

Embedded Single Board Computers

Enabling Next Generation Industrial Applications

- ✓ Embedded Boards
(Pico-ITX, PC/104, 3.5", EBX & 5.25")
- ✓ System Integration Service
- ✓ MI/O Extension Innovation
- ✓ Vertical-focused Solutions
- ✓ EPC Systems
- ✓ Open-frame Panel PCs



ADVANTECH

Enabling an Intelligent Planet

ESBC.advantech.com

Wide Selection of Embedded Form Factors

Advantech Embedded Single Board Computer (SBC) series include: 2.5" Pico-ITX, 3.5" SBC, PC/104, 5.25" EBX, and MI/O Extension form factors. They offer scalable x86 performance with longevity and are ideal for 24/7 operation and industrial grade rugged operation. They are available in compact sizes with rich I/O and expansion possibilities.



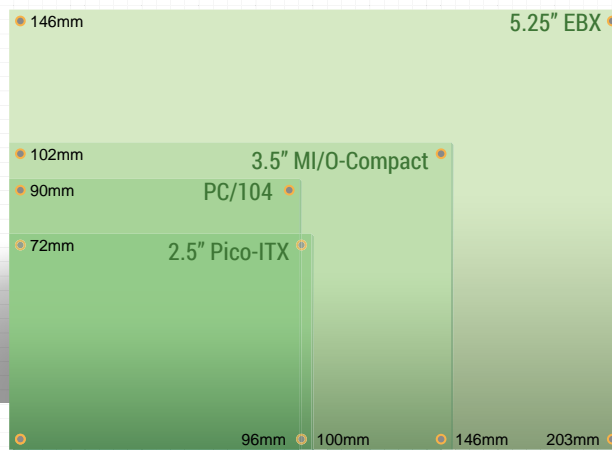
2.5" Pico-ITX Single Board Computers

- Measures 100 x 72 mm in Pico-ITX form factor
- Two types: With the rear I/O or with internal connectors only
- Features basic I/O, fanless operation, compact and slim design, supports extended temperature
- Low power consumption (under 10 W), supports Atom Quad core processor
- Equipped with a high-speed MIOe connector for extending/adding functions interfaces



3.5" Single Board Computers

- Measures 146 x 102 mm in 3.5" form factor
- Two types: supports legacy I/O, PCI-104, PC/104 expansion or unified mechanical design with a high-speed MIOe connector for extending/adding functional interface
- Scalable x86 performance for 4W devices up to Intel® Core™ i7 platforms
- Feature rich I/O, high flexibility, a fanless slim design, extended temperature options



PC/104 CPU Modules

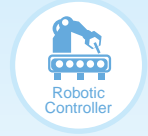
- Measuring 96 x 90 mm to 96 x 115 mm in PC/104-Plus, PC/104 or PCI-104 form factors
- Compact size, ultra-low power PC/104, PCI-104, or PC/104-Plus expansion
- Offers scalable x86 performance for ultra-low power (5 W) system-on-chip devices through to Intel® Atom™ quad-core processors
- Extended temperature support and high vibration/shock tolerance (MIL-STD certified)



EBX, 5.25" Single Board Computers

- Measures 203 x 146 mm in EBX/ 5.25" form factor
- Features flexible I/O, super-slim compact design, and multiple expansion options, including stackable PC/104-Plus, PCI, Mini PCIe, and universal extension bus modules.
- Scalable x86 performance from low-power Intel® Atom™ processors to high-performance Intel® Core™ i processors

System & Peripheral Integration Service

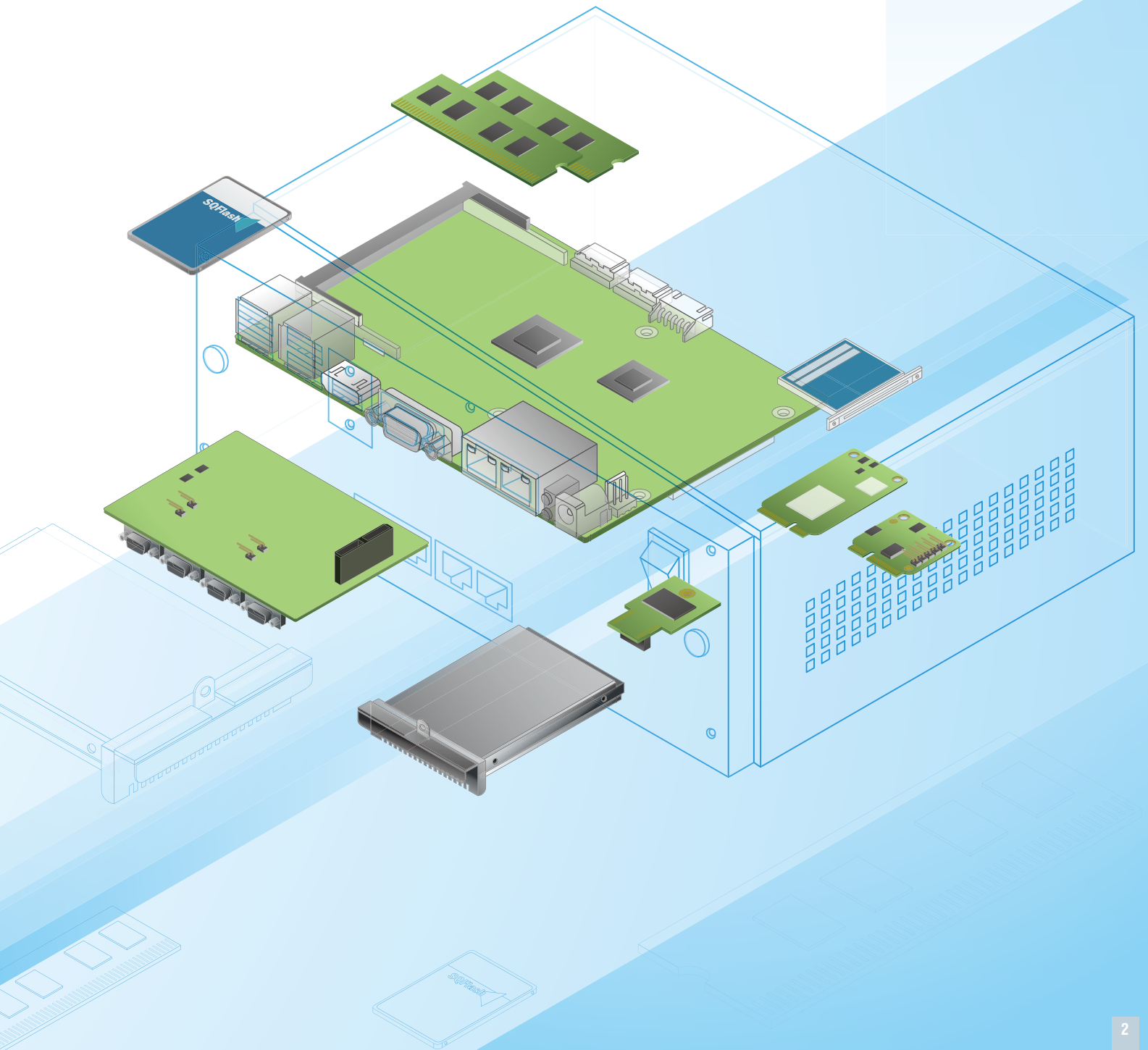


Peripheral Modules and Displays

Advantech provides a full selection of industrial peripheral products such as storage, wireless, touch modules and displays, along with Advantech's software turn-key solutions. Together they offer innovative choices that integrate perfectly with our embedded single board computers.

Chassis and System Integration

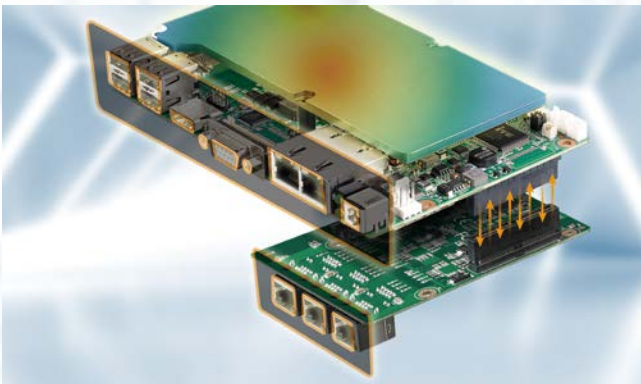
EPC Series provide chassis and system solutions for 3.5" single board computers, bundled with peripherals and software for time and resource efficient client services.



Design Benefits from Modular & Embedded Solution

Advantech Embedded Single Board Computers offer scalable performance from low power to high-end platforms, fanless designs, compact and low profile architectures, and extended temperature SBC with longevity. Customers benefit from their intelligent modular design, premium quality assurance, rugged features, and value-added consulting services.

Intelligent Modular Design



M/I/O Extension (multiple I/O Extension)

- MIOe unified connector
- Unified system mechanical design
- Concentrated thermal design
- Expansion module options



Configurable Connector

- Off the shelf solutions
- Stand alone with cabling or bundled with carrier board
- Flexible coastline and I/O selection
- Cableless design
- Reliable connection

Premium Quality Assurance



Design for High Quality

- High-quality materials selection and design
- Wide-temp power solution
- Solid capacitors
- High TG PCB
- ESD protection w/ IEC highest level



Stringent Testing

- High criteria signal integrity (SI)
- IEC environmental testing
- Highly accelerated life test (HALT)
- Advantech strict extended temperature testing criteria (Phoenix: -20~80°C or -40~85°C)
- Military standard testing

Rugged Solution



Extended Temperature (-40~85°C)

- Design with industrial-grade components
- Extended temperature testing



Military Standard for Shock and Vibration

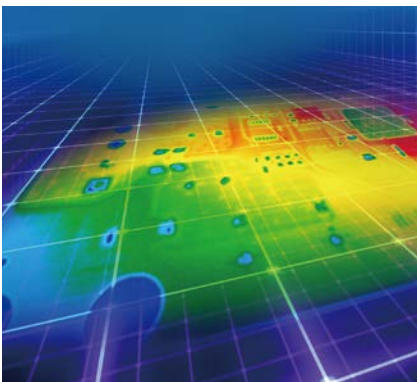
- MIL-STD-202G
- MIL-STD-810G



Conformal Coating Service

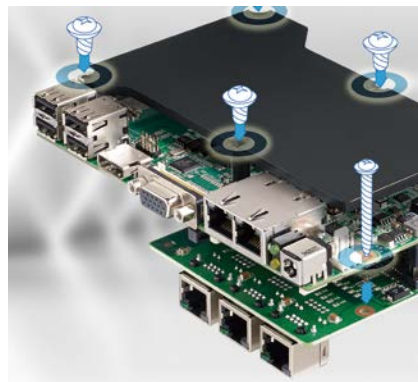
- Solution for preventing corrosion and moisture
- Acrylic resin coating materials
- IPC-610D regulations

Value-added Consulting Service



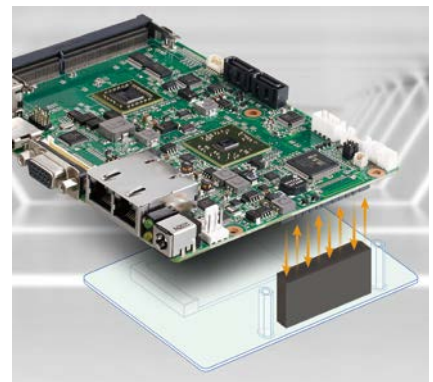
Cooling Consulting Service

- Thermal simulation
- Facilitates system thermal design



Complete Mechanical 3D Drawing Offering

- Speedup system integration
- Reduce sample & mold modifications



MIOe Modules Customization Service

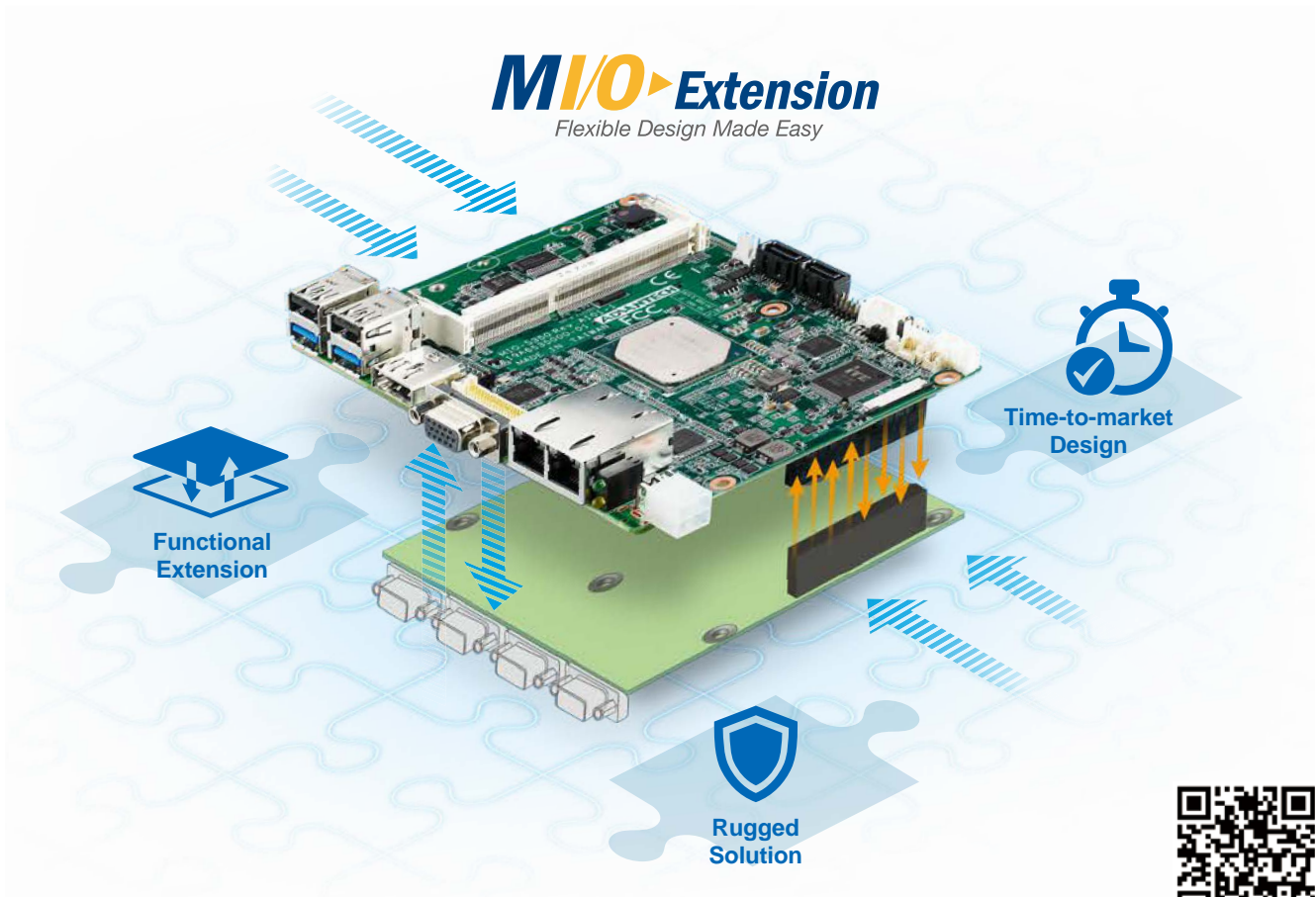
- Custom specification
- Secured domain knowledge
- Experienced technical support

MI/O Extension Innovation

Advantech's innovative MI/O (Multiple I/O) Extension Single Board Computers all feature flexible and integrated multiple I/O to help aid efficient development, reduce resources, and assist integrators to provide optimized solutions in a more cost-effective way. By connecting with MIOe I/O extension modules which support additional extended unified interfaces including: DisplayPort, 4 PCIe x 1, LPC, SMBus, USB 2.0/USB 3.0, rugged solutions, audio line-out and power, customers receive the best I/O choices to fulfill vertical application development as well as helping them retain their specialist domain knowhow. These features are all part of Advantech's thoughtful effort to help integrators flexibly develop market-sensitive solutions and seize those promising business opportunities.

Why Advantech MI/O Extension SBCs?

- Highly integrated design saves up to 20% of system space
- Design document and evaluation board support
- Flexibility for future I/O expansion and upgrades
- Time-saving and cost-effective solution for system integrators
- Advantech Embedded SBC industrial design with rugged solutions



Visit MI/O Design-in Website

MI/O Design-in Process

Reference Design

- Off-the-shelf modules
- Available IP building blocks
- 2D/3D mechanical drawing

Design Checklist & Review

- Schematic design guide
- Layout checklist
- Local technical review service

Integration Services

- BIOS customization
- Thermal simulation & integration
- Enclosure & customization service

Vertical-focused Solutions

Advantech MI/O vertical-focused solutions extend flexible product design with customized specifications, low profile computing modules, and simplified carrier board development. The MI/O CPU board is a stand alone solution (Pico-ITX series), bundled with the different MIOe carrier boards for various I/O extensions.

Customized specification definition

- Minimum carrier board design effort (4-6 PCB layers)
- Low total cost of ownership
- Time to market faster

Support flexible I/O ports

- All I/O functions, quantity, and locations can be customized
- Rugged connectors can be customized (eg: water proof, vibration, IP.. etc.)

Cableless and Compact integration

- Carrier board replaces all cabling
- MIOe carrier board supports multiple signals
- Total height under 30mm



Integrated APNR in South Europe

Application Requirements

Automatic Number Plate Recognition (ANPR) is a surveillance system with the capability of capturing an image of vehicles with their license number and communicates that information with central control in real time via cable, fiber Optical, GPRS, or 3G. The APNR unit integrates both processor and camera equipped with infrared LED illuminators that can read number plates at high speeds, in heavy traffic, or in poor lighting conditions. Advantech's reliable MIO-2263 is based on the smallest x86 Pico-ITX form factor, with Quadcore, Mini PCIe expansion, Ethernet and USB 3.0 that allows seamless thermal integration supporting operating temperature up to -40 °C to +85 °C and comes with software API's for remote monitoring.



MIO-2263

- Smallest x86 form factor
- Flat surface heat spreader interfaced to the camera enclosure
- Advanced thermal design
- Extended temperature support for outdoor usage
- Remote monitoring capabilities



ECG Diagnostic Monitor

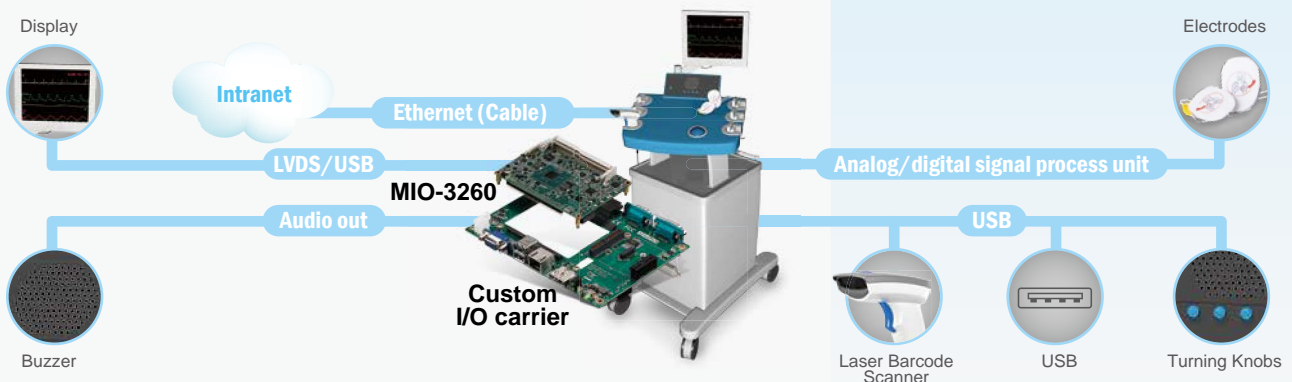
Application Requirements

Electrocardiograms (ECGs) services have increased over the past few years. A system integrator of a state of the art ECG monitor was looking for a small cost-effective, cableless and compact board-to-board solution in order to define internal and external I/O connector types and placement. The choice fell on the MIO-3260, a Pico-ITX single board computer (SBC) without external I/O, signal transmission is carried out via a total of 2x64 pins and MI/O Extension. MIO-3260 was fastest way to market, it is an ultra-compact and versatile off-the-shelf SBC solution with a carrier board that was designed by the customer.



MIO-3260

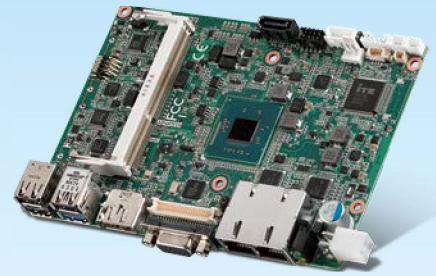
- No cabling issues (carrier board configuration replaces all cabling)
- Less design effort on carrier board
- Secures customer core Know-How
- High system integration
- Compact & slim (B-B height only 8mm)
- Fastest time to market



Internet Protocol Access Controller

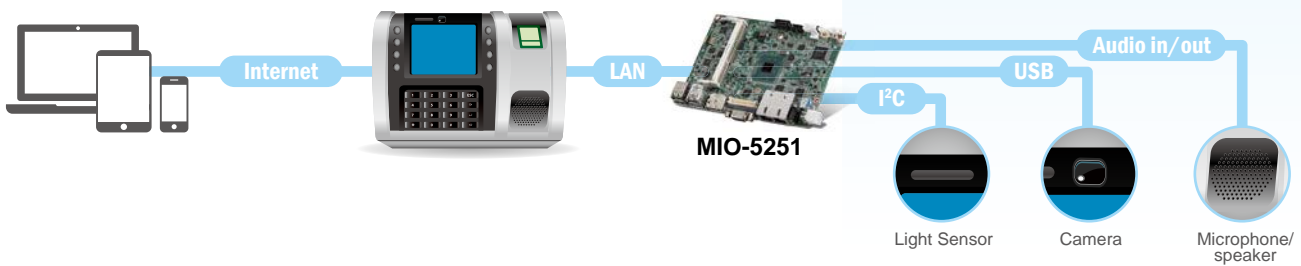
Application Requirements

This control system allows entry to private gated communities or industrial buildings via a secure private access terminal. Entry is allowed via VOIP to residents or workforce and accessed through a touch screen pass code, facial recognition, license plate recognition or even blue tooth. The customer required stable and robust network communications and -40 to 85 °C operating temperature with conformal coated components and wireless technologies including Wi-Fi, Bluetooth and GSM.



MIO-5251 with 10.1" Touch Display

- Highly reliable and wide temperature design, high ESD protection and optional conformal coating service
- Dual LAN to connect between Intranet and Internet.
- Long life and flexibility to customize and depopulate services
- Linux support and custom BIOS



In-Vehicle High-end Digital Signage System

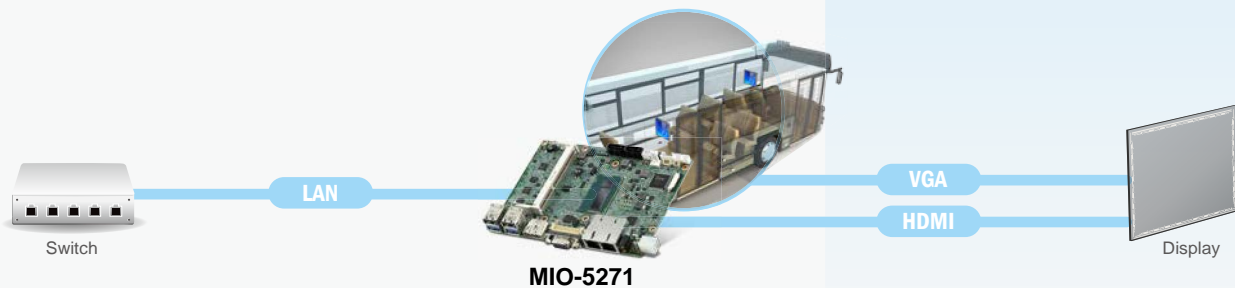
Application Requirements

This in-vehicle digital signage system provides important information such as public services, schedule, announcements and advertisements, so the system required a high-end computing solution to assure all the information flows smoothly. Advantech MIO-5271 is an Intel Core i5 high performance 3.5" SBC in a compact, fanless and rugged design that makes it an ideal solution for in-vehicle applications.



MIO-5271

- VGA and HDMI for dual displays
- Intel Core i5 high performance fanless design
- High reliability and vibration resistant



EPC - Full Range SBC Enclosures/ Systems

Advantech Embedded PCs (EPC) are a full range enclosures and systems designed for 3.5" single board computers, featuring optimized mechanical design and flexible I/O interface options, assuring maximized flexibility for design-in efficiency. Advantech Embedded PCs come with various standard form factors and scalable sizes, allowing quick integration for customer applications.

Compact & Expandable Design

- I/O expansion module up to 7 COM port / 5 GigaLAN
- Expand applications with Mini-PCIe, M.2, PCIe

Easy Customization Service

- Change customized Logo printing
- CTOS service to build customized system, including expansion I/O port quantity, peripherals and OS

Flexible I/O interface

- Design-in and reserve maximum I/O punch-out at rear bezel
- EPC-X series can support additional I/O port expansion by MIOe or PCM module

Easy Assembly & Maintenance

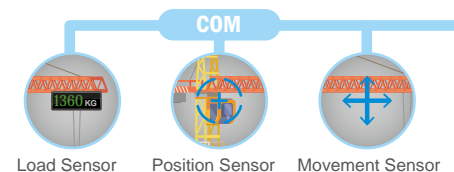
- Few steps to assemble system product
- Bottom door for quickly maintenance of mSATA/mini-PCIe module

APPLICATION STORY

Remote Monitoring System for Harbour Crane

Application Requirements

Harbour cranes are highly complex and safety-intensive equipment that require reliable and real-time monitoring. A remote monitoring system for a harbour crane collects remote data and monitors its status to enable remote diagnosis and actions. Advantech's EPC-C300, built with MIO-5251, provides an ideal low-power, multi serial port solution to replace the PLC controller, so as to improve the data processing speed of the various sensors.



Quick Integration with Local Service



Flexible System Solutions



2 Years Global Warranty



Meet Your Special Needs



Easy to Order, Smart Purchasing



OS Expertise



Safety of Quality Assurance



Fast Delivery with Local Access



Global Availability

Key Benefits

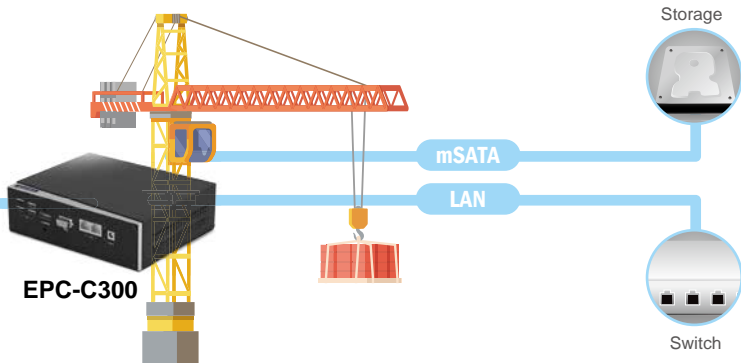
- Time-to-market with fully compatible boards & enclosures
- One-stop system integration
- Shortens design process
- Effectively reduces total cost of ownership

Fanless/ Fan-based

- Fan-based solution for high performance Intel core i5 with turbo-boost feature
- Fan-less solution supports ATOM and Celeron CPU

Multiple Mounting Capability

- Wall-mount & desk mount as default
- Supports VESA & Din-Rail mounting by optional accessory kit
- VESA mounting for EPC-S series is default, no optional kit is needed



EPC-C300 Built with MIO-5251

- Multi serial ports to connect to various sensors
- Compact design
- Shorten design-in process

Modular Fanless Open Frame Panel PCs

This open frame solution comes with flexible and slim features for efficient integration that's ideal for various embedded applications. Advantech offers a rich selection of single board computers, platforms, and touch panels. The precise positioning of the open frame panel PCs make solution integration easier and faster, which saves assembly and development effort for customers. Modular fanless open frame panel PCs support flexible mounting kits to make installation easier and more efficient.



APPLICATION STORY

Facial Care System Controller/ Display Interface

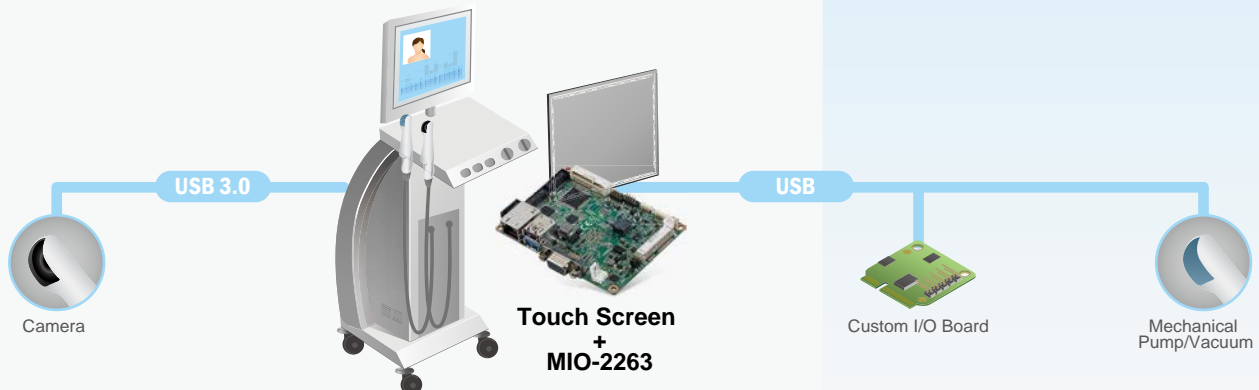
System controller for facial treatment system

Application Requirements

A customer needed a quick and easy integration solution to fulfill a medical cosmetics and beauty care application. An open frame panel architecture was necessary because the customer needed to adapt special materials and appearance into the design for environment requirements. They wanted a compact size PC that can play high resolution video to serve as a GUI that offers usage information. The customer also plans to expand the controller board to adopt IoT features for remote control and trouble shooting.

Open frame Panel PC

- Compact size for easier system integration.
- One-piece design for quick assembly
- Open frame design for customized ID
- Highly reliable design and longevity
- Great product hardware and software support
- OS supports both on WEC7 and WES7 and custom BIOS



Complete Embedded Software Support

IoT Device Remote Monitoring and Management Platform Services

Advantech strives to integrate IoT solutions by providing pre-integrated, pre-validated hardware and software building blocks that enable secure and seamless data flow from sensor to cloud. WISE-PaaS/RMM is one of Advantech's IoT Software Platform Services, focusing on IoT device remote monitoring and management, bridging layers of IoT Platform Architecture, and anchoring predictive maintenance, big data analysis, and other domain-specific cloud applications.

WISE-PaaS/RMM Standard Hardware Devices Built-In			WISE-PaaS/RMM Professional IoT Developers Design-In	
System Monitoring	Remote Control	System Security	Software Development Ki	Software Development Ki
 Device Monitoring	 Remote KVM	 System Recovery Acronis	 Sensor/Device SDK	 Server Redundancy
 Automatic Alerts	 Power On/Off	 System Protection intel Security	 150+ RESTful API	 Server Hierarchy
 Dashboard Builder			 Node-RED Logic Editor	

Software APIs (SUSI API + iManager)

Advantech's SUSI (Secure and Unified Smart interface) tool is a suite of API that allow users to directly monitor and control digital I/O, I2C, CPU stepping speed, watchdog timers, smart fans and access hardware monitoring sensors.

Control		Monitoring		Display	Energy Saving
 SMBus	 I2C	 Hardware Control	 Hardware Monitoring	 Backlight	 CPU Speed
 GPIO	 gSOAP	 Watchdog	 Data Security	 Brightness	 System Throttling
 G-Sensor	 Smart Fan				 Power Saving

Various Operating System Options

Microsoft and Linux are popular OS in the embedded market. Advantech works with a wide range of Linux partners for integration.



Key Features

- General Distribution Consulting Service
- Driver Modification & Configuration Services
- Application Ready Platform
- Embedded QT Package

MI/O Extension 3.5" SBCs

NEW



NEW



Model Name	MIO-5350	MIO-5251	MIO 5272	MIO-5271	MIO-5270	MIO-5290	
Form Factor	3.5" MI/O-Compact	3.5" MI/O-Compact	3.5" MI/O-Compact	3.5" MI/O-Compact	3.5" MI/O-Compact	3.5" MI/O-Compact	
Processor System	CPU	Intel® Pentium N4200 Celeron N3350 & Atom™ E3950/E3940/E3930,DDR3L 1867 MHz, up to 16GB	Intel Atom E3825/ E3845, Celeron J1900	Intel Core i7-6600U/ i5-6300U /i3-6100U/ Celeron 3955U	Intel Core i5-4300U, Celeron 2980U	AMD G-Series T56N/ T40E/ T40R	Intel Core i7-3555LE/ i7-3517UE /i3-3217UE/ Celeron 1047UE
	CPU TDP	6W/6W/12W/9W/6W	6W/ 10W/ 10W	15W	15W	18 W/ 6.4 W/ 5.5 W	25 W/ 17 W/ 17W/ 17W
	Frequency	1.1GHz/1.1GHz/1.6GHz/1.6GHz/1.3GHz	1.33 GHz/ 1.91 GHz/ 2(Turbo: 2.42) GHz	2.6(Turbo: 3.4)GHz/ 2.4(Turbo: 3.0) GHz/ 2.3 GHz/ 2.0 GHz	1.9(Turbo: 2.9) GHz/ 1.6 GHz	1.65 GHz/ 1.0 GHz/ 1.0 GHz	2.5(Turbo: 3.0) GHz/ 1.7(Turbo: 2.6) GHz/ 1.6 GHz/ 1.4 GHz
	Core Number	4/2/4/4/2	2/ 4/ 4	2	2	2/ 2/ 1	2
	L2 Cache	2	1MB/ 2MB	-	-	1MB/ 512KB/ 512KB	-
	L3 Cache	-	-	4MB/ 3MB/ 3MB/ 2MB	3MB/ 2MB	-	4MB/ 4MB/ 3MB/ 2MB
	BIOS	AMI UEFI 64 Mb	AMI UEFI 64Mbit	AMI UEFI 128 Mbit	AMI UEFI 128 Mb	AMI EFI 32Mbit	AMI EFI 64Mbit
Memory	Chipset	-	-	-	-	Intel QM77	-
	Technology	DDR3L 1867 MHz	DDR3L 1066/1333MHz	DDR3L 1333/1600 MHz	DDR3L 1333/1600 MHz	DDR3 1066 MHz, 1333MHz only for T56N	DDR3 1600MHz, DDR3L 1333 MHz
	Max. Capacity	8 GB	8 GB	16 GB	8 GB	4 GB	8 GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM	2 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Controller	Intel Gen7 graphic engine	Intel Gen7 graphic engine	Intel® HD Graphics 500 series	Intel® HD Graphics 4400 / Intel HD Graphics (Celeron)	AMD Radeon™ HD 6320/6250/6250	Intel® HD Graphics 4000 / Intel® HD Graphics (Celeron)
	Graphic Memory	Share with system memory up to 1792MB	Share with system memory up to 384 MB	Share with system memory up to 3968MB	Share with system memory up to 1792MB	Share with system memory up to 384MB	Share with system memory up to 1792MB
	VGA	2560 x 1600 at 60Hz	Up to 2560 x 1600 at 60Hz	Up to 1920 x 1200 at 60 Hz	Up to 1920 x 1200 at 60 Hz	T56N up to 2560 x 1600, T40R & T40E up to 1920 x 1200 at 60Hz	Up to 2048 x 1536 at 75Hz
	LCD (LVDS/eDP)	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz	LVDS 48-bit, up to 1920 x 1200 at 60Hz eDP (optional): up to 2560 x 1600 at 60Hz	LVDS 48-bit, up to 1920 x 1200 at 60Hz	LVDS 48-bit, up to 1920 x 1200 at 60Hz	LVDS 48-bit, up to 1920 x 1200 at 60 Hz	LVDS 48-bit, up to 2560 x 1600 at 60 Hz
	DDI (HDMI/DVI/DisplayPort)	HDMI 1.4a for HD video playback, 1080P at 60Hz DisplayPort*, up to 2560 x 1600 at 60Hz	HDMI: up to 1920 x 1080 at 60Hz DisplayPort (optional): up to 2560 x 1600 at 60Hz	HDMI: up to 4096 x 2160 at 24 Hz	HDMI: up to 4096 x 2304 at 24Hz DisplayPort (optional): up to 3200 x 2000 at 60Hz	HDMI: up to 1920 x 1080 at 60Hz & 360pp	HDMI: up to 1920 x 1200 at 24Hz DisplayPort (optional): up to 2560 x 1600 at 60Hz
	Multiple Display	VGA+LVDS, VGA+HDMI, HDMI+LVDS	VGA+HDMI/DP, VGA+LVDS/eDP, HDMI/DP+LVDS/eDP	VGA+HDMI, VGA+LVDS, HDMI+LVDS, VGA+HDMI+LVDS	VGA+LVDS, VGA+HDMI/DP, HDMI/DP+LVDS, VGA+HDMI/DP+LVDS	VGA+LVDS, VGA+HDMI, HDMI+LVDS	VGA+LVDS, VGA+HDMI/DP, HDMI/DP+LVDS, VGA+LVDS + DP (coastline) + DP (MI/O)
	Triple Display	VGA +LVDS+eDP + HDMI * DP	-	VGA + HDMI + LVDS	-	-	-
Expansion Interface	Mini PCIe	1 x Full-size	1 x Full-size	2 x Full-size	1 x Full-size, 1 x Half-size	1 x Full-size	1 x Full-size, 1 x Half-size
	SIM Socket	-	1	1	1	-	-
	SMBus	1	1	1	1	1	1
	PC	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)	1 (Shares with SMBus pin)
	MIOe	DisplayPort(optional), SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, +5 Vsb/+12 Vsb power, Power On, Reset#	SMBus, 3xUSB2.0, LPC, 1 x PCIe, line-out, DisplayPort (optional), Reset, Power On, +5Vsb, +12Vsb	SMBus, USB3.0, LPC, 2 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	SMBus, 3 x USB2.0, LPC, 4 x PCIe, line-out, DisplayPort (optional), Reset, PowerOn, +5Vsb, +12Vsb	SMBus, 1 x USB3.0, LPC, 4 x PCIe x1, line-out, DisplayPort, Reset, PowerOn, +5Vsb, +12Vsb
	Ethernet	Controller	GbE1 & GbE2: Intel i210	GbE1 & GbE2: Intel i210	GbE1: Intel i219, GbE2: Intel i210	GbE1: Intel i218, GbE2: Intel i210	GbE1 & GbE2: Realtek RTL8111E-VB-GR 82583V
Audio	Speed	10/100/1000Mbps	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	RJ45 x 2
	Audio Interface	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio
	CODEC	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek ALC892	Realtek ALC892
WatchDog Timer	Amplifier	Optional via MIOe	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	Line-in, Line-out, Mic-in
Storage	WatchDog Timer	255 levels timer interval, programmable by software	255 levels timer interval	255 levels timer inte	255 levels timer interval	255 levels timer interval	255 levels timer interval
	SATA	2* SATAIII (Max. Data Transfer Rate up to 6.0 Gb/s)	1, up to 3Gb/s (300MB/s)	2, up to 6 Gb/s (600 MB/s)	2, up to 6 Gb/s (600 MB/s)	2, up to 3Gb/s (300 MB/s)	2, up to 6.0 Gb/s (600 MB/s)
	mSATA	1 x Full-size	1 x Full-size	Supports either mSATA or full size miniPCIe, default support mSATA	Supports either mSATA or full size miniPCIe, default support mSATA	Supports either mSATA or full size miniPCIe, default support miniPCIe	Supports either mSATA or full size miniPCIe
I/O	CFast	-	-	-	-	1	-
	USB3.0	2	1	2	2	-	2
	USB2.0	4 (2 from Rear, 2 from Internal)	3 (3 from rear, 1 from internal)	4 (2 from rear, 2 from internal)	3 (2 from rear, 1 from internal)	6 (4 from rear, 2 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	8-bit general purpose input/output
	COM Port	2xRS-232, 2xRS-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	2 x RS-232/422/485 with RS-485 auto flow control	2 x RS-232/422/485 with RS-485 auto flow control	1 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	1
	Smart Fan	-	-	-	-	1 (T56N only)	-
Security	TPM	TPM 2.0 (optional)	-	TPM 2.0 (optional)	-	-	-
	Power Type	AT/ATX	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	Single 12V DC power input	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 optional)	ATX 2x2P (DC Jack optional)	ATX 2x2P/ DC Jack	ATX 2x2P/ DC Jack
Power	Power Consumption (Idle)	TBD	E3825: 5.42 W / E3845: 6.12W / J1900: 5.88 W	i7 6600U: 6.46 W, / i5 6300U: 5.26 W, / i3 6100U: 5.02 W, / Celeron 3955U: 4.88 W	i5 4300U: 4.68 W / Celeron 2980U: 4.56 W	T40R: 7.08 W / T40E: 6.36 W / T56N: 7.8 W	i7 3517UE: 23.5 W / i7 3555LE: 27.7 W / i3 3217UE: 18.08 W / Celeron 1047UE: 13.2 W
	Power Consumption (Full Load)	TBD	E3825: 9.72 W / E3845: 11.04W / J1900: 13.32 W	i7 6600U: 22.03 W, / i5 6300U: 20.87 W, / i3 6100U: 20.45 W, / Celeron 3955U: 17.81 W	i3 4300U: 29.52 W / Celeron 2980U: 20.52 W	T40R: 9.6 W / T40E: 9.84 W / T56N: 16.2 W	i7 3517UE: 27.6 W / i7 3555LE: 32.5 W / i3 3217UE: 22.08 W / Celeron 1047UE: 17.88 W
	Battery	Lithium 3 V / 210 mA	Lithium 3V / 210 mA	Lithium 3 V / 210 mA	Lithium 3V / 210 mA	Lithium 3 V / 210 mA	Lithium 3 V / 210 mA
Environment	Operational Temperature	(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)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° 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 102 mm (5.7" x 4")	146 x 102 mm (5.7" x 4")
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes	Yes	Yes
	SUSIAccess/ WISE-PaaS/RMM	Yes	Yes	Yes	Yes	Yes	Yes
	iManager/SUSI 4.0	Yes	Yes	Yes	Yes	Yes	Yes
Certification	EMC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

MI/O Extension 2.5" Pico-ITX

NEW



NEW

Model Name	MIO-2360	MIO-2263	MIO-2270	MIO-3260	MIO-6300	
Form Factor	2.5" MI/O-Ultra (Pico-ITX)	2.5" MI/O-Ultra (Pico-ITX)	2.5" MI/O-Ultra (Pico-ITX)	2.5" MI/O-Ultra (Pico-ITX)	-	
Processor System	CPU	*Intel® Celeron N3350 Intel® Atom™ E3940/E3930*	Intel Atom E3825/ Intel Celeron J1900	AMD G-Series SoC GX-415GA/ AMD G-Series SoC GX-210JA	Intel Atom E3825/ Intel Celeron N2930	Intel Celeron N2930, 1.83 GHz (Quad-Core)
	CPU TDP	6/6.5/9.5	6W/ 10W	15W/ 6W	6W/ 7.5W	7.5W
	Frequency	2.4GHz/1.8GHz/1.8GHz	1.33 GHz/ 2.0(Turbo: 2.42) GHz	1.5 GHz/ 1.0 GHz	1.33 GHz/ 1.83(Turbo: 2.16) GHz	1.83 GHz (Quad-Core)
	Core Number	2/4/2	2/ 4	4/ 2	2/ 4	4
	L2 Cache	2	1 MB/ 2 MB	2 MB/ 1 MB	1 MB/ 2 MB	2
	L3 Cache	-	-	-	-	-
	BIOS	AMI EFI 64 Mbit	AMI EFI 64 Mbit	AMI EFI 32 Mbit	AMI EFI 64 Mbit	AMI EFI 64 Mbit
Memory	Technology	DDR3L-1866MHz	DDR3L 1066/ 1333 MHz	DDR3/3L 1600/ 1066 MHz	DDR3L 1066/ 1333 MHz	DDR3L 1333 MHz for N2930
	Max. Capacity	8GB	8GB	8GB	8GB	8GB
	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	Intel Gen7 graphic engine	Intel Gen7 graphic engine	AMD Radeon HD 8330E/ 8180	Intel Gen7 graphic engine	Intel Gen7 graphic engine
	Graphic Memory	Share with system memory up to 1792MB	Share with system memory up to 384 MB	Share with system memory up to 384 MB	Share with system memory up to 384 MB*	Share with system memory up to 1792MB
	VGA	up to 1920x1200	Up to 2560 x 1600 at 60Hz	Up to 2048 x 1536 at 60Hz	Up to 2560 x 1600 at 60Hz	2560 x 1600 at 60Hz
	LCD (TTL/LVDS/eDP)	up to 1920x1200	LVDS 18/24-bit, up to 1440 x 900 at 60 Hz	LVDS 18-bit, up to 1600 x 900 at 60 Hz	LVDS 18/24-bit, up to 1440 x 900 at 60 Hz	single channel 24-bit LVDS up to 1440 x 900 at 60Hz
	DDI (HDMI/DVI/DisplayPort)	DP 1.2a (4096x2160@60Hz) / HDMI 1.4b(3840x2160@30Hz) Displayport*, up to 2560 x 1600 at 60Hz	HDMI 1.4a 1920x1200 at 60 Hz/ 24bpp	HDMI 1.4a 1920x1200 at 60 Hz/ 24bpp	-	HDMI 1.4a for HD video playback, 1080P at 60Hz Displayport*, up to 2560 x 1600 at 60Hz
	Multiple Display	VGA+LVDS / HDMI+LVDS	VGA+LVDS, HDMI+LVDS	VGA+LVDS, HDMI+LVDS	LVDS+VGA, LVDS+DP/HDMI, VGA+DP/HDMI	VGA+LVDS
	Triple Display	-	-	-	-	-
Expansion Interface	Mini PCIe	1 x Half size	1 x Half size	1 x Half size	1 x Full-size	2 x Full size
	SIM Socket	1	-	-	-	-
	SMBus	1	1	1	1 (from 64pin connector B)	1
	IPC	1 (Shares with SMBus pin)	-	-	1 (from 64pin connector B)	1 (Shares with SMBus pin)
	MIOe	SMBus, 2 x USB3.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset, SATA*	2 x USB2.0, 2 PCIe x1, LPC, HD Audio line-out, DP or HDMI supported by request, 5 Vsb/12 Vsb power	2 x USB2.0, 2 PCIe x1, LPC, HD Audio line-out, DP or HDMI supported by request, 5 Vsb/12 Vsb power	SMBus, USB3.0, LPC, 2 x PCIe x1, Line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset	-
	64-pin connector A	-	-	-	12V DC input, Inverter, VGA, 2 x USB2.0, 1GbE	-
	64-pin connector B	-	-	-	SMBus, I2C, Power/Reset button, HDD/Power LED, 2 x USB2.0, 8-bit GPIO, HD Audio Line-in, Line out, Mic-in, 2 x RS-232/422/485	-
Ethernet	Controller	GbE1: Intel i210 GbE2: Intel i210	Intel i210	GbE Realtek RTL8111E	Intel i210	GbE1: Intel i210 GbE2: Intel i210
	Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
	Connector	RJ45 x 1	RJ45	RJ45	from 64pin connector A	RJ45 x 3
Audio	Audio Interface	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio
	CODEC	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S
	Amplifier	-	Optional via MIOe	Optional via MIOe	Optional via MIOe	Optional via MIOe
Connector	Line-in, Line-out, Mic-in	Line-in, Line-out	Line-in, Line-out	Line-in, Line out, Mic-in (from 64pin connector B)	Line-in, Line-out, Mic-in	
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	2* SATAIII (Max. Data Transfer Rate up to 6.0 Gb/s)	1, up to 3Gb/s (300 MB/s)	1, up to 6Gb/s (600 MB/s)	1, up to 3Gb/s (300 MB/s)	2 (2nd SATA is by request), up to 3Gb/s (300 MB/s)
	mSATA	1	1	1 (Integrates USB signal, supports either mSATA or USB interface module)	1 (Integrates USB signal, supports either mSATA or USB interface module)	1 x Full size
	CompactFlash	-	-	-	-	-
I/O	USB3.0	2	1	2	1 (from MIOe)	1
	USB2.0	6	3 (1 from rear, 2 from internal)	2 (from internal)	4 (from internal)	3 (1 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 GPIO (from 64pin connector B)	8-bit general purpose input/output
	COM Port	2 x RS-232/422/485	1 x RS-232, 1 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	2 RS-232/422/485 (form 64-pin connector B)	2xRS-232, 2xRS-232/422/485 with RS-485 auto flow control
	Reset Button	1	1	1	1	1
	Fan	-	-	1	-	-
	Power Type	AT/ATX	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input	AT/ATX
Power	Power Supply Voltage	Single 12V DC power input	single 12V input, ±10%	single 12V input, ±10%	single 12V input, ±10%	Dual 12V/24V DC power input
	Connector	ATX, AT	ATX 1x2p, DC Jack (optional)	ATX 1x2p, DC Jack (optional)	From 64pin connector A	ATX 2x2P
	Power Consumption (Idle)	N3350: 0.41 @ 12V (4.89 W) E3940: TBD / E3930: TBD	J1900: 10.59W E3825: 7.08W	GX-415GA: 12.6W GX-210JA: 5.93W	E3835: 4.47W N2930: 5.08W	TBD
	Power Consumption (Full Load)	N3350: 1.09 A @ 12 V (12.90 W) E3940: TBD E3930: TBD	J1900: 12.48W E3825: 9.12W	GX-415GA: 15.12W GX-210JA: 10.2W	N2930: 5.08W E3835: 7.13W N2930: 9.73W	7W
Battery	Lithium 3 V / 210 mAh	Lithium 3 V / 210 mA	Lithium 3 V / 210 mA	Lithium 3 V / 210 mA	Lithium 3 V / 210 mA	
Environment	Operational Temperature	(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)	(Operational humidity: 40° 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")	146 x 102 mm (5.7" x 4")
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes	Yes
	SUSIAccess/WISE-PaaS/RMM	Yes	Yes	Yes	Yes	Yes
	iManager	Yes	-	-	-	Yes
Certification	EMC, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

3.5" Single Board Computers



Model Name	PCM-9366	PCM-9365	PCM-9310	PCM-9376	PCM-9375
Form Factor	3.5" SBC	3.5" SBC	3.5" SBC	3.5" SBC	3.5" SBC
Processor System	CPU: Intel® Pentium N4200 Celeron N3350 & Atom™ E3950/E3940/E3930Fr CPU TDP: 6W/6W/12W/9W/6W Frequency: 1GHz/1.1GHz/1.6GHz/1.6GHz/1.3GHz Core Number: 4/2/4/4/2 L2 Cache: 2MB BIOS: AMI EFI 16Mbit Chipset: -	CPU: Intel Celeron N2930/ Intel Atom E3825 CPU TDP: 7.5W/ 6W Frequency: 1.83/ 1.33 GHz (Burst: 2.16 GHz/ -) Core Number: 4/2 L2 Cache: 2MB/ 1MB BIOS: AMI UEFI BIOS at 64 Mbit Chipset: Intel Atom SoC	CPU: Intel Celeron N3160/N3060, Intel® Atom E8000 CPU TDP: 6W/ 4.5W Frequency: 1.6 GHz Core Number: 4/ 2 L2 Cache: 2/ 1 MB BIOS: AMI UEFI BIOS at 64 Mb Chipset: -	CPU: AMD G-Series T16R/ T40E CPU TDP: 4.5/ 6.4 W Frequency: 615 MHz/ 1.0GHz Core Number: 1/ 2 L2 Cache: 512 KB BIOS: AMI EFI 32Mbit Chipset: AMD A55E	CPU: AMD Geode LX800 CPU TDP: 3.6 W Frequency: 500 MHz Core Number: 1 L2 Cache: 128 KB BIOS: Award 4Mbit Chipset: AMD CS5536
Memory	Technology: DDR3L-1866MHz Max. Capacity: 8GB Socket: 1 x 204-pin SODIMM Onboard Memory: - Controller: Intel Gen7 graphic engine Graphic Memory: Share with system memory up to 1792MB VGA: up to 1920x1200	Technology: DDR3L 1333 MHz for N2930, DDR3L 1066 MHz for E3825 Max. Capacity: 4 GB Socket: - Onboard Memory: Onboard 2GB/ 4GB Controller: Intel Gen7 graphic engine Graphic Memory: - VGA: 2560 x 1600 at 60Hz	Technology: DDR3L-1600MHz Max. Capacity: 8 GB Socket: 1 x 204-pin SODIMM Onboard Memory: - Controller: Intel Celeron N3160/N3060 Graphic Memory: - VGA: 1920 x 1200 at 60Hz	Technology: DDR3/DDR3L 1066 MHz Max. Capacity: 4 GB Socket: 1 x 204-pin SODIMM Onboard Memory: 1 GB Controller: AMD G-series T16R/T40E Graphic Memory: Optimized shared memory Architecture up to 384 MB system memory VGA: Supports up to 1920 x 1200 at 85Hz	Technology: DDR3/DDR3L 1066 MHz Max. Capacity: 1 GB Socket: 1 x 200-pin SODIMM Onboard Memory: - Controller: AMD Geode LX800 Graphic Memory: Optimized shared memory Architecture up to 64MB system memory VGA: Supports up to 1920 x 1440 @ 32bpp (85Hz)
Display	LCD (TTL/LVDS/eDP): up to 1920x1200 DDI (HDMI/DVI/DisplayPort): HDMI 1.4a for HD video playback, 1080P at 60Hz Multiple Display: VGA + LVDS, VGA+HDMI, HDMI+LVDS Triple Display: VGA +LVDS+eDP + HDMI	LCD (TTL/LVDS/eDP): 48-bit dual LVDS up to WUXGA 1920 x 1200 at 60Hz, the 2nd LVDS is supported by request Supports 3.3/5/12V for VDD power, 1A@5V/12V for inverter DDI (HDMI/DVI/DisplayPort): HDMI 1.4a for HD video playback, 1080P at 60Hz Multiple Display: VGA + LVDS, HDMI* + LVDS, LVDS + LVDS* Triple Display: -	LCD (TTL/LVDS/eDP): LVDS: Single/dual-ch 18/24bit up to 1920 x 1200 at 60Hz eDP: eDP 1.3 up to 2560x1440 (Optional) DDI (HDMI/DVI/DisplayPort): HDMI: 1.4b up to 2560x1600 at 60Hz Multiple Display: VGA+ HDMI, LVDS +HDMI, VGA+ LVDS Triple Display: VGA + HDMI + LVDS/eDP Triple Display: -	LCD (TTL/LVDS/eDP): Supports single/dual channel 18/24-bit LVDS up to 1920 x 1200, 24-bit TTL DDI (HDMI/DVI/DisplayPort): - Multiple Display: VGA+LVDS, VGA+TTL, LVDS+TTL Triple Display: -	LCD (TTL/LVDS/eDP): 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) DDI (HDMI/DVI/DisplayPort): - Multiple Display: VGA + LVDS, VGA + TTL Triple Display: -
Expansion Interface	Mini PCIe: 1 x Full size LPC: - SIM Socket: 1 SMBus: 1 I2C Bus: 1 (Shares with SMBus pin) PC/104: - PCI-104: - MIO-160: -	Mini PCIe: 1x Full-size LPC: - SIM Socket: - SMBus: 1 I2C Bus: 1 (shared with SMBus pin) PC/104: - PCI-104: 1 MIO-160: -	Mini PCIe: 2x Full-size LPC: - SIM Socket: - SMBus: 1 (shared with I2C) I2C Bus: 1 (shared with SMBus) PC/104: - PCI-104: - MIO-160: -	Mini PCIe: 1 (Half-size), Full-size supported by request LPC: 1 SIM Socket: - SMBus: 1 (shared with I2C) I2C Bus: 1 (shared with SMBus) PC/104: 1 PCI-104: - MIO-160: -	Mini PCIe: - LPC: - SIM Socket: - SMBus: - I2C Bus: optional PC/104: 1 PCI-104: - MIO-160: -
Ethernet	Controller: GbE1: Intel i210 GbE2: Intel i210 Speed: 10/100/1000Mbps Connector: RJ45 x 2	Controller: Realtek RTL8111E-VL-CG Speed: 10/100/1000Mbps Connector: RJ45 x 2	Controller: GbE1/2: RTL8111E Speed: 10/100/1000 Mbps Connector: RJ45 x 2	Controller: GbE1/2 Realtek RTL8111E Speed: 10/100/1000 Mbps Connector: RJ45 on GbE1, box header on GbE2	Controller: GbE 1/2 Realtek RTL8139 Speed: 10/100 Mbps Connector: RJ45 on Ethernet1, box header on Ethernet2
Audio	Audio Interface: High Definition Audio CODEC: Realtek ALC888S Amplifier: - Connector: Line-in, Line-out, Mic-in	Audio Interface: HD Audio CODEC: Realtek ALC888S, HD audio Amplifier: - Connector: pin header (Line-in, Line out, Mic-in)	Audio Interface: HD Audio CODEC: Realtek ALC892 Amplifier: - Connector: Line-in, line-out, mic-in	Audio Interface: HD Audio CODEC: Realtek ALC892, High Definition Audio (HD) Amplifier: - Connector: pin header (Line-in, Line out, Mic-in)	Audio Interface: AC97 CODEC: Realtek ALC203, AC97 Amplifier: Max. 2.2W/ch Stereo into a 3(Ω) Load Connector: pin header (Line-in, Line out, Mic-in, speaker-out)
WatchDog Timer	-	Yes	-	Yes	Yes
Storage	SATA: 1* SATAIII (Max. Data Transfer Rate up to 6.0 Gb/s) mSATA: 1 x Full size IDE: - CompactFlash: - Floppy: -	SATA: 1, up to 3Gb/s (300 MB/s) mSATA: 1 x Full-size IDE: - CompactFlash: - Floppy: -	SATA: 1x SATAIII (up to 600 MB/s), 1x SATA II (optional, up to 300 MB/s) mSATA: 1x Full-size (support Mini PCIe by request) IDE: - CompactFlash: - Floppy: -	SATA: 2 x SATAIII (Max. Data Transfer Rate 300 MB/s) mSATA: 1 (Full-size) IDE: - CompactFlash: - Floppy: -	SATA: - mSATA: - IDE: 1 CompactFlash: CompactFlash Type I/II (Primary Master IDE Channel) Floppy: 1 (Shared with LPT)
I/O	USB3.0: 2 USB2.0: 4 GPIO: 16-bit general purpose input/output LPT: - COM Port: 2xRS-232, 2xRS-232/422/485 with RS-485 auto flow control PS/2 KB/Mouse: - Reset Button: 1 Smart Fan: - Power Type: AT/ATX Power Supply Voltage: 9-36V DC power input Connector: 2x2P phenix power connector	USB3.0: - USB2.0: 4 GPIO: 8-bit LPT: - COM Port: 3 RS-232 ESD protection: Air gap ±15kV, Contact ±8kV PS/2 KB/Mouse: - Reset Button: - Smart Fan: - Power Type: - Power Supply Voltage: 12V ± 10% Connector: 1x4Pin power connector	USB3.0: - USB2.0: 4 GPIO: 8-bit GPIO LPT: - COM Port: 4 (2x RS-232, 2x RS-232/422/485) PS/2 KB/Mouse: - Reset Button: - Smart Fan: - Power Type: Single 12V DC power input Power Supply Voltage: 12V ± 10% Connector: ATX 2x2P (DC Jack Optional)	USB3.0: - USB2.0: 4 GPIO: 8-bit GPIO LPT: - COM Port: 4 (2xRS-232, 2xRS-232/422/485) PS/2 KB/Mouse: 1 Reset Button: 1 Smart Fan: - Power Type: AT/ ATX Power Supply Voltage: 5V±5% (+12V option for LCD, PC/104) Connector: 1x4pin power connector	USB3.0: - USB2.0: 4 GPIO: 8-bit GPIO LPT: 1 (Shared with Floppy) COM Port: 4 (3xRS-232, 1xRS-232/422/485) PS/2 KB/Mouse: 1 Reset Button: 1 Smart Fan: - Power Type: AT/ ATX Power Supply Voltage: 5V±5% (+12V option for LCD, PC/104) Connector: 1x4pin power connector
Power	Power Consumption (Idle): TBD Power Consumption (Full Load): TBD Battery: Lithium 3 V / 210 mAh	Power Consumption (Idle): PCM-9365E-2GS3A1E: 0.39A @ 12V (4.68W) PCM-9365EV-4GS3A1E: 0.44A @ 12V (5.28W) PCM-9365N-4GS8A1E: 0.509A @ 12V (6.108W) Power Consumption (Full Load): PCM-9365E-2GS3A1E: 0.49A @ 12V (5.88W) PCM-9365EV-4GS3A1E: 0.554A @ 12V (6.648W) PCM-9365N-4GS8A1E: 0.745A @ 12V (8.94W) Battery: Lithium 3 V / 210 mAh	Power Consumption (Idle): N31501.03A @ 12 V (12.27 W) N3060 0.85A @ 12 V (10.20 W) E8000 0.85A @ 12 V (10.20W) Power Consumption (Full Load): N3150 0.58 A @ 12 V (7.05 W) N3060 0.38 A @ 12 V (4.55 W) E8000 0.58A @ 12V (6.95W) Battery: Lithium 3V/ 210 mAh	Power Consumption (Idle): T40E: 1.67A @ 5V (8.35W) 1.48 A @ 5 V (7.4 W) Power Consumption (Full Load): T40E: 2.34A @5V (11.7W) 2.28 A @ 5 V (11.4 W) Battery: Lithium 3 V / 210 mAh	Power Consumption (Idle): 0.6 A @ 5 V, 0.03A @ 12V (3.36 W) Power Consumption (Full Load): 1.2 A @ 5 V, 0.23A @ 12V (8.76 W) Battery: Lithium 3 V / 196 mAh
Environment	Operational Temperature: (Operational humidity: 40° C @ 95% RH Non-Condensing)	Operational Temperature: 0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @85% RH non-condensing)	Operational Temperature: 0 ~ 60° C (32~140° F) (Operational humidity: 40° C @95% RH non-condensing)	Operational Temperature: 0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)	Operational Temperature: 0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
Physical Characteristics	Dimensions (L x W x H): 146 x 102 mm (5.7" x 4") Construction: - Microsoft Windows: Yes	Dimensions (L x W x H): 146 x 102 mm (5.7" x 4"), same as 3.5" Construction: Aluminum with fanless design Microsoft Windows: Yes	Dimensions (L x W x H): 146 x 102mm Construction: Aluminum with fanless design Microsoft Windows: Yes	Dimensions (L x W x H): 146 x 102 mm Construction: Aluminum with fanless design Microsoft Windows: Yes	Dimensions (L x W x H): 146 x 102 mm Construction: Aluminum with fanless design Microsoft Windows: Yes
Operating System	Linux: Yes SUSIAccess: Yes iManager: Yes	Linux: Yes SUSIAccess: SUSIA4 iManager: Yes	Linux: Yes SUSIAccess: Yes iManager: Yes	Linux: Yes SUSIAccess: Yes iManager: CE, FCC	Linux: Yes SUSIAccess: Yes iManager: CE, FCC
Certification	EMC: CE, FCC	EMC: CE,FCC	EMC: CE, FCC	EMC: -	EMC: -

5.25" Single Board Computers



NEW



Model Name	PCM-9563	MIO-9290	
Form Factor	5.25"	5.25"	
Processor System	CPU	Intel® Pentium N4200 Celeron N3350 & Atom™ E3950/E3940/E3930, DDR3L	Intel Core I & Celeron 1020E (rPGA988 socket)
	CPU TDP	6W/6W/12W/9W/6W	up to 45W
	Frequency	1.1GHz/1.1GHz/1.6GHz/1.6GHz/1.3GHz	up to 2.3(Turbo: 3.3) GHz
	Core Number	4/2/4/4/2	up to 4 core
	L2 Cache	2	-
	L3 Cache	-	up to 6MB
	BIOS	AMI EFI 16Mbit	AMI EFI 64Mbit
Memory	Chipset	-	Intel QM77
	Technology	DDR3L-1866MHz	DDR3/DDR3L 1333/1600 MHz
	Max. Capacity	8GB	8 GB x 2
	Socket	1 x 204-pin SODIMM	2 x 204-pin SODIMM
Display	Controller	Intel Gen7 graphic engine	Intel Ivy Bridge Processor + Intel QM77
	Graphic Memory	Share with system memory up to 1792MB	Share with system memory up to 512 MB
	VGA	up to 1920x1200	-
	LCD (TTL/LVDS/eDP)	up to 1920x1200	Yes
	DDI (HDMI/DVI/DisplayPort)	DP 1.2a (1920 x1200@60Hz) / HDMI 1.4b(1920 x1200@30Hz) Displayport*, up to 1920 x1200 at 60Hz	DisplayPort: Yes HDMI: Yes DVI-I: Yes
Expansion Interface	Multiple Display	VGA+LVDS, VGA+HDMI, HDMI+LVDS	DP + HDMI + DVI-I
	Triple Display	VGA +LVDS*eDP + HDIM * DP	-
	Mini PCIe	1	2 (Full-size, shared with mSATA)
	PCI	1	-
Ethernet	PC/104-Plus	1	-
	I2C	1 (Shares with SMBus pin)	-
	MIOe	-	SMBus, 3 x USB2.0, LPC, 4 x PCIe, line out, Displayport, 5 Vsb/12 Vsb power
	Controller	GbE1: Intel I210 GbE2: Intel I210	GbE1: Intel 82579LM GbE2: Intel I210
Audio	Speed	10/100/1000Mbps	10/100/1000 Mbps
	Connector	RJ45 x 3	RJ45 x 2
	Audio Interface	High Definition Audio	HD Audio
WatchDog Timer	CODEC	Realtek ALC888S	Realtek ALC892
	Amplifier	-	-
	Connector	Speaker out, CD-input, Line-in, Line-out, Mic-in	Line-in, Line out, Mic-in
Storage	WatchDog Timer	255 levels timer interval, programmable by software	Yes
	SATA	2* SATAIII (Max. Data Transfer Rate up to 6.0 Gb/s)	2 SATA III (up to 600 MB/s)
	mSATA	1 x full size mSATA, 1	1 (Full-size, shared with mini PCIe)
	CompactFlash	-	-
I/O	Floppy	-	-
	USB3.0	2	4
	USB2.0	6	2
	SPI Bus	-	-
	GPIO	8-bit general purpose input/output	16-bit
	LPT	-	-
	COM Port	4 x RS-232, 2 x RS-422/485	4 x RS-232 (2 with Tx/Rx only) 2 x RS-232/422/485
	PS/2 KB/Mouse	-	-
	Reset Button	1	1
	Power Button	-	1
Power	Smart Fan	-	Yes
	SMBus	-	1
	I ² C Bus	-	1 (Shares with SMBus)
	Power Type	AT/ATX	AT/ ATX
Environment	Power Supply Voltage	Single 12V DC power input	Single 12V input, ± 10%
	Power Consumption (Idle)	TBD	i7 3610QE w/DDR3: 0.646 A @ 12 V (7.75 W) i5 3610ME w/DDR3: 0.614 A @ 12 V (7.37 W) i3 3120ME w/DDR3: 0.622 A @ 12 V (7.46 W) Celeron 1020E w/DDR3: 0.632 A @ 12 V (7.58 W)
	Power Consumption (Full Load)	TBD	i7 3610QE w/DDR3: 3.759 A @ 12 V (45.11 W) i5 3610ME w/DDR3: 2.375 A @ 12 V (28.5 W) i3 3120ME w/DDR3: 1.675 A @ 12 V (20.1 W) Celeron 1020E w/DDR3: 1.595 A @ 12 V (19.14 W)
	Battery	Lithium 3 V / 210 mAh	Lithium 3 V / 210 mAh
Physical Characteristics	Operational Temperature	(Operational humidity: 40° C @ 95% RH Non-Condensing)	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Dimensions (L x W x H)	203 x 146 mm	203 x 146 mm
Operating System	Construction	-	Copper with fan design
	Microsoft Windows	Yes	Yes
	Linux	Yes	Yes
Certification	SUSIAccess/WISE-PaaS/RMM iManager	Yes	Yes
	QNIX	-	Yes
Certification	EMC	CE, FCC	CE, FCC

PC/104 CPU Modules



Model Name		PCM-3365	PCM-3356
Form Factor		PC/104-Plus	PC/104
Processor System	CPU	Intel Atom E3825/E3845/N2930	AMD® G-Series™ Processor T16R /T40E
	Frequency	1.33GHz/1.91GHz/1.83GHz	615 MHz/ 1.0 GHz
	Core Number	2/4/4	1/2
	L2 Cache	1MB/2MB/2MB	512 KB
	BIOS	AMI UEFI BIOS at 64 Mb	AMI 32-Mbit
	Chipset	1 x 204-pin SODIMM	AMD A55E
Memory	Technology	DDR3L 1066MHz/1333MHz/1333MHz	DDR3L 1066 MHz
	Max. Capacity	8GB	SO-DIMM: 4GB / On-board: 1GB
	Socket	-	1 x 204-pin SODIMM
	Onboard Memory	-	Onboard 1GB (by sku)
Display	Controller	Intel Gen7 graphic engine	AMD® G-Series™ Processor T16R/T40E
	Graphics Engine	Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware AccelerationDirectX11, OpenGL3.2, OpenCL1.1 Full HW acceleration, decode: H.264, MPEG2/4, VC-1, WMV9. Encode: H.264, MPEG2	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
	Graphics Memory	Share with system memory up to 384 MB	Optimized shared memory architecture up to 384 MB system memory
	HDMI/DVI	DVI 1.0 (DVI-D), up to 1920x1080	-
Expansion Interface	Multiple Displays	VGA + LVDS, VGA + HDMI/DVI, HDMI/DVI + LVDS	LVDS+VGA
	Mini PCIe	1 x Full-size	1 half size
	SMBus	1 (configurable to FC by customer's request)	1
	PC Bus	1 (supported by request)	-
	PC/104	-	1
	PCI-104	-	-
	PC/104-Plus	1	-
Ethernet	Controller	Intel I210	GbE1: Realtek RTL8111E-VB-GR GbE2: Realtek RTL8111E-VB-GR
	Speed	10/100/1000 Mbps	10/100/1000 Mbps
	Connector	Pin Header	Box Header
Audio	Codecs	Intel High Definition audio interface (requires an audio extension module P/N: PCE-SA01-00A1E Output System Reset, Programmable counter from 1 – 255 sec	Realtek ALC892
WatchDog Timer			Output System reset, Programmable 1 – 255 sec
Storage	SATA	1 SATA II	1 SATA II
	mSATA	1 x Full-size (default, SATA signal shared with Onboard flash)	1 half size
	IDE	-	-
	CompactFlash	-	-
	Onboard Flash	16GB/32GB/64GB (by request)	-
	Floppy	-	-
I/O	USB2.0	6	4
	SPI Bus	-	-
	GPIO	8-bit GPIO	8-bit GPIO
	LPT	-	-
	COM Port	3 (1 x RS-232/422/485, 2 RS-232)	3 x RS-232/422/485
	PS/2 KB/Mouse	1	-
	Power Type	AT/ATX	AT/ATX
Power	Power Supply Voltage	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)
	Power Consumption (Idle)	E3825: 4.474W E3845: 4.72W N2930: 4.417W	T16R: 1.17 A @ +5 V (5.85 W) T40E: 1.22 A @ +5 V (6.1 W)
	Power Consumption (Full Load)	E3825: 5.675W E3845: 8.581W N2930: 6.845W	T16R: 1.43 A @ +5 V (7.15 W) T40E: 1.77 A @ +5 V (8.85 W)
	Battery	Lithium 3 V / 210 mA	Lithium 3 V / 210 mA
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)
	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
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")
	Weight	0.735kg (1.62lb) (with heat-sink)	0.590 kg (1.30 lb)
Operating System	Microsoft Windows	Yes	Yes
	Linux	Yes	Yes
	SUSIAccess	Yes	Yes
Certifications	EMC	CE, FCC	CE, FCC

Embedded PCs

EPC Enclosures



Model Name		EPC-C100	EPC-C300	EPC-X200
Supported Form Factor		3.5" SBC	3.5" MIO-Compact	3.5" SBC
Compatible Boards		PCM-9362/9363	MIO-5250/5251/5271	PCM-9375/9376
Thermal solution		Fanless	Fanless, Fan-based for MIO-5271	Fanless
Driver Bay	2.5" HDD and Slim ODD	1x2.5"HDD	1 x 2.5"HDD	1x2.5"HDD
Expansion	Slot	-	1 x SD card	-
	Socket	1 x miniPCIe	1 x mSATA, 1 x miniPCIe	1 x mSATA, 1 x miniPCIe
Front Panel I/O		2xUSB, 2xGbE, 1xVGA, 1xCOM, 1x PS/2	4xUSB, 2xGbE, 1xVGA, 1xHDMI	1xGbE, 1xVGA, 1xCOM, 1x PS/2
Rear Panel I/O		4xUSB, 3xCOM, , LINE-IN, LINE-OUT, MIC-IN	4xCOM, GPIO, LINE-IN, LINE-OUT, MIC-IN	4xUSB, 3xCOM, 1xGbE, Audio, GPIO, LINE-IN, LINE-OUT, MIC-IN
Miscellaneous	LED Indicators	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)
	Switch	1 (Power Switch)	1 (Power Switch)	1 (Power Switch); 1 (Reset Switch)
Power Requirements	Power Input Type (Inlet)	Single 12V DC, 2-Pole Phoenix DC plug in	Single 12V DC, 2-Pole Phoenix DC plug in	12V & 5V (5V for SBC boot up, 12V for LVDS inverter, FAN and PC/104), 4-Pole Phoenix DC plug in
	Power supply	DC input with power adaptor	DC input with power adaptor	DC input with power adaptor
Environment	Operating Temperature	0 ~ 40°C (32 ~ 104°F)	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)	-20 ~ 60°C (-4 ~ 140°F)
	Humidity	10~85% @ 40°C, non-condensing	10~85% @ 40°C, non-condensing	10~85% @ 40°C, non-condensing
	Vibration (5 ~ 500Hz)	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration
Shock	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	
	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration	
Certification		CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
Physical Characteristics	Dimensions (W x H x D)	200 x 60 x 145 mm	188 x 54 x 150 mm	220 x 73 x 150 mm
	Weight	0.95kg	1.38kg	1.43kg

EPC Systems



Model Name		EPC-S101
Barebone system	Description	Fan-less barebone, w/o adapter HDD, memory
	Compatible Motherboard	PCM-9310
Processor System	Thermal solution	Fan-less
	CPU	Intel® Celeron N3160, ATOM X5-E8000 (on board)
Memory	BIOS	AMI UEFI BIOS at 64Mbit
	Socket Technology	1 x 204-pin SODIMM
Graphics	Max. Capacity	8 GB
	Chipset integrated	Intel Gen8 LP
Storage	2.5" HDD bay	1 (support 2.5" HDD/SSD, max 9.5 mm height)
	mSATA Slot	1 (share w/ full size Mini-PCIe slot)
Ethernet	Interface	10/100/1000 Mbps
	Controller	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E
Audio Internal expansion Slot	Connector	2 (RJ-45)
	Codec	Realtek ALC892, High Definition Audio(HD)
Front Panel	Mini-PCIe	2 (Full-size, 1 default support mSATA)
	DP++	-
	DP/HDMI	1 x HDMI
	VGA	1
	DVI	-
	COM	-
	Lan	2
	USB	4(USB2.0 x 2, USB3.0 x 2)
	Audio Jack	-
	Antenna (optional)	up to 1
	DP++	-
	DP/HDMI	-
Rear Panel	VGA	-
	DVI	-
	COM	4 (2 x RS232, 2 x RS232/422/485)
	Lan	-
	USB	2
	Audio Jack	Line-in, Line-out, Mic-in
Miscellaneous	Antenna (optional)	up to 1
	LED Indicators	2 (Power LED, HDD LED)
Power Requirements	Switch	1 (Power Switch)
	Circular Cutouts	1
Environment	Power Voltage	12V DC-in
	Power Input Type (Inlet)	Phoenix DC plug in
	Consumption	TBD
	Operating Temperature	0 ~ 50° C (32 ~ 122° F)
Certification	Non-operating Temperature	-20 ~ 60° C (-4 ~ 140° F)
	Humidity	10~85% @ 40°C, non-condensing
	Vibration (5 ~ 5 00Hz)	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration
Physical Characteristics	Shock	SSD : 30G, IEC 60068-2-27, half sine, 11 ms duration
	Dimensions (W x H x D)	188 x 39 x 150 mm
Weight	Weight	TBD

Remote Monitoring and Management Software Built-in



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