IEI and IEI Worldwide

IEI Integration Corp., a leading industrial computing service provider, integrates computing platforms and customization services. IEI supplies hundreds of industrial computer boards, systems and peripherals for various customer applications, in addition to supporting OEM/ODM services. By reducing customers' design time and accelerating product development, IEI helps customers advance beyond their market competition. IEI has an innovative R&D team, effective management system, quality assurance and over 400 products passing through more than 100 distributors in order to provide customers with the fastest time-to-market services all over the world.

IEI Integration (Shanghai) Corp.
515, Shen Fu Rd., Xin Zuang Industrial Develop Zone, Shanghai, 201108, China
http://www.ieiworld.com.cn

China

IEI Integration Corp.
No. 29, Zhongxing Rd., Xizhi Dist., New Taipei City 221, Taiwan
http://www.ieiworld.com

Headquarters

IEI Technology USA Corp.
138 University Parkway, Pomona, CA 91768
http://www.usa.ieiworld.com

United States

Smart Transport
Computers and platforms are communicated via GPS, Wi-Fi, RFID and OBD-II to remotely manage the client devices, and collect.

Smart Factory
Intelligent machine vision systems and remote control platforms are deployed in an unmanned manufacturing.

Smart Health
Connecting patients' terminals, nursing stations, examination room, emergency medical services, PACS and HIMSS systems.

Smart Retail
Automatically check the inventory and real-time sale status and monitor information through the applications by mobile devices.

Smart Home
RFID, Zigbee, Bluetooth, wireless sensor tags are connected via cloud gateway with your handheld devices for remote control.

Smart Fitness
Smart Fitness Solution provides customized fitness equipment, rehabilitation equipments, club front desk and back-end office management.

Best-in-Class Design and Service

Custom engineering

IEI has extended its system assembly line to provide solutions that best fit customers' needs. Our assembly lines and logistics services have the flexibility to fulfill a wide variety of customer specifications and requirements.

Being the top brand in the IPC industry, all IEI staffs devote themselves to provide the highest quality service through global management and advanced technology.

Global service

As a leading IPC provider, IEI offers prompt, localized services to customers worldwide. IEI has a global network of over 100 distributors in Europe, Asia and North America to provide quick service and achieve fast response time. From new sales inquiries to ongoing technical support, IEI's localization strategy is backed by our strong technical and logistical support team. Having forged strong relationships with our distributors, their support expertise and technical knowledge of IEI products are readily accessible to IEI customers worldwide. IEI has warehouses in Shanghai and the US which offer comprehensive system integration hardware, software, customer-driven services and global logistics support.

Design

IEI's R&D team has years of experience in designing and developing professional software, hardware, mechanical and system integration. Our extensive experience covers nearly every product line in the IPC field and enables us to provide outstanding OEM/ODM services. We guarantee a successful and timely product development experience. The research and development team at IEI is focused on bringing successful products to our clients.

Successful projects include:

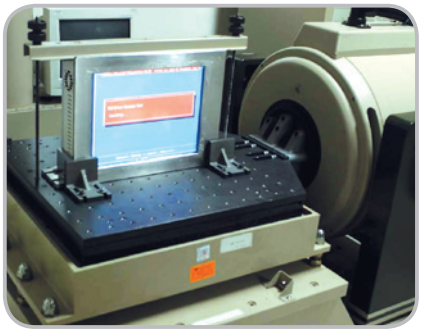
- Mobile PCs for police car video recording applications
- Networking platforms for VPN and load balance services
- Video capture for surveillance applications

1 IEI Quality Assurance

All IEI embedded industrial products have been rigorously tested in the quality assurance and compliance laboratory at IEI headquarters. To provide the customer with peace of mind, IEI has invested over two million dollars into developing state of the quality assurance and compliance testing facilities. IEI products are put through ten different quality assurance and compliance tests to ensure our embedded industrial products can withstand a variety of harsh operational environments.

Direct customer benefits of our comprehensive quality assurance and compliance testing procedures include:

- High quality products and customer peace of mind
- Maximum product durability
- Long term product reliability
- Less downtime due to failed components



2 Thermal Testing

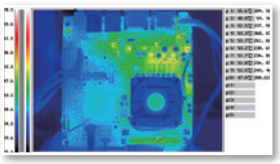
Infrared thermography detects infrared energy emitted from an object, converts it in to a temperature, and displays an image of the temperature distribution.

NIPPON
Neo Thermo TVS-700

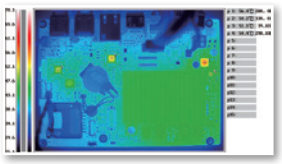
Testing results

IEI SBCs operate with minimum difference in surface temperatures on separate sections of the board. Better temperature control guarantees more reliable long term system operation.

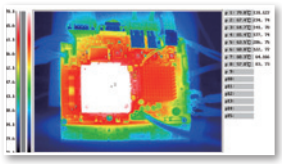
Better temperature control guarantees more reliable system operation in the long run.



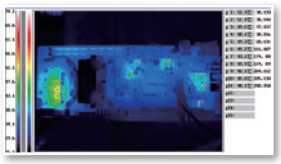
Mini-ITX SBC



EPIC SBC



3.5" SBC

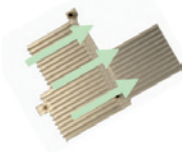


PICMG 1.3 SBC

3 All New Heat Sink Design

Heat sink design and selection are critical. Heat sink performance depends on many variables including air temperature and air flow rate in the immediate vicinity of the heat sink, the strength of other heat conduction paths through components and the board, the contact resistance between the heat sink and the component it is attached to and the radiation path from the heat sink to a cooler surface, among other things. Heat sinks can also have a significant effect on electromagnetic fields. A heat sink that works well in one application may be virtually useless in another.

IEI heat sink features

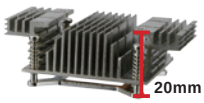


1. Good aerodynamics

IEI heat sinks allow air to flow easily and rapidly through the cooler and reach all the cooling fins. This feature is important for heat sinks with many thin fins.

3. Good mounting method

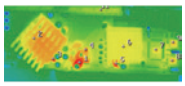
For good thermal transfer, the pressure between the heat sink and the heat source must be high. IEI heat sink clips provide increased pressure at the heat sink's contact area and are easy to install.



IEI P/N:34000-000357-RS

2. Perfect flatness of the contact area with IEI new close flatness technology

A heat sink's contact area must be perfectly flat. A flat contact area allows the use of a thinner layer of thermal compound that reduces the thermal resistance between the heat sink and the heat source.



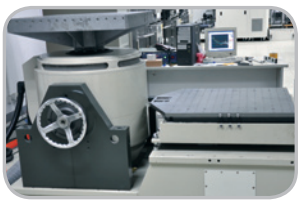
4. Good thermal transfer within the heatsink

IEI heat sinks are designed for efficient thermal transfer from the heat source to the fins.

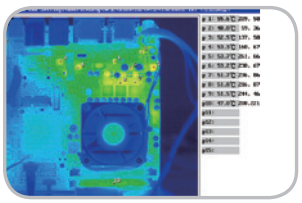
4 Reliability Always Matters

Comprehensive quality assurance tests are performed on all IEI products throughout the product development cycle. Quality assurance tests are initiated in the research and development phase of a product and continued all the way to the manufacturing phase. Quality assurance testing throughout the product development cycle ensures that IEI products are able to provide stable performance in the industrial environments they are used.

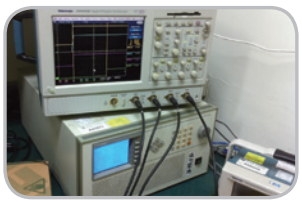
Safety Testing



Vibration Testing



Thermal Testing

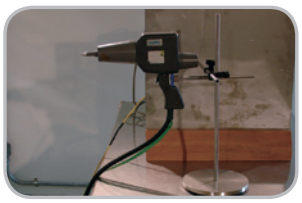


Power Consumption Testing

Drop Testing

IP 65 Testing

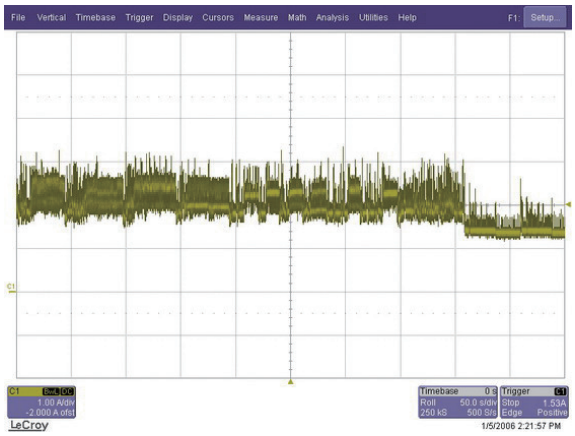
Temperature Testing

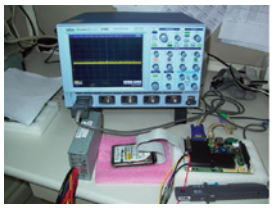


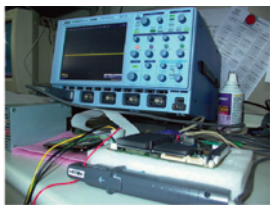
ESD Testing

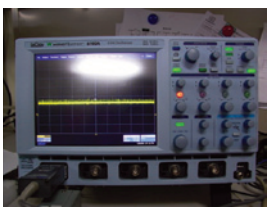
5 Real-Time Power Consumption Test

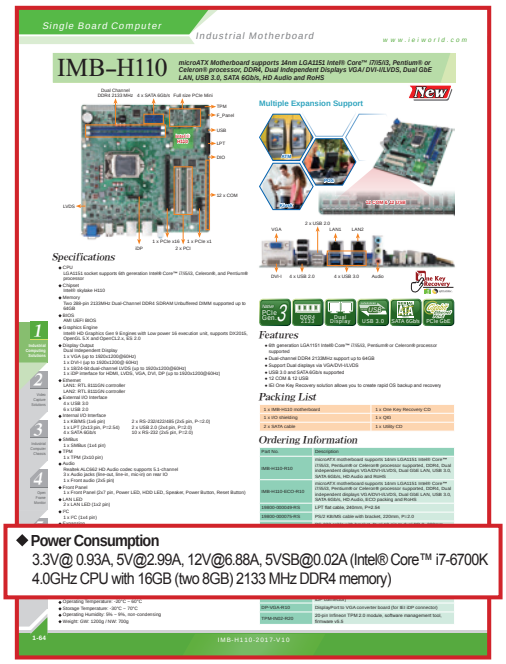
Meeting stringent power budgets is essential for attaining system performance and cost goals. Low power enables higher clock frequency, higher reliability, better noise margins and reduced operational costs. All IEI products have passed strict power consumption tests. Complete power consumption details are listed on the product datasheets.











Power Consumption

Voltage	3.3V	5V	5VSB	12V
Current	0.93A	2.99A	0.02A	6.88A

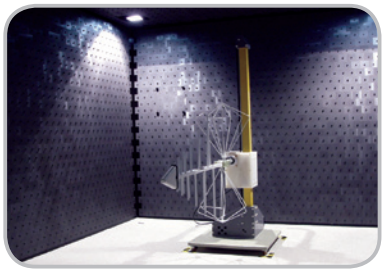
System Configuration

CPU	i7-6700K 4.0GHz	HDD	1TB
Memory	DDR4-2133 16GB	O.S.	Windows 8.1 64bit

◆ **Power Consumption**
3.3V@ 0.93A, 5V@2.99A, 12V@6.88A, 5VSB@0.02A (Intel® Core™ i7-6700K 4.0GHz CPU with 16GB (two 8GB) 2133 MHz DDR4 memory)

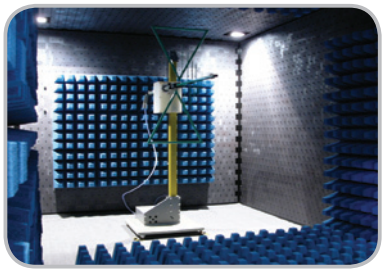
6 Product Compliance Testing

IEI has more than 400 products used in a wide variety of applications and environments worldwide. In order to develop time-to-market products that comply with safety, EMC certification and environmental directives across the globe, IEI has three certification-compliant labs including an EMI/RF chamber, EMI chamber and semi-anechoic room. IEI's new IEC 651 class 0 level semi-anechoic room can perform ISO 3745 and ISO 7779 standard acoustics experiments. These labs are essential to help ensure the safety of our products as well as reducing costs and improving the quality of our products and services.



EMI Chamber

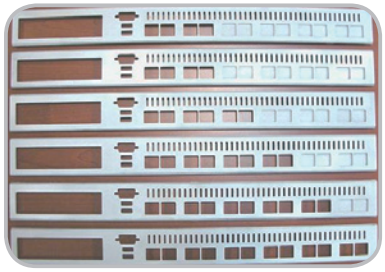
Semi-anechoic Room

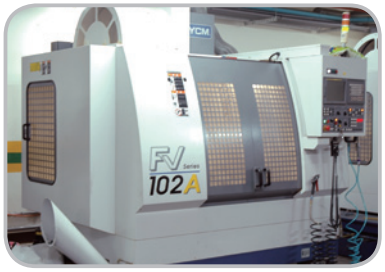


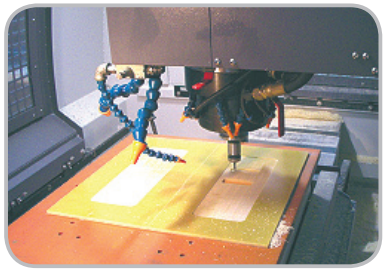
EMI / RF Chamber

7 Flexibility Customization Service

- **Sheet metal shell manufacturing**
- **Sheet metal component processing**
- **Metal sheet punch, laser cutting, folding and welding**
- **Liquid painting**







Total Platform Solutions

IEI SBC Product Lines

Product Line	Specifications		Product Name
Full-Size SBC	PICMG 1.3	PCI + PCIe (Server Grade)	SPCIE-xxxx (Server Grade)
		PCI + PCIe (Graphic Grade)	PCIE-xxxx (Graphic Grade)
	PICMG 1.0	PCI+ISA	WSB-xxxx
			ROCKY-xxxx
Half-Size SBC	Half-Size SBC	PCIe	HPCIE-xxxx
		PCI + PCIe	PICOe-xxxx
		PCI + ISA	PCISA-xxxx
		Pure-ISA	IOWA-xxxx
Industrial Motherboard	ATX	305mm x 244mm	IMBA-xxxx
	Micro ATX	244mm x 244mm	IMB-xxxx
	Mini-ITX	170mm x 170mm	KINO-xxxx
Embedded Motherboard	5.25"	203mm x 146mm	NOVA-xxxx
	EPIC EPIC	165mm x 115mm	NANO-xxxx
	3.5"	146mm x 102mm	WAFER-xxxx
	PICO-ITX	100mm x 72mm	HYPER-xxxx
	PC104/PCI 104	95mm x 95mm	PM-xxxx
Computer On Module	ETX	ETX 2.8, ETX 3.0	IEM-xxxx
	Com Express	Type 2, 6, 10	ICE-xxxx
	Qseven	Rev. 2.0	IQ7-xxx

AMD Solutions

Chipset	Full Size	Half-Size	Main Board	Embedded Board					CPU Module		
		ISA		Mini ITX	5.25" NOVA	EPIC NANO	3.5" WAFER	HYPER	COM Express	PC 104	Q7
R-Serier				gKINO-DMF KINO-DA750-i2 KINO-AA750-i2							
G-Series SoC				KINO-SE-i2 KINO-KBN-i2		NANO-SE-i1 NANO-KBN-i1	WAFER-KBN-i1	HYPER-KBN		PM-LX PM-LX2	
LX		IOWA-LX				NANO-LX	WAFER-LX/WAFER-LX2				

Intel® Solutions

Innovation fulfills many different needs. Customers can easily select products by form factor, platform, or even main chipset provider. Meet market demands with our large selection of products.

Segment	Chipset	Full Size		Half-Size					Main Board		Embedded Board					CPU Module		
		PICMG 1.3	PICMG 1.0	PICMG 1.3	PCI/PCIExpress	PCI/ISA	PCI	ISA	ATX	Micro ATX	Mini ITX	5.25" NOVA	EPIC NANO	3.5" WAFER	HYPER	COM Express	PC 104	Q7
Server	D1500								IMBA-BDE									
	C604								IMBA-C604EP									
	C236	SPCIE-C2360		HPCIE-C236					IMBA-C2360-i2									
	C226	SPCIE-C2260-i2							IMBA-C2260-i2									
	C216	SPCIE-C2160							IMBA-C2160	IMB-C2160								
	C206	SPCIE-C2060							IMBA-C2060	IMB-C2060								
Desktop	Q170	PCIE-Q170		HPCIE-Q170					IMBA-Q170-i2		KINO-AQ170							
	H110								IMBA-H110	IMB-H110								
	Q87	PCIE-Q870-i2							IMBA-Q870-i2	IMB-Q870-i2	KINO-AQ870							
	H81	PCIE-H810	WSB-H810						IMBA-H810	IMB-H810-i2	KINO-DH810							
	Q77								IMBA-Q770	IMB-Q770								
	Q67	PCIE-Q670							IMBA-Q670	IMB-Q670	KINO-AQ670							
	B65				PICOe-B650													
	H61	PCIE-H610	WSB-H610						IMBA-H610	IMB-H610A/B	KINO-DH610 KINO-AH611 KINO-AH612							
	Q57	PCIE-Q57A																
	G45/ICH10																	
	865G/ICH5																	
	815E/ICH2																	
Mobile	QM170/CM236										KINO-DCM236 KINO-DQM170							
	ULT3										tKINO-ULT3		NANO-ULT3				ICE-ULT3	
	ULT2													WAFER-ULT2				
	ULT													WAFER-ULT				
	QM87										KINO-DQM871		NANO-QM871-i1				ICE-QM871	
	HM85																	
	QM77										KINO-QM770		NANO-QM770				ICE-QM770	
	NM70													WAFER-NM701-847				
	QM67										KINO-QM670							
	HM65				PICOe-HM650								NANO-HM650 NANO-HM651					
	QM57										KINO-QM57A							
	HM55										KINO-HM551							
Atom	N3350/N4200/E3900 Series (SoC)										KINO-DAL tKINO-AL		NANO-ALW2	WAFER-AL				iQ7-QL
	N3000 series (SoC)										tKINO-BW			WAFER-BW	HYPER-BW			
	J1900/N2930/E3800 series (SoC)					PCISA-BT					eKINO-BT KINO-ABT-i2 KINO-DBT		NWNO-BT-W2 NANO-BT-i1	WAFER-BT-W2 WAFER-BT-i1	HYPER-BT	ICE-BT-T10 ICE-BT-T6		iQ7-BT-W2 iQ7-BT
	D2550/NM10 (ICH10R)										KINO-CV-D25501		NANO-CV-D25501 NANO-CV-D25502	WAFER-CV-D25501 WAFER-CV-D25502		ICE-CV-D25501 ICE-CV-D25502		
	Z650/SM35																	
	D510/ICH8M																	
	D525/ICH8M		WSB-PV-D5251		PICOe-PV-D5251	PCISA-PV-D5251					KINO-PV-D5252	NOVA-PV-D5251	NANO-PV-D5251 NANO-PV-D5252	WAFER-PV-D5252		ICE-PV-D5251	PM-PV-D5251	

Base Board Solutions

COM Express	Q7
ICE-DB-T10/ICE-DB-T6R/ICE-DB-T6/ICE-DB-9S	iQ7-DB-MATX/iQ7-DB-MITX

New Products in Red

QTS Gateway for IoT Cloud Solution

Could Base IPC Built-in with QTS Gateway OS for IIoT

IoT Empowered by your Private Cloud

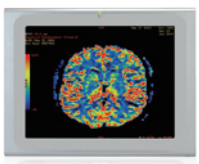
QNAP iEi QIOT

By connecting machines, work pieces and systems, we can create intelligent networks along with the entire value chain of IoT, that is, at your demand, our expandable products are connected to each other autonomously.

The IIoT (Industrial Internet of Things) concept is changing the past production modes; more and more automated equipment is used to replace manual labor. However, the meaning of automation would have been lost if these equipment still have to rely on a lot of manpower. Machine to machine (M2M) communication, data storage and analysis capability are the keys to creating a smart production line. IEI incorporates with QNAP to launch cloud-based IPC with QTS Gateway operating system, offering possibilities of connecting devices, communications and the cloud servers for IPC applications.

Home Automation | Health Care/ Hospital Care | Factory Automation & MES | Fleet Management | Retail/ Mass Market

PPC series



POC series

TANK-860

TANK-760

IDS-300

QTS Gateway for Cloud IPC Solution

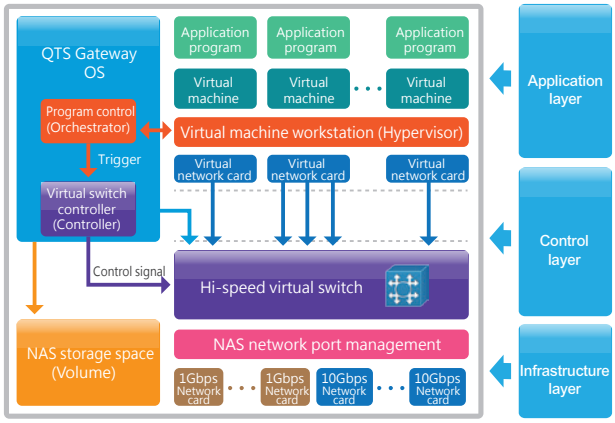
IEI's new generation smart fan-less embedded computer has an ultra-rugged design that allows stable operation even under the worst environments; it is not only quiet but also safe. The TANK-860-QGW supports the QTS Gateway operating system allowing you to easily monitor the system status. Diverse application programs can also be downloaded to satisfy different application needs.

QTS Gateway is an operating system designed specifically for IEI IPCs and fully integrated the QNAP NAS operating system (QTS), breaking through the stereotype of IPCs of not having operating systems and saving unnecessary costs for installing servers and computers. QTS Gateway not only allows easy monitoring of computer status through its visualized interface, it also allows the use of many free application programs, making it multifunctional while challenging the values of traditional IPCs.

	Traditional IPC	Cloud-based IPC
Remote System Visualization	No	Yes
OS	No (additional devices must be purchased and installed)	Built-in VM virtual application
Remote Device Management	No (additional management software must be installed)	Free Apps: Qcenter, QRM+
Data Backup	No (additional management software must be installed)	Hybrid Backup Sync
myQNAPcloud Management	No	Yes, supports system update through a cloud
Video Surveillance	No (additional surveillance software must be installed)	Free software: Surveillance Station
RAID Data Storage	No (must use with specific platforms)	RAID 0, RAID 1
Support for Mobile Devices	No	Free App Qfile, Qmanager

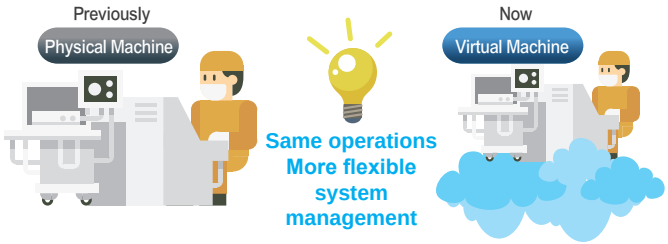
• Virtualization Station Painless migration, complete OS virtualization

- Quick transfer, zero threshold
- PCIe card connection
- VM Backup & Restore
- Remote Import & Export
- USB Passthrough
- Advances in VM network structure, again — the Software Dened Network
- Virtual switch
- Device Management
- Visibility and direct access to files
- User-based permissions settings
- Operate VMs through web browsers



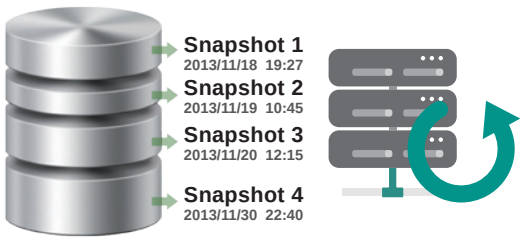
Quick Transfer, Zero Threshold

Provides physical-to-virtual (P2V) technology can be used to create a familiar operating system (e.g. Win 2000/ XP/7/8.1/10/Server 2003/2012, Linux, x86-Android…etc) adding more flexible system management.



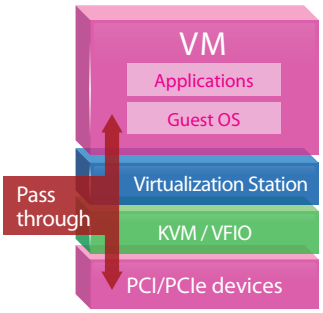
VM Backup & Restore with VM Snapshot

Supporting local and remote backup and restore your VM avoid disaster. Able to set schedule or real time snapshot to reduce the downtime while restoring.



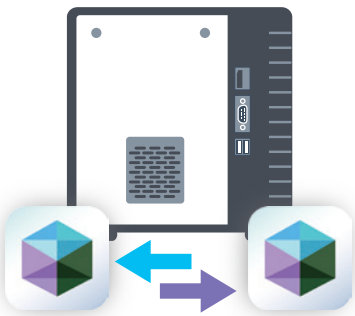
PCIe card connection and USB Passthrough

With Intel® Virtual technology allowing VMs to allocated H/W resources such as PCIe, PCI, Lan, USB, COM, DIO…etc.



Remote Import & Export

Virtual machines of various formats can be easily imported to and exported from the Virtualization Station.



• Container Station Rapidly deploy containers

- Container Station is developed following the Just enough OS, or JeOS, philosophy. This lightweight virtualization technology can instantly and truly create a ready-to-use environment on PCs
- Container station oers the most up-to-date and top-of-technology applications for rapid deployment with just a click. The following apps are now available: LibreOce, MongoDB, Nginx, Node.js, Redis, MySQL, WordPress, Deluge, Minecraft, Wine, Jenkins, GitLab, Redmine, Joomla! and OpenERP.

CentOS ubuntu debian fedora Node-RED Powered by MySQL Deluge
mongoDB NGINX redis node.js WordPress LibreOffice WINE
REDMINE OpenERP Joomla! GitLab Jenkins MINECRAFT

• HD Station

Using VGA, DVI, HDMI, DP display to output the entire HD Station provides you east to access your application (VM), output the Virtual Machine (VM) console via HDMI monitor.

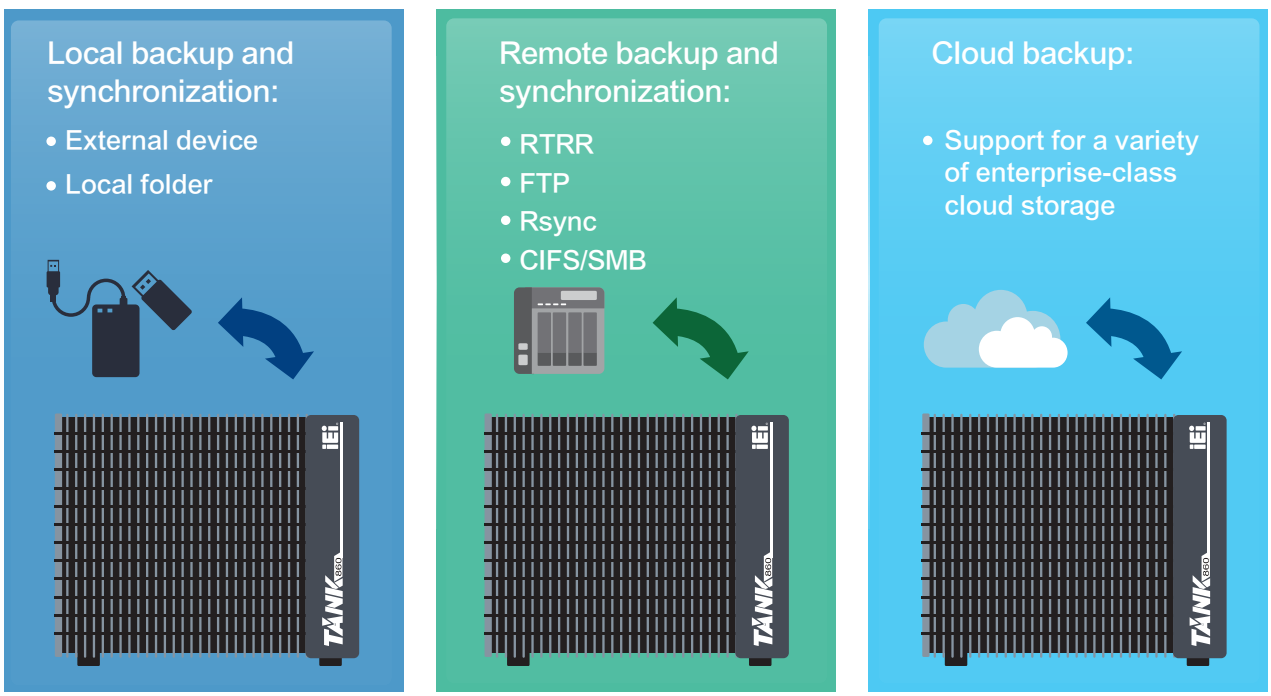
QVM Desk

• Linux Station

Comprehensive service from the Ubuntu Linux. Just download Linux Station from the App Center and use VGA/DP/DVI display to output the entire Ubuntu desktop.

Data Center and Backup – per fec t integration of public and private clouds

In the era of information explosion, there are dozens of thousands of data being written every day. QTS Gateway continues the essence of the cloud purpose operating system and provides several management and backup tools to allow you to easily nd data and back them up or share them to other devices or cloud services, providing more diverse and mind-easing backup management solutions.

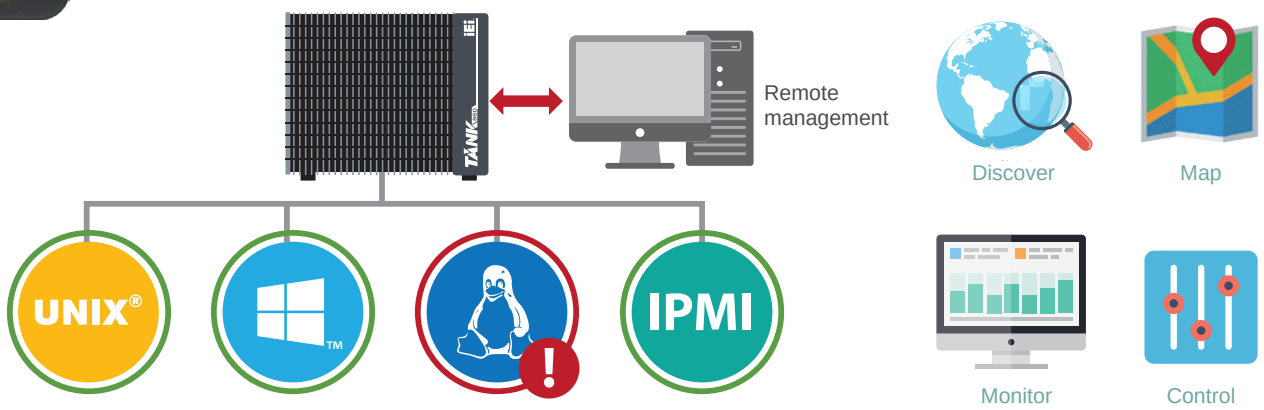


• Surveillance Station – remote video surveillance

QNAP video sur veillance center provides four free camera channels, and suppor ts ONVIF and PSIA universal camera protocols, compatible with over 3,000 IP camera models of over 100 brands. It allows you to easily create an automated video surveillance system for your factory to protect property and personnel safety, and to create a working environment with no blind spots.

• QRM+
IT infrastructure management

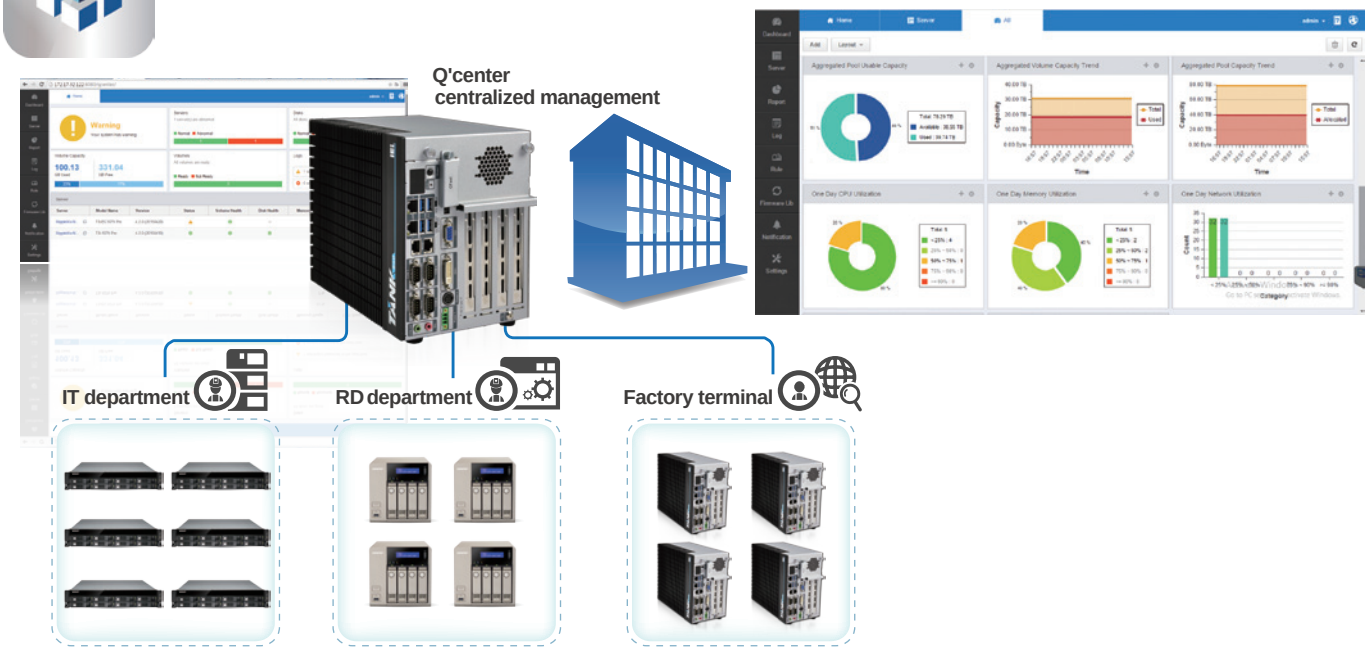
QRM+ is a centralized remote server and PC management solution from QNAP designed for IT teams. QRM+ monitors and controls the pulse/health of all the mission critical servers in your network. QRM+ provides a single point solution to discover, map, monitor and control all the critical devices (Servers/PCs/Thin Clients etc.) in your network. Manage your servers remotely from dierent client with-in or from outside of the same network.



- Improve server health status control for the administrators
- Discover, map, monitor and control resources in your network on a single platform.
- Supports Agent based (QRMAgent) and Agentless (IPMI) surveillance, supports IPMI 2.0.
- Keeps track of all mission-critical device settings and provides state of art alert/event management.
- Generate reports to help analyze the performance of network resources.
- Exclusive QRMAgent (lightweight remote management agent service) that supports multiple platforms such as Windows and Linux.
- Save time on troubleshooting and quickly restore the system to operable status.

• Q'Center
Centralized multi-GTS Gateway management

Q'Center offers you a powerful management solution can view the status and system information of multiple QTS Gateway systems at the same time. Q'center can greatly assist IT administrators in system resource allocation and future capacity planning.



Product List

PPC-FxxB-BT
- 12"/15"/17"/19" Fanless Intel® Bay Trail Solution
- Robust IP65 aluminum front bezel

TANK-860-HM86
- Ruggedized fanless embedded system with Intel® HM86 mobile solution
- Up to six different expansion slot options

TANK-760-HM86
- Ruggedized fanless embedded system with Intel® HM86 mobile solution
- Three independent video outputs

ECW-281B-BT
- Fanless embedded system with Intel® Celeron J1900 Processor
- 12V DC and 9~36V DC models available

DRPC-120-BT
- Fanless DIN-Rail embedded system with Intel® E3845 processor
- Programmable OLED display

IDS-300-BW
- Digital signage system with Intel® Celeron N3160 solution
- Three independent HDMI output

ECN-380-QM87i
- Fanless embedded system with Intel® Core™ i5/Celeron® CPU
- Triple display with two HDMI and one VGA output

uIBX-250-BW-QGW
- Fanless system with Intel® Celeron® N3160 processor
- Dual display

SBOX-100-QM87-QGW
- Fanless marine computer with Intel® Core™ i5 CPU
- Isolated 18 V~36 V DC input

IVS-200-ULT2-QGW
- Intel® i5-5350U or Celeron® 3755U CPU
- 9~36V DC input
- E-Mark certification

IPMI Remote Management in IEI Solution - IPMI 2.0 Compliant

What is iRIS?

Let's start from IPMI first before we talk about iRIS. IPMI is a standardized computer system interface used by system administrators for out-of band management of computer systems and monitor and control of their operation. It is a way to manage a computer that may be powered off or otherwise unresponsive by using a network connection to the hardware rather than to an operating system or login shell. iRIS is a modularized IPMI product, which is designed and manufactured by IEI company. iRIS is compliant with IPMI 2.0, and supports out-of –band remote management to allow administrators to manage a system remotely in the absence of an operating system or of the system management software. Thus, IPMI functions can work in any kind of scenarios such as:

1. Before an OS has booted
2. When the system is powered off
3. After OS or system failure or BSOD
4. Cross platform and OS independent

Using a worldwide standardized IPMI 2.0 interface and protocol allows IEI's iRIS technology to assist administrators to remotely monitor and manage all IEI iRIS supported devices by group or individual via Internet communication.

Application for iRIS

■ Retail Industry

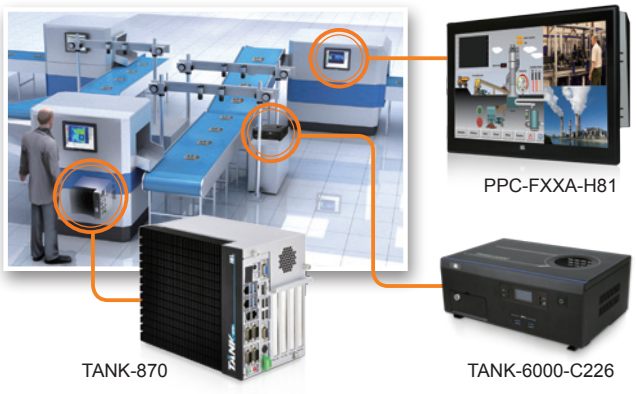
Retail industry relies on software more than pure hardware architecture. Maintenance cost is the highest cost since service location could be everywhere, and any shutdown will cause business lost. Graphics performance with hardware management is the requirement for retail application such as digital signage, vending machine, kiosk, and ATM machine. IEI offers AMD graphics solution with IPMI module to fulfill application needs.

PPC-F22A-H81

IDS-200

■ Factory Automation

Each production line has its own computer systems to do automated control of production processes. Active system alert could help to monitor all systems in production lines with less human resources, and instant notice and detailed event log with screen record could save time for troubleshooting. IEI provides a variety of solutions with iRIS support to save both time and human resources, and achieve less loss in production capacity.



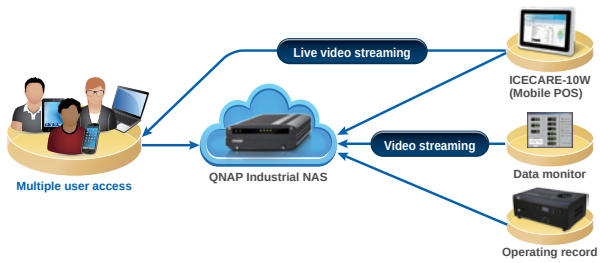
PPC-FXXA-H81

TANK-870

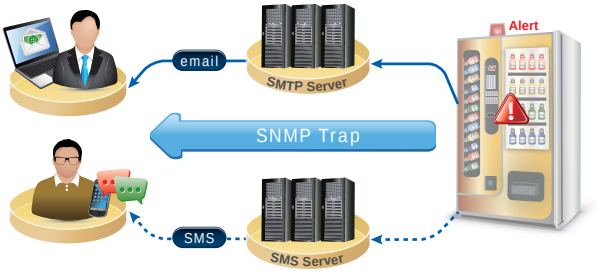
TANK-6000-C226

iRIS Key Features

- Remote video streaming record
- Event trigger setting & video record

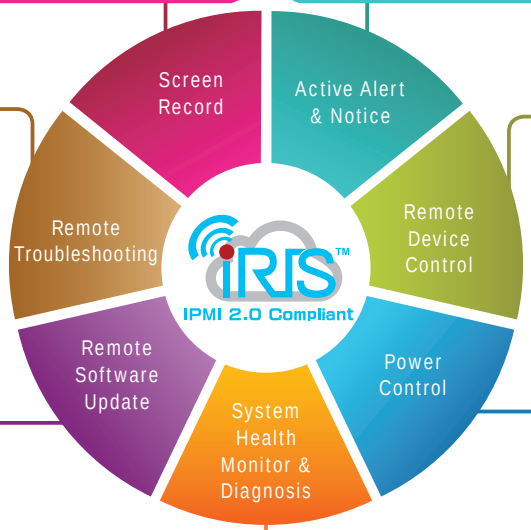


- Instant system alert email
- Instant system alert SMS



- Remote software update
- Remote OS installation & recovery
- Remote KVM
- POST code display

- Fan control
- Remote KVM
- Remote BIOS setting
- Remote, Cycling, Scheduling power turn On/Off control



- Software update
- OS installation & recovery
- KVM over IP
- POST code display

» **Diagnose:**
Check system health, event log & POST code

» **Update:**
Remote firmware update

» **Recover:**
Remote OS installation & recovery

- Reset system
- Power off system – Immediately / Orderly
- Power on system
- Power cycle system
- Group power control

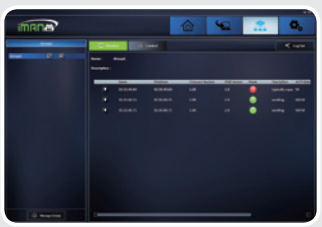
- Hardware monitor
- Health log record & diagnosis
- Event log record & diagnosis

iMAN Utility

- Free offer in each product with IPMI function
- Group monitoring and power control
- KVM support with iRIS-2400
- Support Windows® operating system


Device status

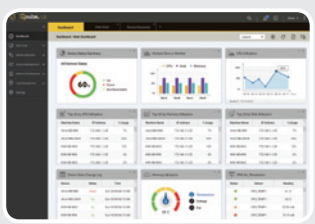

Device information


Group monitoring and power control

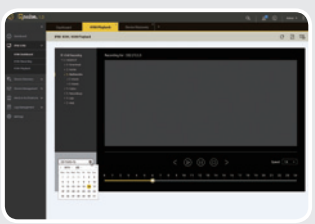

Software setting

QRM+

- Device discovery and topology
- Web-based management
- Remote KVM solution for IPMI
- Remote KVM recording and playback


Customizable Dashboards

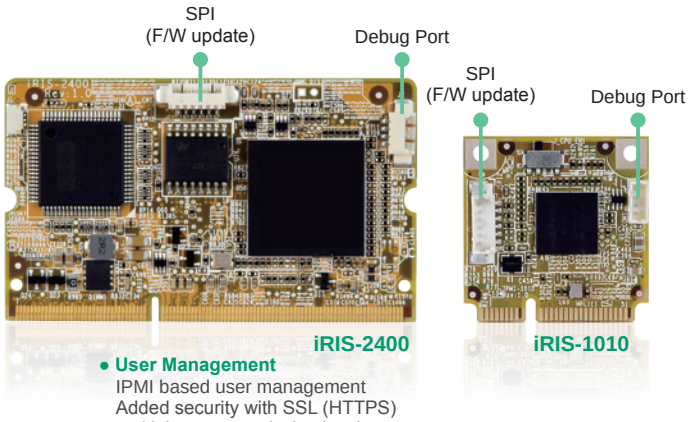

QPulse Topology


QPulse KVM Playback

iRIS Series

Specifications

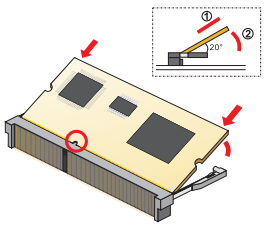
- **IPMI 2.0 Based Management**
  BMC stack with a full IPMI 2.0 implementation
  Customizable sensor management
- **OS Platform Independent**
- **Hardware Health Monitor**
  System/CPU temperature
  Fan speeds
  Voltage
  Chassis intrusion
  Power supply failed
  FRU (Field Replaceable Unit)
- **Event Log**
  BIOS event
  Hardware health monitor event
  Sensor readings
- **Notifications**
  Email alerts
  SNMP traps
- **LDAP Support**
  Direct LDAP support from the device
  Open LDAP (Generic LDAP) supported
- **Media Redirection**
  Simultaneous floppy, Hard disk or USB and CD or DVD redirection
  Efficient USB 2.0 based CD/DVD redirection with a typical speed of 20XCD
  Support for USB key
  Completely secured (Authenticated or Encrypted) remote KVM or virtual media
- **Remote Power Control**
  Remote power control
  Keyboard, Video & Mouse (KVM) over IP (iRIS-2400 only)
  Serial over LAN (SOL)



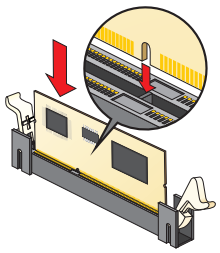
- **User Management**
  IPMI based user management
  Added security with SSL (HTTPS)
  Multiple user permission level
  Multiple user profiles
- **Web-based Configuration**
  Full configuration using web UI
  Fail-safe firmware upgrade
  Multi-language support in Web interface
- **Dimensions (L x W)**
  68mm x 40mm (iRIS-2400)
  30mm x 30mm (iRIS-1010)
- **Weight (NW)**
  12g (iRIS-2400)
  4g (iRIS-1010)

Easy to Install

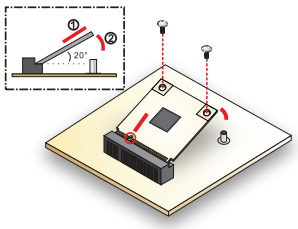
■ iRIS-2400 slot (90°)



■ iRIS-2400 slot (180°)



■ iRIS-1010 slot



Conclusion

As mentioned in the introduction, more and more devices need to be organized by a smart way. iRIS module is able to support a variety of working environments, and to run in different operating systems. Moreover, iRIS solution can not only help you to manage devices, but also bring more convenience into your business for increasing working efficiency and reducing system failure probability.

IEI iRIS Solution

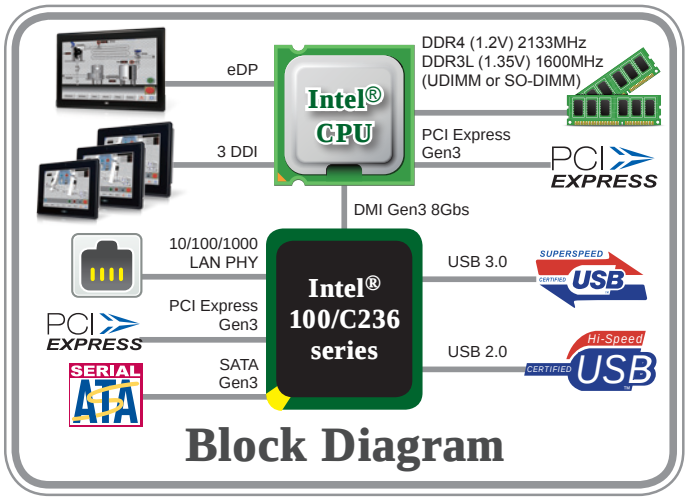
Intel® Skylake Porject		
Project	**Form Factor**	**IPMI Solution**
SPCIE-C2360-i2	PICMG 1.3	iRIS-2400
PCIE-Q170-i2	PICMG 1.3	iRIS-2400
IMBA-C236-i2	ATX	iRIS-2400
IMBA-Q170-i2	ATX	iRIS-2400
Intel® Broadwell-DE Project		
IMBA-BDE	ATX	iRIS-2500 (on board)
Intel® Haswell Projects		
SPCIE-C2260-i2	PICMG 1.3	iRIS-2400
PCIE-Q870-i2	PICMG 1.3	iRIS-2400
IMBA-C2260-i2	ATX	iRIS-2400
IMBA-Q870-i2	ATX	iRIS-2400
IMB-Q870-i2	microATX	iRIS-2400
IMB-H810-i2	microATX	iRIS-2400
KINO-DQM871-i1	Mini-ITX	iRIS-1010
NANO-QM871-i1	EPIC	iRIS-1010
WAFER-ULT/ULT2-i1	3.5"	iRIS-1010
Intel® Bay Trail		
KINO-ABT-i2	Mini-ITX	iRIS-2400
NANO-BT-i1	EPIC	iRIS-1010
WAFER-BT-i1	3.5"	iRIS-1010
AMD R-series		
KINO-DA750-i2	Mini-ITX	iRIS-2400
KINO-AA750-i2	Mini-ITX	iRIS-2400

AMD G-series		
Project	**Form Factor**	**IPMI Solution**
KINO-KBN/SE-i2	Mini-ITX	iRIS-2400
NANO-KBN/SE-i1	EPIC	iRIS-1010
WAFER-KBN-i1	3.5"	iRIS-1010
Embedded Box		
IDS-200-i2	AMD R-series (A70)	iRIS-2400
TANK-6000	Intel® Haswell (C226)	iRIS-2400 (on board)
TANK-760	Intel® Haswell (HM86)	iRIS-2400
TANK-870	Intel® Skylake (Q170)	iRIS-2400
TANK-860	Intel® Haswell (HM86)	iRIS-2400
TANK-801	Intel® Bay Trail (J1900)	iRIS-2400
DRPC-120	Intel® Bay Trail (E3845)	iRIS-2400
SBOX-QM87	Intel® Haswell (QM87)	iRIS-2400
ECN-380	Intel® Haswell (QM87)	iRIS-1010
ECW-281B-BTi	Intel® Bay Trail (J1900)	iRIS-1010
Panel PC		
PPC-FxxA-H81	Intel® Haswell (H81)	iRIS-2400
PPC-FxxA-BT	Intel® Bay Trail (J1900)	iRIS-2400
PPC-FXXB-BT	Intel® Bay Trail (J1900)	iRIS-2400
POC-W22A-H81	Intel® Haswell (H81)	iRIS-2400
SxxA-QM87	Intel® Haswell (QM87)	iRIS-2400

IEI 7th/6th Generation Intel® Solution

Intel® Kaby Lake/Skylake Platform Overview

- Totally new 14nm processor with dual-channel DDR4 & DDR3L memory (ECC optional support by sku)
- Gen 9 graphics engine
  - » 3 independent displays with audio
  - » Display resolutions supporting up to 4K@60Hz
- High speed I/O flexibility
- Security
  - » Intel® Device Protection Technology with Boot Guard
  - » Intel® Memory Protection Extensions (Intel® MPX)
  - » Intel® Software Guard Extensions (Intel® SGX)



More Features on Kaby Lake

Additional Performance vs. SKL

Higher CPU frequencies across all product lines, with new class of storage and memory technologies to make system responsiveness more relearible

New UX Capabilities

Broader No Wires – Intel® Wireless Docking 1.3, Wireless data share

New Graphics and Media

High Dynamic Range (HDR) Rec.2020, HEVC 10-bit encode/decode, VP9 10-bit decode, Chrome browser VP9 HW acceleration support.

Intel® Skylake/ Kaby Lake OS support

OS Vender	Operating System	32-bit/64-bit	Platform
Microsoft	Windows 10 IoT Enterprise	64-bit only	SLK-U/S/H & KBL-U/S/H
	Windows 8.1	64-bit only	SLK-U/S/H
	Windows Embedded 8.1	64-bit only	SLK-U/S/H
	Windows 7 Pro	32-bit/64-bit	SLK-U/S/H
	Windows POS Ready 7 & WES7	32-bit/64-bit	SLK-U/S/H
	Windows WEC 2013	32-bit only	SLK-S/H
Linux**	Fedora	64-bit only	SLK-U/S/H & KBL-U/S/H
	Ubuntu, SuSe, Red Hat Enterprise	64-bit only	SLK-U/S/H & KBL-U/S/H
	Yocto Tool Based Embedded Linux Distribution	64-bit only	SKL-S/H & KBL-U/S/H
	Chromium (Chrome)		KBL- U
RTOS**	Wind River VxWorks	64-bit only	SLK-S/H & KBL-U/S/H

** Distributions supported depend on each CPU sku.

Intel® 8 Series, 9 Series & 100 Series Comparison

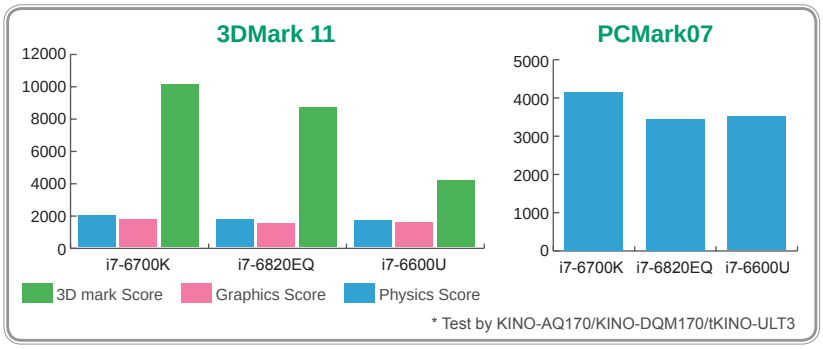
	2-Chip Platform-S (WS/DT)			2-Chip Platform-H (Mobile)				ULT			
Item	8 Series	100 Series	100 Series	8 Series	9 Series	100 Series	100 Series	8 Series	9 Series	100 Series	100 Series
Platform Name	Haswell	Skylake	Kaby Lake	Haswell	Broadwell	Skylake	Kaby Lake	Haswell	Broadwell	Skylake	Kaby Lake
Process	22nm	14nm	14nm	22nm	14nm	14nm	14nm	22nm	14nm	14nm	14nm
CPU Package	LGA1150	LGA1151	LGA1151	BGA1364	BGA1364	BGA1440	BGA1440	BGA1168	BGA1168	BGA1356	BGA1356
Memory	DDR3/DR3L	DDR3L/DR4	DDR3L/DR4	DDR3L	DDR3/ DR3L 1600	DDR3L 1600/ DDR4 2133	DDR3L 1600/ DDR4 2133	DDR3L	DDR3/ DDR3L 1600	DDR3L/DR4	DDR3L/DR4
PCI Express Lanes	Up to 8 Lanes (Gen2)	Up to 20 PCIe (Gen3)	Up to 24 PCIe Gen3)	Up to 8 Lanes (Gen2)	Up to 12 PCIe (Gen2)	Up to 16 lanes PCIe (Gen3)	Up to 16 lanes PCIe (Gen3)	Up to 8 Lanes PCIe (Gen2)	Up to 12 PCIe (Gen2)	Up to 12 PCIe (Gen3)	Up to 12 PCIe (Gen3)
PCH	Q87/C226	C236/Q170/ H110	C236/Q170/ H110	HM86/QM87	HM86/QM87	CM236/ HM170/QM170	CM238/ HM175/QM175 (Compatible with Skylake)	PCH-LP	PCH-LP	PCH-LP Premium/ Base	PCH-LP Premium/ Base

Skylake Display

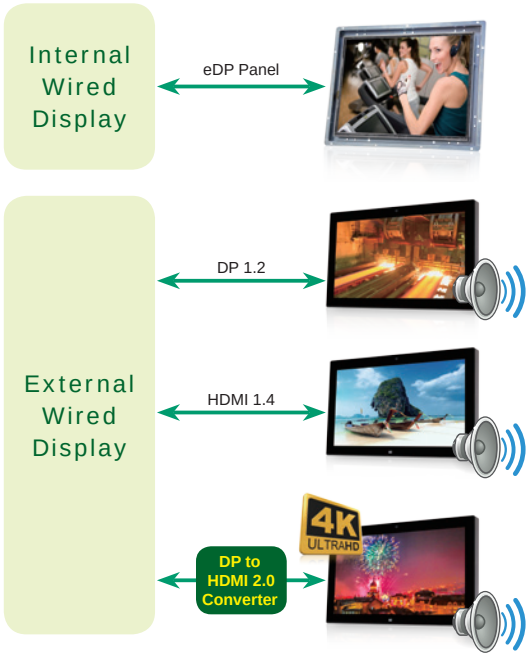
Display Comparison

Time	2013	2014	2015	2016
Platform Name	Haswell	Broadwell	Skylake	Kaby Lake
Graphics	Gen 7.5 graphics Intel® HD 4200~5000	Gen 8 graphics Intel® HD 5000~6000	Gen 9 graphics Intel® HD 510~530	Gen 9 graphics Intel® HD 615~620
DirectX Support	DirectX 11.1	DirectX11.2	Direct 12/11.3	Direct 12/11.3
OpenGL Support	4.3	4.3	4.4	4.4

Skylake DT/Mobile/ULT Performance Comparison



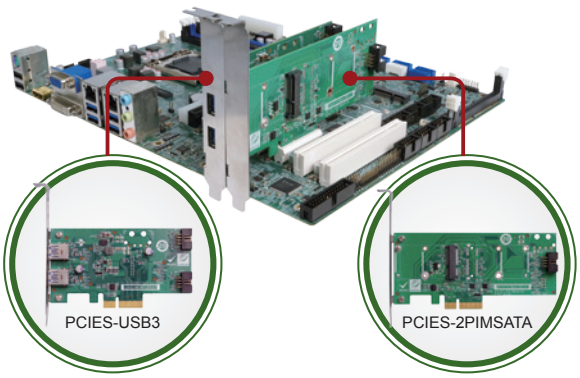
Gen 9 Display Pipe Support



New Feature of IEI Skylake Product

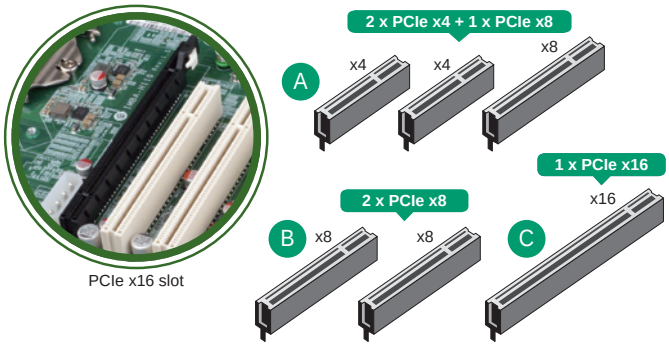
Flexible I/O and PCIe Configuration

Also, Skylake high-end CPU has three controllers that can separate PCIe x16 into different sets.



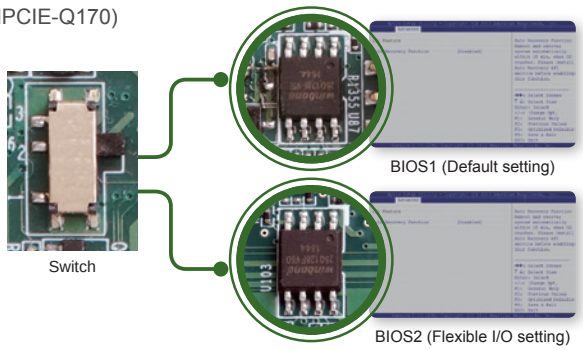
Flexible CPU PCIe x16

Skylake high-end CPU has three controllers that can separate PCIe x16 into different sets.



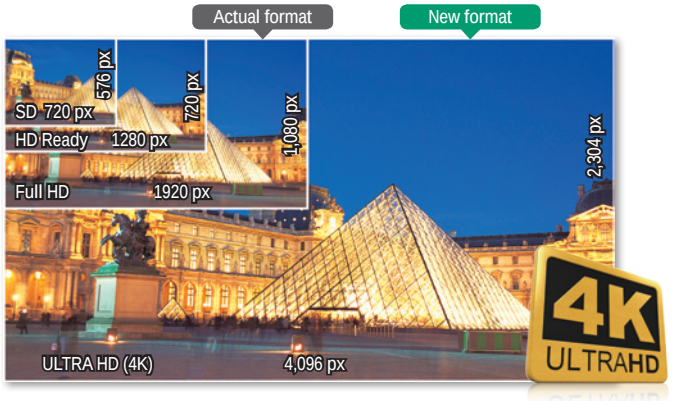
Dual BIOS (for skylake flexible I/O only)

Easy for customer to switch to different ME firmware to achieve I/O flexibility (supported products: IMBA-C2360-i2, IMBA-Q170-i2, HPCIE-Q170)



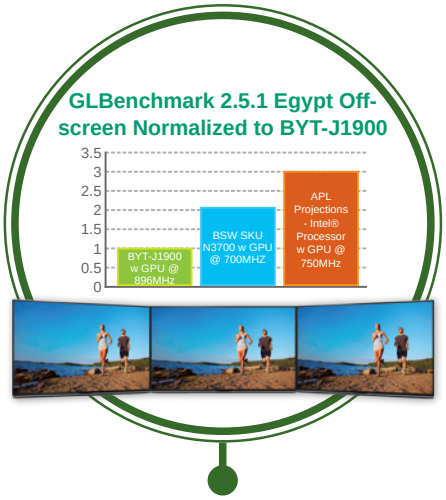
HDMI 2.0 & DP 1.2

HDMI 2.0 & DP 1.2 can support Ultra HD 4K resolution (4096x2304@60Hz).



Intel® Apollo Lake Platform

Intel® Apollo Lake Platform Overview



Improved 3D & Full-HD Media Performance

- Fast HD video acceleration over previous generation
- Up to 15 simultaneous 1080p30 decode streams
- Fast graphics and media performance @ ISO power over previous generation

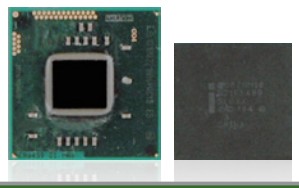
Reliable and Efficient Computing

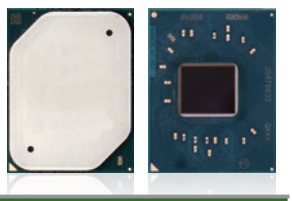
- Highly reliability with ECC
- Wide termperatue SKU with Tj: -40°C ~ 110°C and extreme 7-year lifetime for Industrial applications

Enhanced Security Executions

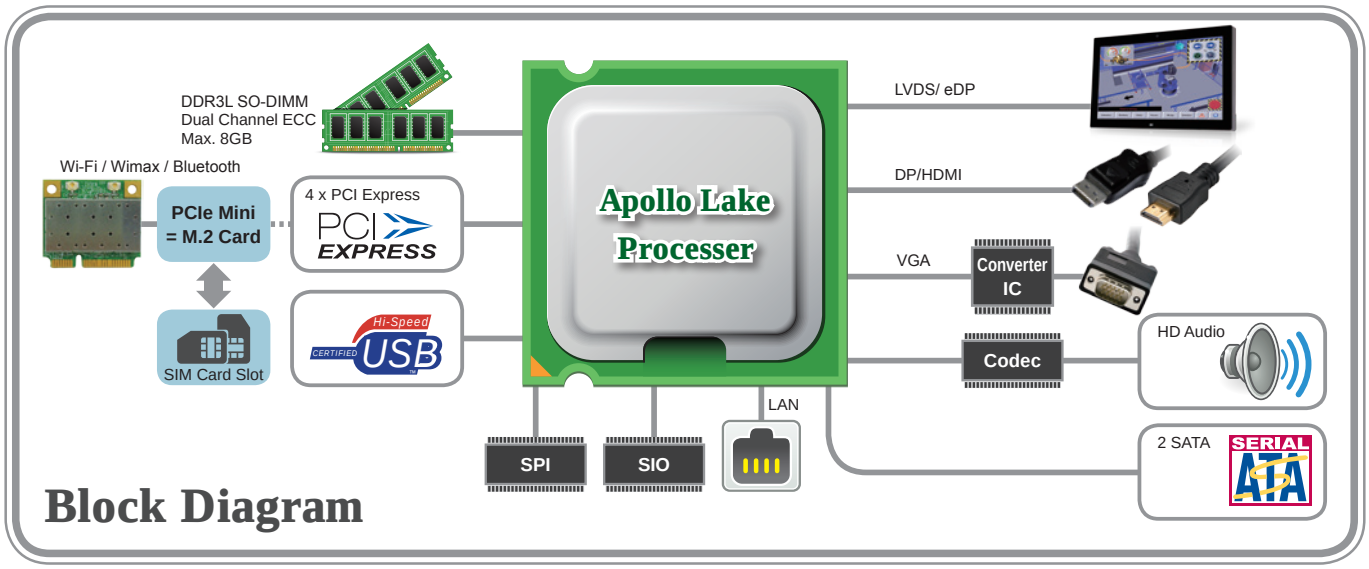
- Integral Intel® Security Engine
- Fast cryptographic execution with Intel ® AES New Instructions (Intel® AES-NI)
- Secure/measured booting features

Intel® Atom™ Comparison





	Cedar Trail	Bay Trail	Braswell	Apollo Lake
Launch	Q1'12	Q4'13	Q1'15	Q4'16
Process	32nm	22nm	14nm	14nm
Processor Frequency & TDP	D2550: 2C, 1.86GHz /10W N2800: 2C, 1.86GHz /6.5W N2600: 2C, 1.6GHz /3.5W	J1900: 4C, 2 GHz /10W N2930: 4C, 1.83 GHz /7.5W N2807: 2C, 1.58 GHz /4.3W E3845: 4C, 1.91 GHz /10W E3827: 2C, 1.75 GHz /8W E3826: 2C, 1.46 GHz /7W E3825: 2C, 1.33 GHz /6W E3815: 1C, 1.46 GHz /5W	N3710: 4C, up to 2.56GHz /6W N3160: 4C, up to 2.24GHz /6W N3060: 2C, up to 2.48GHz /6W N3010: 2C, up to 2.24GHz /4W	N4200: 4C, up to 2.5GHz/6W N3350: 2C, up to 2.3GHz/6W x7-E3950: 4C, up to 2.0GHz/6.5W x5-E3940: 4C, up to 1.8GHz/9.5W x5-E3930: 2C, up to 1.8GHz/12W
Chipset TDP	Intel® NM10: 1.5W	N/A	N/A	N/A
Memory	DDR3 1066 MHz for D2550/N2800 (Max. 4GB) DDR3 800MHz for N2600 (Max. 2GB)	DDR3L 1333MHz for J1900/N2930/ E3845/E3827 (Max. 8GB) DDR3L 1333MHz for N2807 (Max. 4GB) DDR3L 1066MHz for E3826/E3825/ E3815 (Max. 8GB)	DDR3L 1600MHz (Max. 8GB)	DDR3L 1866 MHz (Max. 8GB)
Graphics	2 Independent Displays DirectX9 , OpenGL 3.0 Gfx @ up to 640MHz (D2550/N2800)	Gen 7 graphics 2 Independent Displays Gen 7 4 EUs DirectX11.1 , OpenGL 4.0 Gfx @ up to 854MHz (J1900/N2930)	Gen 8 graphics 3 Independent Displays Gen 8 LP 16 EUs DirectX12 2 , OpenGL 4.2 Gfx @ up to 700MHz (N3700)	Gen9 Low Power graphics 3 Independent Diplats Gen9 LP 18 EUs OpenGL* ES 3.0/3.0+, OpenCL* 1.2 Gfx@ up to 750 MHz (N4200)
Video Decode	MPEG2, h.264, VC-1/WMV9 Up to 1080p	MPEG4, h.264, VC-1/WMV9 VP8 up to 1080p	H.265/HEVC @ level 5, H.264 @ Level 5.2, MPEG2, MVC, VC-1, WMV9, JPEG, VP8	4K Codec Decode & Encode for HEVC , H.264, VP8
Stroage & IO	SATA 3Gb/s, 8 USB 2.0	SATA 3Gb/s, 1 USB 3.0, 3 USB 2.0, eMMC 4.51	SATA 6Gb/s, 4 USB 3.0, 1 USB 2.0, eMMC 4.51	SATA 6Gb/s, 5 USB 3.0, 2 USB 2.0, eMMC 5.0



Intel® Apollo Lake CPU Matrix

Product Family	Brand	Processor No.	CPU Core Count	CPU HFM Freq (GHz)	CPU Burst Freq (GHz)	Memory Speed/ Channel	Gfx Freq (MHz) Nominal/ Turbo	Max. TDP	Junction Temperature Range
Apollo Lake/ Apollo Lake-I	Pentium®	N4200	4	1.1	2.5	1866/2	200/750	6W	0°C ~ 105°C
	Celeron®	N3350	2	1.1	2.3	1866/2	200/650	6W	0°C ~ 105°C
	Atom™	x7-E3950	4	1.6	2	1866/2	500/650	12W	-40°C ~ 110°C
	Atom™	x5-E3940	4	1.6	1.8	1866/2	400/600	9.5W	-40°C ~ 110°C
	Atom™	x5-E3930	2	1.3	1.8	1866/2	400/550	6.5W	-40°C ~ 110°C

Intel® Apollo Lake Platform OS Support

Type	Operating System	Support
Microsoft	Windows 10 Enterprise (64-bit), IoT Core (32/64-bit)	Intel ®/Microsoft
Linux	Wind River 8.0 Linux distribution (64-bit)	Wind River
	Yocto Project BSP tool-based embedded Linux distribution (64-bit)	Yocto Project and ISV Partners
Android	Android 6.0 (64-bit) Marshmallow	ISV Partners
RTOS	Wind River VxWorks 7.0	Wind River

Features of IEI Apollo Lake Product

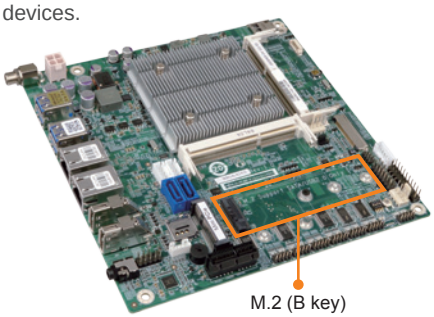
DP++

IEI provides products support Dual-mode DisplayPort output which can auto detect the plugged-in cable type and provide multiple option of display output in single port.

M.2

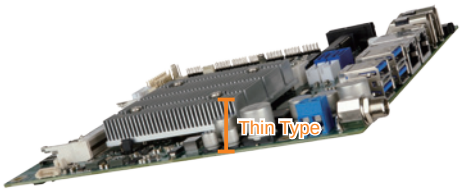
IEI provides new products supporting Next Generation Form Factor (NGFF) expansion cards in different types, such as SSD,

WWAN and WLAN cards suitable for small devices.



Low profile

Thin type products with single layer rear I/O and low profile thermal solution design are suitable for open frame panel PC solutions and also the best choice for thin compact size embedded box solutions.



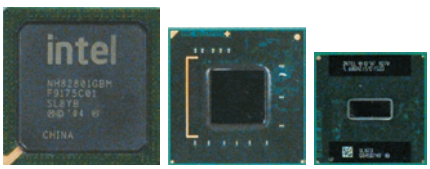
IEI Bay Trail Embedded Board as Best N270+945GSE Replacement Solution

Bay Trail embedded board series is powered by Intel® Bay Trail quad-core SoC which is three times faster than the single-core Intel® Atom™ N270 CPU. It upgrades the specifications to USB 3.0 and DDR3L to provide faster data transmission and reduce power consumption which can greatly enhance work efficiency. This series also supports an extended operating temperature ranged from -40°C to +85°C for industrial applications in tough and rugged environments.

Windows 7 (Pro/WES7/WEC7), Windows 8.1 (Pro/WE8), Windows 10 and Android operating systems are all supported by the low power consumption, fanless Bay Trail embedded board series to offer multiple options for users. IEI Bay Trail industrial board series combines high resolution, great efficiency and low power consumption. Improving the overall function of the system allows users to replace Navy Pier series seamlessly and satisfies their various requirements.

	Navy Pier (N270+945GSE)	Bay Trail Family
Available CPU Types	N270	J1900 N2930 N2807 E3845 E3827 E3826 E3825 E3815
TDP	ICH7M: 1.9W 9.9W 945GSE: 5.5W N270: 2.5W	4.3W N2807: 4.3W
Memory	DDR2 2GB 533MHz	DDR3L 8GB 1333MHz
Display Output	VGA LVDS Up to 2048x1536 @ 60Hz	VGA LVDS DP DVI HDMI Up to 2560x1600 @ 60Hz

Specification Comparison Between N270+945GSE & Bay Trail



	Navy Pier (N270+945GSE)	Bay Trail Family
Launch	Q2'08	Q4'13
Process	45nm	22nm
Processor Frequency &TDP	N270: 1.6GHz/2.5W	**Celeron®:** J1900: 2 GHz /10W N2930: 1.83 GHz /7.5W N2807: 1.58 GHz /4.3W **Atom™:** E3845: 1.91 GHz /10W E3827: 1.75 GHz /8W E3826: 1.46 GHz /7W E3825: 1.33 GHz /6W E3815: 1.46 GHz /5W
Chipset TDP	Intel® 945GSE: 5.5W Intel® ICH7M: 1.9W	N/A
Memory	DDR2 533MHz (Max. 2G)	DDR3L 1333MHz for J1900/N2930/E3845/E3827 (Max. 8GB) DDR3L 1333MHz for N2807 (Max. 4GB) DDR3L 1066MHz for E3826/E3825/E3815 (Max. 8GB)
Graphics	2 Independent Displays DirectX9, OpenGL1.4 Gfx @ up to 133MHz	2 Independent Displays Gen 7 4 EUs DirectX11.1 , OpenGL 4.0 Gfx @ up to 854MHz (J1900/N2930)
Video Decode	MPEG2	MPEG4, h.264, VC-1/WMV9 VP8 up to 1080p
Stroage & IO	IDE, SATA, 6 USB 2.0	SATA 3Gb/s, 1 USB 3.0, 3 USB 2.0, eMMC 4.51, SD card

IEI Intel® Bay Trail Embedded Board Selection Guide

Product		Replaced Model	Power Input	Expansion Slot	HDMI	Storage			USB 3.0	IPMI	iSMM+	Operating Temp.	Supply Guarantee
						CFast	mSATA	microSD					
	**eKINO-BT**	KINO-PV-D5252/ D4252 eKINO-945GSE	DC input +9~26V	1 x PCIe Mini 1 x PCIe x1		v	v		v		v	-20~60°C	3 years
	**KINO-ABT**	KINO-945GSE KINO-945GSE3	ATX	1 x PCIe Mini 1 x PCIe x1	v		v		v	iRIS-2400	v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	**KINO-DBT**	KINO-PVN-D5251 KINO-945GSE2	DC input +12V	1 x PCIe Mini 1 x PCIe x4			v	v	v		v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	**NANO-BT**	NOVA-945GSE NANO-PV-D5251 NANO-PV-D5252 NANO-945GSE	DC input +12V	1 x PCIe Mini 1 x PCI/104	v		v	v	v	iRIS-1010	v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	**NANO-BTW2**	NANO-945GSE2	DC input +12V								v	-40°C 85°C Extreme Environment -40~85°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	**WAFER-BT**	WAFER-PV-D5251 WAFER-PV-D5252 WAFER-PV-D5253 WAFER-945GSE WAFER-945GSE2 PM-945GSE	DC input +12V	1 x PCIe Mini			v		v	iRIS-1010	v	-20~60°C	5 YEARS 5-YEAR SUPPLY GUARANTEE
	**WAFER-BTW2**		DC input +12V	2 x PCIe Mini			v	v	v		v	-40°C 85°C Extreme Environment -40~85°C	Estimated Launch Date: 2015 Q4
	**HYPER-BT**	PM-945GSE PM-PV	DC input +12V						v		v	-20~60°C	3 years
	**ICE-BT-T6**	IEM-945GSE ICE-PV ICE-945GSE	DC input +12V		v				v		v	-20~60°C	3 years
	**ICE-BT-T10**		DC input +12V		v				v		v	-40°C 85°C Extreme Environment -40~85°C	3 years
	**iQ7-BT**		DC input +12V		v				v		v	-20~60°C	3 years
	**iQ7-BTW2**		DC input +12V		v				v		v	-40°C 85°C Extreme Environment -40~85°C	3 years

AMD Embedded G/R-Series Family of Processors

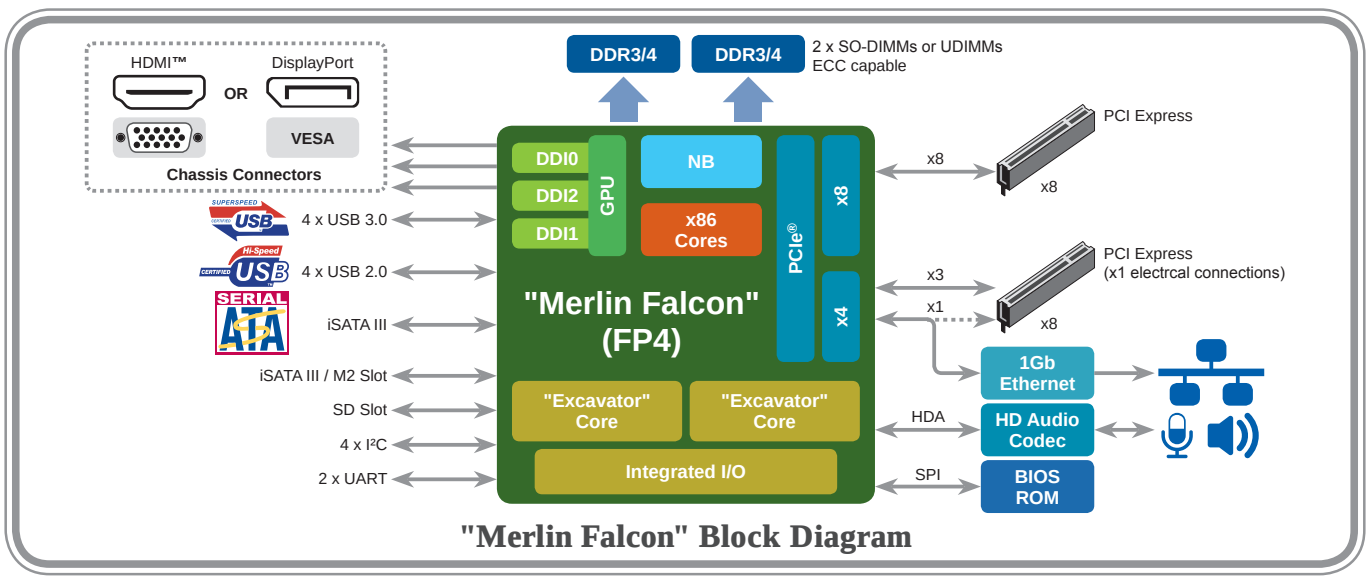
High Performance and High Definition on AMD APU

The AMD Embedded R-series Accelerated Processing Unit (APU) combines AMD's high-performance CPU technology and powerful AMD Radeon graphics technology onto a single chip.

"Marlin Falcon" Platform Overview

- Next-generation X86 "Excavator" Core
  - » 28 nm FP4 BGA Package: 37 x 29 mm
  - » As well as CPU+GPU
  - » Up to Quad cores with 2MB of shared L2
- AMD Radeon 3rd Generation Graphics core Next (GCN)
  - » AMD Radeon HD 10000 graphics
- Memory Support: Dual-channel 64-bit DDR3/4 with ECC
  - » Up to DDR3-2133 1.5V & DDR4-2400 1.2V voltage levels supported 2 SO-DIMMs or UDIMMs
  - » ECC support for DDR3 and DDR4
- Integrated display outputs
  - » Supports up to three display interfaces
  - » Supports eDP, DP1.2, DVI, HDMI2.0
  - » DCE11-Display controller Engine
- Updated I/O
  - » 1 x PCIe Gen3 x8 + 4 x PCIe Gen3 x4
  - » 4 x USB 3.0/2.0 + 4 x USB 2.0
  - » 2 x SATA 6Gb/s
  - » SD card reader version 3.0 or SDIO controller support, up to 2.2TB MMC support

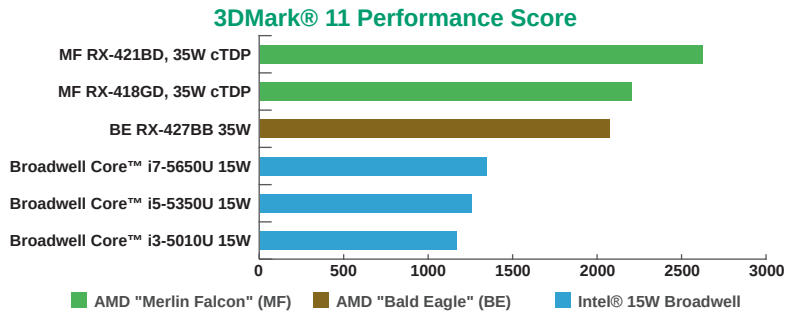
Target Market of R-series

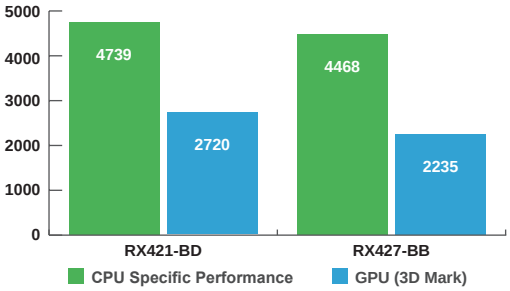


"Merlin Falcon" Block Diagram

AMD Embedded R-series "Bald Eagle" vs "Merlin Falcon"

Model	RX-427BB	RX-425BB	RX-225FB	RX-421BD	RX-418GD	RX-216GD
# of x86 cores	4	4	2	4	4	2
TDP (CPU, GPU, SB)	35W	35W	17W	35W	35W	15W
Shared L2 Cache	4MB	4MB	1MB	2MB	2MB	2MB
CPU Freq. (GHz)	3.6/2.7	3.4/2.5	3.0/2.2	3.4/2.1	3.2/1.8	3.1/1.6
GPU Freq. (Graphic MHz)	686	654	533	800	800	800
DDR Speed	DDR3-2133	DDR3-1866	DDR3-1600	DDR4-2400	DDR4-2400	DDR4-1600





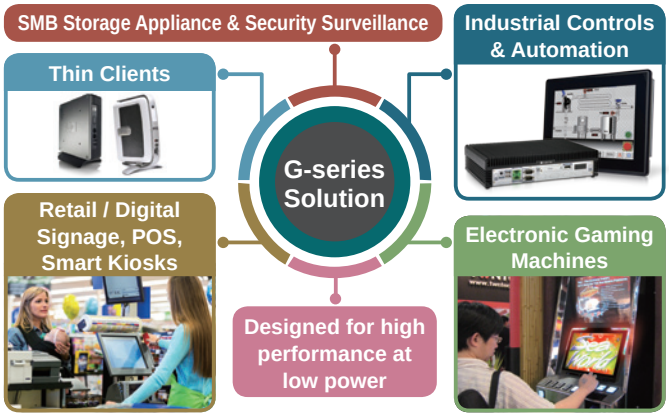
The Next Evolution in Embedded Technology

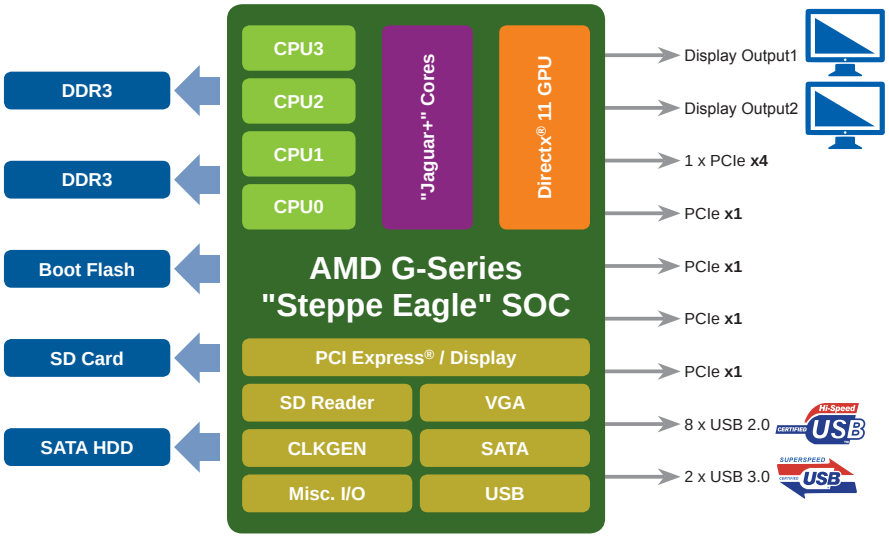
AMD's G-series System on Chip (SoC) combines a low power CPU, advanced GPU and I/O controller onto a single chip, delivering performance and efficiency without feature compromise.

"Steppe Eagle" Platform Key Features

- New "Jaguar" CPU core and next Gen Graphics "Core Next"
- Improved UNB with HAS
- New Platform Security Processor
- Power Saving Features
- Memory Support: Single-channel (64-bit) DDR3
- Integrated Display Outputs
- Updated I/O

Target Market of G-Series SoC

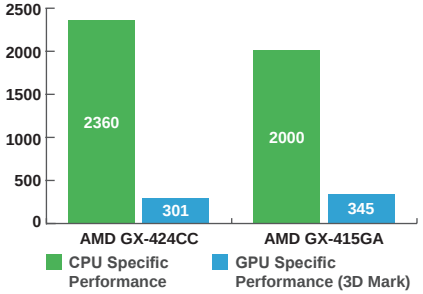




Steppe Eagle Platfrom System Diagram

AMD Embedded G-Series "eKabini" vs. "Steppe Eagle"

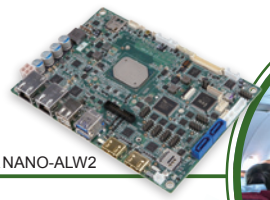
Model	GX-424CC	GX-412HC	GX-420CA	GX-415GA	GX-217GA	GX-210HA
# OF x86 CORES	4	4	4	4	2	2
TDP (CPU, GPU, & SB)	25W	7W	25W	15W	15W	9W
SHARED L2 CACHE	2MB	2MB	2MB	2MB	1MB	1MB
CPU FREQ.	2.4GHz	1.2GHz	2.0GHz	1.5GHz	1.65GHz	1.0GHz
GPU FREQ. (GRAPHICS)	800 MHz (Radeon R5E)	400 MHz (Radeon R3E)	600MHz (HD 8400E)	500MHz (HD 8330E)	450MHz (HD 8280E)	300MHz (HD 8210E)
DDR SPEED	DDR3-1866	DDR3-1333	DDR3-1600	DDR3-1600	DDR3-1600	DDR3-1333



IEI Extreme Environment Series New Wide Temperature Products

Aerospace

With the popularization of commercial aircraft, in-flight system has improved with computing and the market has also been growing. IEI Extreme Environment series products with outstanding graphic performance, smarter power saving design and good expansion possibility are competitive and suitable for in-flight entertainment (IFE) system under dramatic temperature change. For Extreme Environment series, the supply guarantee we provide is up to 5 years with reliable qualities and affordable price.

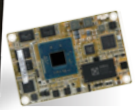


▲NANO-ALW2

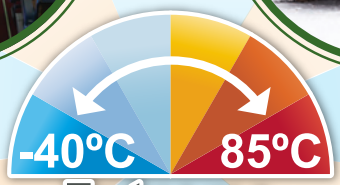
Military

Military applications are usually under operating in various environments and with special design portion which should be properly protected. CPU on module products from IEI Extreme Environment series offer fast and fully supportive baseboard/ BIOS customization services and rich features with high flexibility for every different application. IEI also provides industrial level monitors from 12.1 och to 24 och with IP65 designs and comprehensive video input which fulfill different need

▲DM-F12A

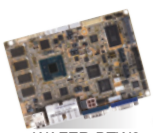


▲ICE-BT-T10



IEI Extreme Environment series – design for operating in high or low temperatures, under thermal shock, high humidity or startups in low temperature. IEI wide temperature products account for most of these demands. The system must be very reliable under every possible operating condition, and it must provide the highest level of failure tolerance since system failures often result in high costs. Wide Temperature Design solution and Testing ensures the system's reliability under extreme operating environments.

Target Market of Wide Temperature Products



▲WAFER-BTW2

▲DM-F24A

Mining Industry

Under the rugged environment of mining industry, products with wide humidity and temperature support are widely needed. Sensitive touch screen with high brightness and wide viewing angle is also suitable for this application. IEI offers industrial monitors in various sizes and optional touch screen types for mining industrial applications. IEI motherboards with dual independent display output and interface support are also suitable for modern design. Customers can also collocation IEI peripherals with wide temperature support with our system for various applications.

◀MPCIE-UART

▲EBC-1100

Energy

Energy industrial workstations usually locate in ruggedized environment far from support force. IEI Extreme Environment series are all with fan-less cooling design to lower the system failure opportunity from losing fan and increase the reliability. Dual LAN support and further expansion ability also provide stable internet connection for remote system monitoring and control. IEI provide system health supervision API for customers to prevent disasters such as system instability or damage by quickly capturing and reporting system health data.

IEI Designs Process for Wide Temperature Products

Designing a system using extended temperature components is the most effective method to ensure reliable functionality in an extreme temperature range is met

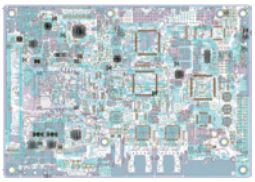
Component specification review

To meet -40°C~ 85°C, the critical components must have the best reliability. IEI reviews critical components, such as CPU, chipset, SD-RAM, Ethernet IC, clock generator, super IO, EC, PWM IC, transceiver, switch, bridge, hubs, etc.

Thermal solution design

1. Placement & layout

A PCB with good placement & layout helps SBC or system reduce heat.

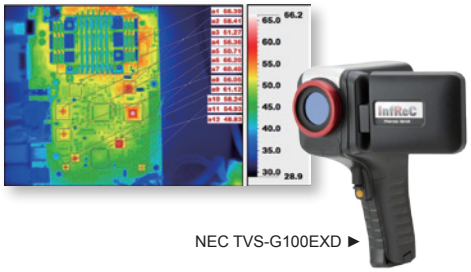


2. Thermal Simulation

To develop a thermal design with thermal simulation and air flow design is a more effective way to ensure a reliable thermal solution.

3. Infrared Thermography

Detects infrared energy emitted from an object, converts it in to a temperature, and displays an image of the temperature distribution.



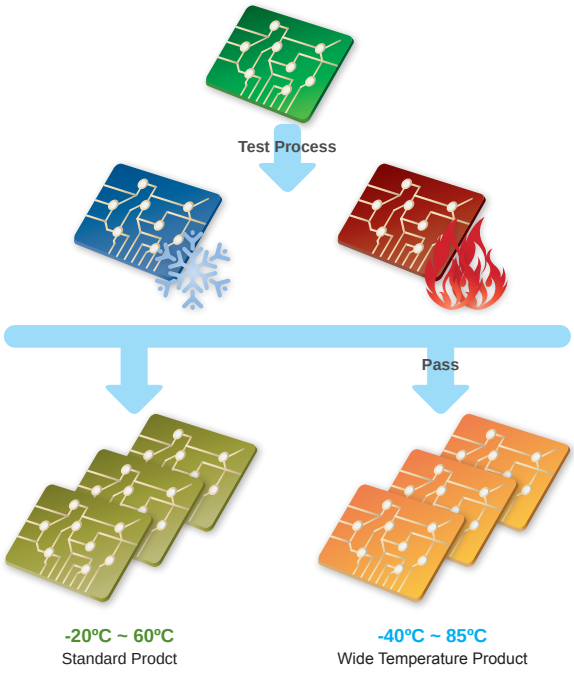
NEC TVS-G100EXD ►

Wide temperature testing before shipment

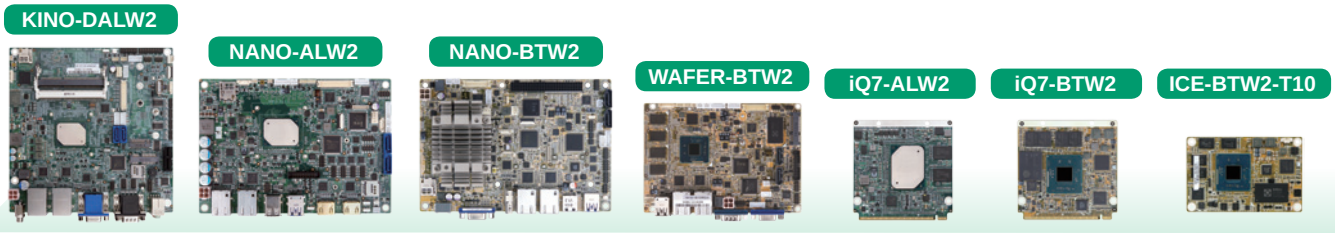
It ensures the system's reliability under extreme operating environments.

Testing criteria:

1. Wide temperature cycle chamber
2. Operating temperature: -40ºC ~ 85ºC
3. Passmark® burn-in test at 100% loading and power on-off test



IEI Extreme Environment Series Selection Guide



Model	KINO-DALW2	NANO-ALW2	NANO-BTW2	WAFER-BTW2	iQ7-ALW2	iQ7-BTW2	ICE-BTW2-T10
Size	170mm x 170mm	115mm x 165mm	115mm x 165mm	146mm x 102mm	70mm x 70mm	70mm x 70mm	84mm x 55mm
Memory	2 x DDR3L SO-DIMM slot Max. 8GB	1 x DDR3L SO-DIMM slot Max. 8GB	1 x DDR3L SO-DIMM slot Max. 8GB	2GB onboard (4GB optional)	4GB onboard (8GB optional)	2GB onboard (4GB optional)	2GB onboard (4GB optional)
Display	1 x HDMI 1 x LVDS 1 x VGA	2 x HDMI 1 x LVDS 1 x iDP	1 x HDMI 1 x LVDS 1 x VGA	1 x iDP 1 x LVDS 1 x VGA	1 x DDI (DP/HDMI) 1 x eDP/LVDS	1 x DDI (DP/HDMI) 1 x LVDS	1 x DDI (DP/HDMI) 1 x eDP 1 x VGA
I/O	4 x USB 3.0 4 x RS-232 2 x USB 2.0 2 x RS-232/422/485 1 x PS/2 KB/MS	4 x USB 3.0 4 x RS-232 2 x USB 2.0 2 x RS-232/422/485 1 x PS/2 KB/MS	3 x USB 2.0 3 x RS-232 1 x USB 3.0 1 x RS-422/485 1 x PS/2 KB/MS	6 x USB 2.0 3 x RS-232 1 x USB 3.0 1 x RS-422/485 1 x PS/2 KB/MS	6 x USB 2.0 1 x USB 3.0	6 x USB 2.0 1 x USB 3.0	4 x USB 2.0 1 x USB 3.0
Storage	1 x microSD 2 x SATA 6Gb/s	2 x SATA 6Gb/s	1 x microSD 2 x SATA 3Gb/s	1 x microSD 1 x mSATA 2 x SATA 3Gb/s	1 x 8GB eMMC 5.0 (optional) 2 x SATA 6Gb/s	1 x 4GB SSD (optional) 2 x SATA 3Gb/s	1 x 4GB SSD (optional) 2 x SATA 3Gb/s
Expansion	1 x M.2 (B Key) 1 x PCIe Mini 1 x PCIe x1	1 x M.2 (B Key) 1 x PCIe Mini	1 x PCI/104 1 x PCIe Mini	2 x PCIe Mini	4 x PCIe x1	3 x PCIe x1	3 x PCIe x1

IEI Vertical Solution for Gaming

IEI provide a wide range of industrial computing products with high feasibility and reliability for gaming applications. Highly integrated CPU on module product has high compatibility and good upgrade ability with customized baseboard. Besides, motherboards and open frame monitors are suitable for wide application in gaming market with high performance. We also offer various accessories for expansion. IEI standard and customized products and services can meet and optimize any special requirement for casino/slot machines, arcade games, bingo machines and multiplayer games.

Arcade Games

Arcade games are always popular in young generation and evolving with new technology. IEI provides wide range of products with multiple display output support, graphics performance, and various OS support to meet the need of speedy game developing.

▲gKINO-DMF

Motherboards

- High graphics 2D & 3D performance
- High expansion ability

Casino Machines

Casino industry generates high revenues and casinos are increasingly established worldwide. IEI offers high performance products on Intel® and AMD® platforms and reliable customization services to let developers focus on their games with our long-term support.

CPU on Module

- High compatibility
- Baseboard customization for special application

▲ICE-QM871

Multiplayer Games

IEI LCD-KIT-F series provides high quality touch screens with high sensitivity, brightness and contract ratio which are suitable for multi-player game table. Our motherboard products and CPU on module with customized baseboard plus security design are also equipped with rich I/Os for multiplayer games' need.

◄ LCD-KIT-F Series

Open Frame Monitor

- Touch screen available
- Various sizes

Pachislot

Open frame monitors are widely used in pachislot applications. IEI LCD-KIT-F series provides various size from 6.5 ~ 19 inches and supports various common display input interface. Combined with IEI low-cost compact-sized motherboards, we can offer very cost-effective solutions in applications.

MPCIE-UART►

Accessory

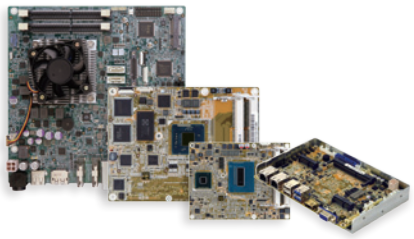
- Display converter cards
- Wireless module
- UART expansion card
- TPM module

IEI Customization Services for Gaming Application

IEI offers customers experienced customization services and reliable computing solutions for various applications. It's a smart way to combine our rich standard products and highly integrated customization services together to develop the best solution.

Hardware Customization

IEI provides solid CPU board and baseboard of CPU on module customization design with RISC, Intel® and AMD platforms and GPU design-in service of modular or on-board solutions for advanced application. Completely new design or small modification of motherboards, chassis, peripheral integration, customized test plan and certification are all supported by request. With IEI reliable design services, developing will become much easier.



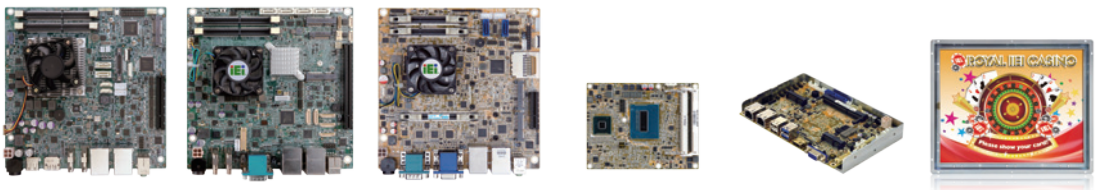
Embedded OS Customization

IEI embedded systems offer customer the turnkey OS solution to reduce OS platform design efforts and accelerate the product time to market. IEI supports Android, Linux Embedded and the complete range of Microsoft Windows Embedded solutions to the embedded computing market. This support optionally includes the licensed embedded OS, and the CD pack containing all necessary SDK materials and user manuals.

Firmware & BIOS Customization

With IEI's flexible customization design on BIOS and IC firmware, customized logo, panel brightness control, optional ROM, embedded controllers, fast boot and security features are adjustable for customer's products and solutions in gaming industry.

Product Selection Guides



Product Name		gKINO-DMF	KINO-DQM170	KINO-KBN/SE-i2	ICE-QM871	NANO-KBN/SE	LCD-KIT-F Series
Processor	CPU	AMD R-Series	Core™ i7/i5/i3	AMD G-Series	Core™ i7/i5/i3	AMD G-Series	—
	Chipset	—	Intel® QM170	—	Intel® QM87	—	—
	Max. Freq.	3.4GHz	3.5GHz	2.4GHz	3.4GHz	2.4GHz	—
Expansion	PCIe	1 x PCIe x8	1 x PCIe x16	1 x PCIe x4	1 x PCIe x16 7 x PCIe x1	0	—
	PCI	—	—	—	—	0	—
	PCIe Mini/ M.2	1 x PCIe Mini 1 x M.2 (B Key)	2 x PCIe Mini	1 x PCIe Mini	—	1	—
Memory	Memory	DDR4	DDR4	DDR3/DDR3L	DDR3/DDR3L	DDR3/DDR3L	—
	Max. Freq	2133MHz	2133MHz	16GB	16GB	8GB	—
	Slot	2	2	2 x SO-DIMM	2 x SO-DIMM	1 x SO-DIMM	—
Display	VGA	0	0	1	1	1	1
	DVI	0	0	0	0	0	1
	HDMI	2	3	2	0	1	0
	DP++	1	0				
	LVDS	1	1	0	1	1	0
	DDI	0	0	0	3	0	0
I/O	LAN	2	2	2	1	2	0
	Serial Ports	6	6	5	2	6	1
	USB	9	8	6	12	8	1
	Audio	ALC662 (CH5.1)	ALC662(CH5.1)	ALC892 (CH7.1)	HD Audio	ALC892 (CH7.1)	—
	Power	12V	12V	12V	12V	12V	12V
Security	TPM	v	--	v	By Baseboard	x	—
	WDT	1~255 sec	1~255 sec	1~255 sec	1~255 sec	1~255 sec	—
Form Factor		Mini-ITX	Mini-ITX	Mini-ITX	COM Express Type 6 Basic	EPIC SBC	Monitors

IEI Vertical Solution for POS/Kiosk/ATM

IEI has dedicated in industrial PC for years. With experiences in the field, IEI provides clients an excellent experience with reliable, stable and ideal systems to satisfy customer's needs. To fulfill rapidly growing market, IEI offers complete product lines for our customers.

ATM Machine

ATM is a telecommunication computer device which enables customers to perform a variety of banking or financial transactions. Rich I/O and HW security are first priority in designing devices for ATM.

Motherboard

- Multiple expansion slot
- Multiple COM
- Multiple USB

▲ IMB-H110

▲ IMB-H810-i2

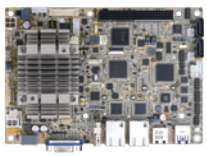
POS & Kiosk

POS & kiosk are systems that provide information and interaction experience for customers. Our products support various I/O (RFID, card reader, barcode reader, etc.) and multiple displays.

▲ TANK-610

Embedded System

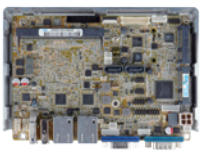
- Mutiple COM ports
- Wide temp. design



▲ NANO-BT

Wide Temp. SBC

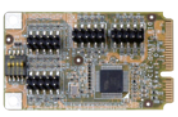
- Wide temp. design
- Long term support



▲ WAFER-BT-i1

Embedded Boards

- Small size form factor
- Rich & flexible I/O



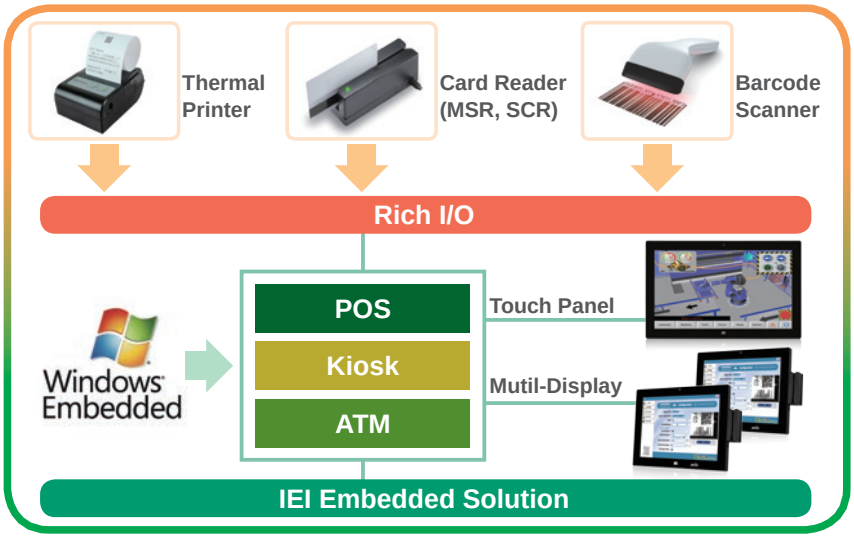
▲ MPCIE-UART

PCI Express Card

- Extra four COM ports
- Wide temp.

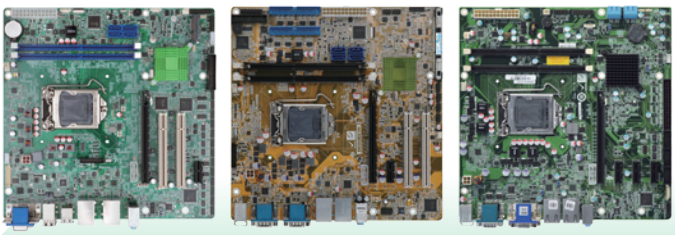
IEI ATM / POS / Kiosk Special Features

- Rich I/O connectivity for multifunctional devices
- 24/7 operating and real-time monitoring
- Dual view
- TPM supported
- Intel® AMT and iRIS can help user to remote, manage, repair and protect system through network. IEI also provides QPulse solution to manage devices via NAS.



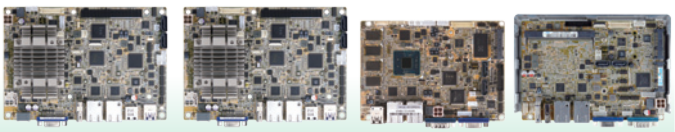
Product Selection Guides

IMB-H110 | IMB-H810-i2 | IMB-H610B



-40°C 85°C Extreme Environment

NANO-BTW2 | NANO-BT | WAFER-BTW2 | WAFER-BT-i1



Product Name		IMB-H110	IMB-H810-i2	IMB-H610B	NANO-BTW2	NANO-BT	WAFER-BTW2	WAFER-BT-i1
Processor	Chipset	Skylake H110	Haswell H81	Ivy Bridge H61	Bay Trail E3800 series	Bay Trail SoC	Bay Trail E3800 series	Bay Trail SoC
Expansion	PCIe	1 x PCIe x 16 1 x PCIe x 1	1 x PCIe x16 1 x PCIe x1	1 x PCIe x16 3 x PCIe x1	N/A	N/A	N/A	N/A
	PCI	2	2	N/A	N/A	N/A	N/A	N/A
	PCIe Mini	1 x PCIe mini	N/A	N/A	N/A	1 x PCIe Mini	1 x PCIe Mini	1 x PCIe Mini
Memory	Memory	DDR4 2133	DDR3/DDR3L 1333	DDR3 1333	DDR3L 1333	DDR3L 1333	DDR3L 1333	DDR3L 1333
	Max.	64GB	16GB	16GB	8GB	8GB	4GB	8GB
	Slot	UDIMM	UDIMM	UDIMM	SO-DIMM	SO-DIMM	On board	SO-DIMM
Display	VGA	2	2	1	1	1	1	1
	DVI	1	0	1	0	0	0	0
	HDMI	0	0	0	1	1	0	0
	LVDS	1	0	0	1	1	1	1
	iDP	1	1	0	0	0	1	0
I/O	Dual LAN	v	v	v	v	v	v	v
	Serial Ports	10 x RS-232 2 x RS232/422/485	10 x RS-232 2 x RS-232/422/485	9 x RS-232 1 x RS-422/485	3 x RS-232 1 x RS-422/485	3 x RS-232 1 x RS-422/485	3 x RS-232 1 x RS-422/485	3 x RS-232 1 x RS-422/485
	Audio Jack	2 Jack	3 jacks	3 jacks	Pin header	Pin header	Pin header	Pin header
	USB	4 x USB 3.0 8 x USB 2.0	2 x USB 2.0 10 x USB 3.0	10 x USB 2.0	2 x USB 2.0 3 x USB 2.0	1 x USB 3.0 3 x USB 2.0	1 x USB 3.0 6 x USB 2.0	1 x USB 3.0 5 x USB 2.0
IPMI	iRIS	N/A	iRIS-2400	N/A	N/A	iRIS-1010	N/A	iRIS-1010
HW Security	TPM	v	v	v	N/A	N/A	N/A	N/A
Operating Temp.		-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C	-40°C ~ 85°C	-20°C ~ 60°C	-40°C ~ 85°C	-20°C ~ 60°C
Dimensions		244 x 305mm	244 x 305 mm	244 x 305 mm	115 x 165 mm	115 x 165 mm	146 x 102 mm	146 x102 mm

IEI Vertical Solution for Machine Vision

Machine vision is a technology that uses digital image equipment to complete a large computing process and to execute the corresponding actions, such as inspection, gauging, and counting, helping all tasks to be performed efficiently. For mass information management and smart production applications, IEI provides various products for machine vision solution to fulfill any requirement for factory automation, from the assembly production to defect detection process.

Advantage on IEI Machine Vision Solution

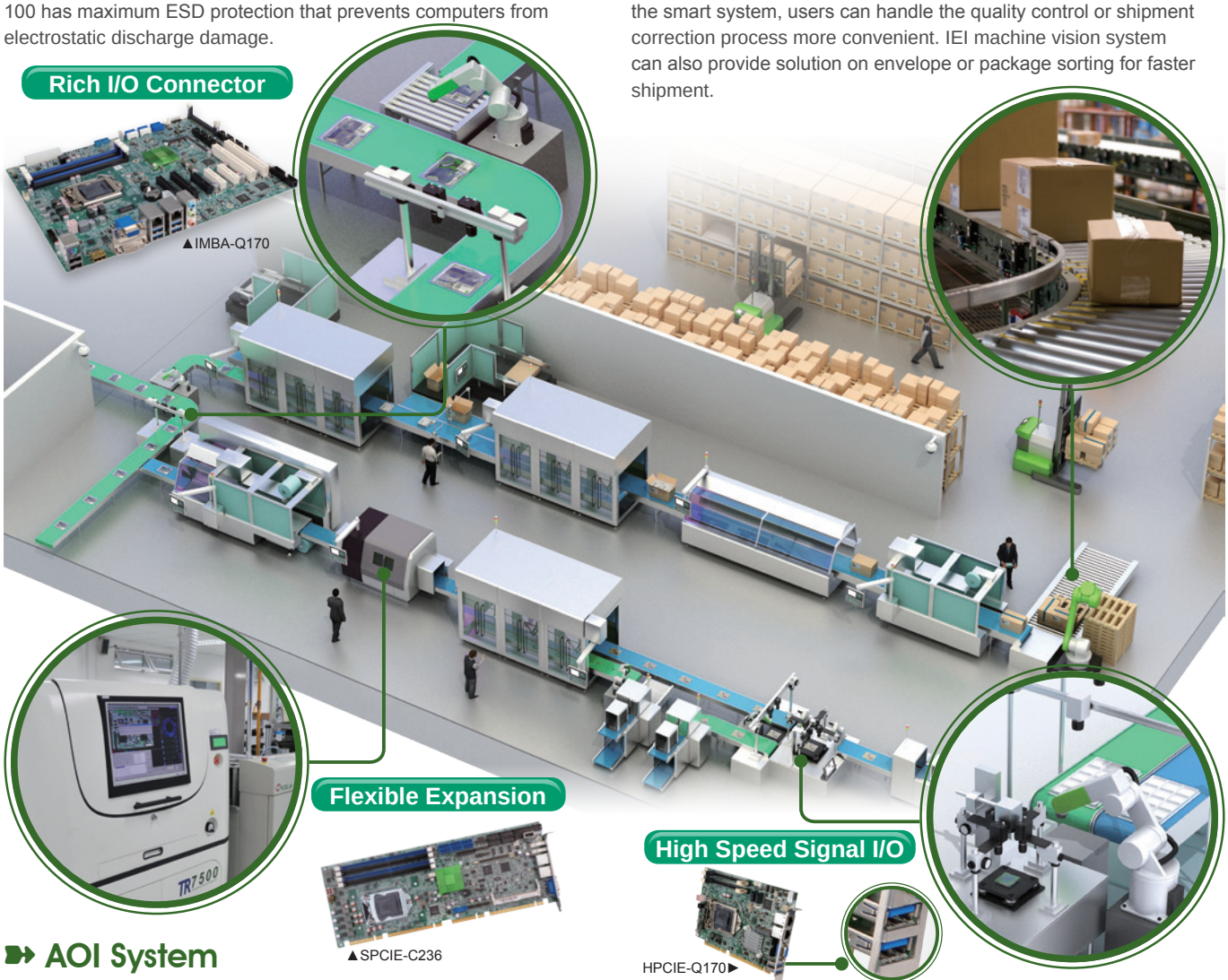
IEI provides different computing platforms with digital cameras, capture cards, motion cards, optics barcode reader and open frame monitors to customers for using into demands. Also IEI is ready for different kinds of applications for customer. From hardware OEM/ODM solution to software modification service, IEI can offer flexible customization to fulfill more business possibility in worldwide.

High-speed Production Line System

For faster production, IEI can provide the optics 2D barcode reader with high-speed decode and robust decode for common distortion. Through Ethernet TCP/IP protocol, customers can easily manage the complete production line system from remote. Furthermore, IEI ITDB-100 has maximum ESD protection that prevents computers from electrostatic discharge damage.

Document Sorting and Checking System

With IEI machine vision solution, customers can easily handle a huge number of documentation during goods receiving or delivering process. Developing a smart receiving or delivery system in production line has become more and more important. Through the smart system, users can handle the quality control or shipment correction process more convenient. IEI machine vision system can also provide solution on envelope or package sorting for faster shipment.



AOI System

Automated optical inspection (AOI) is visual inspection systems which combine computing boards and digital camera to execute the detection process during production. With automatic procedure by image processing, customers can save large cost and time during production process. IEI offers suitable solution from motherboards to digital camera and peripheral devices. IEI Lightweight USB Camera with high performance and rich I/O platforms can help customer easier to complete the system integration.

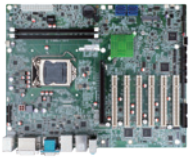
Vision Guidance Robotic System

Robotics have been implemented in factory automation, for example, in PCB board pick/place or in components assembly position precision control, with robot arm and digital camera solution, customers can expect less error rate and high efficient lead time. IEI motherboards have strong expansion I/O for connection with motion cards, capture cards for more flexible system integration.

Motherboard Selection Guide







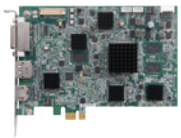

Model Name	HPCIE-Q170	PCIE-Q170-i2	SPCIE-C236	IMBA-Q170-i2	IMBA-H110	IMBA-BDE
CPU Type	LGA1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor	LGA1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor	LGA 1151 Intel® Xeon® E3-1200 v5, Core™ i3, Pentium® and Celeron® processor	LGA1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor	LGA1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor	Intel® Xeon Processor D-1500 product family
Chipset	Intel® Q170	Intel® Q170	Intel® C236	Intel® Q170	Intel® H110	Intel® Xeon Processor D-1500 product family
Ethernet	LAN1: Intel® I219LM LAN2: Intel® I211	LAN1: Intel® I219LM LAN2: Intel® I210	LAN1: Intel® I219LM LAN2: Intel® I210	LAN1: Intel® I210 LAN2: Intel® I219LM	LAN1: Intel® I219 LAN2: Intel® I211	LAN1&2: Intel® X557-AT2 10GbE PHY (Optional) LAN3: Intel® I210-AT PCIe controller LAN4: Intel® I211-AT PCIe controller
I/O Interface	4 x USB 2.0 2 x USB 3.0 2 x RS-232/422/485 1 x KB/MS	7 x USB 2.0 4 x USB 3.0 2 x RS-232/422/4852 2 x RS-232 1 x TPM connector 1 x LPT 1 x KB/MS 1 x iRIS	7 x USB 2.0 4 x USB 3.0 2 x RS-232/422/4852 2 x RS-232 1 x TPM connector 1 x LPT 1 x KB/MS	7 x USB 2.0 5 x USB 3.0 4 x RS-232 2 x RS-232/422/485 1 x TPM connector 1 x LPT 1 x KB/MS 1 x iRIS-2400	5 x USB 2.0 4 x USB 3.0 4 x RS-232 2 x RS-232/422/485 1 x TPM connector 1 x LPT 1 x KB/MS	7 x USB 2.0 5 x RS-232 4 x USB 3.0 1 x RS-232/422/485 1 x KB/MS 1 x iRIS
Digital I/O	8-bit digital I/O	8-bit digital I/O	8-bit digital I/O	8-bit digital I/O	8-bit digital I/O	8-bit digital I/O
Expansion Slots	16 lanes from CPU & 4 lanes from Q170 PCIe signal via golden finger. 1 x PCIe mini Supports mSATA & USB 2.0.	16 lanes from CPU & 4 lanes from Q170 PCIe signal via golden finger. 4 PCI signal via golden finger. 1 x PCIe mini.	16 lanes from CPU & 4 lanes from C236 PCIe signal via golden finger. 4 PCI signal via golden finger. 1 x PCIe mini support PCIe or mSATA.	2 x PCIe x8 slot (Gen3) 3 x PCIe x4 slot (Gen3) 2 x PCI slot 1 x PCIe mini (support mSATA	1 x PCIe x16 slot (Gen3) 6 x PCI slot 1 x PCIe mini slot (support mSATA)	1 x PCIe x8 slot (for 10GbE LAN card only) 5 x PCIe x4 Gen3 1 x PCIe x4 Gen2 1 x M.2 connector (M key)

Peripheral Devices Feature Highlight

Capture Card

HSRC-302E

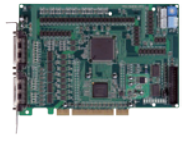
- Equipped with two HDMI input ports and two HDMI output ports
- One HDMI port supports 4K video input
- Supports for 4:2:2 color spaces to provide the highest quality for your images
- Designed for professional video, machine vision, broadcast & post production industries



HDC-701EL

- Equipped with one input port of HDMI / DP / DVI / YPbPr, one HDMI output, and PCIe interface
- Encode up to 1080p30 HD video
- Record and stream video over networks or the Internet: VideoLAN VLC, AMCap and other DirectShow compatible software
- Compatible with Windows® 7 32/64-bit / Linux

Motion Card



PCI-SN300

- 4 axes pulse type motor controllable (stepper/servo motor)
- 32-bit PCI bus, plug and play
- A/B phase, Pulse/Dir, CW/CCW pulse output modes selectable
- 6.5 Mpps maximum pulse output frequency
- Any 2~4 of 4 axes linear/circular interpolation

USB Camera

HSC-13M3-O

- On-Semi PYTHON 1300 CMOS sensor
- Global shutter
- Resolutions up to 1280x1024
- Frame rates up to 210FPS (max.)
- USB3 vision V1.0
- Compliant with the GenICam standard

Capture Box

HDB-301R

- Equipped with one HDMI input port and one HDMI output port
- Supports for 4:2:2 color spaces to provide the highest quality for your images
- For audio mastering, 24-bit 48kHz audio provides the power you need to integrate into any audio environment

Industrial Monitor

DM-F19A

- Robust IP65 aluminum front bezel
- Aesthetic ultra-thin bezel for seamless panel mount installation
- Wide range 9V~36V DC input
- HDMI/DisplayPort/VGA flexible video input solution
- Projected capacitive multi-touch/ resistive single touch options

High Speed Barcode Reader

ITDB-100L

ITDB-100L offers 60fps high speed barcode scanning, supporting 1D/2D barcode decoding solution. Moreover, the data can be retrieved on android platforms enhancing mobility in management.

Robot Arm

7A6 Robot

A series Robot is six-axis and high performance industrial robot which use AC digital servo system with high security, high reliability, and high accuracy, the position repeatability is ±0.03mm.

IoT Generation OS Support

For an enormous opportunity in the next generation, IoT could be the most popular trade. IEI can help customer to build up the business with reliable partners, Microsoft and Canonical for more powerful support. Customer can use Microsoft Windows 10, Canonical Snappy Ubuntu Core, or Android Brillo to complete the system connection in worldwide by smart IoT architecture with IEI solution.

Microsoft Windows 10 IoT

Windows 10 IoT will power a range of intelligent, connected IoT devices. From small devices like gateways and mobile point-of-sale to powerful industry devices like robotics and specialty medical devices, Windows 10 IoT offers a converged platform for devices with enterprise-grade security from the device to the cloud, and native connectivity for machine-to-machine and machine-to-cloud scenarios with Azure IoT Services.

One Windows Platform
Many different devices on Windows 10 IoT; One device management surface for all platforms

Industry Devices | Mobile Devices | Small Devices

Secure
Consistent and predictable device lockdown across form factors

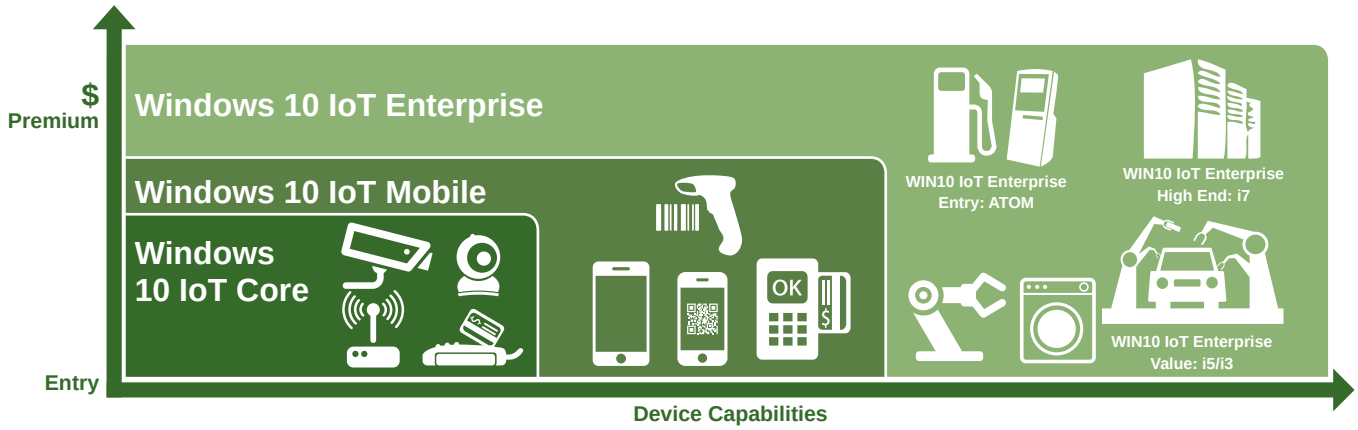
Connected
Build wireless connected small devices with Windows 10 IoT solution

Mobile Broadband (data only) | Wi-Fi | Bluetooth/BLE | Connection Management

One Windows 10 IoT Platform Technology
- MDM Stack and Servicing Stack Converged
- Common CSPs

Secure in Windows 10 IoT
Provide IoT devices with advanced lockdown capabilities for an extra layer of security as well as a predictable device experience.

Connected for all your Windows 10 IoT
- Windows 10 IoT AllJoyn device network



Microsoft Version	Windows 10 IoT Core	Windows 10 IoT Mobile	Windows 10 IoT Enterprise
Target Platform	x86 or ARM-based platform, small and low-cost IoT devices, single UWP app experience	ARM-based platform, Handheld devices, modern shell and UWP apps	x86 platform, powerful LOB devices, Windows 32 and UWP apps, enterprise manageability and security
Minimum Requirement	256MB RAM 2GB storage	1GB RAM 4GB storage	2GB RAM 16GB storage
Windows Update	Yes	Yes	Yes
Support Lifecycle	--	--	10 years (Servicing Updates Only)

Snappy Ubuntu Core

Snappy Ubuntu Core is a new rendition of Ubuntu with transactional updates - a minimal server image with the same libraries as today's Ubuntu, but applications are provided through a simpler mechanism.

- Transactional updates with rollback
- Signatures and fingerprints ensure system is running exactly what was published by the developer
- The OS and application files are kept completely separate, as a set of distinct read-only images
- Small footprint

OS Support List (Windows/Linux)

	System Chipset	CE 6.0	Embedded Compact 7 CE 7.0	Embedded Compact 2013	2000	XP Pro	7	8.1	10	Server-2003	Server-2008	Server-2012	Server-2016	Linux Kernel
	Intel® Broadwell-DE						V	V	V		V	V		Linux Kernel 3.19
	Intel® C604						V			V	V	V		Linux Kernel 2.6.3x
Kaby Lake	Intel® C236								V		V	V	V	Linux Kernel 4.4
Kaby Lake	Intel® Q170								V					Linux Kernel 4.4
Kaby Lake	Intel® H110								V					Linux Kernel 4.4
Kaby Lake	Intel® CM238								V					Linux Kernel 4.4
Kaby Lake	Intel® QM175								V					Linux Kernel 4.4
Kaby Lake	Intel® HM175								V					Linux Kernel 4.4
Kaby Lake	Intel® Kaby Lake ULT								V					Linux Kernel 4.4
Skylake	Intel® C236						V	V	V		V	V	V	Linux Kernel 4.0 (3.2)
Skylake	Intel® Q170						V	V	V					Linux Kernel 4.0 (3.2)
Skylake	Intel® H110						V	V	V					Linux Kernel 4.0 (3.2)
Skylake	Intel® CM236						V	V	V					Linux Kernel 4.0(3.2)
Skylake	Intel® QM170						V	V	V					Linux Kernel 4.0 (3.2)
Skylake	Intel® HM170						V	V	V					Linux Kernel 4.0 (3.2)
Skylake	Intel® Skylake ULT						V	V	V					Linux Kernel 4.0 (3.2)
	Intel® Broadwell ULT						V	V	V					Linux Kernel 3.19
Haswell	Intel® C226					V	V	V	V	V	V	V		Linux Kernel 3.x
Haswell	Intel® Q87					V	V	V	V					Linux Kernel 3.x
Haswell	Intel® H81					V	V	V	V					Linux Kernel 3.x
Haswell	Intel® QM87					V	V	V	V					Linux Kernel 3.x
Haswell	Intel® Haswell ULT						V	V	V					Linux Kernel 2.6.3x
Ivy Bridge	Intel® C216					V	V	V	V	V	V	V		Linux Kernel 2.6.3x
Ivy Bridge	Intel® Q77					V	V	V	V					Linux Kernel 2.6.3x
Ivy Bridge	Intel® QM77					V	V	V	V					Linux Kernel 2.6.3x
Sandy Bridge	Intel® C206					V	V	V		V	V	V		Linux Kernel 2.6.3x
Sandy Bridge	Intel® Q67	V				V	V	V						Linux Kernel 2.6.3x
Sandy Bridge	Intel® B65	V				V	V	V						Linux Kernel 2.6.3x
Sandy Bridge	Intel® H61	V				V	V	V						Linux Kernel 2.6.3x
Sandy Bridge	Intel® QM67	V				V	V	V						Linux Kernel 2.6.3x
Sandy Bridge	Intel® HM65	V				V	V	V						Linux Kernel 2.6.3x
Intel® Legacy	Intel® Q57					V	V							Linux Kernel 2.6.2x
Intel® Legacy	Intel® QM57					V	V							Linux Kernel 2.6.2x
Intel® Legacy	Intel® HM55					V	V							Linux Kernel 2.6.2x
	Intel® Apollo Lake N4000/ E3900								V					Yocto Project
Intel® Atom™	Intel® Braswell N3000		V	V			V	V	V					Linux Kernel 3.14 Android 5.0
Intel® Atom™	Intel® Bay Trail J1900/ N2930/N2807/E3800		V	V			V	V	V					Linux Kernel 3.12 Andriod 4.2 (32 bit) Android 4.4 (64 bit)
Intel® Atom™	Intel® D2550/N2600/ N2800+ NM10					V	V							Linux Kernel 2.6.35
Intel® Atom™	Intel® D2550/N2600/ N2800 + ICH10R					V	V							Linux Kernel 2.6.35
Intel® Atom™	Intel® D525/D425/ N455/N425 + ICH8M	V				V	V							Linux Kernel 2.6.2x
AMD®	AMD® R-series + A75M					V	V	V						Linux Kernel 3.x
AMD®	AMD® R-series (MERLIN FALCON) SoC						V	V	V					Linux Kernel 3.13
AMD®	AMD® G-series (eKABINI) SoC	V	V	V		V	V	V	V					Linux Kernel 3.x
AMD®	AMD® Geode LX800 +CS5536					V								Linux Kernel 2.6.18

IEI One Key Recovery Solution

IEI's unique One Key Recovery solution allows you to recover and backup your operating system without complicated settings. One Key Recovery is bundled with every IEI SBC, embedded system, and all-in-one panel PC product.

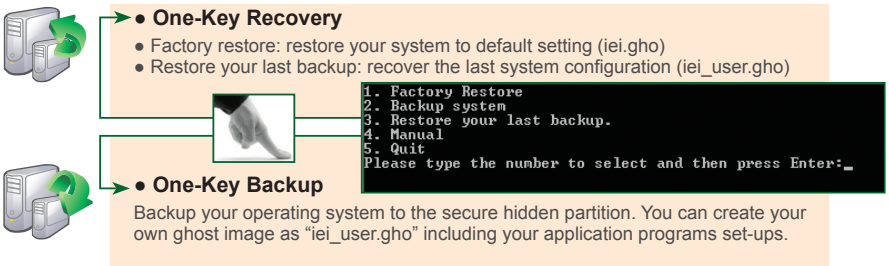
Recovery Tool for IEI Products Only

A. Local operation:

Fix problems at your finger tips via hot key

By pressing F3, users can access the backup/ recovery process easily. One Key Recovery simplifies the imaging and migration process, increasing efficiency in system maintenance.

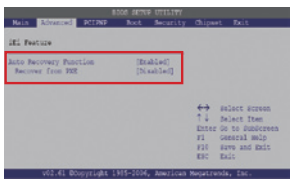
Support OS List	
Windows® XP	Windows® Vista
Windows® 7	Windows® CE 5.0
Windows® CE 6.0	Windows® XP Embedded
Linux OS 1. RedHat 9 2. RedHat RHEL- 5.4 3. Fedora Core 7, 8, 10, 11, 12	 4. Ubuntu 6.10, 7.10 , 8.10 5. Debien 4.0, 5.0 6. SuSe 10.3, 11.2



- **One-Key Recovery**
  - Factory restore: restore your system to default setting (iei.gho)
  - Restore your last backup: recover the last system configuration (iei_user.gho)
- **One-Key Backup**

Backup your operating system to the secure hidden partition. You can create your own ghost image as "iei_user.gho" including your application programs set-ups.

B. Auto scheduling: Instant problem solving from auto recovery

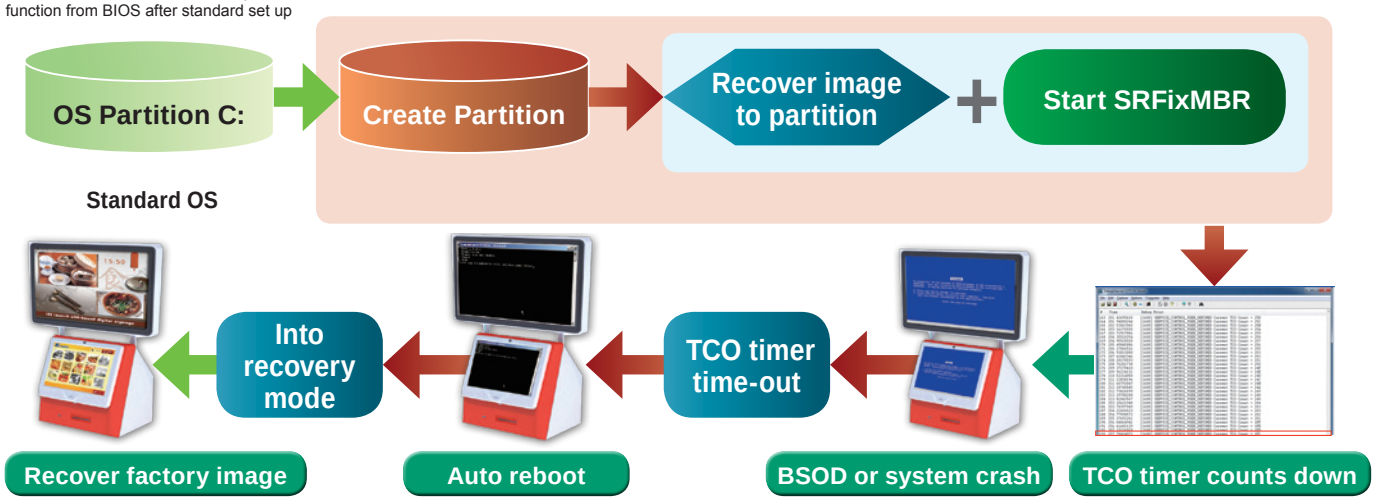


Make sure to enable auto recovery function from BIOS after standard set up

When the system encounters a Blue Screen of Death (BSoD) or hangs for 10 minutes [Default setting is 10 minutes , If want to change the time setting please contact us], the auto recovery function enables the factory default image automatically. This function shortens repair downtime, ensuring continuous work.

Supported OS List	
Windows® 2000	Windows® XP Embedded
Windows® XP	Windows® Embedded Standard 7
Windows® Vista	

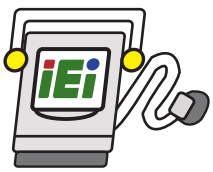
Optional function, support by request.



C. Network: Remote recovery through LAN

One key Recovery also provides a remote recovery function. IT professionals can easily maintain client device through the network. When the system has a Blue Screen of Death (BSoD) or hangs for 10 minutes [Default setting is 10 minutes , If want to change the time setting please contact us], the default factory system image can be restored from server to ensure seamless workflow.

IEI Intelligent System Management Module



What is IEI Intelligent System Management Module?

The IEI Intelligent System Management Module (iSMM) is a system health supervision application which utilizes sensor chips on IEI motherboards to track CPU and system temperatures, fan speed, watchdog timer, digital I/O status and system event. By quickly capturing and reporting system health data, users can prevent disasters such as system instability or damage.

Features

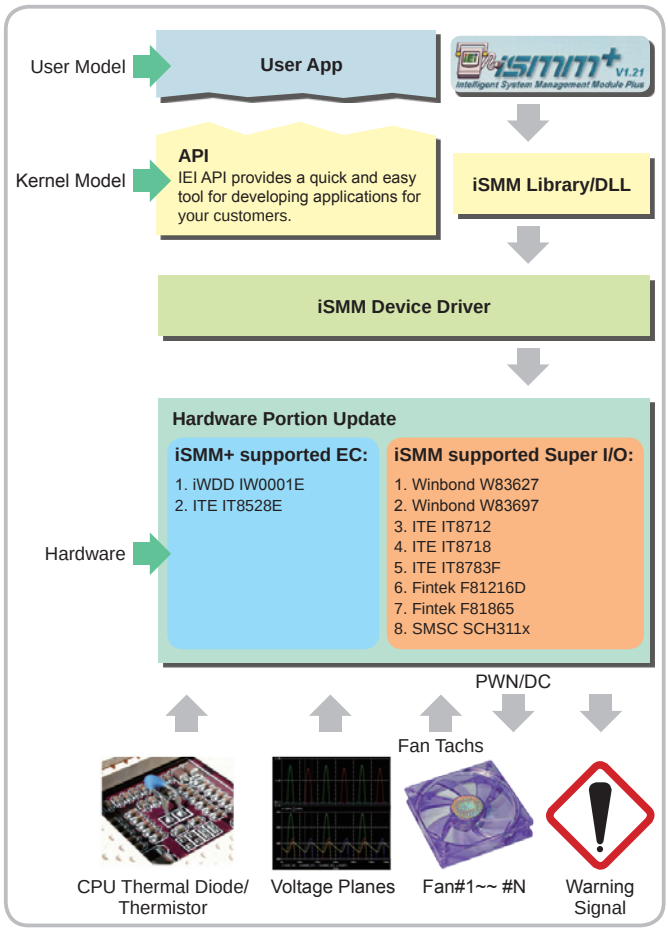
- Both local and remote management
- External and on-chip voltages data feedback
- CPU and system temperature data feedback
- Cooling fan speed data feedback
- Cooling fan speed controlled by PWM/On-Off/Automatic Mode
- Warning sound provided by the buzzer
- WDT test
- Programmable digital I/O
- Save and load system health configurations
- Remote power on/off control

Available Operation System

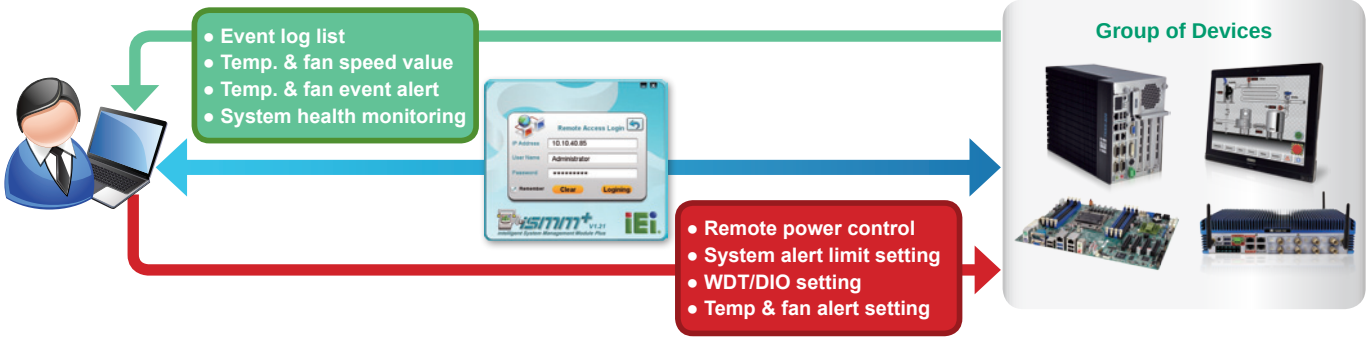
- Windows® XP
- Windows® Vista
- Windows® 7
- Windows® 8

Note: Please disable the UAC function or enable Administrator account while using iSMM+ remote management under Windows® Vista, Windows® 7 and Windows® 8

Architecture



Remote Control and Management

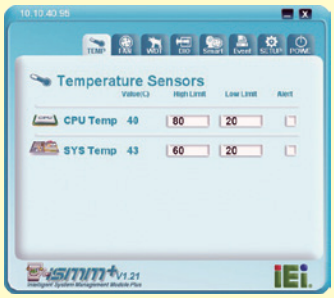


iSMM+ Interface

Local/Remote Management

1. Temperature monitoring and alert limit value setting
2. Fan speed control
3. Watchdog timer setting
4. DIO setting
5. Smart fan control
6. Event page
7. iSMM+ setup

Full graphical user interface
Real-time access system
Efficient API functions



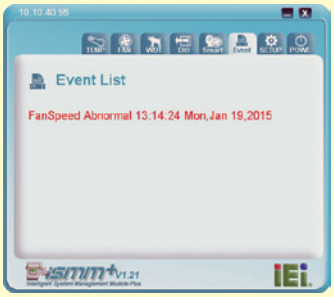
Temp. Sensors
CPU + System temperature monitoring and alert limit setting

Fan
Dynamic fan speed monitoring, control and alert limit setting

Watchdog Timer
Trouble free watchdog timer testing

DIO
Easy digital I/O configuration

Smart Fan Control
Advanced fan setting for both CPU and system smart fan



Event List
Clear list for abnormal events with event name, event status and 1st generation time

Beep/Save/Load
Flexible user profile retrieval and beep function setting

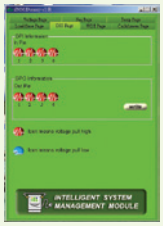
Remote Power On/Off
Remotely turn off iSMM+ supported system and turn on system which supports remote wake-up

iSMM Interface

Temp.
CPU + System temperature monitoring

Fan
Dynamic fan speed control

Voltage
Real-time voltage alarm



DIO
Easy digital I/O configuration

WDT
Trouble free watchdog timer testing

Save/Load
Flexible user profile retrieval

iSMM & iSMM+ Support List

Software	Single Board Computer	Industrial System	Panel PC
iSMM+	HPCIE-Q170/C236	IKARPC-07A-BT	POC-W22A-H81
	PCIE-Q870/H810/Q170	IKARPC-W10A-BT	PPC-F06B-BT
	SPCIE-C2260-i2/C236	IVS-300-ULT3	PPC-F08B-BT
	WSB-H810	IVS-200-ULT2	PPC-F10B-BT
	PCISA-BT	IVS-100-BT	PPC-F12B-BT
	IMBA-H110	IRS-100-ULT3	PPC-F15A-H81
	IMBA-Q170/C2360-i2	SBOX-100-QM87	PPC-F15B-BT
	IMBA-H810	TANK-6000-C226	PPC-F17B-BT
	IMBA-C604EP	TANK-870-QM170	S19A-QM87
	IMBA-Q870/C2260-i2	TANK-860-HM86	S24A-QM87
	IMB-H110	TANK-820-BW	INOX-F15A
	IMB-Q870-i2	TANK-801-BT	UPC-F12A
	tKINO-ULT3	TANK-760-HM86	
	KINO-DQM170/DCM-236	TANK-610-BW	
	KINO-AQ170	IDS-300-BW	
	tKINO-BW	uIBX-250-BW	
	KINO-DBT	uIBX-230-BT	
	KINO-DH810	ECN-380A-QM870	
	eKINO-BT	ECW-281B-BT	
	KINO-DAL	DRPC-120-BT	
	tKINO-AL		
	KINO-AQ870		
	KINO-DQM871		
	KINO-SE/KBN-i1		
	NANO-ULT3		
	NANO-BT-i1/BTW2		
	NANO-QM81-i1		
	NANO-KBN/SE-i1		
	WAFER-BW		
	WAFER-BTW2		
	WAFER-ULT/ULT2-i1		
	WAFER-BT-i1		
	WAFER-KBN-i1		
	HYPER-BW/BT/KBN		
	ICE-ULT3		
	ICE-BT+-T6/T10		
	iQ7-BT/AL		
iSMM	SPCIE-C2160	TANK-820-H61	AFOLUX GEN III Panel PC
	PCIE-Q670-R20	TANK-800-D525	AFL3-12A-BT
	WSB-H610	TANK-720-Q67	AFL3-W07A-BT
	PICOe-B650	TANK-700-QM67	AFL3-W10A-BT
	PICOe-HM650	TANK-600-D2550	AFL3-W15A-BT
	PICOe-PV-D5251-R11	uBIX-210-CV-N2600	AFL3-W15B-H81
	PCISA-PV-D5251	ECN-380-QM77	AFOLUX GEN II Panel PC
	IMBA-C2160	ECW-281B-D2550	AFOLUX Panel PC
	IMBA-Q770	DRPC-100-CV	IBS-19A Series
	IMB-C2160		POC-17i-HM55
	IMB-Q770		POC-19i-HM55
	IMB-G41A		PPC-37xxA Series
	KINO-QM770		PPC-51xxA-H61 Series
	KINO-CV-D25501		UPC-V312-D525
	KINO-CVR-D25502		UPC-V315-NM70
	NOVA-HM551		UPC-V316-QM77
	NOVA-PV-D5251-R11		WIDS-5xxA-H61 Series
	NANO-QM770		
	NANO-CV-D25501/NANO-CV-D25502		
	WAFER-NM701-1007U		
	WAFER-CV-D25501/WAFER-CV-D25502		
	PM-PV-D5251-R11		
	ICE-QM770		
	ICE-CV-D25501/ICE-CV-D25502		

* iSMM+ is supported by products with platform above Haswell (4th Gen.) / Bay Trail / eKabini.

* iSMM is supported by products with platform below Ivy Bridge (3th Gen.) / Cedarview.

Intel® CPU and Chipset Matrix Table

Microserver D1500 family CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	AMT	Chipset
FCBGA1667	Xeon® E3	22 nm Broadwell	16/32	D-1577	1.30 GHz	24 MB	45 W	None	None	DDR4-2133, DDR3L-1600	-	-
			16/32	D-1571	1.30 GHz	24 MB	45 W					
			12/24	D-1567	2.10 GHz	18 MB	65 W					
			12/24	D-1559	1.50 GHz	18 MB	45 W					
			12/24	D-1557	1.50 GHz	18 MB	45 W					
			8/16	D-1548	2.00 GHz	12 MB	45 W					
			8/16	D-1541	2.10 GHz	12 MB	45 W					
			8/16	D-1540	2.00 GHz	12 MB	45 W			DDR4-2133		
			8/16	D-1539	1.60 GHz	12 MB	35 W			DDR4-2133, DDR3L-1600		
			8/16	D-1537	1.70 GHz	12 MB	35 W					
			6/12	D-1531	2.20 GHz	9 MB	45 W					
			4/8	D-1529	1.30 GHz	6 MB	20 W					
			6/12	D-1528	1.90 GHz	9 MB	35 W					
			4/8	D-1527	2.20 GHz	6 MB	35 W					
			4/8	D-1521	2.40 GHz	6 MB	45 W					
			4/8	D-1520	2.20 GHz	6 MB	45 W			DDR4-2133		
			4/8	D-1518	2.20 GHz	6 MB	35 W			DDR4-2133, DDR3L-1600		
	Pentium®		4/8	D1519	1.50 GHz	6 MB	25 W					
			4/8	D1517	1.60 GHz	6 MB	25 W					
			2/2	D1509	1.50 GHz	3 MB	19 W					
			2/4	D1508	2.20 GHz	3 MB	25 W					
			2/2	D1507	1.20 GHz	3 MB	20 W					

Server E5/ Workstation E3 CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Memory Types	AMT	Chipset
FCLGA2011	Xeon® E5 EP	22 nm Ivy Bridge	4/8	E5-4603V2	2.2 GHz	10 MB	95 W	DDR3 800/1066/1333	-	C604
			6/12	E5-4607V2	2.6 GHz	15 MB	95 W		-	
			8/16	E5-4610V2	2.3 GHz	16 MB	95 W	DDR3 800/1066/1333/1600	-	
			8/16	E5-4620V2	2.6 GHz	20 MB	95 W		-	
			8/8	E5-4627V2	3.3 GHz	16 MB	130 W	DDR3 800/1066/1333/1600/1866	-	
			10/20	E5-4640V2	2.2 GHz	20 MB	95 W		-	
			10/20	E5-4650V2	2.4 GHz	25 MB	95 W		-	
			12/24	E5-4657LV2	2.4 GHz	30 MB	115 W		-	
			4/4	E5-2603V2	1.8 GHz	10 MB	80 W	DDR3 800/1066/1333	AMT 7.0	
			4/4	E5-2609V2	2.5 GHz	10 MB	80 W			
			6/12	E5-2620V2	2.1 GHz	15 MB	80 W	DDR3 800/1066/1333/1600		
			6/12	E5-2630V2	2.6 GHz	15 MB	80 W			
			6/12	E5-2630LV2	2.4 GHz	15 MB	60 W			
			4/8	E5-2637V2	3.5 GHz	15 MB	130 W	DDR3 800/1066/1333/1600/1866		
			8/16	E5-2640V2	2 GHz	20 MB	95 W	DDR3 800/1066/1333/1600		
			6/12	E5-2643V2	3.5 GHz	25 MB	130 W	DDR3 800/1066/1333/1600/1866		
			8/16	E5-2650V2	2.6 GHz	20 MB	95 W			
			10/20	E5-2650LV2	1.7 GHz	25 MB	70 W	DDR3 800/1066/1333/1600		
			10/20	E5-2660V2	2.2 GHz	25 MB	95 W	DDR3 800/1066/1333/1600/1866		
			8/16	E5-2667V2	3.3 GHz	25 MB	130 W			
			10/20	E5-2670V2	2.5 GHz	25 MB	115 W			
			10/20	E5-2680V2	2.8 GHz	25 MB	115 W			
			8/16	E5-2687WV2	3.4 GHz	25 MB	150 W			
			10/20	E5-2690V2	3 GHz	25 MB	130 W			
			12/24	E5-2695V2	2.4 GHz	30 MB	115 W			
			12/24	E5-2697V2	2.7 GHz	30 MB	130 W			
			4/8	E5-1620V2	3.7 GHz	10 MB	130 W			
			6/12	E5-1650V2	3.5 GHz	12 MB	130 W			
			6/12	E5-1660V2	3.7 GHz	15 MB	130 W			
		32 nm Sandy Bridge	4/8	E5-4603	2 GHz	10 MB	95 W	DDR3 800/1066	-	
			6/12	E5-4607	2.2 GHz	12 MB	95 W	DDR3 800/1066	-	
			6/12	E5-4610	2.4 GHz	15 MB	95 W	DDR3 800/1066/1333	-	
			6/6	E5-4617	2.9 GHz	15 MB	130 W	DDR3 800/1066/1333/1600	-	
			8/16	E5-4620	2.2 GHz	16 MB	95 W	DDR3 800/1066/1333	-	
			8/16	E5-4640	2.4 GHz	20 MB	95 W	DDR3 800/1066/1333/1600	-	
			8/16	E5-4650	2.7 GHz	20 MB	130 W		-	
			8/16	E5-4650L	2.6 GHz	20 MB	115 W		-	
			4/4	E5-2603	1.8 GHz	10 MB	80 W	DDR3 800/1066	AMT 7.0	
			4/4	E5-2609	2.4 GHz	10 MB	80 W	DDR3 800/1066		
			6/12	E5-2620	2 GHz	15 MB	95 W	DDR3 800/1066/1333		
			6/12	E5-2630	2.3 GHz	15 MB	95 W			
			6/12	E5-2630L	2 GHz	15 MB	60 W			
			2/4	E5-2637	3 GHz	5 MB	80 W	DDR3 800/1066/1333/1600		
			6/12	E5-2640	2.5 GHz	15 MB	95 W	DDR3 800/1066/1333		
			4/8	E5-2643	3.3 GHz	10 MB	130 W	DDR3 800/1066/1333/1600		
			8/16	E5-2650	2 GHz	20 MB	95 W			
			8/16	E5-2650L	1.8 GHz	20 MB	70 W			
			8/16	E5-2660	2.2 GHz	20 MB	95 W			
			8/16	E5-2665	2.4 GHz	20 MB	115 W			
			6/12	E5-2667	2.9 GHz	15 MB	130 W			
			8/16	E5-2670	2.6 GHz	20 MB	115 W			
			8/16	E5-2680	2.7 GHz	20 MB	130 W			
			8/16	E5-2687W	3.1 GHz	20 MB	150 W			
			8/16	E5-2690	2.9 GHz	20 MB	135 W			
			4/8	E5-1620	3.6 GHz	10 MB	130 W			
			6/12	E5-1650	3.2 GHz	12 MB	130 W			
			6/12	E5-1660	3.3 GHz	15 MB	130 W			

Yellow means long-term support

Server E5/ Workstation E3 CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	AMT	Chipset
FCLGA1151	Xeon® E3	14 nm Skylake	4/8	E3-1515MV5	2.80 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	AMT 11.0	C236
			4/8	E3-1505MV5	2.80 GHz	8 MB	45 W	Intel® HD Graphics P530				
			4/8	E3-1578LV5	2.00 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580	700 MHz	DDR3L, DDR4 2133MHz at 1.2V		
			4/8	E3-1558LV5	1.90 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P555	650 MHz			
			4/8	E3-1505LV5	2.00 GHz	8 MB	25 W	Intel® HD Graphics P530	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600		
			4/8	E3-1268LV5	2.40 GHz	8 MB	35 W			DDR4-1866/2133, DDR3L-1333/1600@1.35V		
			4/8	E3-1585V5	3.50 GHz	8 MB	65 W	Intel® Iris™ Pro Graphics P580		DDR3L, LPDDR3 1600MHz, DDR4 2133MHz at 1.2V		
			4/8	E3-1585LV5	3.00 GHz	8 MB	45 W					
			4/8	E3-1565LV5	2.50 GHz	8 MB	35 W					
			4/8	E3-1280V5	3.70 GHz	8 MB	80 W	None	None	DDR4-1866/2133, DDR3L-1333/1600@1.35V		
			4/8	E3-1275V5	3.60 GHz	8 MB	80 W	Intel® HD Graphics P530	400 MHz			
			4/8	E3-1270V5	3.60 GHz	8 MB	80 W	None	None			
			4/8	E3-1260LV5	2.90 GHz	8 MB	45 W					
			4/8	E3-1245V5	3.50 GHz	8 MB	80 W	Intel® HD Graphics P530	400 MHz			
			4/8	E3-1240LV5	2.10 GHz	8 MB	25 W	None	None			
			4/8	E3-1240V5	3.50 GHz	8 MB	80 W					
			4/4	E3-1235LV5	2.00 GHz	8 MB	25 W	Intel® HD Graphics P530	400 MHz			
			4/8	E3-1230V5	3.40 GHz	8 MB	80 W	None	None			
			4/4	E3-1225V5	3.30 GHz	8 MB	80 W	Intel® HD Graphics P530	400 MHz			
			4/4	E3-1220V5	3.00 GHz	8 MB	80 W	None	None			
FCLGA1150	Xeon® E3	22 nm Haswell	4/4	E3-1220 v3	3.1 GHz	8 MB	80 W	None	-	DDR3 and DDR3L 1333/1600 at 1.5V	AMT 9.0	C226
			2/4	E3-1220LV3	1.1 GHz	4 MB	13 W		-	DDR3 1333/1600		
			4/4	E3-1225V3	3.2 GHz	8 MB	84 W	Intel® HD Graphics P4600	350 MHz	DDR3 and DDR3L 1333/1600 at 1.5V		
			4/4	E3-1226V3	3.3 GHz	8 MB	84 W					
			4/8	E3-1230 v3	3.3 GHz	8 MB	80 W	None	-			
			4/8	E3-1230Lv3	1.8 GHz	8 MB	25 W		-			
			4/8	E3-1231V3	3.4 GHz	8 MB	80 W		-			
			4/8	E3-1240 v3	3.4 GHz	8 MB	80 W		-			
			4/8	E3-1240LV3	2 GHz	8 MB	25 W		-			
			4/8	E3-1241V3	3.5 GHz	8 MB	80 W		-			
			4/8	E3-1245 v3	3.4 GHz	8 MB	84 W	Intel® HD Graphics P4600	350 MHz			
			4/8	E3-1246V3	3.5 GHz	8 MB	84 W					
			4/8	E3-1265Lv3	2.5 GHz	8 MB	45 W	Intel® HD Graphics				
			4/8	E3-1268LV3	2.3 GHz	8 MB	45 W	Intel® HD Graphics 4600		DDR3 1333/1600		
			4/8	E3-1270 v3	3.5 GHz	8 MB	80 W	None	-	DDR3 and DDR3L 1333/1600 at 1.5V		
			4/8	E3-1271V3	3.6 GHz	8 MB	80 W		-			
			4/8	E3-1275 v3	3.5 GHz	8 MB	84 W	Intel® HD Graphics P4600	350 MHz			
			4/8	E3-1275LV3	2.7 GHz	8 MB	45 W	Intel® HD Graphics				
			4/8	E3-1276V3	3.6 GHz	8 MB	84 W	Intel® HD Graphics P4600				
			4/8	E3-1280 v3	3.6 GHz	8 MB	82 W	None	-			
			4/8	E3-1281V3	3.7 GHz	8 MB	82 W	None	-			
			4/8	E3-1285 v3	3.6 GHz	8 MB	84 W	Intel® HD Graphics P4700	350 MHz			
			4/8	E3-1285Lv3	3.1 GHz	8 MB	65 W					
			4/8	E3-1286V3	3.7 GHz	8 MB	84 W					
			4/8	E3-1286LV3	3.2 GHz	8 MB	65 W					
LGA1155	Xeon® E3	22nm Ivy Bridge	4/8	E3-1290V2	3.7 GHz	8 MB	87 W	-	-	DDR3-1333/1600	AMT 8.0	C206/ C216
			4/8	E3-1280V2	3.6 GHz	8 MB	69 W	-	-			
			4/8	E3-1275V2	3.5 GHz	8 MB	77 W	-	1.25 GHz			
			4/8	E3-1270V2	3.5 GHz	8 MB	69 W	-	-			
			4/8	E3-1265LV2	2.5 GHz	8 MB	45 W	-	1.15 GHz			
			4/8	E3-1245V2	3.4 GHz	8 MB	77 W	-	1.25 GHz			
			4/8	E3-1240V2	3.4 GHz	8 MB	69 W	-	-			
			4/8	E3-1230V2	3.3 GHz	8 MB	69 W	-	-			
			4/4	E3-1225V2	3.2 GHz	8 MB	77 W	-	1.25 GHz			
			4/4	E3-1220V2	3.1 GHz	8 MB	69 W	-	-			
			4/2	E3-1220LV2	2.3 GHz	3 MB	17 W	-	-			
	Xeon® E3	32nm Sandy Bridge	4/8	E3-1290	3.6 GHz	8 MB	95 W	-	-	DDR3-1066/1333	AMT 7.0	
			4/8	E3-1280	3.5 GHz	8 MB	95 W	-	-			
			4/8	E3-1275	3.4 GHz	8 MB	95 W	-	1.35 GHz			
			4/8	E3-1270	3.4 GHz	8 MB	80 W	-	-			
			4/8	E3-1260L	2.4 GHz	8 MB	45 W	-	1.25 GHz			
			4/8	E3-1245	3.3 GHz	8 MB	95 W	-	1.35 GHz			
			4/8	E3-1240	3.3 GHz	8 MB	80 W	-	-			
			4/8	E3-1235	3.2 GHz	8 MB	95 W	-	1.35 GHz			
			4/8	E3-1230	3.2 GHz	8 MB	80 W	-	-			
			4/4	E3-1225	3.1 GHz	6 MB	95 W	-	1.35 GHz			
			4/2	E3-1220L	2.2 GHz	3 MB	20 W	-	-			
			4/4	E3-1220	3.1 GHz	8 MB	80 W	-	-			

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Desktop Core™ i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	AMT	Chipset
FCLGA1151	Core™ i7	14 nm Skylake	4/8	i7-6785R	3.30 GHz	8 MB	65 W	Intel® Iris™ Pro Graphics 580	350 MHz	DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	AMT 11.0	C236/ Q170/H110
			4/8	i7-6700K	4.00 GHz	8 MB	91 W	Intel® HD Graphics 530				
			4/8	i7-6700T	2.80 GHz	8 MB	35 W					
			4/8	i7-6700	3.40 GHz	8 MB	65 W					
			4/8	i7-6700TE	2.40 GHz	8 MB	35 W					
	Core™ i5		4/4	i5-6600	3.30 GHz	6 MB	65 W					
			4/4	i5-6600K	3.50 GHz	6 MB	91 W					
			4/4	i5-6585R	2.80 GHz	6 MB	65 W	Intel® Iris™ Pro Graphics 580				
			4/4	i5-6500	3.20 GHz	6 MB	65 W	Intel® HD Graphics 530				
			4/4	i5-6500T	2.50 GHz	6 MB	35 W					
			4/4	i5-6402P	2.80 GHz	6 MB	65 W	Intel® HD Graphics 510				
			4/4	i5-6400	2.70 GHz	6 MB	65 W	Intel® HD Graphics 530				
			4/4	i5-6400T	2.20 GHz	6 MB	35 W					
			4/4	i5-6500TE	2.30 GHz	6 MB	35 W				-	
	Core™ i3		2/4	i3-6300	3.80 GHz	4 MB	51 W				-	
			2/4	i3-6300T	3.30 GHz	4 MB	35 W				-	
			2/4	i3-6320	3.90 GHz	4 MB	51 W				-	
			2/4	i3-6100	3.70 GHz	3 MB	51 W				-	
			2/4	i3-6100T	3.20 GHz	3 MB	35 W				-	
			2/4	i3-6100TE	2.70 GHz	4 MB	35 W				-	
	Pentium®		2/2	G4500	3.50 GHz	3 MB	51 W				-	
			2/2	G4500T	3.00 GHz	3 MB	35 W				-	
			2/2	G4520	3.60 GHz	3 MB	51 W				-	
			2/2	G4400	3.30 GHz	3 MB	54 W	Intel® HD Graphics 510			-	
			2/2	G4400T	2.90 GHz	3 MB	35 W				-	
			2/2	G4400TE	2.40 GHz	3 MB	35 W				-	
	Celeron®		2/2	G3920	2.90 GHz	2 MB	51 W				-	
			2/2	G3900T	2.60 GHz	2 MB	35 W				-	
			2/2	G3900	2.80 GHz	2 MB	51 W				-	
			2/2	G3900TE	2.30 GHz	2 MB	35 W				-	
FCLGA1150	Core™ i7	22 nm Haswell	4/4	i7-4765T	2 GHz	8 MB	35 W	Intel® HD Graphics 4600	350 MHz	DDR3-1333/1600, DDR3L-1333/1600 @ 1.5V	AMT 9.0	C226/Q87/ H81
			2/4	i7-4770	3.4 GHz	8 MB	84 W		350 MHz			
			4/4	i7-4770K	3.5 GHz	8 MB	84 W		350 MHz			
			4/4	i7-4770S	3.1 GHz	8 MB	65 W		350 MHz			
			4/8	i7-4770T	2.5 GHz	8 MB	45 W		350 MHz			
			4/8	i7-4771	3.5 GHz	8 MB	84 W		350 MHz			
			4/8	i7-4785T	2.2 GHz	8 MB	35 W		350 MHz			
			4/8	i7-4790	3.6 GHz	8 MB	84 W		350 MHz			
			4/8	i7-4790S	3.2 GHz	8 MB	65 W		350 MHz			
			4/8	i7-4790T	2.7 GHz	8 MB	45 W		350 MHz			
	Core™ i5		4/4	i5-4670	3.4 GHz	6 MB	84 W		350 MHz			
			4/4	i5-4670K	3.4 GHz	6 MB	84 W		350 MHz			
			4/4	i5-4670S	3.1 GHz	6 MB	65 W		350 MHz			
			4/4	i5-4670T	2.3 GHz	6 MB	45 W		350 MHz			
			4/4	i5-4690	3.5 GHz	6 MB	84 W		350 MHz			
			4/4	i5-4690S	3.2 GHz	6 MB	65 W		350 MHz			
			4/4	i5-4690T	2.5 GHz	6 MB	45 W		350 MHz			
			4/4	i5-4570	3.2 GHz	6 MB	84 W		350 MHz			
			4/4	i5-4570S	2.9 GHz	6 MB	65 W		350 MHz			
			2/4	i5-4570T	2.9 GHz	4 MB	35 W		200 MHz			
			4/4	i5-4590	3.3 GHz	6 MB	84 W		350 MHz			
			4/4	i5-4590S	3 GHz	6 MB	65 W		350 MHz			
			4/4	i5-4590T	2 GHz	6 MB	35 W		350 MHz			
			4/4	i5-4460T	1.9 GHz	6 MB	35 W		350 MHz			
			4/4	i5-4460S	2.9 GHz	6 MB	65 W		350 MHz			
			4/4	i5-4460	3.2 GHz	6 MB	84 W		350 MHz			
			4/4	i5-4440S	2.8 GHz	6 MB	65 W		350 MHz			
			4/4	i5-4440	3.1 GHz	6 MB	84 W		350 MHz			
			4/4	i5-4430S	2.7 GHz	6 MB	65 W		350 MHz			
			4/4	i5-4430	3 GHz	6 MB	84 W		350 MHz			

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Desktop Core™ i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	AMT	Chipset
FCLGA1150	Core™ i3	22 nm Haswell	2/4	i3-4330	3.5 GHz	4 MB	54 W	Intel® HD Graphics 4600	350 MHz	DDR3-1333/1600, DDR3L-1333/1600 @ 1.5V	-	C226/Q87/ H81
			2/4	i3-4330T	3 GHz	4 MB	35 W		200 MHz		-	
			2/4	i3-4340	3.6 GHz	4 MB	54 W		350 MHz		-	
			2/4	i3-4350	3.6 GHz	4 MB	54 W		350 MHz		-	
			2/4	i3-4350T	3.1 GHz	4 MB	35 W		200 MHz		-	
			2/4	i3-4360	3.7 GHz	4 MB	54 W		350 MHz		-	
			2/4	i3-4360T	3.2 GHz	4 MB	35 W		200 MHz		-	
			2/4	i3-4370	3.8 GHz	4 MB	54 W		350 MHz		-	
			2/4	i3-4370T	3.3 GHz	4 MB	35 W	Intel® HD Graphics 4400	200 MHz		-	
			2/4	i3-4170T	3.2 GHz	3 MB	35 W		200 MHz		-	
			2/4	i3-4170	3.7 GHz	3 MB	54 W		350 MHz		-	
			2/4	i3-4160T	3.1 GHz	3 MB	35 W		200 MHz		-	
			2/4	i3-4160	3.6 GHz	3 MB	54 W		350 MHz		-	
			2/4	i3-4150T	3 GHz	3 MB	35 W		200 MHz		-	
			2/4	i3-4150	3.5 GHz	3 MB	54 W		350 MHz		-	
			2/4	i3-4130T	2.9 GHz	3 MB	35 W		200 MHz		-	
			2/4	i3-4130	3.4 GHz	3 MB	54 W		350 MHz		-	
	Pentium®		2/2	G3470	3.6 GHz	3 MB	53 W	Intel® HD Graphics	350 MHz		-	
			2/2	G3460T	3 GHz	3 MB	35 W		200 MHz		-	
			2/2	G3460	3.5 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3450T	2.9 GHz	3 MB	35 W		200 MHz		-	
			2/2	G3450	3.4 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3440T	2.8 GHz	3 MB	35 W		200 MHz		-	
			2/2	G3440	3.3 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3430	3.3 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3420T	2.7 GHz	3 MB	35 W		200 MHz		-	
			2/2	G3420	3.2 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3260T	2.9 GHz	3 MB	35 W		200 MHz	DDR3-1333, DDR3L-1333 @ 1.5V	-	
			2/2	G3260	3.3 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3258	3.2 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3250T	2.8 GHz	3 MB	35 W		200 MHz		-	
			2/2	G3250	3.2 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3240T	2.7 GHz	3 MB	35 W		200 MHz		-	
			2/2	G3240	3.1 GHz	3 MB	53 W		350 MHz		-	
			2/2	G3220T	2.6 GHz	3 MB	35 W		200 MHz		-	
			2/2	G3220	3 GHz	3 MB	53 W		350 MHz		-	
	Celeron®		2/2	G1820	2.7 GHz	2 MB	53 W		350 MHz		-	
			2/2	G1820T	2.4 GHz	2 MB	35 W		200 MHz		-	
			2/2	G1830	2.8 GHz	2 MB	53 W		350 MHz		-	
			2/2	G1840	2.8 GHz	2 MB	53 W		350 MHz		-	
			2/2	G1840T	2.5 GHz	2 MB	35 W		200 MHz		-	
			2/2	G1850	2.9 GHz	2 MB	53 W		350 MHz		-	
LGA1155	Core™ i7	22nm Ivy Bridge	4/8	i7-3770T	2.5 GHz	8 MB	45 W	-	1.15 GHz	DDR3-1333/1600	AMT 8.0	Q77/Q67/ B65/H61
			4/8	i7-3770S	3.1 GHz	8 MB	65 W	-	1.15 GHz			
			4/8	i7-3770K	3.5 GHz	8 MB	77 W	-	1.15 GHz		-	
			4/8	i7-3770	3.4 GHz	8 MB	77 W	-	1.15 GHz		AMT 8.0	
	Core™ i7	32nm Sandy Bridge	4/8	i7-2700K	3.5 GHz	8 MB	95 W	-	1.35 GHz	DDR3-1066/1333	-	
			4/8	i7-2600S	2.8 GHz	8 MB	65 W	-	1.35 GHz		AMT 7.0	
			4/8	i7-2600K	3.4 GHz	8 MB	95 W	-	1.35 GHz		-	
			4/8	i7-2600	3.4 GHz	8 MB	95 W	-	1.35 GHz		AMT 7.0	
	Core™ i5	22nm Ivy Bridge	4/4	i5-3570T	2.3 GHz	6 MB	45 W	-	1.15 GHz	DDR3-1333/1600	AMT 8.0	
			4/4	i5-3570S	3.1 GHz	6 MB	65 W	-	1.15 GHz			
			4/4	i5-3570K	3.4 GHz	6 MB	77 W	-	1.15 GHz		-	
			4/4	i5-3570	3.4 GHz	6 MB	77 W	-	1.15 GHz		AMT 8.0	
			4/4	i5-3550S	3 GHz	6 MB	65 W	-	1.15 GHz			
			4/4	i5-3550	3.3 GHz	6 MB	77 W	-	1.15 GHz			
			4/4	i5-3475S	2.9 GHz	6 MB	65 W	-	1.1 GHz			
			2/4	i5-3470T	2.9 GHz	3 MB	35 W	-	1.1 GHz			
			4/4	i5-3470S	2.9 GHz	6 MB	65 W	-	1.1 GHz			
			4/4	i5-3470	3.2 GHz	6 MB	77 W	-	1.1 GHz			
			4/4	i5-3450S	2.8 GHz	6 MB	65 W	-	1.1 GHz		-	
			4/4	i5-3450	3.1 GHz	6 MB	77 W	-	1.1 GHz		-	
			4/4	i5-3350P	3.1 GHz	6 MB	69 W	-	1.05 GHz		-	
			4/4	i5-3330S	2.7 GHz	6 MB	65 W	-	1.05 GHz		-	
			4/4	i5-3330	3 GHz	6 MB	77 W	-	1.05 GHz		-	
	Core™ i5	32nm Sandy Bridge	4/4	i5-2550K	3.4 GHz	6 MB	95 W	-	1.25 GHz	DDR3-1066/1333	-	
			4/4	i5-2500T	2.3 GHz	6 MB	45 W	-	1.25 GHz		AMT 7.0	
			4/4	i5-2500S	2.7 GHz	6 MB	65 W	-	1.1 GHz			
			4/4	i5-2500K	3.3 GHz	6 MB	95 W	-	1.1 GHz		-	
			4/4	i5-2500	3.3 GHz	6 MB	95 W	-	1.1 GHz		AMT 7.0	
			4/4	i5-2450P	3.2 GHz	6 MB	95 W	-	1.1 GHz		-	
			4/4	i5-2405S	2.5 GHz	6 MB	65 W	-	1.1 GHz		-	
			4/4	i5-2400S	2.5 GHz	6 MB	65 W	-	1.1 GHz			
			4/4	i5-2400	3.1 GHz	6 MB	95 W	-	1.1 GHz		AMT 7.0	
			2/4	i5-2390T	2.7 GHz	3 MB	35 W	-	1.1 GHz			
			4/4	i5-2380P	3.1 GHz	6 MB	95 W	-	1.1 GHz		-	
			4/4	i5-2320	3 GHz	6 MB	95 W	-	1.1 GHz		-	
			4/4	i5-2310	2.9 GHz	6 MB	95 W	-	1.1 GHz		-	
			4/4	i5-2300	2.8 GHz	6 MB	95 W	-	1.1 GHz		-	

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Desktop Core™ i7/i5/i3/Pentium®/Celeron® CPU List

CPU Socket	Brand	Process	Core/ Threads	CPU No.	Clock Speed	Smart Cache	TDP	Int. GFX Speed	Max Memory Speed (DDR3)	AMT	Chipset
LGA1155	Core™ i3	22nm Ivy Bridge	2/4	i3-3240T	2.9 GHz	3 MB	35 W	1.05 GHz	DDR3-1333/1600	-	Q77/Q67/B65/H61
			2/4	i3-3240	3.4 GHz	3 MB	55 W	1.05 GHz		-	
			2/4	i3-3225	3.3 GHz	3 MB	55 W	1.05 GHz		-	
			2/4	i3-3220T	2.8 GHz	3 MB	35 W	1.05 GHz		-	
			2/4	i3-3220	3.3 GHz	3 MB	55 W	1.05 GHz		-	
	Core™ i3	32nm Sandy Bridge	2/4	i3-2130	3.4 GHz	3 MB	65 W	1.1 GHz	DDR3-1066/1333	-	
			2/4	i3-2125	3.3 GHz	3 MB	65 W	1.1 GHz		-	
			2/4	i3-2120T	2.6 GHz	3 MB	35 W	1.1 GHz		-	
			2/4	i3-2120	3.3 GHz	3 MB	65 W	1.1 GHz		-	
			2/4	i3-2105	3.1 GHz	3 MB	65 W	1.1 GHz		-	
			2/4	i3-2102	3.1 GHz	3 MB	65 W	1.1 GHz		-	
			2/4	i3-2100T	2.5 GHz	3 MB	35 W	1.1 GHz		-	
			2/4	i3-2100	3.1 GHz	3 MB	65 W	1.1 GHz		-	
	Pentium®	22nm Ivy Bridge	2/2	G2120	3.1 GHz	3 MB	55 W	1.05 GHz	DDR3-1333/1600	-	
			2/2	G2100T	2.6 GHz	3 MB	35 W	1.05 GHz		-	
	Pentium®	32nm Sandy Bridge	2/2	G870	3.1 GHz	3 MB	65 W	1.1 GHz	DDR3-1066/1333	-	
			2/2	G860T	2.6 GHz	3 MB	35 W	1.1 GHz		-	
			2/2	G860	3 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G850	2.9 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G840	2.8 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G645T	2.5 GHz	3 MB	35 W	1.1 GHz	DDR3-1066	-	
			2/2	G645	2.9 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G640T	2.4 GHz	3 MB	35 W	1.1 GHz		-	
			2/2	G640	2.8 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G632	2.7 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G630T	2.3 GHz	3 MB	35 W	1.1 GHz		-	
			2/2	G630	2.7 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G622	2.6 GHz	3 MB	65 W	1.1 GHz		-	
			2/2	G620T	2.2 GHz	3 MB	35 W	1.1 GHz		-	
			2/2	G620	2.6 GHz	3 MB	65 W	1.1 GHz		-	
	Celeron®	22nm Ivy Bridge	2/2	G1610	2.6 GHz	2 MB	55 W	1.05 GHz		-	
			2/2	G1620	2.7 GHz	2 MB	55 W	1.05 GHz		-	
			2/2	G1610T	2.3 GHz	2 MB	35 W	1.05 GHz		-	
	Celeron®	32nm Sandy Bridge	2/2	G555	2.7 GHz	2 MB	65 W	1 GHz		-	
			2/2	G550T	2.2 GHz	2 MB	35 W	1 GHz		-	
			2/2	G550	2.6 GHz	2 MB	65 W	1 GHz		-	
			2/2	G540T	2.1 GHz	2 MB	35 W	1 GHz		-	
			2/2	G540	2.5 GHz	2 MB	65 W	1 GHz		-	
			2/2	G530T	2 GHz	2 MB	35 W	1 GHz		-	
			2/2	G530	2.4 GHz	2 MB	65 W	1 GHz		-	
			1/2	G465	1.9 GHz	1.5 MB	35 W	1 GHz		-	
			1/2	G460	1.8 GHz	1.5 MB	35 W	1 GHz		-	
			1/1	G440	1.6 GHz	1 MB	35 W	1 GHz		-	
LGA1156	Core™ i7	45nm	Quad Core	i7-880	2.93G	8M	95W	-	DDR3-1333/1600	AMT 6.0	Q57
				i7-875K	2.93G	8M	95W	-			
				i7-870S	2.66G	8M	82W	-			
				i7-870	2.93G	8M	95W	-			
				i7-860S	2.53G	8M	82W	-			
				i7-860	2.8G	8M	95W	-			
	Core™ i5			i5-760	2.8G	8M	95W	-		-	
				i5-750S	2.4G	8M	82W	-		-	
				i5-750	2.66G	8M	95W	-		-	
	Core™ i5	32nm	Dual Core	i5-680	3.6G	4M	73W	733MHz		AMT 6.0	
				i5-670	3.46G	4M	73W	733MHz			
				i5-661	3.33G	4M	87W	900MHz		-	
				i5-660	3.33G	4M	73W	733MHz		AMT 6.0	
				i5-665K	3.2G	4M	73W	733MHz		-	
				i5-650	3.2G	4M	73W	733MHz		AMT 6.0	
	Core™ i3			i3-560	3.33G	4M	73W	733MHz		-	
				i3-550	3.2G	4M	73W	733MHz		-	
				i3-540	3.06G	4M	73W	733MHz		-	
				i3-530	2.93G	4M	73W	733MHz		-	
	Pentium®			G6960	2.933G	3M	73W	533MHz	DDR3-1333	-	
				G6950	2.8G	3M	73W	533MHz		-	

Yellow means long-term support

ULT CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	AMT	Chipset
FCBGA1356	Core™ i7	14 nm Kaby Lake	2/4	i7-7500U	2.70 GHz	4 MB	15 W	Intel® HD Graphics 620	300 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	AMT 11.6	-
	Core™ i5		2/4	i5-7200U	2.50 GHz	3 MB	15W					-
	Core™ i3		2/4	i3-7100U	2.40 GHz	3 MB	15 W				-	-
FCBGA1356	Core™ i7	14 nm Skylake	2/4	i7-6500U	2.50 GHz	4 MB	15 W	Intel® HD Graphics 520	300 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	AMT 11.0	-
			2/4	i7-6560U	2.20 GHz	4 MB	15 W	Intel® Iris™ Graphics 540				-
			2/4	i7-6567U	3.30 GHz	4 MB	28 W	Intel® Iris™ Graphics 550				-
			2/4	i7-6600U	2.60 GHz	4 MB	15 W	Intel® HD Graphics 520				-
			2/4	i7-6660U	2.40 GHz	4 MB	15 W	Intel® Iris™ Graphics 540				-
			2/4	i7-6650U	2.20 GHz	4 MB	15 W					-
	Core™ i5		2/4	i5-6287U	3.10 GHz	4 MB	28 W	Intel® Iris™ Graphics 550				-
			2/4	i5-6267U	2.90 GHz	4 MB	28 W					-
			2/4	i5-6260U	1.80 GHz	4 MB	15 W	Intel® Iris™ Graphics 540				-
			2/4	i5-6200U	2.30 GHz	3 MB	15 W	Intel® HD Graphics 520				-
			2/4	i5-6300U	2.40 GHz	3 MB	15 W					-
			2/4	i5-6360U	2.00 GHz	4 MB	15 W	Intel® Iris™ Graphics 540				-
	Core™ i3		2/4	i3-6006U	2.00 GHz	3 MB	15 W	Intel® HD Graphics 520			-	-
			2/4	i3-6167U	2.70 GHz	3 MB	28 W	Intel® Iris™ Graphics 550			-	-
			2/4	i3-6157U	2.40 GHz	3 MB	28 W				-	-
			2/4	i3-6100U	2.30 GHz	3 MB	15 W	Intel® HD Graphics 520			-	-
	Pentium®		2/4	4405U	2.10 GHz	2 MB	15 W	Intel® HD Graphics 510		DDR4-1866/2133, LPDDR3-1600/1866	-	-
	Celeron®		2/2	3855U	1.60 GHz	2 MB	15 W			DDR4-1866/2133, LPDDR3-1600/1866, DDR3L-1333/1600	-	-
			2/2	3955U	2.00 GHz	2 MB	15 W				-	-
FCBGA1168	Core™ i7	14 nm Broadwell	2/4	i7-5650U	2.2 GHz	4 MB	15 W	Intel® HD Graphics 6000	300 MHz	DDR3L 1333/1600, LPDDR3 1600/1866	AMT 9.0	-
	Core™ i5		2/4	i5-5350U	1.8 GHz	3 MB	15 W		300 MHz			-
	Core™ i3		2/4	i3-5010U	2.1 GHz	3 MB	15 W	Intel® HD Graphics 5500	300 MHz	DDR3L 1333/1600, LPDDR 1333/1600	-	-
	Celeron®		2/2	3765U	1.9 GHz	2 MB	15 W	Intel® HD Graphics	300 MHz		-	-
	Core™ i7	22 nm Haswell	2/4	i7-4650U	1.7 GHz	4 MB	15 W	Intel® HD Graphics 5000	200 MHz	DDR3L 1333/1600, LPDDR3 1333/1600	AMT 9.0	-
	Core™ i5		2/4	i5-4300U	1.9 GHz	3 MB	15 W	Intel® HD Graphics 4400	200 MHz			-
	Core™ i3		2/4	i3-4010U	1.7 GHz	3 MB	15 W		200 MHz		-	-
	Celeron®		2/2	2980U	1.6 GHz	2 MB	15 W	Intel® HD Graphics	200 MHz		-	-

Mobile Core™ i7/i5/i3/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	AMT	Chipset
FCBGA1440	Xeon® E3	14 nm Skylake	4/8	E3-1575MV5	3.00 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	AMT 11.0	CM236
			4/8	E3-1545MV5	2.90 GHz	8 MB	45 W					
			4/8	E3-1535MV5	2.90 GHz	8 MB	45 W	Intel® HD Graphics P530				
			4/8	E3-1515MV5	2.80 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580				
			4/8	E3-1505MV5	2.80 GHz	8 MB	45 W	Intel® HD Graphics P530				
FCBGA1440	Core™ i7	14 nm Skylake	4/8	i7-6820EQ	2.80 GHz	8 MB	45 W	Intel® HD Graphics 530	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	AMT 11.0	QM170/ HM170
			4/8	i7-6822EQ	2.00 GHz	8 MB	25 W					
			4/8	i7-6700HQ	2.60 GHz	6 MB	45 W					
			4/8	i7-6770HQ	2.60 GHz	6 MB	45 W	Intel® Iris™ Pro Graphics 580				
			4/8	i7-6820HK	2.70 GHz	8 MB	45 W	Intel® HD Graphics 530				
			4/8	i7-6820HQ	2.70 GHz	8 MB	45 W					
			4/8	i7-6870HQ	2.70 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics 580				
			4/8	i7-6920HQ	2.90 GHz	8 MB	45 W	Intel® HD Graphics 530				
			4/8	i7-6970HQ	2.80 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics 580				
	Core™ i5		4/4	i5-6442EQ	1.90 GHz	6 MB	25 W	Intel® HD Graphics 530				
			4/4	i5-6440EQ	2.70 GHz	6 MB	45 W					
			4/4	i5-6300HQ	2.30 GHz	6 MB	45 W					
			4/4	i5-6350HQ	2.30 GHz	6 MB	45 W	Intel® Iris™ Pro Graphics 580				
			4/4	i5-6440HQ	2.60 GHz	6 MB	45 W	Intel® HD Graphics 530				
	Core™ i3		2/4	i3-6102E	1.90 GHz	3 MB	25 W				-	
			2/4	i3-6100E	2.70 GHz	3 MB	35 W				-	
			2/4	i3-6100H	2.70 GHz	3 MB	35 W				-	
	Celeron®		2/2	G3900E	2.40 GHz	2 MB	35 W	Intel® HD Graphics 510		DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	-	
			2/2	G3902E	1.60 GHz	2 MB	25 W				-	

Yellow means long-term support ***HM65/HM55 chipset doesn't support Intel® AMT feature***

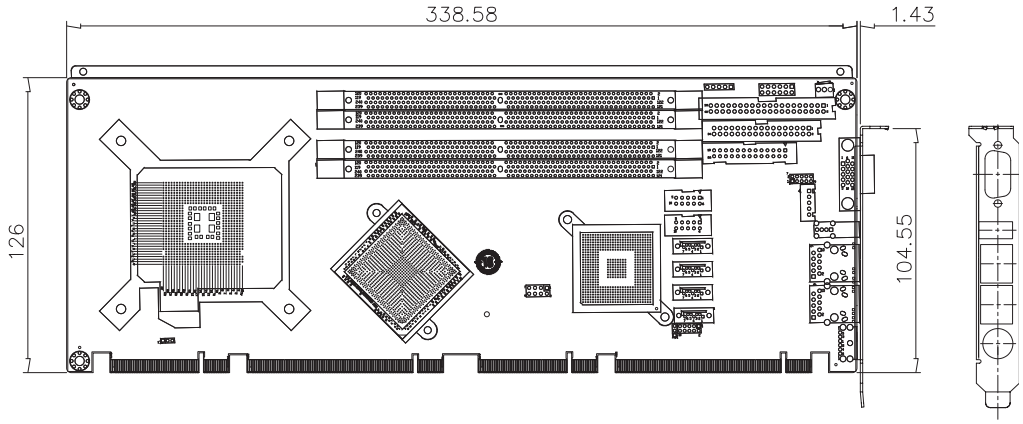
Mobile Core™ i7/i5/i3/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Package Type	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	AMT	Chipset
FCBGA1364	Core™ i7	22 nm Haswell	4/8	BGA	i7-4700EC	2.7 GHz	8 MB	43 W	Intel® HD Graphics 4600	400 MHz	DDR3L 1333/1600	AMT 9.0	QM87/ HM86
			4/8		i7-4700EQ	2.4 GHz	6 MB	47 W		400 MHz			
			4/8		i7-4702EC	2 GHz	8 MB	27 W	None	400 MHz			
	Core™ i5		2/4		i5-4422E	1.8 GHz	3 MB	25 W	Intel® HD Graphics 4600	400 MHz			
			2/4		i5-4410E	2.9 GHz	3 MB	37 W		400 MHz			
			2/4		i5-4402EC	2.5 GHz	4 MB	27 W	None	-			
			2/4		i5-4402E	1.6 GHz	3 MB	25 W	Intel® HD Graphics 4600	400 MHz			
			2/4		i5-4400E	2.7 GHz	3 MB	37 W		400 MHz			
	Core™ i3		2/4		i3-4100E	2.4 GHz	3 MB	37 W		400 MHz		-	
			2/4		i3-4102E	1.6 GHz	3 MB	25 W		400 MHz		-	
			2/4		i3-4110E	2.6 GHz	3 MB	37 W		400 MHz		-	
			2/4		i3-4112E	1.8 GHz	3 MB	25 W		400 MHz		-	
	Celeron®		2/2		2002E	1.5 GHz	2 MB	25 W	Intel® HD Graphics	400 MHz		-	
			2/2		2000E	2.2 GHz	2 MB	37 W		400 MHz		-	
rPGA988B	Core™ i7 Extreme Edition	22nm Ivy Bridge	4/8	PGA	i7-3940XM	3 GHz	8 MB	55 W	-	1.35 GHz	DDR3/L/-RS 1333/1600	AMT 8.0	QM77/ QM67
			4/8		i7-3920XM	2.9 GHz	8 MB	55 W	-	1.3 GHz			
	Core™ i7 Extreme Edition	32nm Sandy Bridge	4/8		i7-2960XM	2.7 GHz	8 MB	55 W	-	1.3 GHz	DDR3-1066/1333/1600	AMT 7.0	
			4/8		i7-2920XM	2.5 GHz	8 MB	55 W	-	1.3 GHz			
	Core™ i7	22nm Ivy Bridge	4/8		i7-3840QM	2.8 GHz	8 MB	45 W	-	1.3 GHz	DDR3/L/-RS 1333/1600	AMT 8.0	QM77/ QM67/ HM65
			4/8		i7-3820QM	2.7 GHz	8 MB	45 W	-	1.25 GHz			
			4/8		i7-3740QM	2.7 GHz	6 MB	45 W		1.3 GHz			
			4/8		i7-3720QM	2.6 GHz	6 MB	45 W	-	1.25 GHz			
			4/8		i7-3632QM	2.2 GHz	6 MB	35 W	-	1.15 GHz		-	
			4/8		i7-3630QM	2.4 GHz	6 MB	45 W	-	1.15 GHz		-	
			4/8		i7-3612QM	2.1 GHz	6 MB	35 W	-	1.1 GHz		-	
			4/8		i7-3610QM	2.3 GHz	6 MB	45 W	-	1.1 GHz		-	
			4/8		i7-3610QE	2.3 GHz	6 MB	45 W	-	1.0 GHz	DDR3/L 1333/1600	AMT 8.0	
			2/4		i7-3520M	2.9 GHz	4 MB	35 W	-	1.25 GHz	DDR3/L/-RS 1333/1600		
		32nm Sandy Bridge	4/8		i7-2860QM	2.5 GHz	8 MB	45 W	-	1.3 GHz	DDR3-1066/1333/1600	AMT 7.0	QM77/ QM67/ HM65
			4/8		i7-2820QM	2.3 GHz	8 MB	45 W	-	1.3 GHz			
			4/8		i7-2760QM	2.4 GHz	6 MB	45 W	-	1.3 GHz			
			4/8		i7-2720QM	2.2 GHz	6 MB	45 W	-	1.3 GHz			
			4/8		i7-2710QE	2.1 GHz	6 MB	45 W	-	1.2 GHz			
			4/8		i7-2670QM	2.2 GHz	6 MB	45 W	-	1.1 GHz	DDR3-1066/1333	-	
			2/4		i7-2640M	2.8 GHz	4 MB	35 W	-	1.3 GHz		AMT 7.0	
			4/8		i7-2630QM	2 GHz	6 MB	45 W	-	1.1 GHz		-	
			2/4		i7-2620M	2.7 GHz	4 MB	35 W	-	1.3 GHz		AMT 7.0	
	Core™ i5	22nm Ivy Bridge	2/4		i5-3610ME	2.7 GHz	3 MB	35 W	-	950 MHz	DDR3/L 1333/1600	AMT 8.0	
			2/4		i5-3360M	2.8 GHz	3 MB	35 W	-	1.2 GHz	DDR3/L/-RS 1333/1600		
			2/4		i5-3320M	2.6 GHz	3 MB	35 W	-	1.2 GHz			
			2/4		i5-3210M	2.5 GHz	3 MB	35 W	-	1.1 GHz		-	
	Core™ i5	32nm Sandy Bridge	2/4		i5-2540M	2.6 GHz	3 MB	35 W	-	1.3 GHz	DDR3-1066/1333	AMT 7.0	
			2/4		i5-2520M	2.5 GHz	3 MB	35 W	-	1.3 GHz			
			2/4		i5-2510E	2.5 GHz	3 MB	35 W		1.1 GHz			
			2/4		i5-2450M	2.5 GHz	3 MB	35 W		1.3 GHz		-	
			2/4		i5-2435M	2.4 GHz	3 MB	35 W	-	1.3 GHz		-	
			2/4		i5-2430M	2.4 GHz	3 MB	35 W	-	1.2 GHz		-	
			2/4		i5-2410M	2.3 GHz	3 MB	35 W	-	1.2 GHz		-	
	Core™ i3	22nm Ivy Bridge	2/4		i3-3120M	2.5 GHz	3 MB	35 W	-	1.1 GHz	DDR3/L/-RS 1333/1600	-	
			2/4		i3-3110M	2.4 GHz	3 MB	35 W	-	1 GHz		-	
	Core™ i3	32nm Sandy Bridge	2/4		i3-2370M	2.4 GHz	3 MB	35 W	-	1.15 GHz	DDR3-1066/1333	-	
			2/4		i3-2350M	2.3 GHz	3 MB	35 W	-	1.15 GHz		-	
			2/4		i3-2330M	2.2 GHz	3 MB	35 W	-	1.1 GHz		-	
			2/4		i3-2330E	2.2 GHz	3 MB	35 W	-	1.05 GHz		-	
			2/4		i3-2328M	2.2 GHz	3 MB	35 W	-	1.1 GHz		-	
			2/4		i3-2312M	2.1 GHz	3 MB	35 W	-	1.1 GHz		-	
			2/4		i3-2310M	2.1 GHz	3 MB	35 W	-	1.1 GHz		-	
	Celeron®	32nm Sandy Bridge	2/2		B840	1.9 GHz	2 MB	35 W	-	1 GHz		-	
			2/2		B830	1.8 GHz	2 MB	35 W	-	1.05 GHz		-	
			2/2		B820	1.7 GHz	2 MB	35 W	-	1.05 GHz		-	
			2/2		B815	1.6 GHz	2 MB	35 W	-	1.05 GHz		-	
			2/2		B810	1.6 GHz	2 MB	35 W	-	950 MHz		-	
			2/2		B800	1.5 GHz	2 MB	35 W	-	1 GHz		-	
			1/1		B720	1.7 GHz	2 MB	35 W	-	1 GHz		-	
			1/1		B710	1.6 GHz	1.5 MB	35 W	-	1 GHz		-	
Socket988A	Core i7 Extreme Edition	45nm	Quad	PGA	i7-940XM	2.13G	8M	55W	-	-	1333 MHz 1066 MHz	-	QM57/ HM55
					i7-920XM	2.0G	8M	55W	-	-		-	
	Core i7				i7-840QM	1.86G	8M	45W	-	-		AMT 6.0	
					i7-820QM	1.73G	8M	45W	-	-			
					i7-740QM	1.73G	6M	45W	-	-			
					i7-720QM	1.6G	6M	45W	-	-			
	Core i5		Dual		i7-640M	2.8G	4M	35W	-	500MHz	1066 MHz 800 MHz	AMT 6.0	
					i7-620M	2.66G	4M	35W	-				
					i5-580M	2.66G	3M	35W	-				
					i5-560M	2.66G	3M	35W	-				
					i5-540M	2.53G	3M	35W	-				
					i5-520M	2.4G	3M	35W	-				
					i5-480M	2.66G	3M	35W	-			-	
					i5-460M	2.53G	3M	35W	-			-	
					i5-450M	2.4G	3M	35W	-			-	
					i5-430M	2.26G	3M	35W	-			-	
	Core i3				i3-390M	2.66G	3M	35W	-			-	
					i3-380M	2.53G	3M	35W	-			-	
					i3-370M	2.4G	3M	35W	-			-	
					i3-350M	2.26G	3M	35W	-			-	
					i3-330M	2.13G	3M	35W	-			-	
	Celeron				P4600	2.0G	2M	35W	-			-	
					P4500	1.86G	2M	35W	-			-	

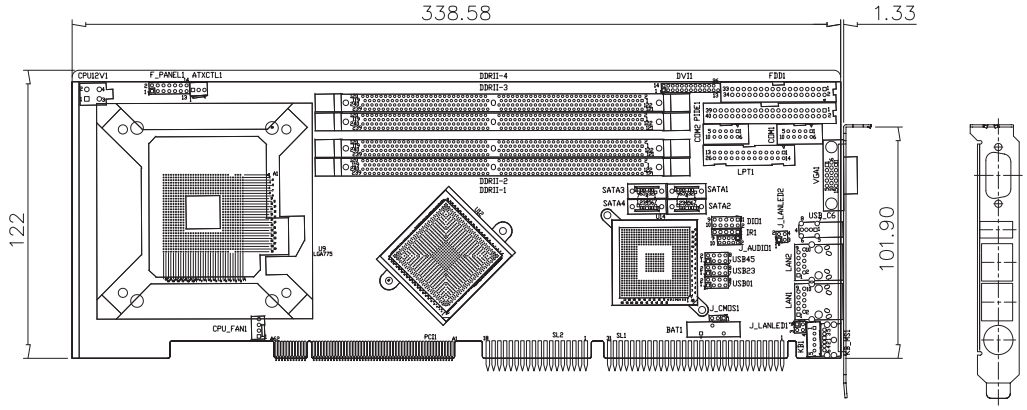
Yellow means long-term support ***HM65/HM55 chipset doesn't support Intel® AMT feature***

IEI SBC Dimensions (mm)

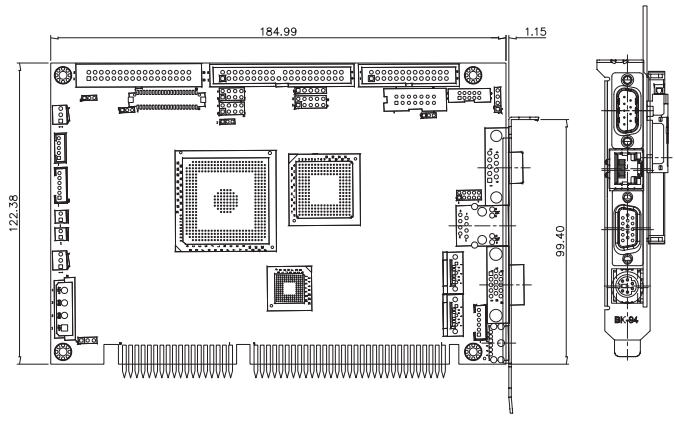
PICMG 1.3 full-size SBC



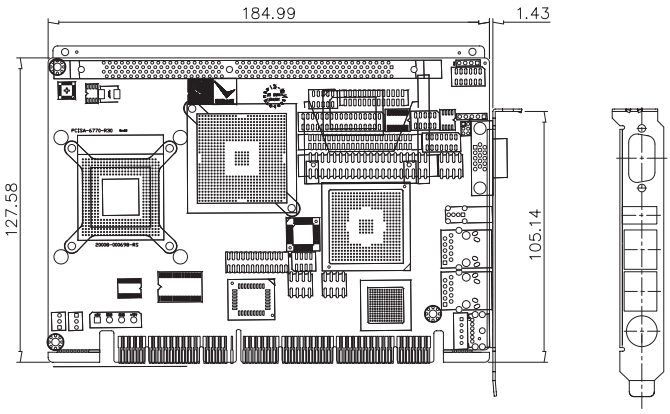
PICMG 1.0 full-size SBC



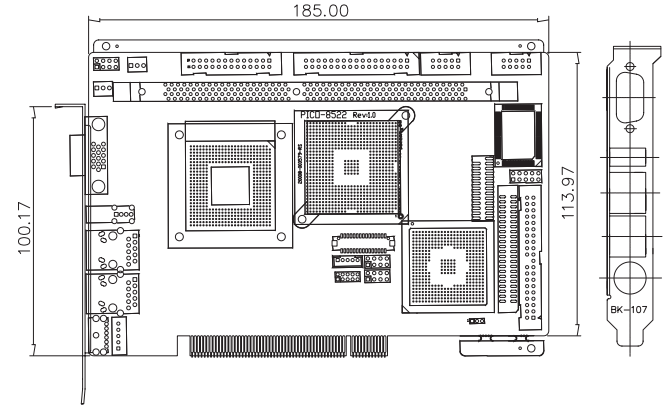
ISA half-size SBC



PCI & ISA half-size SBC



PCI half-size SBC



PCIe half-size SBC