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New Product Launch Announcement

Time	Agenda
16:00 ~ 16:05	**Opening** Sibyl LIAO, Marketing Manager, Shenzhen Office
16:05 ~ 16: 25	**Intel Ultra Platform Industrial Single Board Computer ECM-I919** Colin Cheng, Product Manager, Shenzhen Office
16:25~ 16:35	**Q&A**

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Intel Ultra Platform

Industrial Single Board Computer ECM-I919

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01 ESBC Roadmap

02 ECM-I919 Product Features

03 ECM-I919 Ordering Information

04 ECM-I919 Market Applications

05 ECM-I919 Launch Schedule

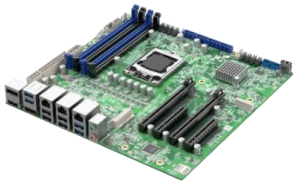
ESBC Single Board Computer Roadmap



ECM-I910
- Ø Whiskey lake-U



MATX-I953-T001
- Ø Skylake-S
- Ø Coffee lake-S



MATX-I961
- Ø Coffee lake-S



ECM-I718
- Ø Elkhart lake



ATX-I971
- Ø Comet lake-S



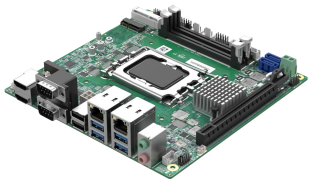
ECM-I913
- Ø Tiger lake-U



PITX-I915



ATX-I980
- Ø Alder lake-S/
- Ø Raptor Lake-S
- Ø Bartlett lake-S



MITX-I984

New product



ECM-I919
- Ø Meteor lake



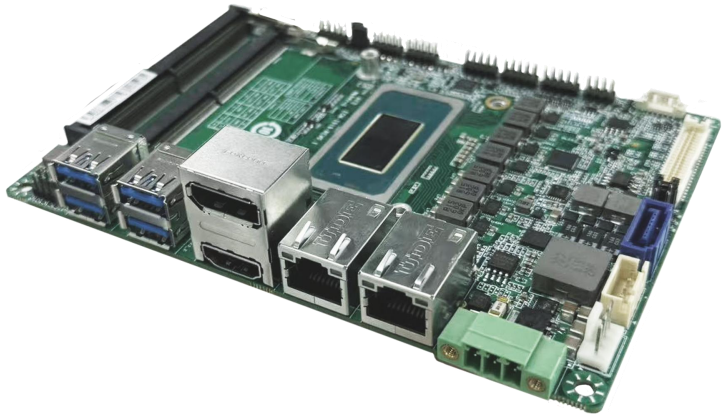
ATX-I990
- Ø Arrow lake-S

- ü Covers multiple standard form factors
- ü Standard mounting holes
- ü PCIe, CPCI, PCI and other expansion slots
- ü Tiered processor performance options
- ü Meets diverse customer requirements

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02 ECM-I919
Product Features



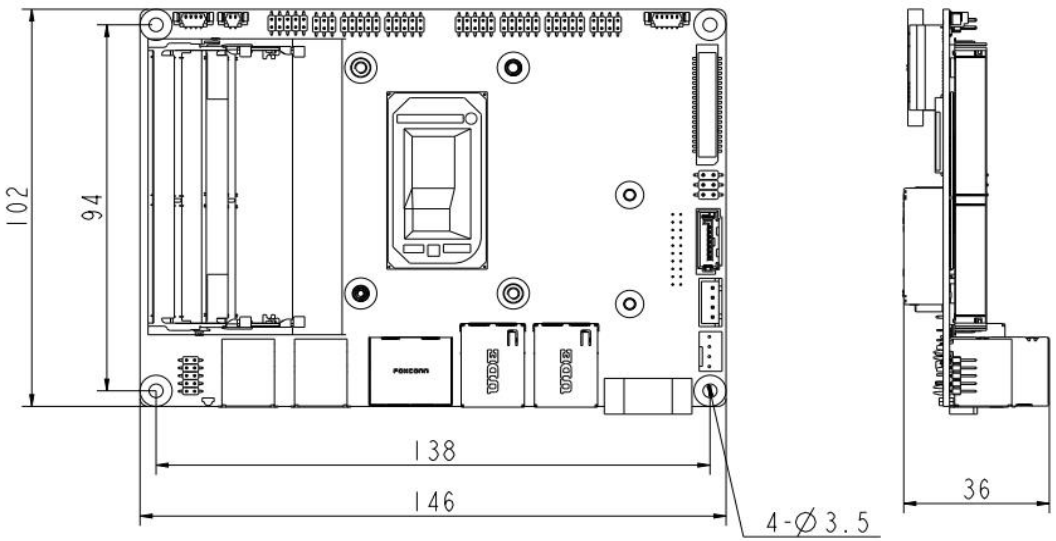
CPU	Intel Meteor lake Ultra 5 125U/125H
Memory	DDR5 SODIMM dual-channel
LAN	1× I210AT + 1× I219V, dual Gigabit Ethernet
Display	1×DP,1×HDMI,1×eDP(LVDS)
USB	4×USB3.2,2×USB2.0
COM	1×RS232/422/485,3×RS232
Audio	Line Out + Line In + Mic (ALC897)
Other Interfaces	1×8-bit DIO,1×SM Bus
Expansion	1×M.2 2230 E-key, 1×M.2 2280 M-key(PCIe4.0 X4), 1× Mini PCIe (PCIe x1 or SATA, USB 2.0) with SIM
Storage	1×SATA3.0 HDD/SSD,1×M.2 NVMe, 1×Mini PCIe(mSATA)
Power	DC IN 12V/19V/24V DC power input

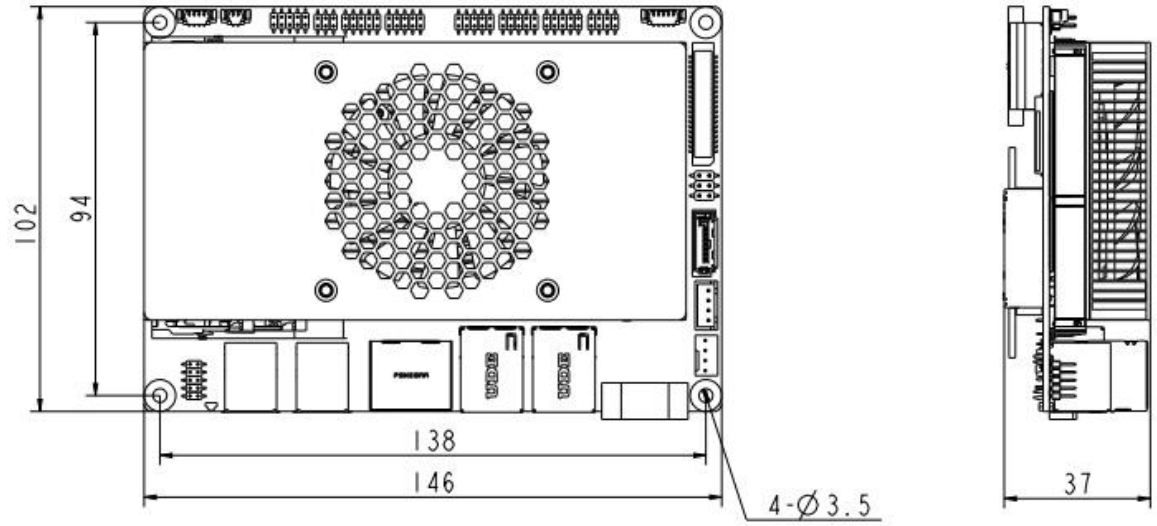
JHCTECH ECM-I718/I910/I913/I919 Specification

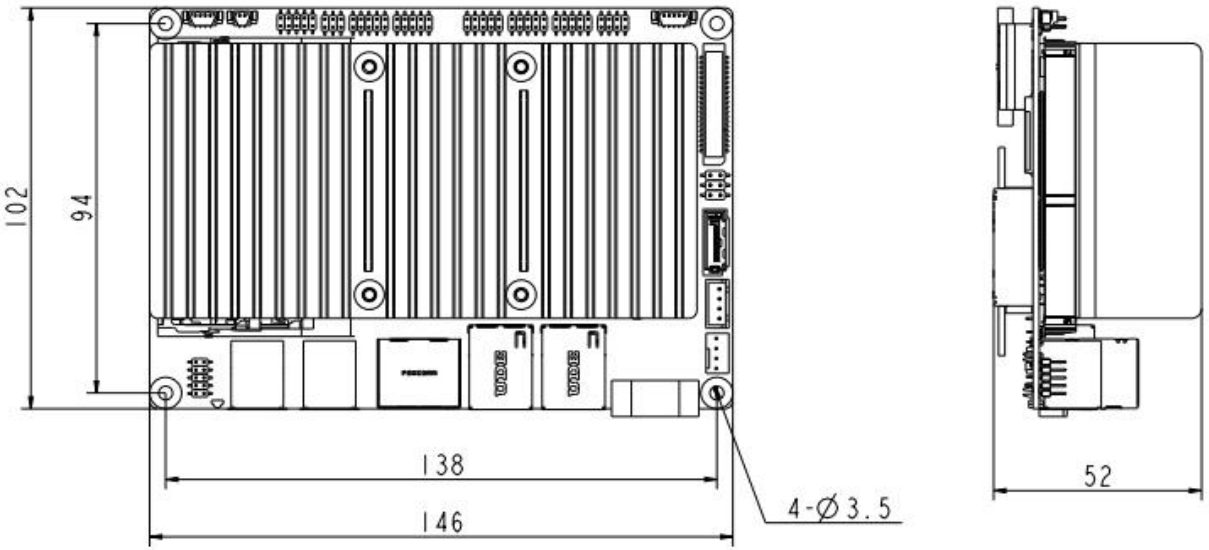
	ECM-I919	ECM-I913-(WP)	ECM-I910-(WP)	ECM-I718-(WP)
CPU	Intel Meteor lake- U/H	Intel Tiger lake-U Core I3/I5/I7 /Celeron	Intel Whiskey lake-U Core i3/i5/i7/Celeron	Intel Elkhart lake Celeron J6412/N6210
Memory	2× DDR5 5600MHz SODIMM, up to 96GB	2×DDR4 3200MHz SODIMM, Up to 64GB	2×DDR4 2400MHz SODIMM, Up to 32GB	1×DDR4 3200MHz SODIMM, Up to 32GB
iGPU/NPU	Intel® ArcTM graphics or Intel® Graphics Intel® AI Boost NPU UP 35T	Intel® Iris® Xe Graphics UP 3T	Intel® 8th UHD Graphics	Intel® 10th UHD Graphics
LAN	1×I210AT+1×I219V	1×I210AT+1×I219LM	1×I226V+1×I219LM	2×Realtek 8111H
Display	1×HDMI2.1, 1×DP2.1,1×eDP1.4b(LVDS)	1×DP1.4,1×HDMI2.0,1×LVDS	1×HDMI1.4,1×DP1.4,1×eDP1.4b	1×DP1.4,1×HDMI2.0,1×LVDS
USB	4×USB3.2, 2×USB2.0	4×USB3.2, 2×USB2.0	4×USB3.0,2×USB2.0	4×USB3.1, 2×USB2.0
COM / DIO	1×RS232/422/485+3×RS232,8 bit DIO	2×RS232/422/485+2×RS232,8bit DIO		1×RS232/422/485+3×RS232,8bit DIO
Audio	F-Audio: 1× Line Out + 1× Line In + 1× Mic (ALC897)			
Expansion	1×M.2 E-key 2230, 1× Mini PCIe with SIM slot (auto-detects mSATA) 1×M.2 M-Key 2280	1×M.2 2230 E-key 1× M.2 3052 B-key with SIM 1× full-length Mini PCIe, optional mSATA	1×M.2 2230 E-Key 1× Mini PCIe with SIM slot, optional mSATA	1×M.2 2230 E-key 1× M.2 3052 B-key with SIM
Storage	1×SATA3, 6.0Gbps,1×M.2(4.0 PCIeX4 NVME)	1× SATA3, 6.0 Gbps; 1× mSATA (mutually exclusive with Mini PCIe)		1×SATA3, 6.0Gbps,1×mSATA
Security	TPM 2.0 (optional)	No TPM		
Power	DC 12/19/24V input	Without WP: DC 12V; with WP suffix: DC 9–36V		

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Dimensions







3.5-inch: 146 × 102 × 36 mm

With fan heatsink: 37 mm

With fanless heatsink: 52 mm

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Product Design Highlights

1 New Architecture Processor	2 Low Power, High Efficiency	3 Ultra-high-performance iGPU	4 High-frequency Memory Support
5 Rich I/O	6 Triple Storage	7 Practical, Efficient Thermal Design	8 Industrial-grade DC Power

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Intel Meteor Lake U-SKU

Spec \ Processor Model	Ultra 7 165U	Ultra 7 155U	Ultra 5 135U	Ultra 5 125U
CPU Cores	12 (2+8+2)	12 (2+8+2)	12 (2+8+2)	12 (2+8+2)
CPU Threads	14	14	14	14
Smart Cache (LLC)	12 MB	12 MB	12 MB	12 MB
P-core (performance core) max turbo frequency	Up to 4.9 GHz	Up to 4.8 GHz	Up to 4.4 GHz	Up to 4.3 GHz
E-core (efficient core) max turbo frequency	Up to 3.8 GHz	Up to 3.8 GHz	Up to 3.6 GHz	Up to 3.6 GHz
Max GPU Frequency	Up to 2.0 GHz	Up to 1.95 GHz	Up to 1.9 GHz	Up to 1.85 GHz

Intel Meteor Lake H-SKU

Spec \ Processor Model	Ultra 7 165H	Ultra 7 155H	Ultra 5 135H	Ultra 5 125H
CPU Cores	16 (6+8+2)	16 (6+8+2)	14 (4+8+2)	14 (4+8+2)
CPU Threads	22	22	18	18
Smart Cache (LLC)	24 MB	24 MB	18 MB	18 MB
P-core max turbo frequency	5.0 GHz	4.8 GHz	4.6 GHz	4.5 GHz
E-core max turbo frequency	3.8 GHz	3.8 GHz	3.6 GHz	3.6 GHz
Max GPU Frequency	2.3 GHz	2.25 GHz	2.2 GHz	2.2 GHz

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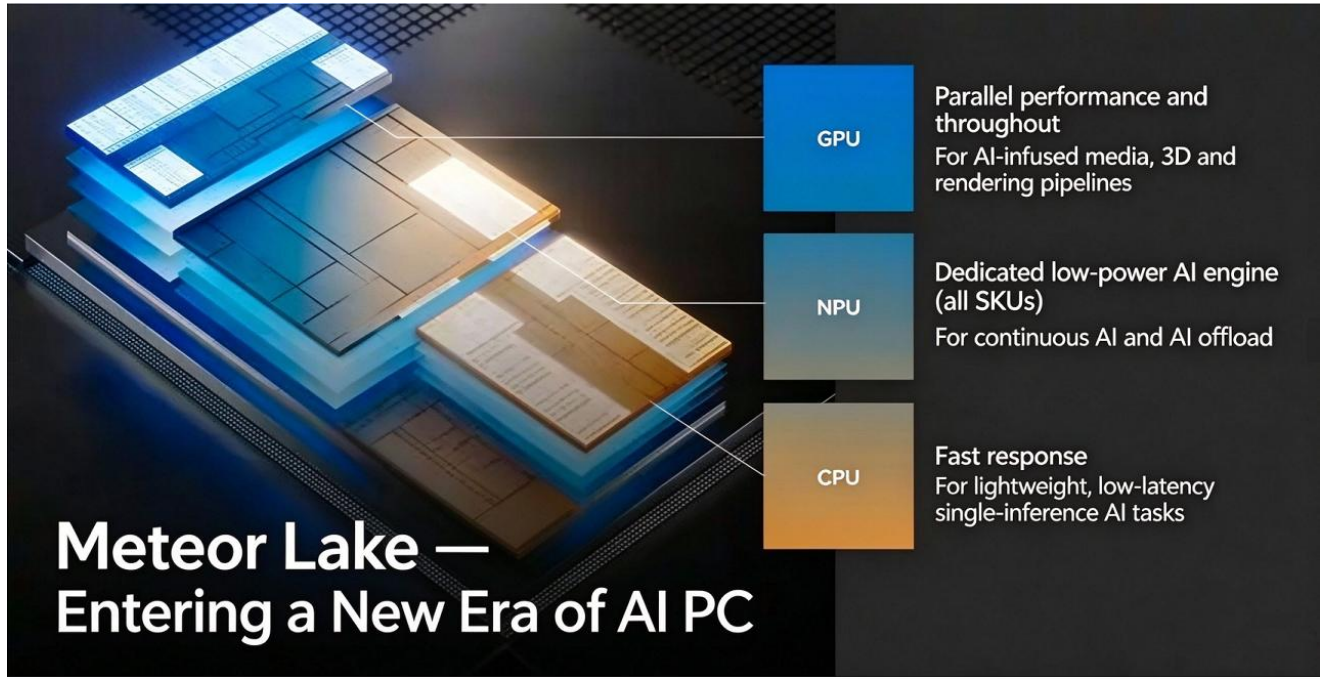
★ New Architecture Processor

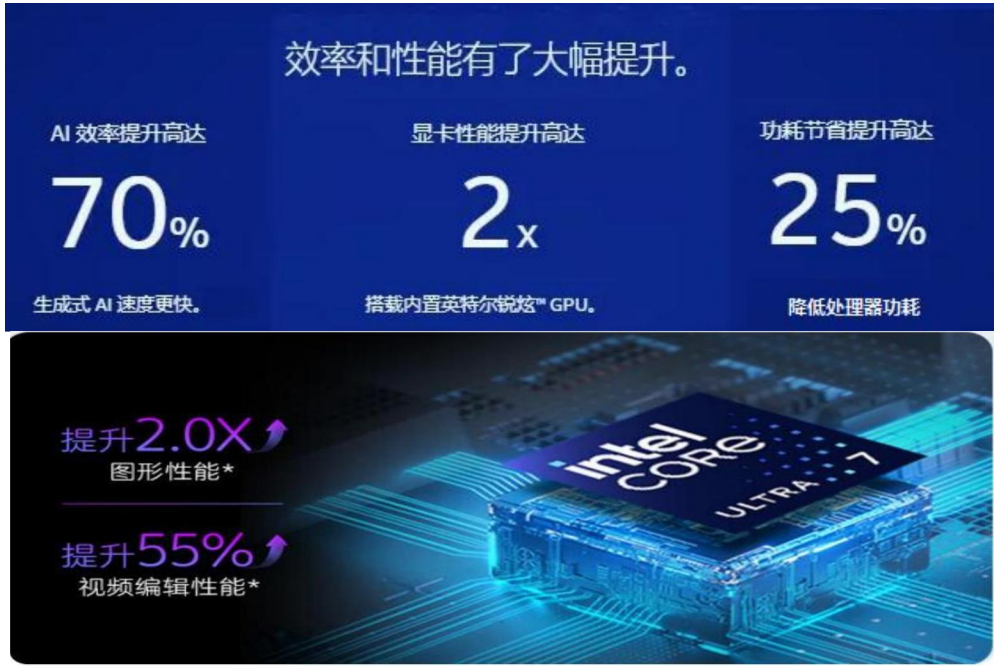
ECM-I919 Product Highlights

Intel Meteor Lake SoC CPU

1) Based on Intel 4nm process technology, compared with Intel 13th/14th Gen mobile CPUs, AI efficiency is up to 70% higher, iGPU performance is 2× faster, and power consumption is 25% lower.

2) Supports Windows 10, Windows 11 and Linux operating systems, suitable for efficiency and safety-critical industrial and transportation systems.





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ECM-I919 Product Highlights

★Low Power, High Efficiency

CPU+iGPU+NPU

Ø Ultra 125H CPU 4TOPS+ graphics iGPU 18TOPS + NPU 11TOPS
= 33 TOPS (INT8) combined AI performance, 28W power, 1.2 TOPS/W efficiency

Ø Ultra 125U CPU 3TOPS+graphics iGPU 7TOPS + NPU 11TOPS
= 21 TOPS (INT8) combined AI performance, 15W power, 1.4 TOPS/W efficiency



CPU+iGPU+NPU
All-IN-ONE SoC

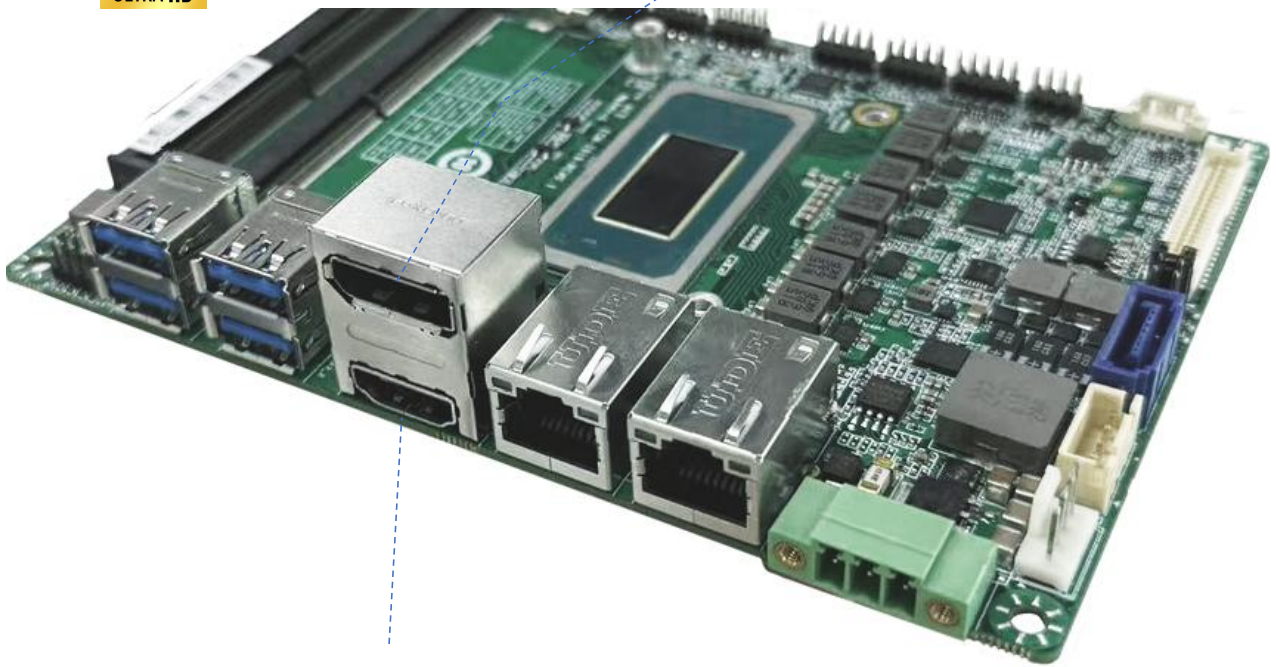
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ECM-I919 Product Highlights

HDMI / DP Display

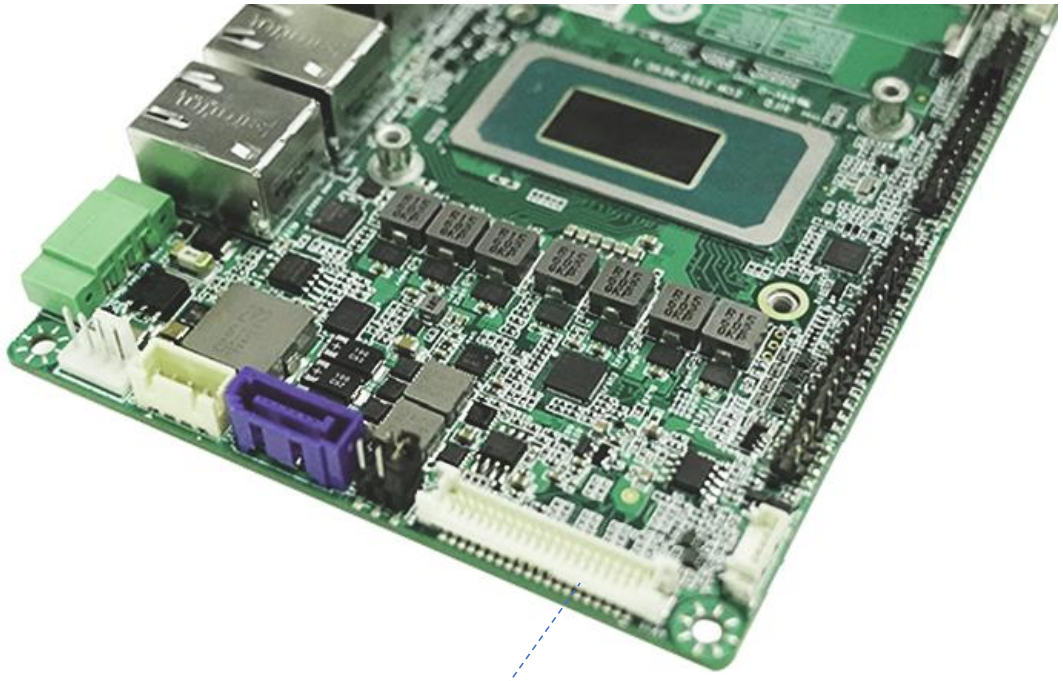
High-performance iGPU and triple independent displays

8K ULTRA HD 1× DP 1.4 (8K), max resolution 7680×4320@60Hz



1× HDMI 2.1 (4K), max resolution 4096×2304@60Hz

eDP (LVDS) Display

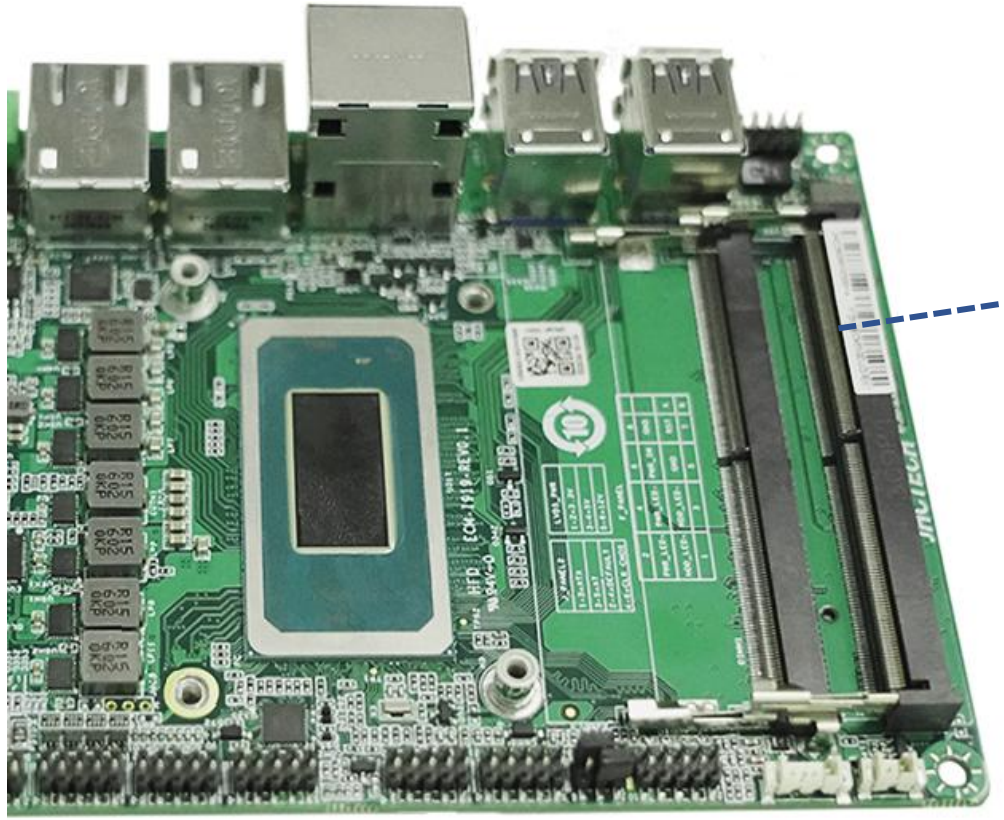


Default eDP display up to 3820×2400@120Hz;
BOM option for LVDS, up to 1920×1200@60Hz

Processor-integrated high-performance graphics

4–7× Xe cores, H.265/264 and AV1 encode/decode, Intel® DL Boost and OpenVINOTM, WindowsML, DirectML, ONNX RT, WebGPU

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ECM-I919 Product Highlights

High-frequency Memory Support

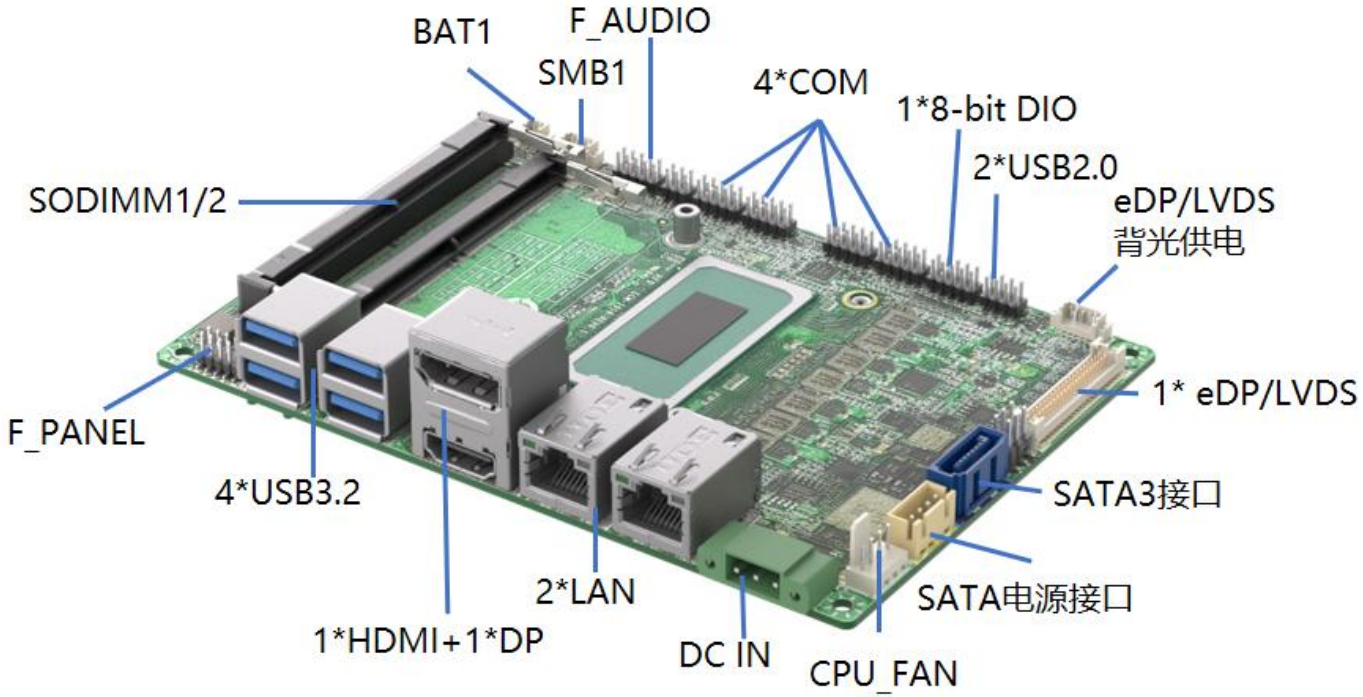
Dual-channel DDR5 5600MHz

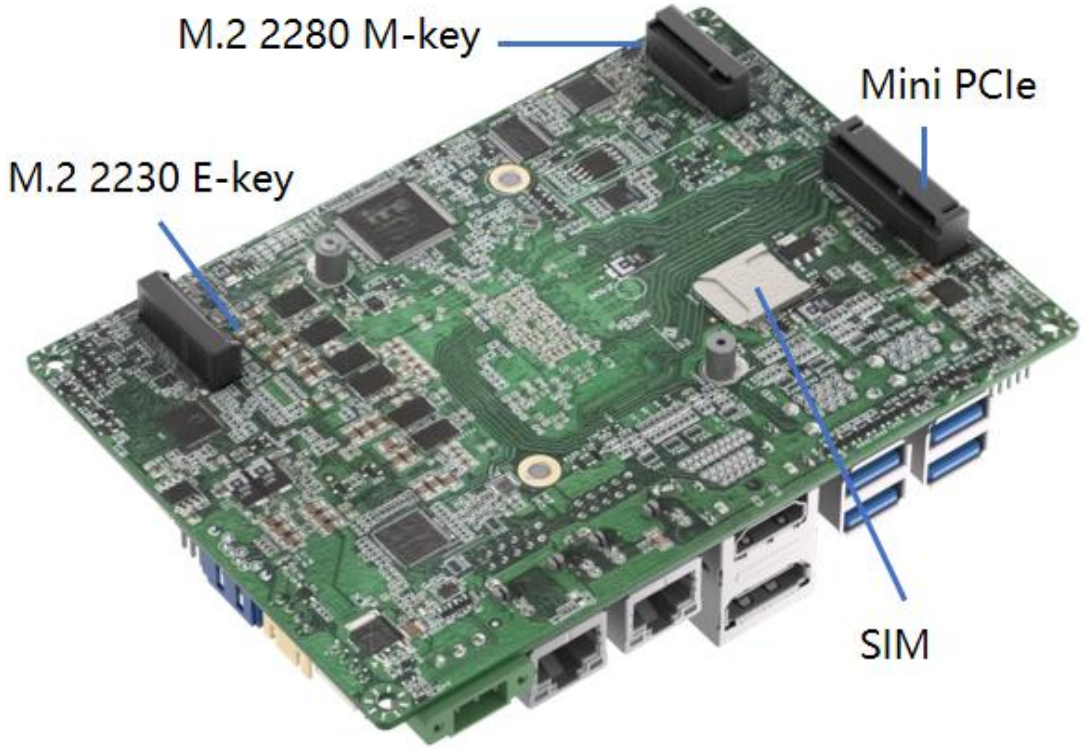
Metric \ Memory	DDR4 3200 CL16 dual-channel	DDR5 5600 dual-channel	Improvement
Theoretical Bandwidth	≈51.2 GB/s	≈89.6 GB/s	+75%
AIDA64 Read	≈48 GB/s	≈65 GB/s	+35%
AIDA64 Write	≈46 GB/s	≈63 GB/s	+37%
AIDA64 Copy	≈45 GB/s	≈58 GB/s	+29%

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1×DP+1×HDMI+1×eDP(LVDS),
Front Audio(Line in/Line out/Mic)
2×G-LAN, 4×USB3.2+2×USB2.0
1× RS232/422/485+3×RS232 , 8bit DIO;

ECM-I919 Product Highlights





Comprehensive I/O

1× Mini PCIe (PCIe + USB 2.0) with SIM, supports 4G LTE or 5G NR
1× M.2 2230 E-key, supports Wi-Fi 7 and Bluetooth 5.4

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1+1+1 Storage

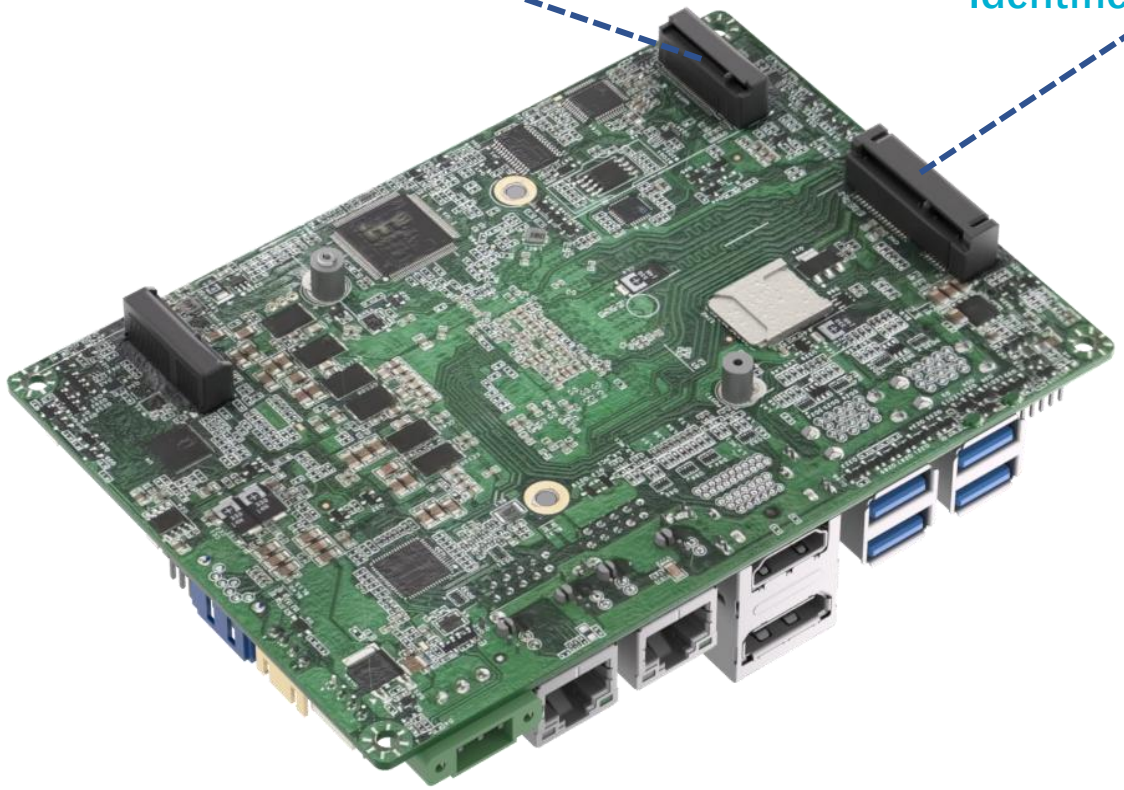
M.2 2280 M-Key (PCIe 4.0 x4) slot

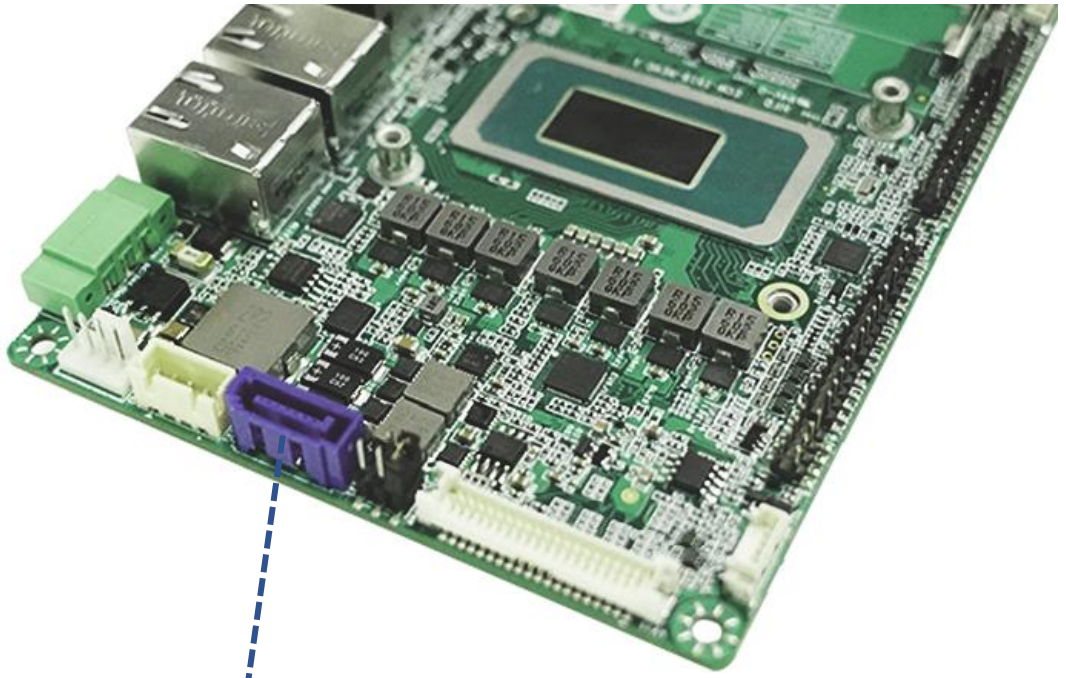
Supports high-speed NVMe storage

Full-length Mini PCIe slot

Auto-detects PCIe and SATA signals

Identifies as PCIe module or mSATA

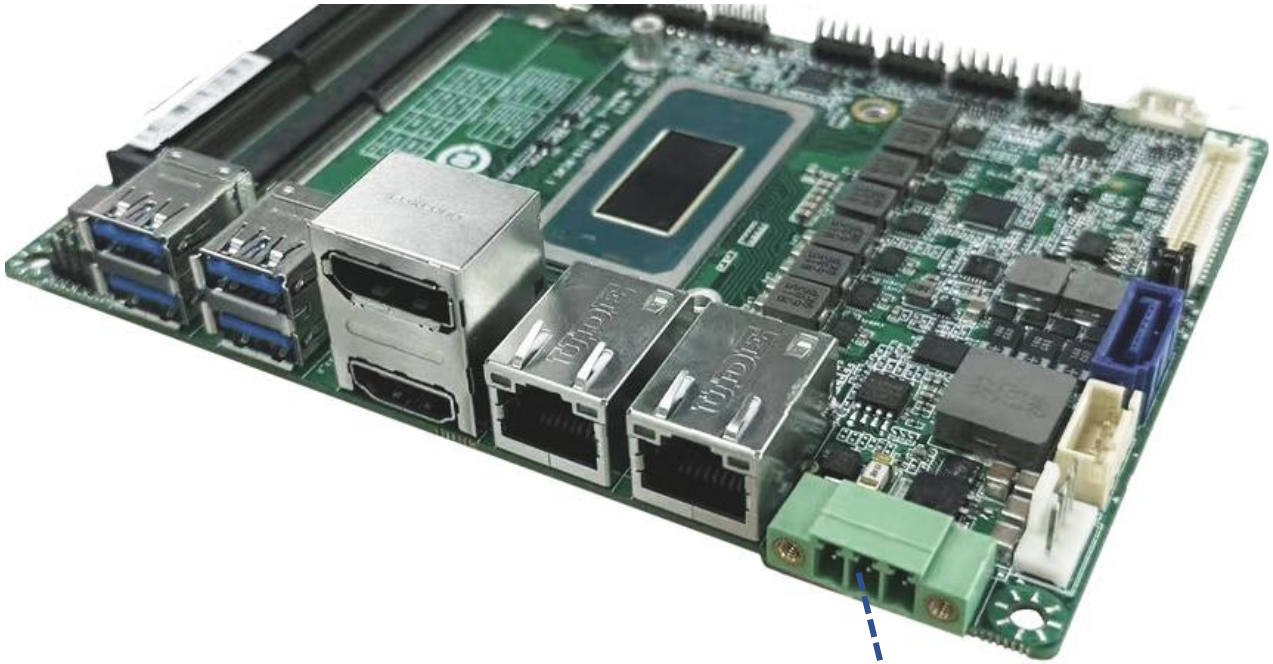




1×SATA3, 6.0Gbps HDD/SSD

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Industrial-grade DC Power Design



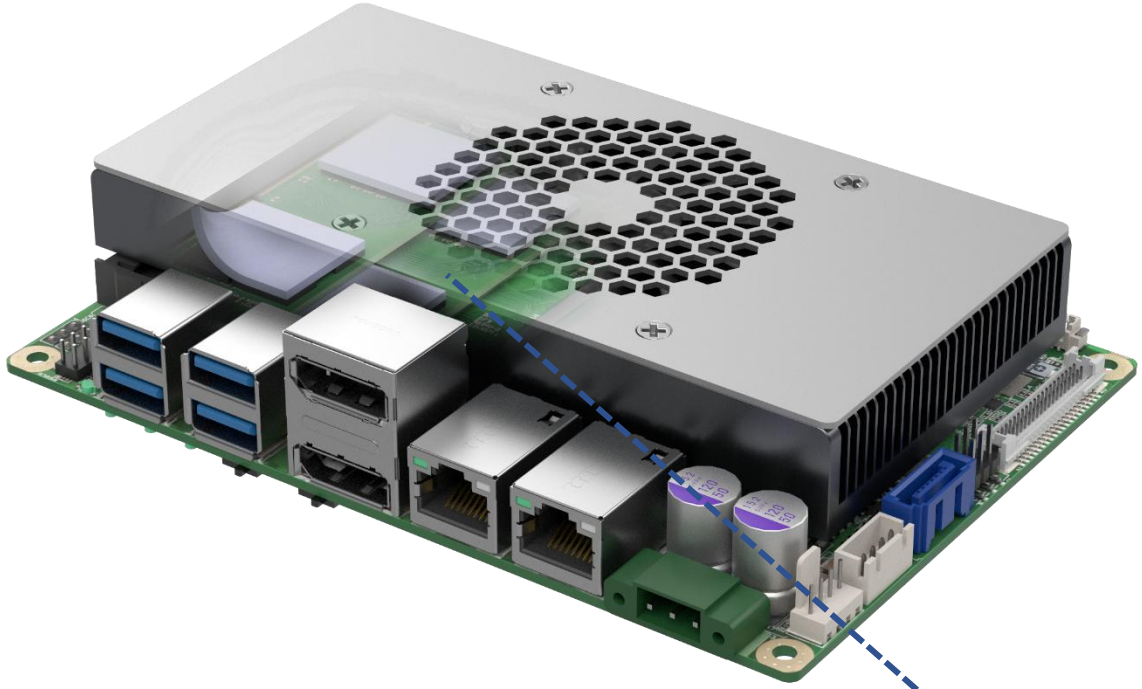
DC 12V/19V/24V input

Industrial-grade synchronous step-down POL power IC
Supports DC 12V and DC 15–24V input

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Practical, Efficient Thermal Design

Standard: slim fan heatsink





Dual-memory thermal design
Improves memory operating
temperature by 3–5°C

Optional fanless high-fin heatsink

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03 ECM-I919
Ordering Information

Model	Description
ECM-I919-S001	3.5-inch embedded single board computer, Intel® Core Ultra 5 125U CPU, 2× SODIMM DDR5, 2× LAN, 4× USB 3.2, 2× USB 2.0, 1× M.2 2230 E-Key, 1× M.2 2280 M-Key, 1× full-size Mini PCIe (mSATA), 4× COM, 1× 8-bit DIO, 1× DP, 1× HDMI, 1× eDP (LVDS), 1× SM BUS, 1× F-Audio, 1× SATA3.0, DC-IN 12/19/24V
ECM-I919-S002	3.5-inch embedded single board computer, Intel® Core Ultra 5 125H CPU, 2× SODIMM DDR5, 2× LAN, 4× USB 3.2, 2× USB 2.0, 1× M.2 2230 E-Key, 1× M.2 2280 M-Key, 1× full-size Mini PCIe (mSATA), 4× COM, 1× 8-bit DIO, 1× DP, 1× HDMI, 1× eDP (LVDS), 1× SM BUS, 1× F-Audio, 1× SATA3.0, DC-IN 12/19/24V
With fan heatsink (optional)	Copper + aluminum alloy heatsink, 4-wire smart temperature-controlled ball-bearing fan, quiet ultra-slim design, 100mm fan cable, dimensions: 137×70×24.2 mm (total board thickness after installation: 37 mm)
Fanless heatsink (optional)	Copper + aluminum alloy heatsink, dimensions: 137×70×39.3 mm (total board thickness after installation: 52 mm)

Accessory Pack

Standard configuration			Selectinve configuration	
Accessory	description	Amount	Accessory	description
Serial ports cable	DB9 male，300mm	4	DIO cable	DB9 male，300mm
SATA cable	(7+15)pin SATA power supply +SATA data cable，300mm	1	Audio cable	Three in a row(Line-out/Line-in/Mic) 3.5mm phone jack, 300mm
Screw jumper package	Two M2 screws +Two jumper caps (spare)	1	USB2.0 cable	Two in a row Type A，300mm
DC－IN pin	3.81 pitch 3pin terminal block with earhole	1		

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04 ECM-I919 Market Applications

Core Product Advantages

- **Intel Meteor Lake**
- Ultra 5 125U/125H
- **NPU 11 TOPS AI performance**
- Supports OpenVINO edge inference
- **3.5-inch ultra-low power**
- 15W/28W TDP, fanless option available
- **Rich Industrial Interfaces**
- Dual Gigabit LAN / 4× COM / 8-bit DIO
- **Triple Display + Wireless Connectivity**
- HDMI+DP+eDP, WiFi7/5G

01 AGV and AMR

Autonomous delivery vehicles · logistics sorting AGVs
Inspection robots · firefighting robots

02 AI Machine Vision

3C visual inspection · logistics visual sorting
PV appearance inspection · AI defect detection

03 Medical Diagnostics

Ultrasound/color Doppler · urine sediment analyzer
Blood/biochemistry analyzers · maternal/fetal monitors

04 Industrial Control

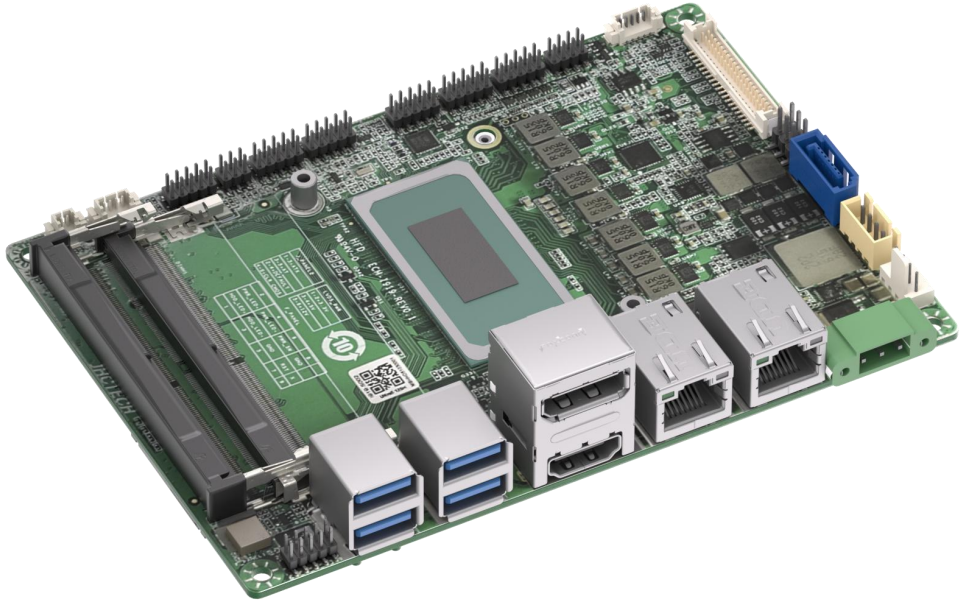
Industrial robotic arms · dispensing machines / 3D printers
Data acquisition gateway · MES production line terminal

05 Digital City and Smart Security

EV charging/battery swap · ETC smart parking · community access · smart digital signage

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05 ECM-I919 Launch Schedule



Test prototype: Oct 2026

Small-batch production: late Nov 2026

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New Product Preview

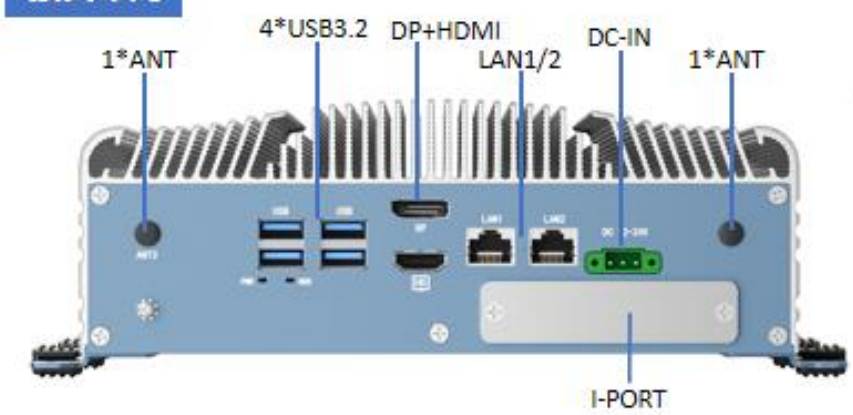
KMDA-3308

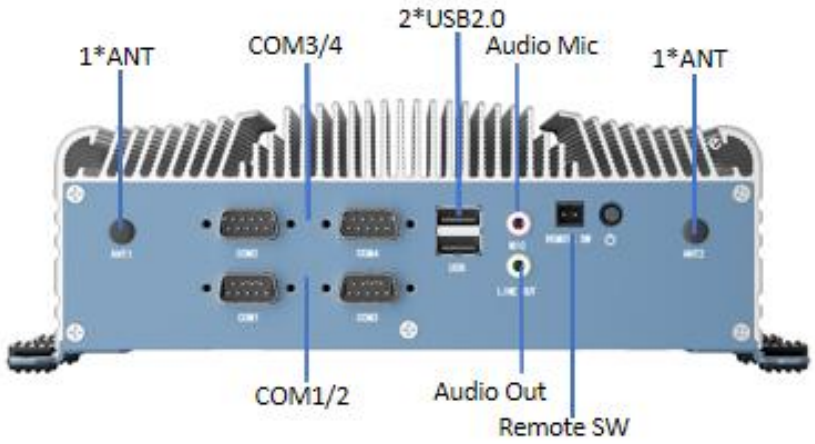


产品特性

- Intel® Core Ultra Meteor lake Soc CPU
- 双通道DDR5 SODIMM 5600MHz,最大96GB
- 1*HDMI, 1*DP 独立双显示，Audio In和Mic音频
- 2*LAN, 4*USB3.2, 2*USB2.0, 4*COM
- 1*M.2 E-key支持Wifi/BT, 1*MiniPCIe(mSATA)带SIM卡槽支持4G LTE/5G NR
- 1*2.5” SATA硬盘位, 1*M.2 M-key NVMe存储
- 无风扇主动式散热设计
- DC-IN 12V/19V/24V供电

接口布局





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Intel x86 New Product Series

Intel® Core™ Ultra Series Product Roadmap



Core Ultra ALAD industrial

10.1 12.1 15.0 17.0 18.5 19.0 21.5 23.8

EPI-I920



PADR-S501-990



BRAV-7823



BRAV-7824

<Being developed>

Intel® Meteor lake-U/H

Intel® Arrow Lake-H/S

Intel® Panther Lake-H

Intel® Nova lake-H/S



KMDA-3306/3307



KMDA-3308



ECM-I919



BRAV-7821



BRAV-7723/7724

<Being developed>

PART
05

Q&A Session

Colin Cheng

Stay in Touch

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