

Product Catalog 2020-2021

Embedded IoT Solutions

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ADVANTECH

Enabling an Intelligent Planet

www.advantech.com

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About Embedded IoT

Leading the Next Wave of Embedded & IoT Innovations

As a global leader in the embedded computing market, Advantech's Embedded-IoT Group offers a wide range of embedded boards, intelligent systems, industrial peripherals, and design-in services. We provide an impressive array of streamlined services: from R&D and manufacturing, to global support and customer service. Addressing the market for IoT applications, the Embedded-IoT Group offers integrated IoT solutions, covering edge computing and cloud capabilities. These include the M2.COM wireless sensor node, IoT Gateways, Edge Intelligence Servers (EIS), the WISE-PaaS/DeviceOn IoT device operation management software, and third party cloud services to further accelerate IoT development and implementation.



Edge AI, Wireless and IoT Solutions

Advantech develops a series of edge AI and IoT solutions from edge AI modules, inference systems, wireless modules, wireless sensor nodes, edge computing and intelligence server , wireless ePaper displays to vertical ready solution packages to further accelerate AIoT development and implementation.

Embedded Boards

We offer a full spectrum of embedded boards in multiple form factors, ranging from computer-on-module and multi-I/O extension boards and embedded single board computers to industrial motherboards, and continuously developing innovative form factors to meet customers' changing needs.

Embedded and Vertical Focused Systems

Advantech offers all-in-one fanless embedded systems, easy-to-configure embedded PCs, and vertical –focused solutions with pre-integrated software services for digital signage, in-vehicle, railway, and gaming applications. This allows customers to not only rapidly implement various applications but also to maximize their benefits.

Industrial Displays and Modules

Advantech provides not only a wide range of industrial displays from LCD displays, industrial monitors , touch screen panels, outdoor displays and digital signage displays, but also industrial storage modules, memory modules and embedded I/O modules. These peripherals are and are fully compatible with Advantech embedded boards and systems for quick system integration.

Embedded Software Service and Distribution

Advantech has a dedicated global embedded software team to provide a range of services from BIOS, OS, to software APIs and utilities. And also software distribution solutions, including Microsoft Azure through the Cloud Solution Provider program, Microsoft Windows Embedded OS, McAfee embedded security and Acronis backup and recovery software.

Embedded IoT Design-in Services

Worldwide Leadership in Embedded Design and Services

Advantech offers a one-stop service model to integrate embedded boards and systems, software, displays, and peripherals with customer-centric design-in services for a variety of industries. To address the market for IoT applications, all embedded solutions are preloaded with WISE-PaaS/DeviceOn IoT device operations and management software for users who can easily utilize onboard devices, efficiently monitor device health status, and securely send software and firmware updates over-the-air (OTA) on-site and remotely at scale. Our streamlined design-in services bring benefits which can shorten design and integration cycles, minimizing uncertainty and risk.



Leading Embedded Technologies

As a pioneer and leader in the embedded market, Advantech continuously researches and develops value-added embedded software services, leading embedded technologies, and innovative form factors.

Full Spectrum of Embedded Platforms

Advantech allies with leading industry partners - Intel, Microsoft, Arm, AMD, NXP, TI, etc. - to provide up-to-date technologies and comprehensive product offerings.

Multiple Peripheral Modules Integration Services

Advantech provides full range of modules for design-in services, including I/O extension, AI acceleration modules, SSD, memory and wireless modules selections. With multiple peripheral modules integration services, customers can rapidly implement diverse.

Power Up IoT Devices with 24/7 Operations Management

As industrial IoT applications have rapidly increased the number of connected devices currently deployed and managed across different locations, it is essential to effectively manage, monitor, and control thousands of connected devices while ensuring uninterrupted service. Advantech embedded platforms are preloaded with WISE-PaaS/DeviceOn to ensure 24/7 operations management.

Dedicated Regional Embedded Service Teams

To meet all embedded application requirements, Advantech employs regionally-based service teams capable of providing dedicated expertise, design-in services, and customer support.

WISE-PaaS/DeviceOn

Power Up IoT Devices with 24/7 Operation Management

IoT deployment and management involves hundreds of thousands devices spread over multiple sites. It is essential to monitor, track, and manage connected industrial IoT devices. WISE-PaaS/DeviceOn easy-to-use interface makes it easy to onboard, visualize, operate, and manage your industrial IoT devices at a scale.

Join Us

Learn More



WISE-PaaS/DeviceOn Software



WISE-Agent

- Open and standard framework
- Default plugin offering for standard protocols
- Software SDK for legacy support



WISE-PaaS/ DeviceOn

- Remote IoT devices operation management
- Automated bringing IoT devices online and control
- OTA software/firmware update at a scale



WISE-PaaS/OTA

- Centralized remote application and firmware updates
- Download and deploy scheduling for planned upgrades
- Support rollbacks



WISE-PaaS/Security

- Centralized security management
- Flexible security modules
- Threat prevention on potential malware in real-time

WISE-PaaS Application and Cloud Software



WebAccess/SCADA

- Web-based configuration and free management for web clients
- Cross-browser dashboard with 40 built-in widgets
- Supports ample protocols and drivers



WebAccess/HMI

- Programmable logic controller (PLC) driver support
- Easily integrate protocols
- Friendly development interface



WISE-PaaS/ VideoService

- Supports standard ONVIF IP cameras
- Provides Dash, HLS and RTMP streaming protocol
- Offers RESTful APIs for web/ mobile application integration



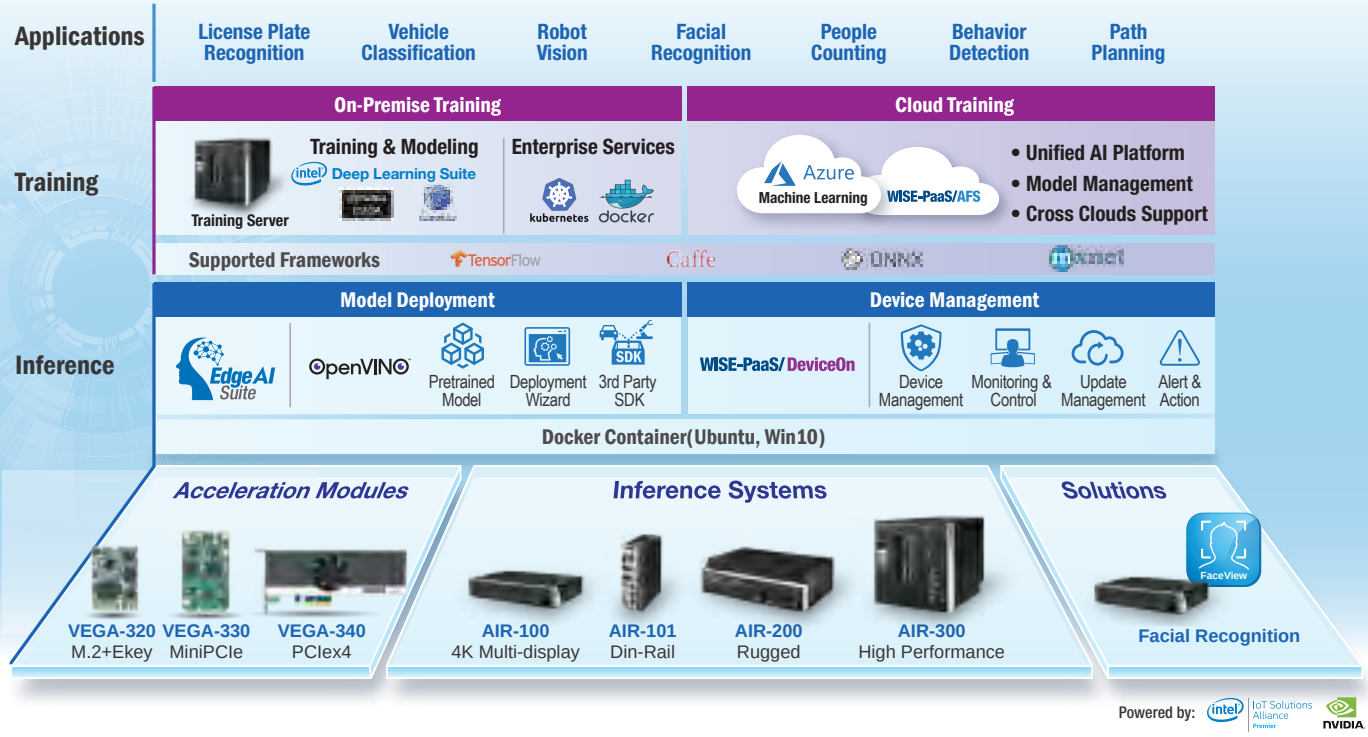
WISE-PaaS/ EnSaaS

- Connect, monitor, and manage millions of IoT assets
- Managed SQL, NoSQL, and time-series databases
- Visualization dashboard for deriving actionable insights

Edge AI Accelerators & Inference Systems

Empowering AI From Training to Inference

To help customers jumpstart their AI deployment and realize AI's full potential, Advantech has been developing a full spectrum of hardware and software integrated products to empower AI from cloud-to-edge. Our solutions combine the hardware AI engine, inference computing platform, and AI featured software with industrial reliability. Advantech Edge AI solutions enable deep learning across different industries such as drones, AGV(automated guided vehicle), retail, medical imaging, traffic monitoring and more.



Powered by: intel IoT Solutions Alliance Premier NVIDIA

Benefit

Complete Solutions

Ranges from acceleration modules and inference systems to solution ready packages

GUI-based AI Toolkit

Edge AI Suite helps with features and power across various neural networks based on OpenVINO toolkit

IoT Management

With IoT device operation management built-in, our solutions help easily manage connected devices

Comprehensive Offerings



Acceleration Modules

VEGA-300 Series

Advantech VEGA-300 AI modules provide low power plug-in modules in different form factors including m.2, miniPCIe, and PCIex4.



Inference Systems

AIR-100/200/300 Series

Advantech AIR inference systems provide full-range solutions from low power to high performance server grade.



Solution Ready Package

Facial Recognition Solutions

Our solution provides fast, high precision & scalable face recognition in real time for customer management, watchlist alerts and more.

Edge Intelligence and Data Service Servers

Simplify IoT Deployment from Edge to Cloud

Advantech edge intelligence servers accelerate IoT implementation by providing integrated solutions that include edge computers, WISE-PaaS/DeviceOn IoT device operation management software, IoT development tools, and pre-configured cloud services. Furthermore, Advantech provides data service servers as scalable data management platforms for private cloud solutions. They are all-in-one platforms with an open standard structure and have Kubernetes built-in, platform management software, and self-health management. Our servers facilitate IoT connectivity, light edge analytics and cloud integration, thus simplifying IoT application deployment, visualization, and predictive maintenance for IoT applications.





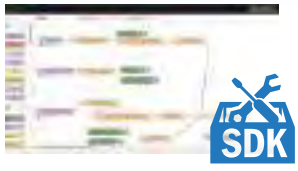
Dashboard and Development Tools

For Edge Intelligence Server



Device Operation Management

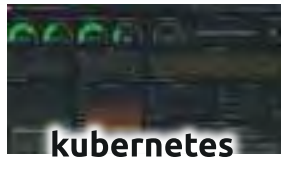
- Centralized IoT device HW & SW status management
- Built-in 15+ real-time monitoring widgets
- Up to 1000 device connections



IoT Development Tools

- Node-RED data flow logic designer
- Dashboard builder
- Protocol plug-in SDK & configuration tools

For Data Service Server



Data & System Management

- Kubernetes resource monitor
- Application status monitor
- Database I/O throughput monitor



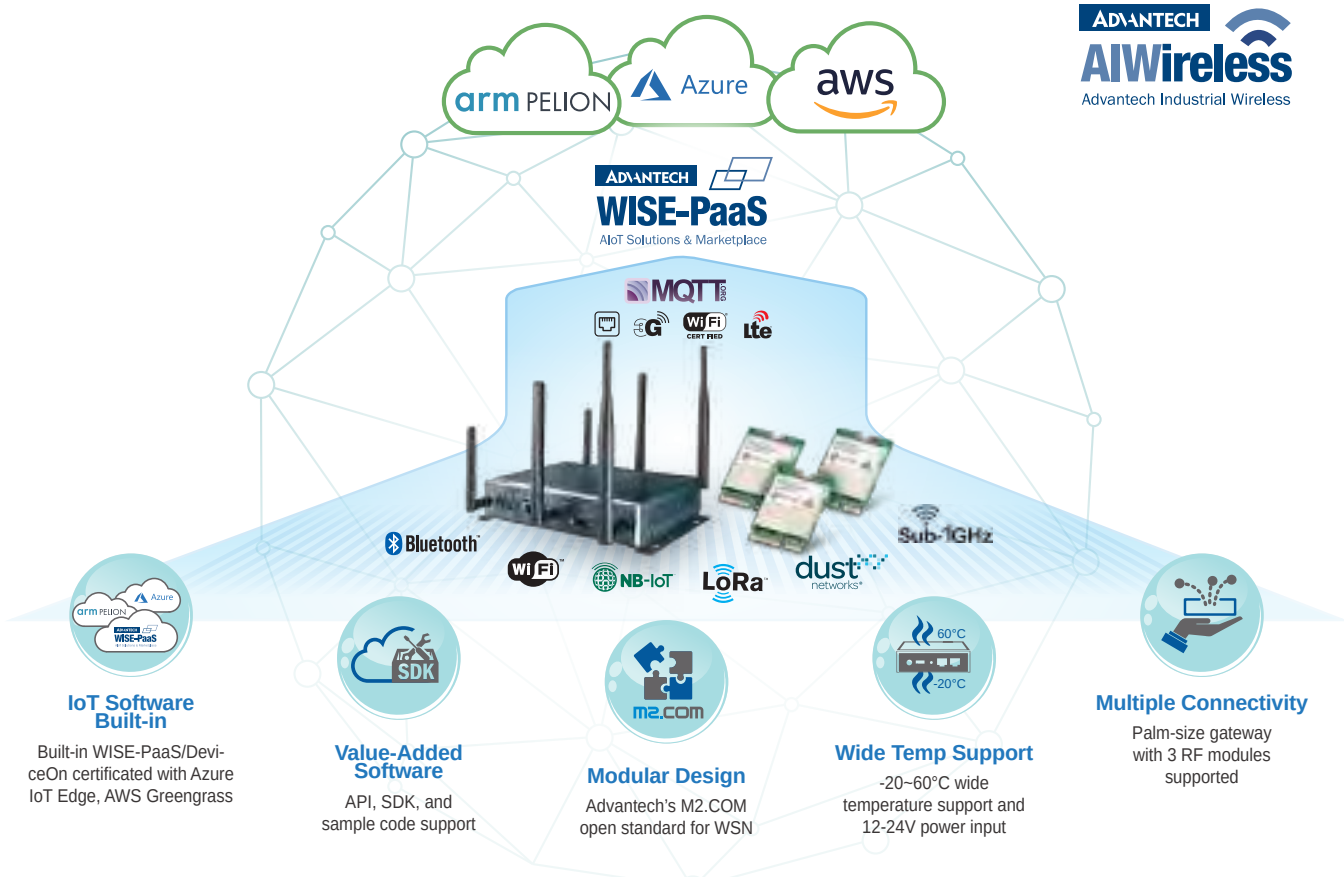
Self-health Management

- Condition monitor
- Load balance
- Events/alerts

Wireless IoT Sensor Nodes and Gateways

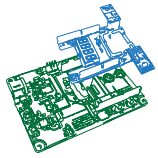
Accelerate Integration from Sensors to the Cloud

Advantech offers a comprehensive range of wireless IoT solutions powered by Arm core technology. Featuring low-power consumption and a selection of wireless Arm® Pelion™ cloud service technologies, Advantech's sensor nodes, gateways, and cloud services can help you quickly and easily build wireless IoT device-to-cloud network connections and start application for running business.

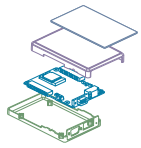


30-Day Design-in Services

Sensors & I/O Board → E2E Software Integration → Verified Prototype → Field Test Support

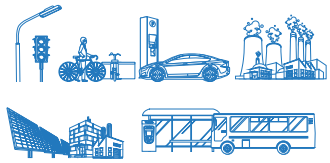






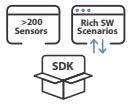


Domain Focused SI Solution Ready Packages



Software Services

Accessible Solution Guide



Open SDK provides technical documentation and sample codes to speed up software development

Protocol Connectivity to Cloud

MQTT

Cloud Integration

Operation Management

WISE-PaaS/ DeviceOn
Remote Device Monitor & Control
Software Over-the-Air Updates
Security Automated Device Onboarding

arm PELION
Data X Device X Connection Management

Database Management

aws Azure

- Quickly deploy and manage applications
- Top security certification level
- Easy, scalable data backup services

Wireless ePaper Display Solutions

Enable Battery-Powered IoT Display Applications

Advantech provides hardware and software integrated wireless ePaper display solutions: wireless ePaper modules, gateways, server and ePaper Manager CMS software to accelerate implementation in a wide range of applications such as shelf labelling, digital signages in smart warehouses, factories, and public spaces. The ePaper Manager software package enables easy management over the whole system locally or remotely over the Internet using the MQTT protocol. System integrators and developers can focus on their own application development and use their applications to control EPD by sending RESTful API to ePaper Manager.



2.9"

- 2.9" ePaper Display
- ARM® Cortex® M3 MCU
- Rich I/O Control with 3 Buttons & LEDs

5.65"

- 5.6" ePaper Display
- ARM® Cortex® M3 MCU
- Rich I/O Control with 1 Button & LED

9.7" & 13.3"

- 9.7" & 13.3" ePaper Display
- ARM® Cortex® M4 MCU
- Rich Control I/O: Expansion Pin Header & I2C

31.2" & 42"

- 31.2" & 42" ePaper Display
- ARM® Cortex® A9 CPU
- 4096 Color, 1280 x 720 Pixels
- 16 Gray Level, 2560 x 1440 & 2160 x 2880 Pixels

Product features

Ultra-Low Power

Efficient power-saving design

Fast Transmission

Update 10,000 ePaper devices in one hour

2-Way Communication

End devices can report data accuracy, battery levels, and abnormal status

Centralized ePaper Manager

Visualized user interface and simple RESTful API for the integration with existing vertical applications

OTA Upgrade

Regular system patches and updates

AES-128 Security

AES-128 encryption and data compression

Device Association

Easy association between ePaper devices and end-device applications

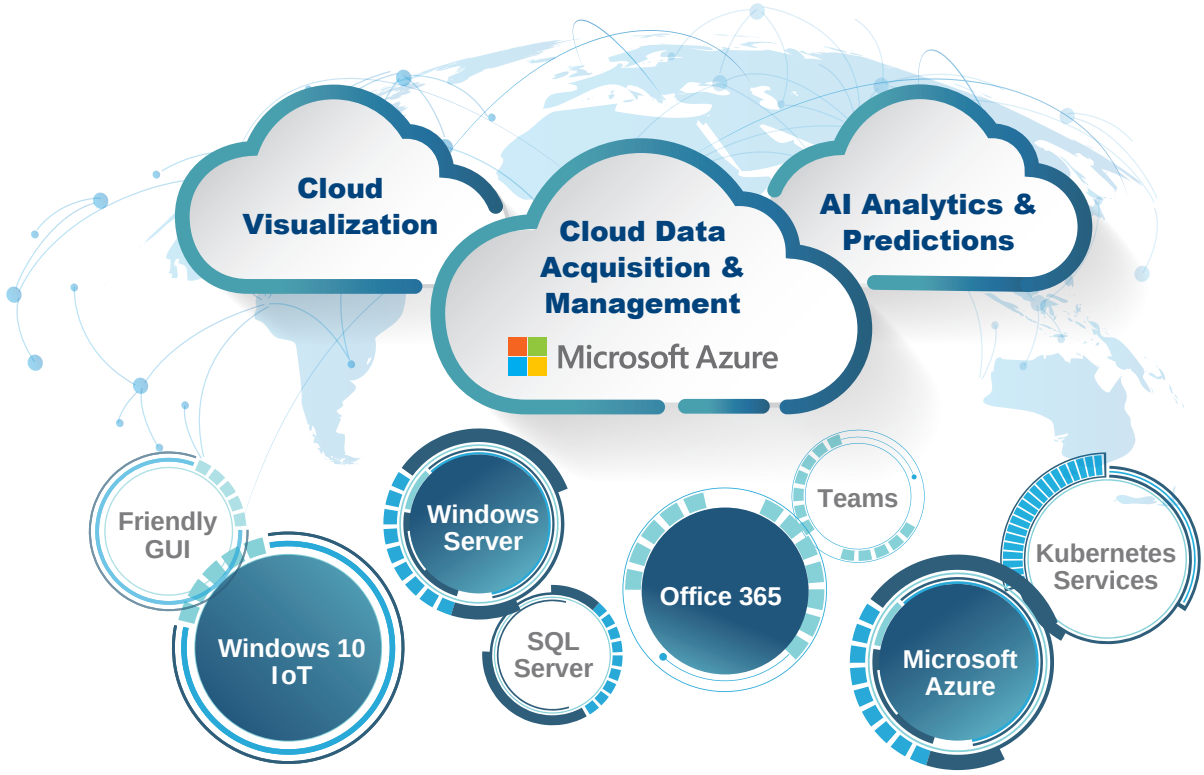
EPD Device Auto-Discover Network

Self-organization network groups with self-reported status

Microsoft IoT Services

Global Embedded License Distributor and Cloud Solution Provider

As a strategic industrial partner of Microsoft, Advantech seamlessly integrates Microsoft's direct support to provide our partners headache-free services. Our industrial partners will get know-your-need software and cloud solutions from Advantech to meet all expectations. Let Advantech know your requirements, we'll always find a way to work out a solution for you.



Microsoft Azure Cloud Offerings

Advantech Azure Solution

- Perfect integration
- Azure and Advantech hardware
- Industrial domain know-how solutions

Microsoft Azure

- 100+ cloud services
- Consistent hybrid cloud
- Powerful data & AI services for your intelligent apps

Office 365

- Full access anytime and anywhere
- Powerful data & AI services for your intelligent apps
- Automatic data syncing

Microsoft Windows 10 IoT& Server

Windows 10 IoT Core

- Fits the IoT gateway
- Universal apps/ driver support
- stable and secure

Windows 10 IoT Enterprise

- Build for retail, automation and medical applications
- Advanced lockdown capabilities
- Designed for Microsoft Azure IoT services

Windows Server 2019

- Datacenter extension on Azure
- Easily build diversified apps

SQL 2016/2017(Linux)

- High availability
- Disaster recovery
- In-memory perfomance

Security Software Application

Comprehensive Threat Protection and Backup Recovery Solutions

To ensure customer security, Advantech provides industrial-grade protection with our software utilities. Integrating world class software like McAfee™ and Acronis, our utilities provide a protective shield against disruptive attacks on Advantech boards, box PCs, and SSD (SQFlash). Customers may choose different McAfee and Acronis solution packages by contacting Advantech.











Product Offerings

Acronis McAfee

On-Premises Security

Acronis Backup & Recovery

- Acronis True Image
- Acronis True Image HD Edition
- Acronis True Image Personal Edition
- Acronis True Image Data Protection
- Acronis True Image OEM for Windows Server

McAfee Device Security

- McAfee Application Control
- McAfee Embedded Control
- McAfee Integrity Control
- McAfee Endpoint Security

Cloud Data Security

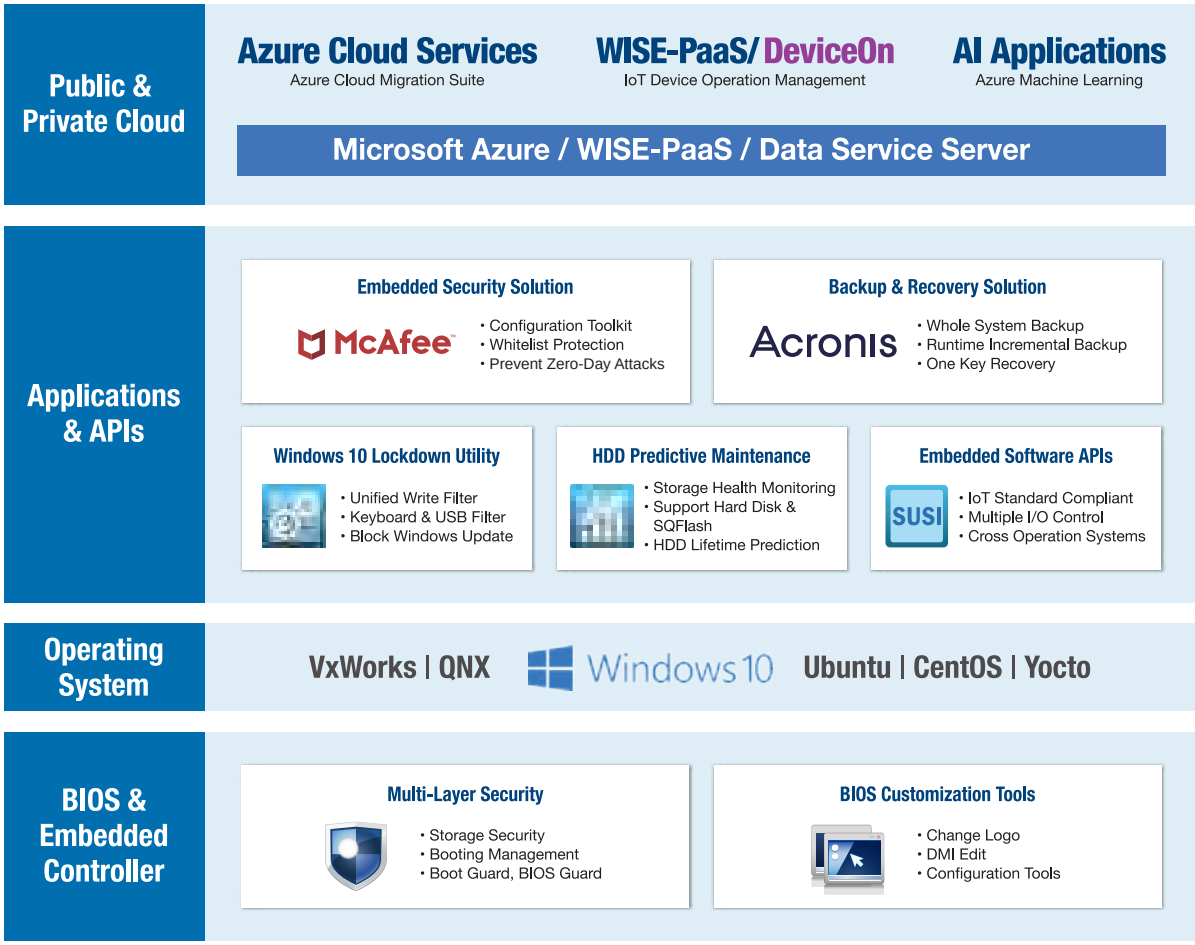
McAfee & Acronis on Azure

- McAfee Cloud Workload Security
- McAfee Virtual Network Security Platform
- Acronis Cyber Backup
- Acronis Cyber Cloud
- Acronis Backup Cloud

Embedded BIOS, OS and APIs

Software Services from On-Premises to Cloud

Our dedicated global embedded software team is committed to providing a range of services from embedded BIOS and OS to software APIs and utilities. By leveraging our seamless hardware/ software integration services, embedded developers can lower their design effort and project complexity while accelerating product development.



Service Highlights

Windows 10 Add-On Services

Operation Safety
- Unified Write Filter
- Touch Setting
- USB Device Policy
- Notification Settings

Customization Setup
- Shell Launcher
- Windows Boot Logo
- Windows Updates
- Automatic Logon

SUSI APIs

System Protection
- Data Security
- Thermal Protection
- Watch Dog Timer
- System Throttling

Device Monitoring
- Smart Fan
- System Information
- Hardware Monitoring

Computer On Modules

Expert-Integrated Design-In Service for Operational Efficiency

Computer On Module is a highly integrated board with CPU, chipset, memory, and peripherals designed into a module. COM requires a carrier board to power up and brings out expansion interfaces and I/O for use. Since the COM architecture provides various standard specifications in different form factors and pin-out types, it not only gives OEM customers flexibility to choose a suitable solution for their applications but also saves development time.
Advantech's COM series includes the COM-HPC, COM-Express, SMARC, ETX, and Qseven. With FAE in each main country, Advantech also offers professional design-in services to help customers reduce time to market by less efforts.



Medical
Cooling Solutions



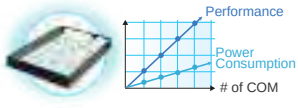
- Slim & silent cooling technology
- Optimized thermal efficiency
- Excellent reliability

Automation
Value-added Software



- Remote device monitoring & management
- Integrated wireless connectivity
- Fast boot in 3 seconds

Networking
Extreme Performance



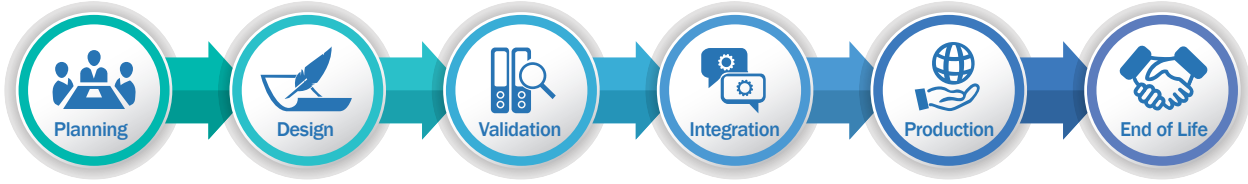
- Server grade 16-core performance
- 128 GB memory capacity
- 10 GB Ethernet (copper/fiber)

Defense
Trusted & Robust



- ECC memory
- TPM 2.0 built-in
- Conformal coating
- Anti-vibration
- 100 % -40~85oC screening

COM Design-in Service for Your New Development Projects





COM Express Basic



COM Express Compact



COM Express Mini



Qseven



SMARC

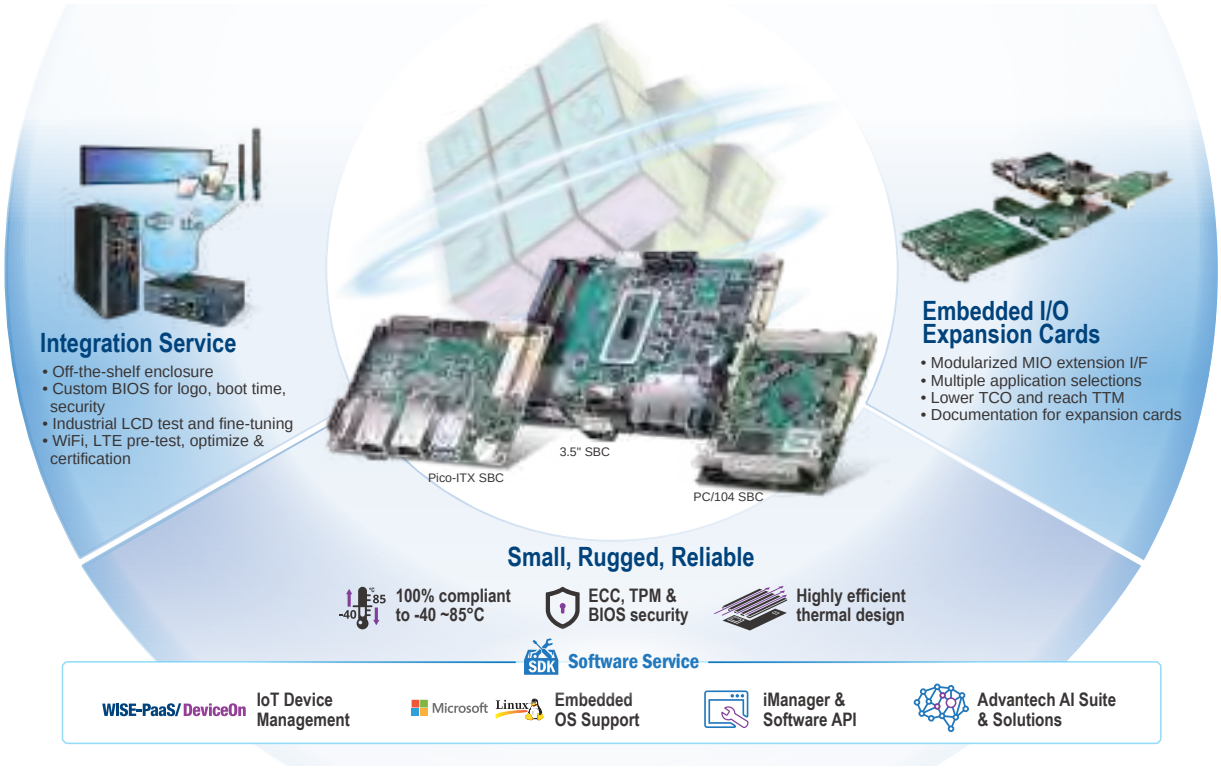


Development Board

Embedded Boards & Modular Solutions

Building Blocks to Accelerate AIOT Applications

Embedded Boards & Modular Solutions include a full selection of small, rugged, reliable computing platforms from 2.5" Pico-ITX, 3.5" SBC, PC/104, to 5.25" EBX boards, apart from a variety of MIOe I/O Expansion Cards that are designed to accelerate domain-specific development. For customers keen to win in AIoT, Embedded Boards & Modular Solutions also provides seamless integration with off-the-shelf enclosure, peripherals, embedded OS and WISE-PaaS/DeviceOn- IoT device operations management software.



Rugged



Pico-ITX SBC

MIO-2361

- Intel® E3900/N4200 series
- Onboard LPDDR4 & eMMC
- Dual GbE, USB3.0, TPM
- M.2 E-key, F/S mSATA
- DC-in 12/24V, -40~85°C

Machine Vision



3.5" SBC

MIO-5373

- 8th Gen. Intel® Core SoC 4C/2C
- DDR4-2400 up to 32GB
- LVDS/eDP, HDMI, DP
- 2 GbE, 4 USB3.1, NVMe, TPM
- DC-in 12~24V, -40~85°C

High Performance



3.5" SBC

MIO-5393

- 9th/8th Intel® Xeon/Core 6C/4C
- DDR4-2666 up to 64GB
- LVDS/eDP, HDMI, DP
- 2 GbE, 4 USB3.1, NVMe, TPM
- DC-in 12V, -40~85°C

Automation



Embedded PC

EPC-S201

- ntel®Celeron N3350
- GbE, 2 USB3.0, VGA
- 2 RS/232/422/485, 8 DIO
- F/S mPCIe, H/S mSATA
- DC-in 12V, 0~50°C, fanless

AIOT



Embedded PC

EPC-C301

- 8th Gen. Intel® Core i7/i5
- HDMI+DP, 4 GbE, 8 USB
- 2 CANBus, 4 UART, 8 DIO
- M.2 E/B/M-key, F/S mPCIe
- DC-in 12~24V, -20~60°C fanless

MIOe Extension Module



MIOe I/O Module

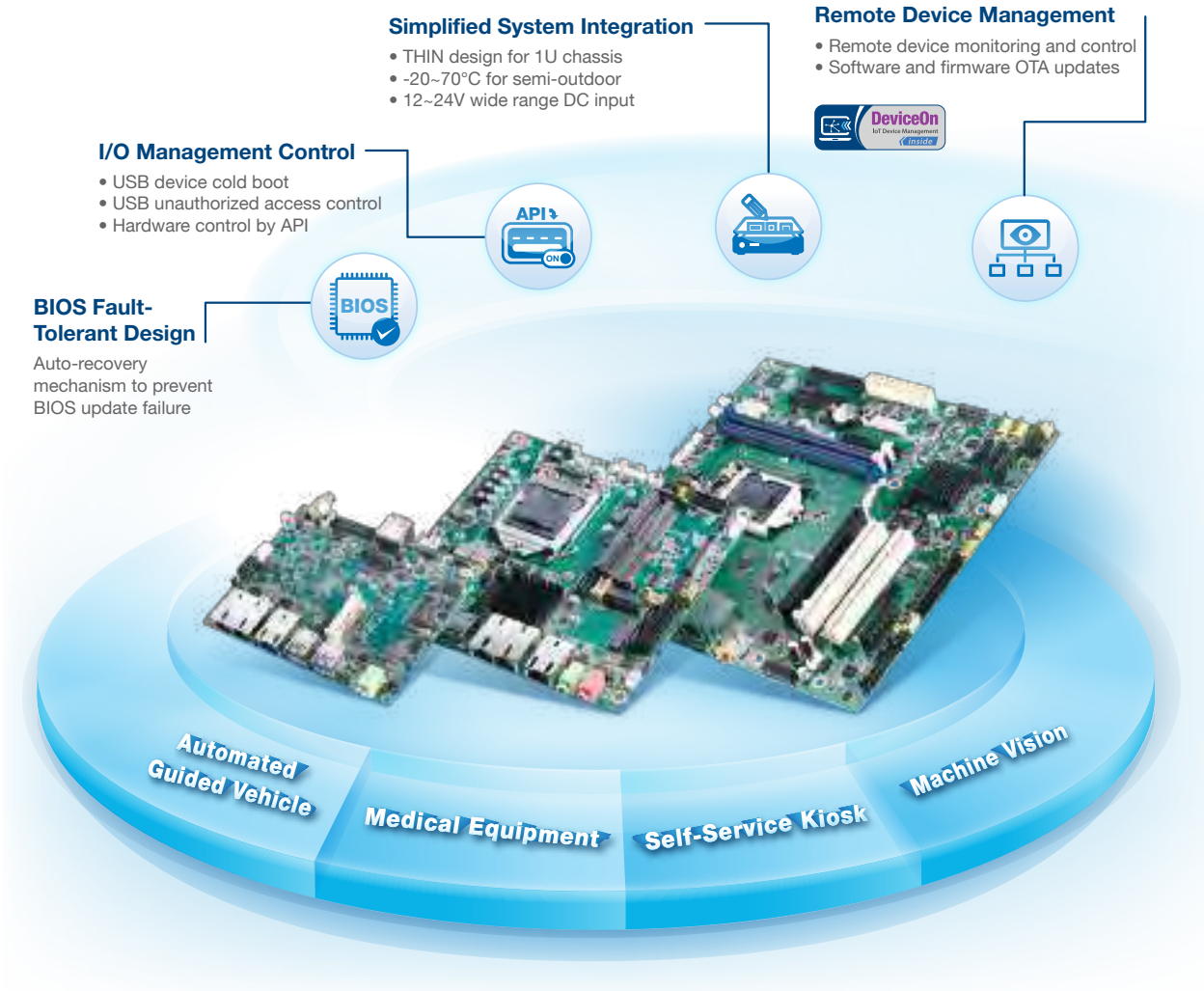
MIOe-260

- Dual GbE, 8 UARTs, 4 USB2.0
- 2 CANBus with Isolation
- M.2 B-key 3042, F/S mPCIe
- Optional DP thru SBC eDP
- Line-out with Amplifier 2.2W

Industrial Motherboards

Pioneering Design with the Latest Platforms for Accelerated Time-to-Market

Advantech offers a full range of industrial motherboards with the latest platforms and industrial know-how, aiming to provide cutting-edge technology that stays ahead of the competition.



Star Products

AMD intel Microsoft Azure Linux



AIMB-U233

- Intel® 8th Gen Core™ U series
- 2 USB3.1 Gen2/ 2 HDMI
- M.2 NVMe/ M.2 E key/ M.2 B Key



AIMB-233

- Intel® 8th Gen Core™ U series
- 4 USB3.1 Gen2/ Type C Alt.
- 12~24V wide range DC input



AIMB-218

- New generation of Intel® Atom™
- 2 HDMI/ UFS
- 12~24V wide range DC input



AIMB-286

- Intel® 9th Gen Desktop Core™ i series
- 3 GbE LAN/ 6 COM
- M.2 B key/ M.2 E key



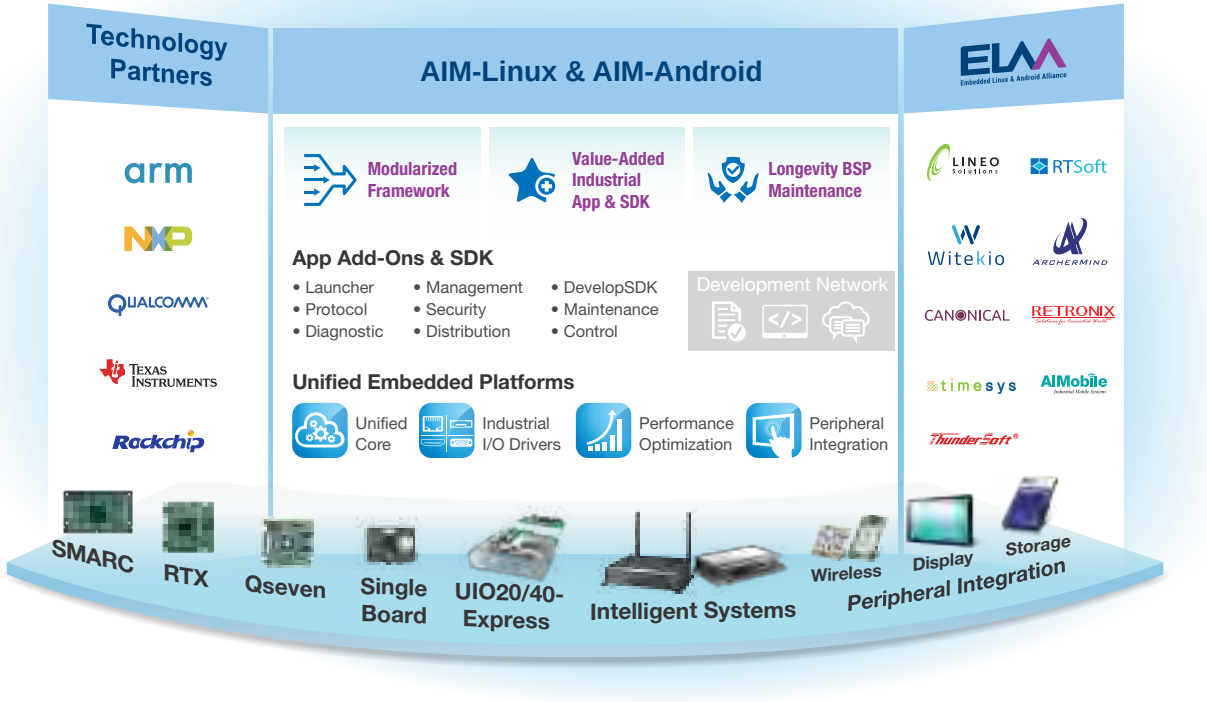
AIMB-506

- Intel® 9th Gen Desktop Core™ i series
- 8 USB3.0/ 12 USB2.0/ 14 COM
- PCIex16/ PCIex1/ 2 PCI/ M.2 B key

Arm-Based Computing Solutions

Accelerating IoT Deployment by Open Platform with Ecosystem Partnerships

Advantech Arm computing solution provides an Open and Unified Development Platform to minimize the development effort and increase the resource efficiency when enable an Arm based embedded application. In Arm-based product offerings, we are dedicated to developing various Arm SoC-based products by standard form factor, including Qseven, SMARC, RTX, 2.5" and 3.5" SBC; and through AIM-Linux / AIM-Android to provide an agile software development package, moreover, by leveraging the Embedded Linux and Android Alliance (ELAA) eco-system partnership, various of embedded vertical software features such as security, networking management and video acceleration etc. are pre-integrated with Advantech Arm-based Unified Development Platform by ELAA software partner worldwide and ready to serve your application in a timely and cost-efficient way.



Features

Reliable Hardware Solutions

- Standardized form factor
- Carrier board reference
- Design consulting service

Comprehensive Software Services

- Multi OS & BSP longevity support
- Unified embedded S/W
- Diverse App & SDK Add-Ons

Vertical Deployment with ELAA

- Local in-time support
- Domain focused S/W offering
- Long-tern partnership

Star Products



NXP i.MX 8 Solutions

Empower embedded applications for the next generation

- ROM-7720: i.MX 8
- ROM-5720: i.MX 8M
- ROM-5620: i.MX 8X



UIO 20/40-Express

2.5" core board with I/O expansion boards to build vertical systems quickly

- EPC-R3430: NXP i.MX6
- EPC-R3710: Rockchip RK3399

Unified Platform for Embedded Linux & Android Industrial Applications
www.elaa-platfor.org/en-us

IoT Gateways

Multi-protocol Communication Gateway with IoT Software Services

Advantech's UTX series of embedded IoT gateways are designed for end device data analysis and transmission, increasing operational efficiency by giving you the information you need to make effective decisions. This aids in deriving intelligence to drive new design innovations and makes business transformation a viable option. In addition, the UTX series supports multiple connectivity options and IoT software integration, making it ideal for IoT applications.



The Latest Offering



UTX-3117

- Intel® Atom™ E3900 series SoC
- 3 RF modules with 5 antennas
- Rich I/O & 12-24V DC input
- -20~60°C wide temperature support

IoT Software Services

- Win 10 IoT Ent OS
- Linux Ubuntu OS
- Azure IoT Edge certificated
- AWS Greengrass certificated
- WISE-PaaS DeviceOn built-in
- Alleantia ISC SW support

Embedded PCs

Fast Configuration for Your Applications

Advantech Embedded PCs (EPC) are a full range enclosures and systems designed for 2.5” and 3.5“ single board computers and Mini-ITX motherboards for both x86 and Arm-based platform, featuring optimized mechanical design and flexible I/O interface options, assuring maximum flexibility for quick integration.



Configuration to Order Services

Select Model	Select Peripheral	Install Software	Ready to Ship
☑ Processor	Wi-Fi 4G/LTE	DeviceOn WISE-PaaS/ DeviceOn IoT Device Operation Management	System Assembly
☑ Expansion	Memory Storage	Embedded OS Windows	Function Test Burning Test
☑ Functional I/O	Riser Card	Embedded BIOS	Global Delivery
☑ Thermal			
☑ Life Cycle			

Product Offerings



EPC-S Series

- Factory automation & HMI focused
- Compact design: 139x100x44mm
- Sufficient I/O, USB, COM, DIO, VGA



EPC-C Series

- Automation & medical application focused
- Compact size with integrated GbE USB CANBus
- Expansions for WiFi, LTE, NVMe, AI



EPC-R Series

- Compact and efficient Arm-based PC
- Linux/Android OS support
- Industrial peripheral pre-integration



EPC-U Series

- Small footprint fanless PC
- Sufficient connectivity
- From Intel® Atom™ to Core™ i series



EPC-T Series

- Slim 44mm with up to 65W CPU
- Plentiful I/O and expansion options
- A wide range of CPU options



EPC-P Series

- High performance CPU
- Multiple I/O and expansion options
- User-friendly mechanical design



EPC-B Series

- Machine vision industrial PC
- Up to 4 PCIe expansions
- Intel® 8th/9th Gen Core™-I Series

Fanless Embedded Computers

Simplify IoT Deployment for Smart Factories

Advantech ARK systems are rapidly configurable for industrial embedded IoT applications. Together with Advantech industrial displays, storage, and memory modules, ARK systems can automate factory production lines for intelligent robotic control, visual inspection, data visualization, and much more.



Product Offerings

DeviceOn IoT Device Management inside | intel IoT Solutions Alliance Premier



Compact Desktop PC Compatible with Edge AI Modules

ARK-3531

- Intel 8th/ 9th Gen. Desktop i3/i5/i7 35W CPU
- Dual channel DDR4 up to 32GB
- Compatible with Edge AI modules: VEGA-320/ VEGA-330



Compact Box PC with Versatile I/O

ARK-1551

- Intel 8th Gen. Mobile-U i5/i3/Celeron
- Dual channel DDR4 up to 32GB
- Support SQFlash PCIex2 NVMe storage



Industrial DIN-Rail Mounting System

ARK-1220F

- Intel Atom N4200 Quad Core SoC
- Dual display VGA and 4K HDMI
- Isolated LAN, COM, DIO with 2.5KV protection

Digital Signage Solutions

Immersive Experience and Easy Management

Digital signage has evolved into an interactive and personalized communication tool. It is now a vital link to connect advertisers with viewers for a more direct engagement and experience. Advantech's smart digital signage solution covers most business and environmental needs, from single stores to central management, commercial to industrial applications. All systems come bundled with content management, device monitoring, and content security software, and can connect with WiFi, 3G or LTE modules for a flexible range of communication possibilities.



Key Benefits

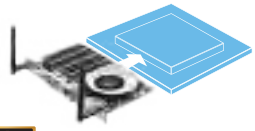
Diversified Product Offering
- Low Power to Performance
- 2 to 6 multi-displays
- Windows / Android Support

Reliable & Secured Operation
- Cableless Design
- Optimized Thermal Solution
- Proven Modular Compatibility

Flexible Customization
- Strong Technical Know-how
- Timely Delivery
- Global Support

Simplified Manageability
- Content Management
- Device Management
- AI Acceleration Toolkit

WISE-PaaS/ DeviceOn
WISE-PaaS/SignageCMS

Entry Level	Ultra Slim	Multi-display	Modular Design
DS-100	**DS-082**	**DS-580**	**DS-200**
Rockchip RK3399 ARM Dual Cortex-A72/Quad Cortex-A53	AMD Ryzen V1807B/V1605B/ R1606G	Intel Atom Processor E3950 with Integrated NVIDIA GT 1030 Graphics	8th Gen. Intel Core i3/ i5/ Celeron
			

Intelligent Transportation Systems

Certified Designs for In-Vehicle, Rolling Stock and Roadside

Advantech provides in-vehicle, rolling stock fanless systems with unique designs for application in the transportation industry. These products feature in-vehicle/rolling stock certifications (EMark/EN50155), high extension capability for communication interfaces, and rugged, wide operating temperature designs. With flexible and modular hardware design capability, we efficiently meet customers' function and time-to-market requirements, and enable abundant applications including fleet management, mobile surveillance, passenger information systems, traffic surveillance and management, and much more.



Rolling Stock
- Lockable I/O
- Railway certification

Roadside Surveillance
- Extreme graphics performance
- Anti-vibration & shock proof

In-Vehicle
- Diversity communications
- Vehicle certification

Star Products



Rolling Stock

ARK-2250R
- EN50155, EN50121-3-2, IEC61373 certified
- Intel® Core i7-6822EQ/i5-6442EQ.
- DC 24V input, DC 48/72/110V available by project
- -40~70°C operating temp.



Roadside Surveillance

ARK-2250S
- Intel® Core i7-6822EQ/i5-6442EQ
- Up to 1080p 240fps video encode & decode
- Optional Camera, WLAN, WWAN
- -20~70°C operating temp.



In-Vehicle

ARK-2250V
- EMARK, IEC 60721-3-5 certified
- Intel® Core i7-6822EQ/i5-6442EQ
- 12/24VDC input with vehicle ignition management
- -20~70°C operating temp.

Extension Layers



AMK-R100E
- 8x GbE PoE+ (X-coded)
- 1x anti-vibration 2.5" drive bay

AMK-R104E
- 8x 10/100M PoE+ (D-coded)
- 1x anti-vibration 2.5" drive bay



AMK-R101E
- 4x GbE PoE+ (X-coded)
- 1x anti-vibration 2.5" drive bay

AMK-R105E
- 4x 10/100M PoE+ (D-coded)
- 1x anti-vibration 2.5" drive bay

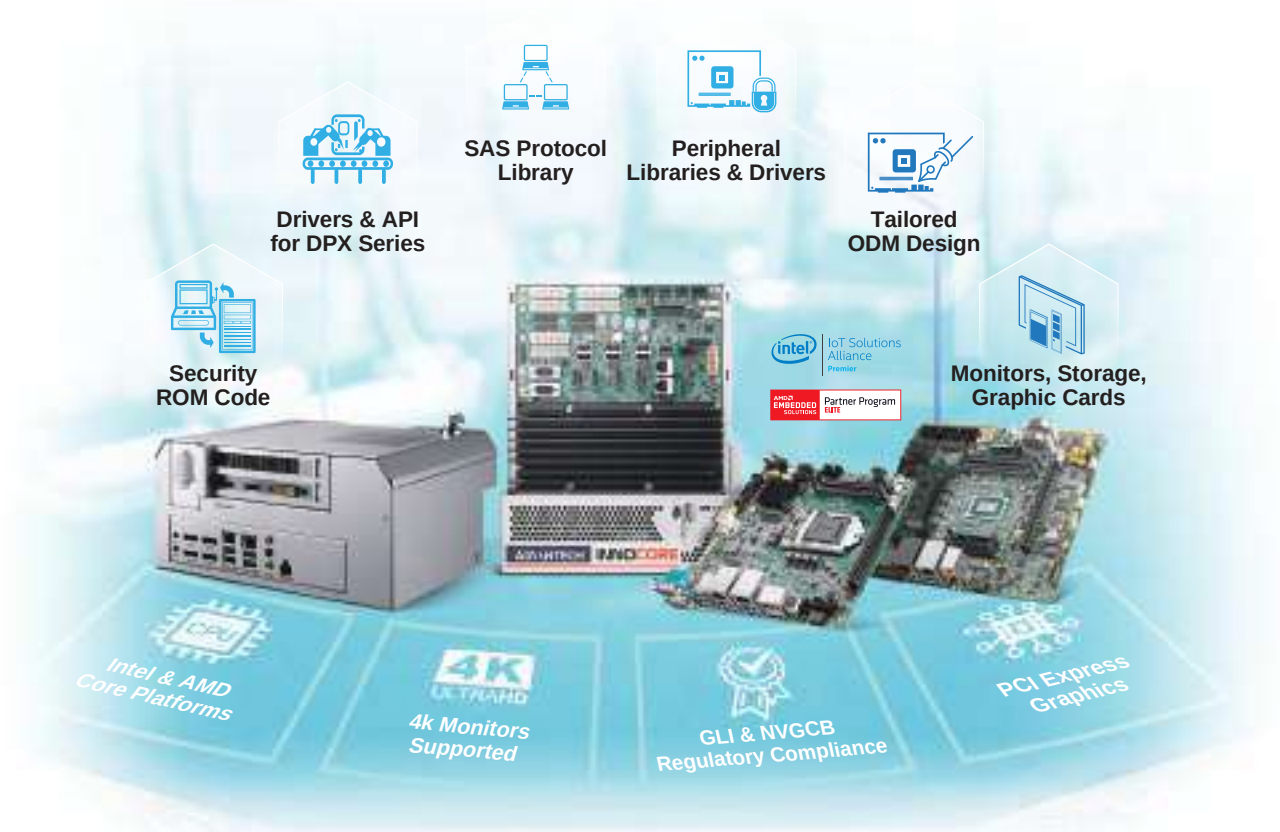


AMK-R106E
- 2x M.2 2230 E key slots
- 2x MiniPCIe slots with external SIM sockets

Gaming Computing Platforms

The Widest Range of Solutions for the Gaming Industry

Advantech-Innocore is dedicated to providing advanced gaming solutions for customers. We offer the widest range of industrial grade computer products designed specifically for the gaming industry. We provide our customers with excellent standard products, customized products and services, and we employ the latest up-to-date technologies for gaming solutions to meet the requirements for casino machines, AWPs, VLTs, multiplayer games, arcade games, and pachislots.



DPX® Gaming Platforms & Systems

Standalone (S Series)	Economy (E Series)	Modular (M Series)	ODM/Customized









DPX-S450 **DPX-S2450** **DPX-E135** **DPX-E140** **DPX-M270** **DPX-M1270**

Gaming Displays and Touch Solutions	Gaming Peripherals






IDS-3127W
27" Open Frame

CRV-430WP/JP
43" C/.J type Curved

Graphic Cards
- GFX-NG730L16-5C1
- GFX-AR560F16-5A

Storage Modules
- SQF-S25 840
- SQF-SM8 840

Industrial Display Systems

Leading Professional Display Expert

Advantech designs, develops and manufactures display systems that meet the demands of industrial display markets in gaming, transportation, medical, and many system integration markets globally. Combining proven technologies and flexible manufacturing, Advantech creates class-leading solutions for your customers that deliver significant product differentiation and competitive advantage. Our customer-centric approach reinforces all of our activities and in an essential part of the thousands of products we ship daily.



Industrial Touch LCD Kits



IDK-1000 Series

Indoor LCD Kit

5.7"~21.5"



IDK-2000 Series

Outdoor LCD Kit

8.4"~21.5"

Industrial Monitors



IDS-3100/ IDS-3200 Series

Open Frame/ Panel Mount

6.5"~27"



IDS-3300 Series

IP-65 Rated

10.4"~19"



IDP Series Series

Proflat

10.1"~32"

Digital Signage & Gaming Displays



DSD-3000/5000/7000 Series

Large Format/Stretched/SDM

32"~65"/ 28", 38"/ 55"



CRV Series(J type/C type)

Curved Display

13", 43", 55"

Embedded Wireless Modules & Design-In Services

Simplifying Wireless Connectivity for IoT Platforms

To fully realize the benefits of connected platforms in the IoT era, Advantech Embedded IoT Wireless Module Solutions offers BT, Wi-Fi, GPS, 3G, 4G ,NB-IoT,LPWAN modules with extend wide temperature /conform coating and wireless design-in services as a total package for embedded vertical applications. With Advantech wireless modules, system integrators, and industrial PC vendors can easily implement suitable wireless functions into their own systems or board level applications.

ADVANTECH AIWireless
Advantech Industrial Wireless

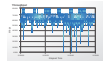


Wireless Design-In Services

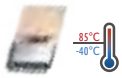

Optimal Antenna Design


RF Certification


Wireless Software Integration


System Performance Tuning

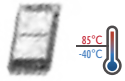
LTE



EWM-C148
Full size mini PCI-e
LTE CAT4

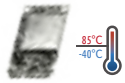


EWM-C148S
Solder down type
LTE CAT4



EWM-C117
Full size mini PCI-e
LTE CAT4

GPS



EWM-C121
Half Size Mini PCI-e
Wi-Fi/Bluetooth



EWM-G109
Half size mini PCI-e
GPS

NB-IoT



EWM-NB147
Full size mini PCI-e
NB-IoT CATM1

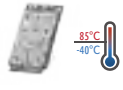
WiFi & Bluetooth



EWM-W195
M.2 2230
WiFi+BT



EWM-W190
Full size mini PCI-e
WiFi



EWM-W158
Half size mini PCI-e
WiFi+BT



EWM-W163
Half Size Mini
PCI-e GPS



EWM-W260
M.2 2230/WiFi+
BT 5.1



EWM-W159
M.2 2230/WiFi+
BT 5.0

Industrial Flash and Memory Solutions

Extreme Performance, 360-degree Security, Ruggedized Design

As the leading industrial flash and memory solution provider, Advantech offers a comprehensive industrial grade SSD and DRAM modules with better longevity for industrial and semi-industrial application developers. All our modules are designed with tier-1 materials, high endurance capability, the most comprehensive security functions, and pass 100% factory reliability screening.





SQFlash Manager

- Status and endurance estimation
- TCG compliant drive encryption and quick erase
- Disk security management and encryption



SQRAM Manager

- Operating temperature monitoring
- Temperature alerts when over 65°C
- SPD information and timing table

Product Offerings



SQFlash Storage Modules

Support various interfaces such as SATA, PCIe/NVMe, and PATA/IDE with multiple form factors including 2.5" SSD, mSATA, M.2, DOM, CFast, and Half-Slim.



SQRAM Memory Modules

Offer comprehensive product line including Unbuffered DIMM, SODIMM for Industrial applications and supports DDR4, DDR3, DDR2, and DDR1.



Embedded Extension Modules

Provide standard Half/Full-size Mini PCIe modules that support a variety of I/O to embedded boards and systems.

Design & Manufacturing Services

Customize Your Vertical Applications

Advantech's Design & Manufacturing Services aims at providing tailor-made systems and boards to total solution products that meet specific application requirements. With our domain knowhow in various applications, advanced, innovative, and world-leading technologies, we provide diverse levels of customization, flexibility for manufacturing, and worldwide technical/ logistics support.





Global DMS Design Centers

Vertical- focused Solutions



IoT Appliance & Solutions (IAS)



Medical Equipment Builder (MEB)



Intelligent Display Computing & Arm DMS



Panel Computing & Tablet DMS



Automation & Transportation DMS







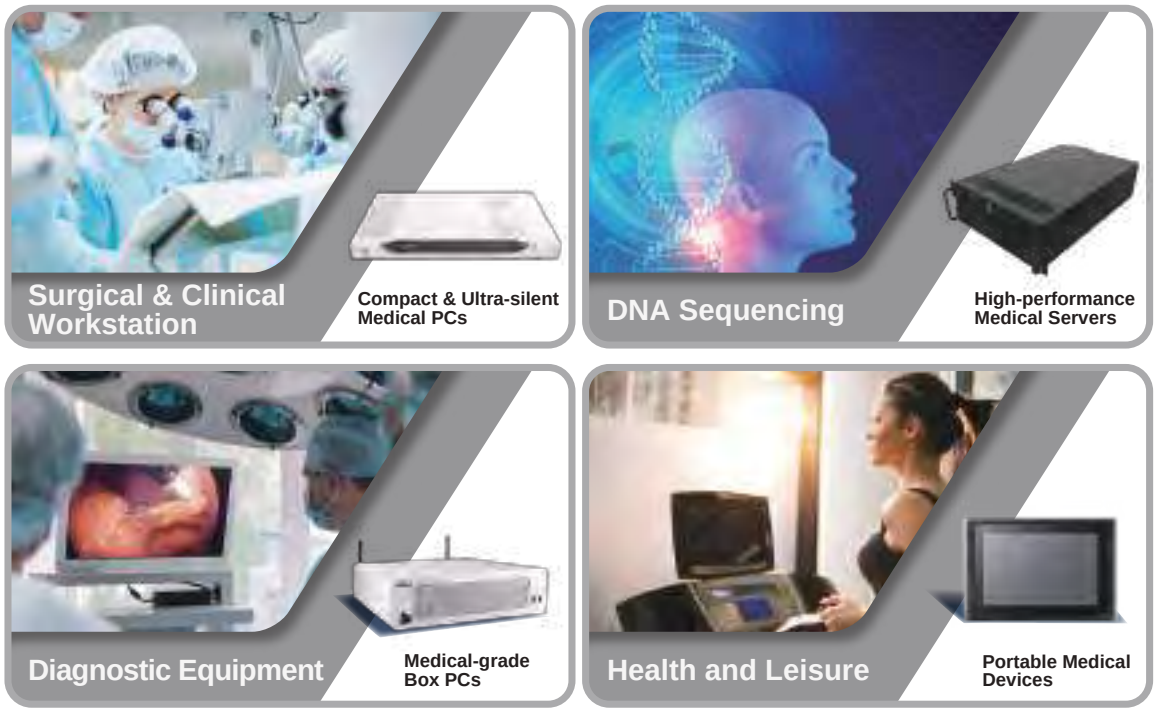




Medical Equipment Builder Solutions

Tailored Design & Manufacturing Services for Next-Generation Medical Applications

Advantech MEB DMS works as a design partner for medical equipment customers. We provide integrated program management services, from product design, to manufacturing and maintenance, and ensure certification compliance throughout the entire product lifecycle. Advantech's collaborative working model is critical to co-creating value with our many partners. In addition, through strategic change management, Advantech ensures stable production for lengthy product lifecycles.



Collaborative Mode

- Early engagement
- Product concept development
- Advanced technology introduction
- Feasibility study

Strategic Change Management

- SMART life cycle management
- Eco partner supporting plan
- Reduce re-certification effort

ISO 13485

- ISO13485 certified team and factory
- Risk assessment
- DFMEA and PFMEA
- Custom fixture design and test flow

Offerings



High Performance Server

- Support 4pcs double deck PCIeX16 add-on cards
- Eight removable HDD



MEB-C100

Compact Ultra-silent Medical PC

- Support Intel® Xeon® CPU
- Compact size with only 30mm thick
- 35dBA@ 30oC ambient
- Support VESA mount



Medical LAN Card

- Compliant to EN60601-1
- Galvanic isolation of 4KV
- Dual GbE, PCIeX1

Machine Vision & Wireless Connectivity DMS

Accelerating AIoT Deployment with Integrated FPGA, Wireless, and Sensing

Advantech IAS DMS offer AI and IoT solutions through the integration of Computing(x86 and Arm-based), AI Image accelerating engine(Intel, Xilinx, nVidia), wireless connectivity and sensing and global RF certifications. The vFoRCE FPGA solution provides an efficient way to let FPGA designers easily access and control computer I/Os. Through IAS services you can easily deploy Video/Audio processing, machine learning, Big Data Analysis, wireless connections to Manufacturing/ Smart City/Medical Imaging/Automotive application.



AI-Accelerated Engine Integration

- FPGA: vFoRCE integration, Xilinx DEEPHI Edge AI
- Intel: Openvino, Movidius Arria10
- nVIDIA: Jetson AI Nano, Tegra X2, Xavier

Edge Computing Solutions

- x86/Arm-based entry to server-level system design
- Integrated LPWAN and WLAN solution
- Built-in IoT environment sensors

RF Design and Antenna Verification

Global RF regulation compliance services

AIoT Software Package

- Integrated WISE-PaaS and DeviceOn
- Built-in iManager and SUSI API
- Embedded BIOS, EC, OS, ARM BSP

Automation & Transportation DMS

Realize Industry 4.0 and Intelligent Transportation

Advantech Automation DMS provides easy deployment for deep learning systems on machine vision applications with modularized expandability solutions. Advantech Transportation DMS provides reliable computing solutions for intelligent rolling stock systems and station control applications.



Passenger Info. System



Robotics



Railway Transportation



Factory Automation



Driver Machine Interface (DMI) in Cockpit

- Intel® dual-core processor
- EN50155/IEC61373 compliant
- 24 ~ 110 VDC power input range
- IP65-rated front panel



Train Monitoring & Diagnosis System

- 4U rackmount Intel® processor
- GB/T 21563-2008, GB/T 17626.4/5/6-2008 compliant



Robot & AGV Controller

- Intel® quad-core processor
- 9 ~ 36 VDC power input range
- Instant power protection
- GB 17625.1-2012 compliant



Machine Vision & Data Acquisition

- Supports EtherCAT and extended I/O
- GPU module for AI applications
- Anti-sulfur resisters for harsh environments

Panel Computing & Tablet DMS

Design to Fit – We start from your ID concept

Advantech Panel Computing & Tablet DMS aims at providing industrial tablet and smart panel computer (All-in-one Touch PC). We offer a compete design process to work with our customer from ID concept all the way to production. It is beyond a board and display in a box but from a new ergonomic ID concept. With rich experience of industries, comprehensive platforms as well as mobile connectivity and power saving design know-how, our solution has successfully launched to different industries.



Application-Oriented Building Block

Input /Output Extension

Diverse Panel & Touch Solution Support



Intelligent Display Computing & Arm DMS

The Best Display IoT Solution in Medical and Arm DMS

Display plays an important role in IoT solutions which makes the whole system more efficient. Designing suitable smart display solutions is very important. The Advantech DMS team provides the best solution from the key components selection, ID and ME design, and whole system design based on customers' user scenario, environment and product quality. We always consider product and service quality with an end goal of providing the best possible display experience for our customers and ensuring all our products are ideally suited for the IoT era.



Circular Services from Concept to Implementation

Customized ID & ME Design with Panel/Touch	Interactive Display & Computing Selection	Simulation & Verification with Integrated Panel	Design for Service & Manufacturing
Best-fit design for usage scenario, e.g., adjustable display angle and space-efficient form factor	Application-oriented CPU, display and touch solutions tailored to specific requirements	Design simulation for feasibility evaluation and system verification to ensure design quality	● Multiple panel options for best longevity ● Easy assembly and maintenance

Product Catalog 2020-2021

Product Selection Guide

WISE-PaaS/DeviceOn

DeviceOn DM | DeviceOn OTA | DeviceOn E2I | DeviceOn FaceView

	DeviceOn.DM	DeviceOn.OTA	DeviceOn.E2I	DeviceOn.FaceView
Introduction	IoT device operations and asset management application	Centralized remote software update server which supports firmware, driver and BSP update	Enabling Equipment to Intelligence and Management	High precision, scalable AI face recognition software for various AIoT applications
Feature Highlights	• Securely automated device onboard: through innovative mechanisms, including auto device registration, one-key to dashboard and device security, to fast and securely estiblish connection • Remote device monitor and control: power On/Off, device remote control with scheduling rules, protection management, whitelist security and Windows Lockdown Utility • Software over-the-air updates: remotely deliver and update software, firmware, driver and configuration at scale	• Lightweight and reliable MQTT device connection • Breakpoint resume saves network bandwidth and download time • Supports open framework, which can integrate 3rd party storage easily, such as, local storage FTP or public storage • TLS/SSL enabled for all data connection security • Provides RESTful API Web Service, which allows cross-platform integration of OTA functions with other systems	• Equipment Connectivity: protocol convertor (Plug-in), OPC-UA/ Modbus/ ODBC, standard plug-in editor and deployment • Data Visualization: status overview, auto-generate dashboard, easy customization and Integration • Edge Intelligence: data pre-processing, re-action rule engine, abnormal Notification	• Real-time face recognition for registered ID/gender/age/emotion with 98.5% of accuracy rate • Customer behavior analytics with visualized dashboard • Provides customer ID database for VIP/blacklist managemet
Hardware Requirements	**Standalone Server:** • Intel® Core™ i5 2.3 GHz CPU or above, 8GB RAM • 25 GB root partition for the system • 100 GB data storage partition (for documents and indexing) • OS: Windows Server 2008 R2 64-bit, Windows Server 2012/2012 R2 64-bit, Windows Server 2016/2019 Standard 64-bit, Windows 10 Enterprise 2016 LTSB/LTSC 64-bit, Windows 10 Enterprise/Professional (1809) 64-bit, Windows 8/8.1 64-bit, Windows 7 SP1 64-bit **Device/Agent:** • Advantech HW with SUSI driver 3.02/4.0 support (or above), which is required for HWM (Hardware Monitoring Management) function to work normally • OS: Windows 10 32-bit/64-bit, Windows 7 SP1 32-bit/64-bit, Ubuntu 16.04, CentOS 7, Android 6.0, Yocto			• Intel® Atom™ E3950 CPU or above • At least 4GB RAM • OS: Windows 10 64-bit • Storage requirement: 6GB (or above depent on enrolled lists)
Product Ordering Information	**Monthly Subscription (via Marketplace):** 9806WPDO01 (EnSaaS Deployment) **Perpetual License (via Marketplace):** 32WSWPDOAZURA1 (Azure IoT PaaS) 32WSWPDOAZ01A1 (Azure VM) 32WSWPDOOP01A1 (WISE-Stack) 32WSWPDOOP02A1 (Data Service Server) 32WSWPDOOP03A1 (Standalone Server) **Design-in Services (via Marketplace):** 9806WSCC01 (10 hours) **Perpetual License:** 32WSWPDO0010A1 (10 devices) 32WSWPDO0100A1 (100 devices) 32WSWPDO0500A1 (500 devices)	**Perpetual License (via Marketplace):** 32WSWPOTAMK0A1 (Standalone Server) **Perpetual License:** 32WSWPOTA010A1(10 devices) 32WSWPOTA100A1(100 devices)	**Perpetual License (via Marketplace):** 32WSWPE2IMK0A1 (Standalone Server) **Perpetual License:** 32WSWPE2I010A1(10 devices) 32WSWPE2I100A1(100 devices) Free bundle with all EIS series product	**Perpetual License (via Marketplace):** 31ASFCVWAD0110 (Application License, One Device) 31ASFCVWSD0111 SDK License, One Device)
Marketplace Ordering Number	VIP Membership: 9806WSPA0A (Highly recommended) Regular Membership: 9806WSPAP1 *Join WISE-PaaS membership to redeem above applications on marketplace with better service and discount			

Edge AI Accelerators & Inference Systems

AI Acceleration Modules
VEGA-300 Series





	VEGA-320	VEGA-330	VEGA-340
SoC	One Myriad X MA2485	One / Two Myriad X MA2485	Four / Eight Myriad X MA2485
Form Factor	M.2 2230(Key A+E)	Full size miniPCIe	Low profile PCIe x 4
Dimensions	22 x 30 x 3.63 mm	30 x 50.95 x 4.86 mm	171.1 x 68.9 mm
Signal Interface	PCIex1, USB 2.0	PCIex1, USB 2.0	PCI Express x4, Gen 2
Operating Temp.	-20~60°C	-20~55°C	-20~60°C
Power Consumption	3.8W	3.8W / 7.6W	16.8W / 28W
Driver Support	Windows 10 Enterprise(64bit), Ubuntu 16.04.3 LTS(64 bit), CentOS 7.4(64 bit)		Windows 10 Enterprise(64 bit), Ubuntu 18.04. LTS(64-bit)

Edge AI Inference Systems
AIR-100/200/300






	AIR-100	AIR-101	AIR-200	AIR-300
Processor	Intel® Atom® x7-E3950	Intel® Atom® x5-E3940	Intel® Core™ i5-6442EQ	Intel® Xeon® E3/6th, 7th Gen. Core™ i3/i5/i7
Memory	4GB DDR3L installed	8GB DDR3L installed	8GB DDR4 installed	DDR4 SODIMM upto 32GB
Inference Engine	VEGA-320	VEGA-330	VEGA-330	NVidia 2080Ti GPU card (optional)
Display	2 x HDMI 1.4, 2 x HDMI 2.0	2 x HDMI 1.4	1 x VGA, 1x HDMI 1.4	1 x VGA, 1x HDMI 2.0
Expansions	1 x miniPCIe	1 x M.2 2230 E key	1 x miniPCIe 1 x M.2 2230 E key	PCIe x 16, M.2 2230 E key 2 x miniPCIe
Storage	64GB 2.5" SSD	64GB SATA Slim SSD	64GB 2.5" SSD	Supports 2 x 2.5" SATA III drive bay
Operating System	Win10 IoT 2019 64bit	Win10 IoT 2019 LTSC 64bit	Win 10 IoT 2019 Ent x64-bit	Win10 IoT LTSB 64bit
Cooling	Passive, fanless	Passive, fanless	Passive, fanless	Active, with fan
Power	$19V_{DC}$	$12~28V_{DC}$	$12~24V_{DC}$	$100-240V_{AC}$
Operating Temp.	0 ~ 50°C	-20 ~ 55°C	0 ~ 60°C	0 ~ 50°C

Edge AI Accelerators & Inference Systems

FaceView AI Face Recognition Industrial APP



FaceView Application			
Key Features	• **Visitor Identification** ✓ Registered ID and gender/age/emotion recognition ✓ Image improving for poor lighting and motion blurry	• **Customer Analytics** ✓ Statistical analysis for customer behavior ✓ Watch list history dashboard	• **Customer Management** ✓ Maintain customer database ✓ Import & Export VIP/Blacklist ID data
Working environment			
OS	Windows 10 64bit		
Memory	4GB or above		
Storage	32GB or above (Including Windows 10 OS)		
Performance			
HW Platform	Atom CPU + VEGA-320	Atom CPU + VEGA-330	Core i5 CPU + VEGA-330
True Acceptance Rate @FAR 1E-4)	98.25%	98.95%	99.50%
True Acceptance Rate (@FAR 1E-6)	94.12%	97.99%	98.50%
Runtime Memory	1GB	2GB	2.5GB
Ordering Information			
Part Number	31ASFCVWAD0110		

Solution Ready Package



	ESRP-AFV-AIR100
Hardware	AIR-100/4G RAM/ 64G SSD
OS	Windows 10
Application	DeviceOn FaceView; DeviceOn DM; DeviceOn OTA; Azure (Optional)

Edge Intelligence & Data Service Servers

Edge Intelligence Servers

NEW



Model Name	EIS-D620 RISC-based	EIS-D210 LPWAN Connectivity	EIS-D150 High Performance	EIS-D120 Multiple I/O	EIS-D110 LPWAN Connectivity
CPU	Rockchip RK3399	Intel® Celeron® N3350	Intel® 6th Gen Core™ i5 6300U	Intel® Celeron® J1900	Intel® Celeron® J1900
RAM/Storage	2GB/ 16GB eMMC	4GB/ 64GB SSD	8GB/256GB SSD	4GB /64GB SSD	4GB /64GB SSD
OS	Debian	Win 10 IoT Enterprise	Win 10 IoT Enterprise	WES7E Win 10 IoT Enterprise	WES7E Win 10 IoT Enterprise
I/O Interface	HDMI x2, GbE x2, RS-232 x1, USB 3.0x1, USB2.0x1	VGA x1, GbE x2, RS232/422/485 x2, USB 3.0 x4 ,iDoor	HDMI x1, VGA x1, GbE x2, RS232/422/485x4, iDoor	HDMIx1, VGAx1, GbE x2, RS-232 x2, RS-232/422/485 x2, iDoor	HDMI x2, GbE x2, RS232/422/485x1
Wireless Networking	Optional				IEEE 802.11 a/b/g/n Bluetooth 4.0 HS
Dimensions (W x H x D)	135 x 130 x 29 mm	133 x 46.4 x 94.2 mm	260 x 54 x 140.2 mm	264.5 x 68.4 x 133.0 mm	133.8 x 43.1 x 94.2 mm
Software Package	**WISE-PaaS/ DeviceOn** IoT Device Operation Management • Device Management • Monitoring & Control • Update Management		**WebAccess/SCADA** Smart SCADA • Dashboard Editor Viewer • Widget Library & Widget Builder • Cross Browser & Device Viewing (for EIS-D210, 150, 120, 110)		
Development Tools	Node-RED Data Flow Logic Designer & Dashboard Builder Protocol Plug-in SDK & Configuration Tools				
Ordering Information	EIS-D620-D1DE121	EIS-D210W-E1DS641 (Win 10) EIS-D210W-E1DS64	EIS-D150-W1DS641 (WES7E) EIS-D150-E1DS641 (Win 10) EIS-D150-E1DS182	EIS-D120-W1DS641 (WES7E) EIS-D120-E1DS641 (Win 10)	EISD110W1SS641-BTO (WES7E) EISD110W1SS141-BTO (WES7E/128G SSD) EISD110E1SS641-BTO (Win 10)

Quick Starter Kit



EIS-DK10

- Complete IoT connection solutions: includes a ready-to-run edge system, IoT software platform service (WISE-PaaS), wireless I/O module, and sensor
- Pre-configured Microsoft Azure service (1 month free trial)
- Pre-integrated software tool includes WISE-PaaS for data visualization and Node Red flow template for easy development
- Pre-configured system: Intel® Celeron® J1900 and WES7E with 4GB memory and 64 GB SSD

Ordering Information: EISDK-ARK1123-BTO (WES7E)

Edge Intelligence & Data Service Servers

Data Service Servers



Model Name	EIS-S230	
CPU	Intel Xeon E3-1275 V6	
RAM/Storage	32GB/512GB SSD	
OS	Ubuntu + K8s	Windows Server
IO Interface	HDMIx1,VGAx1,GbEx4,RS-232/422/485 x4,USB 3.0 x8, iDoor	
Wireless Networking	Optional	
Dimention (W x H xD)	156.5 x 205 x230 mm	
Software Package	**WISE-PaaS/ DeviceOn** IoT Device Operation Management • Device Management • Monitoring & Control • Update Management **Platform Management** • Message Broker:RabbitMQ • Database management: PostgreSQL,MongoDB • Data Visualization:Grafana • ackend Management:K8s,CEPH,Prometheus • App Management:Kubeapps,docker,ChartMuseum • Machine Learning:Kubeflow	**WISE-PaaS/ DeviceOn** IoT Device Operation Management • Device Management • Monitoring & Control • Update Management **Platform Management** • Message Broker:RabbitMQ • Database management: PostgreSQL,MongoDB • Data Visualization:Grafana
Development Tools	Kubenetes + DeviceOn Development Kit	DeviceOn Development Kit
Ordering Information	EIS-S230-U20S501	EIS-S230-S10S5B1

Equipment to Intelligence (E2I) Industrial App



Introduction	Equiptment to Intelligence for industrial manufacturing	
Solution Overview	**Operation Efficiency** Equipment working status monitoring and management. **Preventative Maintenance** Auto-alert, history data tracking and re-action rule engine. **Cloud Ready Solution** Support Azure, AWS and K8s Microservice structure. **Easy Integration Platform** Support multiple-equipment protocol integration and SDK.	
Key Features	**Equipment Connectivity** • Protocol convertor (Plug-in) • OPC-UA/ Modbus/ ODBC • Standard Plug-in Editor and deployment **Data Visualization** • Status overview • Auto-generate dashboard by Equipment • Easy customization and Integration **Edge Intelligence** • Data pre-processing • Re-action rule engine • Abnormal Notification	
OS Requirement	**Server:** **Standalone Version:** Windows Server 2016 Microservices Version: Ubuntu 16.04 + Kubenetes **Edge:** Windows 10 32-bit/64-bit Windows 7 SP1 32-bit/64-bit Ubuntu 16.04	
Backend type	On-Premise Platform	Public Cloud Platform
Suggest platform	EIS-S230	Azure/AWS/Google
Support Browsers	Google Chrome	
Suggest Edge	All EIS products	
Information	"E2I I.APP default bundle in all EIS series products. None-EIS platform will be supported by project."	

Wireless IoT Sensor Nodes and Gateways

ADVANTECH AIWireless
Advantech Industrial Wireless

IoT Sensor Node

WISE-1510

- Supports LoRaWAN and private LoRa network
- Band support for EU, NA, JP, China (Q2) and Korea (Q3)
- Supports 1 UART, 1 I2C, 1 SPI, 8 GPIO, 1 PWM, 4 ADC, 1 USB I/O



WISE-1520

- Built-in low-power Wi-Fi 802.11 b/g/n with AES 128 encryption
- TI RTOS support
- Supports 1 UART, 1 I2C, 1 SPI, 2 GPIO, 2 PWM, 2 ADC



WISE-1530

- RAM 256 KB memory/ 1MB Flash
- Integrated with 802.11 b/g/n and Bluetooth 4.1
- Supports 1 UART, 1 I2C, 1 SPI, 3 GPIO, 1 I2S, 4 ADC I/O



WISE-1540

- IEEE 802.15.4e standard with self-healing mesh network
- 99.999% data reliability and power optimization
- Supports 1 x UART, 1 x I2C, 1 x SPI, 8 x GPIO, 1 x PWM, 4 x ADC, and 1 x USB I/O



Wireless IoT Gateway

WISE-3610

- WISE LoRa private network support up to 500 nodes
- LoRa Network Server Built-in
- Optional mini-PCIe module for 3G/ LTE



WISE-3620

- Wave-2 802.11ac
- MU-MIMO supports
- Optional mini-PCIe module for 3G/ LTE



WISE-3310

- SmartMeshWSN for Industrial IoT Application
- >99.999% data reliability and ultra-low power
- Supports MESH network up to 200 nodes



WISE-3200

2020 Q2

- Full standards based 2.4G Wi-Fi
- Configurable as a 1x1 or 2x2 solution
- Expansion: 1x full size mini PCIe module for 4G/ LTE
- WAN x1 / LAN x1 10x100Mbps Ethernet



Wireless IoT Sensor Nodes and Gateways

Wireless IoT Development Kit

WISE-DK1520



- Development kit for WISE-1520
- RAM 256 KB memory / 1MB serial flash
- Supports 1 x UART, 1 x I2C, 1 x SPI, 2 x GPIO, 2 x PWM, and 2 x ADC

* bring your own WiFi router

WISE-DK1510



- Development kit for WISE-1510
- RAM 64 KB memory / 256 KB serial Flash
- Supports 1 x UART, 1 x I2C , 1 x SPI, 8 x GPIO, 1 x PWM, and 4 x ADC

* bring your own WiFi router

WISE-DK3610



- WISE-LoRa development kit includes 1 x gateway and 3 x sensor nodes
- I/O support: UART/I2C/SPI/GPIO/PWM/ADC
- Arm Pelion cloud connection
- WISEPaaS/EdgeSense cloud connection

WISE-DK3310



- Dust development kit includes 1 x gateway and 3 x sensor nodes
- I/O support: UART/I2C/SPI/GPIO/PWM/ADC
- Arm Pelion cloud connection
- WISEPaaS/EdgeSense cloud connection

Wireless ePaper Display Solutions

ePaper Device




Product		EPD-023	EPD-053
Display	Panel Size	2.9"	5.65"
	Resolution	296 x 128 Pixels	600 x 448 Pixels
	Color	Black/White	Black/White/Red
Interface		LED x 3, Button x3	LED x 1, Button x1
Dimension		100 x 47 x 17.9 mm	140.3 x 118.3 x 14 mm
Network		2.4G/IEEE802.15.4 Proprietary	2.4G/IEEE802.15.4 Proprietary
Power		Battery CR2450x4	Battery CR2450x4
Operation Temperature		0~50 °C	0~40 °C
Certification		CE/FCC/NCC/UL/CB	CE/FCC/NCC/UL/CB
Ordering Information		EPD-023B2AG-NTC02	EPD-053R2AG-NTC02

EPD Network Module



Product	WISE-1840
Interface	Mini-PCIe
Protocol	IEEE 802.15.4, Proprietary
Connected Quantities	400pcs EPD-023/EPD-053
Operation Temperature	-20 ~ 70 °C
Certifications	CE,FCC, NCC
Platform	WISE-3610Z
Ordering Info.	WISE-1840WTB-TD010 WISE-1840WTB-TD01E for EU

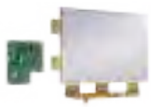
EPD Gateway



Product	WISE-3610Z	WISE-3610W
Interface	Ethernet and Wireless	Ethernet and Wireless
Protocol	IEEE 802.15.4, Proprietary	IEEE 802.11 b/g/n
Connected Quantities	400pcs EPD-023/EPD-053	100pcs EPD-132/EPD-092
Power	DC12V/5A	DC12V/5A
Operation Temperature	-20 ~ 70 °C	-20 ~ 70 °C
Dimensions	187.9mm x 150mm x 39mm	187.9mm x 150mm x 39mm
Certifications	CE/FCC/IC Class B,NCC	CE/FCC/IC Class B, NCC
Ordering Info	WISE-3610ZOS-41B1E for EU WISE-3610ZOS-41B1J for JP WISE-3610ZOS-41B1N for NA WISE-3610ZOS-41B1T for TW WISE-3610ZOS-41B1C for China	WISE-3610WOS-21B1E for EU WISE-3610WOS-21B1J for JP WISE-3610WOS-21B1N for NA WISE-3610WOS-21B1T for TW WISE-3610WOS-21B1C for China

ePaper Module





Product		EPD-023M		EPD-053M		EPD-132M / EPD-130M	
Display	Panel Size	2.9"		5.65"		13.3"	
	Resolution	296 x 128 Pixels		600 x 448 Pixels		1600 x 1200 Pixels	
Interface		LED x 3, Button x3		LED x 1, Button x1		GPIO for LED & Button, I2C x 1	
PCBA Dimension		79.0 x 36.7 x 1.15 mm		79.0 x 36.7 x 1.15 mm		108 x 122 x 3.9 mm	
Network		2.4G/IEEE802.15.4 Proprietary		2.4G/IEEE802.15.4 Proprietary		2.4G/IEEE 802.11 b/g/n	
MCU		Arm® Cortex M3		Arm® Cortex M3		Arm® Cortex M4	
Power		Battery CR2450x4		Battery CR2450x4		DC-in 5V	
Operation Temperature		0~50 °C		0~40 °C		R/B/W: 0~40 °C, B/W: 0~50 °C	
Certification		CE/FCC/NCC/UL/CB		CE/FCC/NCC/UL/CB		CE/FCC/NCC/Telec	
Ordering Information		EPD-023MBAG-NTC02	Black/White	EPD-053MRAG-NTC02	Black/White/Red	EPD-130MBAG-NSD01	Black/White, without wireless capability
						EPD-132MBAG-NSD01	Black/White
						EPD-130MRAG-NSD01	Black/White/Red, without wireless capability
						EPD-132MRAG-NSD01	Black/White/Red

EPD Server with CMS



Product	EPD-2250L
Description	ARK2250L, Intel i7-6600U, 1TBHDD, 8GRAM, ADP
Software	ePaper Manager (CMS) on Win7
Connected Quantities	10,000pcs EPD-023/EPD-053 or 500pcs EPD-132
Power	DC12V/5A
Certifications	CE/FCC Class B, CCC, BSMI, UL, CCC, BSMI
Ordering Info.	ARK2250L1901E-T

Development Kit




Product	EPD-DK023053-FS01 2.9" & 5.65" Development Kit		EPD-DK132R-FS01 13.3" Development Kit	
Device	EPD-023B2AG-NTC02 EPD-053R2AG-NTC02	2pcs 2pcs	EPD-132R2AG-NSD01	1pc
Gateway	WISE-3610ZOS-41B1E for EU WISE-3610ZOS-41B1J for JP WISE-3610ZOS-41B1N for NA WISE-3610ZOS-41B1T for TW WISE-3610ZOS-41B1C for China	1pc	WISE-3610WOS-21B1E for EU WISE-3610WOS-21B1J for JP WISE-3610WOS-21B1N for NA WISE-3610WOS-21B1T for TW WISE-3610WOS-21B1C for China	1pc
Network Module	WISE-1840WTB-TD010 WISE-1840WTB-TD01E for EU	1pc	-	-
Server	ARK2250L1901E-T (Build in ePaper Manager Software with 500 device licenses)	1pc	ARK2250L1901E-T (Build in ePaper Manager Software with 500 device licenses)	1pc

Microsoft IoT Services

Microsoft Azure Cloud Offerings

	Azure Services
Product Positioning	Hybrid cloud provider with IaaS,SaaS,PaaS
Application Scenarios	• Data Migration • Vitual Machine • SQL database • Windows Server • AI • Machine Learning • DevOps
Edge Computing Package on Gateways	Azure IoT Edge
Benefit for working with Advantech	One Stop Service from Advantech provides you both hardware and software services on Cloud.

Microsoft OS Offerings

Product	Windows 10 IoT Enterprise	Windows Embedded Standard	Windows Embedded Enterprise	Windows Embedded Industry and POSReady
Product	• Windows 10 IoT Enterprise LTSC • Windows 10 IoT Enterprise SAC	• Windows Embedded Standard 8 • Windows Embedded Standard 7	• Windows Embedded 8.1 Industry Pro • Windows 8.1 pro for embedded system • Windows 7 pro/ultimate for embedded system	• • Windows 8.1 Industry pro retail • • POSReady 7 • • POSReady2009
Overview	Windows 10 IoT is a family of Windows 10 editions with advanced lockdown capabilities that power a range of industry devices across retail and manufacturing.	This is a componentized OS to let you create custom operating system images to deliver precise functionality to devices.	Windows Embedded Enterprise powers dedicated embedded devices that require compatibility and the flexibility to deploy a custom user interface.	Windows Embedded POSReady is a flexible OS designed to seamlessly connect point-of-service solutions with peripherals, servers, and services.
Benefits	• One app platform - universal ppp (UAP) • Supports unified POS implementation • Build-in Embedded lockdown capabilities • Full-spectrum interconnectivity	• Componentized operating system lets you choose the features that you want • Custom branding lets you provide a unique, custom experience from start to finish • Lockdown features help ensure predictable customer experience	• Take advantage of full Windows to provide a high degree of cross-platform application compatibility • Deliver an immersive, natural user experience with multi-touch and Kinect for Windows • Easily implement retail peripherals with built-in plug and play capabilities	• Take advantage of full Windows 8.1 to provide a high degree of cross-platform application compatibility • Easily implement retail peripherals with built-in plug and play capabilities • Build and deploy industrial devices with streamlined OS installation
Min. Hardware Requirement	• x86 or AMD64 processor • 1GB CPU or higher • 1GB of system memory (2GB recommended for 64-bit) • 16G free space on hard disk drive	• x86 or AMD64 processor • 900mhz CPU or higher • 512 MB of system memory (1GB recommended for AMD64) • 1 GB free space on hard disk drive (HDD) or flash-based Solid State Drive (SSD) (4 GB recommended)	• x86 or AMD64 processor • 1GB CPU or higher • 1GB of system memory (2GB recommended for 64-bit) • 16GB free space on hard disk drive (HDD)	• x86 or AMD64 processors • 900mhz CPU or higher • 512 MB of system memory (1GB recommended for AMD64) • 1 GB free space on hard disk drive (HDD) or flash-based Solid State Drive (SSD) (4 GB recommended)

Product	Windows Embedded Compact	Windows Embedded Server	Microsoft SQL Server for Embedded Systems
Product	• Windows Embedded Compact 2013 • Windows Embedded Compact 7 • Windows Embedded CE 6.0	• Server 2019 for embedded system • Server 2016 for embedded system • Server 2012 for embedded system • Server 2008 for embedded system	• SQL Server 2019 for embedded system • SQL Server 2017 for embedded system • SQL server 2016 for embedded system • SQL server 2014 for embedded system
Overview	Windows Embedded Compact is a componentized, real-time, small-footprint OS for powering some of the industry's smallest devices.	Windows Server has built-in security, reliability, and availability features intended for application in embedded solutions.	Microsoft SQL Server is intended for application in embedded solutions or purpose-built HW running Windows Embedded Server OS.
Benefits	• OS for specialized, small-footprint devices that need real-time performance and compatibility with ARM and x86 architectures • Platform for sensors-to-cloud intelligent systems applications • Focussed on industrial automation, retail and medical devices	• Offers a dynamic infrastructure that can scale up, increase hardware ROI, and reduce total cost of ownership • Platform features diverse storage choices that can help achieve high-performance, availability and resource efficiency through virtualization and optimization • Delivers centralized access and audit policies, leverages built-in security capabilities, and helps lock down your appliances	• Breakthrough performance • Enterprise scalability across computers, networking, and storage • Consistent data platform on-premises to the cloud
Min. Hardware Requirement	• 1.6 GHz CPU, 384 MB RAM, 1024x768 display • 100 GB of free hard disk space	• 1.4 GHz 64-bit processor or higher • Minimum: 512 MB system memory • Minimum: 32 GB free space	• x86 or AMD64 processor • 1.4 GHz or higher • 1GB of system memory

Security Software Application

Acronis

	Security		
Product	• Acronis True Image Full version • Acronis True Image OEM version (Personal/HD/Data Protection)	• True Image OEM for Windows Server	• Acronis Cyber Backup
Overview	Provides users with a quick and easy solution to protect data and recover the entire system if the OS crashes. It effectively reduces down-time cost and lowers the risk of data loss	Easy, secure and cost-effective backup solution for Windows Server. It reduces down-time cost and lower the risk of data lost	The world's easiest and fastest data protection software for businesses of all sizes. Covers on-premises and remote data, as well as private and public clouds, and mobile devices.
Benefit	• Easy: Protects entire system in just two clicks. Easy restore in field to factory state • Secure: The only backup that actively fights ransomware (Ture Image 2018 and later) • Reliable: Full disk image, Disk cloning and universal restore	• Latest version supports Windows Server 2019 • The only backup that actively fights ransomware (Server OEM 2018 and later) • Full disk image, dedicate function for Full disk backup, file/ folder backup and scheduling	• Stores backups to a variety of storage devices—including local disks, network storage, and the cloud. • Minimizes expensive downtime by restoring Windows and Linux systems to dissimilar hardware—including bare-metal physical, virtual, or cloud environments. • Reduce time-to-action and resolve issues quickly with customizable dashboards for quick insights into your infrastructure.
Min. Hardware Requirement	• Processor - Pentium 1 GHz • 1.5 GB of free space on a hard disk CD-RW/DVD-RW driver USB flash drive for bootable media creation • Screen resolution of 1152 x 720	• Processor - Pentium 1 GHz • 1.5 GB of free space on a hard disk CD-RW/DVD-RW driver USB flash drive for bootable media creation • Screen resolution of 1152 x 720	• Processor - Pentium 1 GHz • 1.5 GB of free space on a hard disk CD-RW/DVD-RW driver USB flash drive for bootable media creation • Screen resolution of 1152 x 720

McAfee

	Security		
Product	• McAfee ePO	• McAfee Applicaation Control • McAfee Embedded Control • McAfee Integrity Control	• McAfee Endpoint Security 10
Overview	McAfee ePolicy Orchestrator unifies the managing of endpoints, networks, and data. It is a management tool for deploying and configuring embedded security in connected devices.	McAfee whitelisting technology is ideal for protecting systems with low overhead which does not impact system performance and is equally effective in standalone mode without network access.	McAfee blacklisting technology introduces a new framework that allows multiple endpoint defense technologies to communicate in real time, and analyzes and collaborates against new and advanced threats.
Benefits	• Central security management to monitor and report the data of managed clients • Remote deployment of security policies • Additional McAfee modules to fulfill different vertical applications • Dashboard with analytical reports	• Block unauthorized applications and change attempts • Change attempts from outside of policy are blocked • Monitors file integrity and file changes	• Includes several new, advanced malware-scanning features to defend against emerging and targeted attacks • Prevents users from browsing to malicious or unauthorized websites • Stops malicious inbound and outbound network traffic
Min. Hardware Requirement	• 64-bit Intel Pentium D or higher • 2.66 GHz or higher • 8 GB available RAM	• Processor supports x86-64 / AMD64 architectures • 1-GB RAM (64 bit 2-GB) • 100-MB free disk	• Win 7 1.4 GHz or higher 2 GB RAM • Win 10 2 GHz or higher 3GB RAM

Computer On Modules

NEW



NEW





Model Name		SOM-5962	SOM-9590	SOM-5992
Form Factor		COM Express Basic	COM Express Basic	COM Express Basic
Pin-out Type		COM R3.0 Type 7	COM R3.0 Type 7	COM R3.0 Type 7
Processor System	CPU	Intel® Atom Processor C3000 Series	Intel® Xeon Processor D1539	Intel® Xeon Processor D-1500 Series
	Base Frequency	2.2GHz-1.5GHz	1.6 GHz	2.2 - 1.3 GHz
	Processor Core	16/12/8/4/2	8	16/12/8/6/4/2
	LLC	16/12/8/4MB	12MB	24/12/9/6/3MB
	CPU TDP	31/25/16/8.5W	35W	45/35/25W
	Chipset	-	-	-
Memory	Technology	DDR4 2400/2133/1866	DDR4 2133	DDR4 2400/2133/1866
	ECC Support	ECC and non-ECC	ECC	ECC and non-ECC
	Max. Capacity	128GB	32GB	64GB
	Socket	4 x 260P SODIMM	-	4 x 260P SODIMM
Graphics	Controller	-	-	-
	Max. Frequency	-	-	-
	VGA	-	-	-
	LCD (TTL/LVDS/eDP)	-	-	-
	DDI (HDMI/DVI/DisplayPort)	-	-	-
	Multiple Displays	-	-	-
Expansion	PCIe x16	-	1	1
	PCIe x8	1	1	1
	PCIe x4	1	-	-
	PCIe x1	-	7	7
	PCI Masters	-	-	-
	ISA Bus	-	-	-
	LPC	1	1	1
Serial Bus	SMBus	1	1	1
	I²C Bus	1	1	1
	CAN Bus	-	-	-
Ethernet	Gigabit Ethernet	Intel® I210AT/IT	Intel® I210IT	Intel® I210AT/IT
	GbE Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000Mbps
	10GB Ethernet	4	2	2
I/O	SATA	2	2	2
	PATA Channel	-	-	-
	USB3.1 Gen2	-	-	-
	USB3.0	4	4	4
	USB2.0	4	4	4
	Audio	-	-	-
	SPI Bus	Yes	Yes	Yes
	GPIO	8	8	8
	SDIO (GPIO pin shared)	-	-	-
	Watchdog	1	1	1
	COM Port	2 (2-wire)	2 (2-wire)	2 (2-wire)
	LPT/FDD	-	-	-
	PS/2	-	-	-
	IR	-	-	-
	Onboard Storage	eMMC	SATA SSD	-
	TPM	TPM2.0	TPM2.0	TPM2.0
Power	Power Type	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V
	Power Consumption Max.	TBD	45.56W	55.5W
	Power Consumption Idle	TBD	12.75W	13.77W
Environment	Operating Temp.	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60° C (32 ~ 140° F)
	Extended Temp.(Optional)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
Mechanical	Dimensions	125 x 95 mm (4.92" x 3.74")	125 x 95 mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")

Note: "-" : means Not Applicable (N/A)

NEW





Model Name		SOM-5899	SOM-5898	SOM-5897
Form Factor		COM Express Basic	COM Express Basic	COM Express Basic
Pin-out Type		COM R3.0 Type 6	COM R2.1 Type 6	COM R2.1 Type 6
Processor System	CPU	Intel® 9th/8th Gen. Core i7/i5/i3/Xeon/Celeron	Intel® 7th Gen. Core i7/i5/i3/ Xeon	Intel® 6th Gen. Core i7/i5/i3/Celeron/ Xeon
	Base Frequency	3.0 - 1.6 GHz	3.0 - 2.1 GHz	2.8 - 1.9 GHz
	Processor Core	6/4/2	4/2	4/2
	LLC	12/9/8/6/2MB	8/6/3MB	8/6/3/2MB
	CPU TDP	45/35/25W	45/35/25W	45/35/25W
	Chipset	Intel® CM246/QM370/HM370	Intel® QM175/CM238	Intel® QM170/CM236
Memory	Technology	DDR4 2400/2133/2666	DDR4 2400/2133	DDR4 2133/1866
	ECC Support	ECC (Xeon only)	ECC (Xeon only)	ECC (Xeon only)
	Max. Capacity	96GB	32GB	32GB
	Socket	3 x 260P SODIMM	2 x 260P SODIMM	2 x 260P SODIMM
Graphics	Controller	Intel® UHD Graphics 630/P630	Intel® HD Graphics 630/P630	Intel® HD Graphics 510/530/P530/P580
	Max. Frequency	1200MHz	1.1GHz - 950MHz	1.05GHz - 950MHz
	VGA	1	1	1
	LCD (TTL/LVDS/eDP)	LVDS 2-CH 18/24-bit BOM option support eDP	LVDS 2-CH 18/24-bit BOM option support eDP	LVDS 2-CH 18/24-bit BOM option support eDP
	DDI (HDMI/DVI/DisplayPort)	up to 3	2; up to 3	2; up to 3
	Multiple Displays	Triple-Display	Triple-Display	Triple-Display
Expansion	PCIe x16	1 (configurable)	1	1
	PCIe x8	2 (configurable)	-	-
	PCIe x4	-	-	-
	PCIe x1	8	8	8
	PCI Masters	-	-	-
	ISA Bus	-	-	-
	LPC	1	1	1
Serial Bus	SMBus	1	1	1
	I²C Bus	1	1	1
	CAN Bus	Optional	-	-
Ethernet	Gigabit Ethernet	Intel® I219LM	Intel® I219 LM	Intel® I219LM
	GbE Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
	10GB Ethernet	-	-	-
I/O	SATA	4	4	4
	PATA Channel	-	-	-
	USB 3.1 Gen2	4	-	-
	USB3.0	-	4	4
	USB2.0	8	8	8
	Audio	HD Audio	HD Audio	HD Audio
	SPI Bus	1	1	1
	GPIO	8	8	8
	SDIO (GPIO pin shared)	Optional	-	-
	Watchdog	1	1	1
	COM Port	2 (2-wire)	2 (2-wire)	2 (2-wire)
	LPT/FDD	-	-	-
	PS/2	-	-	-
	IR	-	-	-
	Onboard Storage	-	-	-
	TPM	TPM2.0	TPM2.0	Optional
Power	Power Type	ATX: Vin, VSB; AT: Vin	ATX: Vin, VSB; AT: Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V
	Power Consumption Max.	44.63W	48.05W	43.41W
	Power Consumption Idle	6.89W	6.77W	5.23W
Environment	Operating Temp.	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60 °C (32 ~ 140 °F)
	Extended Temp.(Optional)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
Mechanical	Dimensions	125 x 95mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")

Note: "-" : means Not Applicable (N/A)

Computer On Modules





Model Name		SOM-5894	SOM-5871	SOM-5893
Form Factor		COM Express Basic	COM Express Basic	COM Express Basic
Pin-out Type		COM R2.1 Type 6	COM R3.0 Type 6	COM R2.1 Type6
Processor System	CPU	Intel® 4th Gen. Core i7/i5/i3/Celeron	AMD V1000 V1807B/V1756B/V1605B/V1202B	AMD R-Series Bald Eagle
	Base Frequency	2.7 - 1.5 GHz	3.35 - 2.0 GHz	2.7 - 2.2 GHz
	Processor Core	4/2	4/2	4/2
	LLC	6/3/2MB	2/1MB	4/1MB
	CPU TDP	47/37/25W	35-54/12-25W	35/17W
	Chipset	Intel® QM87	-	A77E
Memory	Technology	DDR3L 1600/1333	DDR4 3200/2400	DDR3 2133 ; DDR3L 1866/1600
	ECC Support	ECC (B1 version only)	ECC and non-ECC	-
	Max. Capacity	16GB	32GB	16GB
	Socket	2 x 204P SODIMM	2 x 260P SODIMM	2 x 204P SODIMM
Graphics	Controller	Intel® HD Graphics 4600	AMD Vega GPU	AMD Radeon HD9000
	Max. Frequency	1.0GHz - 900MHz	1.3-1.0GHz	686MHz
	VGA	1	1	1
	LCD (TTL/LVDS/eDP)	LVDS 2-CH 18/24-bit BOM option support eDP	LVDS 2-CH 18/24-bit BOM option support eDP	LVDS 2-CH 18/24-bit BOM option support eDP
	DDI (HDMI/DVI/DisplayPort)	3	2; up to 3	4
	Multiple Displays	Triple-Display	Quad-Display	Quad-Display
Expansion	PCIe x16	1	-	1 (Optional)
	PCIe x8	-	1	-
	PCIe x1	7	6	7
	PCI Masters	-	-	-
	ISA Bus	-	-	-
	LPC	1	1	1
Serial Bus	SMBus	1	1	1
	I²C Bus	1	1	1
	CAN Bus	-	Optional	-
Ethernet	Gigabit Ethernet	Intel® I217LM	Intel® I210AT	Intel® I211AT
	GbE Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
	10GB Ethernet	-	-	-
I/O	SATA	4	2	4
	PATA Channel	-	-	-
	USB3.0	4	3	4
	USB2.0	8	8	8
	Audio	HD Audio	HD Audio	HD Audio
	SPI Bus	1	1	1
	GPIO	8	8	8
	SDIO (GPIO pin shared)	-	-	-
	Watchdog	1	1	1
	COM Port	2 (2-wire)	2 (2-wire)	2 (2-wire)
	LPT/FDD	-	-	-
	PS/2	-	-	-
	IR	-	-	-
	Onboard Storage	-	-	-
	TPM	Optional	TPM2.0	Optional
Power	Power Type	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V
	Power Consumption Max.	42.12W	67.12 W	39.6 W
	Power Consumption Idle	8.5 W	15 W	16.8 W
Environment	Operating Temp.	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)
	Extended Temp.(Optional)	-40 ~ 85 °C (-40 ~ 185 °F)	-	-
Mechanical	Dimensions	125 x 95mm (4.92" x 3.74")	125 x 95mm (4.92" x 3.74")	125 x 95 mm (4.92'' x 3.74")

Note: "-" : means Not Applicable (N/A)

NEW







Model Name		SOM-6882	SOM-6898	SOM-6897	SOM-6896	SOM-6894
Form Factor		COM Express Compact	COM Express Compact	COM Express Compact	COM Express Compact	COM Express Compact
Pin-out Type		COM R3.0 Type 6	COM R2.1 Type 6	COM R2.1 Type 6	COM R2.1 Type 6	COM R2.1 Type 6
Processor System	CPU	Intel® 8th Gen Core Processors/Celeron 4000 series	Intel® i7-7600U/i5-7300U/i3-7100U/Celeron 3965U	Intel® i7-6600U/i5-6300U/i3-6100U/Celeron 3955U	Intel® i7-5650U/i5-5350U/i3-5010U/Celeron 3765U	Intel® i7-4650U/i5-4300U/i3-4010U/Celeron 2980U
	Base Frequency	2.2GHz-1.6GHz	2.8 - 2.2GHz	2.6 - 2.0GHz	2.2 - 1.8GHz	1.9 - 1.6GHz
	Processor Core	4/2	2	2	2	2
	LLC	8/6/4/2MB	4/3/2MB	4/3/2MB	4/3/2MB	4/3/2MB
	CPU TDP	15 W	15W	15W	15W	15W
	Chipset	-	-	-	-	-
Memory	Technology	DDR4 2400	DDR4 2133	DDR3L 1600	DDR3L 1600	DDR3L 1600
	ECC Support	N/A	-	-	-	-
	Max. Capacity	64GB	32GB	16GB	16GB	16GB
	Socket	2 x 260P SO-DIMM	2 x 260P SODIMM	2 x 204P SODIMM	2 x 204P SODIMM	2 x 204P SODIMM
Graphics	Controller	Intel® UHD Graphics 620	Intel® HD Graphics 620/610	Intel® HD Graphics 620/610	Intel® HD Graphics 6000/5500	Intel® HD Graphics 5000/4400
	Max. Frequency	1.15/1.05/1.0 GHz	1.1GHz - 300MHz	1.15GHz - 300MHz	1.0GHz - 850MHz	1.1 - 1.0GHz
	VGA	1	1	1	1	1
	LCD (TTL/LVDS/eDP)	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 2-CH 18/24-bit BOM optional eDP
	DDI (HDMI/DVI/ DisplayPort)	2	2 (DDI2 for option)	2 (DDI2 for option)	2 (DDI2 for option)	2 (DDI2 for option)
	Multiple Displays	3	Triple-Display	Triple-Display	Triple-Display	Triple-Display
Expansion	PCIe x16	-	-	-	-	-
	PCIe x8	-	-	-	-	-
	PCIe x4	1 (Optional)	-	-	-	-
	PCIe x1	8	4 PCIe x1 +1 PCIe x4 (Optional 5)	4 PCIe x1 +1 PCIe x4 (Optional 5)	4	4 (Optional 1 PCIex4)
	PCI Masters	-	-	-	-	-
	PCI Masters	-	-	-	-	-
	ISA Bus	1	-	-	-	-
	LPC	1	1	1	1	1
Serial Bus	SMBus	1	1	1	1	1
	I²C Bus	-	1	1	1	1
	CAN Bus	-	-	-	-	-
Ethernet	Controller	Intel® I219LM	Intel® I219LM	Intel® I219LM	Intel® I218LM	Intel® I218LM
	Speed	10/100/1000 Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
I/O	SATA	Up to 2 Ports (6Gbps), 1 port is optional with PCIe x1	2 (3 for optioanl)	2 (3 for optioanl)	4	4
	PATA Channel	-	-	-	-	-
	USB3.0	4	4	4	2	2
	USB2.0	8	8	8	8	8
	Audio	HD Audio	HD Audio	HD Audio	HD Audio	HD Audio
	SPI Bus	2	1	1	1	1
	GPIO	8	8	8	8	8
	SDIO (GPIO pin shared)	1	1	1	1	-
	Watchdog	1	1	1	1	1
	COM Port	2 Ports (2-wire)	2 (2-wire)	2 (2-wire)	2 (2-wire)	2 (2-wire)
	LPT/FDD	-	-	-	-	-
	PS/2	-	-	-	-	-
	IR	-	-	-	-	-
	Onboard Storage	eMMC	Optional eMMC	-	-	-
	TPM	TPM2.0	Optional	Optional	Optional	-
Power	Power Type	ATX/ATX: Vin	ATX: Vin, VSB; AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 8.5-20V, RTC Battery: 2.0V ~ 3.3V	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V
	Power Consumption Max.	59.721 W	24.61W	20.73W	22.58W	22.08W
	Power Consumption Idle	4.204 W	4.16W	4.12W	3.13W	4.44W
Environment	Operating Temp.	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)
	Extended Temp.(Optional)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-20 ~ 85 °C (-4 ~ 185 °F)
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74'' x 3.74")	95 x 95 mm (3.74" x 3.74")

Note: "-" : means Not Applicable (N/A)

Computer On Modules

NEW





NEW





Model Name		SOM-6869	SOM-6867	SOM-7569	SOM-7567
Form Factor		COM Express Compact	COM Express Compact	COM-Express Mini	COM Express Mini
Pin-out Type		COM R2.1 Type 6	COM R2.1 Type 6	COM R2.1 Type 10	COM R2.1 Type 10
Processor System	CPU	Intel® Pentium N4200/Celeron N3350/Celeron J3455/Atom x7-E3950/Atom x5-E3940/Atom x5-E3930	Intel® Atom E3845/E3825/E3827 Celeron J1900	Intel® Atom x7-E3950/Atom x5-E3940/Atom x5-E3930/Pentium N4200/Celeron N3350	Intel® Atom E3845/E3825/E3815/ E3827/E3805 Celeron J1900/N2930
	Base Frequency	1.6-1.1GHz	2.0 - 1.19GHz	1.6-1.1GHz	2.0-1.33GHz
	Processor Core	4/2	4/2	4/2	4/2/1
	LLC	2MB	2/1MB	2MB	2/1/512KB
	CPU TDP	6/6/12/9.5/6.5/10W	10 - 6W	12/9.5/6.5/6W	10/8/7.5/6/5/3W
	Chipset	-	-	-	-
Memory	Technology	DDR3L 1866 for non-ECC/ 1600 for ECC	DDR3L 1333	DDR3L 1866/1600	DDR3L 1333/1066
	ECC Support	A1: non-ECC; B1: ECC	-	ECC and non-ECC	-
	Max. Capacity	8GB	8GB	8GB	4GB
	Socket	2 x 204P SODIMM	2 x 204P SODIMM	-	-
Graphics	Controller	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
	Max. Frequency	750 - 550MHz	792 - 854MHz	750-550MHz	854-792MHz
	VGA	1	1	-	-
	LCD (TTL/LVDS/eDP)	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS: 1-CH 18/24-bit BOM optional eDP	LVDS 1-CH 18/24-bit
	DDI (HDMI/DVI/DisplayPort)	2 (DDI2 for optional)	2 (DDI2 for optional)	1	1
	Multiple Displays	Triple-Display	Dual-Display	Dual-Display	Dual-Display
Expansion	PCIe x16	-	-	-	-
	PCIe x1	4 (Optional 5)	3 (Optional 4)	4 (Optional 1PCIex4)	3 (Optional 4 PCIe x1 or 1 PCIe x4 without LAN)
	PCI Masters	-	-	-	-
	ISA Bus	-	-	-	-
	LPC	1	1	1	1
Serial Bus	SMBus	1	1	1	1
	I²C Bus	1	1	1	1
	CAN Bus	Optional	-	Optional	-
Ethernet	Controller	Intel® I210IT/I210AT	Intel® I210	Intel® I210AT/IT	Intel® I210E
	Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
I/O	SATA	2	2	2	1 (Optional 2)
	PATA Channel	-	-	-	-
	USB3.0	2	1	2	1
	USB2.0	8	8	8	4
	Audio	HD Audio	HD Audio	HD Audio	HD Audio
	SPI Bus	1	1	1	1
	GPIO	8	8	8	8
	SDIO (GPIO pin shared)	-	-	Optional	-
	Watchdog	1	1	1	1
	COM Port	2 (2-wire)	2 (2-wire)	2 (2-wire)	2 (2-wire)
	LPT/FDD	-	-	-	-
	PS/2	-	-	-	-
	IR	-	-	-	-
	Onboard Storage	-	Optional SSD	eMMC	SLC/MLC SSD
	TPM	TPM2.0	Optional	TPM2.0	-
Power	Power Type	ATX: Vin, VSB; AT: Vin	ATX: Vin, VSB, AT: Vin	ATX:Vin, VSB, AT:Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 8.5-20V VSB: 4.75-5.25V	Vin: 8.5-20V VSB: 4.75-5.25V	ATX (Vin 4.75-20V, Vsb 4.75-5.25V) AT (Vin 4.75-20V)	ATX (Vin 4.75-20V, Vsb 4.75-5.25V) AT (Vin 4.75-20V)
	Power Consumption Max.	14.76W	15.36W	14.73W (E3950)	16.56 W (E3845)
	Power Consumption Idle	4.46W	9.48W	4.68W (E3950)	8.04 W (E3845)
Environment	Operating Temp.	0 ~ 60° C (32 ~ 140° F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)
	Extended Temp. (Optional)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")	95 x 95 mm (3.74" x 3.74")	84 x 55 mm (3.3" x 2.17")	84 x 55 mm (3.3" x 2.17")

Note: "-" : means Not Applicable (N/A)

NEW NEW






Model Name		SOM-2569	SOM-3569	SOM-3567	SOM-4466
Form Factor		SMARC	QSeven	Qseven	ETX
Pin-out Type		SMARC 2.0	QSeven 2.1	Qseven 2.1	ETX 3.0
Processor System	CPU	Intel® Atom™ E3900/Pentium®/ Celeron® N Series	Intel® Atom x7-E3950/ Atom x5-E3940/Atom x5-E3930/ Pentium N4200/Celeron N3350	Intel® Atom E3845/E3827/E3825/ E3815/E3805/Celeron J1900/N2807	AMD G-Series T56N/T40E/T16R
	Base Frequency	2.5GHz-1.8GHz	1.6-1.1GHz	2.0-1.33GHz	1.0-615MHz
	Processor Core	4/2	4/2	4/2/1	1
	LLC	2 MB	2MB	2MB/1MB/512KB	512KB
	CPU TDP	12/9/6.5/6W	12/9/6.5/6W	10/8/6/5/4.3/3 W	4.5/6.4/18W
	Chipset	-	-	-	AMD A55E
Memory	Technology	LPDDR4 2400	LPDDR4 2400	DDR3L 1333/1066	DDR3 1066
	ECC Support	-	-	-	-
	Max. Capacity	8GB	8GB	8GB	4GB
	Socket	-	-	-	1 x 204P SODIMM
Graphics	Controller	Intel® HD Graphics 505/500	Intel® HD Graphics	Intel® HD Graphics	AMD Radeon HD6320/HD6250
	Max. Frequency	750/650/600/550MHz	750-550MHz	854-750MHz	276MHz
	VGA	-	-	-	1
	LCD (TTL/LVDS/eDP)	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 2-CH 18/24-bit BOM optional eDP	LVDS 1-CH 18/24-bit TTL 1-CH 18-bit
	DDI (HDMI/DVI/DisplayPort)	2 (DDI2 for option)	1	1	-
	Multiple Displays	3	Dual-Display	Dual-Display	Dual-Display
Expansion	PCIe x16	-	-	-	-
	PCIe x8	-	-	-	-
	PCIe x4	-	-	-	-
	PCIe x1	4	4 (Optional 1 PCIex4)	3 (Optional 4 PCIex1 without LAN)	-
	PCI Masters	-	-	-	4
	ISA Bus	-	-	-	1
	LPC	1	1	1	-
Serial Bus	SMBus	1	1	1	1
	I^2C Bus	5	1	1	1
	CAN Bus	Optional	Optional	-	-
Ethernet	Controller	Intel® I210IT	Intel® I211AT	Intel® I210IT	Realtek RTL8105E
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100 Mbps
	10GB Ethernet	-	-	-	-
I/O	SATA	1	2	2	2
	PATA Channel	-	-	-	2
	USB 3.1 Gen2	-	-	-	-
	USB3.0	2	1(Optional 2)	1	-
	USB2.0	6	8	6	4
	Audio	1 (2 Optional)	HD Audio	HD Audio	HD Audio
	SPI Bus	1	1	1	-
	GPIO	12	-	-	1
	SDIO (GPIO pin shared)	1	SD3.0	-	-
	Watchdog	1	1	1	1
	COM Port	4 (2 x 4-wire/2 x2-wire)	2 (4-wire COM 1 port, 2-wire COM 1 port)	1 (4-wire COM 2 Ports (1 on MFG pins), optional support GPIO)	2
	LPT/FDD	-	-	-	1
	PS/2	-	-	-	KB/MS
	IR	-	-	-	1
	Onboard Storage	eMMC	eMMC	eMMC	mSATA socket
	TPM	TPM2.0	TPM2.0	-	-
Power	Power Type	ATX/ATX: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin	ATX: Vin, VSB, AT: Vin
	Supply Voltage	Vin: 4.75-5.25V, RTC Battery: 2.0V ~ 3.3V	Vin: 5V±5%, VSB: 5V±5%, RTC Battery: 2.0-3.3V	Vin: 5V±5%, VSB: 5V±5%, RTC Battery: 2.0-3.3V	Vin: 4.75-5.25V, VSB: 4.75-5.25V
	Power Consumption Max.	14.11 W	9.1 W	7.53 W	7.75 W
	Power Consumption Idle	3.45 W	2.82 W	3.28 W	6.1 W
Environment	Operating Temp.	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)
	Extended Temp. (Optional)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
Mechanical	Dimensions	82 x 50 mm (3.23" x 1.97")	70 x 70 mm (2.75" x 2.75")	70 x 70 mm (2.75" x 2.75")	114 x 95 mm (3.74" x 4.5")

Note: "-" : means Not Applicable (N/A)

Embedded Single Board Computer

MI/O Extension 2.5" Pico-ITX

NEW



Model Name		MIO-2361	MIO-2360	MIO-2263	MIO-2270	MIO-3360	MIO-3260
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)	2.5" MI/O-Ultra (Pico-ITX)	2.5" MI/O-Ultra (Pico-ITX)
Processor System	CPU	Intel® Atom™ E3900 series/ Pentium N4200/ Celeron N3350	Intel® Pentium N4200/ Intel® Celeron N3350	Intel Celeron J1900/ Intel Atom E3825	AMD G-Series SoC GX-415GA/ AMD G-Series SoC GX-210JA	Intel® Pentium N4200/ Intel® Celeron N3350	Intel Atom E3825/ Intel Celeron N2930
	CPU TDP	12W	6W	6W/ 10W	15W/ 6W	6W	7.5W/ 6W
	Frequency	2.0 GHz/2.5GHz/2.4GHz	2.5GHz/2.4GHz	2.0(Turbo: 2.42) GHz/1.33 GHz	1.5 GHz/ 1.0 GHz	2.5GHz/2.4GHz	2.0(Turbo: 2.42) GHz/1.33 GHz
	Core Number	2~4 Cores	4/2	4/2	4/2	4/2	4/2
	L2 Cache	2 MB	2 MB	2 MB/ 1MB	2 MB/ 1 MB	2 MB	2 MB/ 1MB
	BIOS	AMI EFI 64 Mbit	AMI EFI 64 Mbit	AMI EFI 64 Mbit	AMI EFI 32 Mbit	AMI EFI 64 Mbit	AMI EFI 64 Mbit
	Chipset	-	-	-	-	-	-
Memory	Technology	LPDDR4-2400MT/s	DDR3L-1866MHz	DDR3L 1333/ 1066 MHz	DDR3/3L 1600/ 1066 MHz	DDR3L-1866MHz	DDR3L 1333/ 1066 MHz
	Max. Capacity	8 GB	8GB	8 GB	8 GB	8GB	8 GB
	Socket	Onboard LPDDR4	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® Atom SoC integrated	Intel Gen9 graphic engine	Intel Gen7 graphic engine	AMD Radeon HD 8330E/ 8180	Intel Gen9 graphic engine	Intel Gen7 graphic engine
	VGA	-	up to 1920x1200	Up to 2560 x 1600 at 60Hz	Up to 2048 x 1536 at 60Hz	up to 1920x1200	Up to 2560 x 1600 at 60Hz
	LCD (TTL/LVDS/eDP)	LVDS 48-bit, up to 1920 x 1200	LVDS 24-bit, up to 1440 x 900 at 60Hz	LVDS 18/24-bit, up to 1440 x 900 at 60 Hz	LVDS 18-bit, up to 1600 x 900 at 60 Hz	24-bit up to 1440 x 900 at 60Hz	LVDS 18/24-bit, up to 1440 x 900 at 60 Hz
	DDI (HDMI/DVI/ DisplayPort)	HDMI 1.4b(3840x2160@30Hz)	HDMI 1.4b(3840x2160@30Hz)	HDMI 1.4a 1920x1200 at 60 Hz/ 24bpp	HDMI 1.4a 1920x1200 at 60 Hz/ 24bpp	HDMI 1.4b(3840x2160@30Hz)	-
	Multiple Display	Dual display, HDMI+48-bit LVDS	VGA+LVDS, HDMI+LVDS	VGA+LVDS, HDMI+LVDS	VGA+LVDS, HDMI+LVDS	VGA+LVDS, HDMI+LVDS	LVDS+VGA, LVDS+DP/HDMI, VGA+DP/HDMI
	Triple Display	-	-	-	-	-	-
Expansion Interface	M.2	E-key 2230	-	-	-	-	-
	Mini PCIe	1 x Full-size	1 x Half size	1 x Half size	1 x Half size	1 x Half size	1 x Full-size
	SIM Socket	-	-	-	-	-	-
	SMBus	1	1	1	1	1	1 (from 64-pin connector B)
	I²C	optional	1 (Shares with SMBus pin)	-	-	1 (Shares with SMBus pin)	1 (from 64-pin connector B)
	MIOe	-	SMBus, 2 x USB3.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset, SATA*	SMBus, 2 x USB2.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset	2 x USB2.0, 2 PCIe x1, LPC, HD Audio line-out, DP or HDMI supported by request, 5 Vsb/12 Vsb power	SMBus, 2 x USB3.0, LPC, 2 x PCIe x1, line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset, SATA*	SMBus, USB3.0, LPC, 2 x PCIe x1, Line out, DisplayPort/HDMI*, +5 Vsb/+12 Vsb power, Power On, Reset
	64-pin connecter A	-	-	-	-	12V DC input, Inverter, VGA, 2 x USB2.0, 1GbE w/ LED*	12V DC input, Inverter, VGA, 2 x USB2.0, 1GbE
	64-pin connecter B	-	-	-	-	SMBus, I2 C, 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	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® i210IT/i210AT	Intel i210	Intel i210	GbE Realtek RTL8111E	Intel i210	Intel i210
	Speed	10/100/1000 Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
	Connector	RJ45 x 2	RJ45 x 1	RJ45 x 1	RJ45 x 1	RJ45 x 1	from 64pin connecter A
Audio	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 ALC888S	Realtek ALC888S
	Amplifier	-	-	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	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	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	eMMC	32GB	-	-	-	-	-
	SATA	1, up to 6Gb/s (600MB/s)	1, up to 6Gb/s (600 MB/s)	1, up to 3Gb/s (300 MB/s)	1, up to 6Gb/s (600 MB/s)	1, up to 6Gb/s (600 MB/s)	1, up to 3Gb/s (300 MB/s)
	mSATA	optional	1	1	1 (Integrates USB signal, supports either mSATA or USB interface module)	1	1 (Integrates USB signal, supports either mSATA or USB interface module)
	CompactFlash	-	-	-	-	-	-
I/O	USB3.0	2 (from rear)	2 (from rear)	1 (from rear)	2 (from rear)	2	1 (from MIOe)
	USB2.0	2 (from internal)	6 (2 from rear, 4 from internal)	3 (1 from rear, 2 from internal)	2 (from internal)	6	4 (from internal)
	GPIO	2 x 8-bit (5V tolerance)	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 GPIO (from 64pin connector B)
	COM Port	2 x RS-232/422/485	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 x RS-232/422/485	2 RS-232/422/485 (form 64-pin connector B)
	Reset Button	1	1	1	1	1	1
	Fan	-	-	-	1	-	-
Power	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	12V or 24V +/- 10%	single 12V input, ±10%	single 12V input, ±10%	single 12V input, ±10%	single 12V input, ±10%	single 12V input, ±10%
	Connector	ATX 1x2p, DC Jack (optional)	ATX 1x2p, DC Jack (optional)	ATX 1x2p, DC Jack (optional)	ATX 1x2p, DC J ack (optional)	ATX 1x2p, DC Jack (optional)	From 64pin connecter A
	Power Consumption (Idle)	E3950: 8.59 W (12V) E3950: 8.81 W (24V)	N4200: 4.89W N3350: 4.61W	J1900: 10.59W E3825: 7.08W	GX-415GA: 12.6W GX-210JA: 5.93W	N3350: 4.89W	E3835: 4.47W N2930: 5.08W
	Power Consumption (Full Load)	E3950: 26.27 W (12V) E3950: 26.51 W (24V)	N4200: 17.18W N3350: 12.90W	J1900: 12.48W E3825: 9.12W	GX-415GA: 15.12W GX-210JA: 10.2W	N3350: 12.90W	N2930: 5.08W E3835: 7.13W
	Battery	Lithium 3V/ 210mAH	Lithium 3 V / 210 mAH	Lithium 3 V/ 210 mA	Lithium 3 V/ 210 mA	Lithium 3 V / 210 mAH	Lithium 3 V/ 210 mA
Environment	Operational Temperature	0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85 °C (-40 ~ 185 °F)	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)	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")	100 x 72 mm (3.9" x 2.8")
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes	Yes	Yes
	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes	Yes	Yes
	iManager	Yes	-	-	-	-	-
Certification	EMC	CE/FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

Note: "-" : means Not Applicable (N/A)

MI/O Extension 3.5" SBCs

NEW NEW






Model Name		MIO-5393	MIO-5391	MIO-5373	MIO 5272
Form Factor		3.5" MI/O-Compact	3.5" MI/O-Compact	3.5" MI/O-Compact	3.5" MI/O-Compact
Processor System	CPU	Intel® Xeon® E-2276ME/ Intel® Core™ i7-9850HE/i7-9850HL/ i5-8400H	Intel XEON E3-1505MV6/Core i7-7820EQ/ i5-7442EQ/i3-7102E	Intel Core i7-8665UE/i5-8365UE/ i3-8145UE/Celeron 4305U*	Intel Core i7-7600U/i7-6600U/ i5-6300U/i3-6100U/Celeron 3955U*
	CPU TDP	45W/45W/25W/45W	45W/45W/25W/25W	15W	15W
	Frequency	2.8 GHz (Turbo: 4.5GHz) / 2.7 GHz (Turbo: 4.4GHz) / 1.9 GHz (Turbo: 4.1GHz) / 2.5 GHz (Turbo: 4.2GHz)	3.0 GHz (Turbo: 4.0GHz)/ 3.0 GHz (Turbo: 3.7GHz) / 2.1 GHz (Turbo: 2.9GHz) / 2.1 GHz (Turbo: 2.1GHz	1.70 GHz/ 1.60 GHz/ 2.20 GHz	2.8(Turbo: 3.9)GHz/2.6(Turbo: 3.4)GHz/ 2.4(Turbo: 3.0) GHz/2.3 GHz/2.0 GHz
	Core Number	6/ 6/ 6/ 4	4/4/4/2	4/4/2	2
	Intel® Smart Cache	12MB/ 9MB/ 9MB/ 8MB	8MB/8MB/6MB/3MB	2MB	4MB/4MB/ 3MB/ 3MB/ 2MB
	BIOS	AMI UEFI 256Mb	AMI UEFI 128Mb	AMI UEFI 256Mbit	AMI UEFI 128 Mbit
	Chipset	Intel CM246 / QM370	Intel CM238 / QM175	-	-
Memory	Technology	DDR4 up to 2400MHz	DDR4 up to 2400MHz	DDR4-2400MT/s	DDR3L 1333/1600 MHz
	Max. Capacity	up to 64G	up to 32G	32 GB	16 GB
	Socket	2x 260P SODIMM	2x 260P SODIMM	2 x 204-pin SODIMM	2 x 204-pin SODIMM
Display	Controller	Intel Gen 9 low power graphics (Intel® UHD Graphics P630/630)	Intel Gen 9 low power graphics	Intel® WHL-U SoC integrated	Intel® HD Graphics 620/520/510 (Celeron)
	VGA	-	-	-	Up to 1920 x 1200 at 60 Hz
	LCD (LVDS/eDP)	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz Supports 3.3/5/12V for VDD power, 5/12V for inverter	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz Supports 3.3/5/12V for VDD power, 5/12V for inverter	LVDS 48-bit, up to 1920 x 1200 at 60Hz	LVDS 48-bit, up to 1920 x 1200 at 60Hz
	DDI (HDMI/DVI/ DisplayPort)	HDMI 1.4 up to 4096 x 2160 @ 30Hz ; DisplayPort 1.2 up to 4096 x 2304 @ 60Hz	Supports 2 x HDMI 1.4 for HD Video playback Max resolution up to 4096 x 2304 @ 30Hz	HDMI: up to 4096 x 2160 at 24 Hz	HDMI: up to 4096 x 2160 at 24 Hz
	Multiple Display	Triple simultaneous displays with HDMI + DP + LVDS	HDMI + LVDS, Dual HDMI + LVDS	48-bit LVDS/eDP+HDMI+DP	VGA + HDMI + LVDS
Expansion Interface	Mini PCIe	-	1 x Full-size	-	2 x Full-size
	SIM Socket	1	1	1	1
	SMBus	1	1	1	1
	I²C	1	1 (Shared with SMBus pin)	1	1 (Shares with SMBus pin)
	M.2 slot	1 x E-Key 2230; 1 x B-Key 2280/3042 (*optional M-Key 2280)	1 x M.2 E-key 2230 (PCIe x1, USB2.0)	1 x E-Key 2230; 1 x B-Key 2280/3042 (*optional M-Key 2280)	-
	MIOe	DDI x 1, 4 PCIe x1, USB3.0/2.0 LPC, SMBUS, rest, line out, power on	DDI x 1, 4 PCIe x1, USB2.0 LPC, SMBUS, rest, line out, power on	4 PCIex1(x1/x2/x4), USB2.0, LPC, SMBus, Line-out, 12V/5V Power supply	SMBus, USB3.0, LPC, 2 x PCIe, line-out Displayport (optional), Reset, PowerOn, +5Vsb, +12Vsb
Ethernet	Controller	GbE1: Intel I219, GbE2: Intel I210	GbE1: intel I219, GbE2: intel I210	GbE1: Intel i219, GbE2: Intel i210	GbE1: Intel i219, GbE2: Intel i210
	Speed	10/100/1000Mbps	10/100/1000Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
	Connector	RJ45 x 2	RJ45 x 2	RJ45 x 2	RJ45 x 2
Audio	Audio Interface	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio
	CODEC	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, Mic-in	Line-in, Line-out, Mic-in	Line-in, Line-out, Mic-in
WatchDog Timer		255 level timer interval	255 level timer interval	255 levels timer interval	255 levels timer interval
Storage	eMMC	-	-	32GB	-
	SATA	2, up to 6Gb/s (600 MB/s)	2, up to 6Gb/s (600 MB/s)	1, up to 6 Gb/s (600 MB/s)	2, up to 6 Gb/s (600 MB/s)
	mSATA	-	supports either mSATA or full size miniPCIe	-	Supports either mSATA or full size miniPCIe, default support mSATA
I/O	USB3.1	4 (USB 3.1 Gen2)	-	4	-
	USB3.0	-	4	-	2
	USB2.0	2 (Internal)	2 (Internal)	2 (from internal)	4 (2 from rear, 2 from internal)
	GPIO	2 x 8bit GPIO (5V tolerance)	2 x 8bit GPIO (5V tolerance)	2 x 8bit GPIO (5V tolerance)	8-bit general purpose input/output
	COM Port	2 x RS-232/422/485 with 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, opt. 2 x RS-232 to GPIO	2 x RS-232/422/485 with RS-485 auto flow control
	Reset Button	1	1	1	1
	Smart Fan	1	1	1	-
Security	TPM	TPM 2.0	TPM 2.0	TPM 2.0	TPM 2.0 (optional)
Power	Power Type	AT/ATX	AT/ATX	AT/ATX	Single 12V DC power input
	Power Supply Voltage	12V ± 10%	12V ± 10%	12V-24V +/- 10%	12V input, ± 10%
	Connector	ATX 2x2P (DC Jack optional)	ATX 2x2P (DC Jack optional)	ATX 2x2P (DC Jack optional)	ATX 2x2P (DC Jack optional)
	Power Consumption (Idle)	E-2276ME/i7-9850HE/i7-9850HL/i58400H: 11.55W	i7-7820EQ: 8.2W	i7-8665UE: 6.61W (12V) i7-8665UE: 7.42W (24V)	i7 7600U: 6.46W / i7 6600U: 6.46 W/ i5 6300U: 5.26 W / i3 6100U: 5.02 W/ Celeron 3955U: 4.88 W
	Power Consumption (Full Load)	E-2276ME: 102.75W i7-9850HE: 95.38W i7-9850HL: 44.55W i5-8400H: 74.44W	E3-1505MV6: 69.8W i7-7820EQ:: 67.6W i5-7442EQ: 50.729W i3-7102E: 29.623 W	i7-8665UE: 30.10W (12V) i7-8665UE: 33.33W (24V)	i7 7600U: 22.03 W i7 6600U: 22.03 W/ i5 6300U: 20.87 W/ i3 6100U: 20.45 W/ Celeron 3955U: 17.81 W
	Battery	Lithium 3V/210mAH	Lithium 3V/210mAH	Lithium 3 V / 210 mA	Lithium 3 V / 210 mA
Environment	Operational Temperature	0 ~ 60 °C (32 ~ 140 °F); Extend: -40 ~ 85 °C (-40 ~ 185 °F) (Operational humidity: 40 °C @ 95% RH Non-Condensing)	0 ~ 60 °C (32 ~ 140 °F); Extend: -40 ~ 85 °C (-40 ~ 185 °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")
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes
	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes
	iManager/SUSI 4.0	Yes	Yes	Yes	Yes
Certification	EMC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

Note: "-" : means Not Applicable (N/A)

Embedded Single Board Computer

MI/O Extension 3.5" SBC

NEW







Model Name		MIO-5271	MIO-5270	MIO-5350	MIO-5850	MIO-5251
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
Processor System	CPU	Intel Core i5-4300U, Celeron 2980U	AMD G- Series T56N/ T40E/ T40R	Intel® Pentium N4200 Celeron N3350 & Atom™ E3950/E3940/E3930	Intel Celeron J1900/E3845/E3825	Intel Atom E3825/ E3845, Celeron J1900
	CPU TDP	15W	18 W/ 6.4 W/ 5.5 W	6W/6W/12W/9W/6W	6W/10W/6W	6W/ 10W/ 10W
	Frequency	1.9 (Turbo: 2.9) GHz/ 1.6 GHz	1.65 GHz/ 1.0 GHz /1.0 GHz	1.1GHz/1.1GHz/1.6GHz/1.6GHz/1.3GHz	2 GHz (Quad-Core)/ 1.91GHz (Quad-Core)/ 1.91GHz (Quad-Core)	1.33 GHz/ 1.91 GHz/2(Turbo: 2.42) GHz
	Core Number	2	2/ 2/ 1	4/2/4/4/2	4/2	2/ 4/ 4
	L2 Cache	-	1MB/ 512KB/ 512KB	2	2MB	1MB/ 2MB
	L3 Cache	3MB/ 2MB	-	-	-	-
	BIOS	AMI UEFI 128 Mb	AMI EFI 32Mbit	AMI UEFI 64 Mb	AMI UEFI 64Mb	AMI UEFI 64Mbit
	Chipset	-	AMD A50M	-	-	-
Memory	Technology	DDR3L 1333/1600 MHz	DDR3 1066 MHz, 1333MHz only for T56N	DDR3L 1867 MHZ	DDR3L 1066/1333MHz	DDR3L 1066/1333MHz
	Max. Capacity	8 GB	4 GB	8 GB	On board 4G/2G/4G	8 GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM	-	1 x 204-pin SODIMM
Display	Controller	Intel® HD Graphics 4400 / Intel HD Graphics (Celeron)	AMD Radeon™ HD 6320/6250/6250	Intel Gen9 graphic engine	Intel Gen7 graphic engine	Intel Gen7 graphic engine
	VGA	Up to 1920 x 1200 at 60 Hz	T56N up to 2560 x 1600, T40R & T40E up to 1920 x 1200 at 60Hz	2560 x 1600 at 60Hz	2560 x 1600 at 60Hz	Up to 2560 x 1600 at 60Hz
	LCD (LVDS/eDP)	LVDS 48-bit, up to 1920 x 1200 at 60Hz	LVDS 48-bit, up to 1920 x 1200 at 60 Hz	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz Supports 3.3/5/12V for VDD power, 5/12V for inverter	LVDS 48-bit, up to 1920 x 1200 at 60Hz eDP (optional): up to 2560 x 1600 at 60Hz
	DDI (HDMI/DVI/ DisplayPort)	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 & 36bpp	HDMI 1.4a for HD video playback, 1080P at 60Hz Displayport*, up to 2560 x 1600 at 60Hz	HDMI 1.4a for HD video playback, 1080P at 60Hz	HDMI: up to 1920 x 1080 at 60Hz DisplayPort (optional): up to 2560 x 1600 at 60Hz
	Multiple Display	VGA+LVDS, VGA+HDMI/DP, HDMI/ DP+LVDS, VGA+HDMI/DP+LVDS	VGA+LVDS, VGA+HDMI, HDMI+LVDS	VGA + LVDS (eDP *) + HDMI (DP*)	VGA + HDMI, VGA+ LVDS, HDMI +LVDS	VGA+HDMI/DP, VGA+LVDS/eDP, HDMI/ DP+LVDS/eDP
Expansion Interface	Mini PCIe	1 x Full-size, 1 x Half-size	1 x Full-size	1 x Full size	1 x Full-size	1 x Full-size
	SIM Socket	1	-	-	1	1
	SMBus	1	1	1	1	1
	I²C	1 (Shares with SMBus pin)	1 (Shares with SMBus pin)	1 (Shares with SMBus pin)	1 (Shared with SMBus pin)	1 (Shares with SMBus pin)
	MIOe	SMBus, 3 x USB2.0, LPC, 1 x PCIe, line-out, Displayport (optional), Reset, PowerOn, +5Vsb, +12Vsb	SMBus, 3 x USB2.0, LPC, 4 x PCIe, line-out, Displayport (optional), Reset, PowerOn, +5Vsb, +12Vsb	Displayport (optional), SMBus, 3 x USB2.0, LPC, 1 x PCIe x1, line out, +5 Vsb/+12 Vsb power, Power On, Reset#	-	SMBus, 3 x USB2.0, LPC, 1 x PCIe, line-out, DisplayPort (optional), Reset, Power On, +5Vsb, +12Vsb
Ethernet	Controller	GbE1: Intel i218, GbE2: Intel i210	GbE1 & GbE2: Realtek RTL8111E-VB-GR	GbE1 & GbE2: Intel i210	GbE1: intel I210 GbE2: intel I210 GbE3: intel I210	GbE1 & GbE2: Intel i210
	Speed	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/100/1000Mbps	10/100/1000Mbps	10 /100/ 1000 Mbps
	Connector	RJ45 x 2	RJ45 x 2	RJ45 x 2	RJ45 x 3	RJ45 x 2
Audio	Audio Interface	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio	High Definition Audio
	CODEC	Realtek ALC888S	Realtek ALC892	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, Mic-in	Line-in, Line-out, Mic-in	Line-in, Line-out, Mic-in	Line-in, Line-out, Mic-in
WatchDog Timer		255 levels timer interval	255 levels timer interval	255 levels timer interval, programmable by software	255 level timer interval	255 levels timer interval
Storage	eMMC	-	-	-	32GB	-
	SATA	2, up to 6 Gb/s (600 MB/s)	2, up to 3Gb/s (300 MB/s)	2* SATAIII (Max. Data Transfer Rate up to 6.0 Gb/s)	1, up to 3Gb/s (300 MB/s)	1, up to 3Gb/s (300MB/s)
	mSATA	Supports either mSATA or full size miniPCIe, default support mSATA	Supports either mSATA or full size miniPCIe, default support miniPCIe	1 x Full size	1 x Full Size	1 x Full-size
	CFast	-	1	-	-	-
I/O	USB3.0	2	-	2	1	1
	USB2.0	3 (2 from rear, 1 from internal)	6 (4 from rear, 2 from internal)	4 (2 from Rear, 2 from Internal)	5 (1 from rear, 4 from internal)	3 (3 from rear, 1 from internal)
	GPIO	8-bit general purpose input/output	8-bit general purpose input/output	8-bit general purpose input/output	2 x 8bit GPIO (5V tolerance)	8-bit general purpose input/output
	COM Port	2 x RS-232, 2 x RS-232/422/485 with RS-485 auto flow control	3 x RS-232, 1 x RS-232/422/485 with RS-485 auto flow control	2xRS-232, 2xRS-232/422/485 with RS-485 auto flow control	COM1/2 2x RS232/422/485 from COM1/2 with auto flow control 2x RS232 from COM3/4	2 x RS-232, 2 x RS-232/422/485 with RS-485 auto flow control
	Reset Button	1	1	1	1	1
	Smart Fan	-	1 (T56N only)	-	1	-
Security	TPM	-	-	TPM 2.0 (optional)	-	-
Power	Power Type	Single 12V DC power input	Single 12V DC power input	Single 12V DC power input	12-24V DC power input	Single 12V DC power input
	Power Supply Voltage	Supports single 12V input, ±10%	Supports single 12V input, ± 10%	Supports single 12V input,±10%	12~24V ± 10%	Supports single 12V input, ±10%
	Connector	ATX 2x2P (DC Jack optional)	ATX 2x2p/ DC Jack	ATX 2x2P/ DC Jack	ATX 2 pin phoenix connector	ATX 2x2P (DC Jack optional)
	Power Consumption (Idle)	i5 4300U: 4.68 W Celeron 2980U: 4.56 W	T40R: 7.08 W / T40E: 6.36 W / T56N: 7.8 W	N4200: 0.4A @ 12V (4.80W) N3350: 0.4A @ 12V (4.80W	MIO-5850J-U0A1E: 0.63A @12V (7.56W) MIO-5850J-U0A1E: 0.60@24V (14.4W	E3825: 5.42 W / E3845: 6.12W/ J1900: 5.88 W
	Power Consumption (Full Load)	i5-4300U: 29.52 W/ Celeron 2980U: 20.52 W	T40R: 9.6 W / T40E: 9.84 W / T56N: 16.2 W	N4200: 1.26A @ 12V (15.12W) N3350: 1.29 @ 12V (15.48W)	MIO-5850J-U0A1E: 1.74A @12V (20.88W) MIO-5850J-U0A1E: 3.57A @24V (85.68W)	E3825: 9.72 W/ E3845: 11.04W/ J1900: 13.32 W
	Battery	Lithium 3 V/ 210 mA	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH	Lithium 3V/210mAH	Lithium 3 V/ 210 mA
Environment	Operational Temperature	0 ~ 60 °C (32 ~ 140 °F) (Operational humidity: 40 °C @ 95% RH Non-Condensing)	0 ~ 60 °C (32 ~ 140 °F) (Operational humidity: 40 °C @ 95% RH Non-Condensing)	0 ~ 60 °C (32 ~ 140 °F) (Operational humidity: 40 °C @ 95% RH Non-Condensing)	0 ~ 60 °C (32 ~ 140 °F); Extend: -40 ~ 85 °C (-40 ~ 185 °F) (Operational humidity: 40 °C @ 95% RH Non-Condensing)	0 ~ 60 °C (32 ~ 140 °F); Extend: -40 ~ 85 °C (-40 ~ 185 °F) (Operational humidity: 40 °C @ 95% RH Non-Condensing)
Physical Characteristics	Dimensions (L x W x H)	146 x 102mm (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
	Linux	Yes	Yes	Yes	Yes	Yes
	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes	Yes
	iManager/SUSI 4.0	Yes	Yes	Yes	Yes	Yes
Certification	EMC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

Note: "-" : means Not Applicable (N/A)

3.5" Single Board Computers

NEW







Model Name		PCM-9366	PCM-9365	PCM-9310	PCM-9376	PCM-9375 A3
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	Intel Celeron N2930/ Intel Atom E3825	Intel Celeron N3160/N3060, Intel® Atom E8000	AMD G-Series T40E/ T16R	AMD Geode LX800
	CPU TDP	6W/6W/12W/9W/6W	7.5W/ 6W	6W/ 4.5W/ 5W	6.4W/ 4.5W	3.6 W
	Frequency	1.1GHz/1.1GHz/1.6GHz/1.6GHz/1.3GHz	1.83/ 1.33 GHz (Burst: 2.16 GHz/ -)	1.6GHz/1.6GHz/1.04GHz	1.0GHz/ 615 MHz	500 MHz
	Core Number	4/2/4	4/2	4/2/4	2/1	1
	L2 Cache	2MB	2MB/ 1MB	2MB/ 1MB	512 KB	128 KB
	BIOS	AMI EFI 16Mbit	AMI UEFI BIOS at 64 Mbit	AMI UEFI BIOS at 64 Mb	AMI EFI 32Mbit	Award 4Mbit
	Chipset	-	-	-	AMD A55E	AMD CS5536
Memory	Technology	DDR3L-1866MHz	DDR3L 1333 MHz for N2930, DDR3L 1066 MHz for E3825	DDR3L-1600MHz	DDR3/DDR3L 1066 MHz	DDR 333/400 MHz
	Max. Capacity	8GB	4 GB	8 GB	4 GB	1 GB
	Socket	1 x 204-pin SODIMM	-	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 200-pin SODIMM
	Onboard Memory	-	Onboard 2GB/ 4GB	-	1 GB	-
Display	Controller	Intel Gen9 graphic engine	Intel Gen7 graphic engine	Intel Gen8 graphic engine	AMD G-series T40E/T16R	AMD Geode LX800
	VGA	up to 1920x1200	2560 x 1600 at 60Hz	1920 x 1200 at 60Hz	1920 x 1200 at 85Hz	1920 x 1440 @ 32bpp (85Hz)
	LCD (TTL/LVDS/eDP)	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz	48-bit dual LVDS up to WUXGA 1920 x 1200 at 60Hz (2nd LVDS is supported by request) Supports 3.3/5/12V for VDD power, 1A@5V/12V for inverter	18/24bit LVDS, up to 1920 x 1200 at 60Hz eDP*(Optional): eDP1.3, up to 2560x1440	Supports single/dual channel 18/24-bit LVDS up to 1920 x 1200, 24-bit TTL	24-bit TTL (PCM-9375F) up to 1600 x 1200 @ 32bpp (60Hz) Single channel 24-bit LVDS (PCM-9375E) up to 1600 x 1200 @ 32bpp (60Hz)
	DDI (HDMI/DVI/DisplayPort)	HDMI 1.4a for HD video playback, 1080P at 60Hz	HDMI 1.4a for HD video playback, 1080P at 60Hz (Supported by request)	HDMI: 1.4b up to 2560x1600 at 60Hz	-	-
	Multiple Display	VGA + LVDS * eDP + HDMI	VGA + LVDS, HDMI*+ LVDS, LVDS + LVDS*	VGA + HDMI + LVDS/eDP	VGA+LVDS, VGA+TTL, LVDS+TTL	VGA + LVDS, VGA + TTL
Expansion Interface	Mini PCIe	1 x Full size	1 x Full-size	1 x Full-size	1 (Half-size), Full-size supported by request	-
	LPC	-	-	-	1	-
	SIM Socket	1	-	-	-	-
	SMBus	1	1	1 (shared with I2C)	1 (shared with I^2C)	-
	I2C Bus	1 (Shares with SMBus pin)	1 (shared with SMBus pin)	1 (shared with SMBus)	1 (shared with SMBus)	optional
	PC/104	-	-	-	1	1
	PCI-104	-	1	-	-	-
	M.2	1 (Key E)	-	-	-	-
Ethernet	Controller	GbE1: Intel i210 GbE2: Intel i210	Realtek RTL8111E-VL-CG	GbE1/2: RTL8111E	GbE1/2 Realtek RTL8111E	GbE 1/2 Realtek RTL8139
	Speed	10/100/1000Mbps	10/100/1000Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100 Mbps
	Connector	RJ45 x 2	RJ45 x 2	RJ45 x 2	RJ45 on GbE1, box header on GbE2	RJ45 on , box header on GbE2
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio	HD Audio
	CODEC	Realtek ALC888S	Realtek ALC888S	Realtek ALC892	Realtek ALC892	Realtek ACL605
	Amplifier		-	-	-	Max. 2.2W/ch Stereo into a 3(Ω) Load
	Connector	Line-in, Line-out, Mic-in	pin header (Line-in, Line-out, Mic-in)	Line-in, line-out, mic-in	pin header (Line-in, Line out, Mic-in)	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)	1, up to 3Gb/s (300 MB/s)	1x SATAIII (up to 600 MB/s), 1x SATA II (optional, up to 300 MB/s)	2 x SATAII (Max. Data Transfer Rate 300 MB/s)	-
	mSATA	1 x Full size	1 x Full-size	1x Full-size (support Mini PCIe by request)	1 x Full-size	-
	IDE	-	-	-	-	1
	CompactFlash	-	-	-	-	CompactFlash Type I/II (Primary Master IDE Channel)
	Floppy	-	-	-	-	1 (Shared with LPT)
I/O	USB3.0	2	-	-	-	-
	USB2.0	4	4	4	4	4
	GPIO	16-bit general purpose input/output	8-bit	8-bit GPIO	8-bit GPIO	8-bit GPIO
	LPT	-	-	-	-	1 (not support floppy)
	COM Port	2xRS-232, 2xRS-232/422/485 with RS-485 auto flow control	4 (3xRS-232, 1xRS-232/422/485)	4 (2x RS-232, 2x RS-232/422/485)	4 (2xRS-232, 2xRS-232/422/485)	4 (3xRS-232, 1xRS-232/422/485)
	PS/2 KB/Mouse	-	-	-	1	1
	Reset Button	1	-	-	1	1
	Smart Fan	-	-	-	-	-
Power	Power Type	AT/ATX	Single 12V DC power input	Single 12V DC power input	AT/ ATX	AT/ ATX
	Power Supply Voltage	9 (-5%) - 36 (+10%)V DC power input	12V ± 10%	12V ± 10%	5V±5% (+12V option for LCD, PC/104)	5V±5% (+12V option for LCD, PC/104)
	Connector	2P phenix power connector	1 x 4-pin power connector	ATX 2x2P (DC Jack Optional)	1 x 4-pin power connector	1 x 4-pin power connector
	Power Consumption (Idle)	N4200: 0.4A @ 12V (4.80W) N3350: 0.4A @ 12V (4.80W	PCM-9365E-2GS3A1E: 0.39A @ 12V (4.68W) PCM-9365EV-4GS3A1E: 0.44A @ 12V (5.28W) PCM-9365N-4GS8A1E: 0.509A @ 12V (6.108W)	N3150: 1.03A @ 12 V (12.27 W) N3060: 0.85A @12 V (10.20 W) E8000: 0.85A @ 12 V (10.20W)	T40E: 1.67A @ 5V (8.35W) T16R: 1.48 A @ 5 V (7.4 W)	LX800: 0.6A @5V, 0.03A @12V (3.36 W)
	Power Consumption (Full Load)	N4200: 1.26A @ 12V (15.12W) N3350: 1.29 @ 12V (15.48W)	PCM-9365E-2GS3A1E : 0.49A @ 12V (5.88W) PCM-9365EV-4GS3A1E: 0.554A @ 12V (6.648W) PCM-9365N-4GS8A1E: 0.745A @ 12V (8.94W)	N3150: 0.58 A @ 12 V (7.05 W) N3060: 0.38 A @ 12 V (4.55 W) E8000: 0.58A @ 12V (6.95W)	T40E: 2.34A @5V (11.7W) T16R: 2.28 A @ 5 V (11.4 W)	LX800: 1.2A @5V, 0.23A @12 V (8.76 W)
	Battery	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH	Lithium 3V/ 210 mAH	Lithium 3 V / 210 mAH	Lithium 3 V / 196 mAH
Environment	Operational Temperature	(Operational humidity: 40 °C @ 95% RH Non-Condensing)	0 ~ 60 °C (32 ~ 140 °F) (Operational humidity: 40 °C @85% RH non-condensing)	0~60 °C (32~140 °F) (Operational humidity: 40 °C @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"), same as 3.5"	146 x 102mm	146 x 102 mm	146 x 102 mm
	Construction	-	Aluminum with fanless design	Aluminum with fanless design	Aluminum with fanless design	Aluminum with fanless design
Operating System	Microsoft Windows	Yes	Yes	Yes	Yes	Yes
	Linux	Yes	Yes	Yes	Yes	Yes
	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes	Yes
	iManager	Yes	Yes	Yes	Yes	-
Certification	EMC	CE, FCC	CE,FCC	CE, FCC	CE, FCC	CE, FCC

Note: "-" : means Not Applicable (N/A)

Embedded Single Board Computer

PC/104 CPU Modules

NEW





Model Name		PCM-3353 A3	PCM-3365	PCM-3356
Form Factor		PC/104-Plus	PC/104-Plus	PC/104
Processor System	CPU	AMD Geode LX800	Intel Atom E3845/E3825/N2930	AMD® G-Series™ Processor T16R /T40E
	CPU TDP	3.6W	10W/6W/7.5W	4.5W/6.4W
	Frequency	500 MHz	1.91GHz/1.33GHz/1.83GHz	615 MHZ/ 1.0 GHz
	Core Number	1	4/2/4	1/2
	L2 Cache	128 KB	2MB/1MB/2MB	512 KB
	L3 Cache	-	-	-
	BIOS	Award 8Mbit	AMI UEFI BIOS at 64 Mb	AMI 32-Mbit
	Chipset	AMD CS5536	1 x 204-pin SODIMM	AMD A55E
Memory	Technology	DDR 333/400 MHz	DDR3L 1333 MHz (E3845,N2930) DDR3L 1066 MHz (E3825)	DDR3L 1066 MHz
	Max. Capacity	1 GB	8GB	SO-DIMM: 4GB / On-board: 1GB
	Socket	1 x 200-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM
	Onboard Memory	-	-	Onboard 1GB (by sku)
Display	Controller	AMD Geode LX800	Intel Gen7 graphic engine	AMD® G-Series™ Processor T16R/T40E
	Graphics Engine	-	DirectX11, 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
	HDMI/DVI	-	HDMI1.4a for HD video playback, 1080P at 60Hz, up to 1920 x 1080, DVI1.0 (DVI-D), up to 1920 x 1080	-
	Multiple Displays	VGA+TTL, VGA+LVDS	VGA + LVDS, VGA + HDMI/DVI, HDMI/DVI + LVDS	LVDS+VGA
Expansion Interface	Mini PCIe	-	1 x Full-size	1 half size
	SMBus	-	1 (configurable to I^2C by customer's request)	1
	I^2C Bus	-	1 (supported by request)	-
	PC/104	Optional	-	1
	PCI-104	-	-	-
	PC/104-Plus	-	1	-
Ethernet	Controller	Realtek RTL8139	Intel I210	GbE1&GbE2: Realtek RTL8111E-VB-GR
	Speed	10/100Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Connector	Box Header	Pin Header	Box Header
Audio	Codecs	Realtek ALC655-LF	Intel High Definition audio interface (requires an audio extension module P/N: PCE-SA01-00A1E	Realtek ALC892
WatchDog Timer		Yes	Output System Reset, Programmable counter from 1 ~ 255 sec	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	4	6	4
	SPI Bus	-	-	-
	GPIO	8bit GPIO (5V tolerance)	8-bit GPIO	8-bit GPIO
	LPT	-	-	-
	COM Port	3 RS-232 from COM1/3/4, 1 RS-232/422/485 from COM2 with RS-485 auto flow control	3 (1 x RS-232/422/485, 2 RS-232)	3 x RS-232/422/485
	PS/2 KB/Mouse	-	1	-
Power	Power Type	AT	AT/ATX	AT/ATX
	Power Supply Voltage	5V ± 5% only to boot up	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)	LX800: 1.35 A @ +5 V, 0.1 A @ +12 V (7.95 Watts)	E3845: 4.72W E3825: 4.47W N2930: 4.42W	T16R: 1.17 A @ +5 V (5.85 W) T40E: 1.22 A @ +5 V (6.1 W)
	Power Consumption (Full Load)	LX800: 1.51 A @ +5 V, 0.1 A @ +12 V (8.75 Watts)	E3845: 7.69W E3825: 5.68W N2930: 6.84W	T16R: 1.43 A @ +5 V (7.15 W) T40E: 1.77 A @ +5 V (8.85 W)
	Battery	Lithium 3 V / 196 mAH	Lithium 3 V / 210 mAH	Lithium 3 V / 210 mAH
Environment	Operational Temperature	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)	0 ~ 60 °C (32 ~ 140 °F) (Operational humidity: 40 °C @ 85% RH non-condensing)	0 ~ 60 °C (32 ~ 140 °F) (Operational humidity: 40 °C @ 85% RH non-condensing)
	Non-Operational Temperature	-40 °C ~ 85 °C and 60 °C @ 95% RH non-condensing	-40 °C ~ 85 °C and 60 °C @ 95% RH non-condensing	-40 °C ~ 85 °C and 60 °C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W x H)	96 x 115 mm (3.8" x 4.5")	96 x 90 mm (3.8" x 3.5")	96 x 115 mm (3.8" x 4.5")
	Weight	0.574 kg (1.26 lb) (with heat-sink)	0.735 kg (1.62 lb) (with heat-sink)	0.590 kg (1.30 lb)
Operating System	Microsoft Windows	Yes	Yes	Yes
	Linux	Yes	Yes	Yes
	WISE-PaaS/DeviceOn	Yes	Yes	Yes
Certifications	EMC	CE, FCC	CE, FCC	CE, FCC

Note: "-" : means Not Applicable (N/A)

5.25" Single Board Computers



Model Name		PCM-9563
Form Factor		5.25"
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 EFI 16Mbit
	Chipset	-
Memory	Technology	DDR3L-1866MHz
	Max. Capacity	8GB
	Socket	1 x 204-pin SODIMM
Display	Controller	Intel Gen9 graphic engine
	Graphic Memory	Share with system memory up to 1792MB
	VGA	up to 1920x1200
	LCD (TTL/LVDS/eDP)	up to 1920x1200
	DDI (HDMI/DVI/DisplayPort)	DP 1.2a (1920 x1200@60Hz) / HDMI 1.4b(1920 x1200@30Hz)Displayport*, up to 1920 x1200 at 60Hz
	Multiple Display	VGA + LVDS (eDP *) + HDMI *(DP *)
Expansion Interface	Mini PCIe	1
	PCI	1
	PC/104-Plus	1
	I2C	1 (Shares with SMBus pin)
	MIOe	-
Ethernet	Controller	GbE1: Intel i210 GbE2: Intel i210
	Speed	10/100/1000Mbps
	Connector	RJ45 x 3
Audio	Audio Interface	High Definition Audio
	CODEC	Realtek ALC888S
	Amplifier	-
	Connector	Speaker out, CD-input, Line-in, Line-out, Mic-in
WatchDog Timer		255 levels timer interval, programmable by software
Storage	SATA	2* SATAIII (2nd SATAIII by request)
	mSATA	1 x full size mSATA
	CompactFlash	-
	Floppy	-
I/O	USB3.0	2
	USB2.0	6
	SPI Bus	-
	GPIO	8-bit general purpose input/output
	LPT	-
	COM Port	4 x RS-232, 2 x RS-422/485
	PS/2 KB/Mouse	1
	Reset Button	1
	Power Button	-
	Smart Fan	1
	SMBus	1
	I2C Bus	1
Power	Power Type	AT
	Power Supply Voltage	Single 12V DC power input
	Power Consumption (Idle)	N4200: 0.44 @ 12V (5.28W) N3350: 0.48 @ 12V (5.76W)
	Power Consumption (Full Load)	N4200: 1.32 @ 12V (15.84W) N3350: 1.36 @ 12V (16.32W)
	Battery	Lithium 3 V / 210 mAH
Environment	Operational Temperature	(Operational humidity: 40 °C @ 95% RH Non-Condensing)
Physical Characteristics	Dimensions (L x W x H)	203 x 146 mm
	Construction	-
Operating System	Microsoft Windows	Yes
	Linux	Yes
	WISE-PaaS/DeviceOn	Yes
	iManager	Yes
	QNX	-
Certification	EMC	CE, FCC

Industrial Motherboards

UTX

NEW



NEW





Model Name		AIMB-U233	AIMB-U217	AIMB-U117
Form Factor		UTX-E	UTX-E	UTX
Processor System	CPU	Intel® 8th Gen Core i7/i5/i3	Intel E3950/ E3940	Intel E3950/ E3930
	Socket	BGA1528	FCBGA	FCBGA
	Max. Speed	2.2/1.7/1.6 GHz	QC 1.6 GHz	QC 1.6/ DC 1.3 GHz
	TDP	15 W	12W/ 9.5W	12W/ 6.5W
	L2 Cache	-	2M	2M
	L3 Cache	-	-	-
	Chipset	-	-	-
	BIOS	AMI EFI 32MB, SPI	AMI EFI 128 Mbit SPI	AMI EFI 128 Mbit SPI
Expansion Slot	M.2	3 (M-key, E-key, B-Key)	1 (E-Key)	1 (E-Key)
	PCI	-	-	-
	Mini PCIe	-	1 (F/S)	1 (F/S)
	PCIe	-	-	-
Memory	Technology	DDR4 2400MHz SDRAM	Single channel DDR3L 1866/ 1600/ 1333 Mhz SDRAM	Single channel DDR3L 1866/ 1600/ 1333 Mhz SDRAM
	Max. Capacity	16 GB per DIMM	8GB	8GB
	Socket	1 x 260-pin SODIMM	1 X 204-pin SODIMM	1 X 204-pin SODIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics
	VGA/DVI-D/HDMI/DP	-/-/2/-	-/-/1/1	-/-/1/1
	Dual channel 24-bit LVDS/eDP	1/1 (LVDS is optional)	1/1 (LVDS is optional)	1/1 (LVDS is optional)
	Multiple Display	2 HDMI+eDP 2 HDMI+LVDS	DP+HDMI+eDP DP+HDMI+LVDS	DP+HDMI+eDP DP+HDMI+LVDS
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel i219LM LAN2: Intel i211AT	LAN1: Intel i211AT LAN2: Intel i211AT LAN3: Realtek RTL8111G	LAN1: Realtek RTL8111G LAN2: Realtek RTL8111G
	Connector	RJ45 x 2	RJ-45 x3	RJ-45 x2
TPM		Optional	Optional	Optional
SATA	Max Data Transfer Rate	600 MB/s	600 MB/s	600 MB/s
	Channel	1	1	1
	eSATA/mSATA	-	-/-	-/-
Rear I/O	VGA/DVI/HDMI/DP	-/-/2/-(type C Alt.)	-/-/1/1	-/-/1/1
	Ethernet	2	3	2
	USB	2	4 x USB3.0	4 x USB3.0
	Audio	1	Line out	Line out
	Serial	-	-	-
	PS/2	-	-	-
	DC Jack	1	1	1
Internal Connector	LVDS & Inverter	1, optional	1	1
	DVI	-	-	-
	USB	2	2 (USB2.0)	-
	Serial	4	4 (2 x RS-232, 2 x RS-232 or 422 or 485)	2 (1 x RS-232; 1 x RS-422 or 485)
	Parallel	-	-	-
	SATA	1	1	1
	CompactFlash/ eMMC	-	-/1 (32GB), optional	-/1 (32GB), optional
	GPIO	16 bit GPIO	16-bit GPIO	8-bit GPIO
	CANBus	-	1 (Isolated CANBus)	1
	MDB	-	-	1 (colay with RS-232)
	ccTALK	-	-	1 (colay with RS-422/ 485)

Note: "-" : means Not Applicable (N/A)

Industrial Motherboards

Mini-ITX

NEW



Model Name		AIMB-203	AIMB-205	AIMB-215	AIMB-216	AIMB-217	AIMB-218
Form Factor		Mini-ITX	Mini-ITX	THIN Mini-ITX	THIN Mini-ITX	THIN 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 Celeron J1900 / N2930 / N2807	Intel Pentium N3710 & Celeron N3160/N3010 & Atom x5-E8000	Intel Pentium N4200/ Celeron N3350/Atom x7-E3950	Intel Pentium/Celeron/ Atom
	Socket	LGA 1150	LGA1151	FCBGA	FCBGA	FCBGA	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 2.0 / 1.83 GHz; DC 1.58 GHz	QC 1.6/QC 1.6/DC 1.04/ QC 1.04 GHz	QC 1.1/DC 1.1/QC 1.6 GHz	2.0 GHz
	TDP	95 W / 65 W / 54 W / 45 W / 35 W	65W/51W/54W/35W	10 / 7.5 / 4.3 W	6 / 6 / 4 / 5 W	6 W/6 W/12 W	12 W/6 W
	L2 Cache	-	-	2 MB / 2 MB / 1 MB	2MB	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 16 Mbit, SPI	AMI EFI 16 Mbit, SPI	AMI EFI 128 Mbit, SPI	AMI EFI 128Mbit, SPI
Expansion Slot	M.2	-	1 (B Key)	-	1 (B Key)	1 (E Key)	2 (B key + E key)
	Mini PCIe	2	1	2	1	1	-
	PCIe	PCIe x16, 1 slot	PCIe x 16, 1 slot	PCIe x 1, 1 slot	PCIe x 1, 1 slot	PCIe x 1, 1 slot	PCIe x1, 1 slot
Memory	Technology	Dual channel DDR3L 1333/1600 MHz SDRAM	Dual Channel DDR4 2133/2400 MHz SDRAM	Dual / Dual / Single channel DDR3L 1333 MHz SDRAM	Dual channel DDR3L 1600/1066 MHz SDRAM	Dual channel DDR3L 1866 MHz SDRAM	Dual channel DDR4 3200MHz SDRAM
	Max. Capacity	16 GB	32 GB	8 / 8 / 4 GB	8 GB/ up to 8 GB per DIMM	8 GB/ up to 8GB per DIMM	64 GB/ up to 32 GB per DIMM
	Socket	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 / 2 / 1 x 204-pin SODIMM	2 x 204-pin SODIMM	2 x 204-pin SODIMM	2 x 260-pin SODIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics
	VGA/DVI-D/ HDMI/DP++	1/1/-/1	1/1/-/1	1/-/-/1	-/1/1/1 (DP only)	1/-/1/1	-/-/1/1
	Dual channel 24-bit LVDS/ eDP	1/-	1/1 (eDP is optional)	1/1 (eDP is optional)	1/1 (eDP is optional)	1/1 (eDP is optional)	1/1 (LVDS & eDP is optional)
	Type C Alt.	-	-	-	-	-	-
	Multiple Display	Dual display: VGA+LVDS, VGA+DP, VGA+DVI-D, DP+LVDS, DVI-D+LVDS, DP+DVI-D	Dual display: DP+VGA, DP+LVDS(or eDP), DP+DVI-D, DVI-D+VGA, DVI-D+LVDS(or eDP), VGA+LVDS(or eDP)	Dual display: VGA+DP(or eDP), VGA+LVDS, LVDS+DP(or eDP)	Triple display: DVI-D+DP(or eDP)+LVDS, DVI-D+DP(or eDP)+HDMI	Triple display: VGA(or EDP)+ DP(or LVDS)+HDMI	Triple display: DP+HDMI+LVDS(or eDP)
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1:Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Realtek 8111G LAN2:Realtek 8111G	LAN1:Realtek RTL8111E LAN2:Realtek RTL8111E	LAN1:Realtek RTL8111G LAN2:Realtek RTL8111G	LAN1: Realtek 8111G LAN2:Realtek 8111G	LAN1: Realtek 8111H LAN2: Realtek 8111H
	Connector	RJ-45 x 2	RJ-45 x 2	RJ-45 x2	RJ-45 x 2	RJ-45 x 2	RJ45 x 2
TPM		Optional	Optional	optional	Optional	Optional	Optional
SATA	Max Data Transfer Rate	600 MB/s, 300MB/s	600 MB/s	300 MB/s	600 MB/s	600 MB/s	600 MB/s
	Channel	2, 1	2	2	2	2	1
	eSATA/mSATA	-/1	-/1	-/1	-/-	-/1	-/-
Rear I/O	VGA/DVI-D/ HDMI/DP	1/1/-/1	1/1/-/1	1/-/-/1	-/1/1/1	1/-/1/1	-/-/1/1
	Ethernet	2	2	2	2	2	2
	USB	4 (2 x USB 3.0/ 2 x USB 2.0)	8 (4 x USB 3.0/ 4 x USB2.0)	4 (1 x USB 3.0/ 3 x USB 2.0)	4 (USB 3.0)	4 (USB 3.0)	4 (3 x USB 3.1/ 1 USB 2.0)
	Audio	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Line-out	Line-out	Line-out	Line-out
	Serial	1 (RS-232)	-	-	-	-	-
	PS/2	2	-	-	-	-	-
	DC Jack	-	-	1	1	1	1
Internal Connector	LVDS/eDP	1/0	1/1 (optional) eDP colay with DP	1/1 (optional) eDP colay with DP	1/1 (optional) LVDs colay with HDMI, eDP colay with DP	1/1 (optional) LVDS colay with DP, eDP colay with VGA	1 (optional) /1 (optional) eDP co-lay with LVDS
	USB	4 (USB 2.0)	6 (USB 2.0), USB11/12/13/14 is optional	4 (USB 2.0)	6 (USB 2.0), USB7/8/9/10 is optional	8 (USB 2.0), USB9/10/11/12 is optional	4 (USB 2.0)
	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)	6 (5 x RS-232; 1 x RS-232/422/485)	6 (5 x RS-232; 1 x RS-232/422/485)	6 (5 x RS-232, 1 x RS-232/422/485) COM3~COM6 optional
	Parallel	1	-	-	-	-	-
	SATA	3	2	2	2	2	1
	eMMC/UFS	-/-	-/-	-/-	-/-	-/-	-/1 (256GB), optional
	GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8 bit GPIO

Note: "-" : means Not Applicable (N/A)

Mini-ITX



Model Name		AIMB-226	AIMB-227	AIMB-228	AIMB-231	AIMB-232	AIMB-233	AIMB-242
Form Factor		Mini-ITX	THIN Mini-ITX	THIN Mini-ITX	THIN Mini-ITX	THIN Mini-ITX	THIN Mini-ITX	Mini-ITX
Processor System	CPU	AMD Bald Eagle RX-427BB/RX-225FB	AMD Merline Falcon RX-421BD/RX-216GD	AMD Ryzen Embedded V/R-Series	Intel Celeron 3765U/ i3-5010U/ i5-5350U/i7-5650U	Intel core i7-6600u / i5-6300u / i3-6100u/ celeron 3955u Intel core i7-7600u i5-7300u/ i3-7100u/ Celeron 3965u	Intel® 8th Gen Core i7/i5/i3/Celeron	Intel core i7-6820EQ/ core i7-6822EQ/ core i5-6440EQ/Xeon E3-1515M v5
	Socket	FP3	FP4	FP5	MCPBGA	BGA1356	BGA1528	BGA 1440
	Max. Speed	QC 2.7GHz/DC 2.2GHz	QC 2.1GHz/DC 1.6GHz	QC 3.35GHz/ QC 2.00GHz/ DC 2.30GHz	1.9 GHz/2.1 GHz/ 1.8 GHz/3.1 GHz	2.6GHz/2.4GHz/ 2.3Ghz/2Ghz	2.2/1.7/1.6/2.0 GHz	2.8GHz/2.0GHz/ 2.7GHz/2.8GHz
	TDP	35W/17W	35W/15W	45W/ 15W/ 15W	15W/15W/15W/15W	15W/15W/15W/15W	15W/15W/15W/15W	45W/25W/45W/45W
	L2 Cache	2 MB	2 MB/1 MB	2M/2M/1M	512 KB	-	-	-
	L3 Cache	-	-	-	2 M/3 M/3 M/4 M	4 MB/3 MB/3 MB/2 MB	-	8MB/8MB/6MB/8MB
	Chipset	AMD A77E	-	-	-	-	-	Intel QM170/CM236
	BIOS	AMI EFI 32Mb, SPI	AMI EFI 64Mbit, SPI	AMI EFI 128Mbit, SPI	AMI EFI 128 Mbit, SPI	AMI uEFI 16 Mbit, SPI	AMI EFI 32Mbit, SPI	AMI EFI 128 Mbit, SPI
Expansion Slot	M.2	-	1 E key	2 (B key + E key)	-	-	2 (M key + E key)	1 (B Key)
	Mini PCIe	2	1	-	2	2	1 (F/S), optional	2
	PCIe	PCIe x16, 1 slot PCIex1, golden-finger	PCIe x8, 1 Slot (PF support PCIe x4)	PCIe x 8, 1 slot (Only PCIex4 signal for R1000)	-	-	PCIe x1, 1 slot	PCIe x16, 1 slot
Memory	Technology	Dual channel DDR3(L) 2133/1866/1600 MHz SDRAM	Dual Channel DDR4 2133MHz SDRAM	Dual channel DDR4 2400/2666/3200 MHz SDRAM	Dual channel DDR3L 1600 MHz SDRAM	Dual Channel DDR4 2400 MHz SDRAM	Dual channel DDR4 2400MHz SDRAM	Dual channel DDR4 2133 MHz SDRAM
	Max. Capacity	16 GB	16 GB	32 GB/ up to 16 GB per DIMM	32 GB	32 GB	32 GB/ up to 16 GB per DIMM	32 GB / up to 16 GB per DIMM
	Socket	2 x 204-pin SODIMM	2 x 260-pin SO-SIMM	2 x 260-pin SODIMM	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM
Graphics	Controller	AMD Radeon™ HD 9000	AMD Radeon 3rd Generation GCN (Up to 8 CUs)	CPU Integrated Vega	Intel HD Graphics 6000	Intel HD Graphics 520	Intel Graphics Gen 9	Intel® HD Graphics 530/Intel® Iris™ Pro Graphics P580
	VGA/DVI-D/ HDMI/DP++	-/-/2/2	-/1/1/1	-/-/-/4	-/-/1/1 (DP is optional)	-/-/1/1	-/-/1/-	-/-/1/2
	Dual channel 24-bit LVDS/eDP	1/- (LVDS is optional)	1/1 (LVDS & eDP is optional)	1/- (LVDS is optional)	1/1 (eDP is optional)	1/1 (eDP is optional)	1/1 (eDP is optional)	1/1 (eDP is optional)
	Type C Alt.	-	-	-	-	-	1	-
	Multiple Display	Four display: DP+DP+HDMI+ HDMI LVDS+DP+HDMI+ HDMI	Triple display(MF): DVI+HDMI+DP DVI+HDMI+ LVDS(or eDP) Dual display(PF): DVI+DP DVI+LVDS(eDP)	Four display: DP+DP+DP+DP LVDS+DP+DP+DP	Triple display: DP+HDMI+ LVDS(or eDP), DP+DP +LVDS(or eDP)	Triple display: DP+HDMI+ LVDS(or eDP)	Triple display: Type C Alt. + HDMI+LVDS(or eDP)	Triple display: DP+DP+LVDS(or eDP), DP+DP+HDMI, DP+HDMI+LVDS(or eDP)
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Realtek 8111G LAN2: Realtek 8111G	LAN1: Realtek 8111G LAN2: Realtek 8111G	LAN1: Realtek 8111G LAN2: Realtek 8111G	LAN1: Intel i218LM LAN2: Intel i210AT	LAN1: Intel i219LM LAN2: Intel i211AT	LAN1: Intel i219LM LAN2: Intel i211AT	LAN1: Intel i219LM LAN2: Intel i211AT (WG2: i210)
	Connector	RJ-45 x 2	RJ-45 x 2	RJ45 x 2	RJ-45 x 2	RJ-45 x 2	RJ45 x 2	RJ-45 x 2
TPM		Optional	Optional	Optional	Optional	Optional	Optional	Optional
SATA	Max Data Transfer Rate	600 MB/s	600 MB/s	600MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s
	Channel	3	2	2	3	2	2	2
	eSATA/mSATA	1/2	-/1(colay SATA1)	-/-	-/1	-/1	-/-	-/1
Rear I/O	VGA/DVI/HDMI/ DP	-/-/2/2	-/1/1/1	-/-/-/V1000: 4 -/-/-/R1000: 3	-/-/1/2	-/-/1/1	-/-/1/1(Type C Alt.) Type C Alt. is optional	-/-/1/2
	Type C Alt.	-	-	-	-	-	1 (optional)	-
	Ethernet	2	2	2	2	2	2	2
	USB	4 (2 USB 3.0/ 2 USB 2.0)	4 (2 USB 3.0/ 2 USB 2.0)	4 (2 x USB 3.1)	4 (USB 3.0)	4 (USB 3.0)	4 (3 x USB 3.1/ 1 x USB 3.1 Type C) Type C is optional	8 (USB 3.0)
	Audio	Mic In, Line-out, Line-in	Line out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-in, Line-out
	Serial	1 (RS-232)	-	-	-	-	-	1
	PS/2	-	-	-	-	-	-	-
	DC Jack	1 (4pin phoenix connector)	1	1	1	1	1	-
Internal Connector	LVDS/eDP	1(optional)/- LVDS colay with DP	1(optional)/1(optional) LVDS & eDP colay with DP	1 (optional)/- LVDS colay with DP	1/1 (optional) LVDS colay with eDP	1/1 (optional) LVDS colay with eDP	1/1 (optional) LVDS colay with eDP	1/1 (optional) LVDS colay with eDP
	USB	8 (USB2.0)	4 (2 x USB3.0, 2 x USB2.0)	2 USB 2.0	2 (USB 2.0)	4 (2 x USB3.0, 2 x USB2.0)	4 (2 x USB3.0, 2 x USB2.0)	1 (USB 2.0)
	Serial	4 (3 x RS232; 1 x RS-232/422/485)	6 (5 x RS232, 1 x RS232/422/485, 1 supports CCtalk, 1 supports TTL)	6 (4 x RS-232, 2 x RS-232/422/485, 1 supports CCTalk, 1 supports TTL)	2 (1 x RS-232; 1 x RS-232/422/485)	2 (RS-232)	6 (5 x RS-232, 1 x RS-232/422/485)	1 (RS-232/422/485)
	Parallel	-	-	-	-	-	-	-
	SATA	3	2	2	3	2	2	2
	eMMC/UFS	-/-	-/-	-/-	-/-	-/-	-/-	-/-
	GPIO	16-bit GPIO	8-bit GPIO	16-bit GPIO	8-bit GPIO	8-bit GPIO	8 bit GPIO	8-bit GPIO

Note: "-" : means Not Applicable (N/A)

Industrial Motherboards

Mini-ITX



Model Name		AIMB-274	AIMB-275	AIMB-276	AIMB-285	AIMB-286	AIMB-290
Form Factor		Mini-ITX	Mini-ITX	Mini-ITX	THIN Mini-ITX	THIN Mini-ITX	Mini-ITX
Processor System	CPU	Intel Core i7/ i5/ i3/ Pentium/ Celeron	Intel 7th/6th Gen Core i7/ i5/ i3/ Pentium/Celeron	Intel 9th/8th Core i7/ i5 / i3 / Pentium/Celeron	Intel 7th/6th Gen Core i7/ i5/ i3/ Pentium/Celeron	Intel 9th/8th Core i7/ i5 / i3 / Pentium/Celeron	Intel Atom C3958/ C3758/ C3558
	Socket	LGA 1150	LGA1151	LGA1151	LGA1151	LGA1151	FCBGA1310
	Max. Speed	3.1 / 2.9 / 2.4 GHz	3.6/3.3/2.4/3.4/3.2/ 2.8/2.6 GHz	3.7/3.6/3.2/3.1/3.0/2.9/ 2.4/2.1GHz	3.6/3.3/2.4/3.4/3.2/ 2.8/2.6 GHz	3.7/3.6/3.2/3.1/3.0/2.9/ 2.4/2.1GHz	2.0GHz/ 2.2GHz/ 2.2GHz
	TDP	95W / 65W /54W / 45W / 35W	65W/54W/ 51W/ 35W	65W/54W/35W	65W/54W/ 51W/ 35W	65W/54W/35W	31W/ 25W/ 16W
	L2 Cache	-	-	-	-	-	16MB/ 16MB/ 8MB
	L3 Cache	8 MB/6 MB/4 MB/3 MB	8 MB/6 MB/4 MB/3 MB/2 MB	12MB/9 MB/6 MB/ 4 MB/2 MB	8 MB/6 MB/4 MB/3 MB/2 MB	12MB/9 MB/6 MB/4 MB/2 MB	-
	Chipset	Intel Q87	Intel Q170/H110	Intel Q370	Intel H110	Intel H310	-
	BIOS	AMI EFI 128 Mbit, SPI	AMI EFI 128 Mbits,SPI	AMI EFI 256 Mbits, SPI	AMI EFI 128 Mbits,SPI	AMI EFI 128 Mbits, SPI	AMI EFI 128Mbit SPI
Expansion Slot	M.2	-	1 (B Key)	2 (B key + E key)	-	2 (B key + E key)	-
	Mini PCIe	2	1	0	2	0	1
	PCIe	PCIe x16, 1 slot	PCIe x16, 1 slot	PCIe x 16, 1 slot	PCIe x 4, 1 slot	PCIe x 4, 1 slot	PCIe x 4, 1 slot
Memory	Technology	Dual channel DDR3/ DDR3L 1333/1600 MHz SDRAM	Dual Channel DDR4 2133/2400 MHz SDRAM	Dual Chaneel DDR4 2666 MHz SDRAM	Dual Channel DDR4 2133/2400 MHz SDRAM	Dual Chaneel DDR4 2666 MHz SDRAM	Dual Channel, DDR4 1600/1866/2133/ 2400 MHz ECC/Non-ECC U-DIMM/R-DIMM
	Max. Capacity	16 GB	32 GB	64 GB/ up to 32 GB per DIMM	32 GB	64 GB/ up to 32 GB per DIMM	32 GB
	Socket	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 288-pin DDR4 DIMM
Graphics	Controller	Intel HD Graphics	Intel® HD Graphics	Intel® UHD Graphics	Intel® HD Graphics	Intel HD Graphics	ASPEED AST2500/2510 (VGA)
	VGA/DVI-D/HDMI/ DP++	1/-/1/1	-/-/1/1	-/-/1/2	1/-/1/1 (VGA is onboard pin header)	-/-/1/1	1/-/-/-
	Dual channel 24-bit LVDS/eDP	1/1 (eDP is optional)	1/1 (eDP is optional)	1/1 (eDP is optional)	1/- (LVDS only for LV sku)	1/1 (eDP is optional)	-/-
	Type C Alt.	-	-	-	-	-	-
	Multiple Display	Triple display: VGA+LVDS(or eDP)+ HDMI, VGA+ LVDS(or eDP)+DP, VGA+DP+HDMI, LVDS(or eDP)+DP+HDMI	Triple display: DP+HDMI+LVDS DP+HDMI+eDP	Triple display: DP+DP+HDMI, DP+DP+LVDS(or eDP), DP+HDMI+LVDS(or eDP)	Dual display: DP+HDMI, DP+VGA, HDMI+VGA, DP+LVDS, HDMI+LVDS, VGA+LVDS	Dual display: DP+HDMI, DP+LVDS(or eDP), HDMI+LVDS(or eDP)	only VGA
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000/10GbE Mbps
	Controller	LAN1: Intel I217LM, LAN2: Intel i211AT	LAN1: Intel PHY i219-LM LAN2: Intel i211	LAN1: Intel i219LM LAN2: Intel i211AT	LAN1: Realtek 8111G LAN2:Realtek 8111G	LAN1: Realtek 8111G LAN2: Realtek 8111G (only for F/G2 SKU) LAN3: Intel i211AT (only for F SKU)	LAN 1/2: Marvell 88E1512 (1GbE), LAN3/LAN4: Intel X557-AT2 (10GbE), LAN 5: RTL8201 (IPMI)
	Connector	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 3 (AIMB-286F: 3; AIMB-286G2: 2; AIMB-286L: 1)	RJ-45 x 5
TPM		Optional	Optional	Optional	Optional	Optional	Optional
SATA	Max Data Transfer Rate	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s
	Channel	4	3	3	3	3	6
	eSATA/mSATA	1/1	-/1	-/-	-/1	-/-	-/1
Rear I/O	VGA/DVI/HDMI/DP	1/-/1/1	-/-/1/1	-/-/1/2	-/-/1/1	-/-/1/1	1/-/-/-
	Ethernet	2	2	2	2	F SKU: 3 G2 SKU: 2 L SKU: 1	5
	USB	4 (USB 3.0)	4 (USB 3.0)	8 (5 x USB 3.1/ 1 x USB 3.1 Type C (optional)/ 2 x USB 3.0)	4 (USB 3.0)	4 (USB3.0)	4 (3 x USB 3.0/ 1 x USB 2.0)
	Audio	Mic-in, Line-in, Line-out	Mic-in, Line-out, Line-in	Mic-in, Line-out, Line-in	Mic-in, Line-out	Mic-in, Line-out	-
	Serial	1 (RS-232)	-	-	-	-	1 (RS-232)
	PS/2	-	-	-	-	-	-
	DC Jack	-	-	1 (4-pin phoenix connector)	1	1	-
Internal Connector	LVDS/eDP	1/1 (optional) LVDS colay with eDP	1/1 (optional) LVDS colay with eDP	1/1 (optional) LVDS colay with eDP	1/- (LVDs only for LV SKU)	1/1 (optional) LVDS colay with eDP	-
	VGA	-	-	-	1	-	-
	USB	6 (USB 2.0)	6 (2 x USB 3.0/ 4 x USB 2.0)	2 (USB 3.0)	4 (USB 2.0)	4 USB 2.0 (only for F/G2 SKU)	0~2 (USB 2.0) (by sku)
	Serial	1 (RS-232/422/485)	2 (1 x RS-232; 1 x RS-232/422/485)	2 (1 x RS-232; 1 x RS-232/422/485)	2 (1 x RS-232; 1 x RS-232/422/485)	F SKU: 6 (4 x RS-232, 2 x RS-232/422/485, RS-422/485 support by BOM optional) G2/L SKU: 2 (1 x RS-232, 1 x RS-232/422/485, RS-422/485 support by BOM optional)	1 (RS-232/422/485)
	Parallel	-	-	-	-	-	-
	SATA	4	3	3	3	F/G2 SKU: 3 L SKU: 2	6
	eMMC/UFS	-/-	-/-	-/-	-/-	-/-	1 (16 GB)/-
	GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	8-bit GPIO	16-bit GPIO	8-bit GPIO

Note: "-" : means Not Applicable (N/A)

Micro-ATX

NEW NEW



Model Name		AIMB-503	AIMB-505	AIMB-506	AIMB-584	AIMB-585	AIMB-586
Form Factor		Micro-ATX	Micro-ATX	Micro-ATX	Micro-ATX	Micro-ATX	Micro-ATX
Processor System	CPU	Intel 4th Gen Core i7/ i5/ i3/ Pentium/ Celeron	Intel 6th & 7th Gen Core i7/ i5/ i3 /Pentium/ Celeron	Intel 9th & 8th Gen Core i7/i5/i3/Pentium/ Celeron	Intel 4th Gen Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel 6th & 7th Gen Xeon/ Core i7/ i5/ i3/ Pentium/ Celeron	Intel 9th & 8th Xeon/Core i7/i5/i3 / Pentium/Celeron
	Socket	LGA 1150	LGA1151	LGA1151	LGA 1150	LGA1151	LGA1151
	Max speed	3.5 G/3.1 G/2.9 G/2.4 G	3.4/3.2/2.8/2.7/2.6/2.4/ 2.3 GHz	3.7/3.6/3.2/3.0/2.9 GHz	3.5 G/3.1 G/2.9 G/2.4 G	3.6/3.3/2.4/ 3.4/3.2/2.8/ 2.6 GHz	3.7/3.6/3.4/3.2/3.1/ 3.0/2.9/2.4/2.1 GHz
	TDP	65 W / 45 W/ 35 W	65W / 51W / 35W	65W /58W/35W	95 W / 65 W / 45 W/ 35 W	80W / 65W / 51W / 35W	80W/71W/65W/35W
	L2 cache	-	-	-	-	-	-
	L3 cache	8 MB/6 MB/4 MB/3 MB	8 MB/6 MB/4 MB/ 3 MB/2 MB	12 MB/ 9MB /6MB /2MB	8 MB/6 MB/4 MB/3 MB	8 MB/6 MB/4 MB/ 3 MB/2 MB	12MB/9 MB/8 MB/6 MB/ 4 MB/2 MB
	Chipset	Intel H81	Intel H110	Intel H310	Intel Q87/C226	Intel Q170/C236/H110	Intel Q370/C246/H310
	BIOS	AMIEFI 64 Mbit, SPI	AMI EFI 128 Mbits,SPI	AMI EFI 128 Mbits, SPI	AMI EFI 128 Mbit, SPI	AMI EFI 128 Mbits,SPI	AMI EFI 256 Mbits, SPI
Expansion Slot	PCI	1 (G2)	1	2 (L Sku: 0)	2	-	-
	PCIe x16	1	1	1	1	1	1 (QG2/L: x16 link, WG2: x8 link)
	PCIe x 8	-	-	-	1	1(L sku: 0)	1 (WG2 only)
	PCIe x4	-	-	-	1	1(L sku: 0)	1
	PCIe x1	2	2	1	-	1(L sku: 2)	1 (QG2/WG2 only)
	mini-PCIe/ M.2	1/-	1/-	-/ 1 (B-Key, L Sku:0)	- / -	1 / -	-/ 2 (M & E key, QG2/ WG2 only)
Memory	Technology	Dual channel DDR3 1333/1600 MHz SDRAM	Dual channel DDR4 2133/2400 MHz SDRAM	Dual Channel DDR4 2400/2666 MHz SDRAM	Dual channel DDR3 1333/1600 MHz SDRAM	Dual channel DDR4 2133/2400 MHz SDRAM	Dual Channel DDR4 2400/2666 MHz SDRAM
	Max. Capacity	16 GB	32GB	64 GB/ up to 32 GB per DIMM	32 GB	64 GB	128 GB/ up to 32 GB per DIMM
	Socket	2 x 240-pin DIMM	2 x 288-pin DIMM	2 x 288-pin DIMM	4 x 240-pin DIMM	4x288- pin DIMM	4 x 288-pin DIMM
Graphics	Controller	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics	intel HD Graphics	Intel HD Graphics
	VRAM	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory up to 1 GB	Shared system memory up to 1 GB
	VGA	1	1	1	1	1 (optional)	-
	LCD	Dual channel 48-bit LVDS (Optional)	Dual channel 48-bit LVDS (Optional)	Dual Channel 48-bit LVDS (Optional)	Dual channel 48-bit LVDS	-	Dual channel 48-bit LVDS(option)
	DVI-D	1	1	1	1	1	-
	HDMI	-	-	-	-	1 (option to HDMI2.0a)	1 (option to HDMI2.0a)
	DP/eDP	1/-	1/1	1/1 (G2/ L sku without eDP)	1 / 1	1 / 1	2 / 1 (L: eDP is option)
	Dual Display	CRT+DP, CRT+DVI, DVI+DP, CRT+LVDS (Option), DVI+LVDS (Option), DP+LVDS (Option)	VGA + DVI, VGA + DP, VGA + eDP, DVI + DP, DVI + eDP, DP + eDP	DP+ DVI-D, DP+VGA, DVI-D+VGA, DP+eDP(LVDS), DVI-D+eDP(LVDS), VGA+eDP(LVDS)	CRT + DP, CRT + DVI, DVI + DP, CRT + LVDS (or eDP), DVI + LVDS (or eDP), DP + LVDS (or eDP)	DP++ + HDMI, DP++ + DVI-D, DP++ + eDP/ VGA, HDMI + DVI-D, HDMI + eDP/ VGA, eDP, VGA + DVI-D	DP++ + HDMI, DP++ + DP++, DP++ + eDP/LVDS, HDMI + eDP/LVDS
	Triple Display	-	-	-	CRT + DVI + DP, CRT + LVDS (or eDP) + DP, CRT + LVDS (or eDP) + DVI, DVI + DP + LVDS (or eDP)	eDP/ VGA + DP++ + HDMI, eDP/ VGA + HDMI + DVI-D, DP++ + eDP/ VGA + DVI-D, DVI-D + DP++ + HDMI	DP++ + DP++ + HDMI, DP++ + DP++ + eDP/LVDS, DP++ + HDMI + eDP/LVDS
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E	LAN1: Realtek RLT8111G LAN2: Realtek RLT8111G	LAN1: Realtek RLT8111G LAN2: Realtek RLT8111G	LAN1: Intel I217LM LAN2: Intel I211AT	LAN1: Intel I219LM LAN2: Intel I211AT (WG2: I210)	LAN1: Intel I219LM (QG2/ WG2/L) LAN2: Intel I211AT (QG2) I210AT (WG2) LAN3/4: Realtek 8111G (Option)
	Connector	RJ-45 x2	RJ-45 x2	RJ-45 x2	RJ-45 x2	RJ-45 x2	RJ-45 x 4 (2 option)
TPM		Optional	Optional	Optional	Optional	Optional	Optional
SATA	Max Data Transfer	300 MB/s 600 MB/s	600 MB/s	600 MB/s	300 MB/s 600 MB/s	600 MB/s	600 MB/s
	Channel	1 / 2	3	3	6 (SW RAID)	4 (SW RAID, QG2/WG2 only)	6 -QG2 sku; 8 - WG2 sku (SW RAID)
	mSATA/M.2	1 / -	1 / -	- /1 (B Key, F, G2 sku)	-	1 / -	- / 1 (M key)
I/O Interface	VGA	1	1	1	1	1 (on board, option)	-
	USB	7 (USB 2.0), 2 (USB 3.0)	6(USB 2.0),8(USB 3.0)	F sku: 20 (8 USB3.0 + 12 USB2.0) G2 sku: 12 (4 USB3.0 + 8 USB2.0) L sku: 8 (4 USB3.0 + 4 USB2.0)	8 (USB 2.0), 4 (USB 3.0)	2 (USB 2.0), 12 (USB 3.0)	WG2 / QG2 sku: 4 USB3.1 +2 USB 3.0 + 8 USB2.0, 2 option) L sku: 4 USB 3.0 + 8 USB 2.0
	Serial	10 (8 x RS-232; 2 x RS-232/422/485)	10 (8 x RS-232; 2 x RS-232/422/485)	F sku: 14 (12 x RS-232; 2 x RS-232/422/485) G2 sku: 10 (8 x RS-232; 2 x RS-232/422/485) L sku: 2 (2 x RS-232)	6 (5 x RS-232; 1 x RS-232/422/485)	6 (5 x RS-232; 1 x RS-232/422/485)	6 (QG2/WG2: 5x RS-232, 1x RS-232/422/485) 2 (L: 1x RS-232, 1x RS-232/422/485)
	Parellel	1	1	-	1	-	-
	SIM Card Holder	1	-	1 (L Sku:0)	-	-	-
	PS/2	2	1(onboard)	1(onboard)	2	1(onboard)	1(onboard)
	Ethernet (GbE)	2	2	2	2	2	4 (2 option)
	IEEE 1394	-	-	-	-	-	-
	Audio	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out
	GPIO	8 bit	8-bit	16-bit	8-bit	16-bit	16-bit

Note: "-" : means Not Applicable (N/A)

Arm-Based Computing Platforms

Computer-on-Modules

NEW







Model Name		ROM-3310	ROM-3420	ROM-5420 B1	ROM-5620	ROM-5720
Form Factor		RTX V2.0	RTX V2.0	SMARC V1.1	SMARC V2.0	SMARC V2.0
Processor System	CPU	TI AM3352 Cortex-A8 1 GHz	NXP Arm Cortex-A9 i.MX6 1 GHz	NXP Arm Cortex-A9 i.MX6 1 GHz	NXP Arm Cortex-A35 i.MX8X 1.2 GHz	NXP Arm Cortex-A53 i.MX8M 1.5 GHz
Memory	Technology	DDR3 800 MT/s	DDR3 1066 MT/s	DDR3 1066 MT/s	LPDDR4 2400 MT/s	LPDDR4 3200 MT/s
	Capacity	On-board DDR3 512 MB	On-board DDR3 1 GB / 2 GB	On-board DDR3 1 GB	On-board LPDDR4 2 GB	On-board LPDDR4 2 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	16 GB eMMC NAND Flash for O.S. and 8 MB QSPI NOR FLASH for board information	16 GB eMMC NAND Flash for O.S. and 8 MB QSPI NOR FLASH for board information
Graphics	LVDS	-	1 x 24-bit LVDS, 1366 x 768 at 60Hz	1 x 24-bit LVDS, 1366 x 768 at 60Hz	2 x 24-bit single channel LVDS*	-
	MIPI-DSI	-	-	-	2 x 4-Lane MIPI DSI*	1 x 4-Lane MIPI DSI
	HDMI	-	1920 x 1080 at 60Hz	1920 x 1080 at 60Hz	-	4096 x 2160 at 60Hz
	Parallel RGB	1 x 24-bit TTL, 1366 x 768 at 60Hz	1 x 24-bit TTL, 1920 x 1200 at 60Hz	1 x 24-bit TTL, 1920 x 1200 at 60Hz	-	-
	VGA	-	-	-	-	-
	Graphics Engine	Direct3D Mobile, OGL-ES 1.1 and 2.0,OpenVG 1.0, and OpenMax	2 x IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 x IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	Vivante GC7000 Lite	GC7000L/GC7000LVX
	H/W Video Codec	-	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	Decoder: H.265/H.264(4Kp30), WMV9/VC-1 imple, MPEG-1, MPEG-2, AVS, MPEG4.2 ASP, H.263 Encoder: H.264(1080p30)	Decoder: HEVC/H.265(4Kp60), VP9(4Kp60), H.264(4Kp30), MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263
Ethernet	Chipset	TI AM3352 Integrated RGMII	NXP i.MX6 Integrated RGMII	NXP i.MX6 integrated RGMII	2 x NXP i.MX8X Integrated RGMII	1 x NXP i.MX8M Integrated RGMII 1 x RTL8119I PCIE GbE controller
	Speed	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	2 x 10/100/1000 Mbps	2 x 10/100/1000 Mbps
RTC		Yes	Yes	Yes	Yes	Yes
WatchDog Timer		1~6553s, default 60s, power on/off 1s	256-level timer interval, from 0 ~ 128 sec	256-level timer interval, from 0 ~ 128 sec	1~6553s, default 60s, power on/off 1s	1~6553s, default 60s, power on/off 1s
I/O	PCIe	-	1 PCIe 1x	1 PCIe 1x	1 PCIe 1x	1 PCIe 1x
	SATA	-	1 SATA II	1 SATA II	-	-
	USB	1 USB 2.0, 1 USB 2.0 OTG	1 USB 2.0, 1 USB 2.0 OTG	1 USB 2.0, 1 USB 2.0 OTG	1 USB 3.0, 1 USB 2.0 Host, 1 USB 2.0 OTG	2 USB 3.0, 4 USB 2.0, 1 USB 2.0 OTG
	Audio	I2S	I2S	I2S	2 x I2S	I2S
	SPDIF	-	-	1	-	-
	SDIO	1	1	1	1	1
	Serial Port	4 UART (1 x 4-wire, 3 x 2-wire w/ 3.3V)	3 UART (3 x 4-wire)	4 UART (2 x 2-wire, 2 x 4-wire w/ 3.3V)	3 UART (1 x 4-wire, 2 x 2-wire)	4 UART (1 x 4-wire, 3 x 2-wire)
	SPI	1	2	4	2	1
	CAN	2 x CAN bus 2.0 A/B	2 x CAN bus 2.0 A/B	2 x CAN bus 2.0 A/B	2 x CAN bus 2.0 A/B	-
	GPIO	10	10	12	12	12
	I2C	1	4	5	4	4
	Camera Input	-	1 x 4-Lane MIPI CSI-2	1 x 4-Lane MIPI CSI-2	1 x 4-Lane MIPI CSI-2	1 x 4-Lane MIPI CSI-2 1 x 2-Lane MIPI CSI-2
	System Bus	-	Address: 26 bits Data: 16 bits	-	-	-
	Touch	-	-	-	-	-
	Keypad	-	-	-	-	-
	PWM	-	-	-	-	-
Power	Power Supply Voltage	5 ~ 24 V	5 ~ 24 V	3 ~ 5.25 V	4.75 ~ 5.25V	4.75 ~ 5.25V
	Power Consumption	2.11W (Max)	3.3W (Max)	3.4W (Max)	4.45W (Max)	5.3W (Max)
Environment	Operational Temperature	0 ~ 60 °C / -40 ~ 85 °C	0 ~ 60 °C / -40 ~ 85 °C	0 ~ 60 °C / -40 ~ 85 °C	0 ~ 60 °C / -40 ~ 85 °C	0 ~ 60 ℃ / -40 ~ 85 ℃
	Operating Humidity	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing	5% ~ 95% Relative Humidity, non-condensing	5% ~ 95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	68 x 68 mm	68 x 68 mm	82 x 50 mm	82 x 50 mm	82 x 50 mm
Operating System		Linux	Linux Android	Linux Android	Linux Android	Linux Android
Certifications		CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B

*LVDS & MIPI-DSI are shared interface

NEW







Model Name		ROM-5721	ROM-7420	ROM-7421	ROM-7510	ROM-7720
Form Factor		SMARC V2.0	Qseven V1.2	Qseven V2.0	Qseven V2.0	Qseven V2.1
Processor System	CPU	NXP Arm Cortex-A53 i.MX8M Mini 1.8 GHz	NXP Arm Cortex-A9 i.MX6 1 GHz	NXP Arm Cortex-A9 i.MX6 Plus 1 GHz	TI Sitara Cortex-A15 AM5728 1.5 GHz	NXP Arm Cortex-A72 i.MX8 1.6 GHz
Memory	Technology	LPDDR4 3000 MT/s	DDR3 1066 MT/s	DDR3 1066 MT/s	DDR3L 1066 MT/s	LPDDR4 3200 MT/s
	Capacity	On-board LPDDR4 2 GB	On-board DDR3 1 GB	On-board DDR3 1 GB/ 2 GB	On-board DDR3L 2 GB	On-board LPDDR4 4 GB
	Flash	8 GB eMMC NAND Flash for O.S. and 8 MB QSPI NOR FLASH for board information	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	8 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	16 GB eMMC NAND Flash for O.S. and 32 MB QSPI NOR FLASH for board information
Graphics	LVDS	1 x 24-bit dual channel LVDS*	2 x 24-bit LVDS, 1366 x 768 for 1ch; 1920x1080 for 2ch at 60Hz	2 x 24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch at 60Hz	1 x 24-bit dual channel LVDS, 1920 x 1200	2 x 24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch at 60Hz
	MIPI-DSI	1 x 4-Lane MIPI-DSI*	-	-	-	-
	HDMI	-	1920 x 1080 at 60Hz	1920 x 1080 at 60Hz	1920 x 1080 at 60Hz	4096 x 2160 at 60Hz
	Parallel RGB	-	-	-	-	-
	VGA	-	1920 x 1080 at 60Hz	-	-	-
	Graphics Engine	Vivante GC320, GC NanoUltra 3D GPU Support OpenGL ES 2.0, VG 1.1	2 x IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 x IPUs. OpenGL ES 3.0 for 3D, BitBlt for 2D and OpenVG 1.1	2D-Graphics Accelerator (BB2D) Subsystem and Dual-Core PowerVR® SGX544™ 3D GPU	Vivante GC7000XS/VX
	H/W Video Codec	Decoder: H.265, H.264, VP8/9 1080p Encoder: H.264, VP8 1080p	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	Video Processing Engine (VPE)	Decoder: HEVC/H.265(4Kp60), VP9(4Kp60), H.264(4Kp30), MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263
Ethernet	Chipset	NXP i.MX8M Mini Integrated RGMII	NXP i.MX6 integrated RGMII	NXP i.MX6 Plus integrated RGMII	TI Sitara Integrated RGMII	NXP i.MX8 Integrated RGMII
	Speed	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps
RTC		Yes	Yes	Yes	Yes	Yes
WatchDog Timer		1~6553s, default 60s, power on/off 1s	256-level timer interval, from 0 ~ 128 sec	1~6553s, default 60s, power on/off 1s	1~6553s, default 60s, power on/off 1s	1~6553s, default 60s, power on/off 1s
I/O	PCIe	1 PCIe 1x	1 PCIe 1x	1 PCIe 1x	2 PCIe 1x	2 PCIe 1x
	SATA	-	1 SATA II	1 SATA II	1 SATA II	1 SATA III
	USB	4 USB 2.0, 1 USB 2.0 OTG	1 USB 2.0, 1 USB 2.0 OTG	4 USB 2.0, 1 USB 2.0 OTG	1 USB 3.0, 1 USB 2.0 OTG, 4 USB 2.0 Host	3 USB 3.0, 1 USB 2.0 OTG
	Audio	2 x I2S	I2S	I2S	I2S	I2S
	SPDIF	-	-	-	-	-
	SDIO	1	1	1	1	1
	Serial Port	4 UART (2 x 2-wire, 2 x 4-wire)	4 UART (4 x 2-wire w/ 3.3V)	2 UART (2 x 4-wire w/ 3.3V)	2 UART (2 x 4-wire)	2 UART (2 x 4-wire)
	SPI	2	1	1	1	1
	CAN	-	2 x CAN bus 2.0 A/B	1 x CAN bus 2.0 A/B	1 x CAN bus 2.0 A/B	1 x CAN bus 2.0 A/B
	GPIO	12	8	8	8	8
	I2C	4	3	2	2	2
	Camera Input	1 x 4-Lane MIPI CSI-2	-	-	-	1 x 4-Lane MIPI CSI-2 1 x 2-Lane MIPI CSI-2
	System Bus	-	-	-	-	-
	Touch	-	-	-	-	-
	Keypad	-	-	-	-	-
	PWM	-	-	-	2	-
Power	Power Supply Voltage	4.75 ~ 5.25V	5V	5V	5V	5V
	Power Consumption	TBD	3.4W (Max)	4W (Max)	10W (Max)	TBD
Environment	Operating Temperature	0 ~ 60 °C / -40~85 °C	0~60 °C / -40~85 °C	0~60 °C / -40~85 °C	0~60 °C / -40~85 °C	0~60 °C / -40~85 °C
	Operating Humidity	5% ~ 95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing	5% ~ 95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	82 x 50 mm	70 x 70 mm	70 x 70 mm	70 x 70 mm	70 x 70 mm
Operating System		Linux Android	Linux Android	Linux Andorid	Linux	Linux Android
Certifications		CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B

Note: "-" : means Not Applicable (N/A)

Arm-Based Computing Platforms

Single Board Computers



Model Name		RSB-3410	RSB-3430	RSB-4220	RSB-4221	RSB-4410
Form Factor		2.5" SBC	2.5" SBC	3.5" SBC	3.5" SBC	3.5" SBC
Processor System	CPU	NXP Arm Cortex-A9 i.MX6 Dual-Lite 1 GHz	NXP Arm Cortex-A9 i.MX6 1 GHz	TI Sitara AM3352 Cortex-A8 1 GHz	TI Sitara AM3358 Cortex-A8 1 GHz	NXP Arm Cortex-A9 i.MX6 1 GHz
Memory	Technology	DDR3 800 MT/s	DDR3 1066 MT/s	DDR3 800 MT/s	DDR3 800 MT/s	DDR3 1066 MT/s
	Capacity	On-board DDR3 1 GB	On-board DDR3 1 GB	On-board DDR3 512 MB	On board DDR3 1 GB	On-board DDR3 1 GB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 x 18/24-bit LVDS, up to 1366 x 768 at 60Hz	2 x 18/24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch at 60Hz	1 x 18-bit LVDS, 1366 x 768	1 x 18-bit LVDS, 1366 x 768	1 x 18-bit LVDS, up to 1366 x 768 at 60Hz
	HDMI	1920 x 1080 at 60Hz	1920 x 1080 at 60Hz	-	-	1920 x 1080 at 60Hz
	VGA	-	-	-	-	1920 x 1080 at 60Hz
	eDP	-	-	-	-	
	Graphics Engine	1 IPU. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	Direct3D Mobile, OGL-ES 1.1 and 2.0,OpenVG 1.0, and OpenMax	Direct3D Mobile, OGL-ES 1.1 and 2.0, OpenVG 1.0 and OpenMax	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263,MJPEG BP	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	-	-	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	NXP i.MX6 integrated RGMII	NXP i.MX6 integrated RGMII	TI AM3352 integrated RGMII	TI AM3358 integrated RGMII	NXP i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	2 x 10/100/1000 Mbps	2 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	1~6553s, default 60s, power on/off 1s	1~6553s, default 60s, power on/off 1s	256-level timer interval from 0~128 sec
I/O	SATA	-	-	-	-	-
	SATA Power	-	-	-	-	-
	USB	1 x USB 2.0 Host, 1 x USB OTG	2 x USB 2.0 Type A, 4 x USB 2.0 in UIO 40	1 x USB 2.0 Host/OTG (Jumper selection)	2 x USB 2.0 Host Type A, 2 x USB 2.0 Host pin header	1 x USB 2.0 Host 2 x USB 2.0 pin header
	Audio	-	1 x Line-out, 1 x Line-in via pin header	-	-	1 x Line-out
	SPDIF	-	-	-	-	-
	SDIO	1 x SD slot	-	1 x SD slot	1 x SD slot	1 x SD slot
	Serial Port	1 x 4-wire RS-232	3 x 2 wires RS-232 in UIO 40, 1 x 4 wires RSB-232/422/485, DB9	1 x 4-wire RS-232/422/485 and 4 x 2-wire RS-232	4 x 2-wire RS-232 by pin header, 1 x 4-wire RS-232/422/485 by DB9	2 x 2-wire RS-232 by pin header 1 x 4-wire RS-232 by DB9
	SPI	-	-	-	-	-
	CAN	-	1 CAN 2.0B in UIO 40 (share w/ UART)	1	1	-
	GPIO	-	12 GPIO in UIO 40, 3.3V level	4 GPI/ 4 GPO w/ isolation	12 GPIO	-
	I2C	-	1 in UIO 40	1	1	-
	System Bus	-	-	-	-	-
	Touch	-	-	-	-	-
	Keypad	-	-	-	-	-
	Button	-	-	1 x Reset button	1 x Reset button	1 x Reset button
Indicator	LED	1 Power LED 1 Programmable LED	1 Power LED 1 Programmable LED	1 Power LED 1 Programmable LED	-	1 Power LED 1 RF status LED
Expansion	Mini PCIe	2x mini PCIe slot (1 x half size, 1 x full size w/ USB signal only)	1 x mini PCIe slot (USB signal only)	1 x mini PCIe slot (USB signal only)	-	1 x mini PCIe slot
	M.2	-	1 x M.2 2230 Key E slot	-	1 x M.2 2230 Key E slot	-
	SD Socket	1 x SD slot	1 x Micro SD slot	1 x SD slot	1 x SD slot	1 x SD slot
	SIM	1 x SIM slot	1 x SIM slot	-	-	1 x SIM slot
Power	Power Supply Voltage	12 V	12 V	12~24V	12 V	12 V
	Power Type	DC-in	DC-in	2-pole lockable DC-in	2-pole lockable DC-in	DC-in
	Power Consumption	4.4W (Max)	4.05W (Max.)	4W (Max)	4W (Max)	5.6W (Max)
Environment	Operating Temperature	0 ~ 60 °C	0 ~ 60 °C / -40 ~ 85 °C	0 ~ 60 °C/ -40 ~ 85 °C	0 ~ 60 °C	0 ~ 60°C / -40 ~ 85°C
	Operating Humidity	5 ~ 95% Relative Humidity, noncondensing	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, non-condensing	5%~95% Relative Humidity, on-condensing
Mechanical	Dimensions (W x D x H)	100 x 72 x 19 mm	100 x 72 x 20mm	146 x 102 x 16 mm	146 x 102 x 20 mm	146 x 102 x 20 mm
Operating System		Linux Android	Linux Android	Linux	Linux Android	Linux Android
Certifications		CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B

Note: "-" : means Not Applicable (N/A)

NEW



Model Name		RSB-4411	RSB-4760	RSB-4680	RSB-4710	RSB-6410
Form Factor		3.5" SBC	3.5" SBC	3.5" SBC	3.5" SBC	Mini-ITX SBC
Processor System	CPU	NXP Arm Cortex-A9 i.MX6 1 GHz	Qualcomm Snapdragon™ 410E APQ8016 Arm Cortex-A53 1.2 GHz	Rockchip Arm Cortex-A17 RK3288 1.6 GHz	Rockchip Cortex-A72 RK3399 1.8 GHz	NXP Arm Cortex-A9 i.MX6 1 GHz
Memory	Technology	DDR3 1066 MT/s	LPDDR3 1066 MT/s	DDR3L 1333 MT/s	LPDDR4 1333 MT/s	DDR3 1066 MT/s
	Capacity	On-board DDR3 1 GB	On-board LPDDR3 1 GB/2 GB	On-board DDR3L 2 GB	On-board 2GB/4GB	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	8 GB eMMC NAND Flash for O.S. and Advantech boot loader	8 / 16 GB eMMC NAND Flash for O.S.	8 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 x 18/24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch at 60Hz	-	1 x 18/24/30-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch at 60Hz	1 x 24-bit LVDS, 1920 x 1080	1 x 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	3840 x 2160 at 60Hz	3840 x 2160 at 60Hz 1920 x 1080 at 60Hz	1920 x 1080 at 60Hz
	VGA	1920 x 1080 at 60Hz	-	1920 x 1200 at 60Hz	-	1920 x 1080 at 60Hz
	eDP	-		-	1	
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	Adreno™ A306 3D graphics core	OpenGL_ES1.1/2.0/3.0, OpenCL1.1,DirectX11	OpenGL ES 1.1/2.0/3.1, OpenCL 1.1, DirectX 11	2 IPUs. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP	Decoder: 30 fps 1080p (MPEG-4/H.264/H.263/DivX/ MPEG2/VC1/Soreson/VP8) Encoder: 30 fps 720p (H.264 Baseline/MPEG-4); 30 fps 1080p (MPEG-4/H.264/VP8/H.263)	Decoder: MPEG-1, MPEG-2, MPEG-4, H.263, H.264, AVS, VC-1, VP8, MVC, HEVC/H.265 decoder, 4k@60FPS Encoder: H.264 (BP@level4.0, MP, HP@level4.0), MVC and VP8	Decoder: MPEG-1, MPEG-2, MPEG-4, H.263, H.264, AVS, VC-1, VP8, MVC, HEVC/H.265 decoder, 4kp60 Encoder: H.264 (BP@level4.0, MP, HP@level4.0), MVC and VP8	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
Video in	MIPI CSI	1		-	1	
Ethernet	Chipset	NXP i.MX6 Integrated RGMII	Microchip LAN7500	TI DP83867	RTL8211FSI	NXP i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	1 x 10/100/1000 Mbps	2 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	0~22s, default 22s	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 2.0 OTG, 2 x USB Type A, 3 x USB pin header	2 x USB 2.0 Host 1 x micro USB OTG	1 x USB 2.0 OTG, 2 x USB 2.0 Type A, 3 x USB 2.0 pin header	1 x USB 3.0 +1 x USB 2.0 TypeA, 3 x USB 2.0 pin header 1 x USB 2.0 OTG	6 x USB2.0 Host by TypeA
	Audio	1 x Line-out, 1 x Mic-in via pin header	1 x Line-out, 1 x Mic-in via pin header	1 x Line-out, 1 x Mic-in via pin header	1 x Line-out/Mic-in/Line-in/ Speaker by pin header	1 x Line-out, 1 x Mic-in
	SPDIF	-	-	-	-	-
	SDIO	1 x SD slot	1 x SD slot	1 x Micro SD slot	1 x Micro SD slot	1 x SD slot
	Serial Port	2 x 2-wire RS-232 pin header 1 x 4-wire RS-232/422/485	1 x 4-wire RS-232/422/485	1 x 4-wire RS-232/485, DB9 1 x 2-wire RS-232/Debug port, pin header selected by jumper 4 x 4-wire RS-232, pin header	4 x RS-232 2 x 4-wire RS-232/485	3 x 4-wire RS-232 and 1 x 4-wire RS-232/422/485
	SPI	1	1	1	1	1
	CAN	2	-	-	-	1
	GPIO	20 GPIO w/o Isolation via pin header	8 GPIO via D-SUB 9 / 8 GPIO via pin header (3.3V TTL level)	8 GPIO via pin header (3.3V TTL level)	6 GPIO	18 GPIO
	I2C	2	1	1	1	2
	System Bus	-	-	-	-	-
	Touch	-	-	-	-	-
	Keypad	-	-	-	-	-
	Button	-	-	1 Reset button 1 Power button by pin header	1 x Reset button 1 x Power button by pin header	1 x Reset button by pin header 1 x Power button by pin header
Indicator	LED	1 Power LED	1 Power LED 1 RF status LED	1 Power LED	1 Power LED	1 Power LED
Expansion	Mini PCIe	1 x mini PCIe slot	1 x mini PCIe slot	1 x mini PCIe slot	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 Key E slot	1 x M.2 2230 Key E slot	1 x M.2 2230 Key E slot	1 x M.2 2230 Key E slot
	SD Socket	1 x SD slot	1 x SD slot	1 x Micro SD Slot	1 x Mirco SD slot	1 x SD slot
	SIM	1 x SIM slot	1 x SIM slot	1 x SIM slot	1 x nano SIM slot	1 x SIM slot
Power	Power Supply Voltage	12~24V	9~36V	12V	12 V	12 V
	Power Type	DC-in	DC-in	DC-in	DC-in	DC-in
	Power Consumption	5.6W (Max)	6W (Max)	11.6W (Max)	TBD	9W (Max)
Environment	Operational Temperature	0 ~ 60 °C / -40 ~ 85 °C	0 ~ 60 °C	0 ~ 60°C / -20 ~ 85°C	0 ~ 60 °C / -20 ~ 85 °C	0 ~ 60 °C
	Operating Humidity	5% ~ 95% Relative Humidity, non-condensing	5% ~ 95% Relative Humidity, non-condensing	5% ~ 95% Relative Humidity, non-condensing	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	146 x 102 x 20 mm	146 x 102 x 20 mm	146 x 102 x 20 mm	170 x 170 x 35 mm
Operating System		Linux Android	Yocto Linux Android Debian Linux	Android Debian	Android Debian	Linux Yocto Android
Certifications		CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B	CE/FCC Class B

Note: "-" : means Not Applicable (N/A)

Arm-Based Computing Platforms

Box Computers





Model Name		UBC-220	UBC-330
Processor System	CPU	NXP Arm Cortex-A9 i.MX6 Dual-Lite 1 GHz	TI Sitara™ AM3352 Cortex-A8 1 GHz
Memory	Technology	DDR3 800 MT/s	DDR3 800 MT/s
	Capacity	On-board DDR3 1 GB	On-board DDR3 512 MB
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 x 24-bit LVDS, 1366 x 768 at 60Hz	-
	HDMI	1920 x 1080 at 60Hz	-
	VGA	-	-
	Graphics Engine	1 x IPU. OpenGL ES 2.0 for 3D, BitBlt for 2D and OpenVG 1.1	-
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263,MJPEG BP	-
Ethernet	Chipset	NXP i.MX6 integrated RGMII	TI AM3352 Integrated RGMII
	Speed	1 x 10/100/1000 Mbps	2 x 10/100/1000 Mbps
Cellular	LTE	-	-
WLAN	WIFI/BT	-	-
WatchDog Timer		1~6553s, default 60s, power on/off 1s	1~6553s, default 60s, power on/off 1s
I/O	USB	1 USB 2.0 Host, 1 USB 2.0 OTG	1 USB 2.0 Host
	Audio	-	-
	SDIO	1 x SD slot	1 x SD slot
	Serial Port	1 x 4-wire RS-232	1 x 4-wire RS-232/422/485 4 x 2-wire RS-232
	GPIO	-	4 GPI/ 4 GPO w/ isolation
	CANBus	-	1
	I2C	-	1
	Button	-	1 x Reset button
Indicator	LED	1 Power LED 1 Programmable LED	1 Power LED 1 RF status LED
Expansion	Mini PCIe	2 x mini PCIe slots (1 x half-size, 1 x full-size only USB signal)	1x mini PCIe slot (USB signal only)
	SD Socket	1x SD slot	1 x SD slot
	SIM	1x SIM slot	-
	Antenna Hole	1 x Antenna hole	1 x Antenna hole
	Others	1x Internal antenna support	-
Power	Power Supply Voltage	12V	12~24V
	Power Type	DC-in	DC-in
	Power Consumption	4.4W (Max)	4W (Max)
Environment	Operational 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)	120 x 89 x 30 mm	191 x 129 x 30 mm with metal plate 166 x 117 x 30 mm without metal plate
	Mounting	Wall mount, DIN rail, VESA 75/100 by option	Wall mount, VESA 75/100, Flexible mount with two screw holes on the metal plate
	Weight	215g	265g
Operating System		Linux Android	Linux
Certifications		CCC/CE/FCC/VCCI Class B	CCC/CE/FCC/BSMI Class B

Note: "-" : means Not Applicable (N/A)

Embedded PCs

EPC-U Series





Model Name		EPC-U2117	EPC-U2217
Barebone system	Description	Fanless w/Adapter, memory	Fanless w/Adapter, memory
Processor System	Compatible Motherboard	AIMB-U117NZ-FLA1E	AIMB-U217EZ-S6A1E
	CPU	Intel Atom E3930 (on board)	Intel Atom E3940 (on board)
	BIOS	AMI EFI 16Mbit SPI	AMI EFI 16Mbit SPI
Memory	Socket	1 X 204-pin DDR3L SODIMM (Non-ECC)	1 X 204-pin DDR3L SODIMM (Non-ECC)
	Technology	DDR3L 1866MHz SDRAM	DDR3L 1866MHz SDRAM
	Max. Capacity	Up to 8GB SODIMM	Up to 8GB SODIMM
Graphics	Chipset Integrated	Intel HD Graphics GEN9	Intel HD Graphics GEN9
Storage	2.5" HDD Bay	1(support 2.5" HDD/SSD, max 7.5mm height)	1(support 2.5" HDD/SSD, max 7.5mm height)
	mSATA Slot	1, colay with F/S miniPCIE	1, colay with F/S miniPCIE
	eMMC	Onboard eMMC 5.1 upto 128GB	Onboard eMMC 5.1 upto 128GB
Ethernet	Interface	10/100/1000 GbE LANs.	10/100/1000 GbE LANs.
	Controller	LAN1: Realtek 8111G LAN2: Realtek 8111G	LAN1/2: Intel i210TE LAN3: Realtek RTL8111G
	Connector	2(RJ-45)	3(RJ-45)
Audio	Codec	Realtek ALC892	Realtek ALC892
Internal expansion Slot	Mini-PCIe	1 (F/S)	1 (F/S)
	M.2	1 (E-Key)	1 (E-Key)
	SIM slot	-	-
	SD slot	-	-
Front Panel	DP++	-	-
	DP/HDMI	-	-
	VGA	-	-
	DVI	-	-
	COM	2 (1 RS-232, 1 RS-485)	4 (3 RS-232, 1 RS-422/485)
	LAN	2	3
	USB	4 (USB3.0)	4 (USB3.0)
	Audio Jack	1	1
	Antenna (optional)	-	-
Rear Panel	DP++	-	-
	DP/HDMI	1/1	1/1
	VGA	-	-
	CAN bus	-	Isolated CANBus
	COM	-	-
	LAN	-	-
	USB	-	-
	Audio Jack	-	-
	GPIO	-	2 (2 DB9)
	Antenna (optional)	Up to 4	Up to 4
Miscellaneous	LED Indicators	-	-
	Switch	-	-
Mounting		Wall Mount (Default) Din Rail (Optional)	Wall Mount (Default) Din Rail (Optional)
Power Requirements	Power Voltage	12V~24V DC-in	12V~24V DC-in
	Power Input Type (Inlet)	DC Jack (2.5Ø)	DC Jack (2.5ø)
	Consumption	12V@0.987A	12V@1.409A
Environment	Operating Temperature	0 ~ 50 °C	-20 ~ 60 °C (32 ~ 104 °F) with RF module by max system performance
	Non-operating Temperature	-40 ~ 85 °C and 95% @ 40 °C Non-Condensing	-40 ~ 85 °C and 95% @ 40 °C Non-Condensing
	Humidity	-	
	Vibration (5 ~500Hz)	3G (with 2.5" SSD)	3G (with 2.5" SSD)
	Shock	-	
Certification		CE/FCC/CCC/BSMI	CE/FCC/CCC/BSMI
Physical Characteristics	Dimensions (W x H x D)	170 x 52.6 x 117	170 X 52.6 X 117
	Weight	1.1KG	1.2KG

Note: "-" : means Not Applicable (N/A)

EPC-P Series

NEW NEW





Model Name		EPC-P3066	EPC-P3086
Barebone system	Description	Fan-base barebone, w/ C246 chipset	Fan-base barebone, w/ H310 chipset
Processor System	Compatible Motherboard	EPC-P3000	EPC-P3000
	CPU	Supports Intel® 8th Gen Core™ i7/i5/i3 processor	Supports Intel® 8th Gen Core™ i7/i5/i3 processor
	BIOS	AMI EFI 256 Mbit SPI	AMI EFI 256 Mbit SPI
Memory	Socket	2 x 260-pin DDR4 SO-DIMM 2	2 x 260-pin DDR4 SO-DIMM 2
	Technology	Dual Channel DDR4 2400/2666MHz Non-ECC SDRAM	Dual Channel DDR4 2400/2666MHz Non-ECC SDRAM
	Max. Capacity	Up to 32GB (16GB per SO-DIMM)	Up to 32GB (16GB per SO-DIMM)
Graphics	Chipset Integrated	Intel HD Graphics Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1	Intel HD Graphics Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1
Storage	2.5" HDD Bay	2	2 (supports 2 x 2.5" HDD)
	mSATA Slot	2	1 (Full-size, Half size)
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Intel I219LM PHY LAN 2: Intel i210AT LAN 3: Realtek RTL8111H	LAN1: Intel I219LM LAN2: Intel I211AT
Audio	Codec	Realtek ALC892	Realtek ALC892
Internal expansion Slot	Mini-PCIe	2 (F/S)	1 (F/S, H/S); colay mSATA
	M.2	2 (1 B-Key, 1 E-Key)	-
	SIM slot	2 (Optional)	-
	SD slot	-	-
Front Panel	HDMI	1	1
	VGA (default)	1	1
	COM	6 (2 RS-232/422/485, 4 RS-232)	6 (2 RS-232/422/485, 4 RS-232)
	GPIO	16 bits (2 DB-9)	16 bits (2 DB-9)
	LAN	3 (RJ-45)	2 (RJ-45)
	USB	6 (USB3.0)	2 (USB3.0); 4(USB2.0)
	LED indicatior	5 (COM1 TX/RX, COM2 TX/RX, HDD LED)	5 (COM1 TX/RX, COM2 TX/RX, HDD LED)
	Power SW / LED	1	1
	Remote Control	Power SW+/SW- ; Power LED+/- ; RST +/-	Power SW+/SW- ; Power LED+/- ; RST +/-
	Power input	12~24V	12~24V
	i Door window (option)	1	1
	Audio Jack	Line-Out, Mic-In (Optional)	Line-Out, Mic-In (Optional)
	Antenna (optional)	up to 2	up to 2
Riser Card option	1 PCIe x16 1 PCIe x4	✓	✓
	1 PCIe x8 3 PCIe x4	✓	-
	2 PCIe x8 2 PCI	✓	✓ (1 PCIe x16, 2 PCI)
	1 PCIe x16 3 PCIe x1	✓	✓
Mounting		Wall mount, Rack mount	Wall mount, Rack mount
Power Requirements	Power Voltage	12 ~ 24V DC input	12~24V DC input
	Power Input Type (Inlet)	Terminal block 4P	Terminal block 4P
	Consumption	TBD	TBD
Environment	Operating Temperature	0 ~ 50 °C (Fan W/SSD)	0 ~ 50 °C (Fan W/SSD)
	Non-operating Temperature	-20 ~ 60 °C (-4 ~ 140 °F)	-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); 0.5 Grms (HDD*2)	1 Grms (HDD*1); 0.5 Grms (HDD*2)
Certification		CE/FCC/BSMI/CCC/KCC	CE/FCC/BSMI/CCC/KCC
Physical Characteristics	Dimensions (W x D x H)	335 x 260 x 88 mm (13.2" x 10.23" x 3.46")	335 x 260 x 88 mm (13.2" x 10.23" x 3.46")
	Weight	6.8KG	6.8KG

Embedded PCs

EPC-T Series

NEW






Model Name		EPC-T1215	EPC-T1217	EPC-T1232	EPC-T1228
Barebone system	Description	Fanless barebone, w/ adapter, w/o SSD, memory	Fanless barebone, w/ adapter, w/o SSD, memory	Fanless barebone, w/ adapter, w/o SSD, memory	Fan-base barebone, w/ adapter, w/o HDD, memory
Processor System	Compatible Motherboard	AIMB-215D-S6B1E	AIMB-217D-S6A1E	AIMB-T12325W-00Y10	AIMB-228VG2-00A1E
	Thermal Solution	Fanless (0.7 m/s air flow)	Fanless (0.7 m/s air flow)	Fanless (0.7 m/s air flow)	1x chassis fan (4cm/23.8CFM)/ Fanless
	CPU	Intel® Bay Trail Quad core Celeron™ J1900 (on board)	Intel Pentium N4200 (on board)	Intel Core™ i5-6300U (on board)	AMD V1000 V1605B (on board)
	BIOS	AMI 16 Mbit SPI	AMI 128 Mbit SPI	AMI uEFI 16 Mbit	AMI 128Mbit SPI
Memory	Socket	2 x 204-pin DDR3 SODIMM (Non-ECC)	2 x 204-pin SO-DIMM (Non-ECC)	1 x 260-pin DDR4 SO-DIMM (Non-ECC)	2 x 260-pin DDR4 SO-SIMM with ECC Support
	Technology	DDR3L 1066/1333 MHz SDRAM	Dual channel DDR3L 1866 MHz SDRAM	DDR4 2133 MHz SDRAM	Dual Channel DDR4 2400 / 2666 / 3200MHz SDRAM
	Max. Capacity	8 GB/up to 4 GB per SODIMM	8 GB/8 GB per SO-DIMM	8 GB per SO-DIMM	32 GB/16 GB per SO-DIMM
Graphics	Chipset Integrated	Integrated Intel HD Graphics	Intel Gen 9 Graphics Engines and media encode/decode engine	Intel® HD Graphics, Supports OpenGL 5.0, DirectX11.2, OpenCL 2.1	AMD Integrated Vega GCN
Storage	2.5" HDD Bay	1 (supports 2.5" HDD/SSD, max 9.5 mm height)	1 (supports 2.5" SSD, max 9.5 mm height)	1 (supports 2.5" SSD, max 9.5 mm height)	1 (supports 2.5" HDD/SSD, max 9.5 mm height)
	mSATA Slot	1 (share w/ full size Mini-PCIe slot)	1 (share w/ full size Mini-PCIe slot)	1 (share w/ full size Mini-PCIe slot)	1 x B key of M.2 for SSD
Ethernet	Interface	10/100/1000 Mbps	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: Intel Clarkville I219LM GbE PHY LAN2: Intel Springville I211 GbE	LAN1: Realtek 8111G LAN2: Realtek 8111G
	Connector	2 (RJ-45)	2 (RJ-45)	2 (RJ-45)	2 (RJ-45)
Audio	Codec	Realtek ALC892, High Definition Audio (HD)	Realtek ALC888S, High Definition Audio (HD)	Realtek ALC892, High Definition Audio (HD)	Realtek ALC892, High Definition Audio (HD)
Internal expansion Slot	Mini-PCIe	1+1 (Full-size, Half-size)	1 (Full-size)	1+1 (Full-size, SIM card holder)	-
	M.2	-	1 (E Key, type: 2230)	-	2, (1 B key for SSD and 3G/4G, type: 3042, 3042mm, with SIM card holder; 1 E key for wireless, type: 2230mm)
	SIM slot	1	1	1	1
	SD slot	-	-	-	-
Front Panel	DP++	-	-	-	-
	DP/HDMI	-	-	-	-
	VGA	-	-	-	-
	DVI	-	-	-	-
	COM	5 (4 RS-232, 1 RS232/422/485, 1 support 5V/12V)	5 (4 RS-232, 1 RS232/422/485, 1 support 5V/12V)	2 (1 RS-232, 1 RS-232/422/485)	5 (4 RS-232, 1 RS232/422/485, 1 support 5V/12V
	Lan	-	-	-	-
	USB	4 (USB2.0)	4 (USB2.0; optional)	2 (USB2.0)	2 (USB2.0)
	Audio Jack	2 (Line-Out, Mic-In)	2 (Line-Out, Mic-In)	2 (Line-Out, Mic-In)	2 (Line-Out, Mic-In)
	Remote Power Jack	0	0	0	0
	Antenna (optional)	up to 2	up to 2	up to 2	up to 2
Rear Panel	DP++	1	-	1	-
	DP/HDMI	-	1/1	1 (HDMI)	4 (DP)
	VGA	1	1	-	-
	DVI	-	-	-	-
	COM	1 (RS-232)	1 (RS232)	-	-
	Lan	2 (RJ-45)	2 (RJ-45)	2 (RJ-45)	2 (RJ-45)
	USB	1 (USB3.0); 3 (USB2.0)	4 (USB3.0)	4 (USB3.0)	2 (USB3.0); 2 (USB2.0)
	Audio Jack	1 (Line-Out)	1 (line out)	2 (Line-Out, Mic-in)	2 (Line-Out, Mic-in)
	GPIO	8 bit (Optional)	8 bit (Optional)	8 bit (Optional)	16 bit (Optional)
	Antenna (optional)	up to 2	up to 2	up to 2	up to 2
Miscellaneous	LED Indicators	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)
	Switch	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)
	Circular Cutouts	-	-	-	-
Mounting		Wall mount, VESA mount, Rack mount ,DIN rail	Wall mount, VESA mount, Rack mount ,DIN rail	Wall mount, VESA mount, Rack mount ,DIN rail	Wall mount, VESA mount, Rack mount ,DIN rail
Power Requirements	Power Voltage	12V DC-in	12V DC-in	12V DC-in	12V DC-in
	Power Input Type (Inlet)	2.5Ø DC jack	2.5Ø DC jack	2.5Ø DC jack	2.5Ø DC jack
	Consumption	10.17W (idle with Intel Celeron J1900)	21.5W (N4200, Max load)	21.5W (i5-6300U, Max load)	TBD
Environment	Operating Temperature	Fan-base: 0 ~ 50 °C (32 ~ 122 °F) Fanless: 0 ~ 40 °C (32 ~ 104 °F)	Fanless: 0~45 °C	0 ~ 45 °C (32 ~ 113 °F)	Fan: 0 ~ 50 °C (32 ~ 122 °F)
	Non-operating Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-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	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)	3 Grms (SSD x 1)	0.5 Grms (HDD x 1); 3 Grms (SSD x 1)
	Shock	-	-	-	-
Certification		CE/FCC/CCC/BSMI	CE, FCC	CE, FCC	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")	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	3.1kg	3.1kg

Note: "-" : means Not Applicable (N/A)

EPC-T Series

NEW NEW



Model Name		EPC-T2285	EPC-T2286	EPC-T3285	EPC-T3217	EPC-T4286
Barebone system	Description	Fan-base barebone, w/o adapter, HDD, memory	Fan-base barebone, w/o adapter, HDD, memory	Fan-base barebone, w/o HDD, memory	Fanless barebone, w/ adapter,w/o SSD, memory	w/Fan, w/o adaptor, memory
Processor System	Compatible Motherboard	AIMB-285G2-00A1E	AIMB-286F-00A1E	AIMB-285G2-00A1E	AIMB-217D-S6A1E	AIMB-286G2-00A1E
	Thermal Solution	2x chassis fan (4cm/23.8CFM)	2x chassis fan (4cm/23.8CFM)	2 x chassis fan (4cm/23.8CFM)	Fanless (0.7 m/s air flow)	2 Chassis Fans, 1 CPU cooler
	CPU	Intel® 6th/7th Gen Core™ i processor (LGA1151)	Intel® 8th Gen Core™ I processor (LGA1151)	Intel® 6th/7th Gen Core™ i processor (LGA1151)	Supports Intel Pentium, Celeron Quad Core & Dual Core processor	Intel® 8th Gen Core™ I processor (LGA1151)
	BIOS	AMI EFI 128 Mbit, SPI	AMI EFI 128 Mbit, SPI	AMI EFI 128 Mbit SPI	AMI 128 Mbit SPI	AMI EFI 128 Mbit SPI
Memory	Socket	260 PIN DDR4 SO-DIMM	260 PIN DDR4 SO-DIMM	2 x 260 PIN DDR4 SO-DIMM	2 x 204-pin SO-DIMM	260 PIN DDR4 SO-DIMM
	Technology	Dual Channel DDR4 2133 MHz SDRAM	Dual Channel DDR4 2666 MHz SDRAM	Dual Channel DDR4 2133 MHz SDRAM	Dual channel DDR3L 1866 MHz SDRAM	Dual Channel DDR4 2666 MHz SDRAM
	Max. Capacity	32 GB/up to 16 GB per SODIMM	32 GB/up to 16 GB per SODIMM	32GB (up to 16GB per SO-DIMM)	8 GB/8 GB per SO-DIMM	32 GB/up to 16 GB per SODIMM
Graphics	Chipset Integrated	Intel® HD Graphics, Supports DirectX12, OpenCL 4.5	Intel® UHD Graphics, Supports DirectX12, OpenCL 4.5	Intel® HD Graphics, Supports OpenGL 5.x, DirectX12, OpenCL 2.X	Intel Gen 9 Graphics Engines and media encode/decode engine	Intel® UHD Graphics, Supports DirectX12, OpenCL 4.5
Storage	2.5" HDD Bay	1 (supports 2.5" HDD/SSD, max 9.5 mm height)	1 (supports 2.5" HDD/SSD, max 9.5 mm height)	2 (supports 2 x 2.5" HDD/SSD, or 1 3.5" HDD)	2 (supports 2 x 2.5" HDD/SSD, or 1 3.5" HDD)	1 (supports 2.5" HDD/SSD, max 7 mm height)
	mSATA Slot	1 (share w/ full size Mini-PCIe slot)	1 x B key of M.2 for SSD	1 (share w/ full size Mini-PCIe slot)	1 (F/S with SIM card holder)	1 x B key of M.2 for SSD
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps Ethernet
	Controller	LAN1: Realtek RTL8111G LAN2: Realtek RTL8111G	LAN1: Realtek RTL8111G LAN2: Realtek RTL8111G LAN3: Intel i211AT	LAN1: Realtek RTL8111G LAN2: Realtek RTL8111G	LAN1: Realtek 8111G LAN2: Realtek 8111G	GbE LAN1/2: Realtek 8111G GbE LAN3: Intel i211AT
	Connector	2 (RJ-45)	3 (RJ-45)	2 (RJ-45)	2 (RJ-45)	3 (RJ-45)
Audio	Codec	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892	Realtek ALC892
Internal expansion Slot	Mini-PCIe	2 (Full-size, Half-size)	-	2 (Full-size, Half-size) 1 PCIe slot (Full height)	1 (Full-size)	-
	Expansion Slot	-	-	1 PCIe slot (Full height)	-	-
	M.2	-	2, (1 B key for SSD and 3G/4G , type: 2242, 3042mm, with SIM card holder; 1 E key for wireless, type: 2230mm)	-	1 (E key for wireless module, type: 2230)	2 (1x B key for SSD and 3G/4G w/ Type: 2242, 3042mm; with SIM card holder; 1 x E key for wireless w/ Type: 2230mm)
	SIM slot	1	1	1	1	1
	SD slot	-	-	-	-	-
Front Panel	DP++	-	-	-	-	-
	DP/HDMI	-	-	-	-	1/1
	VGA	-	-	-	-	-
	DVI	-	-	-	-	-
	COM	2 (1 RS-232/422/485, 1 RS-232/422/485 and support 5V/12V)	4 (3 RS-232, 1 RS-232/422/485 by BOM option)	2 (1 RS-232/422/485, 1 RS- 232/422/485 with 5V/12V)	4 (1 RS-232/422/485, 3 RS-232)	2 (RS-232)
	LAN	-	-	-	-	3 (GbE)
	USB	4 (USB2.0)	4 (USB2.0)	4 (USB2.0)	4 (USB2.0)	6 (4 USB3.0, 2 USB2.0)
	Audio Jack	2 (Line-Out, Mic-In)	2 (Line-Out, Mic-In) (Optional)	2 (Line-Out, Mic-In)	2 (Line-Out, Mic-In)	2 (1 Line-out, 1 Mic-in)
	Remote Power Jack	0	1	-	-	1
	Antenna (optional)	up to 2	up to 2	up to 2	up to 2	1
Rear Panel	DP++	1	-	1	-	-
	DP/HDMI	1 (HDMI 1.4)	1/1	1 (HDMI1.4)	1/1	-
	VGA	-	-	-	1	-
	DVI	-	-	-	-	-
	COM	-	2 (1 RS-232/422/485, 1 support 5V/12V by jumper selection)	-	-	4 (RS-232)
	LAN	2 (RJ-45)	3 (RJ-45)	2 (RJ-45)	2 (RJ-45)	-
	USB	4 (USB3.0)	4 (USB3.0)	4 (USB3.0)	4 (USB3.0)	-
	Audio Jack	2 (Line-Out, Mic-in)	2 (Line-Out, Mic-in)	2 (Line-Out, Mic-in)	1 (Line-Out)	-
	GPIO	8 bits (Optional)	8 bits (Optional)	8 bits (Optional)	8 bits (Optional)	-
	Antenna (optional)	up to 2	up to 2	up to 2	up to 2	2
Miscellaneous	LED Indicators	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)	2 (Power, HDD)
	Switch	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Power Remote Jack)	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)	1 Power Switch
	Circular Cutouts	1(Reserved for internal cable)	1(Reserved for internal cable)	-	-	1 Power Switch
Mounting		Wall mount, VESA mount, Rack mount,DIN rail	Wall mount, VESA mount, Rack mount,DIN rail	Wall mount, Rack mount	Wall mount, Rack mount	
Power Requirements	Power Voltage	12V DC-in	12V DC-in	12V DC-in (Optional 9~36V)	12V DC-in (Optional 9~36V)	12V DC-In
	Power Input Type (Inlet)	DC jack (2.5Ø with locked design)	DC jack (2.5Ø with locked design)	DC jack (2.5Ø)	DC jack (2.5Ø)	DC Jack
	Consumption	89.36W (idle with Inte i7-6700 Processor)	TBD	102.3W (i7-7700, Max load)	21.5W (N4200, Max load)	120W
Environment	Operating Temperature	0 ~ 50 °C (32 ~ 122 °F)	0 ~ 50 °C (32 ~ 122 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 45 °C
	Non-operating Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-20 ~ 60 °C (-4 ~ 140 °F)	-20 ~ 60 °C (-4 ~ 140 °F)	-40 ~ 85 °C
	Humidity	10~95% @ 40 °C, non-condensing	10~95% @ 40 °C, non-condensing	10~95% @ 40 °C, non-condensing	10~95% @ 40°C, non-condensing	10~95% @ 40°C, non-condensing
	Vibration (5 ~500Hz)	0.5 Grms (HDD x 1); 3 Grms (SSD x 1)	0.5 Grms (HDD x 1); 3 Grms (SSD x 1)	1 Grms (2.5" HDD x 1); 0.5 Grms (HDD x 2, 3.5" HDD x 1)	1 Grms (2.5" HDD x 1); 0.5 Grms (HDD x 2, 3.5" HDD x 1	3G (with SSD)
	Shock	-	-	-	-	
Certification		CE/FCC/CCC/BSMI	CE/FCC/CCC	CE, FCC	CE,FCC	CE / FCC
Physical Characteristics	Dimensions (W x H x D)	250 x 44.2 x 225 mm (9.84" x 1.74" x 8.85")	250 x 44.2 x 225 mm (9.84" x 1.74" x 8.85")	330 x 44 x 270 mm (13" x 1.73" x 10.62")	330 x 44 x 270 mm (13" x 1.73" x 10.62")	188 x 44 x 188 mm
	Weight	3.68kg	3.68kg	5.68kg	5.68kg	3.1 Kg

Note: "-" : means Not Applicable (N/A)

Embedded PCs

EPC-B Series





Model Name		EPC-B2203	EPC-B2205	EPC-B2275
Barebone system	Description	Fan-base barebone, w/ 150W PSU, w/o HDD, memory	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	AIMB-275G2-00A1E
	Thermal Solution	2 x chassis fan (7cm/28CFM)	2 x chassis fan (7cm/28CFM)	2 x chassis fan (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	Intel® 7th & 6th Gen Core™ i processor (LGA1151)
	BIOS	AMI EFI 64 Mbit SPI	AMI EFI 128 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	2 x 260-pin DDR4 SO-DIMM (Non-ECC)
	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)	Dual Channel DDR4 2133 MHz SDRAM
	Max. Capacity	16 GB/up to 8 GB per SODIMM	Up to 32GB (16GB per SO-DIMM)	32 GB/up to 16 GB per SODIMM
Graphics	Chipset Integrated	Integrated Gfx Gen. 7.5, Supports DirectX11.1, OpenGL 4.0 and OpenCL 1.2	Integrated Intel® HD Graphics 530	Intel® HD Graphics, Supports OpenGL 5.x, DirectX12, OpenCL 2.X
Storage	2.5" HDD Bay	2 (supports 2 x 2.5" HDD/SSD, or 1 slim ODD & 1 x 2.5" HDD/SSD)	2 (supports 2 x 2.5" HDD/SSD, or 1 slim ODD & 1 x 2.5" HDD/SSD)	2 (supports 2 x 2.5" HDD/SSD, or 1 slim ODD & 1 x 2.5" HDD/SSD)
	mSATA Slot	1 (Full-size, Half size)	1 (share w/ full size Mini-PCIe slot)	1 (Full-size, Half size)
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Realtek 8111E LAN2: Realtek 8111E	LAN1: Realtek RTL8111G LAN2: Realtek RTL8111G	LAN1: Intel i219LM LAN2: Intel I211AT
	Connector	2 (RJ-45)	2 (RJ-45)	2 (RJ-45)
Audio	Codec	Realtek ALC892, High Definition Audio (HD)	Realtek ALC892, High Definition Audio (HD)	Realtek ALC892, High Definition Audio (HD)
Internal expansion Slot	Mini-PCIe	2 (1 x F/S; 1 x H/S)	1 (Full-size)	1+1 (Full-size, Half-size)
	M.2	-	1 (B Key, 2242)	1 (B Key, 2242)
	SIM slot	1	-	-
	SD slot	-	-	-
Front Panel	DP++	-	-	-
	DP/HDMI	-	-	-
	VGA	-	-	-
	DVI	-	-	-
	COM	4 (RS232; optional)	4 (Optional)	1 (RS232/422/485, Optional)
	LAN	-	-	-
	USB	4 (USB2.0; optional)	2 (USB2.0; Optional)	4 (USB2.0; optional)
	Audio Jack	-	-	-
	Antenna (optional)	up to 2	up to 2	up to 2
Rear Panel	DP++	-	-	-
	DP/HDMI	1/0	1/0	1/1
	VGA	1	1	1
	DVI	1	1 (DVI-D)	-
	COM	1 (RS232, supports 5V/12V)		1 (RS232, supports 5V/12V)
	LAN	2 (RJ-45)	2 (RJ-45)	2 (RJ-45)
	USB	4 (USB3.0)	4 (USB3.0); 4 (USB2.0)	4 (USB3.0)
	Audio Jack	3 (Mic in, Line out, Line in)	3 (line-in, line-out, mic-in)	3 (Mic in, Line out, Line in)
	GPIO	8 bits (Optional)	8 bits (Optional)	8 bits (Optional)
	Antenna (optional)	up to 2 (Optional)	up to 2 (Optional)	up to 2 (Optional)
Miscellaneous	LED Indicators	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)	2 (Power LED, HDD LED)
	Switch	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)	1 (Power Switch); 1 (Reset Switch)
	Circular Cutouts	-	-	-
Mounting		Wall mount	Wall mount	Wall mount
Power Requirements	Power Voltage	Power Voltage: 100V~240V AC input	Power Voltage: 100V~240V AC input	Power Voltage: 100V~240V AC input
	Power Input Type (Inlet)	Power Code input	Power Code input	Power Code input
	Consumption	TBD	TBD	TBD
Environment	Operating Temperature	0 ~ 40 °C	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C
	Non-operating Temperature	-29 ~ 60 °C	-20 ~ 60 °C (-4 ~ 140 °F)	-29 ~ 60 °C
	Humidity	10~95% @ 40°C, non-condensing	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)	1 Grms (HDD*1+ODD*1); 0.5 Grms (HDD*2)
	Shock	-	-	-
Certification		CE/FCC/CCC	CE/FCC/CCC	CE/FCC/CCC
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")	250 x 98 x 255 mm (9.84" x 3.86" x 10.04")
	Weight	3.8kg	3.8kg	3.8kg

Note: "-" : means Not Applicable (N/A)

EPC-S & EPC-C Series

NEW





Model Name		EPC-S101	EPC-S201	EPC-C301
Barebone system	Description	Fanless barebone system w/ memory	Fanless barebone system	Fanless barebone system
Processor System	Compatible Motherboard	PCM-9310	MIO-2360	MIO-5373
	Thermal Solution	Fanless	Fanless	Fanless
	CPU	Intel® Celeron® N3160/N3060, Atom® x5-E8000	Intel® Celeron® N3350	Intel® Core™ i7-8665UE/i5-8365UE
	BIOS	AMI UEFI 64Mb SPI	AMI UEFI 64Mb SPI	AMI UEFI 256Mb SPI
Memory	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM	2 x 260-pin SODIMM
	Technology	DDR3L-1600	DDR3L-1866	DDR4-2400
	Max. Capacity	Default 2GB adopted, up to 8GB	8GB	32GB
Graphics	Chipset Integrated	Intel Gen8LP	Intel Gen9LP	Intel® UHD Graphics 620
Storage	2.5" HDD Bay	Room for 1 x 2.5" SSD, max. 9.5mm height	-	-
	M.2 Slot	-	-	M-Key 2280 (PCIe Gen.3 x4, SATA III)
	mSATA Slot	Full size SATAIII (opt. mPCIe)	Half size SATAIII	-
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	LAN1: Realtek RTL8111E LAN2: Realtek RTL8111E	Intel i210	LAN1: Intel i219; LAN2: Intel i210 LAN3: Intel i210; LAN4: Intel i210
	Connector	RJ-45 x 2	RJ45	RJ-45 x 4
Audio	Codec	Realtek ALC892	Realtek ALC888	Realtek ALC888
Internal expansion Slot	Mini-PCIe	Full size PCIe Gen2	Full size PCIe Gen2	Full size PCIe Gen3
	M.2	-	-	1 x E-Key 2230 (PCIe x1, USB2.0) 1 x B-Key 3042 (USB2.0)
	SIM slot	1	-	1 x Nano SIM
	SD slot	-	-	-
Front Panel	DP++	-	-	-
	DP/HDMI	HDMI 1.4b up to 2560 x 1600	-	HDMI 1.4: up to 4096 x 2160 at 30Hz DP 1.2: up to 4096 x 2306 @ 60Hz (Note: DP not support Hot-plug & Audio)
	VGA	1	1	-
	DVI	-	-	-
	COM	-	1 (RS-232/422/485)	2 (RS-232/422/485)
	LAN	2	1	4
	USB	4 (USB2.0 x 2, USB3.0 x 2)	2 x USB3.0	8 (USB3.0 x4, USB2.0 x4)
	Audio Jack	-	Line-in/Line-out	Mic-in/Line-out
	Antenna (optional)	up to 1	up to 2	-
Rear Panel/ Side Panel	DP++	-	-	-
	DP/HDMI	-	-	-
	VGA	-	-	-
	DVI	-	-	-
	COM	4 (2 x RS-232/422/485, 2 x RS-232)	1 (RS-232/422/485)	2 (1 x RS-232/422/485, 1 x RS-232)
	LAN	-	-	-
	USB	2 (USB2.0)	-	-
	Audio Jack	Line-in, Line-out, Mic-in	-	-
	GPIO	8-bit	8-bit	8-bit
	CAN Bus	-	-	2 (2.5KV isolation)
	Antenna (optional)	up to 1	-	up to 4
Miscellaneous	LED Indicators	2 (Power LED, HDD LED)	1 (Power LED)	1 (Power LED)
	Switch	1 (Power Switch)	1 (Power Switch)	1 (Power Switch)
	Circular Cutouts	1	-	-
Mounting		Desk mount, VESA mount, DIN rail	Desk mount, Wall mount, DIN rail	Wall mount, DIN rail
Power Requirements	Power Voltage	12V DC-in	12V DC-in	12V DC-in
	Power Input Type (Inlet)	Phoenix DC plug-in	Phoenix DC plug-in	DC Jack with lock
	Consumption	4.5W (idle with Celeron N3060)	4.89W (idel with Celeron N3350)	6.61W (Idle with i7-8665UE)
Environment	Operating Temperature	0 ~ 50 °C (32 ~ 122 °F)	0 ~ 50 °C (32 ~ 122 °F)	-20 ~ 60 °C (-4 ~ 140 °F)
	Non-operating Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	Operating: 40 °C @ 95% RH, non-condensing Storage: 60 °C @ 95% RH, non-condensing	Operating: 40 °C @ 95% RH, non-condensing Storage: 60 °C @ 95% RH, non-condensing	Operating: 40 °C @ 95% RH, non-condensing Storage: 60 °C @ 95% RH, non-condensing
	Vibration (5 ~ 500Hz)	IEC60068-2-64 random 3.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 3.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 3.0Grms IEC60068-2-6 sinusoidal 2.0G
	Shock	IEC60068-2-27 half-sine 30G/11ms	IEC60068-2-27 half-sine 30G/11ms	IEC60068-2-27 half-sine 30G/11ms
Certification		CE/FCC Class B CB/UL/CCC/BSMI	CE/FCC Class B CB/UL/CCC/BSMI/KCC	CE/FCC ClassB/CB/UL/CCC/BSMI
Physical Characteristics	Dimensions (W x H x D)	188 x 39 x 150 mm	134 x 100 x 44mm	170 x 118 x 70mm
	Weight	0.95kg	0.6Kg	1.5Kg

Note: "-" : means Not Applicable (N/A)

Embedded PCs

EPC-R Series



Model Name		EPC-R3220	EPC-R4760	EPC-R4680	EPC-R6410	EPC-R3430	EPC-R7000
Barebone system	Description	Arm based Fan-less Barebone System	Arm based Fan-less Barebone System	Arm based Fan-less Barebone System	Arm based Fan-less Barebone System	Arm based Fan-less Barebone System	Arm based Fan-less Barebone System
Processor System	Compatible Motherboard	-	RSB-4760	RSB-4680	RSB-6410	RSB-3430	-
	Thermal Solution	Fanless	Fanless	Fanless	Fanless	Fanless	Fanless
	CPU	TI Sitara™ AM3352 Cortex®-A8 800MHz	Qualcomm Snapdragon™ 410E APQ8016 Arm Cortex-A53 up to 1.2 GHz	Rockchip Arm Cortex-A17 RK3288 Quad core 1.6 GHz	NXP Arm Cortex-A9 i.MX6 up to 1 GHz	NXP Arm Cortex-A9 i.MX6 1GHz	Dual-Core NVIDIA Denver 2 64-Bit CPU Quad-Core ARM® Cortex®-A57 MPCore
	BIOS	Advantech boot loader	Advantech boot loader	Advantech boot loader	Advantech boot loader	Advantech boot loader	Advantech boot loader
Memory	Socket	On-board	On-board	On-board	On-board	On-board	On-Board
	Technology	DDR3 800 MT/s	LPDDR3 1066 MT/s	DDR3L 1333 MT/s	DDR3L 1333 MT/s	DDR3L 1600 MT/s	LPDDR4 3200 MT/s
	Max. Capacity	1 GB	1 GB	2 GB	1 GB/2 GB	2GB	8GB
Graphics	Chipset Integrated	-	Adreno™ 306 GPU	Mali-T764 GPU processor with OpenGL ES3.0, OpenCL1.1 and DirectX11	VIVANTE GC2000/GC320 GPU	2 IPUs. OpenCL ES 2.0 for 3D, Bitblt for 2D and OpenVG 1.1	NVIDIA Pascal™ GPU Architecture with 256 NVIDIA CUDA Cores
Storage	On-board Storage	8 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for ADV.	8GB eMMC NAND Flash for O.S. 4MB SPI NOR Flash for ADV.	8GB eMMC NAND Flash for O.S. and Advantech boot loader	8 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for ADV.	4 GB eMMC NAND Flash for O.S. and 4MB SPI NOR Flash for ADV.	32 GB eMMC NAND Flash for O.S.
	mSATA Slot	-	-	-	-	-	(2.5" HDD/SSD 1TB, Optional)
Ethernet	Interface	2 x 10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
	Controller	TI AM3352 Integrated RGMII	Microchip LAN7500	TI DP83867	NXP i.MX6 Integrated RMII	NXP i.MX6 Integrated RGMII	Integrated RGMII
	Connector	2 x RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
Audio	Codec	-	PM8916	Realtek ALC5660	SGTL5000	SGTL5000	TI Audio Codec
Internal expansion Slot	Mini-PCIe	1 x Full-size	1 x Full-size	1 x Full-size	1 x Full-size	1 x Full-size	-
	M.2	-	1 x M.2 Key E slot	1 x M.2 Key E slot	1 x M.2 Key E slot	1 x M.2 Key E slot	-
	SIM slot	1 x Nano SIM slot	1	1	1	1 x Nano SIM slot	-
	SD slot	1 x Micro SD slot	1 x SD slot	1 x Micro SD slot	1 x SD slot	1 x Micro SD slot	-
Front Panel	DP++	-	-	-	-	-	-
	DP/HDMI	-	1 x HDMI up to 1920 x 1080	-	-	1x HDMI up to 1920 x 1080	-
	VGA	-	-	-	-	-	-
	DVI	-	-	-	-	-	-
	COM	2 x 4-wire RS-232/485	1 x 4-wire RS-232/422/485	4 x 4-wire RS-232	2 x 4-wire RS-232 1 x debug port	1 x 4-wire RS-232/422/485	1 x 4-wire RS-232
	GPIO	6		-		-	12 x GPIO (6 x DO, 6 x DI)
	LAN	2	1	-	-	1	-
	USB	-	2 USB 2.0	3 USB2.0	-	2 USB2.0	-
	Audio Jack	-	-	-	-	-	-
	Antenna (optional)	2 x Antenna holes	2 x antenna holes	3 x antenna holes	2 x antenna holes	-	-
Rear Panel/ Side Panel	DP++	-	-	-	-	-	-
	DP/HDMI	-	-	1x HDMI up to 3840 x 2160	1x HDMI up to 1920 x 1080	-	1x HDMI up to 3840 x 2160
	VGA	-	-	1	1	-	-
	DVI	-	-	-	-	-	-
	COM	-	-	1 x 4-wire RS-232/485 1 x 2-wire RS-232/Debug port	1 x 4-wire RS-232/485 1 x 4-wire RS-232	Max. 1 2-wire RS-485, 2 2-wire RS-232	-
	LAN	-	-	1	1	Max. 1 10/100/1000 Mbps	2 x 802.3af (PSE Power Max 15.4W Out)
	USB	1 x USB2.0 OTG	2 x USB2.0 Host	2 x USB2.0 Host 1 x USB2.0 OTG	6 x USB2.0 Host	Max. 2 USB 2.0	4 x USB 3.0 Host 1 x USB 2.0 OTG
	Audio Jack	-	-	1 x Line out 1 x Mic in	1 x Line out 1 x Mic in	-	1 x Line out
	GPIO	-	-	8 x GPIO by DB9	-	Max. 8 GPIO	-
	Antenna (optional)	2 x Antenna holes	3 x Antenna holes	2 x Antenna holes	2 x Antenna holes	2 x Antenna holes	2 x Antenna holes
Miscellaneous	LED Indicators	1 Green LED for system power 3 Red Programmable LED	1 Green LED for system power 1 Yellow LED for WLAN	1 Green LED for system power 1 Orange LED for WLAN	1 Green LED for system power	-	1 Green LED for system power
	Switch	1 x Reset button	-	1 x Reset button 1 x Power button	1 x Reset button 1 x Power button	-	1 x Reset Button 1 x Recovery Button
	Circular Cutouts	-	-	-	-	-	-
Mounting		Wall mount/DIN rail mount (option)	Wall mount	Wall mount	Wall mount	Wall mount	Wall mount
Power Requirements	Power Voltage	12~24V	9~36V	12V	12V	12V	19V
	Power Input Type (Inlet)	2-pole lockable DC-in	DC-in	DC-in	DC-in	DC-in	DC-in
	Consumption	4.7W	7.6W	11.6W	9W	4.05W	15W
Environment	Operating Temperature	-20 ~ 70 °C	0 ~ 40 °C	0 ~ 55 °C/-20 ~ 70 °C	0 ~ 55 °C	-20~60 °C	-20~60 °C
	Non-operating Temperature	-40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C
	Humidity	5 ~ 95% Relative Humidity, non-condensing	5 ~ 95% Relative Humidity, non-condensing	5 ~ 95% Relative Humidity, non-condensing	5 ~ 95% Relative Humidity, non-condensing	5~95% Relative Humidity, non-condensing	5~95% Relative Humidity, non-condensing
	Vibration (5 ~ 500Hz)	IEC60068-2-64 random 2.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 2.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 2.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 2.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 2.0Grms IEC60068-2-6 sinusoidal 2.0G	IEC60068-2-64 random 2.0Grms IEC60068-2-6 sinusoidal 2.0G
	Shock	IEC60068-2-27 halfsine 10G/11ms	IEC60068-2-27 half-sine 10G/11ms	IEC60068-2-27 halfsine 10G/11ms	IEC60068-2-27 half-sine 10G/11ms	IEC60068-2-27 half-sine 10G/11ms	IEC60068-2-27 half-sine 10G/11ms
Certification		CE/FCC/CCC/BSMI/SRRC	CE/FCC Class B CB/UL/CCC/BSMI	CE/FCC Class B CCC/BSMI	CE/FCC Class B CCC/BSMI	CE/FCC Class B	CE/FCC Class B
Physical Characteristics	Dimensions (W x H x D)	139 x 85 x 30 mm	188 x 150 x 39 mm	190 x 150 x 43 mm	200 x 230 x 50 mm	174 x 108 x 25 mm	204 x 138 x 67 mm
	Weight	0.6KG	1.2KG	0.95KG	2.26KG	0.48KG	1.52KG

Note: "-" : means Not Applicable (N/A)

IoT Gateway





Model Name		UTX-3115	UTX-3117
Processor System	CPU	Intel E3826 / E3815 processor	Intel® Apollo Lake E3900 series & N series Processor
	Core Number	Dual core / Single Core	Quad Core / Dual Core
	BIOS	AMI EFI 64 Mbit, SPI	AMI EFI 16 Mbit, SPI
	Chipset	-	-
Memory	Technology	DDR3L 1333/1600 MHz SDRAM	Dual channel DDR3L 1866 MHz SDRAM
	Max. Capacity	4 GB/update to 4GB/per DIMM	8GB/ up to 8GB per DIMM
	Socket	1 x 204-pin DDR3L SODIMM (Non-ECC)	2 x 204-pin DDR3L SODIMM (Non-ECC)
Display	Controller	Intel HD Graphics	Intel HD Graphics GEN9
	VGA	1	-
	HDMI	2	1
	Display Port	-	1
Storage	2.5" HDD bay	1 (support 2.5" HDD/SSD, max 7.5 mm height)	1 (support 2.5" HDD/SSD, max 7.5mm height)
	mSATA	1, colay with F/S miniPCIE	1, colay with H/S miniPCIE
Ethernet	Interface	10/100/1000 Mbps	10/100/1000 GbE LANs.
	Controller	LAN1: Intel I210AT LAN2: Realtek 8111G	LAN1: Intel I210AT LAN2:Realtek 8111G
	Connector	2 (RJ-45)	2 (RJ45)
Audio	Chipset	Realtek ALC892, High Definition Audio(HD)	Realtek ALC892, High Definition Audio(HD)
	Connector	Mic in / Line out	Mic-in, Line-out combo
Internal expansion Slot	Mini-PCIe	2 (1 x F/S miniPCIE slto, 1 x H/S miniPCIE slot)	2 (1 x F/S miniPCIE slot, 1 x H/S miniPCIE slot), 1 M.2 (E-Key)
	SIM socket	1	1
Front Panel	USB	2 (1 x USB 3.0, 1 x USB 2.0)	2 (USB 3.0)
	Audio	Mic in / Line out	Mic-in, Line-out Combo
	LAN	2	2
	Power button	1	1
	LED Indicators	1(HDD LED)	1(HDD LED)
Rear Panel	HDMI	2 (1xHDMI, 1x Micro HDMI)	1
	VGA	1	- (change to DP1.2 port)
	USB	1(Micro USB)	-
	USB	1(USB3.0)	2 (USB3.0)
	COM	2 (1xRS-232, 1xRS-422)	2 (1RS-232 & 1RS-422/485)
	Power jack	1(DC12V)	1 (DC12~24V)
Power	Control	1 (Power Button)	1(Power button)
	Voltage	12VDC ± 10%	12~24VDC ± 10%
	Power Consumption	12V@0.88A	12V@0.61A
	Power Adapter	AC to DC DC12V/3A, 36W	AC to DC adapter 12/24V/3A
Environment	Operating Temperature	-20 ~ 60 °C (32 ~ 104 °F)	-20 ~ 60 °C (32 ~ 104 °F) with RF module by max system performance
	Non-operating Temperature	-40 ~ 85 °C and 95% @ 40 °C Non-Condensing	-40 ~ 85 °C and 95% @ 40 °C Non-Condensing
	Vibration	3G (with 2.5" SSD)	3G (with 2.5" SSD)
Dimensions (W x H x D)		138.5 x 35.98 x 116.4 mm (5.5" x 1.4" x 4.6")	152 x 37.1 x 128 mm (5.6" x 1.46" x 5.04")
Weight		1.0kg	1.2KG
Certification	EMC	CE/FCC/CCC/KC/VCCI/BSMI	CE/FCC/CCC
	Safety	UL/CB/BSMI/CCC	CCC

Note: "-" : means Not Applicable (N/A)

Fanless Embedded Computers

Ultra Small Series

NEW





Model Name		ARK-10	ARK-11
Processor System	CPU	Intel Celeron Processor J1900 Quad Core SoC	Intel Celeron N3350 Dual Core SoC
	Frequency	2.0 GHz (Up to 2.41 GHz turbo burst)	1.1GHz, turbo burst up to 2.4 GHz
	Core Number	4	2
	BIOS	AMI EFI 64 Mbit	AMI EFI 128 Mbit
	Chipset	-	-
Memory	Technology	DDR3L 1333MHz	DDR3L 1866 MHz
	Max. Capacity	8GB (2 GB Memory Built In)	8GB, (4GB Memory Built In)
	Socket	1 x 204-pin SO-DIMM	2 x 204-pin SO-DIMM
Display	Graphic Engine	DirecX11.1, OCL 11.1 and OGL 3.2	DirectX 12.0, OpenGL 4.3, OpenCL 2.0
	VGA	1 x VGA, up to 1920 x 1200 at 60Hz	-
	DDI (HDMI/DVI/DisplayPort)	-	HDMI1: 3840 x 2160 @ 30Hz HDMI2: 3840 x 2160 @ 30Hz
	Multiple Display	-	Dual HDMI Display
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe
	M.2	-	1 x M.2 2230 E key
	SIM Socket	-	1
	ARK Plus	-	-
	iDoor	-	-
Ethernet	Controller	GbE1: Intel i210-IT GbE GbE2: Intel i210-IT GbE	GbE1: Intel i210 GbE2: Intel i210
	Speed	10/100/1000 Mbps	10/100/1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio
	CODEC	Realtek ALC888S	Realtek ALC888S
	Connector	2 (Line-in, Line out)	2 (Line out/Mic in)
WatchDog Timer		Yes	Yes
Storage	SATA	1 x 500GB 2.5" 24x7 SATA HDD Built In	1 x 2.5" 64GB SATAIII SSD built in
	mSATA	1x Half size mSATA	1 x Full-size mSATA (shared with miniPCIe slot)
I/O	USB3.0	1	4
	USB2.0	2	-
	GPIO	-	8-bit Programmable DIO (Optional)
	COM Port	2 (2 x RS232/ 422/ 485)	2 (2 x RS232/ 422/ 485, COM2 with 5V/12V)
Power	Power Type	ATX	ATX
	Power Supply Voltage	12 VDC	12 ~ 28 VDC
	Connector	Lockable DC Jack	3-pin phoenix head
	Power Consumption (Idle)	5.64W	6.4W
	Power Consumption (Full Load)	14.04W	18.1W
	Power Adaptor	AC to DC, DC12V/3A, 36W	Lockable AC to DC DC 24V 2.5A 60W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	0 ~ 50 °C	With extend temperature peripherals: -30 ~ 70 °C
	Non-operating Temperature	-40~ 85 °C and 95% @ 40 °C Non-Condensing	-40~ 85 °C and 95% @ 40 °C Non-Condensing
	Vibration Resistance	0.5Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis	With SSD: 3 Gms
	Shock Protection	10G, IEC 60068-2-27, half sine, 11 ms duration	With SSD: 30 G
Physical Characteristics	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm	53.5 x 158 x 114 mm
	Weight	1.2 kg (2.65 lb)	1.25 kg (2.75lb)
	Mounting	Wall/VESA/DIN-rail mounting	DIN-rail mounting (Default) Wall mounting (Optional)
Operating System	Microsoft Windows	Yes (WES7, Windows 7, WE8S, Windows 8)	Windows 10 built in
	Linux	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes
	SUSI API	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class B, BSMI	CE/FCC Class B, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI

Note: "-" : means Not Applicable (N/A)

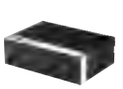




Model Name		ARK-1123L	ARK-1123C	ARK-1123H
Processor System	CPU	Intel® Atom DC E3825	Intel® Atom DC E3825	Intel® Celeron QC J1900
	Frequency	1.33 GHz	1.33 GHz	2.0 GHz
	Core Number	2	2	4
	BIOS	AMI EFI 64 Mbit	AMI EFI 64 Mbit	AMI EFI 64 Mbit
	Chipset	Intel® Atom DC E3825	Intel® Atom DC E3825	Intel® Celeron QC J1900
Memory	Technology	DDR3L 1066MHz	DDR3L 1066MHz	DDR3L 1333MHz
	Max. Capacity	8GB	8GB	8GB
	Socket	1 x 204-pin SODIMM	1 x 204-pin SODIMM	1 x 204-pin SODIMM
Display	Graphic Engine	DirectX11.1, OCL 11.1 and OGL 3.2	DirectX11.1, OCL 11.1 and OGL 3.2	DirectX11.1, OCL 11.1 and OGL 3.2
	VGA	Up to 1920 x 1200	Up to 1920 x 1200	-
	DDI (HDMI/DVI/ DisplayPort)	-	-	2 x lockable HDMI, 1920 x 1080
	Multiple Display	-	-	-
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe
	SIM Socket	-	-	-
	ARK Plus	-	-	-
	iDoor	-	-	-
Ethernet	Controller	GbE 1 : Intel i210 Supports Wake On LAN	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake On LAN	GbE 1 : Intel i210 GbE 2 : Intel i210 All support Wake On LAN
	Speed	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio	HD Audio
	CODEC	Realtek ACL888S	Realtek ACL888S	Realtek ACL888S
	Connector	2 (Line-in, Line out)	2 (Line-in, Line out)	2 (Line-in, Line out)
WatchDog Timer		Yes	Yes	Yes
Storage	SATA	1 x 2.5" SATA HDD bay	1 x 2.5" SATA drive bay	1 x 2.5" SATA drive bay
	mSATA	1 x Half-Size mSATA	1 x Half-Size mSATA	1 x Half-Size mSATA
I/O	USB3.0	1	1	1
	USB2.0	1	2	2
	GPIO	8-bit Programmable DIO	-	-
	COM Port	2 (1 x RS-232, 1 x RS-232/422/485)	2 (2 x RS-232/422/485)	1 (1 x RS-232/422/485)
Power	Power Type	ATX	ATX	ATX
	Power Supply Voltage	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%	12 V_{DC}, ± 10%
	Connector	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack
	Power Consumption (Idle)	5.28W	5.28W	5.64W
	Power Consumption (Full Load)	8.16W	8.16W	14.04W
	Power Adaptor	Lockable AC to DC, DC12 V/3 A, 36 W	Lockable AC to DC, DC12 V/3 A, 36 W	Lockable AC to DC, DC12 V/3 A, 36 W
Environment	Operating Temperature (air flow 0.7 m/sec)	With extend temperature peripherals: -30~70 °C With standard temperature peripherals: 0 ~ 40 °C	With extend temperature peripherals: -30~70 °C With standard temperature peripherals: 0 ~ 40 °C	With extend 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	-40 ~ 85 °C and 40 °C @ 95% RH Non-Condensing	-40 ~ 85 °C and 40 °C @ 95% RH Non-Condensing
	Vibration Resistance	With mSATA/SSD : 3 Grms	With mSATA/SSD : 3 Grms	With mSATA/SSD : 3 Grms
	Shock Protection	With mSATA/SSD: 30G	With mSATA/SSD: 30G	With mSATA/SSD: 30G
Physical Characteristics	Dimensions (W x H x D)	133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm	133.8 x 43.1 x 94.2 mm
	Weight	1.2 kg (2.65 lb)	1.2 kg (2.65 lb)	1.2 kg (2.65 lb)
	Mounting	Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting	Optional DIN Rail/ VESA/ Wall mounting
Operating System	Microsoft Windows	Yes (WES7, Windows 7, WE8S, Windows 8 and Windows 10 (32-bit support by project))	Yes (WES7, Windows 7, WE8S, Windows 8, Windows 10 (32-bit support by project))	Yes (WES7, Windows 7, WE8S, Windows 8 and Windows 10 (32-bit support by project))
	Linux	Yes (Ubuntu 14.04 LTS x64)	Yes (Ubuntu 14.04 LTS x64)	Yes (Ubuntu 14.04 LTS x64)
APIs	WISE-PaaS/DeviceOn	Yes	Yes	Yes
	SUSI API	Yes	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class A, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI

Note: "-" : means Not Applicable (N/A)

Fanless Embedded Computers








Model Name		ARK-1124C	ARK-1124U	ARK-1124H	ARK-1220L	ARK-1220F
Processor System	CPU	Intel Celeron N3350 Dual Core SoC	Intel Celeron N3350 Dual Core SoC	Intel Atom E3940 Quad Core Soc	Intel Atom E3940 Quad Core Soc	Intel Pentium N4200
	Frequency	1.1 GHz, turbo burst 2.4 GHz	1.1GHz, turbo burst 2.4 GHz	1.6 GHz, turbo burst 1.8 GHz	1.6 GHz, turbo burst 1.8 GHz	1.1 GHz, turbo burst 2.5 GHz
	Core Number	2	2	4	4	4
	BIOS	AMI EFI 128 Mbit	AMI EFI 128 Mbit	AMI EFI 128 Mbit	AMI EFI 128 Mbit	AMI EFI 128 Mbit
	Chipset	-	-	-	-	-
Memory	Technology	DDR3L 1866 MHZ	DDR3L 1866 MHz	DDR3L 1866 MHz	DDR3L 1866 Mhz	DDR3L 1866 MHz
	Max. Capacity	8GB	8GB	8GB	8GB	8GB
	Socket	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	2 x 204-pin SO-DIMM	2 x 204-pin SO-DIMM
Display	Graphic Engine	DirectX 12.0, OpenGL 4.3, OpenCL 2.0	DirectX 12.0, OpenGL 4.3, OpenCL 2.0	DirectX 12.0, OpenGL 4.3, OpenCL 2.0	DirectX 12.0, OpenGL 4.3, OpenCL 2.0	DirectX 12.0, OpenGL 4.3, OpenCL 2.0
	VGA	1 x VGA Up to 2048 x 1280	1 x VGA Up to 2048 x 1280	-	-	Up to 1920 x 1200 at 60 Hz
	DDI (HDMI/DVI/DisplayPort)	-	-	HDMI1: 3840 x 2160 @ 30Hz HDMI2: 3840 x 2160 @ 30Hz	HDMI1: 3840 x 2160 @ 30Hz HDMI2: 3840 x 2160 @ 30Hz	Up to HDMI 1.4 3840 x 2160 at 30Hz
	Multiple Display	-	-	Dual HDMI Display	Dual HDMI Display	Dual
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe
	M.2	-	1 x M.2 2230 E key	1 x M.2 2230 E key	1 x M.2 2230 E key	1 x M.2 2230 E key
	SIM Socket	-	1	1	1	1 (nano)
	ARK Plus	AMO-1101	AOM-1101	AMO-1101	-	-
	iDoor	Yes	Yes	Yes	-	-
Ethernet	Controller	GbE: Intel i210	GbE1: Intel i210 GbE2: Intel i210	GbE1: Intel i210 GbE2: Intel i210	GbE1: Intel i210 GbE2: Intel i210	GbE1: Intel i210-IT GbE2: Intel i210-IT
	Speed	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio	-
	CODEC	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S	Realtek AC888S
	Connector	2 (Line in, line out)	2 (Line in, line out)	2 (Line in, line out)	2 (Line out/Mic in)	2 (Line out, Mic in)
WatchDog Timer		Yes	Yes	Yes	Yes	Yes
TPM		-	Yes, Infineon SLB9665XQ2.0	Yes, Infineon SLB9665XQ2.0	Optional, Infineon SLB9665XQ2.0. TPN with MOQ 30pcs	Yes, Infineon SLB9665XQ2.0
Storage	SATA	1 x 2.5" SATAIII HDD bay	1 x 2.5" SATAIII HDD bay	1 x 2.5" SATAIII HDD bay	1 x 2.5" SATAIII HDD bay	1 x 2.5" SATAIII HDD bay
	mSATA	1x Half size mSATA	-	1x Half size mSATA	1 x Full-size mSATA (share with miniPCIe slot)	1 x Full-size mSATA (shared with miniPCIe slot)
I/O	USB3.0	2	4	4	4	4
	USB2.0	0	0	0	-	1
	GPIO	-	-	-	8-bit Programmable DIO (Optional)	8-bit Programmable DIO
	COM Port	4 (4 x RS232/ 422/ 485)	2 (2 x RS232/ 422/ 485)	1 (1 x RS232/ 422/ 485)	2 (2 x RS232/ 422/ 485, COM2 with 5V/12V)	2 (1 x 2.5K VDC isolated RS232/ 422/ 485, 1 x 2.5K VDC isolated RS422/ 485)
Power	Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
	Power Supply Voltage	12 V_{DC} (Option 12-24 V_{DC})	12 V_{DC} (Option 12-24 V_{DC})	12 V_{DC} (Option 12-24 V_{DC})	12 ~ 28 V_{DC}	12 ~ 28 V_{DC}
	Connector	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack	3-pin phoenix head	3-pin phoenix head
	Power Consumption (Idle)	4.53W	5W	6.02W	7.6W	TBC
	Power Consumption (Full Load)	9.8W	15.7W	15.7W	19W	TBC
	Power Adaptor	AC to DC, DC12V/3A, 36W	AC to DC, DC12V/5A, 60W	AC to DC, DC12V/5A, 60W	Lockable AC to DC DC 24V 2.5A 60W (Optional)	Lockable AC to DC DC 24V 2.5A 60W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	With extend temperature peripherals: -20 ~ 60 °C With standard temperature peripherals: 0 ~ 40 °C	With extend temperature peripherals: -20 ~ 60 °C With standard temperature peripherals: 0 ~ 40 °C	With extend temperature peripherals: -20 ~ 60 °C With standard temperature peripherals: 0 ~ 40 °C	With extend temperature peripherals: -30 ~ 70 °C With standard temperature peripherals: 0 ~ 40 °C	With extend temperature peripherals: -30 ~ 70 °C With standard temperature peripherals: 0 ~ 40 °C
	Non-operating Temperature	-40~ 85 °C and 95% @ 40 °C Non-Condensing	-40~ 85 °C and 95% @ 40 °C Non-Condensing	-40~ 85 °C and 95% @ 40 °C Non-Condensing	-40 ~ 85 °C and 95% @ 40 °C Non-Condensing	-40 ~ 85 °C and 95% @ 40 °C Non-Condensing
	Vibration Resistance	With SSD: 3 Grms	With SSD: 3 Grms	With SSD: 3 Grms	With SSD: 3 Grms	With SSD: 3 Gms
	Shock Protection	With SSD: 30 G	With SSD: 30 G	With SSD: 30 G	With SSD: 30 G	With SSD: 30 G
Physical Characteristics	Dimensions (W x H x D)	133 x 46.4 x 94.2 mm	133 x 46.4 x 94.2 mm	133 x 46.4 x 94.2 mm	53.5 x 158 x 114 mm	60 x 158 x 114 mm
	Weight	1.1 kg (2.42lb)	1.1 kg (2.42lb)	1.1 kg (2.42lb)	1.25 kg (2.75lb)	1.5 kg (3.30lb)
	Mounting	Wall/VESA/DIN-rail mounting (Optional)	Wall/VESA/DIN-rail mounting (Optional)	Wall/VESA/DIN-rail mounting (Optional)	DIN-rail mounting (Default) Wall mounting (Optional)	DIN-rail mounting (Default) Wall mounting (Optional)
Operating System	Microsoft Windows	Yes (Windows 10)	Yes (Windows 10)	Yes (Windows 10)	Yes (Windows 10)	Yes (Windows 10)
	Linux	Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes	Yes
	SUSI API	Yes	Yes	Yes	Yes	-
	Other	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI	Heavy industry cert., CE, FCC, Class B
	Safety Certifications	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	UL, CB, CCC, BSMI class B

Note: "-" : means Not Applicable (N/A)

Slim & Mountable Series

Multiple I/O Series

Preliminary






Model Name		ARK-1550	ARK-1551	ARK-2121L	ARK-2121F
Processor System	CPU	Intel® Celeron 2980U Intel® Core i5 4300U	Intel Core i5-8365UE Core i3-8145UE Celeron 4305UE	Intel Celeron QC J1900	Intel Celeron QC J1900
	Frequency	1.6 GHz / 1.9 GHz	1.6 GHz(up to 4.1 GHz)/ 2.2 GHz(up to 3.9GHz)/ 2.0 GHz	2.0 GHz, turbo boost to 2.4GHz	2.0 GHz, turbo boost to 2.4GHz
	Core Number	2	4/2/2	4	4
	BIOS	AMI EFI 128 Mbit	AMI UEFI 256 Mbit	AMI EFI 64Mbit	AMI EFI 64Mbit
	Chipset	Intel® Celeron 2980U Intel® Core i5 4300U	-	-	-
Memory	Technology	DDR3L 1333/1600 MHz	DDR4 2400 MHz	DDR3L 1333MHz	DDR3L 1333MHz
	Max. Capacity	8GB	32GB	8GB	8GB
	Socket	1 x 204-pin SO-DIMM	2 x 260-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM
Display	Graphic Engine	DirectX11.1, OpenGL 4.0, and OpenCL 1.2	OpenGL 4.5, DirectX 11.3/12, OpenCL 2.1	DirectX 11.1, OCL 1.2 and OGL 3.2	DirectX 11.1, OCL 1.2 and OGL 3.2
	VGA	Up to 1920 x 1200	Up to 1920 x 1080 at 60Hz	Up to 2048 x 1152	Up to 2048 x 1152
	LCD (TTL/LVDS/eDP)	LVDS up to 1920 x 1200 (optional)	-	-	-
	DDI (HDMI/DVI/DisplayPort)	Lockable HDMI, up to 4096 x 2304 @24Hz	HDMI: 1.4b 4096x2160 at 30Hz	HDMI: 1.4a, 1080P@60Hz	HDMI: 1.4a, 1080P@60Hz optional 2nd HDMI Optional DVI-D
	Multiple Display	Dual	Dual , VGA + HDMI	Dual	Dual
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe w/ SIM	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe with SIM	2 x Full-size Mini PCIe (1 with SIM holder)
	M.2	-	1 x M.2 2230 E key	-	-
	SIM Socket	1	1	1	1
	ARK Plus	-	-	-	-
	iDoor	-	-	Yes	-
Ethernet	Controller	GbE 1: Intel i218 GbE 2: Intel i210 All support Wake On LAN	GbE1: Intel i210 GbE2: Intel i219	GbE1: Intel i210 GbE2: Intel i210 All support wake on LAN	GbE1: Intel i210 GbE2: Intel i210 GbE3: Intel i210(optional) GbE4: i210(EMIO-100E, optional) All support wake on LAN
	Speed	10/ 100/ 1000 Mbps	10/100/1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps
Audio	Audio Interface	HD Audio	-	HD Audio	HD Audio
	CODEC	Realtek ALC888S	Realtek ALC892	Realtek ALC888S	Realtek ALC888S
	Connector	3 (Line-in, Line-out, Mic-in)	Line out or MIC in	3 (Line-in, Line out, Mic-in)	3 (Line-in, Line out, Mic-in)
WatchDog Timer		Yes	Yes	Yes	Yes
Storage	SATA	1 x Swappable 2.5" SATA HDD bay	1 x Swappable 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
	mSATA	1 x Full-size mSATA (share with miniPCIe slot)	1 x Full-size mSATA (shared with miniPCIe slot)	1	1
I/O	USB3.0	2	4 (USB 3.1 Gen 2)	1	1
	USB2.0	2	-	3	5 external, 1 internal
	GPIO	8-bit Programmable DIO	8-bit Programmable DIO	-	4ch digital input and 4ch digital output with 3kV isolation
	COM Port	3 (1 x RS-232, 2 x RS-232/422/485)	4 (4 x RS232/ 422/ 485)	4 (2 x RS232, 2 x RS232/ 422/ 485)	6 (6 x RS232/ 422/ 485)
Power	Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX
	Power Supply Voltage	12 V_{DC}, ± 10%	12 ~ 24 VDC	9 ~ 36 V_{DC}	9 ~ 36 V_{DC}
	Connector	DC jack with power adaptor locker	3-pin phoenix head	2-pin phoenix head	2-pin phoenix head
	Power Consumption (Idle : CPU/Memory only)	5.64W (2980U) / 10.56W (4300U)	TBC	7.3W	8.4W
	Power Consumption (Full Load: CPU/Memory only)	15.12W (2980U) / 28.2W (4300U)	TBC	13.3W	16.2W
	Power Adaptor	AC to DC, DC 12V/5A 60W (optional)	TBC	Lockable AC to DC, DC19 V/3.42 A, 65 W (Optional)	Lockable AC to DC, DC19 V/3.42 A, 65 W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	With extend temperature peripherals: -20 ~ 55 °C With standard temperature peripherals: 0 ~ 40 °C	With extend temperature peripherals: -20 ~ 55 °C With standard temperature peripherals: 0 ~ 40 °C	With extend temperature peripherals: -20 ~ 70 °C With HDD: 0 ~ 45 °C	With extend temperature peripherals: -20 ~ 70 °C With HDD: 0 ~ 45 °C
	Non-operating Temperature	-40 ~ 85 °C and 40 °C @ 95% RH Non-Condensing	-40 ~ 85 °C and 40 °C @ 95% RH Non-Condensing	-40~ 85 °C and 40 °C @ 95% RH Non-Condensing	-40~ 85 °C and 40 °C @ 95% RH Non-Condensing
	Vibration Resistance	With mSATA/SSD: 3 Grms	With SSD: 3 Gms	With SSD: 3 Grms	With SSD: 3 Grms
	Shock Protection	With mSATA/SSD: 30G	With SSD: 30 G	With SSD: 30 G	With SSD: 30 G
Physical Characteristics	Dimensions (W x H x D)	223 x 46.6 x 133.0 mm	195 x 55 x 140 mm	264.5 x 68.4 x 133.0 mm	264.5 x 68.4 x 133.0 mm
	Weight	1.9 kg (4.18 lbs)	TBC	2.3 kg (5.07 lb)	2.3 kg (5.07 lb)
	Mounting	Desk/Wall/VESA/DIN-Rail mounting	Wall mounting (Default) VESA mounting (Optional) DIN-rail mounting (Optional)	Desk/ Wall/ VESA/ DIN-Rail mounting	Desk/ Wall/ VESA/ DIN-Rail mounting
Operating System	Microsoft Windows	Yes (Windows 10, Windows 8, Windows 7, WES8, WES7)	Yes (Windows 10)	Yes (WES7, Windows 7, WE8S, Windows 8 and Windows 10 (32-bit support by project))	Yes (WES7, Windows 7, WE8S, Windows 8 and Windows 10 (32-bit support by project))
	Linux	Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes
	SUSI API	-	Yes	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class A, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI, KC	UL, CB, CCC, BSMI class B	CB, UL, CCC, BSMI, KC	CB, UL, CCC, BSMI, KC

Note: "-" : means Not Applicable (N/A)

Fanless Embedded Computers

Multiple I/O Series

NEW





Model Name		ARK-2230L	ARK-2232L	ARK-2250L
Processor System	CPU	Intel J1900	Intel® Atom E3940	Intel i7-6600U Intel i5-6300U Intel i3-6100U
	Frequency	2.0GHz	1.6 GHz, turbo burst 1.8GHz	2.6/2.4/2.3GHz
	Core Number	4	4	2/2/2
	BIOS	AMI EFI 64Mbit	AMI EFI 64 Mbit	AMI EFI 128 Mbit
	Chipset	-	-	-
Memory	Technology	DDR3L 1333MHz	DDR3L 1866MHz	DDR4 2133MHz
	Max. Capacity	8GB	8GB	16GB
	Socket	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	1 x 260-pin SO-DIMM
Display	Graphic Engine	DirectX 11.1, OCL 1.2 and OGL 3.2	DirectX 12.0, OpenGL 4.3, OpenCL 2.0	DirectX 11.3, OpenGL 4.4, and OpenCL 2.1
	VGA	Up to 2048 x 1152	up to 1920x1200	Up to 1920 x 1200
	DDI (HDMI/DVI/DisplayPort)	HDMI 1.4a for HD video playback, 1080P at 60Hz	HDMI 1.4b for HD video playback, up to 3840 x 2160 @ 30Hz	HDMI 1.4a for HD video playback, 4096 x 2160 @ 24Hz
	Multiple Display	Dual	Dual	VGA+HDMI (Option triple display)
Expansion Interface	Mini PCIe	1 x Full-size Mini PCIe	1 x Full-size Mini PCIe	2 x Full-size Mini PCIe
	M.2	-	1x M.2 2230 E Key	-
	SIM Socket	1	1	1
	ARK Plus	AMO-2000 series	AMO-2000 series	AMO-2000 series
	i Door	Yes	Yes	Yes
Ethernet	Controller	GbE1: Intel i210 GbE2: Intel i210	GbE 1: Intel i210 GbE 2: Intel i210	GbE1: Intel i219 GbE2: Intel i210
	Speed	10/100/1000 Mbps	10/ 100/ 1000 Mbps	10/100/1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio	HD Audio
	CODEC	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S
	Connector	3 (Line-in, Line out, Mic-in)	2 (Line out, Mic-in)	2 (Line-out, Mic-in)
WatchDog Timer		Yes	Yes	Yes
Storage	SATA	1 x 2.5" SATA HDD bay	1 x 2.5" SATA drive bay	1 x 2.5" SATA HDD bay
	mSATA	1 x Full size mSATA	1 x Full size mSATA	1x Full size mSATA
I/O	USB3.0	1	2	4
	USB2.0	4	4	2
	GPIO	1 x 8 bit DIO	1 x 8 bit DIO	1 x 8 bit DIO
	COM Port	4 (2 x RS232, 2 x RS232/ 422/ 485)	4 (2 x RS232, 2 x RS232/ 422/ 485)	4 (4 x RS232/ 422/ 485)
Power	Power Type	AT/ATX	AT/ATX	AT/ATX
	Power Supply Voltage	12 V_{DC} (Option 9-36 V_{DC})	12 V_{DC} (Option 9-36V)	12 V_{DC} (Option 9-36 V_{DC})
	Connector	Lockable DC Jack	Lockable DC Jack	Lockable DC Jack
	Power Consumption (Idle: CPU/Memory only)	7.3W	7.79W	7.96W/ 7.8W/ 6.92W
	Power Consumption (Full Load: CPU/Memory only)	13.3W	17.48W	43.28W/ 42.8W/ 41.72W
	Power Adaptor	AC to DC, DC12V/5A, 60W (Optional)	AC to DC, DV12V/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	-20 ~ 60 °C
	Non-operating Temperature	-40~ 85 °C and 95% @ 40 °C Non-Condensing	-40 ~ 85 °C and 40 °C @ 95% RH Non-Condensing	-40~ 85 °C and 95% @ 40 °C Non-Condensing
	Vibration Resistance	With SSD: 3 Grms	With SSD: 3 Grms	With SSD: 3 Grms
	Shock Protection	With SSD: 30 G	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 44 x 140.2 mm	260 x 54 x 140.2 mm
	Weight	2.3 kg (5.07lb)	2.9kg (6.39 lbs)	2.3 kg (5.07lb)
	Mounting	Desk/ Wall/ VESA/ DIN-Rail mounting	Desk/Wall/VESA/DIN-Rail mounting	Desk/ Wall/ VESA/ DIN-Rail mounting
Operating System	Microsoft Windows	Yes (Windows 10, WES8, Windows 8, WES7, Windows 7)	Yes (Windows 10)	Yes (Windows 10, Windows 8.1, WES7, Windows 7)
	Linux	Yes (by Project)	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes	Yes
	SUSI API	Yes	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI, KC	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI

Note: "-" : means Not Applicable (N/A)

Multi Expansion Series





Model Name		ARK-3520L	ARK-3520P
Processor System	CPU	6th gen' Intel I7-6820EQ/I5-6440EQ/I3-6100E	6th gen' Intel I7-6820EQ/I5-6440EQ/I3-6100E
	Frequency	2.8/2.7/2.7GHz	2.8/2.7/2.7GHz
	Core Number	4/4/2	4/4/2
	BIOS	AMI EFI 128 Mbit	AMI EFI 128 Mbit
	Chipset	Intel QM170	Intel QM170
Memory	Technology	DDR4 2133MHz	DDR4 2133MHz
	Max. Capacity	32GB	32GB
	Socket	2 x 260-pin SODIMM	2 x 260-pin SODIMM
Display	VGA	1920 x 1200	1920 x 1200
	DDI (HDMI/DVI/DisplayPort)	HDMI 1.4b for HD video playback, 3840 x 2160@30Hz 2nd HDMI :1920 x 1080 (Optional) DVI-D: 4096 x 2160 @ 24Hz (Optional) DP: 4096 x 2304 @ 60Hz (Optional)	HDMI: 1.4b for HD video playback, 3840 x 2160 @ 30Hz 2nd HDMI :1920 x 1080 (Optional) DVI-D: 4096 x 2160 @ 24Hz (Optional) DP: 4096 x 2304 @ 60Hz (Optional)
	Multiple Display	Triple / Dual VGA + HDMI + optional 3rd display	Triple / Dual VGA + HDMI + optional 3rd display
Expansion Interface	Mini PCIe	2 x Full-size Mini PCIe (1 share with mSATA)	2 x Full-size Mini PCIe (1 shared with mSATA)
	M.2	1x M.2 2230 E Key	1x M.2 2230 E Key
	SIM socket	1 x SIM socket	1 x SIM socket
	PCIe	-	2 x PCIe x 4 (Optional)
	PCI	-	2 x PCI (Default)
	PCIe + PCI	2 x PCI + 1 x PCIe x 4 (Optional)	-
	ARK Plus	Yes	-
	i Door	Yes	Yes
Ethernet	Controller	GbE1: Intel I219-LM GbE2: Intel I-210IT	GbE1: Intel I219-LM GbE2: Intel I-210IT
	Speed	10/100/1000 Mbps	10/100/1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio
	CODEC	Realtek ALC888	Realtek ALC888
	Connector	2 (Line out, Mic-in)	2 (Line out, Mic-in)
WatchDog Timer		Yes	Yes
Storage	SATA	1 x 2.5" SATAIII HDD bay	2 x 2.5" SATAIII HDD bay
	mSATA	1 (shared with mini-PCIe)	1 (shared with mini-PCIe)
I/O	USB 3.0	6	6
	USB2.0	2	2
	GPIO	1 x 16 bit DIO	1 x 16 bit DIO
	COM Port	8 (4 x RS232, 4 x RS232/422/485)	8 (4 x RS232, 4 x RS232/422/485)
Power	Power Type	AT/ATX	AT/ATX
	Power Supply Voltage	12 V_{DC} (optional 9 ~ 36 V_{DC})	9 ~ 36 V_{DC}
	Connector	Lockable DC jack	4-pin terminal block
	Power Consumption (Idle : CPU/Memory only)	11.4W	11.4W
	Power Consumption (Full Load : CPU/Memory only)	68.4W/ 46.5W/ 42.75W	68.4W/ 46.5W/ 42.75W
	Power Adaptor	Lockable AC to DC DC 12V 150W (Optional)	Lockable AC to DC DC 19V 150W (Optional)
Environment	Operating Temperature (air flow 0.7 m/sec)	With extend temp peripherals: -20 ~ 60 °C With HDD: 0 ~ 40 °C	With extend temp peripherals: -20 ~ 60 °C With HDD: 0 ~ 40 °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)	220 x 101 x 233 mm	220 x 101 x 233 mm
	Weight	4.8 kg (10.58 lb)	4.4 kg (9.7 lb)
	Mounting	Desk/Wall mounting	Desk/Wall mounting
Operating System	Microsoft Windows	Yes (Windows 8.1,Windows 7, Windows 10)	Yes (Windows 8.1,Windows 7, Windows10)
	Linux	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes
	SUSI API	Yes	Yes
	Other	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class B, CCC, BSMI	CE/FCC Class A/CCC/BSMI
	Safety Certifications	CB, UL, CCC, BSMI	LVD, CCC, BSMI, KC

Note: "-" : means Not Applicable (N/A)

Fanless Embedded Computers

High Value Series




NEW


Model Name		ARK-3530L	ARK-3530F	ARK-3531	ARK-6322
Processor System	CPU	Intel® Xeon E3-1235L V5/6th Gen i7-6700/7th Gen i7-7700/i5-7500/ i3-7101E LGA1151 Processor	Intel® Xeon E3-1235L V5/6th Gen i7-6700/7th Gen i7-7700/i5-7500/ i3-7101E LGA1151 Processor	Intel 9th Gen i7-9700TE/i5-9500TE/ i3-9100TE/G4900T LGA1151 Processor	Intel Celeron J1900 SoC
	Frequency	2.0GHz/3.4GHz/3.6GHz/3.4GHz/ 3.9GHz	2.0GHz/3.4GHz/3.6GHz/3.4GHz/ 3.9GHz	1.8GHz/2.2GHz/2.2GHz/2.9GHz	2.0 GHz, Turbo Boost up to 2.41GHz
	Core Number	4/4/4/4/2	4/4/4/4/2	8/6/4/2	4
	BIOS	AMI EFI 128 Mbit	AMI EFI 128 Mbit	AMI EFI 128Mbit	AMI 16Mbit SPI
	Chipset	C236	C236	H370	-
Memory	Technology	DDR4 2133MHz (Supports ECC/non-ECC)	DDR4 2133MHz (Supports ECC/non-ECC)	DDR4 2133MHz	DDR3L 1333MHz
	Max. Capacity	32GB	32GB	64GB	8GB (4GB per SODIMM)
	Socket	2 x 204-pin SO-DIMM	2 x 204-pin SO-DIMM	2 x 260-pin SO-DIMM	2 x 204-pin SODOIMM
Display	Chipset	Intel® HD Graphics 630	Intel® HD Graphics 630	Intel UHD Graphic 630	-
	Graphic Engine	DirectX 12.0, OpenGL 4.4	DirectX 12.0, OpenGL 4.4	up to 1920x1200	-
	VGA	up to 1920x1200	up to 1920x1200	HDMI 1.4 for HD video playback, 3840 x 2160 at 30Hz	Up to 2048 x 1280
	DDI (HDMI/DVI/DisplayPort)	HDMI 2.0 for HD video playback, 3840 x 2160 at 30Hz 2nd HDMI :1920 x 1080 (Optional) DVI-D: 4096 x 2160 @ 24Hz (Optional) DP: 4096 x 2304 @ 60Hz (Optional)	HDMI 2.0 for HD video playback, 3840 x 2160 at 30Hz 2nd HDMI :1920 x 1080 (Optional) DVI-D: 4096 x 2160 @ 24Hz (Optional) DP: 4096 x 2304 @ 60Hz (Optional)	VGA+HDMI	DisplayPort: up to 2560 x 1600 @ 60Hz
	Multiple Display	Triple (by optional 3rd display port)	Triple (by optional 3rd display port)	1 x Full-size Mini PCIe	Dual
Expansion Interface	Mini PCIe	2 x Full-size Mini PCIe	2 x Full-size Mini PCIe	1x M.2 2230 E Key	1 x Full-size Mini PCIe 1 x Half-size Mini PCIe
	M.2	1x M.2 2230 E Key	1x M.2 2230 E Key	1	-
	SIM socket	1	1	-	1 x SIM socket
	PCIe	2 PCIex8 (By Optional AMO-3505E)	2 PCIex8 (By Option)	-	-
	PCI	2 PCI (By Optional AMO-3506E)	2 PCI (Default)	-	-
	PCIe + PCI	-	-	-	-
	i Door	Yes	Yes	-	Yes
Ethernet	Controller	GbE 1: Intel i219 GbE 2: Intel i210	GbE 1: Intel i219 GbE 2/3/4: Intel i210	GbE 1: Intel i219 GbE 2: Intel i210 GbE 3/4 : Intel i210 (Optional)	GbE1: RTL8111E GbE2: RTL8111E
	Speed	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/ 100/ 1000 Mbps	10/100/1000 Mbps
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio
	CODEC	Realtek ALC888	Realtek ALC888	Realtek ALC888	Realtek ALC892
	Connector	2 (Line out, Mic-in)	2 (Line out, Mic-in)	1 (Line-out/Mic-in by switch)	1 (Line-out or Mic-in)
WatchDog Timer		Yes	Yes	Yes	Yes
Storage	SATA	2 x 2.5" SATA drive bay (Max 4 by Project)	2 x 2.5" SATA drive bay (Max 4 by Project)	2 x 2.5" SATA drive bay	1 x 2.5" or 3.5" SATA HDD bay
	mSATA	2 x Full Size mSATA (Share with mini-PCIe slots)	2 x Full Size mSATA (Share with mini-PCIe slots)	1 x Full Size mSATA (Share with mini-PCIe slots)	1 x Full-size mSATA (shared with mini-PCIe slot)
I/O	USB3.1/3.2	-	-	2 x 3.1 Gen 2	-
	USB 3.0	8	8	6	1
	USB2.0	-	-		7
	GPIO	16-bit by Option	16-bit by Option	16bit	-
	COM Port	4 (4 x RS-232/422/485)	4 (4 x RS-232/422/485)	8 (4 x RS232, 4 x RS232/422/485)	5 x RS232, 1 x RS232/422/485
Power	Power Type	AT/ATX	AT/ATX	AT/ATX	AT/ATX
	Power Supply Voltage	12 V_{DC} (Option 9-36V)	9-36 V_{DC}	9-36 V_{DC}	12 V_{DC}, ± 10%
	Connector	Lockable DC Jack	4-pin terminal block	4-pin terminal block	-
	Power Consumption (Idle: CPU/Memory only)	25.68W	25.68W	TBD	15.7W
	Power Consumption (Full Load: CPU/Memory only)	88.92W	88.92W	TBD	24.7W
	Power Adaptor	AC to DC, DC12V 150W (Optional)	AC to DC, DC19V 150W (Optional)	"Lockable AC to DC DC 19V 150W (Optional)"	AC to DC, DC12V/5A, 60 W (Optional)
	Regulation	-	-		-
Environment	Operating Temperature (air flow 0.7 m/sec)	-20 ~ 60° C (Supports up to 6th Gen 65W/7th Gen 51W Processor) -20 ~ 40° C (Supports up to 65W processor)	-20 ~ 60° C (Supports up to 6th Gen 65W/7th Gen 51W Processor) -20 ~ 40° C (Supports up to 65W processor)	35W Processor with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow	With 2.5" HDD : 0~45 °C With 3.5" HDD : 0~40 °C With extended temp peripherals : 0~50 °C
	Non-operating Temperature	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40 ~ 85° C and 40° C @ 95% RH Non-Condensing	-40~ 85 °C and 95% @ 40 °C Non-Condensing	-40~ 85 °C and 40 °C @ 95% RH Non-Condensing
	Vibration Resistance	With SSD : 3 Grms	With SSD : 3 Grms	With SSD: 3 Grms	With HDD: 0.5 Grms
	Shock Protection	With SSD : 30 G	With SSD : 30 G	With SSD: 30 G	With HDD: 10 G
Physical Characteristics	Dimensions (W x H x D)	105 x 205 x 230 mm	156.5 x 205 x 230 mm	200 x 75 x 215 mm	200 x 64 x 200 mm
	Weight	5.1kg (11.24lb)	5.87kg (12.94lb)	3.5kg	2.0 kg (4.4lb)
	Mounting	Desk mounting	Desk mounting	Desk mounting	VESA/Wall mounting (Optional)
Operating System	Microsoft Windows	Yes (Windows 10)	Yes (Windows 10)	Yes (Windows 10)	Yes (Windows 10, Windows 8, Windows 7, WES8, WES7)
	Linux	Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes
	SUSI API	Yes	Yes	Yes	-
	Other	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis	McAfee, Acronis
Certification	EMC	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class A/CCC/BSMI
	Safety Certifications	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI

Note: "-" : means Not Applicable (N/A)

Digital Signage Solutions

Entry Level Series

Ultra Slim Series



Model Name		DS-100	DS-100 Lite	DS-370	DS-066	DS-081	DS-082
Processor System	CPU	Dual-core Cortex-A72 & Quad-core Cortex-A53	Dual-core Cortex-A72 & Quad-core Cortex-A53	Intel Celeron J1900	Intel Celeron J1900	Intel Core i5-6300U Intel Core i3-6100U Intel Celeron 3965U	AMD V1807B AMD V1605B AMD R1606G
	BIOS	-	-	AMI uEFI 64 Mbit	AMI uEFI 64 Mbit	AMI uEFI 128 Mbit	AMI uEFI 128Mbit
	Chipset	-	-	Integrated in CPU	Integrated in CPU	Integrated in CPU	Integrated in CPU
Memory	Technology	LPDDR3 1600MHz	LPDDR3 1600MHz	DDR3L 1333MHz	DDR3L 1333MHz	DDR4 2133MHz	DDR4 2400MHz
	Max. Capacity	2GB on board	2GB on board	8GB (4GB per SODIMM)	8GB (4GB per SODIMM)	32GB (16GB per SO-DIMM)	32GB (16GB per SO-DIMM)
	Socket	-	-	2 x 204-pin SODIMM	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM
Display	Controller	-	-	CPU Integrated	CPU Integrated	CPU Integrated	CPU Integrated
	Graphic Engine	Mali-T860MP4	Mali-T860MP4	Intel HD Graphics	Intel HD Graphics	Intel HD Graphics 620/610/520	AMD Radeon HD graphics
	Graphic Memory	-	-	Shared system memory	Shared system memory	Shared system memory	Shared system memory
	Multiple Display	Dual	Dual	Dual	Dual	Dual	4 (V series) 3 (R series)
	Interface	HDMI 2.0 x 1, HDMI 1.4 x 1	HDMI 2.0 x 1, HDMI 1.4 x 1	HDMI x 1, DP++ x1, VGA x1	HDMI 1.4 x 2	HDMI 1.4 x 2	HDMI 2.0 x 4 (V series) HDMI 2.0 x 3 (R series)
	Max. Resolution	4096 x 2304 @ 60Hz	4096 x 2304 @ 60Hz	2048 x 1280 @ 60Hz	3840 x 2160 @ 30Hz	4096 x 2304 @ 24Hz	4096 x 2304 @ 60Hz
Expansion Interface	M.2	1 (2230 E key)	1 (2230 E key)	-	-	-	1 (2242 M key) for Storage 1 (2230 E key) for Wi-Fi
	Mini PCIe	-	-	2	1	1	-
	PCIe x16	-	-	-	-	-	-
	Micro SD Card	1	1	-	-	-	-
Ethernet	Connector	RJ-45 x 2	RJ-45 x 1	RJ-45 x 2	RJ-45 x 1	RJ-45 x 2	RJ-45 x 1
Audio	Connector	1 (Line-out)	1 (Line-out)	2 (SPDIF/ Line-out, Mic-in), supports Jack Sense	2 (SPDIF/ Line-out, Mic-in), supports Jack Sense	1 (SPDIF/ Line-out/Mic-in), supports Jack Sense	1 (SPDIF/ Line-out/Mic-in), supports Jack Sense
WatchDog Timer		Yes	Yes	Yes	Yes	Yes	Yes
Storage	SATA	-	-	1 x 2.5" SATA II HDD/SSD	1 x 2.5" SATA II HDD/SSD	1 x 2.5" SATA III HDD/SSD	-
	mSATA	-	-	Yes, colay Mini PCIe	-	Yes, colay Mini PCIe	-
	eMMC	16GB eMMC on board	16GB eMMC on board	-	-	-	-
I/O	USB3.0	1	1	1	1	4	2
	USB2.0	1	1	3	3	-	2
	COM Port	1 (Console Port)	-	2 (RS-232)	1(RS-232)	1(RS-232)	1 (RS-232)
Power	Power Supply	DC 12V input	DC 12V input	DC 19V input	DC 19V input	DC 19V input	DC 19V input
Environment	Operational Temperature	0 ~ 60°C	0 ~ 60°C	HDD: 0 ~ 40°C SSD: 0 ~ 50°C (with 0.7m/s airflow)	HDD: 0 ~ 40°C SSD: 0 ~ 50°C (with 0.7m/s airflow)	HDD: 0 ~ 40°C (with 0.7m/s airflow)	HDD: 0 ~ 40°C (with 0.7m/s airflow)
Physical Characteristics	Dimensions (L x W x H)	135 x 130 x 29 mm	115 x 110 x 20 mm	204 x 118.2 x 44.2 mm	180 x 190 x 19 mm	180 x 190 x 19 mm	180 x 190 x 19 mm
Operating System		Android 7.1.2, Debian 9 (Linux 4.4 Kernel)	Android 7.1.2, Debian 9 (Linux 4.4 Kernel)	Microsoft Windows, Linux (Option)	Microsoft Windows, Linux (Option)	Microsoft Windows, Linux (Option)	Microsoft Windows, Linux (Option)
Certifications	EMC	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, C-Tick, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI
	Safety	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI

Note: "-" : means Not Applicable (N/A)

WISE-PaaS/SignageCMS

Multimedia Management Software

Media Type	Image, Video, Scrolling Text, Bulletin Board, Time, Flash, PowerPoint, Webpage
Program Management	Customize Program Layouts, Program Preview, Urgent Cast
Output	Portrait/Landscape Display, Multi-screen Output, Audio Output
Schedule Management	Daily/Weekly/Monthly Schedule, Appointment Dispatch, Dispatch Records
Remote Player Management	Unlimited Multipoint Dispatching, Player Group Setting Remote Power on/off (Intel AMT), Remote Software Upgrade, Auto Shutdown Setting, Hardware Monitoring, Software Monitoring, Screenshot Real-time Monitoring
System Management	Authorization Setting, Simultaneous Editing, System backup/ Recovery, Resume Download, Differential Download, App Monitoring
Operating System	Server: Windows 7 or above Windows Server 2008 or above Client: Windows 7 (Embedded/POSReady)

Digital Signage Solutions

Multi-Display Series

Modular Series



Model Name		DS-580	DS-780	DS-980	DS-200	DS-280
Processor System	CPU	Intel Atom™ x7-E3950	Intel Core i7-6600U Intel Core i5-6300U Intel Core i3-6100U Intel Celeron-3955U	Intel Core i7-6700TE Intel Core i5-6500TE Intel Core i3-6100TE	Intel Core i5 8400H Intel Core i3 8100H Intel Celeron G4930E	Intel Core i7-6822EQ Intel Core i5-6442EQ Intel Core i3-6102EQ Intel Celeron G3902E
	BIOS	AMI uEFI 64 Mbit	AMI uEFI 128 Mbit	AMI uEFI 128 Mbit	AMI uEFI 128 MBit	AMI uEFI 128 Mbit
	Chipset	Integrated in CPU	Integrated in CPU	Intel Q170	Intel QM370	Intel QM170
Memory	Technology	DDR3L 1866MHZ	DDR4 2133MHz	DDR4 2133MHz	DDR4 2400MHz	DDR4 2133MHz
	Max. Capacity	16 GB (8 GB per SODIMM)	32GB (16GB per SODIMM)	32GB (16GB per SODIMM)	32GB (16GB per SODIMM)	32GB (16GB per SODIMM)
	Socket	2 x 204-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM	2 x 260-pin SODIMM
Display	Controller	NVIDIA GeForce GT1030	CPU Integrated	CPU Integrated	CPU Integrated	CPU Integrated
	Graphic Engine	-	Intel HD Graphics 520/510	Intel HD Graphics 530	Intel UHD Graphics 630	Intel HD Graphics 530/510
	Graphic Memory	2G GDDR5 (on board memory)	Shared System Memory	Shared system memory	Shared System Memory	Shared system memory
	Multiple Display	Four	Triple	Triple+ (Up to nine with a graphic card)	Triple	Triple
	Interface	HDMI 2.0 x 2, HDMI 1.4 x 2	HDMI 2.0 x 1, HDMI 1.4 x 2	HDMI 2.0 x 1, HDMI 1.4 x2	PCIe x8 (98 fingers) x 1, mini-DP++ x 1	JAE TX25 80-pin x 1, HDMI 2.0 x1, DP x1
	Max. Resolution	3840 x 2160 @ 60Hz	4096 x 2160 @ 60Hz	4096 x 2160 @ 60Hz	4096 x 2304 @ 60Hz	4096 x 2304 @ 60Hz
Expansion Interface	M.2	1 (2230 E key)	1 (2230 E key)	1 (2230 E key)	1 (2242 M key) for Storage 1 (2230 E key) for Wi-Fi	-
	Mini PCIe	1	1	1	-	1
	PCIe x16	-	-	1	-	-
Ethernet	Connector	RJ-45 x 2	RJ-45 x 2	RJ-45 x 2	RJ-45 x 1	RJ-45 x 2
Audio	Connector	2 (SPDIF/ Line-out, Mic-in), supports Jack Sense	1(SPDIF/ Line-out/ Mic-in), supports Jack Sense	2 (SPDIF/ Line-out, Mic-in), supports Jack Sense	1(SPDIF/ Line-out/ Mic-in), supports Jack Sense	1 (Line-out), supports Jack Sense
WatchDog Timer		Yes	Yes	Yes	Yes	Yes
Storage	SATA	1 x 2.5-inch SATA III HDD/SSD	1 x 2.5" SATA III HDD/SSD	1 x 2.5" SATA III HDD/ SSD (top); 1 x 2.5" SATA III SSD (bottom), supports RAID 0/1	-	1 x 2.5" SATA III HDD/ SSD
	mSATA	Yes, colay Mini PCIe	Yes, colay Mini PCIe	Yes, colay Mini PCIe	-	Yes, colay Mini PCIe
I/O	USB3.0	2	4	4	5 (From Bracket x 4, SDM connectionx 1)	3
	USB2.0	2	-	2	-	-
	COM Port	1 (RS-232)	1 (RS-232)	1 (RS-232)/ 2 (RS-485 & 422 with extension cable)	1 (RS-232) via SDM Connection, Tx/Rx Only	-
Power	Power Supply	DC 19V input	DC 19V input	DC 12V input	DC 12V input (via SDM Connection)	DC 12V-19V input (via OPS connector)
Environment	Operating Temperature	HDD: 0 ~ 40°C SSD: 0 ~ 50°C (with 0.7m/s airflow)	0 ~ 40°C (with 0.7m/s airflow)	0 ~ 40°C	0 ~ 55°C	HDD: 0 ~ 40°C SSD: 0 ~ 50°C
Physical Characteristics	Dimensions (L x W x H)	220 x 150 x 40 mm	235 x 175 x 35 mm	267.6 x 205 x 88 mm	175 x 100 x 20 mm (SDM-L compliant)	200 x 119 x 30 mm
Operating System		Windows 10, Linux (Option)	Microsoft Windows, Linux (Option)	Microsoft Windows, Linux (Option)	Microsoft Windows, Linux (Option)	Microsoft Windows, Linux (Option)
Certifications	EMC	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B, CCC, BSMI	CE, FCC Class B	CE, FCC Class B, CCC, BSMI
	Safety	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	UL, CB, CCC, BSMI	LVD	UL, CB, CCC

Note: "-" : means Not Applicable (N/A)

WISE-PaaS/ DeviceOn

Device Monitoring and Management

Device Management	IPC Device Management, Group View, Map View, HW Status Monitoring & Rule Setting, SW Process Monitoring & Rule Setting, Data Auto Report, Dashboard
Remote KVM	Remote KVM, Terminal Mode, Intel AMT Integration , Screenshot
Power Management	Remote On/Off, Hibernate, Power On/Off Scheduling
System Protection	McAfee White List Protection
System Recovery	Acronis Backup/Recovery, Backup/Recovery Scheduling, Hot-Key Recovery
Notification Center	Event Log, Email Notification, SMS Notification
Management Interface	Account/Role management, Mobile Mode, Web-Based Console
Others	RESTful API Web Service

Intelligent Transportation Systems

NEW






Application		Outdoor NVR			In-Vehicle
Model Name		ARK-2121S	ARK-2151S	ARK-2250S	ARK-2121V
Processor System	CPU	Intel Atom E3845	4th Gen Intel® Core i5 4300U	6th Gen Intel Core i5-6442EQ/i7-6822EQ	Intel Atom E3825/E3845
	Frequency	1.91 GHz	1.9 GHz	1.9GHz/2.0GHz	1.33 GHz / 1.91 GHz
	Core Number	4	2	4	2/4
	BIOS	AMI EFI 64 Mbit	AMI EFI 128 Mbit	AMI UEFI 128Mbit	AMI EFI 64 Mbit
	Chipset	SoC	SoC	QM170	SoC
Memory	Technology	DDR3L 1333 MHz	DDR3L 1600 MHz	DDR4 2133MHz	DDR3L 1066/1333 MHz
	Max. Capacity	8 GB	8 GB	32 GB	8 GB
	Socket	1 x 204-pin SO-DIMM	1 x 204-pin SO-DIMM	2 x 260-pin SODIMM	1 x 204-pin SODIMM
Display	VGA	1 (up to 1600 x 1200)	1 (up to 1920 x 1200)	-	1 (up to 1600 x 1200)
	DDI (HDMI/DVI/ DisplayPort)	1 x lockable HDMI, up to 1080P	1 x lockable HDMI, up to 4K at 24 Hz	2 x lockable HDMI, up to 1080P	1 x lockable HDMI, up to 1080P
	Multiple Display	Dual	Dual	Dual	Dual
Expansion Interface	MiniPCIe / M.2	1 x Full-size Mini PCIe 1 x Full-size Mini PCIe 2 x Full-size Mini PCIe w/SIM holders	1 x Half-size Mini PCIe 1 x Full-size Mini PCIe 2 x Full-size Mini PCIe w/SIM holders	1x M.2 (2230 E Key) 2 x Full-size Mini PCIe w/SIM holders	1 x Full-size Mini PCIe 1 x Full-size Mini PCIe 2 x Full-size Mini PCIe w/SIM holders
	SIM socket	2	2	2 (accessible)	2
Other	GPS	-	-	-	Supports GPS, GLONASS, GALILEO and OZSS signals
	G-Sensor	-	-	-	Optional
	PoE	4 x 10/100 Mbps PoE	4 x 10/100 Mbps PoE	Optional extended modules 4/8 GbE PoE (M12 D/X-coded)	4 x 10/100 Mbps PoE (E3845)
	CANBus	-	-	optional	optional
Ethernet	Controller	GbE 1: Intel I210-IT GbE 2: Intel I210-IT	GbE 1: Intel I218 GbE 2: Intel I210-IT	GbE 1: Intel i219 GbE 2: Intel i210	GbE 1: Intel I210-IT GbE 2: Intel I210-IT
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio
	Connector	3 (Line-in, Line-out, Mic-in)	3 (Line-in, Line-out, Mic-in)	3 (Line-in, Line-out, Mic-in)	3 (Line-in, Line-out, Mic-in)
	3G Voice			-	1 x Line-out, 1 x Mic-in
WatchDog Timer		Yes	Yes	Yes	Yes
Storage	SATA	1 x 2.5" removable drive bay	1 x 2.5" removable drive bay	1 x 2.5" removable drive bay Optional 2nd 2.5" drive bay in extended modules	1 x 2.5" removable drive bay
	mSATA	1 x Full-size mSATA	1 x Full-size mSATA	1 x Full-size mSATA	1 x Full-size mSATA
I/O	USB 3.0	1	2	3	1
	USB 2.0	3	2	-	3
	GPIO	6 x DI & 2 x DO with isolation	6 x DI & 2 x DO with isolation	4x DI & 4x DO with isolation	6 x DI & 2 x DO with isolation
	COM Port	2 x (RS-232/422/485)	2 x (RS-232/422/485)	3 x RS-232/422/485	2 x isolated RS-232/422/485 2 x RS-232/422/485 (E3825) 2 x RS-232/422/485 (E3845)
	LAN	2 x RJ45	2 x RJ45	2 x RJ45	2 x RJ45
Power	Power Supply Voltage	9 ~ 36 V_{DC} w/ isolation	9 ~ 36 V_{DC} w/ isolation	12 ~ 24 V_{DC} w/ isolation	9 ~ 36 V_{DC} w/power ignition management
	Connector	3-pin Phoenix	3-pin Phoenix	5-pin Phoenix	3-pin Phoenix
	Power Adaptor	AC to DC, 19 V_{DC}, 120W	AC to DC, 19 V_{DC}, 120W	AC to DC, 24Vdc, 150W	AC to DC, 19 V_{DC}, 120W
	Regulation	-	-	-	ISO 7637-2 lev.4
Environment	Operating Temperature (air flow 0.7 m/sec)	-30 ~ 60 °C	-20 ~ 60 °C	-20 ~ 70 °C	-30 ~ 70 °C (E3825) -30 ~ 60 °C (E3845)
	Vibration Resistance	3 Grms	3 Grms	MIL-STD 810G, NEMA TS2	IEC 60721-3-5 Class 5M3
	Shock Protection	30 G	30 G	MIL-STD 810G, NEMA TS2	IEC 60721-3-5 Class 5M3
Physical Characteristics	Dimensions (W x H x D)	264.5 x 69.2 x 133.0 mm	264.5 x 75.1 x 133.0 mm	260 x 73 x 160.2 mm (260 x 99.6 x 160.2 mm with 2nd stack)	264.5 x 69.2 x 133.0 mm
Operating System	Microsoft Windows	Yes (Win7, 10)	Yes (Win7, 10)	Yes (Win7, 10)	Yes (Win7, 10)
	Linux	Yes (by Project)	Yes (by Project)	Yes (by Project)	Yes (by Project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes
Certification	EMC	CE/FCC Class A, CCC, BSMI	CE/FCC Class A, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC Class A, CCC, BSMI
	Safety Certifications	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	CB, UL, CCC, BSMI	UL, CCC, BSMI, CB, E-Mark

Note: "-" : means Not Applicable (N/A)

Intelligent Transportation Systems

NEW NEW






Application		In-Vehicle		Rolling Stock	
Model Name		ARK-2151V	ARK-2250V	ARK-2231R	ARK-2250R
Processor System	CPU	4th Gen Intel Celeron 2980U/ Core i5-4300U	6th Gen Intel Core i5-6442EQ/i7-6822EQ	Intel Atom E3845	6th Gen Intel Core i5-6442EQ/i7-6822EQ
	Frequency	1.6 GHz / 1.9 GHz	1.9GHz/2.0GHz	1.91GHz	1.9GHz/2.0GHz
	Core Number	2	4	4	4
	BIOS	AMI EFI 128 Mbit	AMI UEFI 128 Mbit	AMI EFI 64-bit	AMI UEFI 128 Mbit
	Chipset	SoC	QM170	SoC	QM170
Memory	Technology	DDR3L 1333/1600 MHz	DDR4 2133MHz	DDR3L 1333	DDR4 2133MHz
	Max. Capacity	8 GB	32G	8G	32G
	Socket	1 x 204-pin SODIMM	2 x 260-pin SODIMM	1 x 204-pin SODIMM	2 x 260-pin SODIMM
Display	VGA	1 (up to 1920 x 1200)	1 (up to 1920 x 1200)	1 (up to 2560 x 1600)	-
	DDI (HDMI/DVI/ DisplayPort)	1 x lockable HDMI, up to 4K at 24 Hz	1 x lockable HDMI, up to 1080P	1 x lockable HDMI, up to 1080P	2 x lockable HDMI, up to 1080P
	Multiple Display	Dual	Dual	Dual	Dual
Expansion Interface	MiniPCIe / M.2	1 x Half-size Mini PCIe 1 x Full-size Mini PCIe 2 x Full-size Mini PCIe w/SIM holders	1x M.2 (2230 E Key) 2 x Full-size Mini PCIe w/SIM holders	1 x Full-size Mini PCIe 1 x Full-size Mini PCIe 1 x Full-size Mini PCIe w/SIM holder	1x M.2 (2230 E Key) 2 x Full-size Mini PCIe w/SIM holders
	SIM socket	2	2 (accessible)	1 (accessible)	2 (accessible)
Other	GPS	Support GPS, GLONASS, GALILEO and QZSS signals	Support GPS, GLONASS, GALILEO, BeiDou and QZSS signals	Support GPS, GLONASS, GALILEO, BeiDou and QZSS signals	Support GPS, GLONASS, GALILEO, BeiDou and QZSS signals
	G-Sensor	Optional	Optional	Optional	Optional
	PoE	4 x 10/100 Mbps PoE (4300U)	Optional extended modules 4/8 GbE PoE (M12 D/X-coded)	Optional extended modules 4/8 GbE PoE (M12 D/X-coded)	Optional extended modules 4/8 GbE PoE (M12 D/X-coded)
	CANBus	optional	optional	optional	optional
Ethernet	Controller	GbE 1: Intel I218 GbE 2: Intel I210-IT	GbE 1: Intel i219 GbE 2: Intel i210	GbE 1: Intel I210-IT GbE 2: Intel I210-IT	GbE 1: Intel i219 GbE 2: Intel i210
Audio	Audio Interface	HD Audio	HD Audio	HD Audio	HD Audio
	Connector	3 (Line-in, Line-out, Mic-in)	3 (Line-in, Line-out, Mic-in)	DB9 (Line-in, Line-out, Mic-in)	DB9 (Line-in, Line-out, Mic-in)
	3G Voice	1 x Line-out, 1 x Mic-in	-	-	-
WatchDog Timer		Yes	Yes	Yes	Yes
Storage	SATA	1 x 2.5" removable drive bay	1 x 2.5" removable drive bay Optional 2nd 2.5" drive bay in extended modules	1 x 2.5" removable drive bay Optional 2nd 2.5" drive bay in extended modules	1 x 2.5" removable drive bay Optional 2nd 2.5" drive bay in extended modules
	mSATA	1 x Full-size mSATA	1 x Full-size mSATA	1 x Full-size mSATA	1 x Full-size mSATA
I/O	USB 3.0	2	3	1 (Water-proof)	1 (Type A female)
	USB 2.0	2	-	2 (M12 A-Coded)	2 (M12 A-Coded)
	GPIO	6 x DI & 2 x DO with isolation	4 x DI & 4 x DO with isolation	1 x 8bit DIO	1 x 8bit DIO
	COM Port	2 x isolated RS-232/422/485 2 x RS-232/422/485 (2980U) 2 x RS-232/422/485 (4300U)	3 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485
	LAN	2 x RJ45	2 x RJ45	2 x M12 X-code	2 x M12 X-code
Power	Power Supply Voltage	9 ~ 36 V_{DC} w/power ignition management	12/24 V_{DC} w/power ignition management	24 V_{DC} (48 V_{DC}, 72 V_{DC}, 110 V_{DC} optional)	24 V_{DC} (48 V_{DC}, 72 V_{DC}, 110 V_{DC} optional)
	Connector	3-pin Phoenix	5-pin Phoenix	M12 A-coded	M12 A-coded
	Power Adaptor	AC to DC, 19 V_{DC}, 120W	AC to DC, 24Vdc, 150W	AC to DC, 24Vdc, 180W	AC to DC, 24Vdc, 180W
	Regulation	ISO 7637-2 lev.4	ISO 7637-2 Lev.4	EN50155 S2&C1	EN50155 S2&C1
Environment	Operating Temperature (air flow 0.7 m/sec)	-20 ~ 60 °C	-20 ~ 70 °C	-40 ~ 70 °C (EN50155 TX)	-40 ~ 70 °C (EN50155 TX)
	Vibration Resistance	IEC 60721-3-5 Class 5M3	IEC 60721-3-5 Class 5M3, MIL-STD 810G	IEC61373 Category1, Class B	IEC61373 Category1, Class B
	Shock Protection	IEC 60721-3-5 Class 5M3	IEC 60721-3-5 Class 5M3, MIL-STD 810G	IEC61373 Category1, Class B	IEC61373 Category1, Class B
Physical Characteristics	Dimensions (W x H x D)	264.5 x 75.1 x 133.0 mm	260 x 73 x 160.2mm 260 x 99.6 x 160.2mm with extension module	260 x 57 x 160.2mm 260 x 83.6 x 160.2mm with extension module	260 x 73 x 160.2mm 260 x 99.6 x 160.2mm with extension module
Operating System	Microsoft Windows	Yes (Win7, 10)	Yes (Win7, 10)	Yes (Win7, 10)	Yes (Win7, 10)
	Linux	Yes (by Project)	Yes (by Project)	Yes (By project)	Yes (By project)
APIs	WISE-PaaS/DeviceOn	Yes	Yes	Yes	Yes
Certification	EMC	CE/FCC Class A, CCC, BSMI	CE/FCC Class B, CCC, BSMI	CE/FCC, CCC, BSMI, EN50121-3-2	CE/FCC, CCC, BSMI, EN50121-3-2, EN50121-4
	Safety Certifications	UL, CCC, BSMI, CB, E-Mark	CB, UL, CCC, BSMI, E-Mark	UL, CCC, BSMI, CB, EN50155	UL, CCC, BSMI, CB, EN50155

Note: "-" : means Not Applicable (N/A)

Gaming Computing Platforms

Standalone Series



Model Name		DPX®-S2450	DPX®-S450	DPX®-S2445	DPX®-S445	DPX®-S2440	DPX®-S440	DPX® -S1435	DPX®-S435
Form Factor		DPX® Gaming System	DPX® Gaming Board	DPX® Gaming System	DPX® Gaming Board	DPX® Gaming System	DPX® Gaming Board	DPX® Gaming System	DPX® Gaming Platform
Processor System	CPU	AMD Ryzen™ Embedded V1000/ R1000 APU		Intel® 6th / 7th Generation Core™- i		AMD Embedded R-Series APU (formerly code-named Merlin Falcon)		Intel 4th Generation Core i	
	Socket	BGA		LGA 1151		BGA		LGA1150	
	max. speed	3.35 (3.8) GHz		2.9 GHz (3.8) GHz		2.8 (3.4) GHz		2.77 GHz	
	TDP	45W		54W		35W		45W	
	Chipset	SoC		Q170		SOC		Q87	
	BIOS	AMI APTIO UEFI (Gaming optimised)		AMI APTIO UEFI (Gaming optimised)		AMI APTIO UEFI (Gaming optimised)		AMI (dual SPI) Gaming Architecture	
Expansion Slot	PCI	-		-		-		-	
	MINI PCIe/ mSATA	-		-		-		-	
	PCIe	PCIe x 16 (x8 signal)		PCIe x 16		PCIe x 16 (x 8 mode)		PCIe x 16	
	MXM	-		-		-		-	
Memory	Technology	Dual Channel DDR4 3200MHz		Dual Channel DDR4 2400MHz		Dual Channel DDR3/3L 2133MHz		Dual Channel DDR3/3L 1600Mhz	
	Max. Capacity	32GB		32GB		16GB		16GB	
	Socket	2x SODIMM		2x SODIMM		2x SODIMM		2x SODIMM	
Graphics	Controller	in APU (AMD Radeon™ VEGA series graphics engine)		in CPU (Intel GT2-530)		in APU - Radeon R7 (HD10000)		in CPU (Intel HD4600)	
	VGA	-		-		-		1	
	DVI	-		-		-		2	
	DP	4		3		3		1	
	HDMI	-		-		-		-	
Ethernet	LAN1	GbE		GbE		GbE		GbE	
	LAN2	GbE		GbE		GbE		GbE	
Storage	SATA	2		2		2		2	
	CompactFlash	-		-		-		-	
	Cfast	2		-		2		2	
	M.2	1		-		-		-	
I/O	VGA/DVI/HDMI/ DP	0/0/0/4		0/0/0/3		0/0/0/3		1/2/0/1	
	Ethernet	2		2		2		2	
	USB 2.0	8		9		8		8	
	USB 3.0	3		2		3		3	
	Audio	1 (ch5.1), SPDIF		1 (ch5.1), SPDIF		1 (ch5.1), SPDIF		1 (ch5.1), SPDIF	
	Serial Port	10		10		10		10	
	Serial Type RS232/Cctalk/ TTL/485	9/2/2/1		10/2/2/1		10/2/1/1		10/2/2/1	
Gaming Hardware	SRAM	8MB		8MB		8MB		8MB	
	ROM Sockets	SPI ROM module		SPI ROM module		SPI ROM module		PLCC	
	TPM	TPM 2.0/1.2		TPM 2.0/1.2		TPM 2.0/1.2		TPM1.2	
	Audio Amplifier	15W+15W+15W (FL,FR, LFE)		15W+15W+15W (FL,FR, LFE)		15W+15W+15W (FL,FR, LFE)		15W+15W+15W (FL,FR, LFE)	
	Digital Inputs	32 (ESD protected)		32 (ESD protected)		32 (ESD protected)		32 (ESD protected)	
	Digital Outputs	32 (OC 500mA 50V)		32 (OC 500mA 50V)		32 (OC 500mA 50V)		32 (OC 500mA 50V)	
	Intrusion Inputs	8		8		8		8	
	iButton® / GPIO	2		2		2		2	
	DPCI Expansion	-		-		-		-	
	Watchdog Timer	1		1		1		1	
	Dual BIOS	-		-		-		1	
Gaming Software	DPCI Advanced Gaming API & Runtime	Standard		Standard		Standard		Standard	
	DPX Connector Peripherals Libraries	Standard		Standard		Standard		Standard	
	Embedded OS Support	Standard		Standard		Standard		Standard	
	BIOS Customization	Optional		Optional		Optional		Optional	
	DPX SAS Connector	Optional		Optional		Optional		Optional	
	SecureBoot	Optional		Optional		Optional		Optional	
Other Features		I2C, Precision RTC, ATX or 12VDC power		I2C, Precision RTC, ATX or 12VDC power		LED lamp driver, I2C, Precision RTC, ATX or 12VDC power		I2C, RTC, ATX power	

Note: "-" : means Not Applicable (N/A)

Gaming Computing Platforms

Economy Series







Model Name		DPX®-E135	DPX®-E140	DPX®-E265
Form Factor		DPX® Gaming System	DPX® Gaming System	Extended Mini-ITX
Processor System	CPU	AMD Embedded G-Series APU	AMD Ryzen™ Embedded V1000 APU	AMD Ryzen™ Embedded V1000 APU
	Socket	BGA	BGA	BGA
	max. speed	2.4 GHz	3.35 (3.8) GHz	3.35 (3.8) GHz
	TDP	25W (passive cooled)	15-25W (passive cooled), 54W (fan)	54W
	Chipset	SoC	SoC	SoC
	BIOS	AMI Gaming Architecture	AMI APTIO UEFI (Gaming optimised)	AMI APTIO UEFI (Gaming optimised)
Expansion Slot	PCI	-	-	-
	MINI PCIe/mSATA	-	-	-
	PCIe	-	-	PCIe x16 (x8 signal), 2 PCI-e x1 (via expansion)
	MXM	-	-	-
Memory	Technology	Dual Channel DDR3/3L 1866MHz	Dual Channel DDR4 3200MHz	Dual Channel DDR4 3200MHz
	Max. Capacity	16GB	32GB	32GB
	Socket	2x SODIMM	2x SODIMM	2x SODIMM
Graphics	Controller	in APU (AMD Radeon HD 8000)	in APU (AMD Radeon™ VEGA series graphics engine)	in APU (AMD Radeon™ VEGA series graphics engine)
	VGA	1	-	-
	DVI	-	-	-
	DP	2	4	4
	HDMI	-	-	-
Ethernet	LAN1	GbE	GbE	GbE
	LAN2	GbE	GbE	GbE
Storage	SATA	2	2	2
	CompactFlash	-	-	-
	Cfast	2	2	2
	M.2	-	1	1
I/O	VGA/DVI/HDMI/DP	1/0/0/2	0/0/0/4	0/0/0/4
	Ethernet	2	2	2
	USB 2.0	7	7	6 (2 via expansion)
	USB 3.0	2	2	3
	Audio	1 (ch5.1), SPDIF	1 (ch5.1), SPDIF	1 (ch2.1)
	Serial Port	10	9	6
	Serial Type RS232/ Cctalk/TTL/485	4/2/1/1	4/2/1/1	6/1/1/1
Gaming Hardware	SRAM	8MB	8MB	-
	ROM Scokets	SPI ROM module	SPI ROM module	SPI ROM module
	TPM	TPM 2.0/1.2	TPM 2.0/1.2	TPM 2.0/1.2
	Audio Amplifier	20W+20W (FL, FR)	20W+20W (FL, FR)	-
	Digital Inputs	32 (ESD protected)	32 (ESD protected)	-
	Digital Outputs	32 (OC 500mA 50V)	32 (OC 500mA 50V)	-
	Intrusion Inputs	8	8	1
	iButton® / GPIO	2	2	-
	DPCI Expansion	-	-	-
	Watchdog Timer	1	1	1
	Dual BIOS	-	-	-
Gaming Software	DPCI Advanced Gaming API & Runtime	Standard	Standard	N/A
	DPX Connector Peripherals Libraries	Standard	Standard	Standard
	Embedded OS Support	Standard	Standard	Standard
	BIOS Customization	Optional	Optional	Optional
	DPX SAS Connector	Optional	Optional	Optional
	SecureBoot	Optional	Optional	Optional
Other Features		LED lamp driver, I2C, Precision RTC, ATX or 12VDC power	ATX or 12VDC power	ATX or 12VDC power Side expansion for M series modules

Note: "-" : means Not Applicable (N/A)

Modular Series





Model Name		DPX®-M270	DPX-M1270
Form Factor		Extended Mini-ITX	DPX® Multimedia Gaming System
Processor System	CPU	Intel® 8th & 9th Gen. Core™-i7/i5/i3	
	Socket	LGA1151	
	max. speed	3.2(4.6) GHz	
	TDP	65W	
	Chipset	Q370/H310	
	BIOS	AMI UEFI SPI with Secureboot support	
Expansion Slot	PCI	-	
	MINI PCIe/mSATA	-	
	PCIe x 16	PCIe x16 Gen3	
	Side Expansion Port	2 PCIe x1, 2(1) USB, I2C, Control	
	MXM	-	
Memory	Technology	Dual Channel DDR4 2666 MHz SDRAM (Non-ECC)	
	Max. Capacity	32 GB/ 16 GB per SO-DIMM	
	Socket	2 x 260 PIN DDR4 SO-DIMM	
Graphics	Controller	Intel UHD Graphics 630 / Intel HD Graphics 615	
	VGA	-	
	DVI	-	
	DP	2	
	HDMI	1	
Ethernet	LAN1	GbE	
	LAN2	GbE	
Storage	SATA	2	
	CompactFlash	-	
	Cfast	-	
	M.2	1	
I/O	VGA/DVI/HDMI/DP	0/0/1/2	
	Ethernet	2	
	USB 2.0	10 (Q370. 2 via side expansion) / 6 (H310. 1 via side expansion)	
	USB 3.0	4	
	Audio	6-Way header (Line-out (FL, FR, LFE), SPDIF_Out)	
	Serial Port	2 x DB-9 RS-232 full signal, supports 9 bit data)	
	Serial Type RS232/Cctalk/TTL/485	6/1/1/0	
Gaming Hardware	SRAM	-	
	ROM Scokets	-	
	TPM	TPM2.0	
	Audio Amplifier	-	
	Digital Inputs	-	
	Digital Outputs	-	
	Intrusion Inputs	5 (4 via side expansion)	
	iButton® / GPIO	-	
	DPCI Expansion	-	
	Watchdog Timer	1	
	Dual BIOS	-	
Gaming Software	DPCI Advanced Gaming API & Runtime	N/A	
	DPX Connector Peripherals Libraries	Standard	
	Embedded OS Support	Standard	
	BIOS Customization	Optional	
	DPX SAS Connector	Optional	
	SecureBoot	Optional	
Other Features		12VDC power	

Note: "-" : means Not Applicable (N/A)

Industrial Display Systems

IDK-1000

Industrial Touch LCD Kits



Features

- 5.7"~28" industrial grade LCD kits with LED backlight
- Suitable for indoor applications
- LVDS signal interface
- Resistive/Projected Capacitive touchscreen support
- Touch controller included with USB cable
- Full compatibility with embedded boards

RoHS COMPLIANT 2002/95/EC

Specifications

		IDK-1105	IDK-065	IDK-1107			IDK-1108	IDK-1110W		IDK-1110		IDK-1112		IDK-1115WP		IDK-1115		IDK-1119	IDK-1121	
LCD Display	Size	5.7"	6.5"	7"			8.4"	10.1"		10.4"		12.1"		15.6"		15"		19"	21.5"	
	Resolution	640x480 (VGA)	640x480 (VGA)	800x480 (WVGA)	800x480 (WVGA)	1024x600 (WSVGA)	800x600 (SVGA)	1024x600 (WSVGA)	1280x800 (WXGA)	800x600 (SVGA)	1024x768 (XGA)	800x600 (SVGA)	1024x768 (XGA)	1366x768 (HD)	1920x1080 (FHD)	1024x768 (XGA)	1024x768 (XGA)	1280x1024 (SXGA)	1920x1080 (FHD)	1920x1080 (FHD)
	Brightness (cd/m²)	500	800	400	400	500	450	550	500	400	500	450	500	500	450	500	500	350	300	250
	Colors	262K	262K / 16.2M	262K / 16.2M	262K / 16.2M	262K / 16.2M	262K / 16.2M	262K	262K / 16.2M	262K / 16.2M	16.2M	262K / 16.2M	262K / 16.2M	262K	16.2M	262K / 16.2M	262K / 16.2M	16.7M	16.7M	16.7M
	Viewing Angle (H/V°)	140/100	160/140	160/160	150/145	140/120	160/140	120/140	170/170 (IPS)	160/130	176/176	160/140	178/178 (IPS)	160/150	170/170 (IPS)	178/178 (MVA)	178/178 (MVA)	170/160	178/178 (MVA)	178/178 (IPS)
	Contrast Ratio	250:1	600:1	750:1	700:1	600:1	600:1	500:1	800:1	700:1	1000:1	700:1	1000:1	600:1	800:1	2500:1	2500:1	1000:1	5000:1	1000:1
	ResponseTime (ms)	50	25	30	25	16	30	25	25	20	25	35	25	11	25	23	23	5	25	14
	Signal Interface	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	2 Channel LVDS	LVDS	LVDS	2 Channel LVDS	2 Channel LVDS	2 Channel LVDS
	Backlight Type	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED
	Backlight Life (hrs)	30,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	30,000	50,000	50,000	70,000	70,000	50,000	50,000	30,000
	Power Consumption (W)	1.8	3.86	3.7	4.7	3.56	2.94	7.99	6.18	4.8	7.9	6.7	9.62	12.1	16	12.8	12.8	20.55	19.82	11.05
	Dimensions (mm)	127x98x8	153x118x11	170x111x8	166x104x7	188x128x12.4	203x143x8	235x146x8	231x153x7	243x184x7	223x176x9	279x209x9	261x240x8.4	364x216x9.3	364x216x9.3	327x254x9.1	327x254x9.1	396x324x18	497x292x13	498x292x11
	Weight (g)	200	170	165	139	160	250	320	360	365	430	580	490	720	1050	960	960	1670	2300	1685
Touchscreen	Touchscreen	4-Wire Resistive	4-Wire Resistive	4-Wire Resistive	4-Wire Resistive	P-cap	4-Wire Resistive	4-Wire Resistive	P-cap	4-Wire Resistive	P-cap	5-Wire Resistive	P-cap	P-cap	P-cap	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	P-cap
	Durability (touches)	1 million	1 million	1 million	1 million	50 million ~	1 million	1 million	50 million ~	1 million	50 million ~	10 million	50 million ~	50 million ~	50 million ~	10 million	50 million ~	10 million	10 million	50 million ~
	Surface Hardness	3H	3H	3H	3H	Mohs 5H	3H	3H	Mohs 5H	3H	Mohs 5H	3H	Mohs 5H	Mohs 5H	Mohs 5H	3H	Mohs 5H	3H	3H	Mohs 5H
	Transparency	80%	82.50%	82.50%	82.50%	90%	82.50%	82.50%	91%	82.50%	90%	80%	88%	87%	87%	80%	91%	80%	80%	91%
Environment	Operating Temperature (°C)	-20 ~ 70	-10 ~ 60	-5 ~ 60	-20 ~ 70	-20 ~ 70	-10 ~ 60	-5 ~ 60	-20 ~ 65	-10 ~ 60	-20 ~ 70	-20 ~ 70	-20 ~ 70	-20~70	-20~70	-20 ~ 70	-20 ~ 70	0 ~ 50	0 ~ 60	0 ~ 50

IDK-2000

High Brightness Industrial LCD Kits



Features

- 8.4" ~ 21.5" industrial grade LCD kits with LED backlight
- 1200 nits for outdoor applications
- LVDS signal interface
- Resistive touch
- Auto-dimming light sensor (optional)
- Full compatibility with embedded boards

RoHS COMPLIANT 2002/95/EC

Specifications

		IDK-2108	IDK-2110		IDK-2112		IDK-2115	IDK-2117	IDK-2119	IDK-2121
LCD Display	Size	8.4"	10.4"		12.1"		15"	17"	19"	21.5"
	Resolution	800 x 600 (SVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)	800 x 600 (SVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)	1920 x 1080 (FHD)
	Brightness (cd/m^2)	1200	1200	1300	1200	1200	1200	1200	1200	1200
	Colors	262K / 16.2M	262K / 16.2M	262K / 16.2M	262K / 16.2M	262K / 16.2M	262K / 16.2M	16.2M	16.7 M	16.7M
	Viewing Angle (H/V°)	160/140	160/130	170/170	160/140	178/178 (IPS)	178/178 (MVA)	170/160	170/160	178/178 (MVA)
	Contrast Ratio	600:1	500:1	700:1	700:1	1000:1	2000:1	1000:1	1000:1	5000:1
	ResponseTime (ms)	30	35	30	35	25	25	5	5	16
	Signal Interface	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	2 Channel LVDS	2 Channel LVDS	2 Channel LVDS
	Backlight Type	LED	LED	LED	LED	LED	LED	LED	LED	LED
	Backlight Life (hrs)	50,000	50,000	70,000	50,000	50,000	50,000	50,000	50,000	50,000
	Power Consumption (W)	5.85	7.1	16.05	8.92	18	18.12	19.12	35.42	46.8
	Dimensions (mm)	203.0 x 142.5 x 8.0	236.0 x 176.9 x 5.7	230 x 180.2 x 12.3	279 x 209.0 x 9.0	260.5 x 240 x 8.4	326.5 x 253.5 x 9.1	358.5 x 296.5 x	396 x 324 x 17.8	495.6 x 292.2 x 11.7
	Weight (g)	260	495	480	600	540	1060	1300	1770	2050
Touchscreen	Touchscreen	4-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive
	Durability (touches)	1 millions	1 million	1 million	10 million	50 million ~	10 million	10 million	10 million	10 million
	Surface Hardness	3H	3H	3H	3H	Mohs 5H	3H	3H	3H	3H
	Transparency	82.50%	82.50%	82.50%	80%	88%	80%	80%	80%	80%
Environment	Operating Temperature (°C)	-20 ~ 70	-10~60	-10~60	-20 ~ 70	-20 ~ 70	-20 ~ 70	0 ~ 50	0 ~ 50	0 ~ 55

Industrial Display Systems

IDS-3100

Open Frame Monitors



- 6.5" ~ 27" industrial grade LCD panel with LED backlight
- Slim open frame design with integrated bracket
- VGA/DVI/HDMI interfaces
- P-cap and resistive touch screen options
- Rear/VESA mount
- Optional high brightness solution
- Easy integration with embedded box PCs

FCC RoHS COMPLIANT 2002/95/EC CE

Specifications

Model		IDS-3106	IDS-3110			IDS-3112			IDS-3115			IDS-3117		IDS-3118W		IDS-3119	IDS-3121W
LCD Display	Screen Size	6.5"	10.4"	10.4"	10.4"	12.1"	12.1"	12.1"	15"	15"	15"	17"	17"	18.5"		19"	21.5"
	Resolution	640 x 480 (VGA)	800 x 600 (SVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)	800 x 600 (SVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)	1366 x 768 (HD)		1280 x 1024 (SXGA)	1920 x 1080 (FHD)
	Colors	16.2M	16.2M	16.2M	16.2M	16.2M	16.2M	16.2M	16.2M	16.7M	16.2M	16.7M	16.7M	16.7M		16.7M	16.7M
	Viewing Angle (H/V°)	160/140	160/130	160/140	176/176	160/140	160/140	160/140	176/176	176/176	176/176	170/160	170/160	170/160		170/160	178/178
	Contrast Ratio	600:1	500:1	700:1	1000:1	700:1	700:1	700:1	2000:1	2500:1	2500:1	1000:1	800:1	1000:1		1000:1	1000:1
	Response Time (ms)	25	35	30	25	35	35	16	16	23	23	5	30	5		5	5
	Brightness (cd/m²)	800	230	400	500	450	450	600	300	500/1200	500/1200	250	350	300		350	250
	Backlight Type	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED		LED	LED
	Backlight Life	50,000	30,000	50,000	50,000	50,000	50,000	50,000	70,000	70,000	70,000	40,000	50,000	50,000		50,000	30,000
	Dimensions (mm) (without touch)	215 x 160 x 32.1	279.4 x 220 x 30	279.4 x 220 x 30	279.4x220x30	320.2 x 252 x 30.7	320.2 x 252 x 30.7	320.2 x 252 x 30.7	362 x 288 x 32.8	362 x 288 x 32.8	362 x 288 x 32.8	400 x 344.7 x 33.4	400 x 344.7 x 33.4	478 x 303 x 33		438 x 369.7 x 34.3	546.6 x 299.2 x 45.5
	Weight (kg) (without touch)	0.8	0.95	1	1	1.6	1.6	1.6	3.8	3.8	3.8	4.1	3.45	5		5.2	6
Environment	Operating Temperature (°C)	0~50	0~45	-20~60	-20~60	0~45	-20~60	-20~60	0~45	-20~60	-20~60	0~45	-20~60	0~55		0~45	0~45
	Storage Temperature (°C)	-20~60	-20~60	-30~70	-30~70	-20~60	-30~70	-30~70	-20~60	-30~70	-30~70	-20~60	-30~70	-20~60		-20~60	-20~60
	Humidity (non-condensing)	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	90% @ 40°C		5~95% @ 40°C	5~95% @ 40°C
Touchscreen (Optional)	Type	4-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	P-cap
	Transparency	80%	81%	81%	81%	90%	80%	80%	80%	90%	80%	80%	89%	80%	80%	80%	86%	80%	80%	87%
	Surface Hardness	3H	3H	3H	3H	5H	3H	3H	3H	7H	3H	3H	5H	3H	3H	3H	6H	3H	3H	7H
System	I/O Ports	VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1 (USB is reserved for the connection to enable touch usage only)	VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)															
	OSD	Keys: Power on/off, Menu/Enter, Left/Up, Right/Down, Exit/Auto, Source Menu Functions: Brightness, Contrast, Screen Setting, Color Temp, OSD Language, VGA/DVI, Reset, Auto Adjust															
	Power	36W power adapter, with AC 100 ~ 240V input and DC +12V @ 3A output							60W power adapter, with AC 100 ~ 240V input and DC +12V @ 5A output								

IDS-3200

Panel Mount Monitors



Features

- 6.5" ~ 21.5" industrial grade LCD panel with LED backlight
- Rugged metal front frame design
- VGA/DVI/HDMI interfaces
- P-cap and resistive touch screen options
- Panel/VESA mount
- Optional high brightness solution
- Easy integration with embedded box PCs

Specifications

Model		IDS-3206	IDS-3210		IDS-3212			IDS-3215			IDS-3217		IDS-3218W	IDS-3219	IDS-3221W	
LCD Display	Screen Size	6.5"	10.4"	10.4"	12.1"	12.1"	12.1"	15"	15"	15"	17"	17"	18.5"	19"	21.5"	
	Resolution	640 x 480 (VGA)	800 x 600 (SVGA)	800 x 600 (SVGA)	800 x 600 (SVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)	1366 x 768 (HD)	1280 x 1024 (SXGA)	1920 x 1080 (FHD)	
	Colors	16.2M	16.2M	16.2M	16.2M	16.2M	16.2M	16.2M	16.7M	16.7M	16.7M	16.7M	16.7M	16.7M	16.7M	
	Viewing Angle (H/V°)	160/140	160/130	160/140	160/140	160/140	160/140	176/176	176/176	176/176	170/160	170/160	170/160	170/160	178/178	
	Contrast Ratio	600:1	500:1	700:1	700:1	700:1	700:1	2000:1	2500:1	2500:1	1000:1	800:1	1000:1	1000:1	1000:1	
	Response Time (ms)	25	35	30	35	35	16	16	23	23	5	30	5	5	5	
	Brightness (cd/m²)	800	230	400	450	450	600	300	500	500	250	350	300	350	250	
	Backlight Type	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	LED	
	Backlight Life	50,000	30,000	50,000	50,000	50,000	50,000	70,000	70,000	70,000	40,000	50,000	50,000	50,000	30,000	
	Dimensions (mm)	219 x 171.8 x 37.66	290.2 x 237.64 x 35.1	290.2 x 237.64 x 35.1	323.7 x 262.4 x 36.5	323.7 x 262.4 x 36.5	323.7 x 262.4 x 36.5	365 x 291 x 38	365 x 291 x 38	365 x 291 x 39.2	425 x 357.5 x 39	425 x 357.5 x 39	482 x 307 x 39.2	449.7 x 374.4 x 40.4	551 x 341.6 x 51.7	
	Weight (kg) (without touch)	1.2	1.95	2	3	3	3	4.8	4.3	4.5	4.45	4.85	5	6	6.2	
Environment	Operating Temperature (°C)	0~50	0~45	-20~60	0~45	-20~60	-20~60	0~45	-20~60	-20~60	0~45	-20~60	0~55	0~45	0~45	
	Storage Temperature (°C)	-20~60	-20~60	-30~70	-20~60	-30~70	-30~70	-20~60	-30~70	-30~70	-20~60	-30~70	-20~60	-20~60	-20~60	
	Humidity (non-condensing)	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C	
Touchscreen (Optional)	Type	4-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive	5-Wire Resistive	5-Wire Resistive / P-cap (two columns)	5-Wire Resistive	5-Wire Resistive	P-cap
	Transparency	80%	81%	81%	80%	80%	80%	90%	80%	80%	89%	80%	80%	80% / 86% (two columns)	80%	80%	87%
	Surface Hardness	3H	3H	3H	3H	3H	3H	7H	3H	3H	5H	3H	3H	3H / 6H (two columns)	3H	3H	7H
System	I/O Ports	VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1 (USB is reserved for the connection to enable touch usage only)	VGA x 1; DVI x 1; 12 V_{DC} Jack x 1; USB x 1; RS-232 x 1 (USB & RS-232 are reserved for the connection to enable touch usage only)													
	OSD	Keys: Power on/off, Menu/Enter, Left/Up, Right/Down, Exit/Auto, Source Menu Functions: Brightness, Contrast, Screen Setting, Color Temp, OSD Language, VGA/DVI, Reset, Auto Adjust														
	Power	36W power adapter, with AC 100 ~ 240V input and DC +12V @ 3A output						60W power adapter, with AC 100 ~ 240V input and DC +12V @ 5A output								

Industrial Display Systems

IDS-3300 Series



Features

- Front IP65 for waterproof and dustproof
- 5-wire resistive and P-cap touch screen solution or tempered smudge resistant protected glass
- Multiple signal interfaces with HDMI, VGA and DVI
- Slim mechanical design with integrated brackets
- Panel/VESA mount

Specifications

Model		IDS-3310	IDS-3315		IDS-3319
LCD Display	Screen Size	10.4"	15"		19"
	Resolution	800 x 600 (SVGA)	1024 x 768 (XGA)		1280 x 1024 (SXGA)
	Colors	16.2M	16.2M		16.7M
	Viewing Angle (H/V°)	160/140	176/176		170/160
	Contrast Ratio	700:1	2500:1		1000:1
	Response Time (ms)	30	16		5
	Brightness (cd/m2)	400	500		350
	Backlight Type	LED	LED		LED
	Backlight Life	50,000	70,000		50,000
	Dimensions (mm)	TBD	365 x 291 x 46		TBD
	Weight (kg)	TBD	4.5		TBD
Environment	Operating Temperature (°C)	-20~60	-20~60		0~45
	Storage Temperature (°C)	-30~70	-30~70		-20~60
	Humidity (non-condensing)	5~95% @ 40°C	5~95% @ 40°C		5~95% @ 40°C
Touchscreen	Type	5-Wire Resistive	5-Wire Resistive	P-cap	5-Wire Resistive
	Transparency	81%	80%	89%	80%
	Surface Hardness	3H	3H	5H	3H
System	I/O Ports	HDMI x 1, VGA x 1; DVI x 1; 12 VDC Jack x 1; USB x 1; RS-232 (USB and RS-232 is reserved for the connection to enable touch usage only)			
	OSD	OSD Key: Power on/off, Menu/Enter, Left/Up, Right/Down, Exit/Auto, Source Menu Functions: Brightness, Contrast, Screen Setting, Color Temp, OSD Language, VGA/DVI, Reset, Auto Adjust			
	Power	36W power adapter, with AC 100 ~ 240V input and DC+12V @ 3A outp	60W power adapter, with AC 100 ~ 240V input and DC +12V @ 5A output		

IDP31 Series

Proflat 100% Flat Touch Monitors



Features

- 15”, 15.6” Wide, 21.5” Wide industrial grade LCD panel with LED backlight
- 100% flat front glass for easy maintenance
- Elegant rounded edge design, no need for additional enclosures
- HDMI/VGA/DVI interface
- Projected capacitive touch screen for multi-touch
- Stand/VESA mount
- Built-in speakers

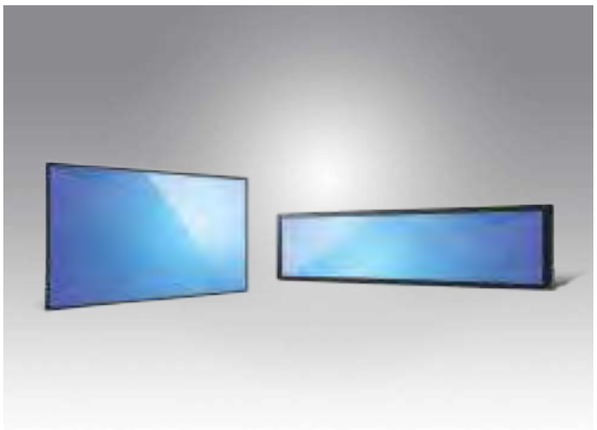
Specifications

Model		IDP31-150	IDP31-156W	IDP31-215W
LCD Display	Screen Size	15"	15.6"	21.5"
	Resolution	1024 x 768 (XGA)	1920 x 1080 (FHD)	1920 x 1080 (FHD)
	Colors	16.2M	16.2M	16.7M
	Viewing Angle (H/V°)	176/176	170/170	178/178
	Contrast Ratio	2500:1	800:1	1000:1
	Response Time (ms)	16	12	14
	Brightness (cd/m²)	500	450	250
	Backlight Type	LED	LED	LED
	Backlight Life	70,000	50,000	30,000
	Dimensions (mm)	356.1 x 280 x 42.5	TBD	520.98 x 314.99 x 42.6
Environment	Operating Temperature (°C)	-20~60	-20~60	0~45
	Storage Temperature (°C)	-30~70	-30~70	-20~60
	Humidity (non-condensing)	5~95% @ 40°C	5~95% @ 40°C	5~95% @ 40°C
Touchscreen	Type	P-cap	P-cap	P-cap
	Transparency	86%	86%	86%
	Surface Hardness	6H	6H	6H
System	I/O Ports	HDMI x 1; VGA x 1; DVI-D x 1 Audio x 1 (audio output 3W) 12 V_{DC} Jack x 1; USB x 1 (USB is 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		

Industrial Display Systems

DSD-3000/DSD-5000/DSD-7000 Series

Digital Signage Displays



Features

- 28" ~ 65" size options
- Wide viewing angle
- Fanless design
- HDMI/VGA/DVI/DP interface
- Optional optical touch support
- Stand/wall mount
- Portrait & landscape modes support

RoHS COMPLIANT 2002/95/EC

Specifications

		DSD- 3032	DSD- 3055		DSD-3065	DSD- 5028	DSD- 5038	DSD-7055
LCD Display	Size	32"	55"		65"	28"	38"	55"
	Resolution	1920 x 1080	1920 x 1080	3860 x 2140	3860 x 2140	1920 x 358	1920 x 538	1920 x 1080
	Colors	16.7 M	1073M	1.07B	1.07B	16.7M	16.7M	16.7M
	Viewing Angle (H/V°)	178/178	178/178	178/178	178/178	178/178	176/176	178/178
	Contrast Ratio	3000:1	4000:1	4000:1	4000:1	3000:1	4000:1	4000:1
	Response Time (ms)	8	6.5	8	8	6.5	9.5	8
	Brightness	500	450	500	500	700	800	500
	Backlight Type	LED	LED	LED	LED	LED	LED	LED
	Backlight Life (hrs)	50,000	50,000	50,000	50,000	50,000	50,000	50,000
	Dimensions (mm)	743.6 x 438.11 x 73	1238.6 x 709.4 x 72.5	1246 x 719 x 69	1463 x 844 x 70	736.6x 167.3 x 44.35	980.9 x 303.2 x 44.35	1242.4 x 722 x 53
	Weight (kg)	14	31	17	24	3	6.4	17
Touchscreen (Optional)	Type	Optical Touch	Optical Touch	-	-	-	-	-
	Durability	10 million touches	10 million touches	-	-	-	-	-
	Surface Hardness	7H	7H	-	-	-	-	-
	Transparency	92%	92%	-	-	-	-	-
Environment	Temperature (Operating)	5 ~ 45 °C	5 ~ 45 °C	0 ~ 40 °C	0 ~ 40 °C	0 ~ 45 °C	0 ~ 45 °C	0~40 °C
	Temperature (Storage)	-20 ~ 55 °C	-20 ~ 55 °C	-20 ~ 60 °C	-20 ~ 60 °C	-10 ~ 60 °C	-10 ~ 60 °C	-20~60 °C
	Humidity	20 ~ 80 % RH	20 ~ 80 % RH	20 ~ 80 % RH	20 ~ 80 % RH	20 ~ 80 % RH	20 ~ 80 % RH	10 ~ 80 % RH
System	I/O Ports	HDMI/VGA/DisplayPort	HDMI/VGA/ DisplayPort	HDMI/VGA/ DiplayPort/DVI/ CVBS/Audio	HDMI/VGA/DiplayPort/ DVI/CVBS/Audio	VGA/DVI	VGA/DVI	DVI/DP/HDMI/Audio/VGA/ SDM Slot
	OSD control	RS-232/RS-485/Remote	RS-232/RS-485/Remote	RS-232	RS-232	RS-232	RS-232	RS232
	Power Consumption (W)	80	145	120	198	40	76	95(w/o SDM)

CRV430W-CurveView™

43″ 4K Curved Monitors



Features

- 43" in Ulrta HD 3840 x 2160
- Curved concave format monitors
- Totally unique industrial design
- Compelling user experience
- Large format, deep curved sizes
- Integrated Projected Capacitive (PCAP) Multi-touch
- VGA, Display port, HDMI interface
- Optional design of C shape and J shape
- Custom bending and monitor configuration available

Introduction

CurveView™ is the latest in a series of exciting product innovations from Advantech Display Systems. The introduction of deep curved profiles to a large area display creates exciting opportunities for industrial and user interface design alike. Packaged together with an industrial grade video card and power supply, CurveView™ is available with Triptic™ HDMI 1.4, HDMI 2.0, Display Port and Analog RGB and can be specified with or without 10-point multi-touch overlay. All products can be used in either portrait or landscape mode and are cleverly packaged in such a way that no further mechanical parts are needed other than a VESA mount to create a display system. The use of a metal chassis provides a rugged and stable platform to build solutions for the widest range of applications.

Typical Applications

- Casino slot machines
- Information kiosks
- Digital advertising
- Way-finders and digital assistants
- Medical
- Gaming

Specifications

	CRV-430 (43" 1500R Concave Monitor)		
Model	CRV-430W (C type)	CRV-430JP (J type)	Notes
Backlight	LED	LED	Light Source
Resolution	Ulrta HD 3840 x 2160	Ultra HD 3840 x2160	Native resolution. Other resolutions supported by A/D card scaling
Brightness	450 cd/m^2	450nits	Measured at typ. operating voltage
Viewing angle	89/89/89/89	89/89/89/89	Left/Right/Up/Down
Contrast Ratio (Resp.Time)	1100:1 (14ms)	1100:1(14ms)	In laboratory conditions
Touch Screen (optional)	4mm Multi-touch PCT (10 touches)	4mm Multi-touch PCT (10 touches)	Projected capacitive glass overlay
Operating Temp	0 ~ 50 °C	0 ~ 50 °C	Professional use
Input / Output	HDMI 1.4, HDMI 2.0, Display Port, VGA		

Display

This LCD module has a TFT active matrix type liquid crystal panel 3840 x 2160 pixels, and diagonal size of 43 inch. This module supports 3840 x 2160 mode. Each pixel is divided into red, green and blue subpixels or dots which are arranged in vertical stripes. Grayscale or the brightness of the sub-pixel color is determined with a 10-bit gray scale signal for each dot. The CRV-CurveView™ has been designed to apply the 10-bit V by one interface method. It is intended to support displays where narrow bezel width, long life, wide viewing angle, high color saturation, and high color depth are very important.

Display Characteristics

Items	Specification	Unit	Note
Active Screen Size	43	inch	
Display Area	941.184(H) x 529.416(V)	mm	
Outline Dimension	998.70(H) x 586.1(V) x 162.5(D)	mm	
Driver Element	a-Si TFT active matrix		
Display Colors	10 bits (1.07B)	colors	
Number of Pixels	3840 x 2160	Pixel	
Pixel Pitch	0.2451(H) x 0.2451(W)	mm	
Pixel Arrangement	RGB vertical stripe		
Display Operation Mode	Normally Black		
Surface Treatment	Anti-Glare, 3H		
Display Orientation	Portrait/Landscape Enable		

Embedded Wireless Modules

ADVANTECH AIWireless
Advantech Industrial Wireless

WiFi





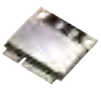

Model Name	EWM-W135		EWM-W158	EWM-W170
Part Number	EWM-W135H01E	EWM-W135F01E	EWM-W158F01E	EWM-W170H01E
Form Factor	Half size Mini PCIe Card	Full size Mini PCIe Card	Full Size Mini PCIe Card	Half Size Mini PCIe card
Wireless Standard	802.11 a/b/g/n	802.11 a/b/g/n	802.11 a/b/g/n	802.11a/b/g/n/ac
Chipset	Atheros AR9382	Atheros AR9382	Atheros AR9592- AR1B	Atheros QCA9377-7
Signal Protocol	PCIe Differential	PCIe Differential	PCIe Differential	USB Differential
Antenna	2 x U.FL connectors	2 x U.FL connectors	2 x U.FL connectors	2*U.FL connectors
Operating Voltage	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V+-5%
Temperature Range	-10 ~ 70 °C (Operating)	-10 ~ 70 °C (Operating)	-40 ~ 85 °C (Operating)	(-20~+70) (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	26.65*29.85*2.75mm
Security	64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128/152-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	64/128-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES
SISO/MIMO	2T x 2R	2T x 2R	2T2R	1T1R
Data Rate	300Mbps	300Mbps	300Mbps	433Mbps
Bluetooth	-	-	-	-
O.S Supported	Win 7/ 8/ 8.1	Win 7/ 8/ 8.1	Win 7/ 8/ 8.1	win7/8/8.1/10
Host connector type	PCIe Mini card	PCIe Mini card	PCIe Mini card	PCIe Mini card

WiFi+BT






Model Name	EWM-W157	EWM-W162	EWM-W163	EWM-W168
Part Number	EWM-W157H01E	EWM-W162M201E	EWM-W163M201E	EWM-W168H01E
Form Factor	Half Size Mini PCIe Card	M.2-2230(E key)	M.2-2230(A-E key)	Half Size Mini PCIe card
Wireless Standard	802.11 ac/a/b/g/n	802.11a/b/g/n/ac+BT4.2	802.11a/b/g/n/ac+BT4.2	802.11a/b/g/n/ac+BT4.2
Chipset	Realtek RTL8821AE	Marvell 88W8897P	Atheros QCA6174A	Realtek RTL8822BE
Signal Protocol	WiFi: PCIe BT: USB Differential	WiFi: PCIe BT: USB Differential	WiFi: PCIe BT: USB Differential	WiFi: PCIe BT: USB Differential
Antenna	2 x U.FL connectors	2 x I-PEX MHF4 connectors	2 x I-PEX MHF4 connectors	2 x I-PEX MHF4 connectors
Operating Voltage	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%	DC 3.3V ± 5%
Temperature Range	0 ~ 70 °C (Operating)	-30 ~ +80 °C (Operating)	-20 ~ +80 °C (Operating)	0 ~ 70 °C (Operating)
Dimensions (L x W x H)	26.65 x 29.85 x 3.25 mm	22 x 30 x 2.3 mm	22 x 30 x 2.3 mm	26.65 x 29.85 x 2.75 mm
Security	64/128-bit WEP, WPA, WPA2, 802.1x, TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES
SISO/MIMO	1T1R	2T2R	2T2R	2T2R
Data Rate	433Mbps	867Mbps	867Mbps	867Mbps
Bluetooth	2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE)	2.1, 2.1+EDR, 3.0,3.0+HS, 4.0 (BLE), 4.1, 4.2	2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE), 4.1	2.1, 2.1+EDR, 3.0,3.0+HS, 4.0 (BLE), 4.1, 4.2
O.S Supported	Win 7/8/8.1/10	Linux	win7/8/8.1/10	win7/8/8.1/10
Host Type	PCIe Mini card	PCIe M.2 card	PCIe M.2 card	PCIe Mini card





Model Name	EWM-W189	EWM-W190	EWM-W188	EWM-W195	EWM-W308	EWM-W306
Part Number	EWM-W189H01E	EWM-W190H01E	EWM-W188M201E	EWM-W195M201E	EWM-W308S01E	EWM-W306S01E
Form Factor	Half Size Mini PCIe card	Half Size Mini PCIe card	M.2-2230(A-E key)	M.2-2230(A-E key)	M.2-1216(solder down)	M.2-1216(solder down)
Wireless Standard	802.11a/b/g/n/ac+BT4.2	802.11a/b/g/n/ac+BT4.2	802.11a/b/g/n/ac+BT4.2	802.11a/b/g/n/ac+BT4.2	802.11a/b/g/n/ac+BT4.2	802.11a/b/g/n/ac+BT5.0
Chipset	Atheros QCA6174A	Atheros QCA6174A	Realtek RTL8822BE	Atheros QCA6174A	Realtek RTL8822BE	Marvell 88W8997
Signal Protocol	PCIe Differential	PCIe Differential	PCIe Differential	PCIe Differential	PCIe Differential	SDIO
Antenna	2*U.FL connectors	2*U.FL connectors	2*I-PEX MHF4 connectors	2*I-PEX MHF4 connectors	2*I-PEX MHF4 connectors	2*I-PEX MHF4 connectors
Operating Voltage	DC 3.3V+-5%	DC 3.3V+-5%	DC 3.3V+-5%	DC 3.3V+-5%	DC 3.3V+-5%	DC 3.3V+-5%
Temperature Range	-10 ~ 70° C (Operating)	-40 ~ 85° C (Operating)	-10 ~ 70° C (Operating)	-40 ~ 85° C (Operating)	0 ~ 70° C (Operating)	(-30~+85) (Operating)
Dimensions (L x W x H)	26.65*29.85*2.75mm	26.65*29.85*2.75mm	22*30*2.3mm	22*30*2.3mm	12*16*1.7mm	12*16*1.7mm
Security	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES	WAPI, 64/ 128-bit WEP, WPA/WPA2 TKIP and AES
SISO/MIMO	2T2R	2T2R	2T2R	2T2R	2T2R	2T2R
Data Rate	867Mbps	867Mbps	867Mbps	867Mbps	867Mbps	867Mbps
Bluetooth	2.1,2.1+EDR,3.0,3.0+HS, 4.0(BLE), 4.1, 4.2	2.1,2.1+EDR,3.0,3.0+HS, 4.0(BLE), 4.1, 4.2	2.1,2.1+EDR,3.0,3.0+HS, 4.0(BLE), 4.1, 4.2	2.1,2.1+EDR,3.0,3.0+HS, 4.0(BLE), 4.1, 4.2	2.1,2.1+EDR,3.0,3.0+HS, 4.0(BLE), 4.1, 4.2	2.1,2.1+EDR,3.0,3.0+HS, 4.0(BLE), 4.1, 4.2, 5.0
O.S Supported	win7/8/8.1/10	win7/8/8.1/10	win7/8/8.1/10	win7/8/8.1/10	win7/8/8.1/10	Linux
Host Type	PCIe Mini card	PCIe Mini card	PCIe M.2 card	PCIe M.2 card	PCIe M.2 1216 type	PCIe M.2 1216 type

Optional Antenna Selection





Part Number	1750008717-01	1750008772-01
Size (cm)	10.9 x 1.0	15 x 1.0
Support Frequency	WiFi Dual band antenna (2.4Ghz and 5Ghz)	WiFi Dual band antenna (2.4Ghz and 5Ghz)
Antenna Gain	2.89 dBi @ 2.4-2.5GHZ, .58dBi @ 5.15-5.85GHz	2.93 dBi @ 2.4-2.5GHZ, 4.4dBi @ 5.15-5.85GHz
Polarization	Linear	Linear
Connector	RP-SMA male	RP-SMA male
Impedance	50 ohm	50 ohm

Optional Accessories



Part Number	1750008767-01
Length (cm)	150
Cable Type	WiFi cable
Cable Loss	0.62dB@2500MHz for 1Meter
Polarization	Linear
Connector	SMA(F)/SMA(M)
Impedance	50 ohm

Embedded Wireless Modules

4G LTE CAT1/CAT4/CAT6





Model Name	EWM-C128		EWM-C117	
Part Number	EWM-C128F01E	EWM-C128FG01E	EWM-C117FL03E	EWM-C117FL04E
Form Factor	Full SizeMini PCIe Card	Full SizeMini PCIe Card	Full SizeMini PCIe Card	Full SizeMini PCIe Card
SIM Slot	With SIM card slot	With SIM card slot	With SIM card slot	With SIM card slot
Radio Technology	LTE CAT1	LTE CAT1+GPS	LTE CAT4	LTE CAT4
Downlink/ Uplink	DL:10 Mbps, UL:5 Mbps	DL:10 Mbps, UL:5 Mbps	FDD LTE Max150Mbps(DL) / 50Mbps(UL)	FDD LTEMax150Mbps(DL) / 50Mbps(UL)
Frequency Band	4G/LTE Cat. 1: Bands 3, 8, 28 for Taiwan 3G UMTS: band 1	4G/LTE Cat. 1: Bands 3, 8, 28 for Taiwan 3G UMTS: band 1	4G LTE bands 2 / 4 / 5 / 7 / 17, 3G bands 1/2/4/5/8, GPRS band 850 / 900 / 1800 / 1900	4G LTE bands 1 / 3 / 5 / 7 / 8 / 20, 3G bands 1/2/5/8, GPRS: 850/ 900/1800/1900MHz
Main Chipset	u-blox LARA-R280	u-blox LARA-R280+M8M-0 GNSS engine	u-blox TOBY-L200	u-blox TOBY-L200
Operating Temperature	(-40~+85) (Operating)	(-40~+85) (Operating)	-40 ~ +85 °C (Operating)	-40 ~ +85 °C (Operating)
Signal Protocol	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Support Area	Taiwan/Australia	Taiwan/Australia	US	EU/APAC







Model Name	EWM-C160	EWM-C163	EWM-C145
Part Number	EWM-C160M201E	EWM-C163M201E	EWM-C145FL01E
Form Factor	M.2 3042 (B key)	M.2 3042 (B key)	Full SizeMini PCIe Card
SIM Slot	No SIM card slot	No SIM card slot	With SIM card slot
Radio Technology	LTE CAT6	LTE CAT6	LTE CAT4+GPS
Downlink/ Uplink	FDD LTE Max 300Mbps(DL) / 50Mbps(UL) TDD LTE 112Mbps(DL) / 10Mbps(UL	FDD LTEMax300Mbps(DL) / 50Mbps(UL)	FDD LTEMax150Mbps(DL) / 50Mbps(UL) TDD-LTE: 132 Mbps DL, 30 Mbps UL
Frequency Band	LTE FDD: 1, 3, 8 /TDD: 38, 39, 40, 41 3G bands: 1, 8	4G LTE FDD: Band 1, 3, 7, 8, 20, 28, 32 3G bands: 1, 8	FDD-LTE: B1/B3/B5/B8 TDD-LTE: B38/B39/B40/B41 HSPA/UMTS: 900/850/2100MHz GSM/GPRS/EDGE TD-SCDMA: B34/B39 EVDO/CDMA: BC0
Main Chipset	Intel 7262	Intel 7262	Qualcomm MDM9X07
Operating Temperature	-10 ~ +55 °C (Operating)	-30 ~ +65 °C (Operating)	(-40~+85) (Operating)
Signal Protocol	USB 2.0	USB 2.0	USB 2.0
Support Area	China	EMEA	China

GPS





Model Name	EWM-G109	EWM-G110
Part Number	EWM-G109H01E	EWM-G110H01E
GPS Mini Card	Half-size Mini PCIe card	Half-size Mini PCIe card
GPS Type	Hardware standalone	Hardware standalone
Signal Protocol	USB	USB
Chipset	NEO-M8N	NEO-M8U+3D inertial sensors
Operating Temperature	-40 to +85 °C	-40 to +85° C
RF Receiver Type	GPS module, multi-GNSS (GPS, Beidou, GLONASS, Galileo, QZSS and SBAS)	GPS module, multi-GNSS (GPS, Beidou, GLONASS, Galileo, QZSS and SBAS)
GPS Acquisition	Cold starts: 26s / Aided starts: 2	Cold starts: 26s / Aided starts: 2
GPS Accuracy	Aided starts: 2	Aided starts: 2
GPS Sensitivity	Tracking: -167 dBm / Cold starts: -148 dBm / Reacquisition: -160 dBm	Tracking: -167 dBm / Cold starts: -148 dBm / Reacquisition: -160 dBm

Industrial Flash and Memory Solutions

SQFlash Industrial Storage Modules

SATA SSD

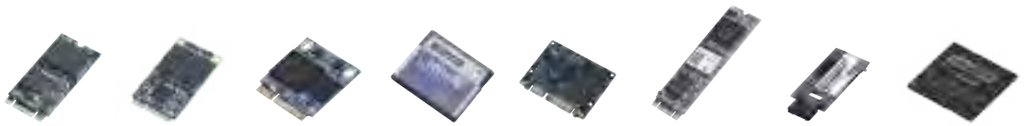
Extreme Performance

Embedded



Model Name	SQF-S25 845 series	SQF-S25 840 series	SQF-SM8 840 series	SQF-S25 830 series	SQF-SMS 830 series	SQF-SM8 830 series	SQF-S25 640 series	SQF-SM8 640 series
Form factor	2.5" SATA SSD	2.5" SATA SSD	M.2 2280 SATA SSD (NGFF)	2.5" SATA SSD	mSATA SSD (MO-300A)	M.2 2280 SATA SSD (NGFF)	2.5" SATA SSD	M.2 2280 SATA SSD (NGFF)
Transfer Protocol	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Connector	7+15 pin SATA	7 + 15 pin SATA	M.2 with B+M key SATA pin-out	7 + 15 pin SATA	Mini PCIe with SATA pin-out	M.2 with B+M key SATA pin-out	7 + 15 pin SATA	M.2 with B+M key SATA pin-out
Flash Type	3D eTLC	3D TLC	3D TLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC	Ultra MLC / MLC / 3D TLC	Ultra MLC / MLC / 3D TLC
Maximum Power Consumption	900 mA	720 mA	900 mA	1,080 mA	1,260 mA	1,260 mA	530 mA	750 mA
Capacity	480GB ~ 1.9TB	240GB ~ 7.6TB	240GB ~ 1.9TB	64GB ~ 2TB	32GB ~ 512GB	32GB ~ 512GB	16GB ~ 1TB	16GB ~ 1TB
Maimum Read / Write Performance (MB/s)	Sequential: 560.1/ 533.3 Random IOPS@4K: 98K/72K	Sequential: 550 / 530 Random IOPS@4K: 100K/90K	Sequential: 550 / 530 Random IOPS@4K: 100K/90K	Sequential: 550 / 530 Random IOPS@4K: 100K / 100K	Sequential: 540 / 480 Random IOPS@4K: 88K / 91K	Sequential: 540 / 480 Random IOPS@4K: 88K / 91K	Sequential: 560 / 490 Random IOPS@4K: 86K / 91K	Sequential: 560 / 490 Random IOPS@4K: 86K / 91K
Op. Temperature	0~70°C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C	0 ~ 70 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C
SQFlash Utility/ SQFlash Manager	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Shock	1,500G, Peak / 0.5ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms
Vibration	20G, Peak / 80~2,000Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz

Embedded



Model Name	SQF-SM4 640 series	SQF-SMS 640 series	SQF-SHM 640 series	SQF-S10 640 series	SQF-SLM 640 series	SQF-SM6 630 series	SQF-SDM 630 series	SQF-SUS 630 series
Form factor	M.2 2242 SATA SSD (NGFF)	mSATA SSD (MO-300A)	H/S mSATA SSD (MO-300B)	CFast	Half-Slim SSD	M.2 2260 SATA SSD (NGFF)	SATA DOM	Micro SSD
Transfer Protocol	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Connector	M.2 with B+M key SATA pin-out	Mini PCIe with SATA pin-out	Mini PCIe with SATA pin-out	CFast Type-I	7 + 15 pin SATA	M.2 with B+M key SATA pin-out	7-pin Female	Onboard
Flash Type	Ultra MLC / MLC / 3D TLC	Ultra MLC / MLC / 3D TLC	Ultra MLC / MLC / 3D TLC	Ultra MLC / MLC / 3D TLC	Ultra MLC / MLC / 3D TLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC	Ultra MLC / MLC
Maximum Power Consumption	500 mA	750 mA	500 mA	500 mA	500 mA	500 mA	480 mA	500 mA
Capacity	16GB ~ 512GB	16GB ~ 1TB	16GB ~ 512GB	16GB ~ 256GB	16GB ~ 512GB	4GB ~ 256GB	1GB ~ 256GB	4GB ~ 64GB
Maimum Read / Write Performance (MB/s)	Sequential: 560 / 500 Random IOPS@4K: 86K / 91K	Sequential: 560 / 490 Random IOPS@4K: 86K / 91K	Sequential: 560 / 490 Random IOPS@4K: 86K / 91K	Sequential: 560 / 470 Random IOPS@4K: 82K / 82K	Sequential: 560 / 490 Random IOPS@4K: 86K / 91K	SLC: 500 / 150 Ultra MLC: 520 / 170 MLC: 490 / 170	SLC: 500 / 150 Ultra MLC: 520 / 195 MLC: 520 / 200	Ultra MLC: 490/190 MLC: 480/190
Op. Temperature	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C
SQFlash Utility/ SQFlash Manager	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Shock	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms
Vibration	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz

Industrial Flash and Memory Solutions

SQFlash Industrial Storage Modules

NVMe SSD

Enterprise

Embedded



Model Name	SQF-C25 920 series	SQF-CM8 920 series	SQF-CM3 720 series	SQF-CMS 710 series	SQF-CM8 710 series
Form factor	2.5" U.2 NVMe SSD	M.2 2280 NVMe SSD (NGFF)	M.2 2230 NVMe SSD (NGFF)	Full-size Mini PCIe SSD	M.2 2280 NVMe SSD (NGFF)
Transfer Protocol	PCIe Gen3 x4	PCIe Gen3 x4	PCIe Gen3 x2	PCIe Gen3 x2	PCIe Gen3 x2
Connector	U.2 NVMe Interface (SFF 8639)	M.2 M-key with PCIe pin-out	M.2 A+E key with PCIe pin-out	Mini PCIe with PCIe pin-out	M.2 B+M key with PCIe pin-out
Flash Type	3D TLC	3D TLC	3D TLC	3D TLC	3D TLC
Maximum Power Consumption	790 mA	2,430 mA	910 mA	957 mA	1,261 mA
Capacity	240GB ~7.6TB	240GB ~1.9TB	128GB ~ 512GB	64GB ~ 1TB	128GB ~ 512GB
Maimum Read / Write Performance (MB/s)	Read: upto 3,200 Write: upto 3,000	Read: upto 3,200 Write: upto 2,700	Read: upto 850 Write: upto 780	Read: upto 1,560 Write: upto 1,000	Read: upto 1,600 Write: upto 1,000
Op. Temperature	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C
SQFlash Utility/ SQFlash Manager	Supported	Supported	Supported	Supported	Supported
Shock	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms
Vibration	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80~2,000Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz

PATA/SD/eMMC/USB Storage

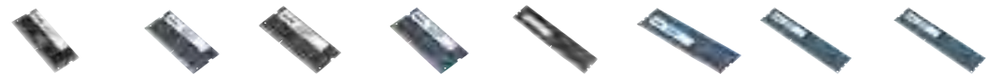


Model Name	SQF-P10 P8/P9	SQF-PDM	SQF-P25 P9	SQF-ISD	SQF-MSD	SQF-MMC	SQF-UPD
Form factor	CF card	PATA DOM	2.5" PATA SSD	Industrial SD	Industrial Micro SD	Industrial eMMC	USB Pen Drive
Interface	IDE / PCMCIA	IDE	IDE	SD	SD	eMMC	USB
Transfer Protocol	UDMA 2 / UDMA 4 / UDMA 5	UDMA2 / UDMA 4	UDMA 4	SD 6.x	SD 6.x	eMMC 5.x	USB 3.1/2.0/1.1
Connector	CF Type-I	44-pin Female / 40-pin Female	44-pin Male	SD 9-pin	SD 9-pin	onboard	USB type
Flash Type	SLC / Ultra MLC / MLC	SLC	SLC / Ultra MLC / MLC	SLC / Ultra MLC / MLC / 3D TLC	SLC / Ultra MLC / MLC / 3D TLC	Ultra MLC / MLC / 3D TLC	MLC
Maximum Power Consumption	160 mA	160 mA	210 mA	100 mA	200 mA	200 mA	190 mA
Capacity	256MB ~ 512 MB 1GB ~ 64GB	1GB ~ 16GB	4GB ~ 512GB	1GB ~ 256G	1GB ~ 256GB	4GB ~ 128GB	4GB ~ 256GB
Maimum Read / Write Performance (MB/s)	4 channel: 83/87 2 channel: 43/40 1 channel: 22/15	2 channel: 40/29	SLC: 65/55 MLC: 63/28	Read: up to 100 Write up to 90	Read: up to 100 Write: up to 90	Read: up to 310 Write: up to 200	MLC: TBD
Op. Temperature	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	0 ~ 70 °C / -40 ~ 85 °C	-25 ~ 85 °C / -40 ~ 85 °C	-25 ~ 85 °C / -40 ~ 85 °C	-25 ~ 85 °C / -40 ~ 85 °C	0 ~ 70 °C
SQFlash Utility/ SQFlash Manager	Supported	Supported	Supported	Not Supported	Not Supported	Not Supported	Not Supported
Shock	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms	1,500G, Peak / 0.5 ms
Vibration	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	20G, Peak / 80 ~2,000 Hz	5G, Peak / 10 ~2,000 Hz	5G, Peak / 10 ~2,000 Hz	5G, Peak / 10 ~2,000 Hz	15G, Peak / 10 ~2,000 Hz

SQRAM Industrial Memory Modules

Embedded DRAM Modules

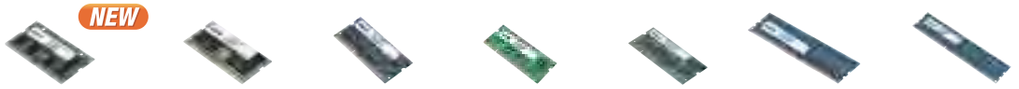
SODIMM UDIMM



Model	SQR-SD4N	SQR-SD4M	SQR-SD3N	SQR-SD3M	SQR-UD4N	SQR-UD4M	SQR-UD3N	SQR-UD3M
DDR	DDR4	DDR4	DDR3L	DDR3L	DDR4	DDR4	DDR3L	DDR3L
DIMM Type	SODIMM	SODIMM	SODIMM	SODIMM	UDIMM	UDIMM	UDIMM	UDIMM
Pin Number	260pin	260pin	204pin	204pin	288pin	288pin	240pin	240pin
Frequence(MHz)	3200/2666/2400	3200/2666/2400	1866/1600	1866/1600	3200/2666/2400	3200/2666/2400	1866/1600	1866/1600
Capacity	2/4/8/16/32GB	2/4/8/16GB	2/4/8GB	2/4/8GB	2/4/8/16/32GB	2/4/8/16GB	2/4/8GB	2/4/8GB
Voltage	1.2V	1.2V	1.35V/1.5V	1.35V/1.5V	1.2V	1.2V	1.35V/1.5V	1.35V/1.5V
Operating Temperature	0 ~ 85 °C	-20 ~ 85 °C	0 ~ 85 °C	-20 ~ 85 °C	0 ~ 85 °C	-20 ~ 85 °C	0 ~ 85 °C	-20 ~ 85 °C
SQRAM Manager	Supported							

Ruggedized DRAM Modules

Rugged SODIMM SODIMM UDIMM



Model	SQR-YD4	SQR-SD4I	SQR-SD3I	SQR-SD2I	SQR-SD1M	SQR-UD4I	SQR-UD3I
DDR	DDR4	DDR4	DDR3L	DDR2	DDR1	DDR4	DDR3L
DIMM Type	Rugged SODIMM	SODIMM	SODIMM	SODIMM	SODIMM	UDIMM	UDIMM
Pin Number	260pin	260pin	204pin	200pin	200pin	288pin	240pin
Frequence(MHz)	2666	3200/2666/2400	1866/1600	800/667	400/333	3200/2666/2400	1866/1600
Capacity	8/16/32GB	4/8/16/32GB	2/4/8GB	1/2GB	512MB/1GB	4/8/16/32GB	2/4/8GB
Voltage	1.2V	1.2V	1.35V/1.5V	1.8V	2.5V	1.2V	1.35V/1.5V
Operating Temperature	0 ~ 85 °C/ -40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C	0 ~ 85 °C/ -20 ~85 °C	-40 ~ 85 °C	-40 ~ 85 °C
Value-Added Service	Confromal Coating/Underfill (Optional)						
SQRAM Manager	Supported						

High Performance & Server DRAM Modules

LRDIMM RDIMM UDIMM ECC Rugged SODIMM SODIMM ECC



Model	SQR-LD4N	SQR-RD4N	SQR-RD4I	SQR-UD4N (ECC)	SQR-UD3N (ECC)	SQR-YD4 (ECC)	SQR-SD4 (ECC)	SQR-SD3 (ECC)
DDR	DDR4	DDR4	DDR4	DDR4	DDR3L	DDR4	DDR4	DDR3L
DIMM Type	LRDIMM	RDIMM	RDIMM	UDIMM	UDIMM	Rugged SODIMM	SODIMM	SODIMM
Pin Number	288pin	288pin	288pin	288pin	240pin	260pin	260pin	260pin
Frequence(MHz)	2400	3200/2666/2400	2400	2666/2400	1600	2666	2666/2400	1600
Capacity	64/128GB	8/16/32GB	8/16/32GB	4/8/16/32GB	2/4/8GB	8/16/32GB	4/8/16/32GB	2/4/8GB
Voltage	1.2V	1.2V	1.2V	1.2V	1.35V/1.5V	1.2V	1.2V	1.35V/1.5V
Operating Temperature	0 ~ 85 °C	0 ~ 85 °C	-40 ~ 85 °C	0 ~ 85 °C	0 ~ 85 °C	0 ~ 85 °C / -40 ~ 85 °C	0 ~ 85 °C / -40 ~ 85 °C	0 ~ 85 °C / -40 ~ 85 °C
Function	ECC	ECC	ECC	ECC	ECC	ECC	ECC	ECC
Register	Yes	Yes	Yes	x	x	x	x	x
SQRAM Manager	Not Supported			Supported				

Industrial Flash and Memory Solutions

EXM Embedded Extension Modules

Adapter





Model Name	EXM-CMPF1 (A key)	EXM-CMPF1 (E key)	EXM-110 (EMIO-100TL)
Type	M.2 (NGFF) to mPCIe (PCIe+USB) adapter	M.2 (NGFF) to mPCIe (PCIe+USB) adapter	LVDS to 1-Ch RGB TTL port
Communication Interface	PCIe and USB	PCIe and USB	18/24-bit LVDS
Interface Connector	MiniPCIe thru PCIe and USB	MiniPCIe thru PCIe and USB	External 18/24-bit LVDS, DF13-20DP-1.25V
Channel Connector	1 (2230/2242 A key)	1 (2230/2242 E key)	1
Operating Temperature	-40 ~ 85°C	-40 ~ 85°C	-10 ~ 70°C
Storage Temperature	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C
LED Status	Activated indicator	Activated indicator	-
Dimensions (L x W x H)	50.59 x 30 x 15 mm	50.59 x 30 x 15 mm	50.59 x 30 x 15 mm

PCIe Signal








Model Name	EXM-510 (EMIO-100E)	EXM-523	EXM-520 (EMIO-200SA)	EXM-521 (EMIO-200U3)	EXM-522	EXM-540
Type	PCIe to 1-Ch Giga LAN port	PCIe to 2-Ch Giga LAN port	PCIe to 2-Ch SATA III port	PCIe to 2-Ch USB 3.0 port	PCIe to 2-Ch USB 2.0 port	PCIe to 4-Ch USB 2.0 port
Communication Interface	PCIe	PCIe	PCIe	PCIe	PCIe	PCIe
Interface Connector	MiniPCIe thru PCIe	MiniPCIe thru PCIe	MiniPCIe thru PCIe	MiniPCIe thru PCIe	H/S MiniPCIe thru PCIe	MiniPCIe thru PCIe
Channel Connector	1	2	2	2	2	4
Operating Temperature	-40 ~ 85°C	0 ~ 70°C	-10 ~ 70°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C
Storage Temperature	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C
LED Status	Reserve the LED signal for external usage	Reserve the LED signal for external usage	Activated indicator	-	-	-
Dimensions (L x W x H)	50.59 x 30 x 20 mm	50.59 x 30 x 20 mm + iDoor PCB Board	50.59 x 30 x 20 mm	50.59 x 30 x 15 mm	26.65 x 30 x 15 mm	50.59 x 30 x 15 mm

USB Signal







Model Name	EXM-310 (EMIO-100P)	EXM-311 (EMIO-100S)	EXM-321 (EMIO-210S)	EXM-322 (EMIO-220S)	EXM-320 (EMCB-200U)
Type	USB to 1-Ch Parallel port	USB to 1-Ch High Speed Serial COM port	USB to 2-Ch High Speed RS-232 port	USB to 2-Ch High Speed RS-422/RS-485 port	USB to 2-Ch CANBus port
Communication Interface	Combo USB (Internal/ External)	Combo USB (Internal/ External)	Combo USB (Internal/ External)	Combo USB (Internal/ External)	Combo USB (Internal/ External)
Interface Connector	Internal USB port: MiniPCIe thru USB External USB port: 2.0 mm, 1x4-pin, male type wafer box	Internal USB port: MiniPCIe thru USB External USB port: 2.0 mm, 1x4-pin, male type wafer box	Internal USB port: MiniPCIe thru USB External USB port: 2.0 mm, 1x4-pin, male type wafer box	Internal USB port: MiniPCIe thru USB External USB port: 2.0 mm, 1x4-pin, male type wafer box	Internal USB port: MiniPCIe thru USB External USB port: 2.0 mm, 2x5-pin, male header
Channel Connector	1	1	2	2	2
Operating Temperature	0 ~ 70°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C
Storage Temperature	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C
LED Status	Activated indicator	Activated indicator	Power On/Off: Red LED COM-1 working : Green LED COM-2 working: Green LED	Power On/Off: Red LED COM-1 working : Green LED COM-2 working: Green LED	Activated indicator
Dimensions (L x W x H)	50.59 x 30 x 15 mm	50.59 x 30 x 20 mm	50.59 x 30 x 15 mm	50.59 x 30 x w20 mm	50.59 x 30 x 15 mm

Note: "-" : means Not Applicable (N/A)

Memo

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