

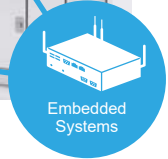


Embedded IoT Solutions for POS and Self-Service Kiosks

- Banking
- Retail
- Hospitality
- Transportation
- Healthcare



ADVANTECH
WISE-PaaS
Edge Intelligence Platform



ADVANTECH

Enabling an Intelligent Planet

www.advantech.com



About Advantech Embedded IoT Solutions

Worldwide Leader in Embedded Design and Services

Advantech: Partnering for Smart City & IoT Solutions

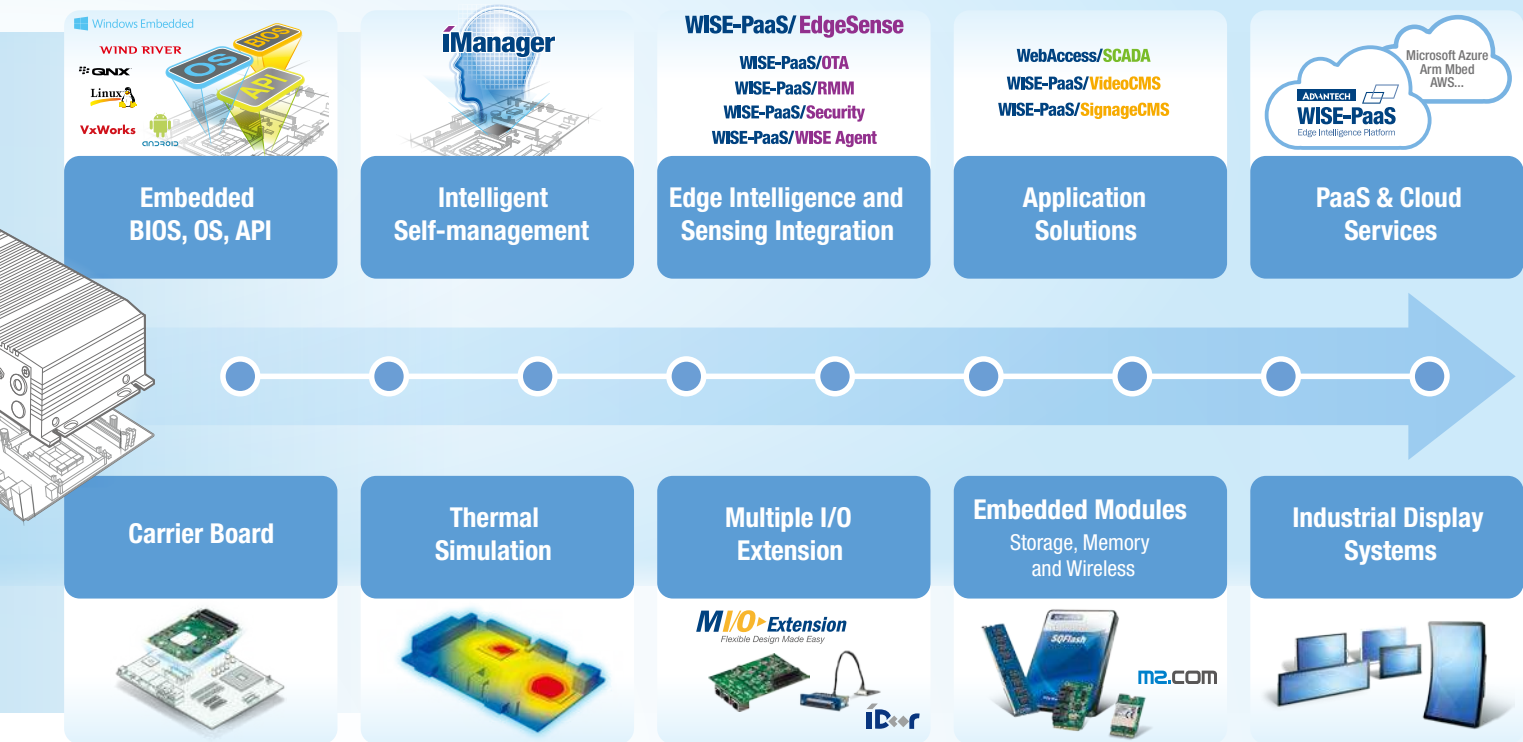
Founded in 1983, Advantech is a leader in providing trusted, innovative embedded platforms and services. Advantech offers customer-centric design services and embedded boards and systems with global logistics support. We cooperate closely with our partners to help provide complete solutions for a wide array of applications across a diverse range of industries. Our mission is to enable an intelligent planet and empower the development of smarter working and living. With Advantech, there is no limit to the applications and innovations our products make possible.

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. Interbrand, the world renowned brand consulting firm, has recognized Advantech as one of the Top 20 Taiwanese Global Brands for many years. 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.

Timely Support at Your Convenience

Advantech has over 20 regional hotlines and offices throughout 23 countries, with over 8,000 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 the four logistics centers in Taiwan, China, Europe 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 value-added services, and technical support and training.



Advantech Embedded IoT

To address the market for IoT applications, Advantech developed a series of integrated IoT solutions and services that accelerate the IoT value chain and ecosystem. Following the WISE- PaaS concept, all embedded solutions will be integrated with all types of wireless data acquisition solutions, WISE-PaaS software for manageability, security functions, and sensor-to-cloud connectivity solutions.

Integrated Embedded Computing Solutions

- Wireless IoT Modules and Sensor Nodes
- Edge Intelligence Solutions
- WISE-PaaS/EdgeSense Software Services
- IoT Cloud Services - Azure/ Arm Mbed/ AWS
- Embedded Board Solutions: COM/ ESBC/ AIMB
- RISC Computing Platforms
- Embedded Systems
- Digital Signage and Industrial Displays
- In-Vehicle & Railway Systems
- Industrial Storage and Memory Solutions
- Embedded Software Solutions

Ecosystem Partnership

Advantech allies with many leading partners in the industry such as Intel, Microsoft, Arm, AMD, Freescale, and TI to provide up-to-date technologies, products, and comprehensive product offerings.

Leading Embedded Technologies

As a pioneer and leader in the embedded market, Advantech keeps researching and developing value-added embedded software services, leading embedded technologies, and innovative form factors.

Dedicated Regional Embedded Service Teams

To meet all the requirements from embedded applications, Advantech devotes regionally-based embedded service teams worldwide to offer dedicated design-in services that enable our customers to reach their customers more quickly.

One-stop Service from Embedded Design-in Service to IoT Integration

Advantech provides a one-stop service model to integrate embedded boards, systems, software, displays, peripherals, as well as IoT cloud service and devices to help customers target their markets.

One Stop Shopping Embedded IoT Solutions for POS and Self-service Kiosks

POS and self-service kiosks are to be seen everywhere these days in retail stores, airports, restaurants, hotels, banks and many other places. With many years' experience behind us and proven success in POS and Kiosk applications, Advantech provides a comprehensive range of products including both x86 and RISC platforms in different form factors, such as 3.5", Mini-ITX, systems and more. With optimized I/O options, industrial displays, flash and memory solutions, dedicated embedded software services, and design-to-order services, Advantech offers a one-stop-shopping service that has powered thousands of POS and Kiosks applications in multiple fields.

POS and Self-service Kiosk Application Environments



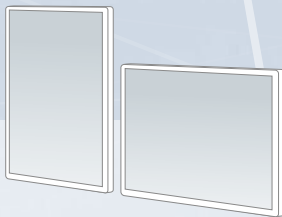
Healthcare

- Check-in Kiosks
- ATM /VTM
- Parking Systems
- Vending Machines



Retail

- Multi-media Kiosks
- POS
- Customer Survey
- Parking Systems
- Vending Machines



Digital Signage



Self-service Kiosk

Embedded IoT Solutions



Computer on Modules
Q7



Embedded Single Board Computer
2.5", 3.5"



Industrial Motherboards
Mini-ITX, Micro-ATX



RISC Platforms
Mini-ITX



Embedded PCs



Fanless Embedded Computers



Scalable Computing Solutions

Advantech provides comprehensive embedded boards and systems in both X86 and RISC platforms featuring high computing capability, and multiple I/O connectivity with affordable prices. Customers can easily select the right products that fit their POS and Kiosk application best.



Interactive Interface

POS and Kiosk systems are fully touch-enabled with interactive screens. Advantech offers a wide range of touch screen display solutions to meet unique needs of each application. All our displays are fully compatible with embedded platforms for easy and fast integration.



24/7 Security

Improper security measures in POS and Kiosks make it easy for hackers to infiltrate the system and misuse it. Advantech works closely with McAfee to provide security software that can be directly integrated with embedded platforms and storage modules for safe and reliable applications.



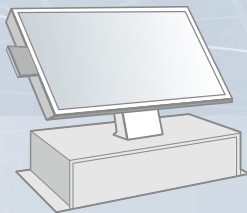
Banking/Transportation

- Ticketing Kiosks
- ATM /VTM
- Parcel Locker
- Parking Systems
- Gas Station Kiosk

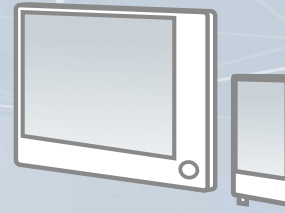


Hospitality

- Multi-media Kiosks
- POS
- Customer Survey
- Parking Systems
- Vending Machines



All-in-One POS Terminal



Mobile POS



Industrial Flash & Memory
**2.5" SSD, mSATA, DDR3/
DDR4**



Wireless Module
WiFi, Bluetooth



Industrial Displays
**6.5"~21.5" with LCD Kits
and Open Frame Monitors**

WISE-PaaS/RMM
WISE-PaaS/SignageCMS

IoT Device & Content
Management

Windows 10
McAfee Acronis

OS & Application Software

Embedded Solutions for Point of Sales (POS)

Retail & Hospitality

The retail and hospitality industries are two predominant users of Point of Sales (POS). POS systems are one of the most complex software systems available because of the features that are required by different users. The complexity requires flexible connections to various aids such as barcode scanners, cash registers, even extending to remote networking or interlinking between remote locations. With that in mind, Advantech offers customized application-ready POS solutions for system integrators, ranging from embedded boards, systems, displays, storage, and security software.



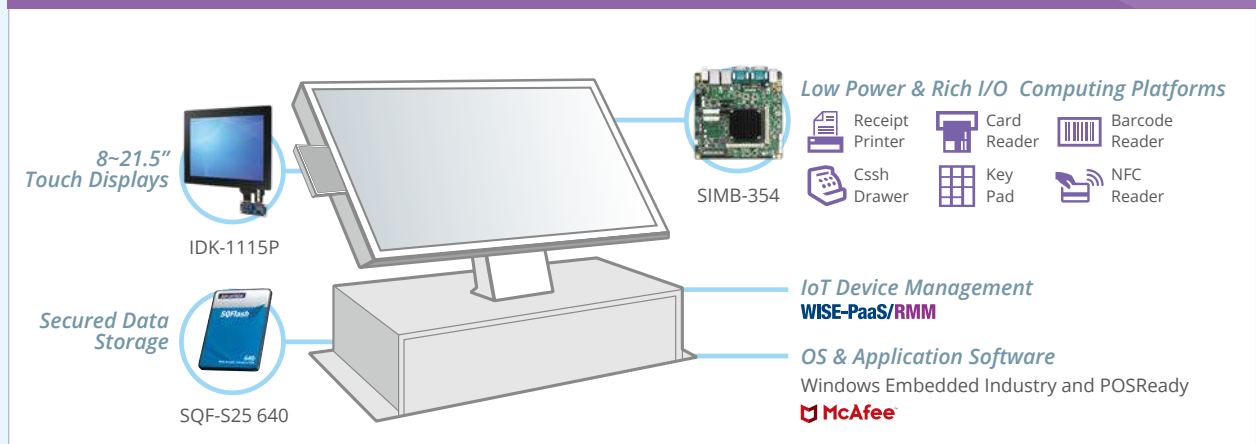
Requirements

- Multiple I/O
- Reliable performance for quick turn-on
- Low power consumption
- Flexibility to connect to multiple devices

Our Solutions

- From low end to high end solution
- High performance and energy efficiency
- Powered COM and multiple USBs
- RJ11 for cash drawer interface
- Unified POS implementations: POS for .NET, OPOS, JavaPOS
- Secured storage solution (blacklist/ePO)
- Various selections (LVDS, COM, Cash Drawer)
- Voltage settings are configured via an onboard jumper
- Supports multiple displays

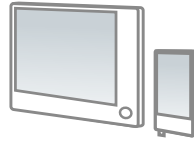
Embedded Building Blocks for POS Systems



Application Devices



ALL-in-One POS Kiosk



Mobile POS

Embedded Boards



Qseven
Intel® Pentium®
N4200
SOM-3569



2.5" Pico-ITX SBC
Intel® Atom™ E3825 &
Celeron® N2930
MIO-3260



3.5" SBC
Intel Celeron® N3060/
N3160, Intel Atom E8000
PCM-9310



Mini-ITX
ARM Cortex-A9
i.MX6
RSB-6410



Mini-ITX
Intel® Celeron®
N3160
SIMB-354

Industrial Displays



Industrial Touch LCD Kit
7" 800x480/1024x600 with
PCAP touch
IDK-1107WP



Industrial Touch LCD Kit
10.4" 1024 x 768 with
PCAP touch
IDK-1110P



Industrial Touch LCD Kit
15" XGA with PCAP touch
IDK-1115P



Industrial Touch LCD Kit
21.5" 1920x1080 with
resistive touch
IDK-1121WR

Industrial Storage & Memory



2.5" SATAIII SSD
16GB ~ 512GB
SQF-S25 640



SODIMM DDR3L
2GB-8GB
SQR-SD3N



2.4GHz/5GHz Mini PCIe
802.11 a 2x2
EWM-W135H



2.4GHz/5GHz half-size Mini
PCIe 802.11 ac 1x1
EWM-W157H



2.4GHz/5GHz Half-size
Mini PCIe 802.11 ac 2x2
EWM-W168H

Wireless Modules

OS & Application Software

Windows 10 McAfee Acronis

Windows Embedded Industry and POSReady

IoT Device & Content Management

WISE-PaaS/RMM WISE-PaaS/OTA WISE-PaaS/SignageCMS

Embedded Solutions for Self-Service Kiosks

Retail, Banking, Transportation

Self-service kiosks have revolutionized the self-service industry by rendering an improved automation experience. Sectors such as retail, healthcare, food & beverage, and transportation are the key demand sectors. While the number of data breaches has been increasing, kiosks must now come with high levels of security so all activity is recorded and logged for fraud prevention, while devices can be locked so that they can only be opened with the approval of the issuer.



Requirements

- Multiple I/O computing solutions
- 24/7 operation and real-time monitoring
- Dual and above displays with high resolution
- Easy management and maintenance

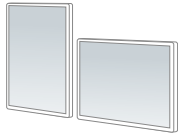
Our Solutions

- Numerous USB and serial ports
- Multiple PCI/PCIe expansion
- Stable USB voltage regulator design
- Amplifier support 2x6W support
- Wide operating temperature range for outdoor kiosks
- Configure-to-order service
- Resistive touch/PCAP touch displays
- Lockdown features available: Enhanced Write Filter (EWF) and keyboard filter
- Secured storage solution (blacklist/ePO)

Embedded Building Blocks for Self-Service Kiosks



Application Devices



Interactive Digital Signage



Self-Service Kiosk

Embedded Boards



Qseven Intel® Pentium® N4200
SOM-3569



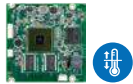
3.5" SBC Intel® Pentium N4200
MIO-5350



Mini-ITX Intel® 7th Gen Core™ i
AIMB-205



Micro-ATX Intel® Core™ i7/i5/i3
AIMB-503



RTX2.0 Module Cortex-A9 i.MX6
ROM-3420



2.5" Pico-ITX SBC Intel® Atom™ E3825/Celeron J1900
MIO-2263



3.5" SBC NXP ARM® Cortex-A9i.MX6
RSB-4411



Mini-ITX Intel Pentium/Celeron/Atom N4200/N3350/x7-E3950
AIMB-217

Embedded Systems



Fanless Embedded Computer Intel 6th Core U series
ARK-2250L



Fanless Embedded Computer Intel Celeron N3350 Dual Core
ARK-1124U



Android Signage Player 4K, dual displays
DS-100



Mini-ITX Embedded PC Cortex-A9 i.MX6
EPC-R6410



Digital Signage Player 4K, dual displays
DS-081



Mini-ITX Embedded PC Intel® 4th Gen Core™
EPC-B2203



3.5" SBC Embedded PC Intel® Celeron N3160/ N3060
EPC-S101

Industrial Displays



1200-nit LCD Kit 15" 1024x768, resistive touch
IDK-2115



1200-nit LCD Kit 21.5" 1920x1080, resistive touch
IDK-2121



Open Frame Monitor 15" 1024 x768, PCAP/ resistive touch
IDS-3115



Open Frame Monitor 18" 1366x768, PCAP/ resistive touch
IDS-3118W



Open Frame Monitor 21.5" 1920x1080, resistive touch
IDS-3121W

Industrial Storage & Memory



2.5" SATAIII SSD 16GB ~ 512GB
SQF-S25 640



mSATA 16GB~1TB
SQF-SMS 640



SODIMM DDR3L 2GB~8GB
SQR-SD3M



2.4GHz/5GHz Mini PCIe 802.11 a 2x2, -40~85°C
EWM-W158F



2.4GHz/5GHz half-size Mini PCIe 802.11 ac 1x1
EWM-W157H

OS & Application Software

Windows 10 McAfee Acronis

IoT Device & Content Management

WISE-PaaS/RMM WISE-PaaS/OTA WISE-PaaS/SignageCMS

Successful Cases

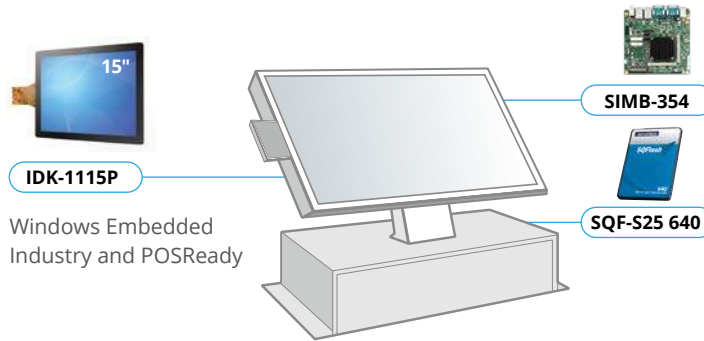
Point of Sales System



Point of sale (POS) machines are placed in retail environments or other self-service scenarios to calculate amounts, print invoices, and sense cards for convenient purchasing of goods or services. A famous POS supplier located in Taiwan for worldwide sales, our customer required a POS system with multiple IO and expansion flexibility, in an elegant design. They chose an Advantech SIMB-354 Mini-ITX motherboard to be installed into the POS merchant system.

Featured Solutions

- **SIMB-354 Mini-ITX Motherboard:**
 - POS-focused mainboard with diverse functions: (10 x USB/ 6 x COM/ 3 x Display interface/ 2 x mini card)
- **IDK-1115P Industrial Touch LCD Kit:** bezel-less, multi touch design
- **SQF-S25 640 2.5" SATAIII SSD:** for secure data storage
- **Windows Embedded Industry and POSReady:** reduces costs and increases security by customizing the OS to use only the components required for a POS solution



Smart Parking System(SPS)



Smart Parking Systems include vacant parking space detection with direction indication, number of available parking spaces, payment systems, and advertising. Advantech offered a reliable embedded solution to meet all these functions for this self-service kiosk application ranging from embedded computing platform, touch display, SATA SSD, and WISE-PaaS/RMM remote management software.

Featured Solutions

- **EPC-B2203 Mini-ITX Embedded Computer:** Multiple device connection via 5 x COM and 8 x USB ports for displays and payment machines
- **IDK-2115 1200-nit LCD Kit:** 15" 1024x768, resistive touch display for payment and advertising
- **SQF-S25 640 2.5" SATAIII SSD:** for secure data storage
- **WISE-PaaS/RMM remote management software:** built-in features to enable efficient remote monitoring and management of parking spaces



Virtual Teller Machine (VTM)



Virtual Teller Machines (VTM) make it possible to have face-to-face conversation with bank specialists without limitations of time and will gradually replace traditional ATM machines. This customer required a highly reliable hardware design with multiple USB and serial ports and expansion slots to connect with external devices. Advantech offered a reliable embedded total solution ranging from computing platform, touch display, SATA SSD, and WISE-PaaS/RMM remote management software. Featuring the banking focused AIMB-503 Micro-ATX motherboard, containing up to 16 USB ports and 10 serial ports it is able to directly connect with cash dispensers, receipt printers, and scanners.

Featured Solutions

- **AIMB-503 Micro-ATX Motherboard:** Banking-focused motherboard with passive 16 x USB & 10 x serial ports
- Outstanding CPU & graphics performance with Intel 4th Gen. Core i processor
- **IDS-3121W Open Frame Monitor** for video display
- **IDK-2115 15" 1200-nit LCD Kit** for keyboard function
- **SQF-SMS640 industrial grade mSATA:** for secure data storage
- **WISE-PaaS/RMM Remote Management Software:** enabling real-time remote monitoring and management of VTMs in multiple locations
- **McAfee embedded security solution:** malware protection & whitelisting



Electric Vehicle Re-charge Station



Electric vehicle recharge systems are expected to be an emerging market opportunity in Korea as the government supports environmental projects. A leading system integrator in Korea was looking for an integrated solution which was rugged, flexible, and durable for outdoor environments. Advantech offered MIO-5251, 3.5" rugged single board computer with RAM and mSATA(SQF-SMS 640) supporting operating temperatures -40°C~85°C. It is equipped with multiple I/O options such as 2 x RS-232 and 2 x RS-232/422/485, and 2 x Giga Ethernet which can connect to several devices such as printers or POS. The customer could also expand I/O ports quickly through the MIO Extension connector to meet any urgent upgrade needs. This customer also adopted a 15" 1200-nit LCD Kit (IDK-2115) for use in outdoors.

Featured Solutions

- **MIO-5251 3.5" SBC:** Wide temperature support (-40°C~80°C) for outdoor applications, with multiple I/O expansion and flexibility (2 x RS-232 and 2 x RS-232/422/485, 2 x Giga LAN)
- **IDK-2115 1200-nit LCD Kit:** 15" 1024x768, resistive touch display for payment and advertising
- **SQF-SMS 640 mSATA:** for secure data storage
- **WISE-PaaS/RMM remote management software:** built-in feature to enable efficient remote monitoring and management of parking spaces



MIO-5251



IDK-2115



SQF-SMS 640

WISE-PaaS/RMM

Product Selection

NEW

Computer on Modules



Model Name	SOM-3569	
Form Factor	Qseven	
Pin-out Type	QSeven 2.1	
Processor System	CPU	Intel® Atom™ E3900 & Pentium® and Celeron® N Series Processors
	Base Frequency	1.6 - 1.1GHz
	Processor Core	4/2
	LLC	2MB
	CPU TDP	6/9/12W
	Chipset	-
	Memory	Technology
ECC Support		-
Max. Capacity		Up to 8GB
Socket		Onboard
Graphics	Controller	Intel® HD Graphics
	Max. Frequency	550-750MHz
	VGA	-
	LCD (TTL/LVDS/eDP)	Dual Channel 18/24-bit LVDS, up to 1920 x 1200
	DDI (HDMI/DVI/DisplayPort)	1 DDI port supports HDMI/DP HDMI 1.4b: up to 3840 x 2160 @ 30Hz DP 1.2: up to 4096 x 2160 @ 60Hz
	SDVO	-
	TV-out	-
	Multiple Displays	Dual Display
Expansion	PCIe x16	-
	PCIe x1	4 PCIe x1
	PCI Masters	-
	ISA Bus	-
	LPC	1
Serial Bus	SMBus	1
	I²C Bus	1
	CAN Bus	1
Ethernet	Controller	Intel I211AT
	Speed	10/100/1000 Mbps
I/O	SATA	2 Ports, supports Gen3 (6Gb/s) and Gen2 (3 Gb/s) or Gen 1 (1.5 Gb/s)
	PATA Channel	-
	USB3.0	1 Port (up to 2 Ports by BOM option)
	USB2.0	8 Ports
	Audio	HD Audio
	SPI Bus	Supports SPI BIOS EEPROM
	GPIO	-
	SDIO (GPIO pin shared)	Supports SD 3.0
	Watchdog	65536 level, 0 ~ 65535 sec
	COM Port	2 Ports (4-wire COM 1 port, 2-wire COM 1 port)
	LPT/FDD	-
	PS/2	-
	IR	-
	Onboard Storage	eMMC5.0, 4GB to 64GB
TPM	Yes	
Power	Power Type	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 5V±5%, VSB: 5V±5%, RTC Battery: 2.0-3.3V
	Power Consumption Max.	8.22 W (N4200)
	Power Consumption Idle	3.71 W (N4200)
Environment	Operating Temp.	0 ~ 60 °C (32 ~ 140 °F)
	Extended Temp. (Optional)	-40 ~ 85 °C (-40 ~ 185 °F)
Mechanical	Dimensions	70 x 70 mm (2.75" x 2.75")

Embedded Single Board Computers



Model Name	MIO-2263	MIO-3260	
Form Factor	2.5" MI/O-Ultra (Pico-ITX)	2.5" MI/O-Ultra (Pico-ITX)	
Processor System	CPU	Intel Atom E3825/ Intel Celeron J1900	Intel Atom E3825/ Intel Celeron N2930
	CPU TDP	6W/ 10W	6W/ 7.5W
	Frequency	1.33 GHz/ 2.0(Turbo: 2.42) GHz	1.33 GHz/ 1.83(Turbo: 2.16) GHz
	Core Number	2/ 4	2/ 4
	L2 Cache	1 MB/ 2 MB	1 MB/ 2 MB
	L3 Cache	-	-
	BIOS	AMI EFI 64 Mbit	AMI EFI 64 Mbit
	Chipset	-	-
Memory	Technology	DDR3L 1066/ 1333 MHz	DDR3L 1066/ 1333 MHz
	Max. Capacity	8 GB	8 GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Controller	Intel Gen7 graphic engine	Intel Gen7 graphic engine
	Graphic Memory	Shared with system memory up to 384 MB	Shared with system memory up to 384 MB"
	VGA	Up to 2560 x 1600 at 60Hz	Up to 2560 x 1600 at 60Hz
	LCD (TTL/LVDS/eDP)	LVDS 18/24-bit, up to 1440 x 900 at 60 Hz	LVDS 18/24-bit, up to 1440 x 900 at 60 Hz
	DDI (HDMI/DVI/DisplayPort)	HDMI 1.4a 1920x1200 at 60 Hz/ 24bpp	-
	Multiple Display	VGA+LVDS, HDMI+LVDS	LVDS+VGA, LVDS+DP/HDMI, VGA+DP/HDMI
	Triple Display	-	-
Expansion Interface	Mini PCIe	1 x Half size	1 x Full-size
	SIM Socket	-	-
	SMBus	1	1 (from 64pin connector B)
	I²C	-	1 (from 64pin connector B)
	MIOe	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	Intel i210	Intel i210
	Speed	10/100/1000Mbps	10/100/1000Mbps
Audio	Connector	RJ45	64-pin connector A
	Audio Interface	High Definition Audio	High Definition Audio
	CODEC	Realtek ALC888S	Realtek ALC888S
	Amplifier	Optional via MIOe	Optional via MIOe
WatchDog Timer	Connector	Line-in, Line-out	Line-in, Line out, Mic-in (from 64pin connector B)
	WatchDog Timer	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)
	mSATA	1	1 (Integrates USB signal, supports either mSATA or USB interface module)
	CompactFlash	-	-
I/O	USB3.0	1	1 (from MIOe)
	USB2.0	3 (1 from rear, 2 from internal)	4 (from internal)
	GPIO	8-bit general purpose input/output	8-bit GPIO (from 64pin connector B)
	COM Port	1 x RS-232, 1 x RS-232/422/485 with RS-485 Auto-flow control	2 RS-232/422/485 (from 64-pin connector B)
	Reset Button	1	1
	Fan	-	-
	Power	Power Type	Single 12V DC power input
Power Supply Voltage		Single 12V input, ±10%	Single 12V input, ±10%
Connector		ATX 1x2p, DC Jack (optional)	64-pin connector A
Power Consumption (Idle)		J1900: 10.59W E3825: 7.08W	E3835: 4.47W N2930: 5.08W
Power Consumption (Full Load)		J1900: 12.48W E3825: 9.12W	N2930: 5.08W E3835: 7.13W N2930: 9.73W
Battery		Lithium 3V/ 210 mA	Lithium 3V/ 210 mA
Environment	Operating Temperature	0 ~ 60 °C (32 ~ 140 °F) (Operating humidity: 40 °C @ 95% RH Non-Condensing)	0 ~ 60 °C (32 ~ 140 °F) (Operating humidity: 40 °C @ 95% RH Non-Condensing)
	Physical Characteristics	Dimensions (L x W x H)	100 x 72 mm (3.9" x 2.8")
Operating System	Microsoft Windows	Yes	Yes
	Linux	Yes	Yes
	SUSIAccess/WISE-PaaS/RMM	Yes	Yes
	iManager	-	-
Certification	EMC	CE, FCC	CE, FCC

NEW



Model Name		MIO-5350
Form Factor		3.5" MI/O-Compact
Processor System	CPU	Intel® Pentium N4200 Celeron N3350 & Atom™ E3950/E3940/E3930
	CPU TDP	6W/6W/12W/9W/6W
	Frequency	1.1GHz/1.1GHz/1.6GHz/1.6GHz/1.3GHz
	Core Number	4/2/4/4/2
	L2 Cache	2
	L3 Cache	-
	BIOS	AMI UEFI 64 Mb
Memory	Technology	DDR3L 1867 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SODIMM
Display	Controller	Intel Gen9 graphic engine
	Graphic Memory	Shared with system memory up to 1792MB
	VGA	2560 x 1600 at 60Hz
	LCD (LVDS/eDP)	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz
	DDI (HDMI/DVI/DisplayPort)	HDMI 1.4a for HD video playback, 1080P at 60Hz Displayport*, up to 2560 x 1600 at 60Hz
Expansion Interface	Multiple Display	VGA + LVDS (eDP *) + HDMI (DP*)
	Mini PCIe	1 x Full size
	SIM Socket	-
	SMBus	1
	i2C	1 (Shares with SMBus pin)
Ethernet	Controller	GbE1 & GbE2: Intel i210
	Speed	10/100/1000Mbps
Audio	Connector	RJ45 x 2
	Audio Interface	High Definition Audio
	CODEC	Realtek ALC888S
	Amplifier	Optional via MIOe
WatchDog Timer	Connector	Line-in, Line-out, Mic-in
		255 levels timer interval, programmable by software
Storage	SATA	2* SATAIII (Max. Data Transfer Rate up to 6.0 Gb/s)
	mSATA	1 x Full size
	CFast	-
I/O	USB3.0	2
	USB2.0	4 (2 from Rear, 2 from Internal)
	GPIO	8-bit general purpose input/output
	COM Port	2xRS-232, 2xRS-232/422/485 with RS-485 auto flow control
	Reset Button	1
	Smart Fan	-
Security	TPM	TPM 2.0 (optional)
Power	Power Type	AT/ATX
	Power Supply Voltage	Single 12V DC power input
	Connector	ATX 2x2P/ DC Jack
	Power Consumption (Idle)	N4200: 0.4A @ 12V (4.80W) N3350: 0.4A @ 12V (4.80W)
	Power Consumption (Full Load)	N4200: 1.26A @ 12V (15.12W) N3350: 1.29 @ 12V (15.48W)
Battery	Lithium 3 V / 210 mAh	
Environment	Operating Temperature	(Operational humidity: 40 °C @ 95% RH Non-Condensing)
Physical Characteristics	Dimensions (L x W x H)	146 x 102 mm (5.7" x 4")
Operating System	Microsoft Windows	Yes
	Linux	Yes
	SUSIAccess/WISE-PaaS/RMM	Yes
	iManager/SUSI 4.0	Yes
Certification	EMC	CE, FCC

NEW



Model Name		PCM-9310
Form Factor		3.5" SBC
Processor System	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
Memory	BIOS	AMI UEFI BIOS at 64 Mb
	Chipset	-
	Technology	DDR3L-1600MHz
Display	Max. Capacity	8 GB
	Socket	1 x 204-pin SODIMM
	Onboard Memory	-
Expansion Interface	Controller	Intel Celeron N3160/N3060
	Graphic Memory	-
	VGA	1920 x 1200 at 60Hz
	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
Ethernet	Multiple Display	VGA + HDMI + LVDS/eDP
	Mini PCIe	2x Full-size
	LPC	-
	SIM Socket	-
	SMBus	1 (shared with I2C)
Audio	I2C Bus	1 (shared with SMBus)
	PC/104	-
	PCI-104	-
	MIO-160	-
WatchDog Timer	Controller	GbE1/2: RTL8111E
	Speed	10/100/1000 Mbps
	Connector	RJ45 x 2
Storage	Audio Interface	HD Audio
	CODEC	Realtek ALC892
I/O	Amplifier	-
	Connector	Line-in, line-out, mic-in
Power	WatchDog Timer	-
	SATA	1x SATAIII (up to 600 MB/s), 1x SATA II (optional, up to 300 MB/s)
	mSATA	1x Full-size (support for Mini PCIe by request)
	IDE	-
	CompactFlash	-
	Floppy	-
	USB3.0	-
	USB2.0	4
	GPIO	8-bit GPIO
	LPT	-
Environment	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
Physical Characteristics	Power Supply Voltage	12V ± 10%
	Connector	ATX 2x2P (DC Jack Optional)
	Power Consumption (Idle)	N3150: 0.03A @ 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	
Operating System	Operating Temperature	0~60 °C (32~140 °F) (Operating humidity: 40 °C @95% RH non-condensing)
	Dimensions (L x W x H)	146 x 102mm
Certification	Construction	Aluminum with fanless design
	Microsoft Windows	Yes
Operating System	Linux	Yes
	SUSIAccess	Yes
	iManager	Yes
Certification	EMC	CE, FCC

Product Selection

Industrial Motherboards



Model Name		AIMB-203	AIMB-205	AIMB-217
Form Factor		Mini-ITX	Mini-ITX	THIN Mini-ITX
Processor System	CPU	Intel Core i7/ i5/ i3/ Pentium/ Celeron	Intel 7th & 6th Gen Core i7/ i5/ i3/ Pentium/Celeron	Intel Pentium N4200/Celeron N3350/Atom x7-E3950
	Socket	LGA 1150	LGA1151	FCBGA
	Max. Speed	3.1 / 2.9 / 2.4 GHz	3.6/3.3/2.4/3.4/3.2/ 2.8/2.6 GHz	QC 1.1/DC 1.1/QC 1.6 GHz
	TDP	95 W / 65 W / 54 W / 45 W / 35 W	65W/51W/54W/35W	6 W/6 W/12 W
	Front Side Bus	-	-	-
	L2 Cache	-	-	2MB
	L3 Cache	8 MB / 6 MB / 4 MB / 3 MB	8 MB/6 MB/4 MB/3 MB/2 MB	-
	Chipset	Intel H81	H110	-
	BIOS	AMI EFI 64 Mbit, SPI	AMI EFI 128 Mbits,SPI	AMI EFI 128 Mbit, SPI
Expansion Slots	M.2	-	1 (B Key)	1 (E Key)
	Mini PCIe	2	1	1
	PCIe	PCIe x16, 1 slot	PCIe x16	PCIe x1, 1 slot
Memory	Technology	Dual channel DDR3L 1333/1600 MHz SDRAM	Dual Channel DDR4 2133/2400 MHz SDRAM	Dual channel DDR3L 1866 MHz SDRAM
	Max. Capacity	16 GB	32GB	8GB/ up to 8GB per DIMM
	Socket	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 x 204-pin SODIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics
	LCD	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS
	HDMI	-	-	1
	DVI	1	1	-
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1:Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Realtek 8111G LAN2:Realtek 8111G	LAN1: Realtek 8111G LAN2:Realtek 8111G
	Connector	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2
TPM		Optional	Optional	Optional
SATA	Max Data Transfer Rate	600 MB/s, 300MB/s	600 MB/s	600 MB/s
	Channel	2, 1	2	2
	eSATA/mSATA	-/1	-/1	-/1
Rear I/O	VGA/DVI/HDMI/DP	1/1/-/1	1/1/-/1	1/-/1/1
	Ethernet	2	2	2
	USB	4 (2 x USB 3.0; 2 x USB 2.0)	8 (4x USB 3.0; 4xUSB2.0)	4 (USB 3.0)
	Audio	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Line-out
	Serial	1 (RS-232)	-	-
	PS/2	2	-	-
	DC Jack	-	-	1
	Internal Connector	LVDS & Inverter	1	1
DVI		-	-	-
USB		4 (USB 2.0)	6 (USB 2.0), USB11/12/13/14 is optional	8 (USB 2.0), USB9/10/11/12 is optional
Serial		8 (7 x RS-232; 1 x RS-232/422/485)	8 (7 x RS-232; 1 x RS-232/422/485)	6 (5 x RS-232; 1 x RS-232/422/485)
Parallel		1	-	-
SATA		3	2	2
CompactFlash		-	-	-
GPIO		8-bit GPIO	8-bit GPIO	8-bit GPIO



Model Name		AIMB-501	AIMB-503	SIMB-354
Form Factor		Micro-ATX	Micro-ATX	Mini-ITX
Processor System	CPU	Intel Core i7/ i5/ i3/ Pentium/ Celeron	Intel Core i7/ i5/ i3/ Pentium/ Celeron	Intel Celeron N3160
	Socket	LGA 1155	LGA 1150	FCBGA1170
	max. speed	3.4 G/3.3 G/3.1 G/ 3.0G/2.9 G/2.5 GHz	3.5 G/3.1 G/2.9 G/2.4 G	Up to 2.24 GHz
	TDP	95W / 77W / 65W / 55W	65 W / 45 W / 35 W	6W
	L2 cache	-	-	-
	L3 cache	8MB/6MB/3MB/2MB	8 MB/6 MB/4 MB/3 MB	Up to 2 MB
	Chipset	Intel H61	Intel H81	-
	BIOS	AMI EFI 64 Mbit, SPI	AMIEFI 64 Mbit, SPI	AMI EFI 64Mbit SPI
Expansion Slots	PCI	2	1 (G2)	-
	PCIe x16	1	1	-
	PCIe x8	-	-	-
	PCIe x4	-	1 (F)	-
	PCIe x1	1	1 (F); 2 (G2/L)	1
Memory	Technology	Dual channel DDR3 1066/1333 MHz SDRAM	Dual channel DDR3 1333/ 1600 MHz SDRAM	Dual channel DDR3L1333/ 1600 MHz SO-DIMM (Non-ECC)
	Max. Capacity	16 GB	16 GB	8 GB
	Socket	2 x 240-pin DIMM	2 x 240-pin DIMM	1 x 204-pin SO-DIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics
	VRAM	Shared system memory up to 1 GB	Shared system memory up to 1 GB	-
	VGA	-	1	1
	LCD	Dual channel 48-bit LVDS	Dual channel 48-bit LVDS (Optional)	Dual channel 48-bit LVDS
	DVI-D	1	1	-
	HDMI	-	-	1
	DP/eDP	-	1/-	-
	Dual Display	CRT1+LVDS, CRT1+DVI, CRT1+CRT2 (G2)	CRT+DP, CRT+DVI, DVI+DP, CRT+LVDS (Option), DVI+LVDS (Option), DP+LVDS (Option)	CRT+HDMI, CRT+LVDS , HDMI+LVDS
Triple Display	-	-	CRT+HDMI+LVDS	
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Realtek RTL8111G LAN2: Realtek RTL8111G
	Connector	RJ-45 x2	RJ-45 x2	RJ-45 x2
TPM		Optional	Optional	-
SATA	Max Data Transfer	300 MB/s	300 MB/s 600 MB/s	600 MB/s
	Channel	4	1 / 2	2
	eSATA/mSATA	-	0 / 1	1
EIDE	Mode	-	-	-
	Channel	-	-	-
I/O Interface	VGA	2/ 1	1	1
	USB	10 (USB2.0)/ 8(USB2.0), 2(USB 3.0)	7 (USB 2.0), 2 (USB 3.0)	6 (USB 2.0), 4(USB 3.0)
	Serial	10 (8 x RS-232; 2 x RS-232/422/485)	10 (8 x RS-232; 2 x RS-232/422/485)	4 x RS-232 support 5V/12V by jumper selection, 1 x RS-232/422/485 support 5V/ 12V by jumper selection
	Parallel	1	1	-
	SIM Card Holder	-	1	-
	PS/2	2	2	1
	Ethernet (GbE)	2	2	2
	IEEE 1394	-	-	-
	Audio	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out, Line-in
GPIO		8 bit	8 bit	8-bit

Product Selection

RISC Computing Platforms



Model Name		ROM-3420
Form Factor		RTX V2.0
Processor System	CPU	NXP ARM Cortex-A9 i.MX6 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 at 60Hz
	HDMI	1920 x 1080 at 60Hz
	Parallel RGB	1 24-bit TTL, 1920 x 1200 at 60Hz
	VGA	-
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBit 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	NXP i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps
RTC		Yes
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	1 PCIe x 1
	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 x CAN bus 2.0 A/B
	GPIO	10
	I2C	4
	Camera Input	1 MIPI v1.0, 4 x Lane
	System Bus	Address: 26 bits Data: 16 bits
	Touch	-
	Keypad	-
	PWM	-
	Power	Power Supply Voltage
Power Consumption		3.3W (Max)
Environment	Operating Temperature	0 ~ 60 °C/ -40 ~ 85 °C
	Operating Humidity	5%~95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	68 x 68 mm
Operating System		Linux Android
Certifications		CE/FCC Class B

Model Name		RSB-4411	RSB-6410
Form Factor		3.5" SBC	Mini-ITX SBC
Processor System	CPU	NXP ARM Cortex-A9 i.MX6 1 GHz	NXP ARM Cortex-A9 i.MX6 1 GHz
Memory	Technology	DDR3 1066 MHz	DDR3 1066 MHz
	Capacity	On-board DDR3 1 GB	On-board DDR3 1 GB/2 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	8 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 18/24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch at 60Hz	1 18/24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch at 60Hz
	HDMI	1920 x 1080 at 60Hz	1920 x 1080 at 60Hz
	VGA	1920 x 1080 at 60Hz	1920 x 1080 at 60Hz
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBit for 2D and OpenVG 1.1	2 IPUs. OpenGL ES 2.0 for 3D, BitBit 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	NXP i.MX6 integrated RGMII	NXP i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps
WatchDog Timer		1~6553s, default 60s, power on/off 1s	1~6553s, default 60s, power on/off 1s
I/O	SATA	1	1
	SATA Power	1	1
	USB	1 x USB OTG, 2 x USB Type A and 3 x USB pin header	6 x USB 2.0 Host
	Audio	1 x Line-out, 1 x Mic-in via pin header	1 x Line-out, 1 x Mic-in
	SPDIF	-	-
	SDIO	1 SD Slot	1 SD Slot
	Serial Port	1 x 4-wire RS-232/422/485	3 x 4-wire RS-232 and 1 x 4-wire RS-232/422/485
	SPI	1	-
	CAN	-	-
	GPIO	8 x GPIO via D-SUB 9 / 8 x GPIO via pin header (3.3V TTL level)	18 GPIO w/o Isolation
	I2C	1	-
	System Bus	-	-
	Touch	-	-
	Keypad	-	-
Button	-	1 x Reset button 1 x Power button by pin header	
Indicator	LED	1 Green LED for system power 1 Green LED for RF Status	1 Green LED for system power
Expansion	Mini PCIe	1 x mini PCIe slot	1 x mini PCIe slot
	M.2	1 x M.2 2230 Key E slot	1 x M.2 2230 E-key slot
	SD Socket	1 x SD slot	1 x SD slot
	SIM	1 x SIM slot	1 x SIM slot
Power	Power Supply Voltage	9-36V	12 V
	Power Type	DC-in	DC-in
	Power Consumption	6W (Max)	7W (Max)
Environment	Operating Temperature	0 ~ 60 °C	0 ~ 60 °C
	Operating Humidity	5 ~ 95% relative humidity, non-condensing	5 ~ 95% relative humidity, non-condensing
Mechanical	Dimensions (W x D x H)	146 x 102 x 20 mm	170 x 170 x 35 mm
Operating System		Yocto Linux Android Debian Linux	Linux Android
Certifications		CE/FCC Class B	CE/FCC Class B

Digital Signage Solutions



Model Name		DS-100
Processor System	CPU	Dual ARM Cortex-A72 + Quad ARM Cortex-A53
	BIOS	-
	Chipset	-
Memory	Technology	LP-DDR3L-1066MHz
	Max. Capacity	2GB on board
	Socket	-
Display	Controller	-
	Graphic Engine	Mali-T860MP4
	Graphic Memory	-
	Multiple Display	Dual
	Interface	HDMI 2.0 x1, HDMI 1.4 x1
	Max. Resolution	4096 x 2304 @ 60Hz
Expansion Interface	M.2	1
	Mini PCIe	-
	PCIe x16	-
Ethernet	Connector	RJ-45 x 2
Audio	Connector	1 (Line-out/Mic-in)
WatchDog Timer		Yes
Storage	SATA	1x 16GB eMMC on board; 1x Micro SD card slot (for expansion)
	mSATA	-
I/O	USB3.0	1
	USB2.0	1
	COM Port	1 (RS-232)
Power	Power Supply	DC 12V input
Environment	Operating Temperature	-10 ~ 60°C (14 ~ 140°F) with 0.7m/s air flow
Physical Characteristics	Dimensions (L x W x H)	TBD
Operating System		Android 7.1, Linux Kernel 4.4
Certifications	EMC	CE, FCC Class B, CCC, BSMI
	Safety	UL, CB, CCC, BSMI



Model Name		DS-081
Processor System	CPU	Intel Core i5-6300U Intel Core i5-6200U Intel Core i3-6100U
	BIOS	AMI uEFI 128 Mbit
	Chipset	Integrated in CPU
Memory	Technology	DDR4 2133MHz
	Max. Capacity	32GB (16GB per SO-DIMM)
	Socket	2 x 260-pin SODIMM
Display	Controller	CPU Integrated
	Graphic Engine	Intel HD Graphics 520
	Graphic Memory	Shared system memory
	Multiple Display	Dual
	Interface	HDMI 1.4 x 2
	Max. Resolution	4096 x 2304 @ 24Hz
Expansion Interface	M.2	-
	Mini PCIe	1
	PCIe x16	-
Ethernet	Connector	RJ-45 x 2
Audio	Connector	1 (SPDIF/ Line-out/ Mic-in), supports Jack Sense
WatchDog Timer		Yes
Storage	SATA	1 x 2.5" SATA III HDD/SSD
	mSATA	Yes, colay Mini PCIe
I/O	USB3.0	4
	USB2.0	-
	COM Port	1 x RS-232
Power	Power Supply	DC 19V input
Environment	Operating Temperature	0 ~ 40°C (32 ~ 104°F) (w / HDD) with 0.7m/s air flow
Physical Characteristics	Dimensions (L x W x H)	180 x 190 x 19 mm
Operating System		Microsoft Windows, Linux (Option)
Certifications	EMC	CE, FCC Class B, CCC, BSMI
	Safety	UL, CB, CCC, BSMI

Product Selection

NEW

Fanless Embedded Computers



Model Name		ARK-1124U
Processor System	CPU	Intel Celeron N3350 Dual Core SoC
	Frequency	1.1GHz, turbo burst 2.4 GHz
	Core Number	2
	BIOS	AMI EFI 64 Mbit
	Chipset	-
Memory	Technology	DDR3L 1866 MHz
	Max. Capacity	8GB
	Socket	1 x 204-pin SO-DIMM
Display	Graphic Engine	-
	VGA	1 x VGA Up to 2048 x 1280
	LCD (TTL/LVDS/eDP)	-
	DDI (HDMI/DVI/DisplayPort)	-
	Multiple Display	-
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe 1 x M.2 E Key
	SIM Socket	1
	ARK Plus	AMO-110
	iDoor	Yes
Ethernet	Controller	GbE1: Intel i210 GbE GbE2: Intel i210 GbE
	Speed	10/100/1000 Mbps
Audio	Audio Interface	HD Audio
	CODEC	Realtek ALC888S
WatchDog Timer		Yes
Storage	SATA	1 x 2.5" SATA/III HDD bay
	mSATA	-
	CompactFlash/Cfast/SD card	-
I/O	USB3.0	4
	USB2.0	0
	GPIO	-
	COM Port	2 (2 x RS232/ 422/ 485)
Power	Power Type	AT/ATX
	Power Supply Voltage	12 V _{DC} (Option 12-24 V _{DC})
	Connector	Lockable DC Jack
	Power Consumption (Idle)	5W
	Power Consumption (Full Load)	33.7W
	Power Adaptor	AC to DC, DC12V/5A, 60W
Environment	Operating Temperature (air flow 0.7 m/sec)	-20 ~ 60 °C
	Non-operating Temperature	-40~ 85 °C and 95% @ 40 °C Non-Condensing
	Vibration Resistance	With SSD: 3 Grms
	Shock Protection	With SSD: 30 G
	Physical Characteristics	Dimensions (W x H x D) 133 x 46.4 x 94.2 mm Weight 1.1 kg (2.42lb) Mounting Wall/VESA/DIN-rail mounting (Optional)
Operating System	Microsoft Windows	Yes (Windows 10)
	Linux	Yes (by Project)
APIs	WISE-PaaS/RMM	Yes
	SUSI API	-
	Other	McAfee, Acronis
Certification	EMC	CE/FCC Class B, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI

Model Name		ARK-1123H
Processor System	CPU	Intel® Celeron QC J1900
	Frequency	2.0 GHz
	Core Number	4
	BIOS	AMI EFI 64 Mbit
	Chipset	Intel® Celeron QC J1900
Memory	Technology	DDR3L 1333MHz
	Max. Capacity	8GB
	Socket	1 x 204-pin SODIMM
Display	VGA	-
	LCD (TTL/LVDS/eDP)	-
	DDI (HDMI/DVI/DisplayPort)	2 x lockable HDMI, 1920 x 1080
	Multiple Display	-
	Mini PCIe	1 x Full-size Mini PCIe
Expansion Interface	SIM Socket	-
	PCIe	-
	PCI	-
	PCIe + PCI	-
Ethernet	Controller	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake on LAN
	Speed	10/ 100/ 1000 Mbps
Audio	Audio Interface	HD Audio
	CODEC	Realtek ACL888S
WatchDog Timer		Yes
Storage	SATA	1 x 2.5" SATA drive bay
	mSATA	1 x Half-Size mSATA
I/O	CompactFlash/Cfast/SD card	-
	USB3.0	1
	USB2.0	2
	GPIO	-
Power	COM Port	1 (1 x RS-232/422/485)
	Power Type	ATX
	Power Supply Voltage	12 V _{DC} , ± 10%
	Connector	Lockable DC Jack
	Power Consumption (Idle)	5.64W
	Power Consumption (Full Load)	14.04W
Environment	Power Adaptor	Lockable AC to DC, DC12 V/3 A, 36 W
	Operating Temperature (air flow 0.7 m/sec)	With extended temperature peripherals: -20 ~ 60 °C With standard temperature peripherals: 0 ~ 40 °C
	Non-operating Temperature	-40 ~ 85 °C and 40 °C @ 95% RH Non-Condensing
	Vibration Resistance	With mSATA/SSD : 3 Grms
	Shock Protection	With mSATA/SSD: 30G
Physical Characteristics	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm
	Weight	1.2 kg (2.65 lb)
	Mounting	Optional DIN Rail/ VESA/ Wall mounting
Operating System	Microsoft Windows	Yes (WE7, Windows 7, WE8S, Windows 8 and Windows 10 (32-bit support by project))
	Linux	Yes (Ubuntu 14.04 LTS x64)
APIs	WISE-PaaS/RMM	Yes
	SUSI API	-
	Other	McAfee, Acronis
Certification	EMC	CE/FCC Class B, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI

NEW



NEW



NEW



Embedded PCs

Model Name		ARK-2230L	ARK-2250L
Processor System	CPU	Intel J1900	Intel i7-6600U Intel i5-6300U Intel i3-6100U
	Frequency	2.0GHz	2.6/2.4/2.3GHz
	Core Number	4	2/2/2
	BIOS	AMI EFI 64Mbit	AMI UEFI 128 Mbit
	Chipset	-	-
Memory	Technology	DDR3L 1333MHz	DDR3L 1600MHz
	Max. Capacity	8GB	16GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Graphic Engine	DirectX 11.1, OCL 1.2 and OGL 3.2	DirectX 11.3, OpenGL 4.4, and OpenCL 2.1
	VGA	Up to 2048 x 1152	Up to 1920 x 1200
	DDI (HDMI/DVI/DisplayPort)	HDMI 1.4a for HD video playback, 1080P @ 60Hz	HDMI 1.4a for HD video playback, 4096 x 2160 @ 24Hz
	Multiple Display	Dual	VGA+HDMI (Option triple display)
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe	2 x Full-size Mini PCIe
	SIM Socket	1	1
	ARK Plus	AMO-2000 series	AMO-2000 series
	i Door	Yes	Yes
Ethernet	Controller	GbE1: Intel I-210IT GbE2: Intel I-210IT	GbE1: Intel I219-LM GbE2: Intel I-210IT
	Speed	10/100/1000 Mbps	10/100/1000 Mbps
	Audio Interface	HD Audio	HD Audio
Audio	CODEC	Realtek ALC888	Realtek ALC888
	Connector	3 (Line-in, Line out, Mic-in)	2 (Line-out, Mic-in)
	WatchDog Timer	Yes	Yes
Storage	SATA	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
	mSATA	1	1x Full size mSATA
	CompactFlash/CFast/SD card	-	-
I/O	USB3.0	1	4
	USB2.0	4	2
	GPIO	1 x 8 bit DIO	1 x 8 bit DIO
	COM Port	4 (2 x RS232, 2 x RS232/422/485)	4 (4 x RS232/ 422/ 485)
Power	Power Type	AT/ATX	AT/ATX
	Power Supply Voltage	12 V _{DC} (Option 9-36 V _{DC})	12 VDC (Option 9-36 VDC)
	Connector	Lockable DC Jack	Lockable DC Jack
	Power Consumption (Idle)	7.3W	7.96W/ 7.8W/ 6.92W
	Power Consumption (Full Load)	13.3W	43.28W/ 42.8W/ 41.72W
	Power Adaptor	AC to DC, DC12V/5A, 60W (Optional)	AC to DC, DC12V/5A, 60W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	-20 ~ 60 °C	-20 ~ 60 °C
	Non-operating Temperature	-40~ 85 °C and 95% @ 40 °C Non-Condensing	-40~ 85 °C and 95% @ 40 °C Non-Condensing
	Vibration Resistance	With SSD: 3 Grms	With SSD: 3 Grms
	Shock Protection	With SSD: 30 G	With SSD: 30 G
Physical Characteristics	Dimensions (W x H x D)	260 x 44 x 140.2 mm	260 x 54 x 140.2 mm
	Weight	2.3 kg (5.07lb)	2.3 kg (5.07lb)
	Mounting	Desk/ Wall/ VESA/ DIN-Rail mounting	Desk/ Wall/ VESA/ DIN-Rail mounting
Operating System	Microsoft Windows	Yes (Windows 10, WES8, Windows 8, WES7, Windows7)	Yes (Windows 10, Windows 8.1, WES7, Windows7)
	Linux	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/RMM	Yes	Yes
	SUSI API	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI, KC	UL, CCC, BSMI

Model Name		EPC-R6410	EPC-S101
Barebone system	Description	ARM based fanless barebone system	Fanless barebone w/ memory adoption
Processor System	Compatible Motherboard	RSB-6410	PCM-9310
	Thermal Solution	Fanless	Fanless
	CPU	NXP ARM Cortex-A9 i.MX6 1 GHz	Intel Celeron N3160/N3060, Atom x5-E8000
	BIOS	Advantech boot loader	AMI UEFI 64Mb SPI
Memory	Socket	On-board	1 x 204-pin SODIMM
	Technology	DDR3L 1333MHz	DDR3L-1600
	Max. Capacity	2GB	Default 2GB adopted, up to 8GB
Graphics	Chipset Integrated	2 IPUs, OpenGL ES 2.0 for 3D, BitBit for 2D and OpenVG 1.1	Intel Gen8LP
Storage	2.5" HDD Bay	8GB eMMC NAND Flash for O.S. 4MB SPI NOR Flash for ADV.	Room for 1 x 2.5" SSD, max. 9.5mm height
	mSATA Slot	-	Full size SATAIII (opt. mPCIe)
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	NXP i.MX6 integrated RMII	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E
Audio	Connector	RJ45	RJ-45 x 2
	Codec	SGTL5000	Realtek ALC892
Internal expansion Slot	Mini-PCIe	1 x Full-size	Full size PCIe Gen2 (opt. 2 slots)
	M.2	1 x M.2 Key E slot	1
	SIM slot	1	1
	SD slot	1 x SD slot	-
Front Panel	DP++	-	-
	DP/HDMI	-	HDMI 1.4b up to 2560 x 1600
	VGA	-	1
	DVI	-	-
	COM	2 x 4-wire RS-232 1 x debug port	-
	LAN	-	2
	USB	-	4 (USB2.0 x 2, USB3.0 x 2)
	Audio Jack	-	-
	Antenna (optional)	2 x antenna hole	up to 1
	DP++	-	-
	DP/HDMI	1	-
Rear Panel/ Side Panel	VGA	1	-
	DVI	-	-
	COM	1 x 4-wire RS232/RS485 1 x 4-wire RS232	4 (2 x RS-232, 2 x RS-232/422/485)
	LAN	1	-
	USB	6 x USB2.0 Host	2 (USB2.0)
	Audio Jack	1 x Line out 1 x Mic in	Line-in, Line-out, Mic-in
Miscellaneous	GPIO	-	8-bit
	Antenna (optional)	2 x antenna hole	up to 1
	LED Indicators	1 Green LED for system power	2 (Power LED, HDD LED)
	Switch	1 x Reset button 1 x Power button	1 (Power Switch)
Mounting	Circular Cutouts	-	1
		Wall mount	Desk mount, VESA mount, DIN rail
Power Requirements	Power Voltage	12V	12V DC-in
	Power Input Type (Inlet)	DC-in	Phoenix DC plug-in
	Consumption	9W (heavy loading burning)	4.5W (idle with Celeron N3060)
Environment	Operating Temperature	0 ~ 55 °C	0 ~ 50 °C (32 ~ 122 °F)
	Non-operating Temperature	-40 ~ 85 °C	-40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	5 ~ 95% Relative Humidity, non-condensing	Operating: 40 °C @ 95% RH, non-condensing Storage: 60 °C @ 95% RH, non-condensing
	Vibration (5 ~ 500Hz)	IEC60068-2-64 random 2.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 3.0Grms IEC60068-2-6 sinusoidal 2.0G
	Shock	IEC60068-2-27 half-sine 10G/11ms	IEC60068-2-27 half-sine 30G/11ms
	Certification		CE/FCC Class B CCC/BSMI
Physical Characteristics	Dimensions (W x H x D)	200 x 230 x 50 mm	188 x 39 x 150 mm
	Weight	2.26KG	0.95kg

Product Selection

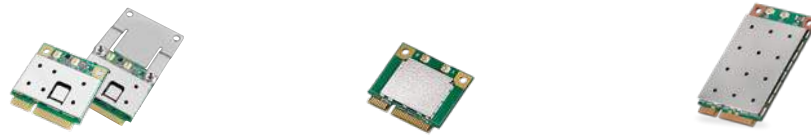
Embedded PCs



Model Name		EPC-B2203	EPC-B2205
Barebone system	Description	Fan-base barebone, w/ 150W PSU, w/o HDD, memory	Fan-base barebone, w/ 150W PSU, w/o HDD, memory
Processor System	Compatible Motherboard	AIMB-203G2-00A1E	AIMB-205G2-00A1E
	Thermal Solution	2 x chassis fans (7cm/28CFM)	2 x chassis fans (7cm/28CFM)
	CPU	Intel® 4th Gen Core™ i processor (LGA1150)	Intel® 7th Gen Core™ & 6th Gen Core™ i processor / Pentium / Celeron (LGA1151) with Intel H110 chipset
	BIOS	AMI EFI 64 Mbit SPI	AMI EFI 128 Mbit SPI
Memory	Socket	2 x 204-pin DDR3 SO-DIMM (Non-ECC)	2 x 260 PIN DDR4 SO-DIMM
	Technology	Dual Channel DDR3/DDR3L @1.5V 1333/1600 MHz SDRAM	Dual channel DDR4 2400/2133 MHz non ECC SDRAM (Only supports DDR4 2133 MHz SDRAM for SKL-S CPU)
	Max. Capacity	16 GB/up to 8 GB per SO-DIMM	Up to 32GB (16GB per SO-DIMM)
Graphics	Chipset integrated	Integrated Gfx Gen. 7.5, Supports DirectX11.1, OpenGL 4.0 and OpenCL 1.2	Integrated Intel® HD Graphics 530
	2.5" HDD bay	2 (support 2 x 2.5" HDD/SSD, or 1 slim ODD & 1 x 2.5" HDD/SSD)	2 (support 2 x 2.5" HDD/SSD, or 1 slim ODD & 1 x 2.5" HDD/SSD)
Storage	mSATA Slot	1 (Full-size, Half size)	1 (share w/ full size Mini-PCIe slot)
	Interface	10/100/1000 Mbps	10/100/1000 Mbps
Ethernet	Controller	LAN1: Realtek 8111E LAN2: Realtek 8111E	LAN1: Realtek RTL8111G LAN2: Realtek RTL8111G
	Connector	2 (RJ-45)	2 (RJ-45)
Audio	Codec	Realtek ALC892, High Definition Audio (HD)	Realtek ALC892, High Definition Audio (HD)
	Mini-PCIe	2 (1 x F/S; 1 x H/S) DP++: 0	1 (Full-size)
Internal Expansion Slots	M.2	-	1 x M.2 Key B slot (2242)
	SIM slot	1	-
	SD slot	-	-
	DP++	-	-
	DP/HDMI	-	-
	VGA	-	-
Front Panel	DVI	-	-
	COM	4 (RS232; optional)	4 (Optional)
	LAN	-	-
	USB	4 (USB2.0; optional)	2 (USB2.0; Optional)
	Audio Jack	-	-
	Antenna (optional)	up to 2	up to 2
	DP++	-	-
	DP/HDMI	1/0	1/0
	VGA	1	1
	DVI	1	1 (DVI-D)
Rear Panel	COM	1 (RS232, supports 5V/12V)	-
	LAN	2(RJ-45)	2 (RJ-45)
	USB	4(USB3.0)	4 (USB3.0); 4 (USB2.0)
	Audio Jack	3 (Mic in, Line out, Line in)	3 (line-in, line-out, mic-in)
	GPIO	8 bit	8 bit
	Antenna (optional)	up to 2	-
	LED Indicators	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)
	Switch	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)
	Circular Cutouts	-	-
	Mounting	Wall mount	Wall mount
Power Requirements	Power Voltage	Power Voltage: 100V~240V AC input	Power Voltage: 100V~240V AC input
	Power Input Type (Inlet)	Power Code input	Power Code input
	Consumption	TBD	TBD
Environment	Operating Temperature	0 ~ 40 °C	0 ~ 40 °C (32 ~ 104 °F)
	Non-operating Temperature	-29 ~ 60 °C	-20 ~ 60 °C (-4 ~ 140 °F)
	Humidity	10~95% @ 40°C, non-condensing	10~95% @ 40°C, non-condensing
	Vibration (5~500Hz)	1 Grms (HDD*1+ODD*1); 0.5 Grms (HDD*2)	1 Grms (HDD*1+ODD*1); 0.5 Grms (HDD*2)
	Shock	-	-
Certification		CE/FCC/CCC	CE, FCC
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	3.8kg	3.8kg

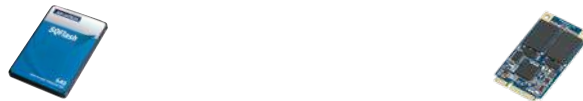
Model Name		EPC-T1215	EPC-T1217
Barebone system	Description	Fan-base / Fanless barebone, w/ adapter, w/o HDD, memory	Fanless barebone, w/ adapter, w/o SSD, memory
Processor System	Compatible Motherboard	AIMB-215D-S6B1E	AIMB-217D-S6A1E
	Thermal Solution	1x chassis fan (4cm/23.8CFM)/ Fanless	Fanless
	CPU	Intel® Bay Trail Quad core Celeron™ J1900 (on board)	Intel Pentium N4200 (on board)
	BIOS	AMI 16 Mbit SPI	AMI 128 Mbit SPI
Memory	Socket	2 x 204 PIN DDR3 SODIMM (Non-ECC)	2 x 204-pin SO-DIMM (Non-ECC)
	Technology	DDR3L 1066/1333 MHz SDRAM	Dual channel DDR3L 1866 MHz SDRAM
	Max. Capacity	8 GB/up to 4 GB per SODIMM	8 GB/8 GB per SO-DIMM
Graphics	Chipset integrated	Integrated Intel HD Graphics	Intel Gen 9 Graphics Engines and media encode/decode engine
	2.5" HDD bay	1 (support 2.5" HDD/SSD, max 9.5 mm height)	1 (support 2.5" SSD, max 9.5 mm height)
Storage	mSATA Slot	1 (share w/ full size Mini-PCIe slot)	1 (share w/ full size Mini-PCIe slot)
	Interface	10/100/1000 Mbps	10/100/1000 Mbps
Ethernet	Controller	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Realtek 8111G LAN2: Realtek 8111G
	Connector	2 (RJ-45)	2 (RJ-45)
Audio	Codec	Realtek ALC892, High Definition Audio (HD)	Realtek ALC888S, High Definition Audio (HD)
	Mini-PCIe	1+1 (Full-size, Half-size)	1 (Full-size)
Internal Expansion Slots	M.2	-	1 x M.2 Key E slot (2230)
	SIM slot	1	1
	SD slot	-	-
	DP++	-	-
	DP/HDMI	-	-
	VGA	-	-
	DVI	-	-
	COM	5 (RS-232)	5 (4 x RS-232, 1 x RS232/422/485, 1 support 5V/12V)
	Lan	-	-
	USB	4 (USB2.0)	4 (USB2.0; optional)
Rear Panel	Audio Jack	2 (Line-Out, Mic-In)	2 (Line-Out, Mic-In)
	Antenna (optional)	up to 2	up to 2
	DP++	1	-
	DP/HDMI	-	1/1
	VGA	1	1
	DVI	-	-
	COM	1 (RS-232)	1 (RS232)
	Lan	2 (RJ-45)	2 (RJ-45)
	USB	1 (USB3.0); 3 (USB2.0)	4 (USB3.0)
	Audio Jack	1 (Line-Out)	1 (line-out)
Miscellaneous	GPIO	8 bit	8 bit
	Antenna (optional)	up to 2	up to 2
	LED Indicators	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)
Mounting	Switch	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)
	Circular Cutouts	-	-
Power Requirements	Power Voltage	Wall mount, VESA mount, Rack mount, DIN rail	Wall mount, VESA mount, Rack mount, DIN rail
	Power Input Type (Inlet)	12V DC-in	12V DC-in
Environment	Consumption	10.17W (idle with Intel Celeron J1900)	TBD
	Operating Temperature	Fan-base: 0 ~ 50 °C (32 ~ 122 °F) Fanless: 0 ~ 40 °C (32 ~ 104 °F)	Fanless: 0~45 °C
	Non-operating Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	10~95% @ 40°C, non-condensing	10~95% @ 40°C, non-condensing
	Vibration (5~500Hz)	1 Grms (HDD x 1); 3 Grms (SSD x 1)	3 Grms (SSD x 1)
Certification		CE, FCC, CCC	CE, FCC
Physical Characteristics	Dimensions (W x H x D)	250 x 43 x 210 mm (9.84" x 1.69" x 8.27")	250 x 43 x 210 mm (9.84" x 1.69" x 8.27")
	Weight	3.1kg	3.1kg

Embedded IoT Wireless Modules



Model Name	EWM-W135H/F	EWM-W157H	EWM-W158F
Form Factor	Full/Half size Mini PCIe Card	Half Size Mini PCIe Card	Full Size Mini PCIe Card
Wireless Standard	802.11 a/b/g/n	802.11 ac/a/b/g/n	802.11 a/b/g/n
Chipset	Atheros AR9382	Realtek RTL8821AE	Atheros AR9592- AR1B
Signal Protocol	PCIe Differential	WiFi: PCIe BT: USB Differential	PCIe Differential
Antenna	2 x U.FL connectors	2 x U.FL connectors	2 x U.FL connectors
Operating Voltage	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%
Temperature Range	-10 ~ 70 °C (Operating)	0 ~ 70 °C (Operating)	-40 ~ 85 °C (Operating)
Dimensions (L x W x H)	26.65 x 29.85 x 3.25 mm	26.65 x 29.85 x 3.25 mm	50.8 x 29.85 x 2.86 mm
Security	64/128-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128-bit WEP, WPA, WPA2, 802.1x, TKIP and AES
SISO/MIMO	2T x 2R	1T1R	2T2R
Data Rate	300Mbps	433Mbps	300Mbps
Bluetooth		2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE)	
OS Support	Win 7/ 8/ 8.1	Win 7/8/8.1/10	Win 7/ 8/ 8.1
Host connector type	PCIe Mini card	PCIe M.2 card	PCIe Mini card

Industrial Flash and Memory Solutions



Model Name	SQF-S25, 640 series	SQF-SMS, 640 series
Form factor	2.5" SATA SSD	mSATA SSD (M0-300A)
Transfer Protocol	SATA 6Gb/s	SATA 6Gb/s
Connector	7 + 15 pin SATA	Mini PCIe with SATA pin-out
Flash Type	SLC / Ultra MLC / MLC / 3D V-NAND	SLC / Ultra MLC / MLC / 3D V-NAND
Maximum Power Consumption	530 mA	750 mA
Capacity	16GB ~ 512GB	16GB ~ 1TB
Maximum Read / Write Performance (MB/s)	Sequential: 560 / 490 Random IOPS@4K: 86K / 91K	Sequential: 560 / 490 Random IOPS@4K: 86K / 91K
Operating Temperature	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C
SQFlash Utility	Supported	Supported
Shock	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



Model	SQR-SD3N	SQR-SD3M
Interface	DDR3L	DDR3L
Form Factor	SODIMM	SODIMM
Pin Number	204pin	204pin
Frequency (MHz)	1866/1600	1866/1600
Capacity	1/2/4/8/16GB	1/2/4/8/16GB
Voltage	1.35V/1.5V	1.35V/1.5V
Operating Temperature	0 ~ 85 °C	-20 ~ 85 °C
Function	Unbuffered	

Product Selection

Industrial Displays



Model Name		IDK-1107WP	IDS-1110	IDS-1115	IDS-1121
LCD Display	Size	7"	10.4"	15"	21.5"
	Resolution	1024 x 600 (WSVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1920 x 1080 (FHD)
	Brightness (cd/m ²)	500	500	400	300
	Colors	262K/16.2M	16.2M	262K/16.2M	16.7M
	Viewing Angle (H/V°)	140/120	176/176	160/140	178/178
	Contrast Ratio	600:1	1000:1	700:1	5000:1
	ResponseTime (ms)	16	25	16	25
	Touchscreen	P-cap	P-cap	P-cap	5-Wire Resistive
	Signal Interface	LVDS	LVDS	LVDS	2 Channel LVDS
	Backlight Type	LED	LED	LED	LED
	Backlight Life (hrs)	50,000	50,000	50,000	50,000
	Power Consumption (W)	3.56	7.9	10.6	19.82
	Dimensions (mm)	165 x 104 x 10	223 x 176 x 9	327 x 254 x 12	497 x 292 x 13
	Weight (g)	160	430	1084	2300
Touchscreen	Durability (touches)	50 million ~	50 million ~	50 million ~	10 million
	Surface Hardness	Mohs 5H	Mohs 5H	Mohs 5H	3H
	Transparency	90%	90%	91%	80%
Environment	Operating Temperature (°C)	-20 ~ 70	-20 ~ 70	-20 ~ 70	0 ~ 60



Model Name		IDK-2115	IDK-2121
LCD Display	Size	15"	21.5"
	Resolution	1024 x 768 (XGA)	1920 x 1080 (FHD)
	Brightness (cd/m ²)	1200	1200
	Colors	262K / 16.2M	16.7M
	Viewing Angle (H/V°)	160/140	178/178
	Contrast Ratio	700:1	5000:1
	ResponseTime (ms)	16	16
	Touchscreen	5-Wire Resistive	5-Wire Resistive
	Signal Interface	LVDS	2 Channel LVDS
	Backlight Type	LED	LED
	Backlight Life (hrs)	50,000	50,000
	Power Consumption (W)	16.06	46.8
	Dimensions (mm)	326.5 x 253.5 x 11.5	495.6 x 292.2 x 11.7
	Weight (g)	1184	2050
Touchscreen	Durability (touches)	10 million	10 million
	Surface Hardness	3H	3H
	Transparency	80%	80%
Environment	Operating Temperature (°C)	-20 ~ 70	0 ~ 55



Model Name		IDS-3115P	IDS-3118W		IDS-3121W	
LCD Display	Screen Size	15"	18.5"		21.5"	
	Resolution	1024 x 768 (XGA)	1366 x 768 (HD)		1920 x 1080 (FHD)	
	Colors	16.2M	16.7M		16.7M	
	Viewing Angle (H/V°)	160/140	170/160		178/178	
	Contrast Ratio	700:1	1000:1		1000:1	
	Response Time (ms)	25	5		5	
	Brightness (cd/m2)	500/1200	300		250	
	Backlight Type	LED	LED		LED	
	Backlight Life	50,000	50,000		30,000	
	Dimensions (mm) (without touch)	362 x 288 x 32.8	478 x 303 x 33		546.6 x 299.2 x 45.5	
	Weight (kg) (without touch)	3.8	5		6	
Environment	Operating Temperature (°C)	-20~60	0~55		0~45	
	Storage Temperature(°C)	-30~70	-20~60		-20~60	
	Humidity (non-condensing)	5~95% @ 40°C	90% @ 40°C		C 5~95% @ 40°C	
Touchscreen (Optional)	Type	P-cap	5-Wire Resistive	P-cap	5-Wire Resistive	P-cap
	Transparency	89%	80%	86%	80%	87%
	Surface Hardness	5H	3H	6H	3H	7H
System	I/O Ports	VGA x 1; DVI x 1; 12 VDC Jack x 1; USB x 1 (USB is reserved for the connection to enable touch usage only)	VGA x 1; DVI x 1; 12 VDC 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 VDC 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	60W power adapter, with AC 100 ~ 240V input and DC +12V @ 5A output				

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