

WAIT A MINUTE!

The webinar is about to start...



SIGM-
U3550



PITX-
1915

Speakers



Gary

Customer Solution Manager
JHCTECH Shenzhen Office



Reese

Customer Solution Manager
JHCTECH Shenzhen Office

NEW PRODUCT LAUNCH



Product Launch Announcement

Time	Agenda
16:00 ~ 16:05	Opening Chi Chi Wang, Marketing Manager, Shenzhen Office
16:05 ~ 16:25	Introduction of New Product CPCI-S.0 high-tech specification 3U blade computer system--SIGM-U3550 Gary Shu, Customer Solution Manager, Shenzhen Office
16:25 ~ 16:45	Introduction of New Product Intel Tiger lake-U multi-function 2.5-inch SBC---- PITX-I915 Reese Li, Customer Solution Manager, Shenzhen Office
16:45 ~ 16:55	Q&A



Introduction of JHCTECH's New Products

Gary Shu, Customer Solution Manager, Shenzhen Office

CPCI-S.0 high-tech specification 3U blade computer system **SIGM-U3550**

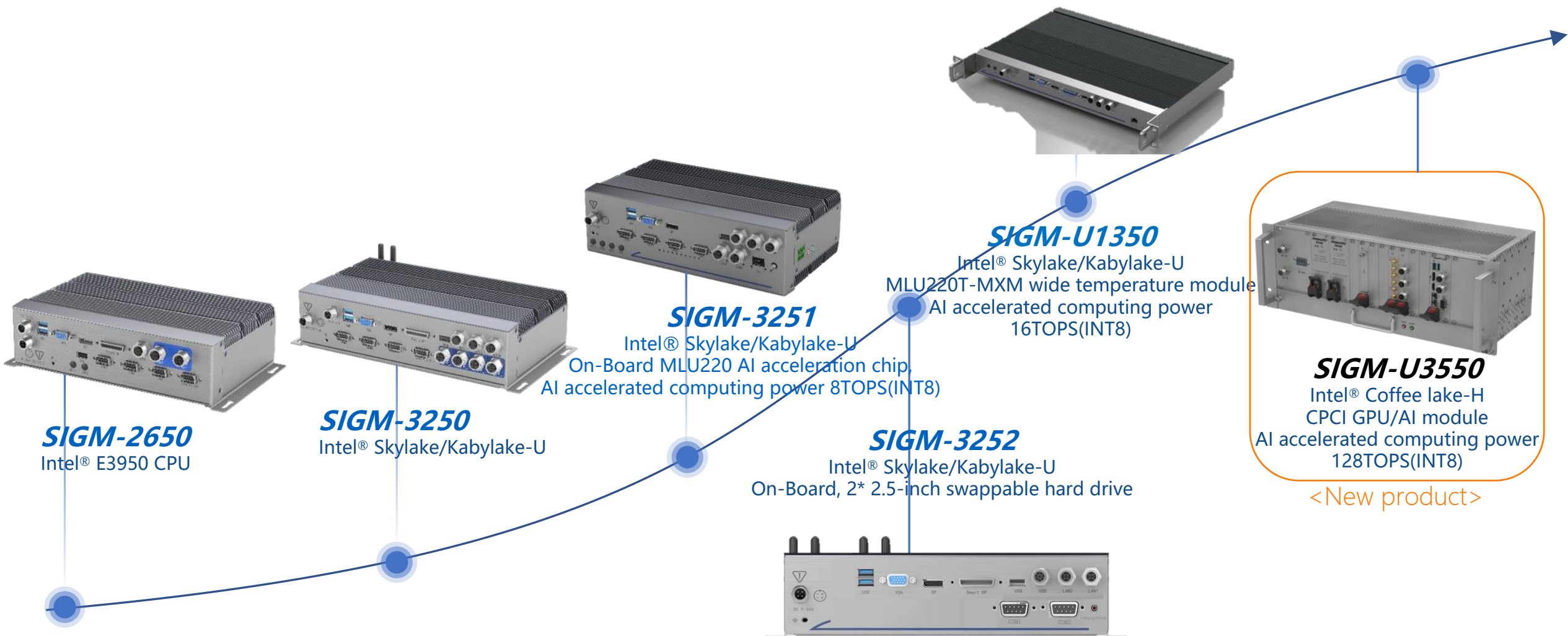




- 01 SIGM Roadmap**
- 02 SIGM-U3550
Product Features**
- 03 Ordering Info**
- 04 Target Market**
- 05 Product Schedule**

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01 > SIGM Series Roadmap



SIGM Series
Specification Comparison Table

Model	SIGM-2650	SIGM-3250	SIGM-3251	SIGM-3252	SIGM-U1350	SIGM-U3550
CPU	Intel® Apollo lakeE3950 CPU	Intel®Skylake/Kabylake-U CPU	Intel®Skylake/Kabylake-U CPU	Intel®Skylake/Kabylake-U CPU	Intel®Skylake/Kabylake-U Corei3/i5/i7 CPU	Intel Coffee lake-HCore i3/i5/i7 or Xeon CPU
RAM	DDR3L, 1866MHz, onboard 4GB+ 1*SODIMM, max 8GB	DDR4, 2133MHz, onboard 4/8GB +1*SODIMM, max 16GB	2-Ch DDR4, On-board 4GB+LPDDR44GB	2-Ch DDR4, On-board4/8GB+SODIMM, max 16GB	2-Ch DDR4, 2133MHz, onboard 4GB +1*SODIMM, max 12GB	2-Ch DDR4, onboard 8GB+1*SODIMM, max 40GB, Xeon and Core 13 CPU, supporting ECC
Graphics	1*DP1*VGA.1*SmartDisplay, support 3 displays	1*DP1*VGA,1*SmartDisplay, support 3 displays	1*DP1*VGA.1*SmartDisplay, support 3 displays	1*DP1*VGA1*SmartDisplay, support 3 displays	1*DP1*VGA1*SmartDisplay, support 3 displays	1*DP1*HDMI
LAN	2*Intel 1210AT	6*Intel 1210AT	4*LAN(M12)	2*LAN(M12)	2*Intel 1210AT	6*Intel 1210AT(IT)1*Intel 1219LM
Storage	1*SATA1*mSATA	1*SATA1*mSATA	1*SATA	2*SATA	1*SATA1*mSATA	1*Full-length mSATA optional up to 42.5" SATA
USB	5*USB	5*USB	6*USB(2*M12)	5*USB(2*M12)	5*USB(2*M12)	14*USB
COM	2* isolated COM	2* isolated COM	4* isolated COM	2* isolated COM	1*CONSOLERS232(RJ45)	1*RS232/RS485
Power supply	DC 9~36V input, 5-pin terminal port (M12) Optional Railway power module, 48V/72V/110V input, 4-pin connector (M12)	Railway power module 48V/72V/110V input 4-pin connector(M12) optional DC 9~36V input , 5-pin terminal port (M12)	Railway power module , DC9-36V input	Railway power module DC48/72/100V(+40%):optional DC9~36V Wide voltage power supply, with ITPS power management	DC 110V input4-pinconnector(M12)	Standard single railway power isolation power supply with ultra-wide voltage range of 16.6-160V DC input, 4-pin M12 socket, optional 1+1 dual power supply.
Dimension	250*154*72mm	270*154*64.5mm	272*154*83mm	270*154*64.5mm	430*283.05*44.5mm	435.8*208.5*177.0mm (without mounting kits) 482.6*248.2*177.0mm (without mounting kits)

02> SIGM-U3550 Features and Highlights



CompactPCI® Serial

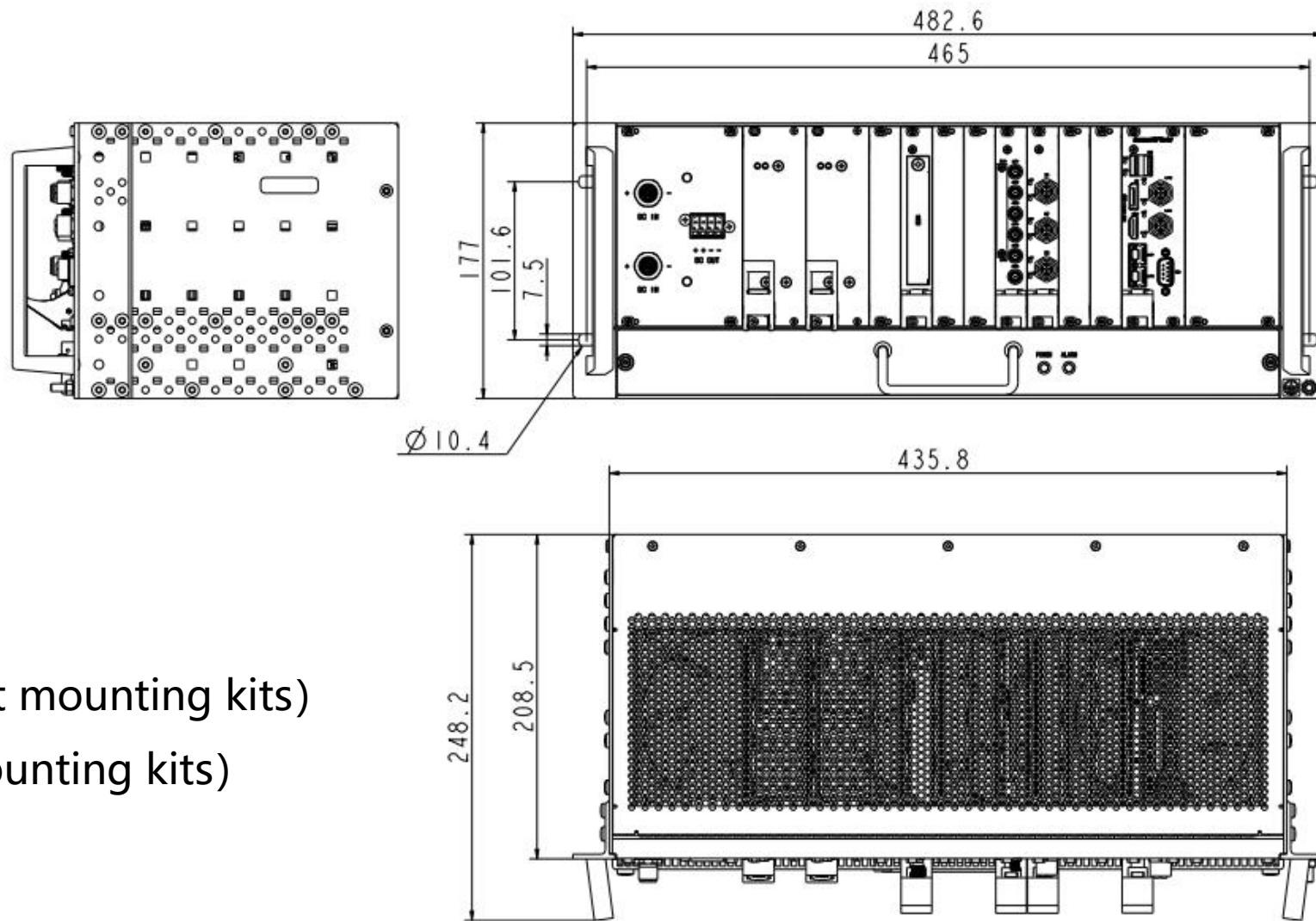


FCC

Key Features

- PICMG CompactPCI Serial(CPCI-S.0R2.0) standard
- 3U 84HP Enclosure with 9-slot CPCI-S.0 backplane and 2-slot power backplanes
- Intel®Coffee Lake-H CPU+CM246 PCH Processor Blade
- On-board 8G DDR4+1*DDR4 SODIMM, Ram. up to 40G
- 1*DP+1*HDMI, 2 display, 4*G-LAN, 2*USB3.1
- 1*mSATA, optional 4*2.5" SATA3.0 Storage Blades
- 8*3U CPCI-S.0 standard expansion slots
- 1+1 Redundant rail-way standard ultra-wide voltage 300W power supply DC 16.6~160V
- 3*12025 double Ball Bearing temperature control Fans, 1U chassis easy-plug design
- EN-50155:2021 certification

SIGM-U3550 Dimension

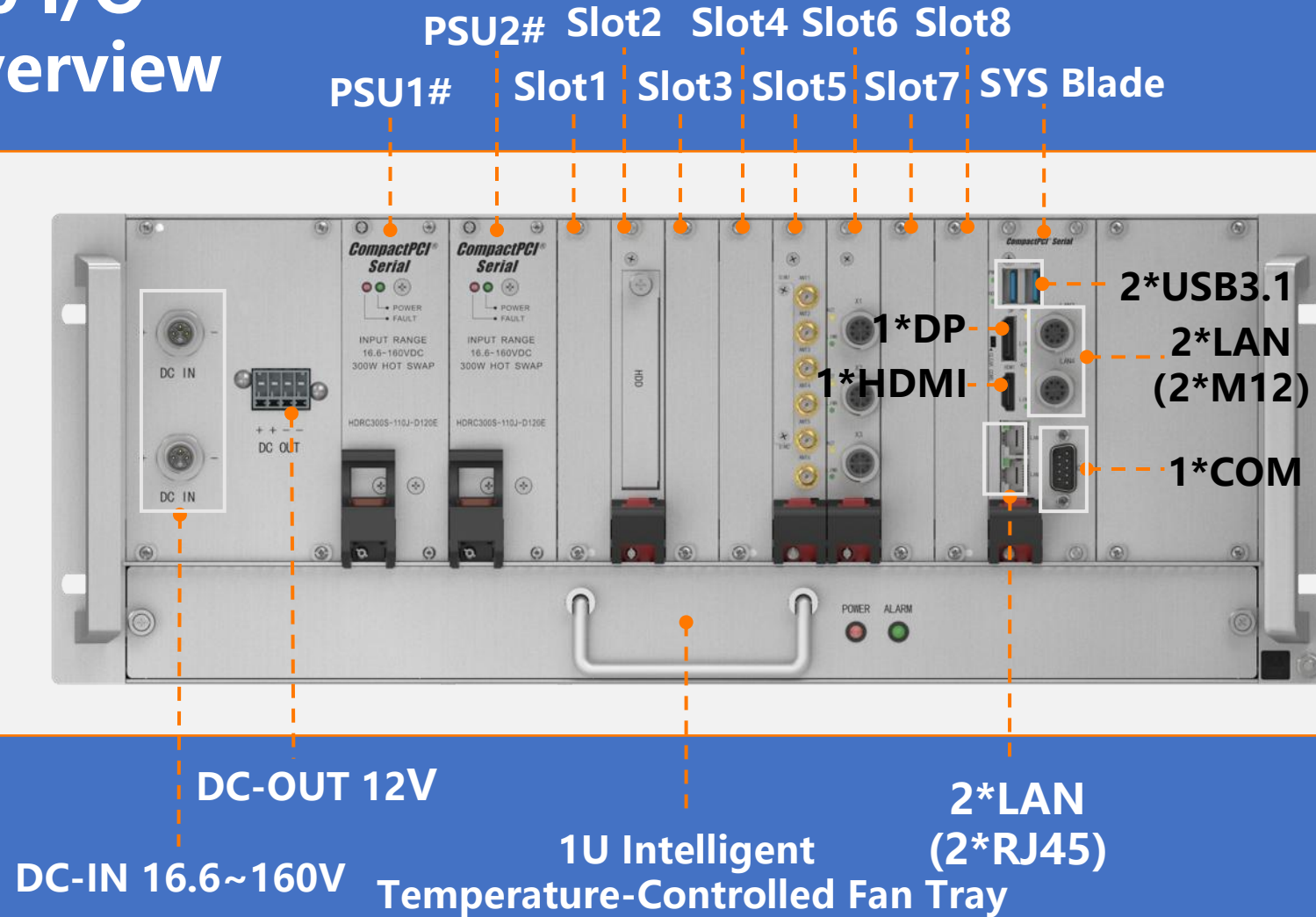


(W*H*D)

435.8*208.5*177.0mm (without mounting kits)

482.6*248.2*177.0mm(with mounting kits)

SIGM-U3550 I/O Interface Overview



SIGM-U3550

Product Highlights

1 <i>CPCI-S.0 Design Specification</i>	2 <i>CPU Performance Enhancement</i>	3 <i>High Memory Performance</i>	4 <i>(1+4) five storage</i>	5 <i>Diverse Network Solutions</i>
6 <i>vPro Remote Management</i>	7 <i>Diverse CPCI-S.0 Extensions</i>	8 <i>EN 50155 Certification</i>	9 <i>Temperature-Controlled Intelligent Cooling Design</i>	10 <i>Professional-Grade High-Reliability Power Solution</i>
11 <i>Whole system shock absorption design</i>				

★ CPCI-S.0 R2.0 Design Specification

- The latest PICMG CPCI Serial R2.0 standard
- Up to 39 high-speed HSIO Lances

Figure 2 **CompactPCI® Serial Architecture**

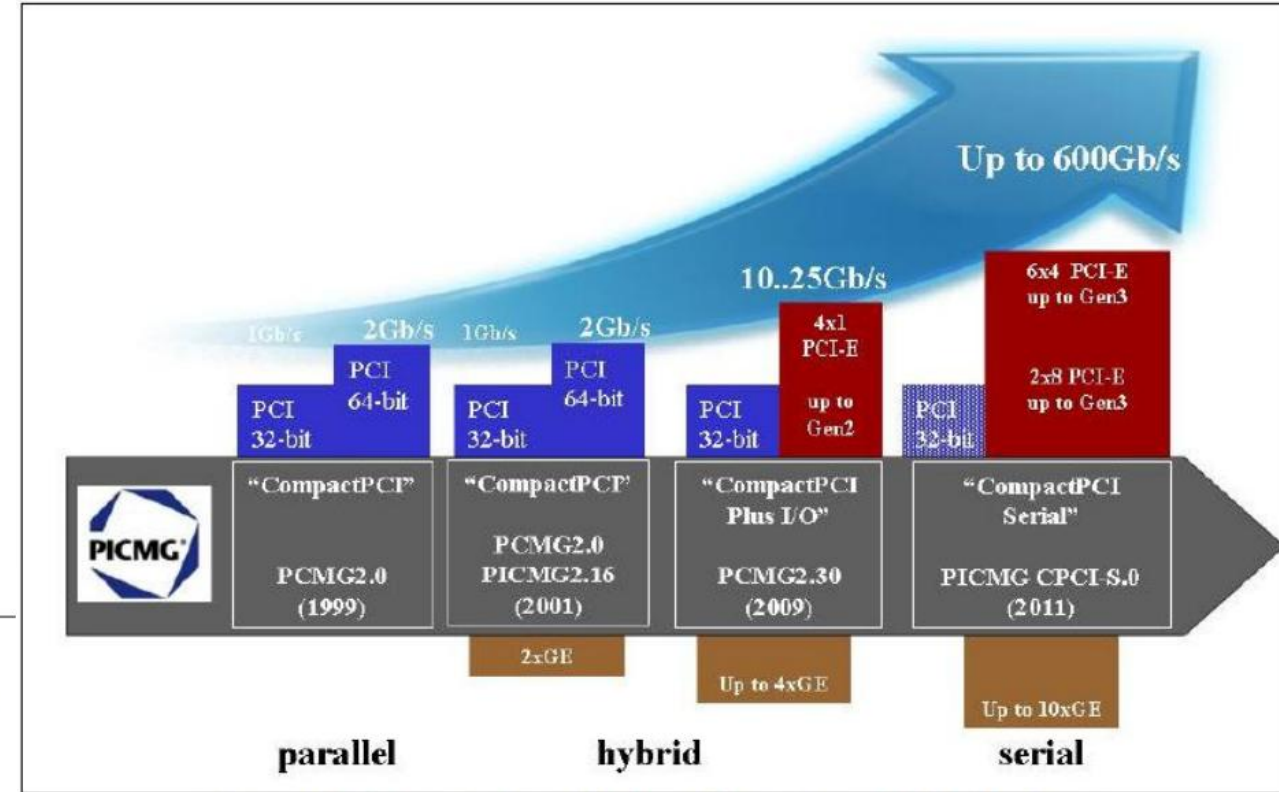
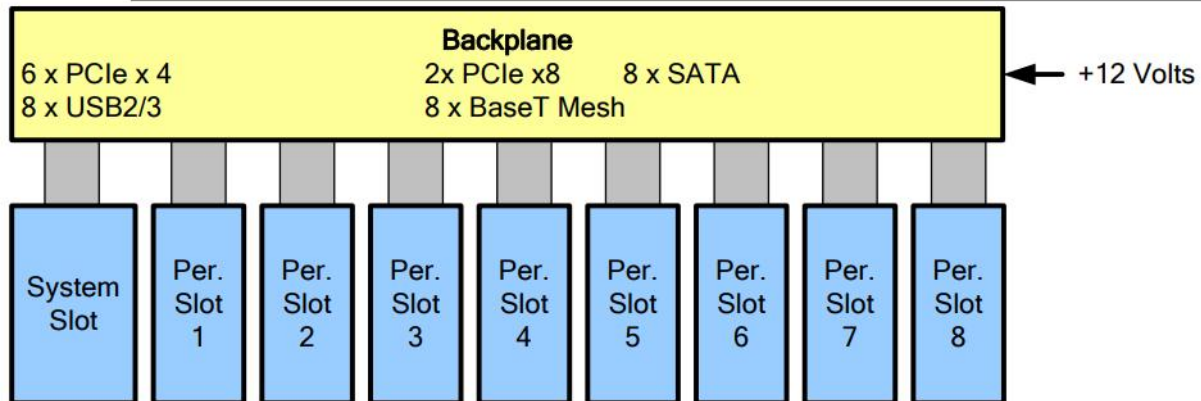
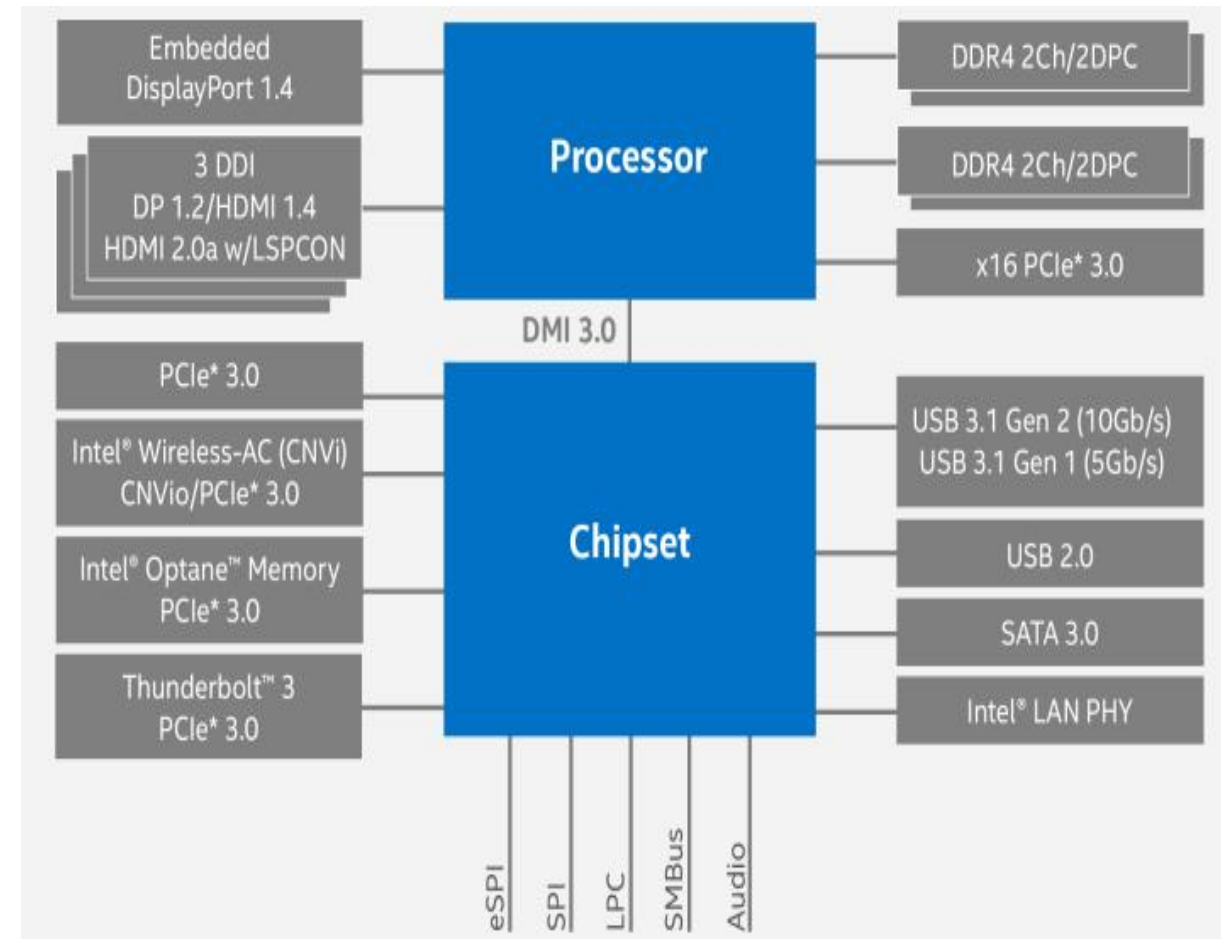


Figure 1: History, status and future of the CompactPCI technology



Coffee lake-H CPU Performance Enhancement

- **Computing Performance:** Multiple products feature up to 6 cores, achieving scalable performance improvements compared to the previous generation products.
- **Graphics Display Performance:** 9th Gen graphics engine, fast video acceleration, support for up to 3 independent 4K Ultra HD displays, a wide range of media encoders/decoders, HDMI 2.0/HDCP 2.2 (with LSPCON).
- **Wider I/O Capabilities:** The PCH (Platform Controller Hub) supports up to 30 high-speed I/O channels and integrates USB-C/USB 3.1 Gen2 (10 Gb/s).
- **Enhanced Operating System:** Windows* 10 Enterprise & IoT Enterprise (64 bit) , Yocto Project*, Wind River Linux*, VxWorks*
- **Enhanced Security Features:** Intel® Software Guard Extensions (SGX) 1.0, Intel® Trusted Execution Engine 3.0, Intel® Platform Trust Technology



Main CPU Support List

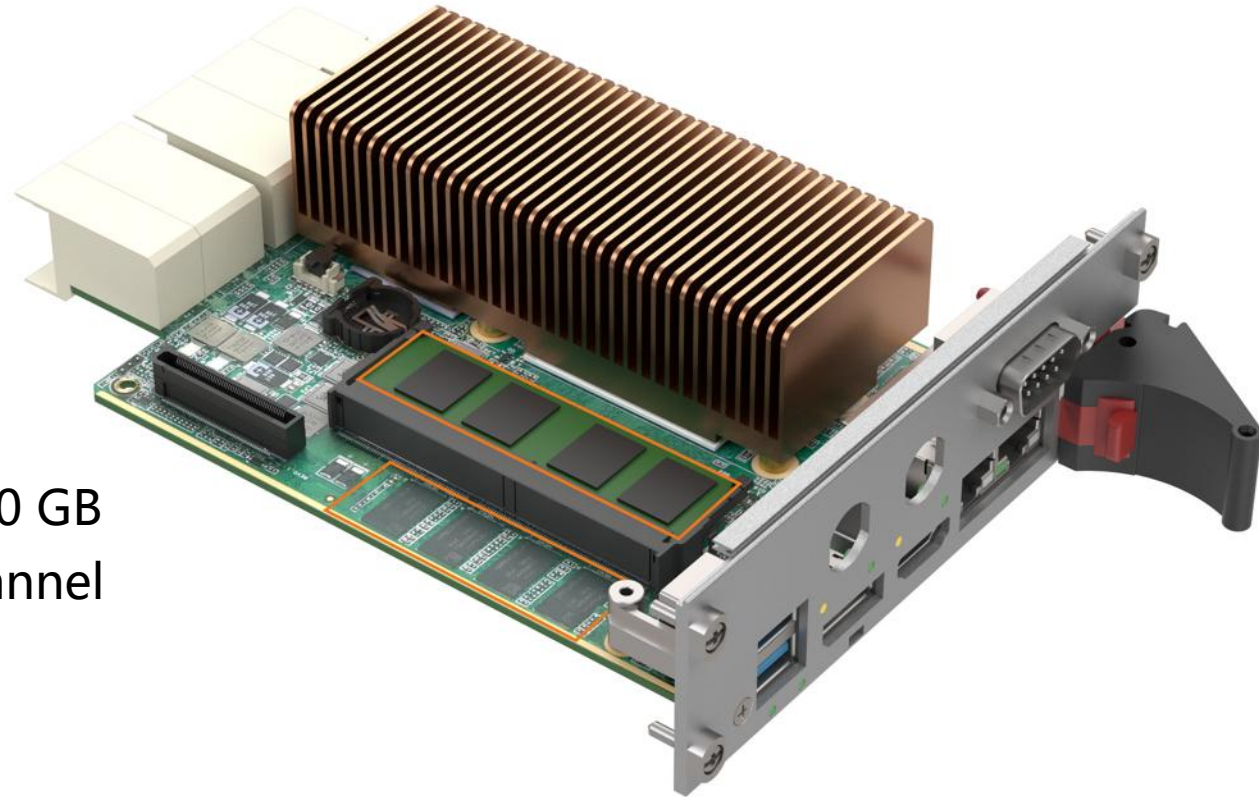
SKU Name	Cores/Threads	Core Clock	L3Cache	TDP	Socket
Intel Core I3-9100HL	4/4	1.60-2.90GHz	6MB	25W	FCBGA1440
Intel Xeon E-2254ME	4/8	2.60-3.80GHz	8MB	45W	FCBGA1440
Intel Core I7-9850HE	6/12	2.70-4.40GHz	9MB	45W	FCBGA1440

Optional CPU Support List

SKU Name	Cores/Threads	Core Clock	L3Cache	TDP	Socket
Intel Core I9-9880H	8/16	2.30-4.80GHz	16MB	45W	FCBGA1440
Intel Core I7-9850H	6/12	2.60-4.60GHz	12MB	45W	FCBGA1440
Intel Xeon E-2276ME	6/12	2.80-4.50GHz	12MB	45W	FCBGA1440
Intel Core I7-9750H	6/12	2.60-4.50GHz	12MB	45W	FCBGA1440
Intel Core I5-9400H	4/8	2.50-4.30GHz	8MB	45W	FCBGA1440
Intel Core I7-8850H	6/12	2.60-4.30GHz	9MB	45W	FCBGA1440
Intel Core I5-8400H	4/8	2.50-4.20GHz	8MB	45W	FCBGA1440
Intel Core I3-8100H	4/4	3.00GHz	6MB	45W	FCBGA1440
Intel Xeon E-2276ML	6/12	2.00-4.20GHz	12MB	25W	FCBGA1440
Intel Xeon E-2254ML	4/8	1.70-3.50GHz	8MB	25W	FCBGA1440

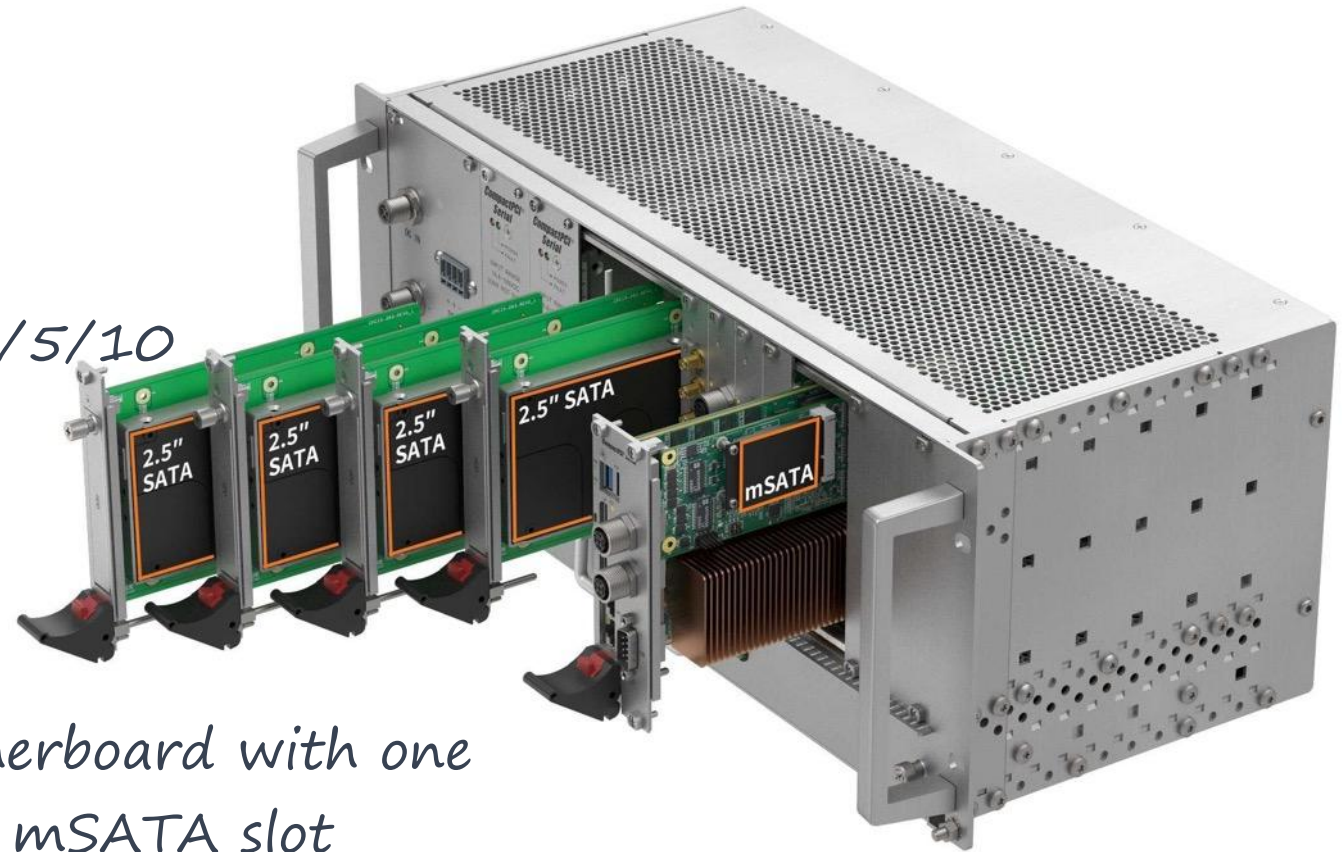
★ High Memory Performance

- 🏷️ DDR4 2400/2666MHz Dual Channel, Up to 40 GB
- 🏷️ One channel onboard 8G/16G, the other channel for the SODIMM slot
- 🏷️ Supports ECC Memory Validation



★ (1+4) 5 Storage

Supports Hot-Swappable RAID 0/5/10

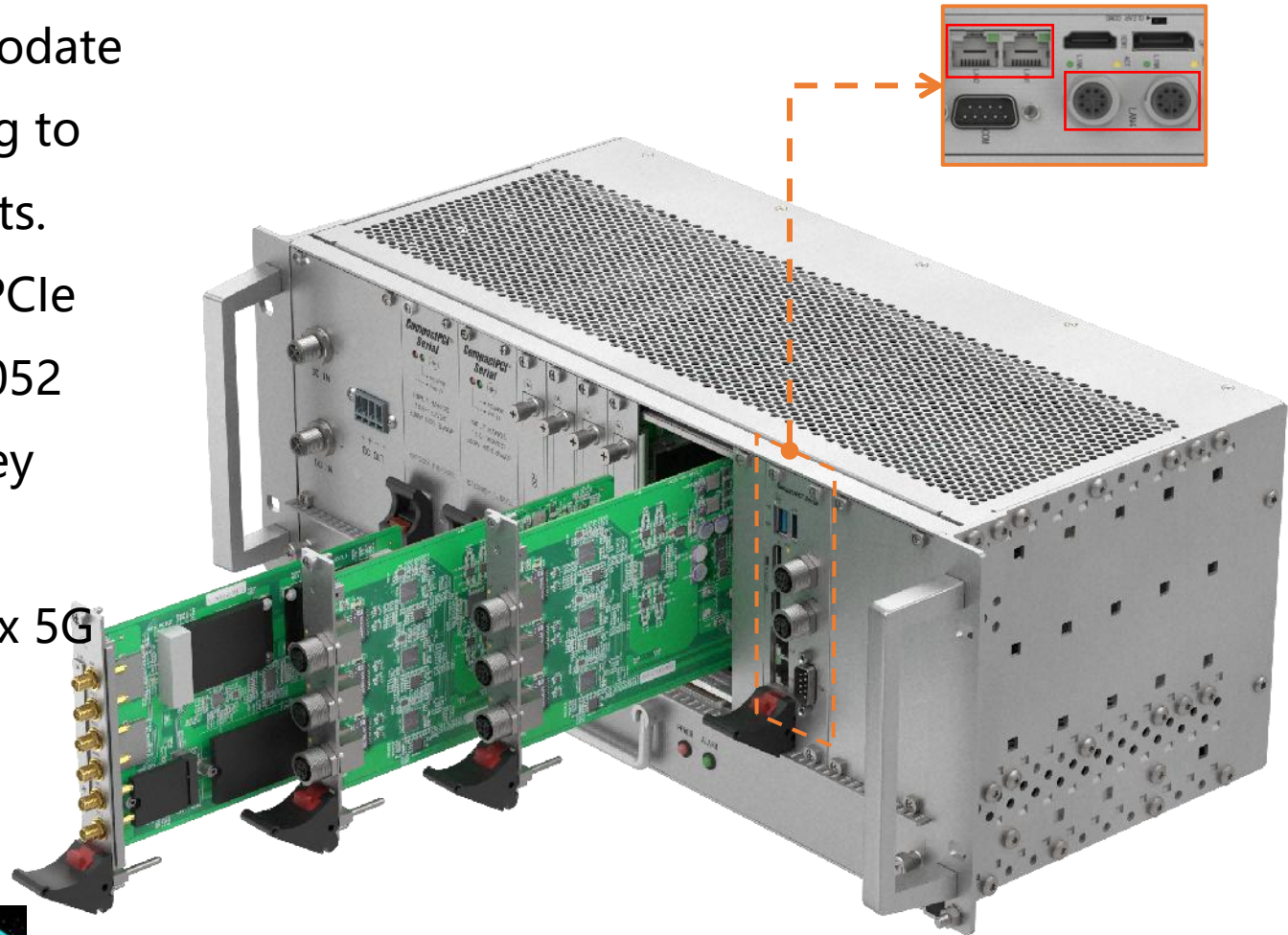


- 1965 motherboard with one full-height mSATA slot
- 4 expansion slots for 2.5-inch SATA drives.

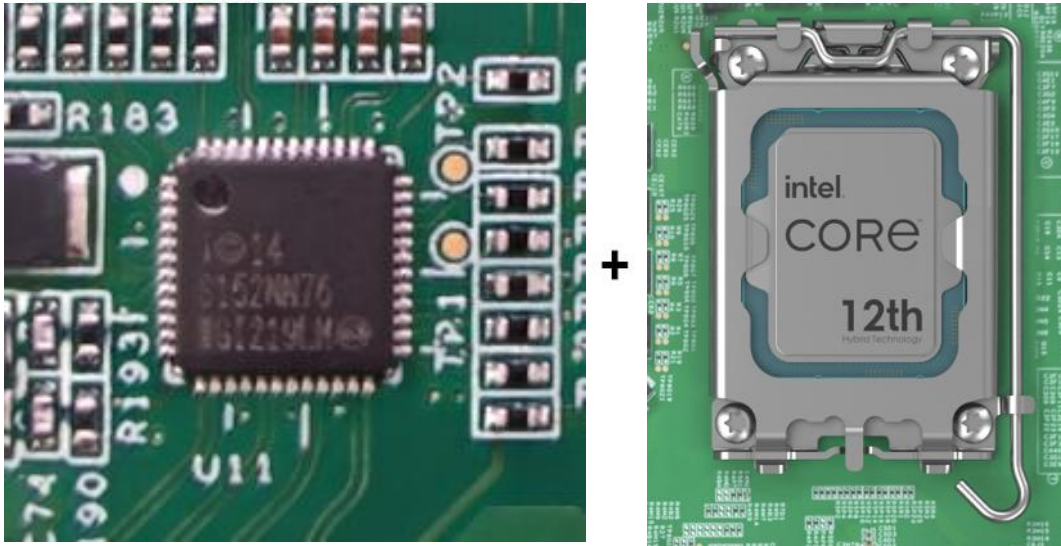
★ Diverse Network Solutions

- The two expansion slots can accommodate 2 CPCIs-282 network cards, expanding to provide 6 I210AT/IT POE network ports.
- Alternatively, expand with 2x F-Mini PCIe (PCIeX1+USB signal), 1x M.2 B-Key 3052 (PCIeX1+USB signal), and 1x M.2 E-Key 2230 (PCIe+USB signal).
- Simultaneously supports 1x 4G LTE, 1x 5G NR modules, and two WiFi wireless modules.

Mother x Intel I210AI/IT+1x Intel I219LM four Gigabit network ports

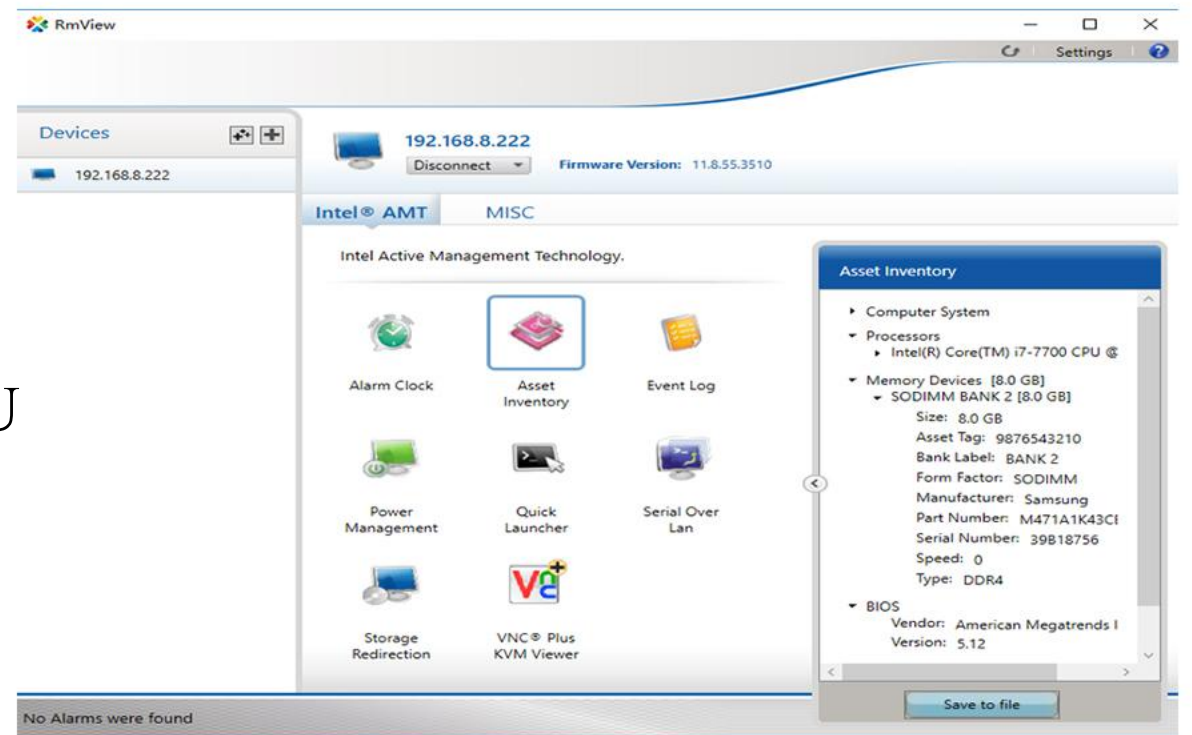


★ iAMT 13.0 active management technology and vPro remote management



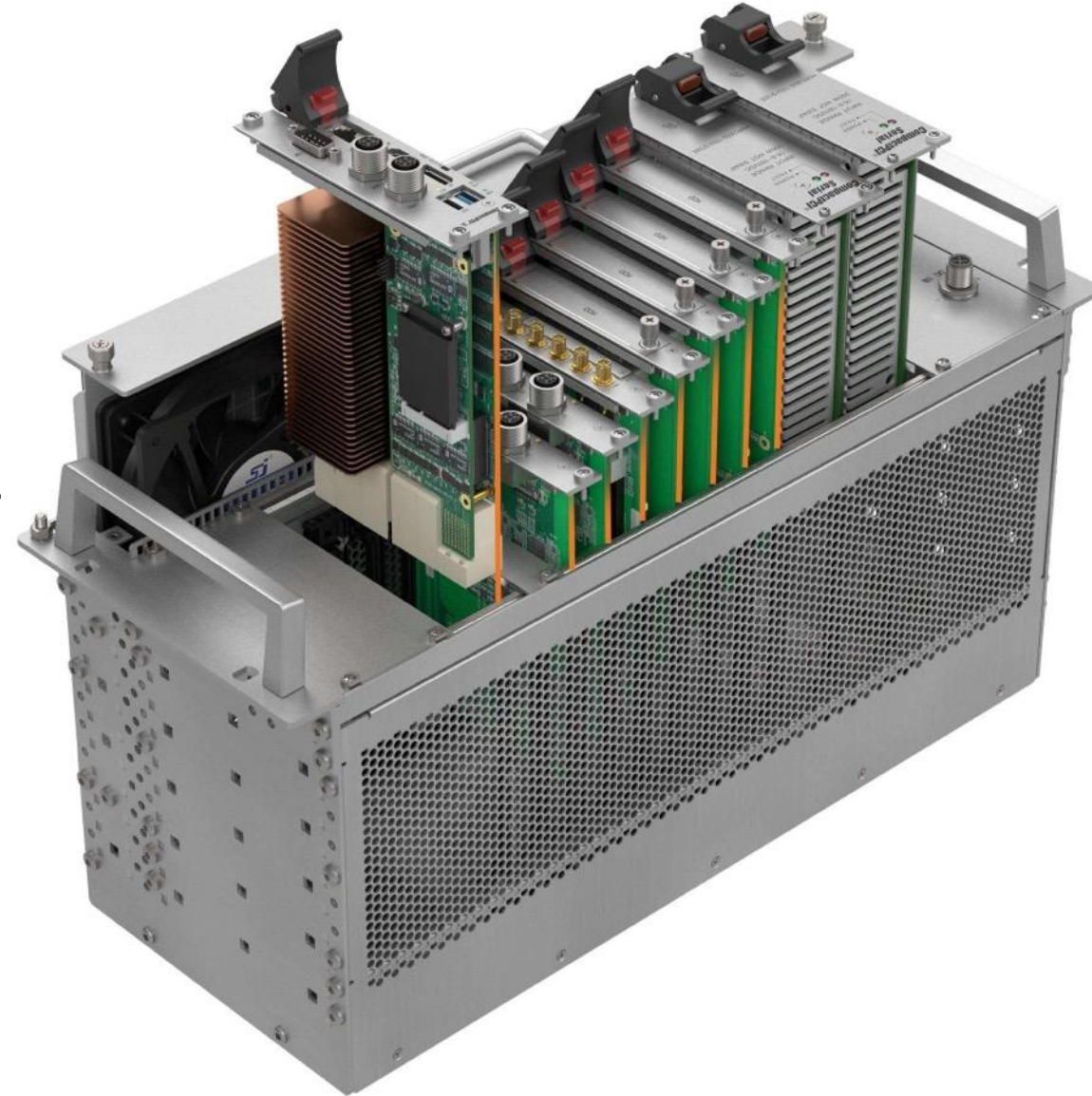
I219LM Network chip + Core I5/I7/I9 CPU

JHCTECH Remote Management View



★ 8*CPCI-S.0 Expansion Slot

- Slots 1 and 2: 1*SATA3.0+1*USB2.0
- Slots 3 and 4: 1*PCIeX1+SATA3.0+1*USB2.0
- Slot 5: 1*PCIeX4+1*USB3.1+1*USB2.0
- Slot 6: 1*PCIeX4+1*USB3.1+1*USB2.0+1*G-LAN
- Slots 7 and 8: 1*PCIeX8+1*USB3.1+1*USB2.0+ 1*G-LAN
- Composite signals for expanding SATA storage cards, multiple network ports, multiple 4G/5G/WIFI expansion cards, GPU/AI acceleration cards, and other I/O function cards.





EN50155: 2021 Certification

**1**

Temperature control intelligent heat dissipation design

2

Professional-grade power solution

3

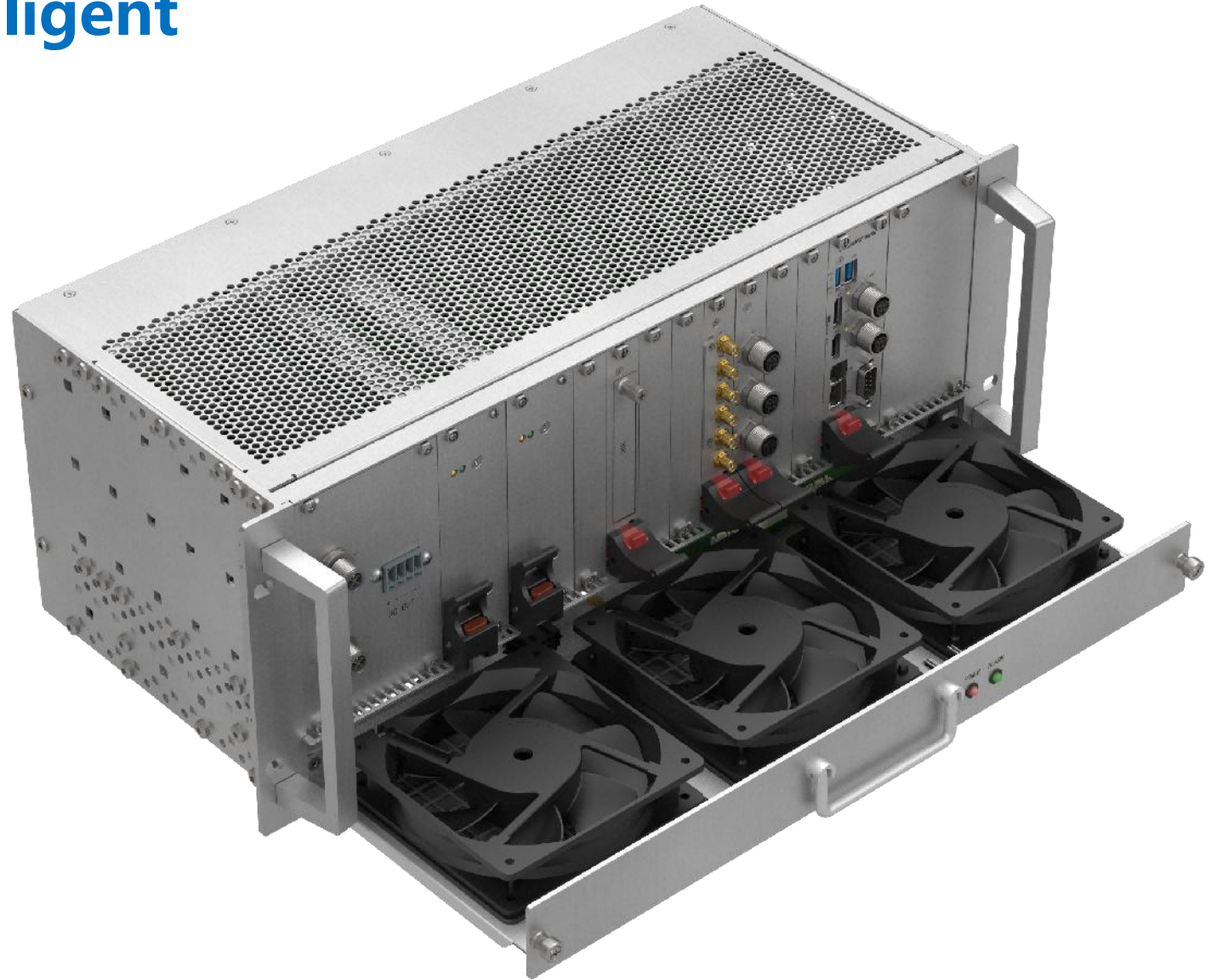
High-reliability power design

4

Anti-vibration and anti-shock design

✓ Temperature control intelligent heat dissipation design

- Bottom-up linear air duct design
- 3 x 8025 dual-ball-bearing, long-life, wide-temperature fans
- Hot-swappable fan tray for easy maintenance
- Thermistor sensors with MCU microcontroller for intelligent temperature control



✓ Temperature control intelligent heat dissipation design

EN-50155-2021 QT3 Standard: : -25~70°C(85°C-15min)



Cold storage at -25°C for 12 hours, then power on and start.



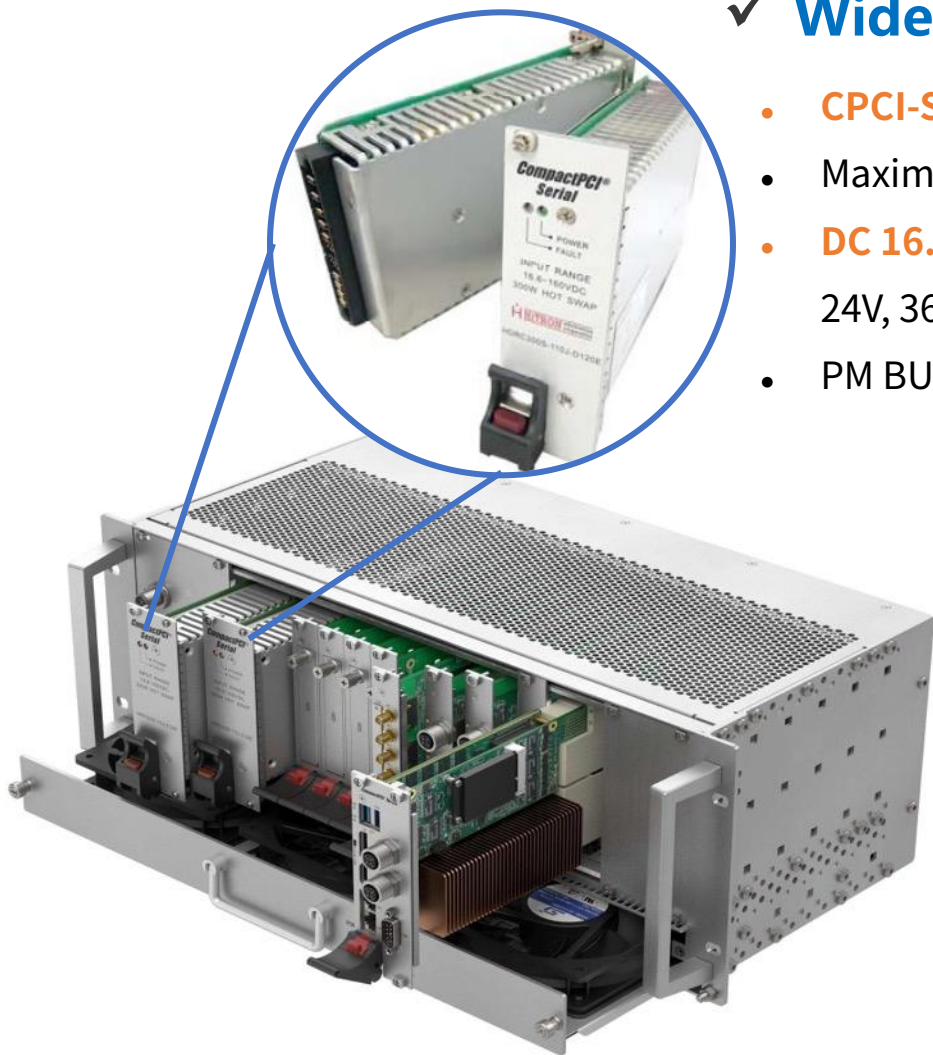
Full-load operation at high temperature of 70°C for 12 hours without throttling or system crashes.



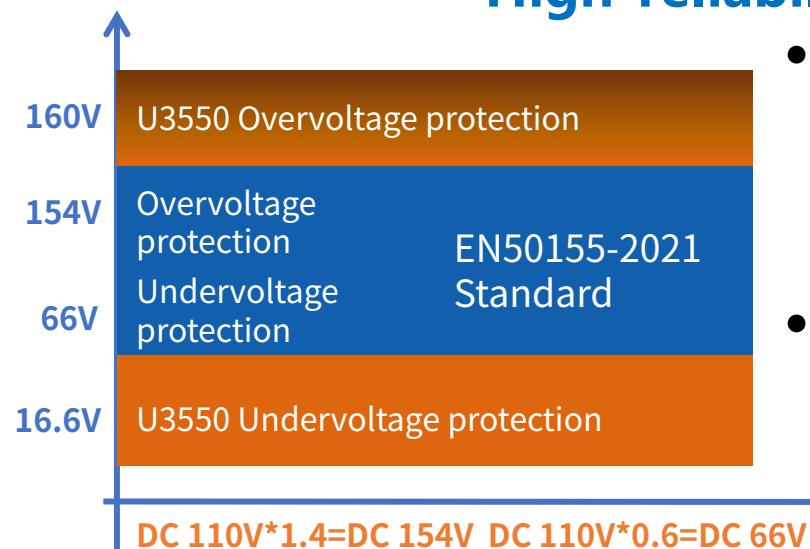
Full-load operation at high temperature of 85 °C for 20 minutes without throttling or system crashes.

✓ Wide-voltage DC power supply, 1+1 redundant design

- CPCI-S.0 standard, 3U blade card
- Maximum output power of 340W (DC 110V/2.7A)
- DC 16.6~160V, covering various power supply requirements such as 24V, 36V, 48V, 72V, 96V, and 110V
- PM BUS power management with 1+1 hot-swappable redundancy.

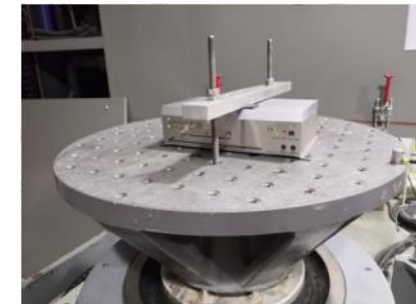
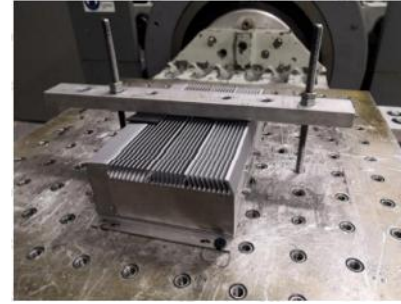


✓ High-reliability power supply design



- Power Interruption Resumption: Voltage drops from 110V to 0V for a continuous period of 10 to 20ms, then returns to 110V. This entire process does not affect the device's power supply.
- Voltage Fluctuation Resumption: Voltage drops from 110V to 66V for a continuous 100ms, then returns to 110V. It subsequently drops to 0V for 30ms before returning to 110V, then increases and returns.

✓ Anti-vibration and anti-shock design



Test Items	Test Requirement
Functional random vibration test	1.No damage shall occur during the test 2.During the test, the equipment shall work as intended. 1) The apparatus shall continue to operate as intended during and after the test. 2) No degradation of performance or loss of function is allowed.
Simulated long life test	1.No damage shall occur during the test 2.after the test, the equipment shall work as intended. 1) The apparatus shall continue to operate as intended after the test. 2) No degradation of performance or loss of function is allowed.
Shock test	1.No damage shall occur during the test 2.after the test, the equipment shall work as intended. 1) The apparatus shall continue to operate as intended after the test. 2) No degradation of performance or loss of function is allowed.

03> SIGM-U3550 Ordering Info

Model No.	CPU	Introduction
SIGM-U3550/S001-F4	Intel Core I3-9100HL	Embedded In-Vehicle Computer, 3U CPCI-S.0 R2.0 Enclosure+1U Fan Chassis, Intel CM246 PCH+Coffee Lake H CPU,on-board DDR4 8GB+ 1*SODIMM, 1*DP+1*HDMI, 4*G-LAN, 2*USB3.1, 1*RS232/422/485, 1*mSATA, 8*3U CPCI-S.0 expansion slot,1+1 redundant power slot, default 1*300W PSU DC IN 16.6-160V.
SIGM-U3550/S002-F4	Intel Xeon E-2254ME	
SIGM-U3550/S003-F4	Intel Core I7-9850HE	
CPCIs-282	3*Intel I210AT(IT)Gig. chip, IEEE 802.3af (15.4W/48V), M12 X-Code CPCI-S.0 3U Peripheral Blade	
CPCIs-283	Single 2.5" SATA3.0 easy-plug design drive bay, CPCI-S.0 3U Peripheral Blade	
CPCIs-284	2*Full size Mini PCIe(1*w/SIM),1*M.2 2230 E-Key,1*M.2 3052 B-Key w/SIM, CPCI-S.0 3U Peripheral Blade	
OFX-DC300DC12V	DC 16.6-160V input, DC 12V&5VSB output, 300W PSU ,CPCI-S.0 3U Peripheral Blade	
M12A-4P DC Cable	DC cable with M12 A-Code Female 4 pin connector to bare wire, PVC Multicore Cable, 4-wires 18AWG PVC, non LSZH cable, 100cm	
M12X-8P LAN/POE Cable	Internet cable with M12 X-Code Male 8pin connector to RJ45 crystal head connector, 8-wires CAT6,LSZH cable,180cm	
PA-300DC48-M12A-4P	AC-DC switching power supply, DC48V@7.32A, 85-305V AC input, DC 48V output, wide temperature fanless, 300W (non LSZH cable, no in-vehicle certification)	

04> Target Market



Train Operation Status
Monitoring System



Train
Automatic
Driving



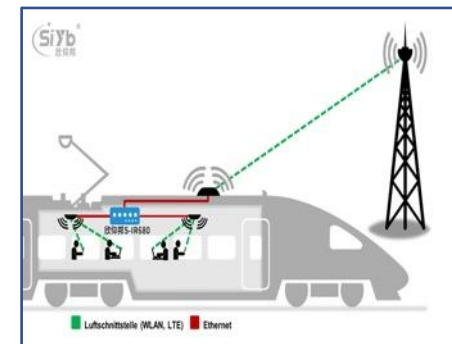
Contact Wire and
Pantograph Monitoring



PIS&CCTV



SIGM-U3550



Vehicle
Communication
Gateway

04>Target Market 2



High-End Industrial
Measurement and Control



Aerospace
Measurement and
Control



Shipboard heading control



SIGM-U3550



Mobile communication
system

www.jhctechology.cn

05> Product Schedule

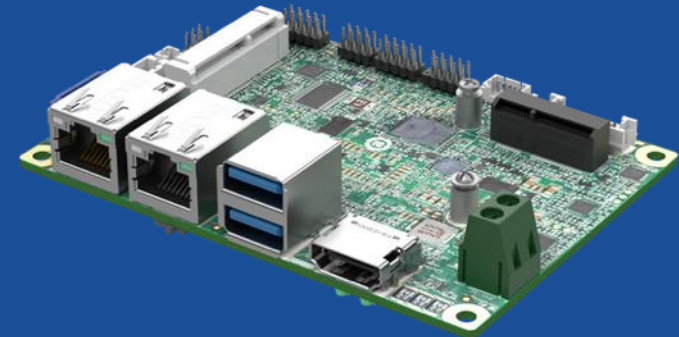


EV Version Prototype **Late September 2023**

Mass Production of DV Version **Late November 2023**

Intel Tiger lake-U multi-function 2.5-inch SBC

PITX-I915



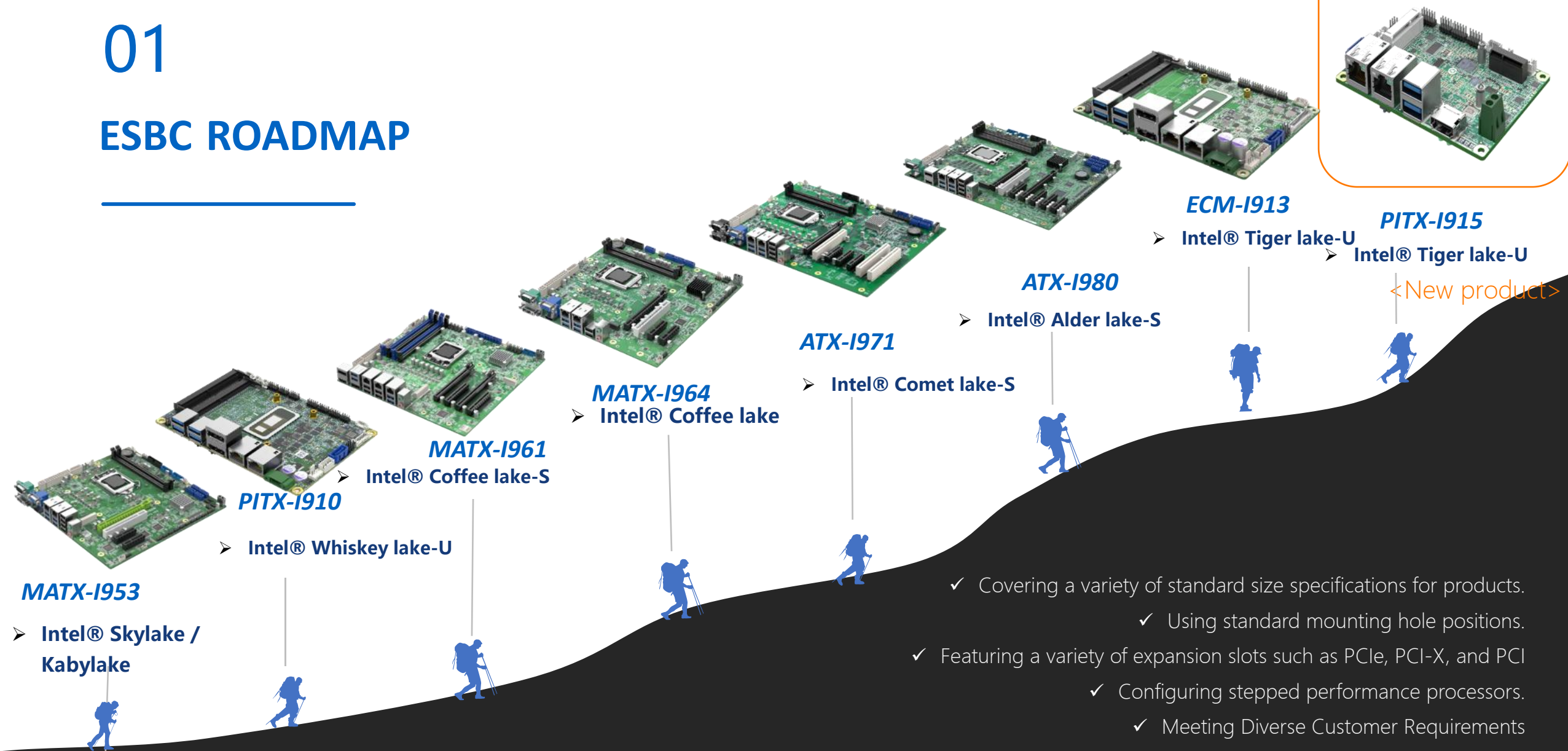


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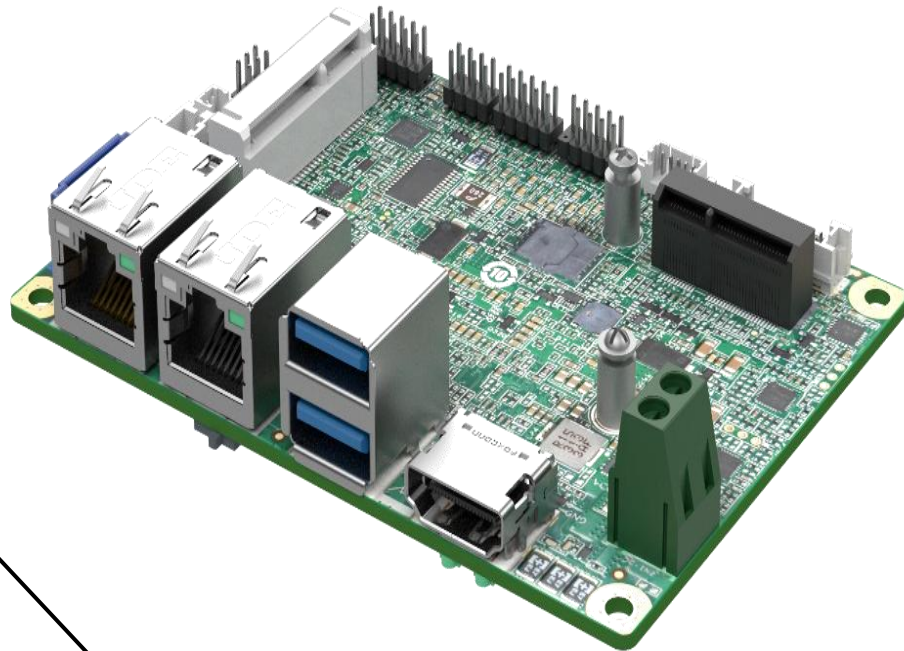
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01

ESBC ROADMAP

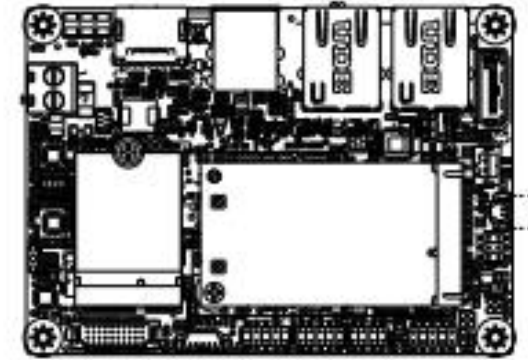
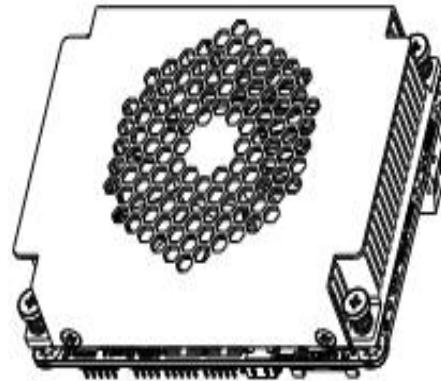
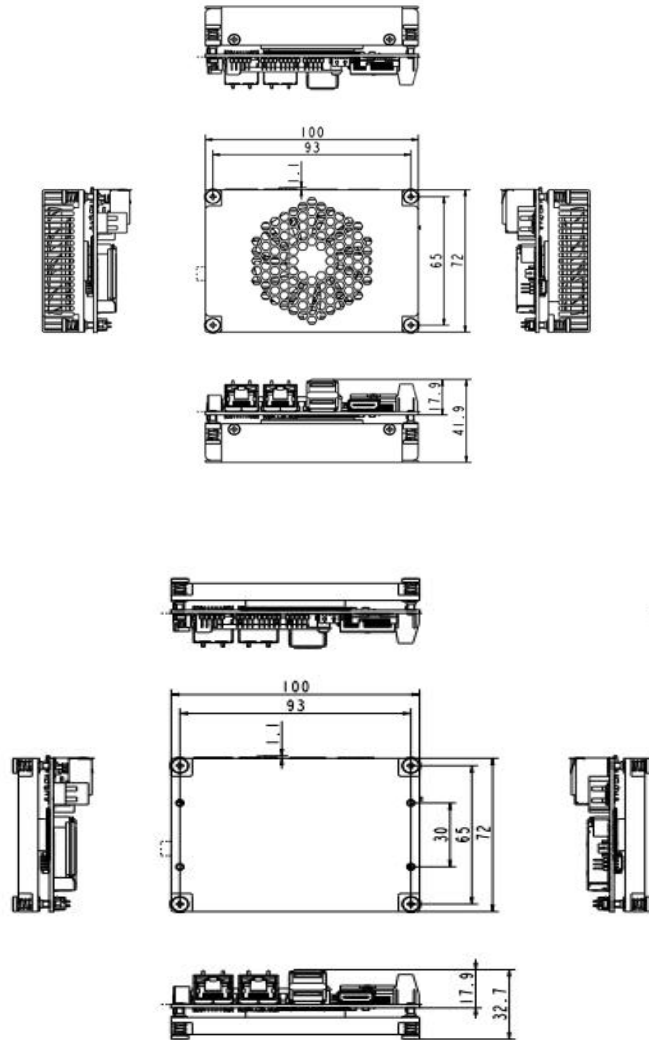


02 PITX-I915 Product Features



CPU	Tiger lake-U Core I3/I5/I7 /Celeron
RAM	LPDDR4X SODIMM Dual-Channel
LAN	2* LAN(RJ45)
Display	1*HDMI, 1*48-bit EDP
USB	2*USB3.2, 2*USB2.0
COM	1*RS232/422/485, 1*RS232
Audio	1*Line out+1*Line in+1*Mic (ALC 897 chip)
Expansion	1*M.2 2230 E-key、 1*Full-length Mini PCIe (PCIe X1 signal)
Storage	1*2.5" HDD/SSD SATA3, 1*Full-length Mini PCIe supports the selection of Mini PCIe and mSATA signals through BIOS.
Power	DC IN 12V DC power supply

Size Dimensions



2.5 inches: 100 x 72 x 17.9mm

With fan heatsink thickness: 41.9mm

Without fan heatsink thickness: 32.7mm

Product Highlights

1

*CPU Performance
Enhancement*

2

*Ultra-High-Performance
Integrated Graphics*

3

*Support for High-
Frequency Memory*

4

*Dual Independent
Displays*

5

*Higher Network
Bandwidth*

6

*vPro Remote
Management*

7

1+1 Storage

8

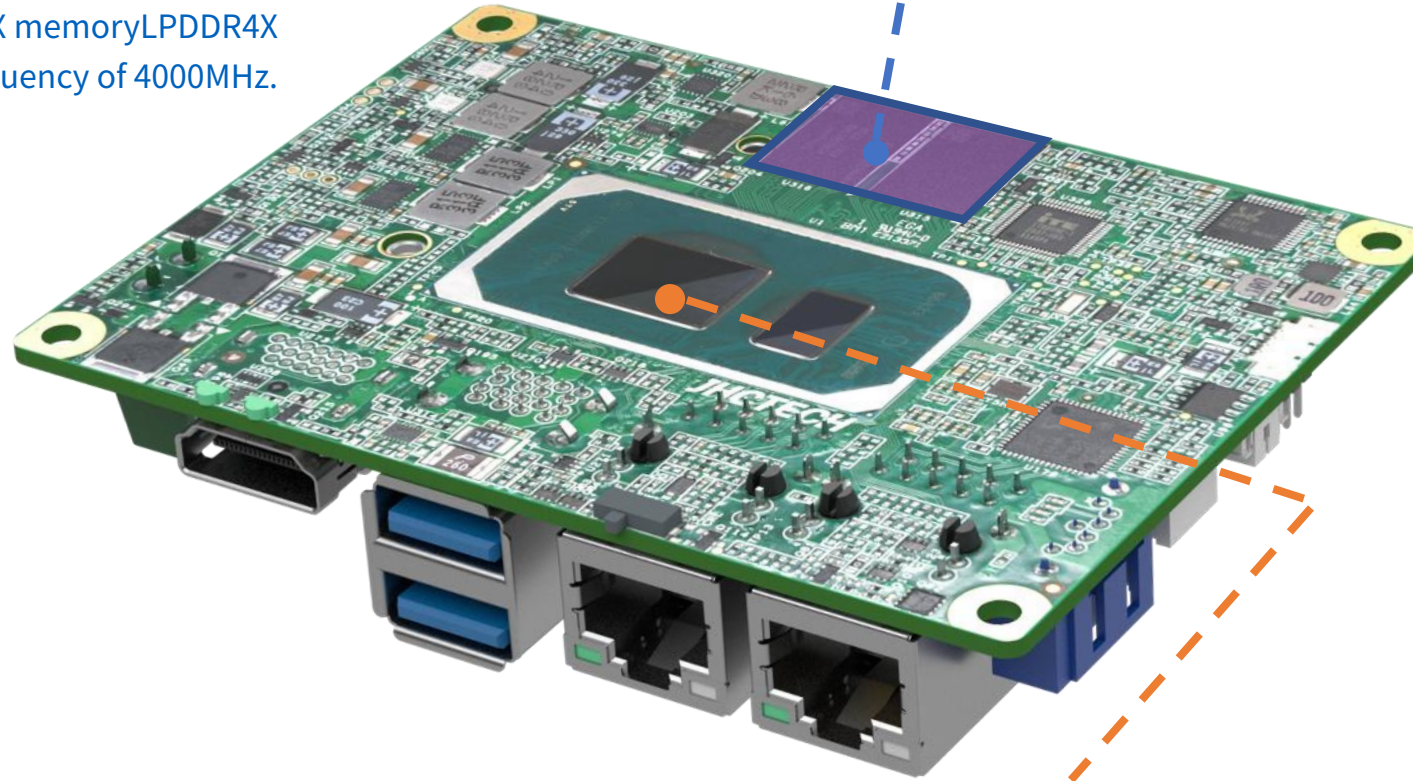
*Practical and
Efficient Heat
Dissipation Design*

9

Smaller Form Factor

Support High-Frequency Memory - - -

Dual-channel LPDDR4X memoryLPDDR4X
Maximum frequency of 4000MHz.



Comprehensive CPU performance enhancement

The 11th Gen Intel processor

Tiger Lake-U ULT SOC
Integrated System on-chip (SOC) solution
designed for ultra-low power consumption and fanless
passive cooling.

Single-thread
performance
improvement

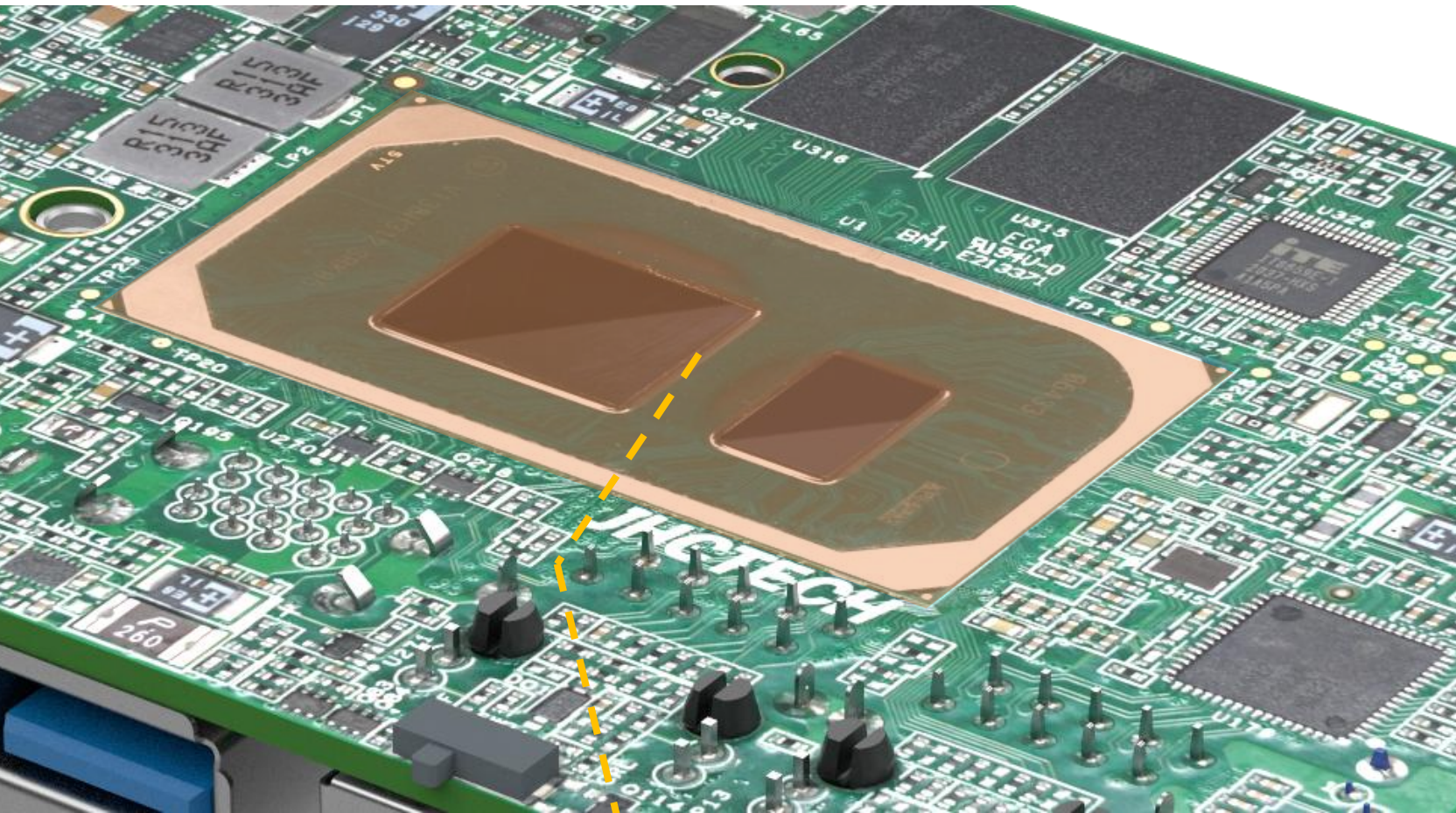
23%

Multi-thread performance
improvement

19%

(Whiskey lake - data sourced from Intel)





Ultra-High-Performance Integrated Graphics



Dual independent display, 1*HDMI(4K)+1*eDP

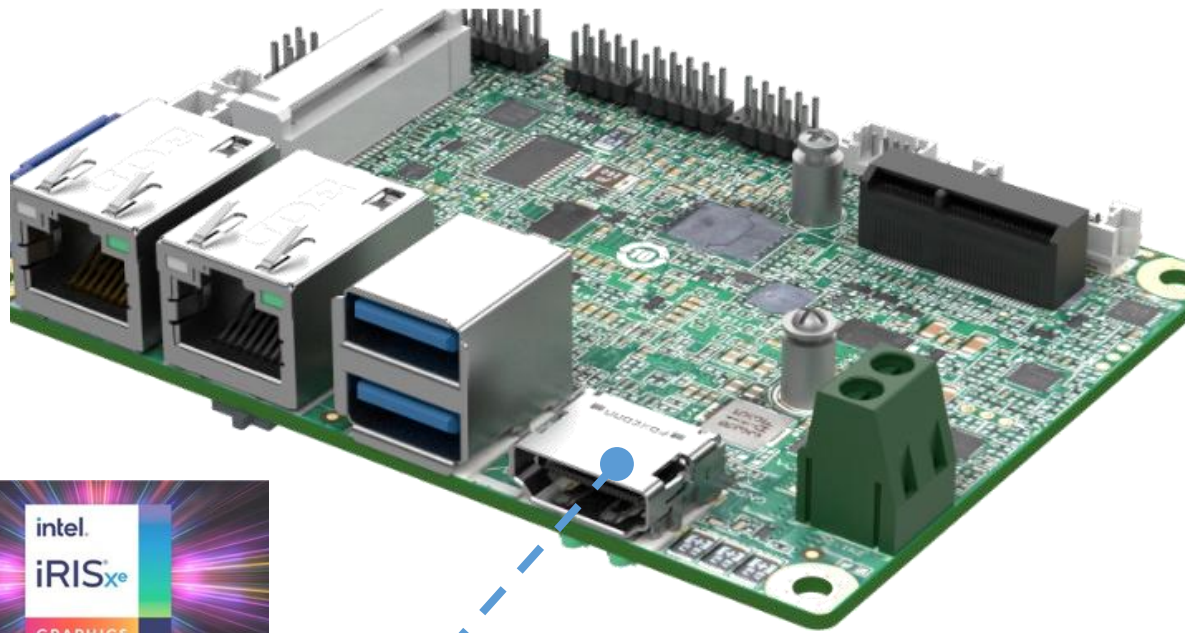
Support Intel Deep Learning Boost

Inference computing power theory can reach 8TOPS

Low-power neural network acceleration

Intel Iris Xe Graphics(INTEL DX1 GPU)

Core i3/Pentium/Celeron processors integrate the UHDG super graphics, while Core i5/i7 processors integrate the Iris Xe graphics with computing power of 3-4 TOPS, providing performance equivalent to NV 1030/1050.

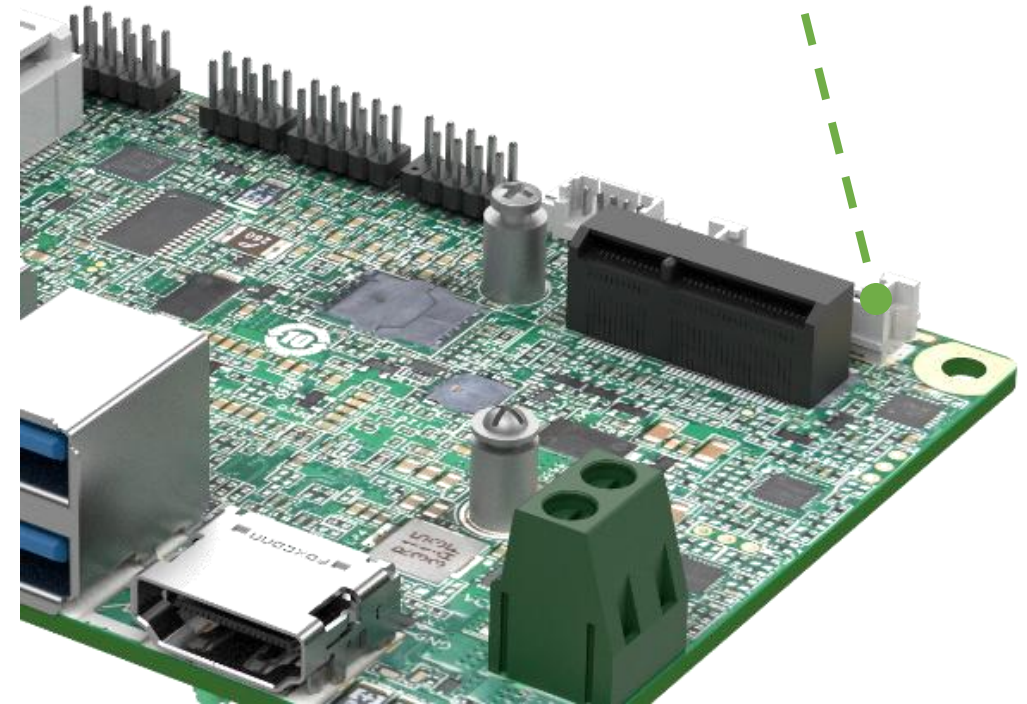


HDMI Display

1HDMI(4K), supporting a maximum resolution of 4096*2304@60Hz.

eDP Display

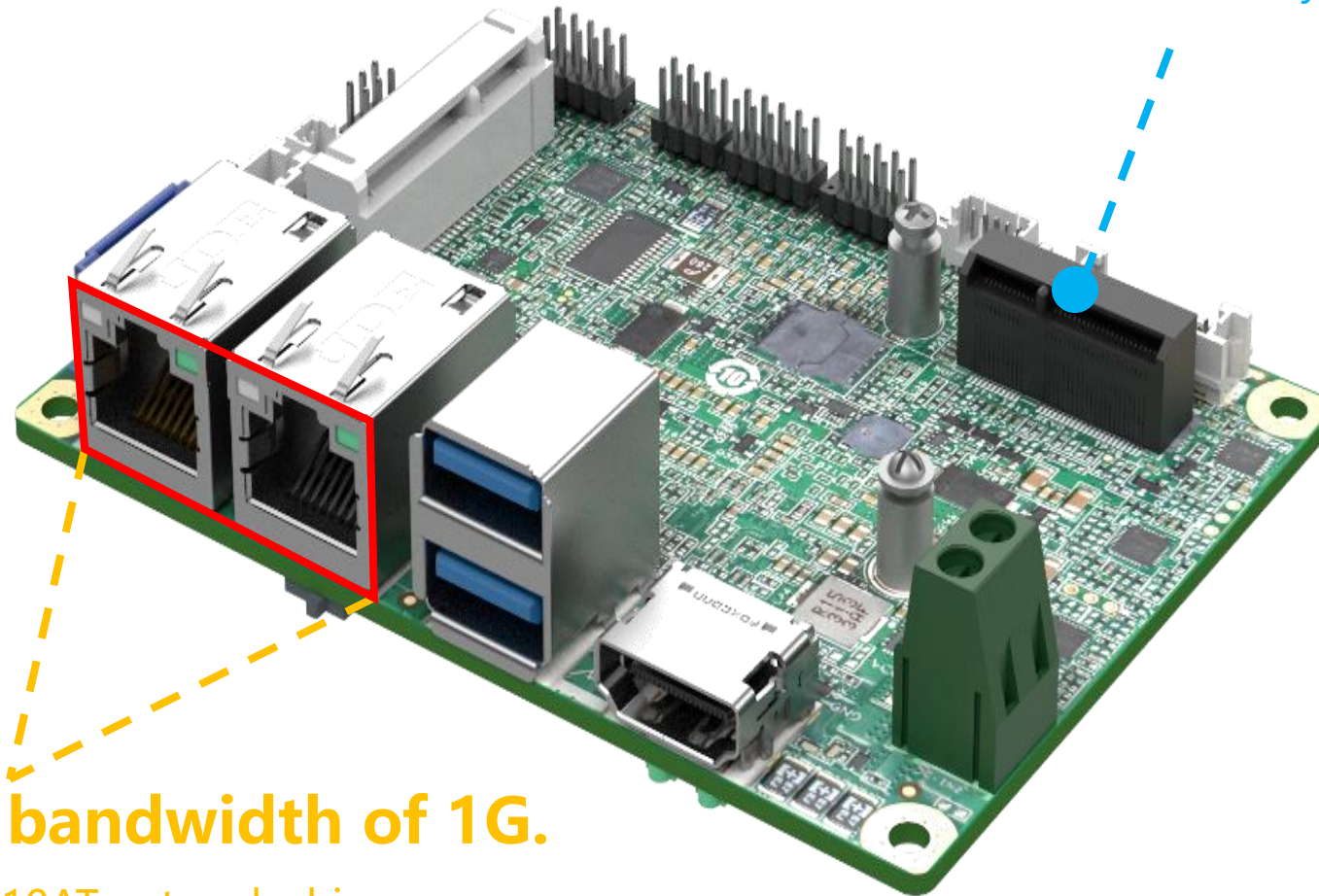
Supporting eDP LCD screen display with a maximum resolution of 4096*2304@60Hz.



★ Dual Independent Displays

M.2

M.2 2230 E-key supports Wifi6 and Bluetooth



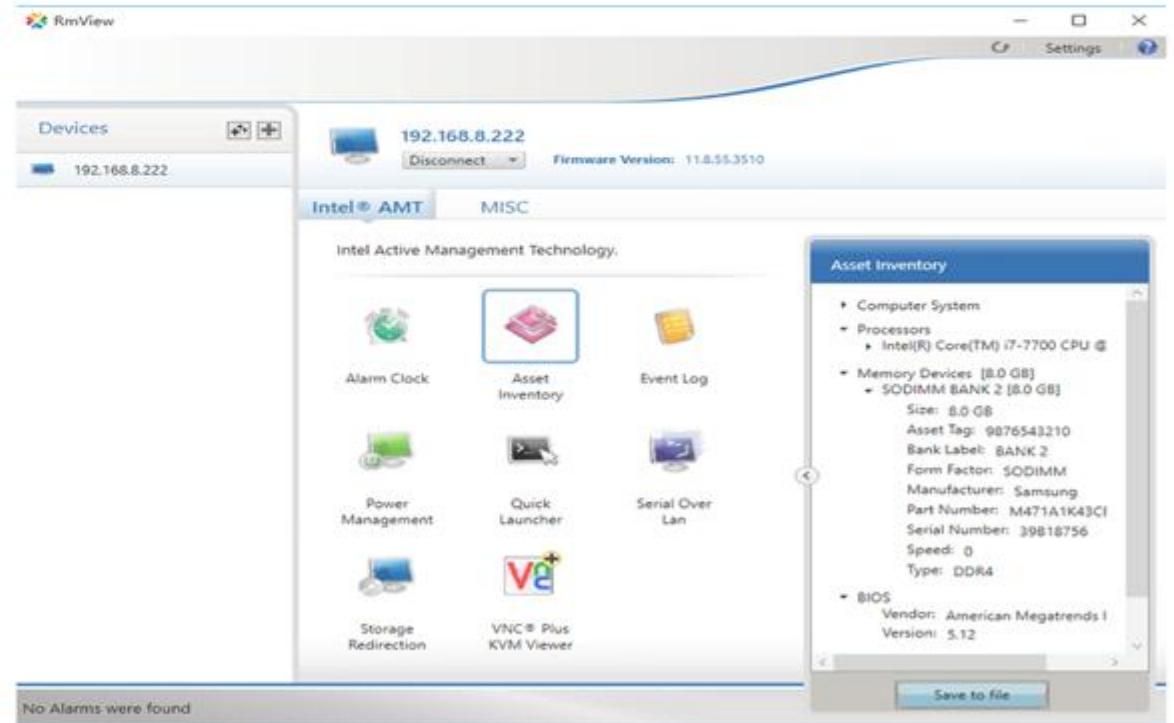
Single port bandwidth of 1G.

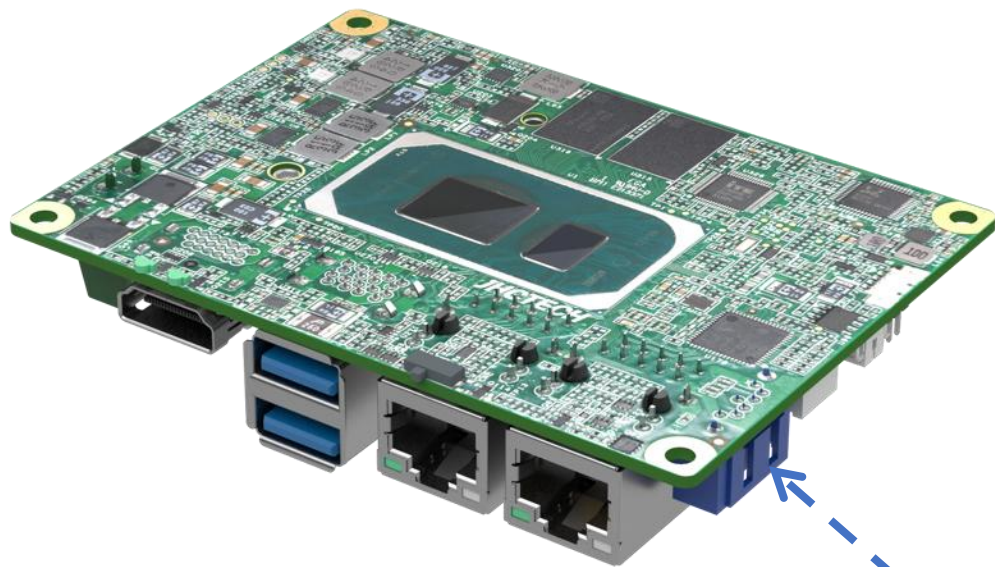
1* I219LM & 1* I210AT network chips.



**Higher network bandwidth and
more network functions**

I219LM network chip+Core I5/I7 Emmbded CPU



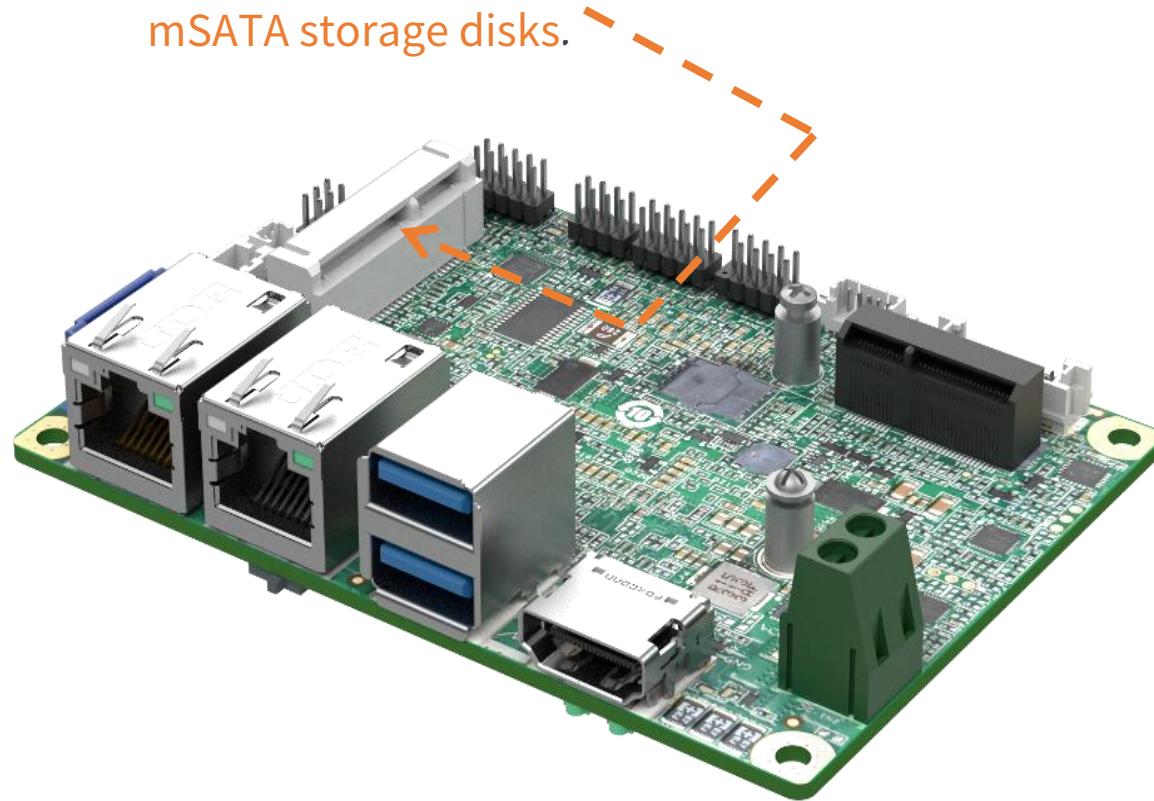


1*SATA3, 6.0Gbps HDD/SSD

★ 1+1 Dual Storage

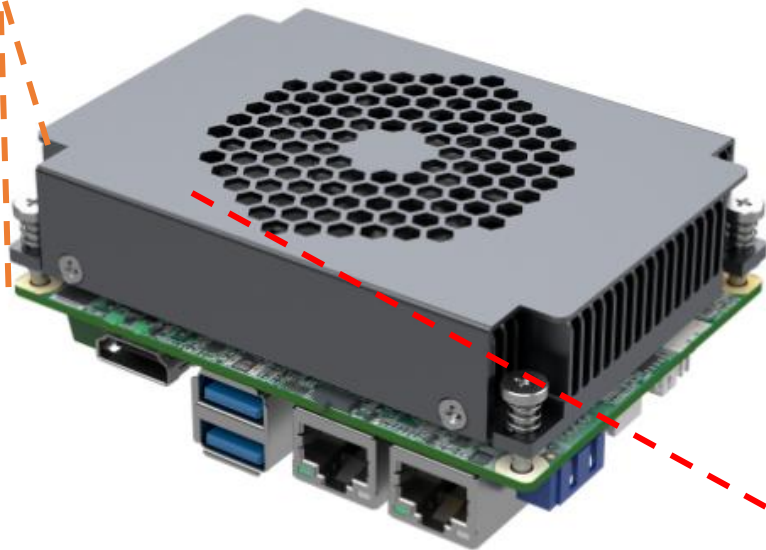
Full-height Mini PCIe slots

It can automatically detect PCIe and SATA signals and identify them as PCIe functional modules or mSATA storage disks.

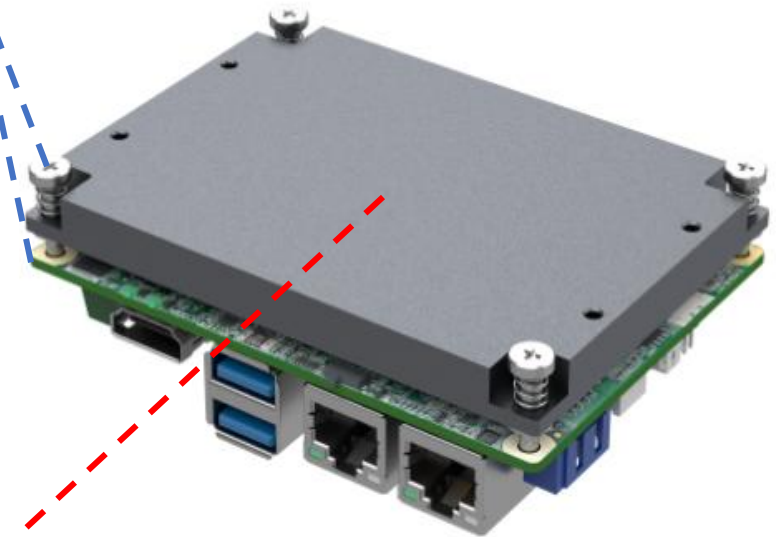


The thickness of the motherboard after installation is 32.7mm

The total thickness of the motherboard after installation is 41.9mm.



With fan and ultra-thin heatsink

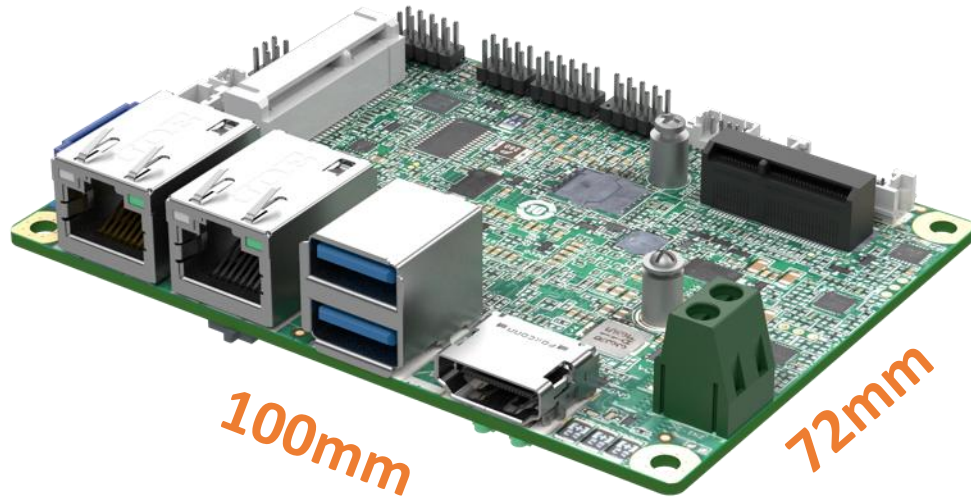


Fanless heatsink

Dual memory cooling design

Effectively increase the memory's operating temperature by 3-5°C

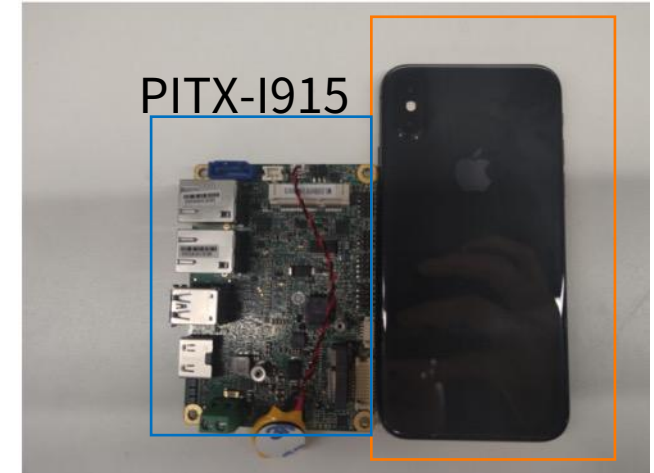
★ Smaller Form Factor



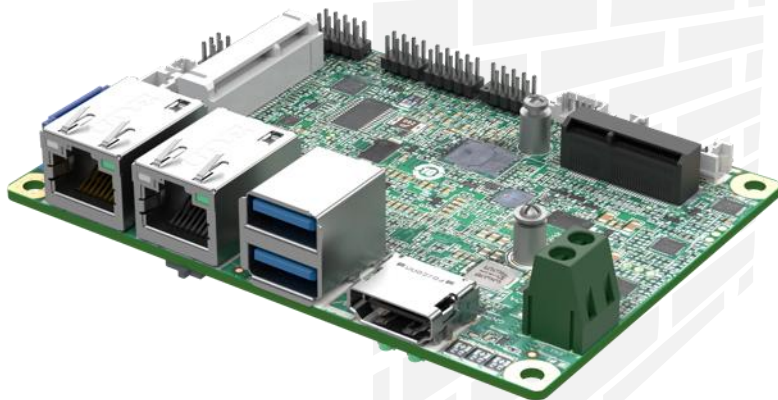
Standard 2.5-inch single board size: 100*72mm

The height of PITX-I915 board is only 17.9mm

iPhone XS

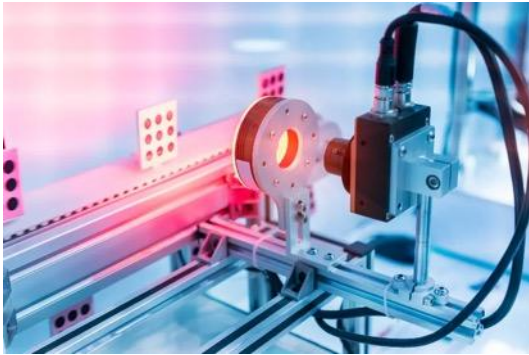


03 PITX-I915 Ordering Info



Model	Specifications
PITX-I915-S001	Intel® Core I3-1115G4, 2.5-inch embedded SBC, onboard memory LPDDR4X, 2*LAN, 2*USB3.2, 2*USB2.0, 1*M.2 2230 E-Key, 1* Full size mini PCIe/mSATA, 2*COM, 1*HDMI, 1*eDP, 1*Audio, 1*SATA3.0, DC 12V
PITX-I915-S002	Intel® Core I5-1135G7, 2.5-inch embedded SBC, onboard memory LPDDR4X, 2*LAN, 2*USB3.2, 2*USB2.0, 1*M.2 2230 E-Key, 1* Full size mini PCIe/mSATA, 2*COM, 1*HDMI, 1*eDP, 1*Audio, 1*SATA3.0, DC 12V
PITX-I915-S003	Intel® Core I7-1165G7, 2.5-inch embedded SBC, onboard memory LPDDR4X, 2*LAN, 2*USB3.2, 2*USB2.0, 1*M.2 2230 E-Key, 1* Full size mini PCIe/mSATA, 2*COM, 1*HDMI, 1*eDP, 1*Audio, 1*SATA3.0, DC 12V
PITX-I915-S004	Intel® Celeron 6305, 2.5-inch embedded SBC, onboard memory LPDDR4X, 2*LAN, 2*USB3.2, 2*USB2.0, 1*M.2 2230 E-Key, 1* Full size mini PCIe/mSATA, 2*COM, 1*HDMI, 1*eDP, 1*Audio, 1*SATA3.0, DC 12V
Radiator with Fan(Optional)	Pure copper+aluminium alloy heat radiator, four-wire intelligent temperature control ball-bearing fan, silent ultra-thin design, fan cable 85mm, size: 100*72*17.9mm (After installation, the total thickness of the motherboard is 41.9mm)
Fanless Radiator(Optional)	Pure copper+aluminium alloy heat radiator, size: 100*72*17.9mm (After installation, the total thickness of the motherboard is 32.7mm)
Serial ports cable	DB9 male, 300mm
SATA cable	(7+15)pin SATA power supply +SATA data cable, 300mm
Audio cable	Three in a row(Line-out/Line-in/Mic) 3.5mm phone jack, 300mm
USB2.0 cable	Two in a row Type A, 300mm
Screw jumper package	Two M2 screws +Two jumper caps (spare)

04 PITX-I915 Target Market



Machine Vision

(3C Machine Vision, Logistics Vision Sorting, Photovoltaic Vision Inspection)



AGV/ARM

(Unmanned Delivery Vehicle, Logistics Sorting AGV, Video Inspection AGV, Firefighting Robot)



Medical Testing

(Ultrasound, Urinalysis, Hematology Analyzer, Clinical Chemistry Analyzer, Maternal and Child Monitoring Device)



Industrial Manufacturing

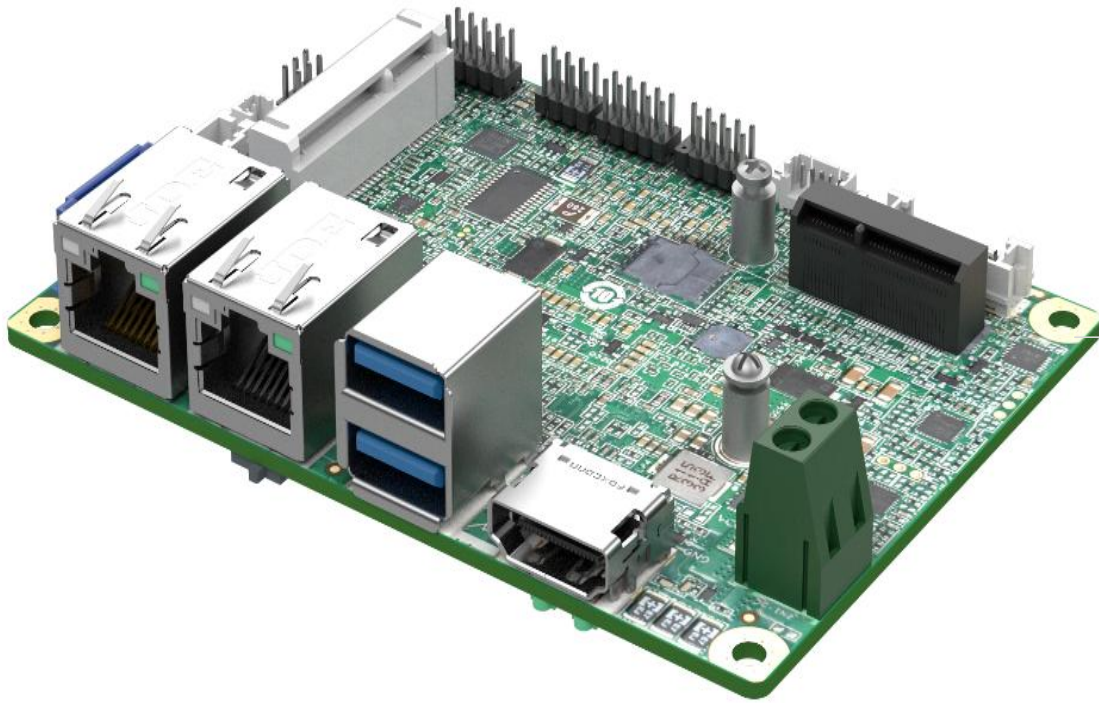
(Industrial Robots, Dispensing Machines, 3D Printers, Data Acquisition Gateways, etc.)



Smart Cities and Security

(Charging Stations and Battery Swap Stations, ETC Parking, Community Access Control Management, Mobility and Libraries, etc.)

05 PITX-I915 Product Schedule



EV Phase Early September 2023

PV phase Late November 2023



02

Q&A

Q1: How many SATA drives does SIGM-3550 support?

A1: It can support 4*2.5" SATA at most, and also it can support 1*msata at the same time. It can support the RAID function.

Q2: What is the size of the onboard memory in the PITX-I915

A2: For I3/I5 onboard 8G memory LPDDR4X, i7 onboard 16G memory LPDDR4X.

Stay in Touch



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