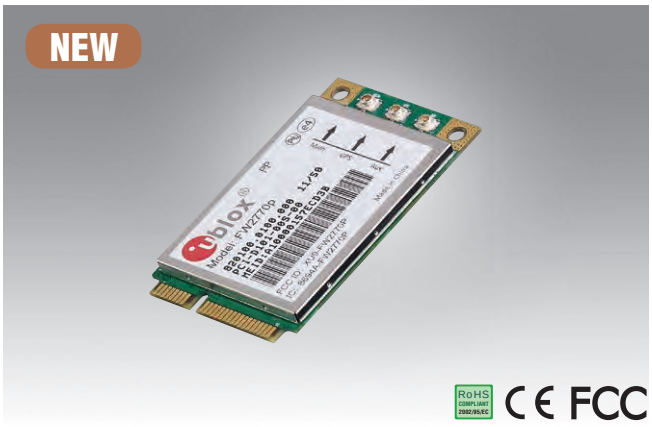
Suggested Antenna and Cable

Part No.	Specifications
1750005865	824~960 MHz, 1710~2170 MHz dipole antenna, 109 mm
1750006426	824~960 MHz, 1710~2170 MHz dipole antenna, 169.5 mm
1750005866	Coaxial GSM/ GPS Cable, 100 mm
1750006009	Coaxial GSM/ GPS Cable, 250 mm

EWM-C112FE Series

CDMA/EVDO (Verizon & Sprint approval) Full-size Mini PCIe Card

NEW



Features

- CDMA EVDO Rev A
- Dual band 800/1900 MHz
- A-GPS (optional)
- Verizon and Sprint approvals
- Operating temperature: -30 to +85° C

Specifications

Main Chipset	u-blox FW2770p
Antenna	2 RF Antenna Coaxial Connectors
Band	Dual band 800/1900 MHz
Data throughput	Downlink: 3.1 Mbps Uplink: 1.8 Mbps
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	DC 3.3V ± 100 mV
Power Consumption	Sleep mode <2 mA Idle mode ~100 mA Data traffic mode ~800 mA
OS Supported	Windows XP/ Vista/ 7, Linux
Temperature Ranges	Operation: -30 to +85° C
Dimensions (L x W x H)	51 x 30 x 4.5 mm

Ordering Information

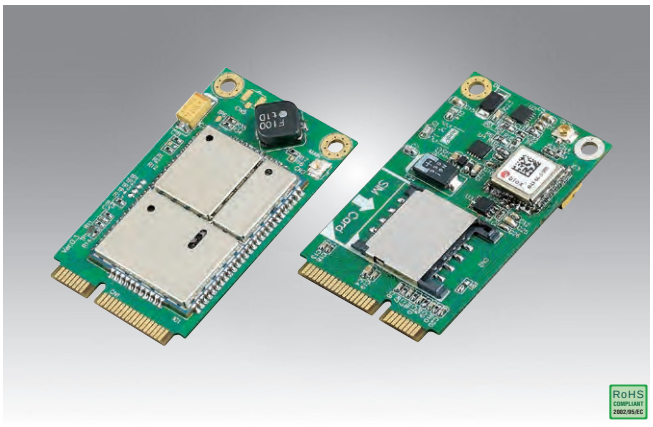
Part No.	Product Description
EWM-C112FE01E	CDMA/EVDO Module, Verizon approval SKU
EWM-C112FE02E	CDMA/EVDO Module, Sprint approval SKU
EWM-C112FEG1E	CDMA/EVDO Module with GPS, Verizon approval SKU
EWM-C112FEG2E	CDMA/EVDO Module with GPS, Sprint approval SKU

Suggested Antenna and Cable

Part No.	Specifications
1750005865	824~960 MHz, 1710~2170 MHz dipole antenna, 109 mm
1750006426	824~960 MHz, 1710~2170 MHz dipole antenna, 169.5 mm
1750005866	Coaxial GSM/ GPS Cable, 100 mm
1750006009	Coaxial GSM/ GPS Cable, 250 mm

EWM-C109F6G1E

Wide-Temp 3.75G HSPA and GPS, 2-in-1, Full-size Mini PCIe Card with SIM Card holder



Features

- 6-bands, 800/850/900/1700/1900/2100 MHz for UMTS/HSPA network
- 850/900/1800/1900 MHz for EDGE/GPRS/GSM network
- With SIM card holder
- With hardware standalone GPS, u-blox MAX-6
- HSDPA 7.2Mbps, HSUPA 5.76Mbps
- Operating temperature: -40 to +85° C

Specifications

Main Chipset	U-blox LISA-U200 and MAX-6
Antenna	2 RF Antenna Coaxial Connectors
Band	UMTS/HSPA: 800/850/900/1700/1900/2100 MHz EDGE/ GPRS/ GSM: 850/ 900/ 1800/ 1900 MHz
Data throughput	Downlink: 7.2 Mbps Uplink: 5.76 Mbps
Interface	PCI Express mini-card rev. 1.2
Operation Voltage	3.3V ~ 3.6V
Power Consumption	< 700 mA (HSPA connected Mode)
Peak Current (Max.)	1.5 A
OS Supported	Win XP/Vista/7, ARM WinCE 5.0/6.0, Linux 2.4.x/2.6.x, Mac
Temperature Ranges	Operation: -40 to +85° C
Dimensions (L x W x H)	50.85 x 29.9 x 6.2 mm

Ordering Information

Part No.	Product Description
EWM-C109F6G1E	Wide-Temp 3.75G HSPA and GPS, 2-in-1, Full-size Mini PCIe Card with SIM Card holder

Suggested Antenna and Cable

Part No.	Specifications
1750005865	824~960 MHz, 1710~2170 MHz dipole antenna, 109 mm
1750006426	824~960 MHz, 1710~2170 MHz dipole antenna, 169.5 mm
1750005866	Coaxial GSM/ GPS Cable, 100 mm
1750006009	Coaxial GSM/ GPS Cable, 250 mm
1750006432	GPS antenna 1575MHz, cubic antenna 45x35x14 mm, wire length 5000mm

EWM-G108H

Embedded GPS/ GNSS Module Half-size Mini PCIe Card



Features

- 56-Ch u-blox NEO-7 engine (GPS, GLONASS, Galileo, QZSS and SBAS), SBAS (WAAS, EGNOS, MSAS
- < 1 second TTFF for Hot and Aided Starts, Open sky code start 29 second.
- Accuracy 2.5 m CEP
- Operating temperature: -40 to +85° C

Specifications

Main Chipset	u-blox NEO-7
Receiver Type	56 Channels GPS L1 C/A, GALILEO L1 FDMA, QZSS L1 C/A and Galileo E1 B/C
Time-To-First-Fix (GPS)	Cold Start: 29 s Warm Start: 28 s Hot Start: < 1 s
Sensitivity (GPS)	Tracking & Navigation: -162 dBm Reacquisition: -160 dBm Cold Start: -148 dBm
Horizontal Position Accuracy	Autonomous: < 2.5 m SBAS: < 2.0 m
Accuracy of Time Pulse Signal	RMS: 30 ns 99%: < 60 ns Time Pulse Configurable: f=0.25…10M Hz
Velocity Accuracy	0.1 m/s
Heading Accuracy	0.5 degress
Dynamics	< 4 g
Operational Limits	Altitude: 50000 m, Velocity: 500 m/s
Temperature Ranges	Operation: -40 to +85° C

Ordering Information

Part No.	Product Description
EWM-G108H01E	Embedded u-blox NEO-7, GPS/GNSS Half-size Mini PCIe Card

Suggested Antenna and Cable

Part No.	Specifications
1750006120	GPS antenna 1575 MHz, Antenna 4.5 dBi, LNA 28 dBi, Cubic antenna 4.3 x 3.5 x 1.6, RHCP and SMA male (MM)
1750005866	Coaxial GSM/ GPS Cable, 100 mm
1750006009	Coaxial GSM/ GPS Cable, 250 mm

Antenna & Cables Selection Table

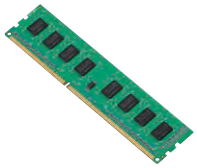
Part Number	Frequency	Antenna Gain	Length (cm)	Polarization	Connector
 1750005865	Cellular dipole antenna 850/900/ 1800/1900/2100 MHz	- 10 ~ - 6dBi @ 824 ~ 960 MHz - 8 ~ + 1dBi @ 1710 ~ 2170 MHz	10.9±0.2	Linear	SMA male (MM)
 1750006426	Cellular dipole antenna 850/900/ 1800/1900/2100 MHz	- 10 ~ - 6dBi @ 824 ~ 960 MHz - 8 ~ + 1dBi @ 1710 ~ 2170 MHz	16.95±0.3	Linear	SMA male (MM)
 1750000820	Notebook WiFi embedded antenna 2.4GHz	2.0 ± 0.7dBi @ 2450 MHz	Antenna 3.9 Wire-1 15.5 Wire-2 35.5	Linear	U.FL female
 1750000900	Notebook WiFi embedded antenna 2.4GHz	2.0 ± 0.7dBi @ 2450 MHz	Wntenna 3.9 Wire-1 25 Wire-2 39	Linear	U.FL female
 1750000318	WiFi dipole antenna 2.4GHz	2.0 ± 0.5dBi @ 2450 MHz	10.9 ± 0.2	Linear	RP-SMA male
 1750003418	WiFi dipole antenna 2.4GHz	9 ± 0.7 dBi @ 2450 MHz	39.4 ± 0.4	Linear	RP-SMA male
 1750002842	WiFi Dual band antenna 2.4GHz and 5GHz	2.5 ± 0.7 dBi @ 2400 MHz 1.0 ± 0.7 dBi @ 2500 MHz 1.5 ± 0.7 dBi @ 4900 MHz 0.5 ± 0.7 dBi @ 5900 MHz	10.9 ± 0.2	Linear	RP-SMA male
 1750006264	Cellular/ GPS Coaxial Cable	-	15	-	U.FL female/ SMA female
 1750005885	WiFi Coaxial Cable	-	23	-	U.FL female/ RP-SMA female
 1750006009	Cellular/ GPS Coaxial Cable	-	25	-	U.FL female/ SMA female
 1750006010	WiFi Coaxial Cable	-	20	-	U.FL female/ RP-SMA female
 1750006043	WiFi Coaxial Cable	-	15	-	U.FL female/ RP-SMA female
 1750006432	GPS antenna 1575MHz	Antenna 4.5 dBi LNA 28 dBi	Cubic antenna 45 x 35 x 14 mm, wire length 5000mm	RHCP	SMA male (MM)

Memory Modules



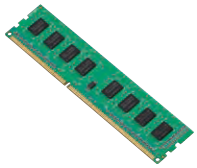
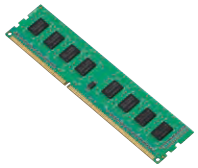



Model Name	SQR-SD3M-LV	SQR-SD3I-LV	SQR-SD1I	SQR-SD2I
Category	DDR3	DDR3	DDR1	DDR2
Clock Speed	1600 Mbps	1600 Mbps	400 Mbps	667 Mbps
Pin/DIMM	204pin SO-DIMM	204pin SO-DIMM	200pin SO-DIMM	200pin SO-DIMM
Chip Package	FBGA	FBGA	FBGA	FBGA
Density	2GB to 8GB	2GB to 8GB	512MB to 1GB	1GB to 2GB
Power Supply	SSTL_15	SSTL_15	SSTL_2	SSTL_18
Voltage	1.35 V ± 0.1 V 1.5 V ± 0.075 V	1.35 V ± 0.1 V 1.5 V ± 0.075 V	2.6 V ± 0.1 V	1.8 V ± 0.1 V
Operation Temp	-20° C to +85° C	-40° C to +85° C	-40° C to +85° C	-40° C to +85° C
Dimension (mm)	67.6x 30	67.6x 30	67.6 x 31.75	67.6x 30
Page	11-21	11-21	11-22	11-22



Model Name	SQR-SD3I	SQR-UD3I	SQR-SD3I-ECC	SQR-SD3T-ECC
Category	DDR3	DDR3	DDR3	DDR3
Clock Speed	1333/1600 Mbps	1333 Mbps	1333/1600 Mbps	1333/1600 Mbps
Pin/DIMM	204pin SO-DIMM	240pin DIMM	204pin SO-DIMM	204pin SO-DIMM
Chip Package	FBGA	FBGA	FBGA	FBGA
Density	1GB to 8GB	1GB to 4GB	2GB to 8GB	1GB to 8GB
Power Supply	SSTL_20	SSTL_15	SSTL_15	SSTL_15
Voltage	1.5 V ± 0.075 V	1.5 V ± 0.075 V	1.5 V ± 0.075 V	1.5 V ± 0.075 V
Operation Temp	-40° C to +85° C	-40° C to +85° C	-40° C to +85° C	0° C to +85° C
Dimension (mm)	67.6 x 30	133.35 x 30	67.6 x 30	67.6 x 30
Page	11-22	11-22	11-23	11-23

Model Name	SQR-LD3T-ECC	SQR-LD3T-REG
Category	DDR3	DDR3
Clock Speed	1333/1600 Mbps	1333/1600 Mbps
Pin/DIMM	240pin DIMM	240pin DIMM
Chip Package	FBGA	FBGA
Density	1GB to 8GB	1GB to 8GB
Power Supply	SSTL_15	SSTL_15
Voltage	1.5 V ± 0.075 V	1.5 V ± 0.075 V
Operation Temp	0° C to +85° C	0° C to +85° C
Dimension (mm)	133.35 x 30	133.35 x 30
Page	11-23	11-23

SQRAM Qualification Process



Different sorting criteria enables different product specifications.

10G Vibration

The purpose of vibration testing is to reveal non-robust modules. All components will pass 10G vibration which is a basic industrial grade specification.

Low Temperature Test

Low temperature testing is based on MIL-STD-105E. This narrows down only DRAM modules with perfect memory (no error bit detected).

High Temperature Test

High temperature testing is implemented into all modules that pass the previous two stages.

Thermal Shock Test

DRAM module testing starts from room temperature (25°C), goes to low temperature, then rises to high temperature (before back to room temp (25°C)).

Room Temperature

Final stage is to test all DRAM modules to pass the memory test without any error bit detected under room temperature conditions.

Low Voltage

SQR-SD3M-LV



Features

- Operating Temperature: -20° C to +85° C
- Gold plating on PCB gold finger is 30 u"
- JEDEC standard 1.35 V ± 0.1 V& 1.5 V ± 0.075 V Power supply
- Max clock Freq: 800 MHZ; 1600 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM

Specifications

Category	DDR3
Clock Speed	1600 Mbps
Power Supply	SSTL_15
Voltage	1.35 V ± 0.1 V, 1.5 V ± 0.075 V
Chip Package	FBGA
Pin/DIMM	204pin SO-DIMM
Gold plating on PCB gold finger	30u"
Operation Temp	-20° C to +85° C
Dimension (mm)	67.6 x 30

Ordering Information

Part No.	Product Description
SQR-SD3M-2G1600SNL	SQRAM 2G SO-DDR3-1600 LOW VOLTAGE M-GRD SAM
SQR-SD3M-4G1600SNL	SQRAM 4G SO-DDR3-1600 LOW VOLTAGE M-GRD SAM
SQR-SD3M-8G1600SNL	SQRAM 8G SO-DDR3-1600 LOW VOLTAGE M-GRD SAM

SQR-SD3I-LV



Features

- Operating Temperature: -40° C to +85° C
- Gold plating on PCB gold finger is 30 u"
- JEDEC standard 1.35 V ± 0.1 V&1.5 V ± 0.075 V Power supply
- Max clock Freq: 800 MHZ; 1600 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM

Specifications

Category	DDR3
Clock Speed	1600 Mbps
Power Supply	SSTL_15
Voltage	1.35 V ± 0.1 V, 1.5 V ± 0.075 V
Chip Package	FBGA
Pin/DIMM	204pin SO-DIMM
Gold plating on PCB gold finger	30u"
Operation Temp	-40° C to +85° C
Dimension (mm)	67.6 x 30

Ordering Information

Part No.	Product Description
SQR-SD3I-2G1600SNL	SQRAM 2G SO-DDR3-1600 LOW VOLTAGE I-GRD SAM
SQR-SD3I-4G1600SNL	SQRAM 4G SO-DDR3-1600 LOW VOLTAGE I-GRD SAM
SQR-SD3I-8G1600SNL	SQRAM 8G SO-DDR3-1600 LOW VOLTAGE I-GRD SAM

Industrial Grade

SQR-SD1I



Features

- Operating Temperature: -40° C to +85° C
- Gold plating on PCB gold finger is 30 u"
- JEDEC standard 2.6 V ± 0.1 V Power supply
- Max clock Freq: 200 MHZ; 400 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM

Specifications

Category	DDR1
Clock Speed	400 Mbps
Power Supply	SSTL_2
Voltage	2.6 V ± 0.1 V
Chip Package	FBGA
Pin/DIMM	200pin SO-DIMM
Gold plating on PCB gold finger	30u"
Operation Temp	-40° C to +85° C
Dimension (mm)	67.6 x 31.75

Ordering Information

Part No.	Product Description
SQR-SD1I-512M400SN	SQRAM 512MB SO-DDR-400 I-GRD SAM
SQR-SD1I-1G400SN	SQRAM 1GB SO-DDR-400 I-GRD SAM

SQR-SD2I



Features

- Operating Temperature: -40° C to +85° C
- Gold plating on PCB gold finger is 30 u"
- JEDEC standard 1.8 V ± 0.1 V Power supply
- Max clock Freq: 333 MHZ; 667 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM

Specifications

Category	DDR2
Clock Speed	667 Mbps
Power Supply	SSTL_18
Voltage	1.8 V ± 0.1 V
Chip Package	FBGA
Pins/DIMM	200-pin SODIMM
Gold plating on PCB gold finger	30 u"
Operating Temperature	-40° C to +85° C
Dimensions (mm)	67.6±0.15 x 30

Ordering Information

Part No.	Product Description
SQR-SD2I-1G667SN	SQRAM 1G SO-DDR2-667 128 x 8 I-GRD SAM
SQR-SD2I-2G667SN	SQRAM 2G SO-DDR2-667 128 x 8 I-GRD SAM

SQR-SD3I



Features

- Operating Temperature: -40° C to +85° C
- Gold plating on PCB gold finger is 30 u"
- JEDEC standard 1.5 V ± 0.075 V Power supply
- Max clock Freq: 667 MHZ for 1333 Mb/s/Pin
- 800 MHZ for 1600 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM

Specifications

Category	DDR3
Clock Speed	1333/1600 Mbps
Power Supply	SSTL_15
Voltage	1.5 V ± 0.075 V
Chip Package	FBGA
Pins/DIMM	204-pin SODIMM
Gold plating on PCB gold finger	30 u"
Operating Temperature	-40° C to +85° C
Dimensions (mm)	67.6±0.15 x 30

Ordering Information

Part No.	Product Description
SQR-SD3I-1G1333SN	SQRAM 1G SO-DDR3-1333 I-GRD SAM
SQR-SD3I-2G1333SN	SQRAM 2G SO-DDR3-1333 I-GRD SAM
SQR-SD3I-4G1333SN	SQRAM 4G SO-DDR3-1333 I-GRD SAM
SQR-SD3I-8G1600SN	SQRAM 8G SO-DDR3-1600 I-GRD SAM

SQR-UD3I



Features

- Operating Temperature: -40° C to +85° C
- Gold plating on PCB gold finger is 30 u"
- JEDEC standard 1.5 V ± 0.075 V Power supply
- Max clock Freq: 667 MHZ; 1333 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM

Specifications

Category	DDR3
Clock Speed	1333 Mbps
Power Supply	SSTL_15
Voltage	1.5 V ± 0.075 V
Chip Package	FBGA
Pin/DIMM	240pin SO-DIMM
Gold plating on PCB gold finger	30u"
Operation Temp	-40° C to +85° C
Dimension (mm)	133.35 x 30

Ordering Information

Part No.	Product Description
SQR-UD3I-1G1333SNG	SQRAM 1G 240P DDR3-1333 I-GRD SAM
SQR-UD3I-2G1333SNC	SQRAM 2G 240P DDR3-1333 I-GRD SAM
SQR-UD3I-4G1333SNC	SQRAM 4G 240P DDR3-1333 I-GRD SAM

Server Grade

SQR-SD3I-ECC



Features

- Operating Temperature: -40° C to +85° C
- Gold plating on PCB gold finger is 30 u"
- JEDEC standard 1.5 V ± 0.075 V Power supply
- Max clock Freq: 800 MHZ for1600 Mb/s/ Pin
- Serial presence detected with 2048-bit EEPROM
- On Dimm Thermal Sensor

Specifications

Category	DDR3
Clock Speed	1600 Mbps
Power Supply	SSTL_15
Voltage	1.5 V ± 0.075 V
Chip Package	FBGA
Pin/DIMM	204pin SO-DIMM
Gold plating on PCB gold finger	30u"
Operation Temp	-40° C to +85° C
Dimension (mm)	67.6 x 30

Ordering Information

Part No.	Product Description
SQR-SD3I-2G1600SE	SQRAM 2G SO-DDR3-1600 ECC I-GRD SAM
SQR-SD3I-4G1600SE	SQRAM 4G SO-DDR3-1600 ECC I-GRD SAM
SQR-SD3I-8G1600SE	SQRAM 8G SO-DDR3-1600 ECC I-GRD SAM

SQR-SD3T-ECC



Features

- Operating Temperature: 0° C to 85° C
- JEDEC standard 1.5 V ± 0.075 V Power supply
- Max clock Freq: 667 MHZ for1333 Mb/s/ Pin& 800 MHZ for1600 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM
- On Dimm Thermal Sensor

Specifications

Category	DDR3
Clock Speed	1333/1600 Mbps
Power Supply	SSTL_15
Voltage	1.5 V ± 0.075 V
Chip Package	FBGA
Pin/DIMM	204pin SO-DIMM
Operation Temp	0° C to 85° C
Dimension (mm)	67.6 x 30

Ordering Information

Part No.	Product Description
SQR-SD3T-1G1333SEG	SQRAM 2G SO-DDR3-1333 ECC SAM
SQR-SD3T-2G1333SED	SQRAM 2G SO-DDR3-1333 ECC SAM
SQR-SD3T-4G1333SED	SQRAM 4G SO-DDR3-1333 ECC SAM
SQR-SD3T-8G1600SE	SQRAM 8G SO-DDR3-1600 ECC SAM

SQR-LD3T-ECC



Features

- Operating Temperature: 0° C to 85° C
- JEDEC standard 1.5 V ± 0.075 V Power supply
- Max clock Freq: 667 MHZ for1333 Mb/s/ Pin & 800 MHZ for 1600 Mb/s/Pin
- Serial presence detected with 2048-bit EEPROM
- On Dimm Thermal Sensor

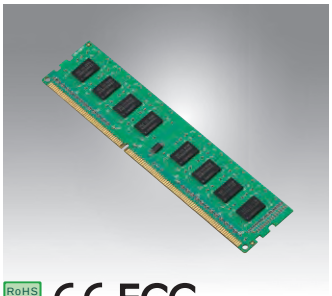
Specifications

Category	DDR3
Clock Speed	1333/1600 Mbps
Power Supply	SSTL_15
Voltage	1.5 V ± 0.075 V
Chip Package	FBGA
Pin/DIMM	240pin SO-DIMM
Operation Temp	0° C to 85° C
Dimension (mm)	133.35 x 30

Ordering Information

Part No.	Product Description
SQR-LD3T-1G1333SEG	SQRAM 1G 240P DDR3-1333 ECC SAM
SQR-LD3T-2G1333SED	SQRAM 2G 240P DDR3-1333 ECC SAM
SQR-SD3T-4G1333SED	SQRAM 4G 240P DDR3-1333 ECC SAM
SQR-LD3T-8G1600SE	SQRAM 8G 240P DDR3-1600 ECC SAM

SQR-LD3T-REG



Features

- Operating Temperature: 0° C to 85° C
- JEDEC standard 1.5 V ± 0.075 V Power supply
- Max clock Freq: 667 MHZ for1333 Mb/s/ Pin
- Serial presence detected with 2048-bit EEPROM
- On Dimm Thermal Sensor

Specifications

Category	DDR3
Clock Speed	1333 Mbps
Power Supply	SSTL_15
Voltage	1.5 V ± 0.075 V
Chip Package	FBGA
Pin/DIMM	240pin SO-DIMM
Operation Temp	0° C to 85° C
Dimension (mm)	133.35 x 30

Ordering Information

Part No.	Product Description
SQR-LD3T-1G1333SRG	SQRAM 2G SO-DDR3-1333 REG SAM
SQR-LD3T-2G1333SRD	SQRAM 2G SO-DDR3-1333 REG SAM
SQR-LD3T-4G1333SRD	SQRAM 4G SO-DDR3-1333 REG SAM

Embedded I/O Modules



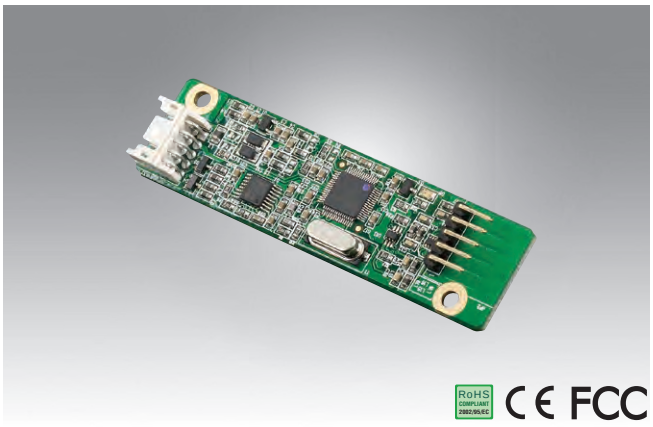




Selection Guide

Model Name	ETM-RES02C	ETM-RES04C	ETM-RES05C	EMCB-200U	EMIO-100P
Type	Resistive type, Single Touch	Resistive type, Single Touch	Resistive type, Single Touch	USB to 2-Ch CANBus port	USB to 1-Ch Parallel port
Communication Interface	USB & RS-232	USB & RS-232	USB & RS-232	Combo USB (Internal/ External)	Combo USB (Internal/ External)
Interface Connector	Power port: 2.0 mm, 2-pin, male type wafer box USB/RS232 port: 2.0 mm, 4-pin, male type wafer box	Combo (USB/RS232) port: 2.0 mm, 2x5-pin, male type wafer box	Combo (USB/RS232) port: 2.0 mm, 2x5-pin, male type wafer box	Internal USB port: MiniPCIe thru USB External USB port: 2.0 mm, 2x5-pin, male header	Internal USB port: MiniPCIe thru USB External USB port: 2.0 mm, 1x4-pin, male type wafer box
Channel Connector	1	1	1	2	1
Operating Temperature	-20 to +85°C	-25 to +85°C	-25 to +85°C	-40 to +85° C	0 to +70° C
Storage Temperature	-40 to +85°C	-25 to +85°C	-25 to +85°C	-40 to +85° C	-40 to +85° C
Communication Baud Rate	9,600 (default) and 19, 200	9,600 (default)	9,600 (default)	10, 20, 50, 125, 250, 500, 800, 1000 Kbps	--
LED Status	Activated indicator	Activated indicator	Activated indicator	Activated indicator	Activated indicator
Dimensions (L x W x H)	62 x 33 x 10.26 mm	75 x 20 x 10 mm	75 x 20 x 10 mm	50.95 x 30 x 10 mm	50.95 x 30 x 10 mm
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ETM-RES04C
Resistive Type Single-touch Module



Features

- Resistive touch technology, supports 5-wire touchscreen
- Supports USB & RS-232 Interface
- Resolution support to 2048 x 2048
- High Reliability and Fast Conversion Time

Specifications

Touch Technology	Resistive type
Host site Interface	USB: Conforms to USB 1.1 RS-232 serial: 8 data bits, 1 stop bit, no parity, and full duplex
Host site Connector	2.0 mm, 2x5-pin, male header for combo interface (USB and RS-232)
Communication Baud Rate	9,600 (default)
Touch Screen Connector	5-wire: 2.54 mm, 5-pin, male header
Support Voltage and Current	+ 5.0 V, 100 mA
Touch Resolution	2048 x 2048, Size independent
Conversion Time	Max. 20 ms per coordinate set
LED Status	Touch activate indication LED
OS Supported	Windows 2000/ XP/ 7, WinCE 5.0/6.0/7.0, Linux
Temperature Ranges	Operation: -25 to +85° C Storage: -25 to +85° C
Power Consumption (*)	Sleep mode (USB Suspend): < 2.5 mA Idle mode (un-touch): < 20 mA Working mode (touch): < 70 mA
Dimensions (L x W x H)	75 x 20 x 10 mm

(*) The power consumption may be different with the above if the resistance of sensor is different.

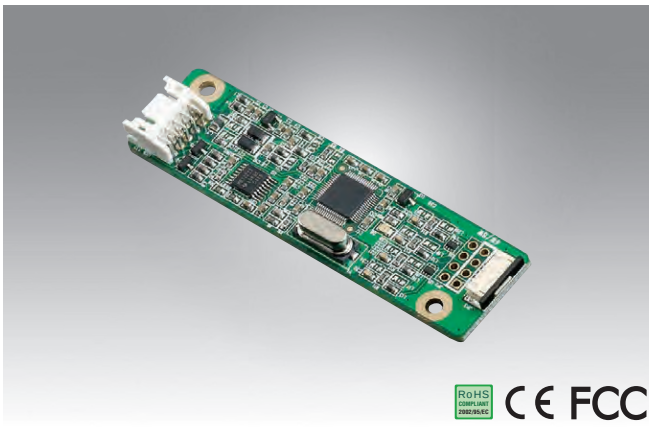
Ordering Information

Part No.	Product Description
ETM-RES04C-EEH4EE	Resistive type Touch Module, Single touch, 5-wire

Suggested Cable (connect w/ platform)

Part No.	Specifications
1700020270-01	Cable 2x5P-2.0mm to D-SUB 9P(F)+USB-A(F)+ 1x2P-2.0mm
1700020324-01	Cable 2x5P-2.0mm to USB-A(M), 180cm

ETM-RES05C
Resistive Type Single-touch Module



Features

- Resistive touch technology, supports 4-wire Touch Screen
- Supports USB and RS-232 Interface
- Resolution support to 2048 x 2048
- High Reliability and Fast Conversion Time

Specifications

Touch Technology	Resistive type
Host site Interface	USB: Conforms to USB 1.1 RS-232 serial: 8 data bits, 1 stop bit, No parity, and full duplex
Host site Connector	2.0 mm, 2x5-pin, male header for combo interface (USB and RS-232)
Communication Baud Rate	9,600 (default)
Touch Screen Connector	4-wire: 1.0 mm, 4-pin, FFC/FPC header 4-wire: 2.54 mm, 4-pin, male header
Support Voltage and Current	+ 5.0 V, 100 mA
Touch Resolution	2048 x 2048, Size independent
Conversion Time	Max. 20 ms per coordinate set
LED Status	Touch activate indication LED
OS Supported	Windows 2000/ XP/ Vista/ 7, WinCE 5.0/ 6.0/ 7.0, Linux,
Temperature Ranges	Operation: -25 to +8° C Storage: -25 to +85° C
Power Consumption (*)	Sleep mode (USB Suspend): < 2.5 mA Idle mode (un-touch): < 20 mA Working mode (touch): < 70 mA
Dimensions (L x W x H)	75 x 20 x 10 mm

(*) The power consumption may be different with the above if the resistance of sensor is different.

Ordering Information

Part No.	Product Description
ETM-RES05C-EEH4EE	Resistive type Touch Module, Single touch, 4-wire

Suggested Cable (connect w/ platform)

Part No.	Specifications
1700020270-01	Cable 2x5P-2.0mm to D-SUB 9P(F)+USB-A(F)+ 1x2P-2.0mm
1700020324-01	Cable 2x5P-2.0mm to USB-A(M), 180cm

EMCB-200U

USB to 2-Ch CANBus port Module



Features

- USB to 2x CANBus port module with isolated
- Full size Mini PCIe & Module type combo
- Combo USB (Internal/ External) Interface
- Compliant with CAN 2.0A and CAN 2.0B identifiers, According to ISO 11898-1 and ISO 11898-2
- Bit rates up to 1 Mbit/s

Specifications

Technology	CANBus type
Host site Interface	Combo USB (Internal/ External) Interface
Communication Baud Rate	10, 20, 50, 125, 250, 500, 800 and 1000 Kbps
Host site Connector	Internal USB port: Mini PCIe thru USB External USB port: 2.0 mm, 2x5-pin, male header
CANBus Connector	1.25 mm, 3-pin, Male type Wafer Box
Support Voltage and Current	+ 5.0 V, 100 mA
LED Status	Power on/off LED: Green LED CAN-1, CAN-2 Tx LED: Red LED
OS Supported	Windows 2000/ XP/ Vista/ 7 (32 and 64-bits)
Temperature Ranges	Operation: -40 to +85° C Storage: -40 to +85° C
Dimensions (L x W x H)	50.59 x 30 x 10 mm

Ordering Information

Part No.	Product Description
EMCB-200U-MP01E	EMCB-200U CANBus module, 2-Ch, USB I/F (-40 to +85° C)

Suggested Cable

Part No.	Specifications
1700021705-01	Cable, D-Sub 9P to 1x3P-1.25 mm + G-TEM, L=30cm

EMIO-100P

USB to 1-Ch Parallel port Module



Features

- USB to 1x Parallel port module
- Full size Mini PCIe & Module type combo
- MiniPCIe thru USB & USB Pin Header
- Support IEEE 1284-compliant ECP

Specifications

Technology	Parallel type
Host site Interface	Combo USB (Internal/ External) Interface
Host site Connector	Internal USB port: Mini PCIe thru USB External USB port: 2.0 mm, 1x4-pin, male header
Parallel Connector	2.0 mm, 2x13-pins, Male type Wafer Box
Support Voltage and Current	+ 5.0 V, 100 mA
LED Status	Module Ready: Red LED
OS Supported	Windows 2000/ XP/ Vista/ 7/ 8 (32 and 64-bits), Linux (Kernel 2.4.x and above versions)
Temperature Ranges	Operation: 0 to +70° C Storage: -40 to +85° C
Dimensions (L x W x H)	50.59 x 30 x 10 mm

Ordering Information

Part No.	Product Description
EMIO-100P-MPU01E	EMIO-100P Parallel module, 1-Ch, USB I/F (0 to +70° C)

Suggested Cable

Part No.	Specifications
1700019693	Cable, D-Sub 25P(F) to 2x13P-2.0mm, L=15cm
1700260250	Cable, D-Sub 25P(F) to 2x13P-2.0mm, L=25cm
1700019261	Cable, 2x5P-2.0mm to 1x4P-2.0mm, L=40cm
1700021861-01	Cable, USB-A(F) to 1x4P-2.0mm, L=15cm

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