New Product Launch Announcement

Time	Agenda
16:00 ~ 16:05	**Opening** Chi Wang, Marketing Manager, Shenzhen Office
16:05 ~ 16: 25	**NODE Series Modular Computers:** **NODE-I916 – Powered by Intel® Core™ Ultra** **NODE-I721 – Powered by Intel® Alder Lake-N** Reese Li, Customer Solution Manager, Shenzhen Office
16:25 ~ 16: 45	**KMDA-3306 – Smart Industrial Controller 2.0** **KMDA-2632 – Dedicated Controller for Smart Security** Reese Li, Customer Solution Manager, Shenzhen Office
16:45~ 16:50	**Q&A**
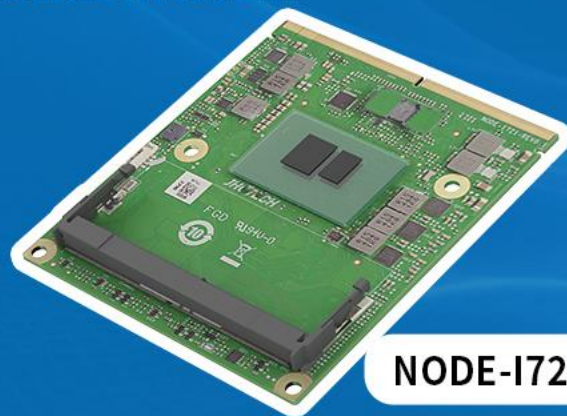
JHCTECH
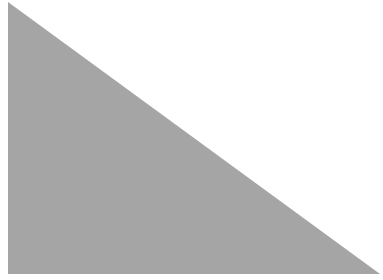
CONTENTS

NODE Series Roadmap

NODE-I719
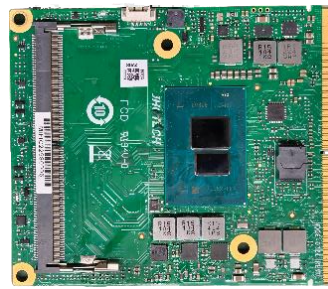
NODE-I721(New)

EOM-I912

NODE-L501

| Intel® Coffee lake-S | Intel® Elkhart lake | Intel® Alder lake-N Amston lake | Intel® Comet lake-S | Intel® Tigerlake U | Intel® Meteor lake U Arrow lake U | Loongson 2K2000 China-developed Architecture |

NODE-I966

NODE-I973

NODE-I914

NODE-I916(New)

Specification Comparison Table: NODE-I916 vs. NODE-I721

Model	NODE-I916	NODE-I721
CPU	Intel® Meteor Lake/Arrow Lake CPU: Ultra 5 125U, Ultra 5 225U	Intel® Alder lake-N CPU: N150
RAM	Single-channel DDR5 5600Mhz, up to 48GB	Single-channel DDR5 4800Mhz, up to16GB
Display	2*DDI (DP2.1 and HDMI2.1), 1*eDP	2*DDI(DP1.4 and HDMI2.1), 1*eDP
USB	2*USB3.2, 10*USB2.0	4*USB3.2(Opt 4*PCIeX1), 8*USB2.0
Serial Ports	4*UART(TTL signal)	
PCIe	4*PCIeX1, 1*PCIeX4, 1*PCIeX2	3*PCIeX1
Storage	2*SATA3.0(Opt 2*PCIeX1)	2*SATA3.0(Opt 2*PCIeX1)
Audio	1*HDA	
Power Supply	DC 12V input	

CPU Comparison Table – NODE-I916

Intel Meteor Lake U-SKU

Processor Model	Core™ Ultra 7 165U	Core™ Ultra 7 155U	Core™ Ultra 5 135U	Core™ Ultra 5 125U
Cores Configuration	12 (2+8+2)	12 (2+8+2)	12 (2+8+2)	12 (2+8+2)
Threads	14	14	14	14
Intel® Smart Cache (LLC)	12 MB	12 MB	12 MB	12 MB
Max Turbo Frequency (P-cores)	Up to 4.9 GHz	Up to 4.8 GHz	Up to 4.4 GHz	Up to 4.3 GHz
Max Turbo Frequency (E-cores)	Up to 3.8 GHz	Up to 3.8 GHz	Up to 3.6 GHz	Up to 3.6 GHz
Max Graphics Frequency	Up to 2.0 GHz	Up to 1.95 GHz	Up to 1.9 GHz	Up to 1.85 GHz

Intel Arrow Lake U-SKU

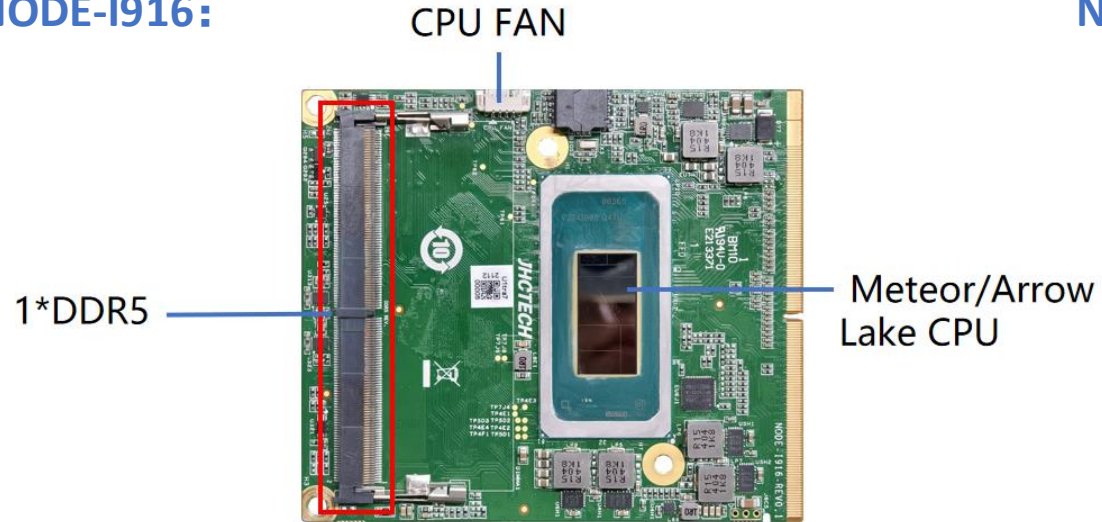| Processor Model	Core™ Ultra 7 265U	Core™ Ultra 7 255U	Core™ Ultra 5 235U	Core™ Ultra 5 225U
Cores Configuration	12 (2+8+2)	12 (2+8+2)	12 (2+8+2)	12 (2+8+2)
Threads	14	14	14	14
Intel® Smart Cache (LLC)	12 MB	12 MB	12 MB	12 MB
Max Turbo Frequency (P-cores)	Up to 5.3 GHz	Up to 5.2 GHz	Up to 4.9 GHz	Up to 4.8 GHz
Max Turbo Frequency (E-cores)	Up to 4.2 GHz	Up to 4.2 GHz	Up to 4.1 GHz	Up to 3.8 GHz
Max Graphics Frequency	Up to 2.1 GHz	Up to 2.1 GHz	Up to 2.05 GHz	Up to 2.0 GHz

CPU Comparison Table – NODE-I721
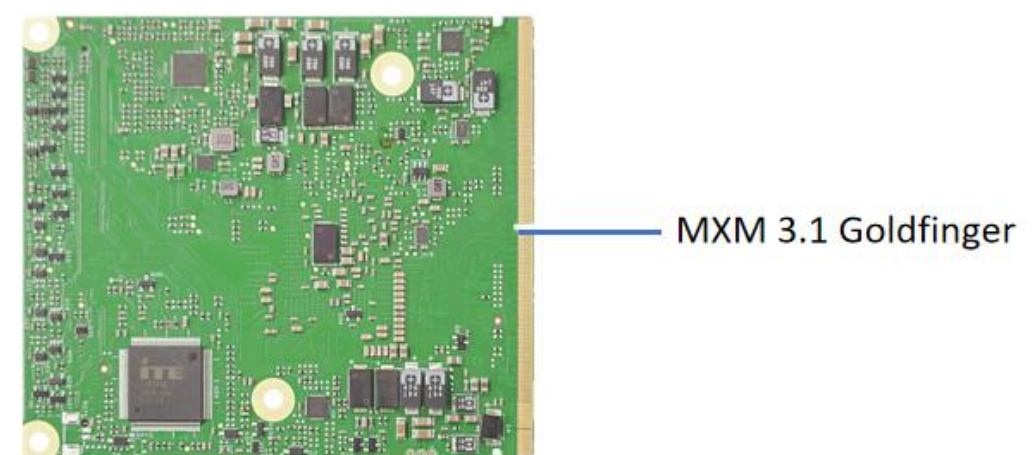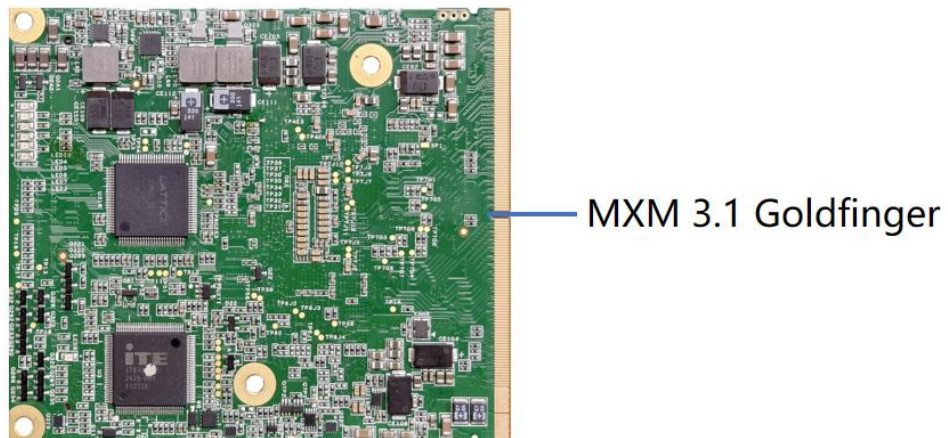
Intel Alder Lake-N Series CPU :

Processor Model	Cores / Threads	Max Frequency	GPU Specification	TDP
i3-N305	8C / 8T	up to 3.8 GHz	32EU iGPU	9-15W TDP
I3-N300	8C / 8T	up to 3.8 GHz	32EU iGPU	7W TDP
N200	4C / 4T	up to 3.7 GHz	32EU iGPU	6W TDP
N150	4C / 4T	up to 3.6 GHz	24EU iGPU	6W TDP
N100	4C / 4T	up to 3.4 GHz	24EU iGPU	6W TDP
N97	4C / 4T	up to 3.6 GHz	24EU iGPU	12W TDP
N50	2C / 2T	up to 3.4 GHz	16EU iGPU	6W TDP
X7425E	4C / 4T	up to 3.4 GHz	24EU iGPU	6W TDP
X7211E	2C / 2T	up to 3.2 GHz	16EU iGPU	6W TDP

Interface Overview of NODE-I916 and NODE-I721

NODE-I916：

CPU FAN

1*DDR5

Meteor/Arrow Lake CPU

MXM 3.1 Goldfinger

NODE-I721：

CPU FAN

1*DDR5

SOC CPU

MXM 3.1 Goldfinger

www.jhctechnology.cn
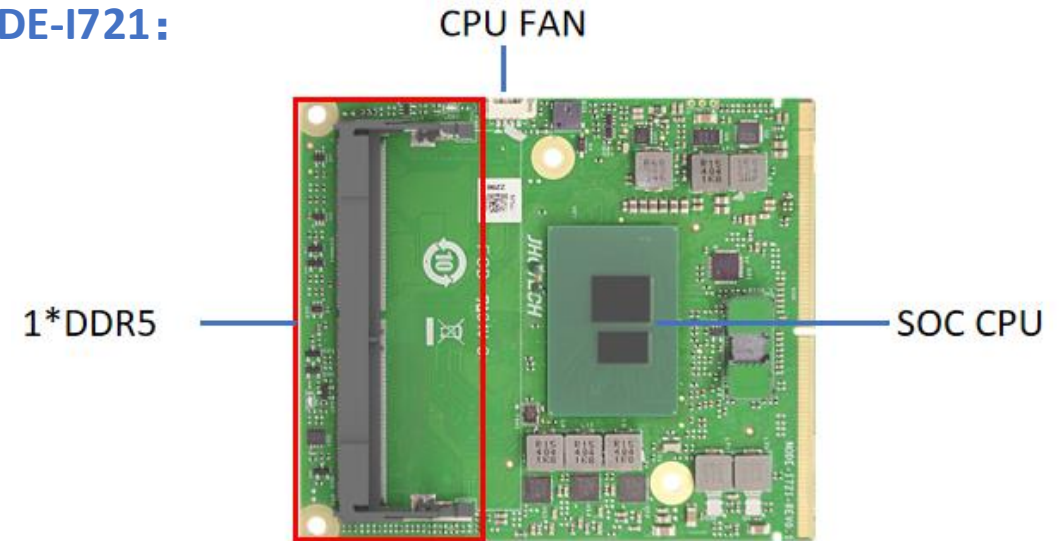
Dimension Diagram of NODE-I916 and NODE-I721
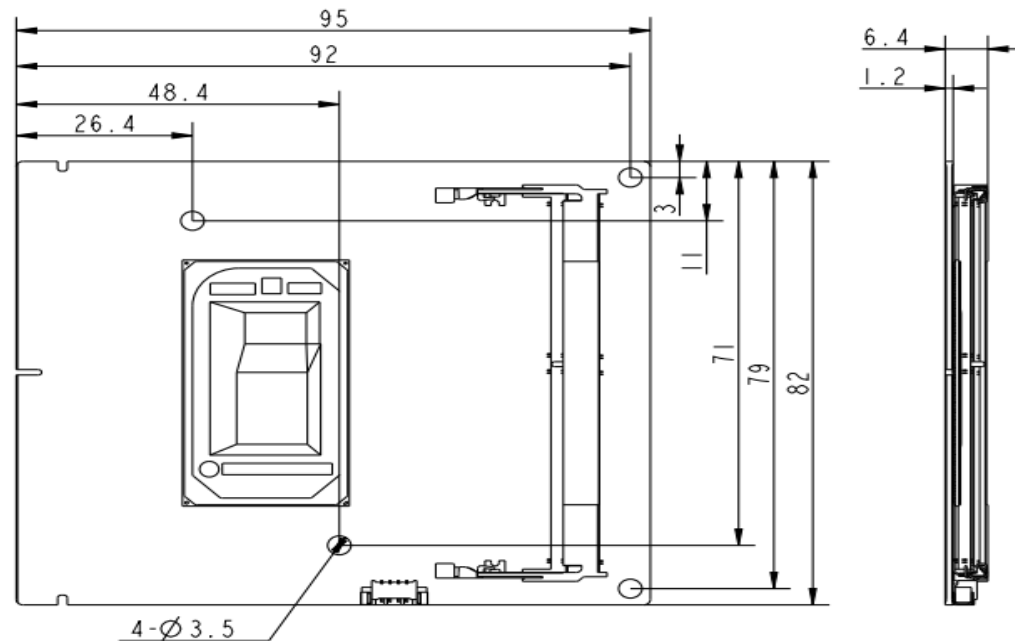
NODE-I916:

Size：95*82*6.4mm

NODE-I721:

Size：95*82*6.4mm

www.jhctechnology.cn

JHCTECH
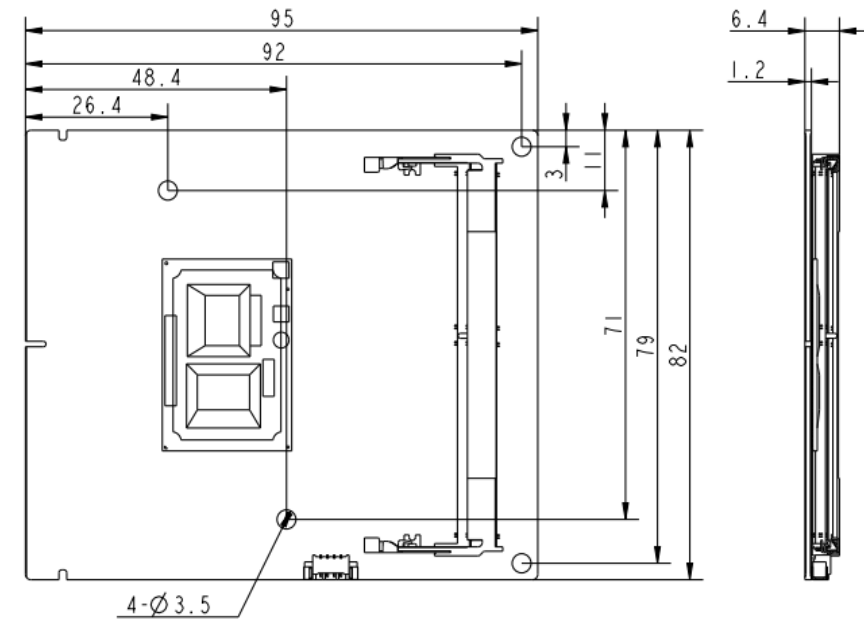
Product Highlights – NODE-I916

⭐ **New CPU Architecture**

⭐ **Low Power Consumption with High Energy Efficiency**

⭐ **Integrated AI Computing Engine**

⭐ **High-Performance Integrated GPU (iGPU)**

⭐ **High-Frequency Memory Support**

⭐ **Compliant with NODE Design Standard**

---

1 **Intel® Core™ Ultra Mobile CPUs**

1st and 2nd Gen Ultra U-SKU Low-Power AI PC CPUs
Highly compatible with Windows 10/11 and Linux operating systems

2 **Energy-Efficient SoC Design**

U-SKU CPUs are designed for low power consumption, with a base power of 15W, making them ideal for fanless passive cooling solutions.

3 **Intel® AI Boost + Intel® NPU AI Engine**

Intel® AI Boost is a dedicated integrated AI engine designed for low-power AI acceleration and CPU/GPU workload offloading. Combined with the Intel NPU, the platform delivers up to 40 TOPS of total AI performance.

4 **High-Performance Integrated GPU**

Equipped with 4 Xe cores, the integrated GPU supports 8K 10-bit HDR video encoding/decoding with H.265/H.264, AV1, and VP9 codecs. It also supports HDMI 2.1 and DP 2.1 for UHD 8K display output.

5 **High-Frequency DDR5 Memory Support**

DDR5 5600MHz memory supported on both Gen 1 and Gen 2 platforms

6 **Compliant with NODE Design Standard**

NODE Type 1 offers 14 HSIO lanes, compact dimensions of 95 × 82 mm, and a 281-pin gold-finger edge connector.
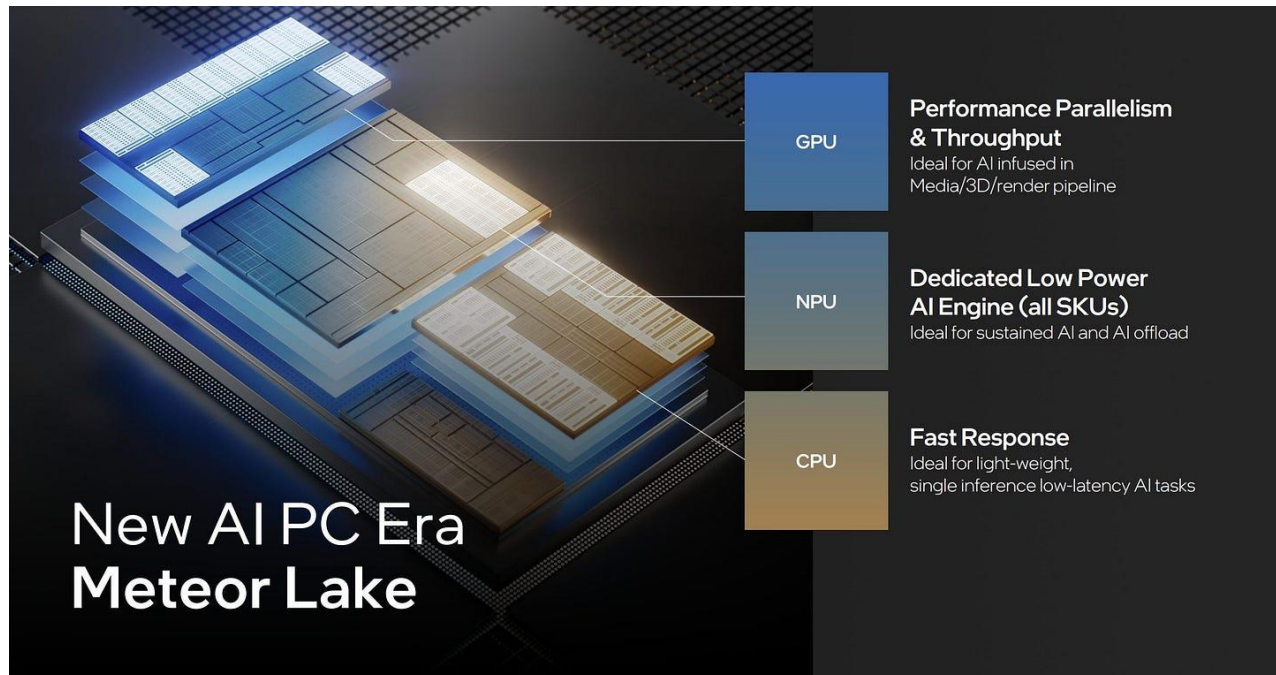
NODE-I916 Product Highlights

⭐ **Powered by Intel® Core™ Ultra Mobile CPU**

The 1st-Gen Intel Meteor Lake and 2nd-Gen Arrow Lake Ultra-low-power AI PC CPUs offer high openness and compatibility, supporting Windows 10/11 and various Linux distributions. Ideal for applications requiring low power consumption, high energy efficiency, and real-time performance.

⭐ **Low power, high efficiency**

Built on the Intel 4 process node, the low-power, high-efficiency SoC CPU features a 25% reduction in power consumption and a base power of 15W, making it ideal for fanless passive cooling designs.

GPU	**Performance Parallelism & Throughput** Ideal for AI infused in Media/3D/render pipeline
NPU	**Dedicated Low Power AI Engine (all SKUs)** Ideal for sustained AI and AI offload
CPU	**Fast Response** Ideal for light-weight, single inference low-latency AI tasks

New AI PC Era
Meteor Lake

Significant Improvements in Efficiency and Performance

AI Efficiency Improvement	Graphics Performance Boost	Power Efficiency Increase
70%	**2x**	**25%**
Faster generative AI processing	Integrated Intel™ Arc™ GPU	Lower processor power consumption

Intel® AI Boost + Intel® NPU AI Engine

Intel® AI Boost is a dedicated integrated AI engine designed for low-power AI acceleration and CPU/GPU workload offloading. Combined with the Intel NPU, the platform delivers up to 40 TOPS of total AI performance.

8K Ultra HD Visuals

Intel® AI Boost is a dedicated integrated AI engine designed for low-power AI acceleration and CPU/GPU workload offloading. Combined with the Intel NPU, the platform delivers up to 40 TOPS of total AI performance.

www.jhctechnology.cn

High-frequency memory

Single-channel DDR5 5600MHz, up to 48GB

JHCTECH

Product Highlights – NODE-I721

★ **New Open and Flexible Intel Architecture Platform**

★ **ULT Low-Power Design**

★ **Integrated GPU with 4K Display Support**

★ **High-Frequency Memory Support**

★ **Compliant with NODE Design Standard**

1 **Intel Alder Lake-N CPU**
Built on a 7nm process, offering dual-core, quad-core, and octa-core configurations. Open and flexible platform with broad support for both Windows and Linux OS.

2 **ULT Ultra-Low Power SoC CPU**
The CPU is designed for ultra-low power consumption, with a base power range of 6 to 15W. Wide-temperature variants are available, making it highly suitable for fanless passive cooling applications.

3 **CPU with Integrated Intel® UHD Graphics**
Features 16 to 32 Execution Units (EUs), supporting eDP 1.4b, DisplayPort 1.4, and HDMI 2.1 for 4K display output.

4 **High-Frequency Memory Support**
Supports single-channel DDR5 memory up to 4800MHz.

**5** **Compliant with NODE Design Standard**
NODE Type 1 features 9 HSIO lanes, a compact 95 × 82 mm form factor, and a 281-pin edge connector (gold finger).

Intel's new open platform

Built on a 7nm process, offers dual-core, quad-core, and octa-core configurations. It features high openness and supports both Windows and Linux operating systems.

6–15W Ultra-Efficient Performance

Featuring a ULT ultra-low-power SoC CPU with a base power range of 6 to 15W. Optional wide-temperature support makes it ideal for fanless passive cooling designs and ensures stable operation in harsh environments.

intel INSIDE

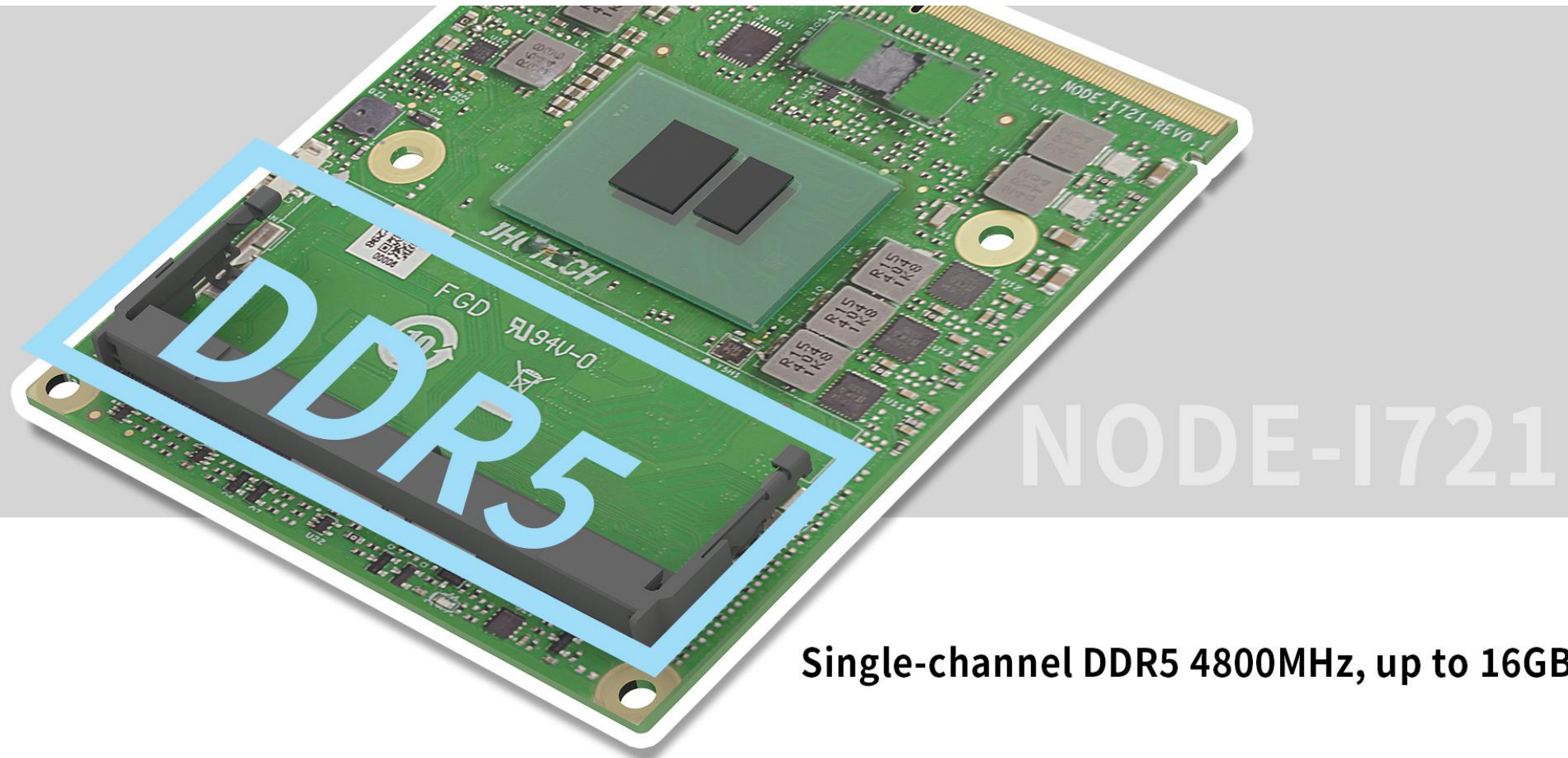intel CORE i3

intel ATOM
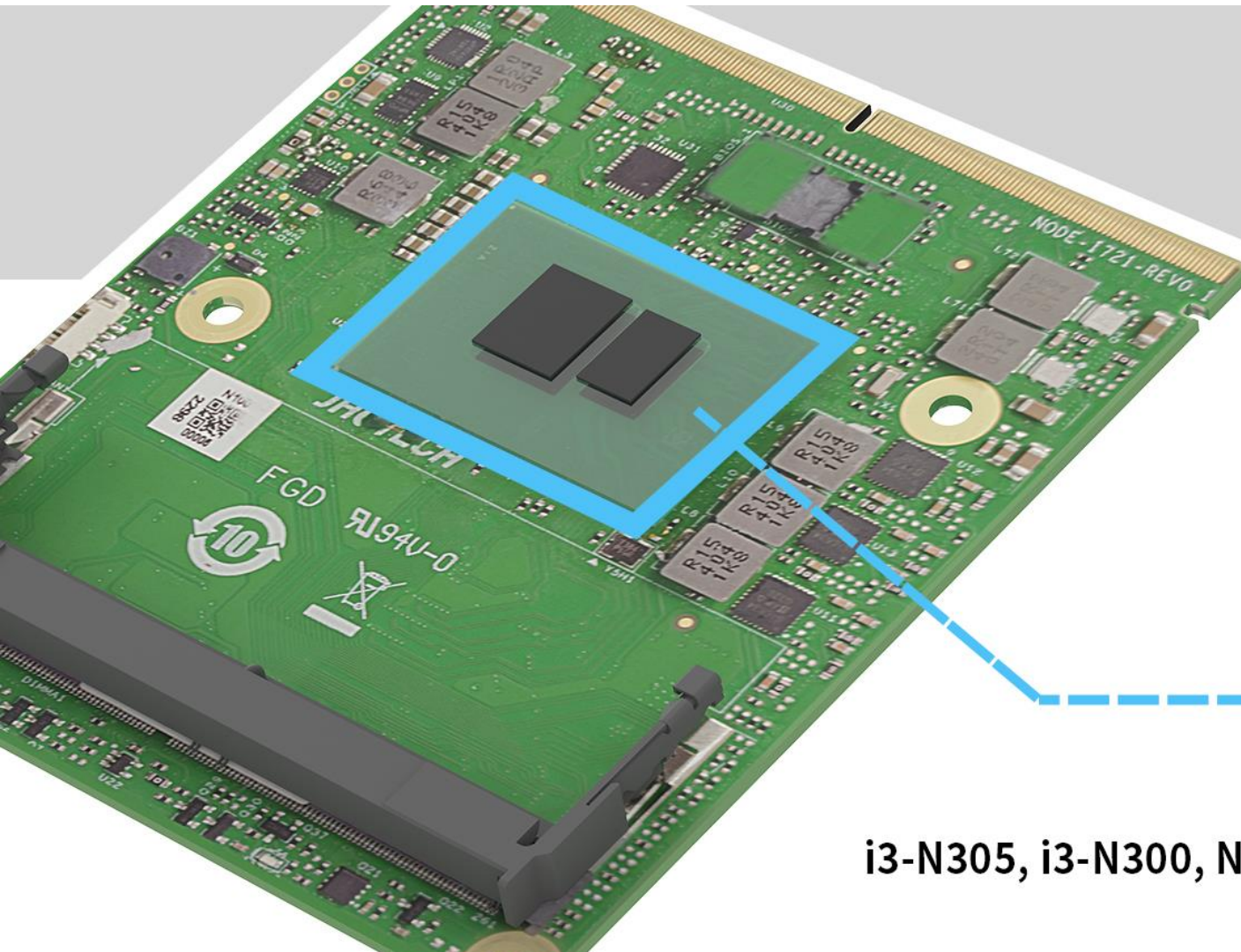
SoC CPU with ULT ultra-low power design

Intel Alder lake-N CPU

i3-N305, i3-N300, N200, N150, N100, N97, N50, X7425E, X7211E
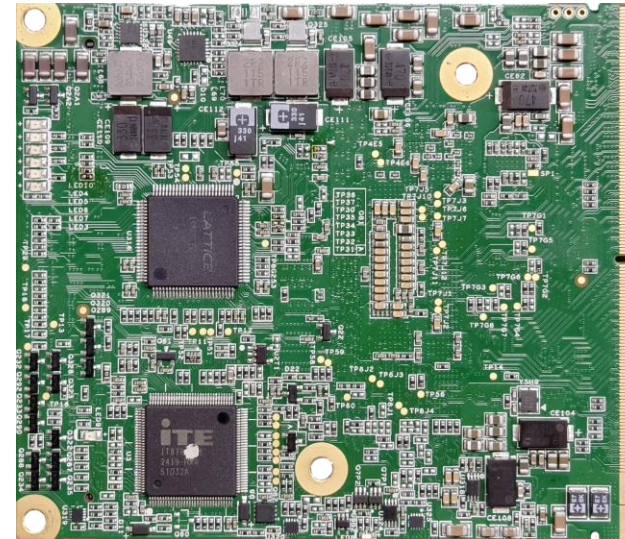
4K Multi-Display Output

The CPU integrates Intel® UHD Graphics with 16 to 32 EUs, supporting 4K display output via eDP 1.4b, DP 1.4, and HDMI 2.1 interfaces.

High-frequency memory

DDR5

NODE-I721

Single-channel DDR5 4800MHz, up to 16GB

NODE-I916 Ordering Info

Model	CPU	Description
NODE-I916/S002	Intel® Core™ Ultra 5 processor 125U	1*DDR5 5600MHz SODIMM, MXM 3.1 Goldfinge(2*DDI, 1*eDP, 2*USB3.2, 10*USB2.0, 1*PCIeX2, 1*PCIeX4, 4*PCIeX1, 2*SATA, 1*eSPI, 1*HDA, 1*SPI, Legacy IO, RTC，Power SW/Reset/PW-LED/HDD-LED, 3 bit GPIO, SM BUS, 4*UART), DC 12V Power input
NODE-I916/T002	Intel® Core™ Ultra 5 processor 225U	

NODE-I721 Ordering Info
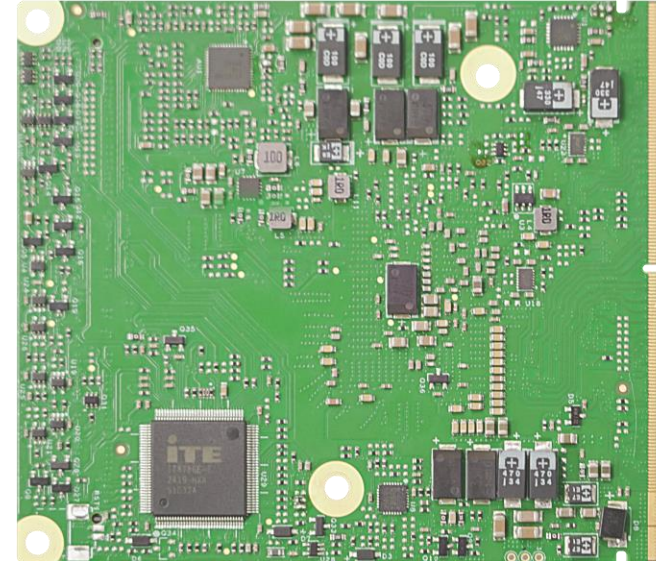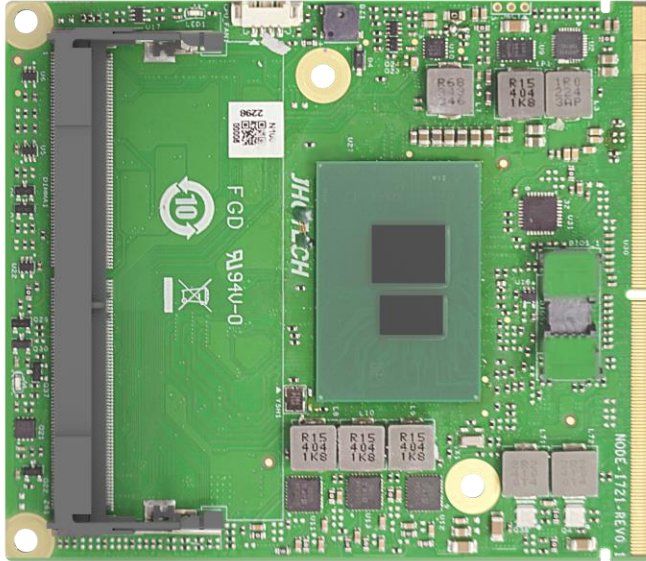
Model	CPU	Description
NODE-I721	Intel® N150	Intel Alder lake-N CPU, 1*DDR5 4800Mhz, MXM 3.1 Goldfinger(3*PCIeX1,4*USB3.2, 8*USB2.0, 2*SATA3.0, 1*HDA, Legacy IO, 1*eDP, 1*eSPI, 1*SPI, Power SW/Reset/PW-LED/HDD-LED, 2*DDI, 3 bit GPIO, SM BUS, RTC, 4*UART), DC 12V Power input

NODE Series Specification Categories

According to different electrical and structural standards, the modular platforms are classified into four categories:

✅ **NODE Type 1**

•**Module Size**: 95 × 82 mm

•**Connector**: 281-pin dual-sided edge connector (gold finger)

•**Examples**: NODE-I914, NODE-I916, NODE-I719, NODE-I721, NODE-L501

✅ **NODE Type 2**

•**Module Size**: 150 × 100 mm

•**Connector**: 281-pin dual-sided edge connector (gold finger)

•**Examples**: NODE-I973, NODE-I966

✅ **IEN Type E**

•**Module Size**: 146 × 102 mm

•**Connector**: Single 120-pin connector

•**Example**: ECM-I909

✅ **IEN Type F**

•**Module Size**: 125 × 95 mm

•**Connector**: Dual 120-pin connectors

•**Example**: EOM-I912

Value-added

Key Advantages of the NODE Series

1 **2** **3** **4** **5**

Modular | Standardized | Simple | Efficient | Flexible

Reduces design complexity and R&D cost, enabling fast design transfer and accelerating time-to-market.

Modular computers serve as a bridge and enabler to help customers enhance the value of their products and solutions.

- Different CPU architectures and platforms meet diverse performance needs.

- Abundant HSIO resources support various functional requirements.

- Two standard specifications (Intel IEN and JHC NODE) offer high flexibility for different applications.

- Multiple models form a complete product series, making upgrades and maintenance easier.

- Greatly shortens development cycles, improves efficiency, and speeds up time-to-market.

New Product Progress

I916 Small Batch Production   Early June 2025

Model	CPU	Quantity
NODE-I916-S002	Ultra 5 125U	40
NODE-I916-T002	Ultra 5 225U	10

I721 Small Batch Production   Early June 2025

Model	CPU	Quantity
NODE-I721	N150	50

Smart Industrial Controller 2.0

KMDA-3306

Dedicated Controller for Smart Security

KMDA-2632

JHCTECH

Smart Industrial Controller 2.0
KMDA-3306

Dedicated Controller for Smart Security
KMDA-2632

CONTENTS

JHCTECH

IoT Computer
Connecting the Dots

Industrial Automation   **Intelligent Transportation**   **Automated Logistics**   **Smart Industry 1.0**   **Smart Industry 2.0**

■ **KMDA-2602**   ■ **KMDA-3920**   ■ **KMDA-3301**   ■ **KMDA-3303**   ■ **KMDA-3306**

2017   2019   2020   2021   2022   2023   2024   2025

■ **KMDA-3201**   ■ **KMDA-5920**   ■ **KMDA-7611**   ■ **KMDA-2631**   ■ **KMDA-2632**

Smart Turnstiles & IoT Applications   **Smart Transportation**   **Machine Vision**   **Collaborative Robots**   **Intelligent Fire Safety**

www.jhctechnology.cn

JHCTECH

IoT Computer
Connecting the Dots

Intel® Core™ Ultra hybrid architecture with P-core, E-core, LP-E core, GPU, and NPU for better performance and efficiency.

Up to 34 TOPS AI performance, sufficient for mainstream AI workloads.

Supports Wi-Fi, 5G, and 4G for remote control in smart factories.

8 high-speed isolated DIO channels for convenient industrial peripheral integration and electrical deployment.

WiFi 5G NR 4G LTE

9–36V wide voltage input with protection for industrial use.

KMDA-3306

Built-in fan, ensures good cooling.

Compact size, ideal for AGVs, autonomous forklifts, and industrial robots.

Shock-absorbing desktop design with anti-slip rubber feet.

6 USB ports & up to 4 RS232, suitable for sensors and data collection devices.

3 Gigabit LAN ports + optional 6-port Gigabit switch for comprehensive Ethernet connectivity.

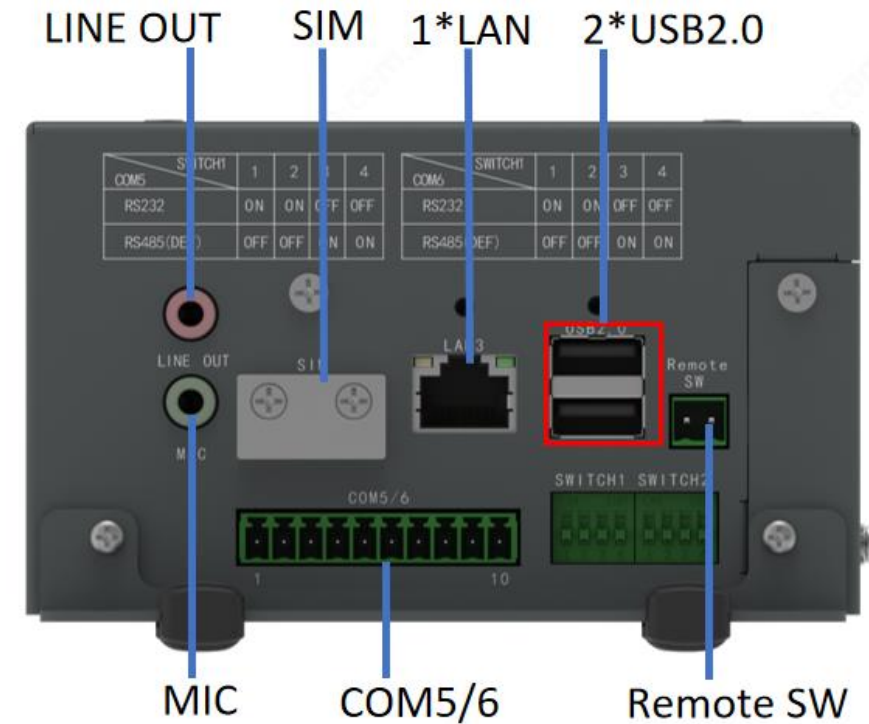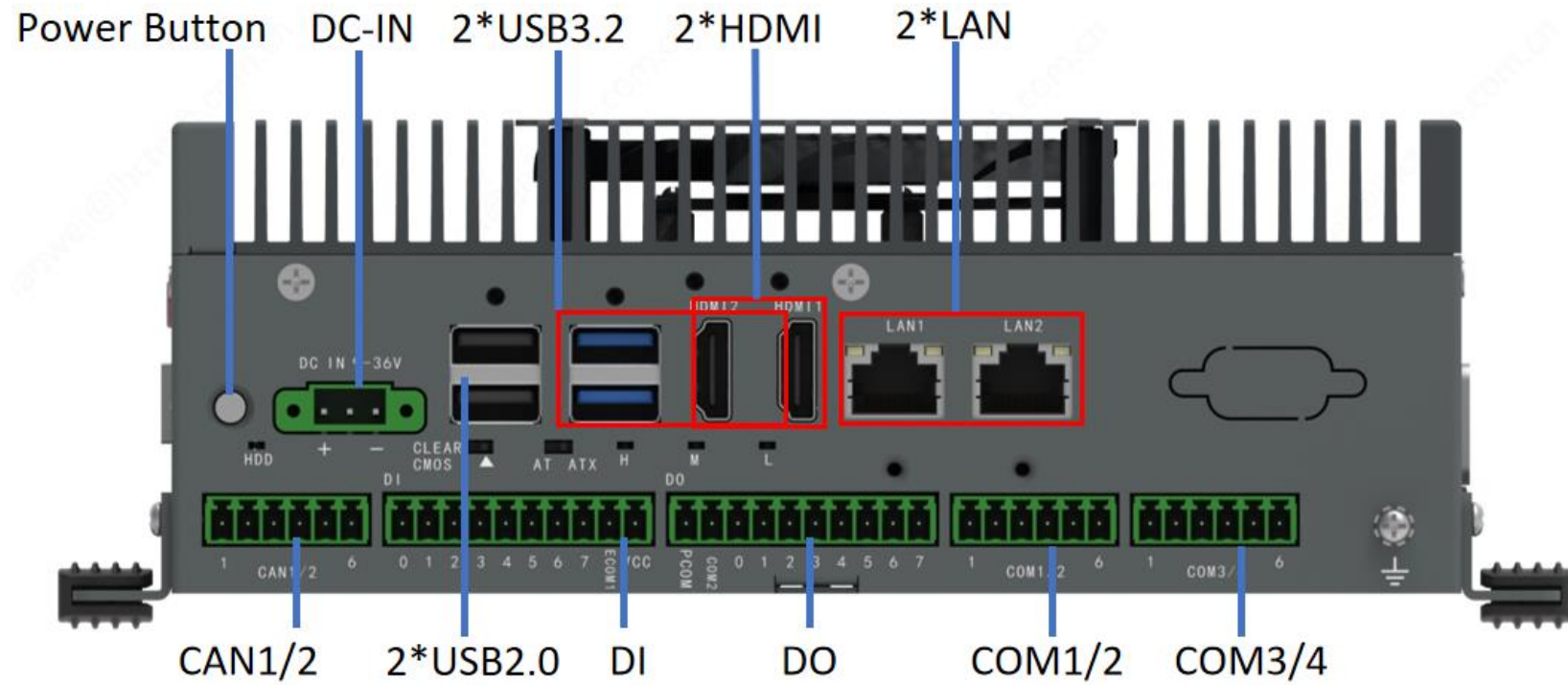**2 CAN and 4 RS485 ports support communication with servo motors, industrial batteries, and other smart devices.**

www.jhctechnology.cn

Specification	KMDA-3306-S002	KMDA-3306-T002
Processor	Intel® Core™ Ultra 5 125U	Intel® Core™ Ultra 7 225U
Memory	1*DDR5 5600MHz SODIMM, up to 48GB	
Storage	1*Full Size mSATA, SATA 6.0 Gbps (auto-switch to PCIe X1 signal)	
Audio & Video	2*HDMI; Audio out + Mic	
Communication Interfaces	3*Intel I210AT + optional 6*RJ45 switch ports 2*USB3.2 (Type A), 4*USB2.0 (Type A), 2*CAN 1*16-bit Isolated DIO (2*10Pin Phoenix connectors) 6*COM ports (COM5/6: 2RS232/RS485 switchable via DIP switch, COM1/2: 2RS232, COM3/4: 2*RS485)	
Expansion Slots	1*Full Size Mini PCIe with SIM slot, PCIe X1 + USB2.0 signal, supports 4G LTE, Bluetooth, etc. 1*M.2 2280 M-Key, supports NVMe	
Dimensions	Fanless chassis with heat dissipation structure, SGCC case, 190*118*70mm	
Power Supply	DC 9–36V input, with OVP, OCP, SCP protection	
Operating Temperature	-20°C ~ 70°C, airflow	

KMDA-3306
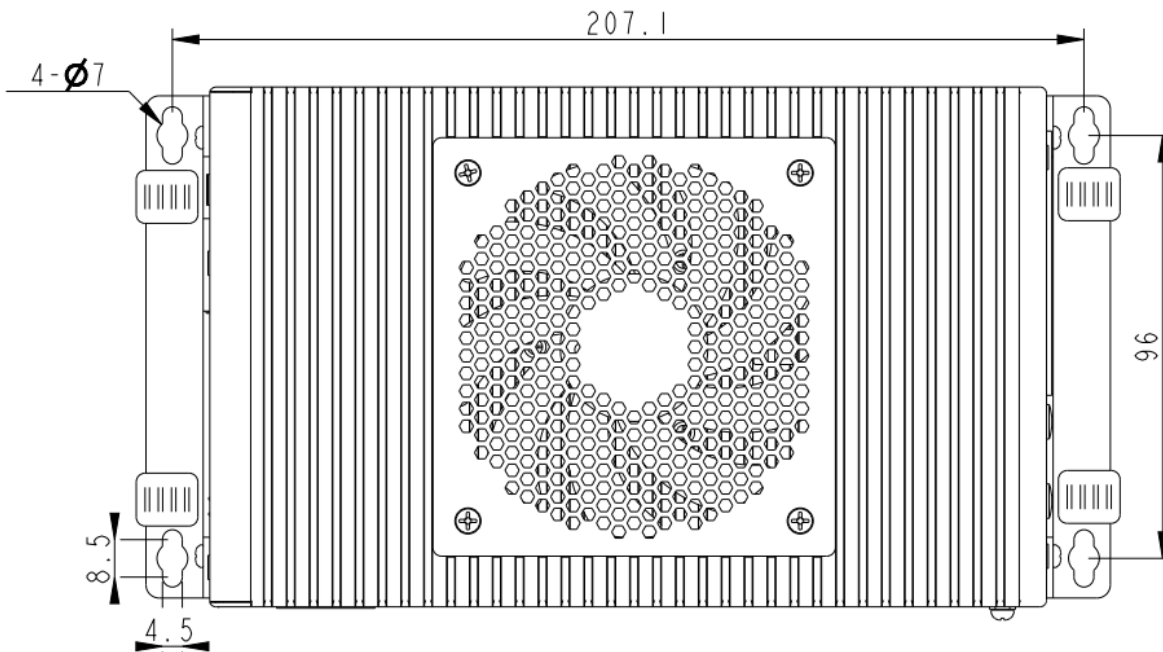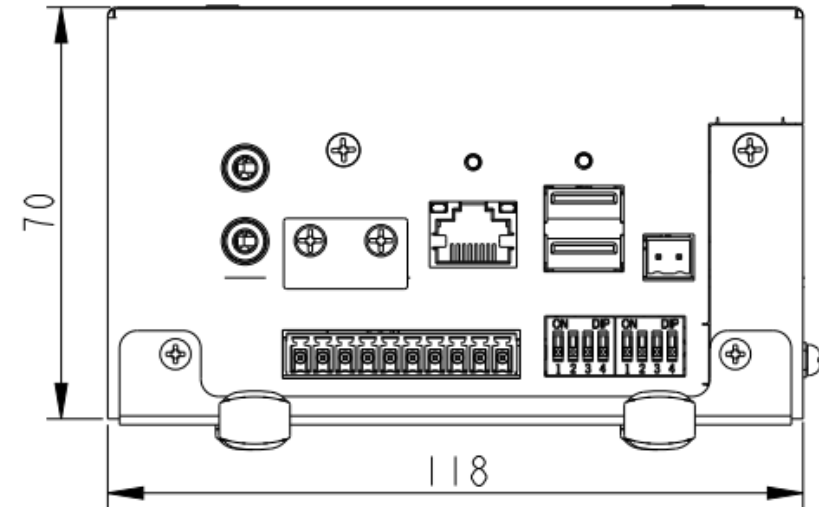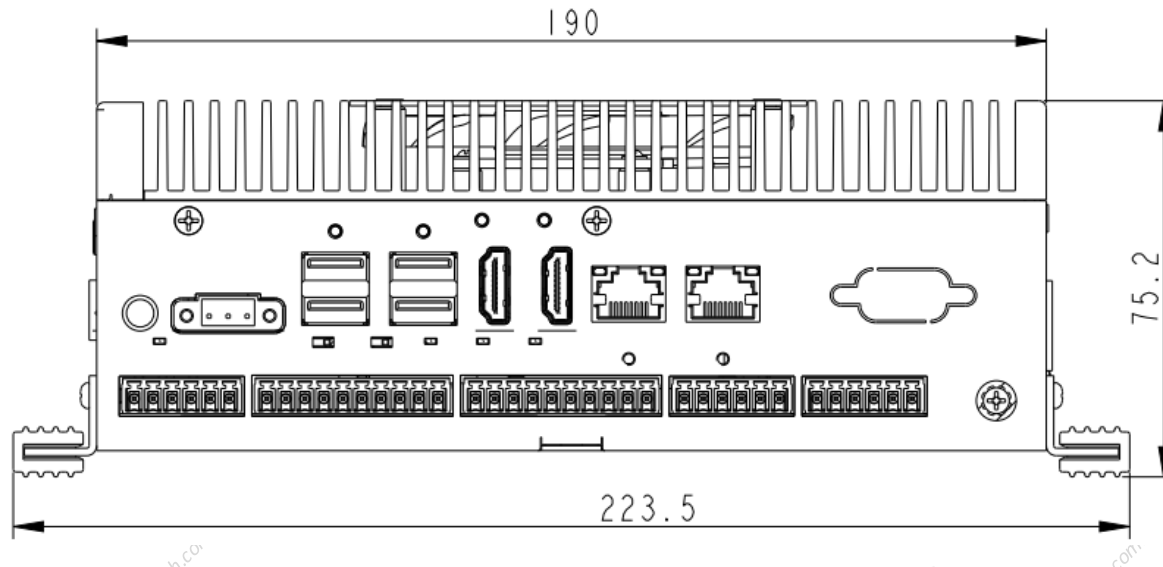
KMDA-3306

High-Performance Autonomous Driving

- Hybrid AGV/AMR
- Multimodal Autonomous Forklift
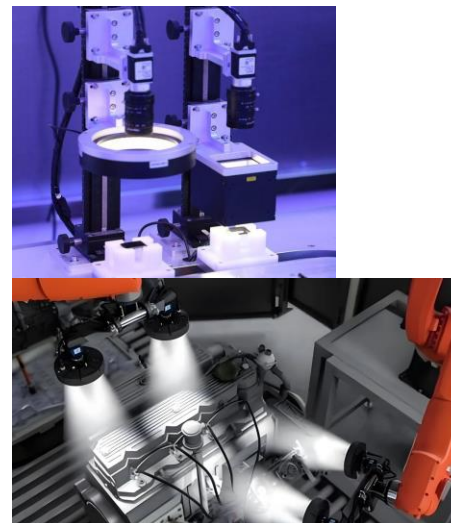- Omnidirectional Obstacle-Avoiding Vehicle

First-Gen Embodied AI Robot

- Wheeled Humanoid Robot
- Bionic Robot
- Inspection & Search-and-Rescue Robot

Machine Vision with Expansion Capability

- Defect Inspection for Intelligent Production Lines
- Medical Imaging Analysis
- Surveillance Video Analysis

Other Related Applications

- Edge Workstation
- Smart Production Line Workstation

KMDA-3306

High-performance, AI-enabled, Industrial scenarios, Machine learning

www.jhctechnology.cn

Intel® Alder Lake-N processor architecture, significantly improved energy efficiency.

Wide voltage input (9–36V) with OVP and OCP protection.

Feature-rich and low-power, ideal for smart security scenarios involving multiple signal channels and small data volumes.

Compact and fanless design (height only 45mm), ideal for cobots and smart devices.

2 isolated CAN ports, 6 RS485 ports, and 2 switchable RS-232/485 ports, providing ample industrial-standard communication interfaces and data rates for smart security and related industrial servo device applications.

Wireless communication support (Wi-Fi/5G/4G) for remote operation needs.

WiFi 5G NR 4G LTE

KMDA-2632

4 USB and 2 Gigabit Ethernet ports ensure fast and reliable communication for industrial applications.

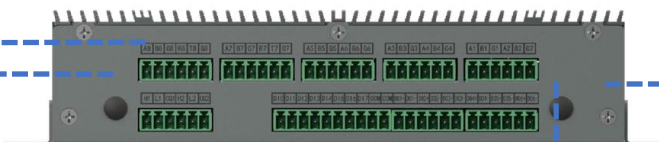Fanless design, suitable for cleanrooms and other dust-free environments.

HDMI interface supporting up to 4096×2304 resolution

Shock-absorbing desktop design with anti-slip rubber feet.

8 DI and 6 DO channels with relay and opto-isolation to ensure real-time I/O communication.

Front and rear I/O layout facilitates streamlined wiring and maintenance for security and electrical system integration.

www.jhctechnology.cn

	KMDA-2632-S00X
CPU	Intel Alder lake-N CPU
RAM	1*DDR5 4800MHz SODIMM, supports up to 32GB
Storage	1*mSATA，SATA3.0 signal, with a maximum transfer rate of 6Gbps
Video	1*HDMI 2.0 port
I/O Ports	2*Gigabit LAN（RJ45）； 2*USB3.0 (TypeA)，2*USB2.0 (TypeA) 2*CAN-FD（Opto-isolated, Phoenix connector） 6*RS485，2*RS232/485 8-bit DI（2.5KV opto-isolated），6-bit DO（relay-isolated）
Expansion	2*Full-size Mini-PCIe slots, with PCIeX1 and USB2.0 signals, supporting expansion modules •1× Mini-PCIe slot with SIM card slot, supports 4G modules •1× Mini-PCIe slot reserved for future functional expansion
Dimensions & Structure	Main Chassis: Fanless thermal design with SGCC enclosure; dimensions: 190 × 140 × 45 mm
Power Supply	DC 9–36V power input with short circuit, overvoltage, and overcurrent protection
Operating Temperature	-20℃ ~ 60℃ with air flow
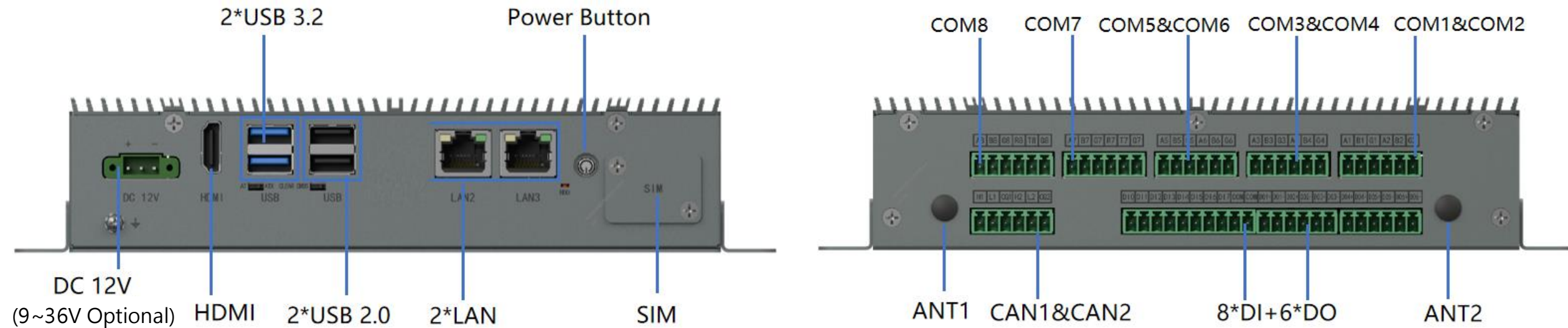
KMDA-2632

单位：mm

KMDA-2632

JHCTECH

IoT Computer
Connecting the Dots
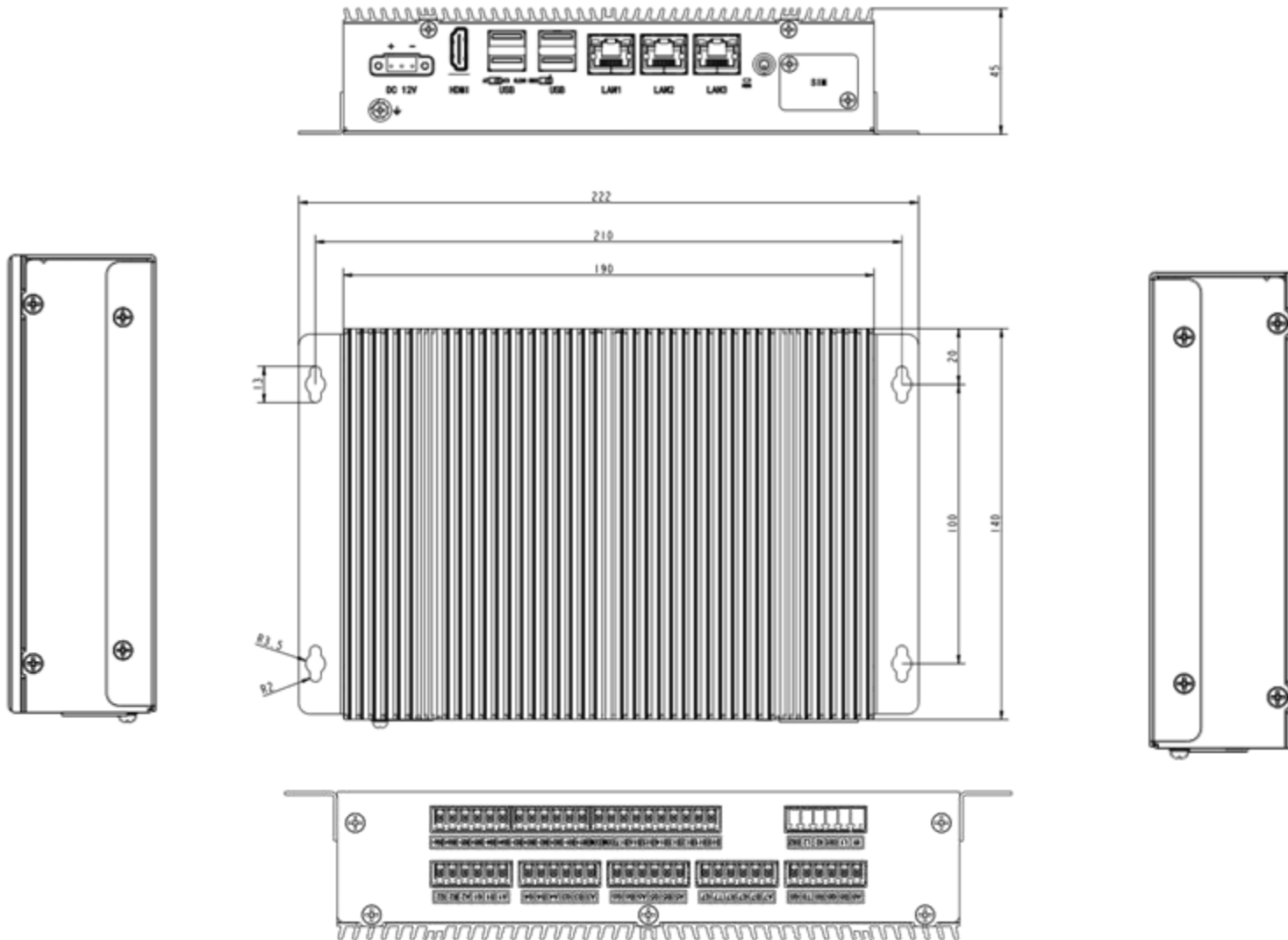
Smart Security System

- Identity Recognition
- Video Surveillance
- Smoke, Gas, and Fire Anomaly Detection & Alarms
- Access Control Integration

Narrowband IoT (NB-IoT) System

- Remote Meter Reading
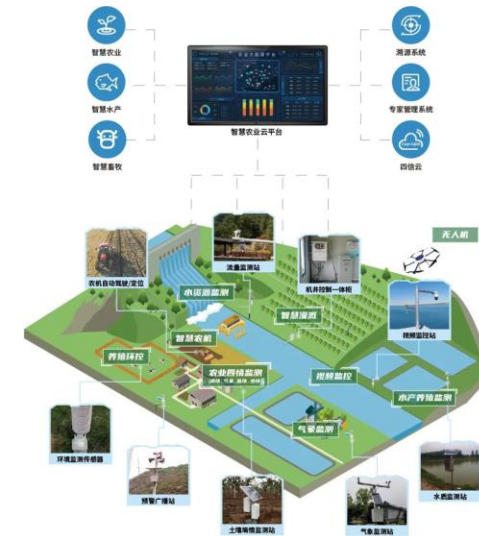- Deformation Monitoring
- Smart Parking System
- Cargo Status Tracking

Industrial Smart Manufacturing

- Collaborative Robots (Cobots)
- Automated Production Line Control
- Warehouse Inventory Management

Other Application

- Smart Energy
- Smart Environmental Protection
- Smart Agriculture

KMDA-2632

Low power consumption, real-time performance, multi-terminal access, and small data volume

www.jhctechnology.cn

JHCTECH

IoT Computer
Connecting the Dots

KMDA-3306

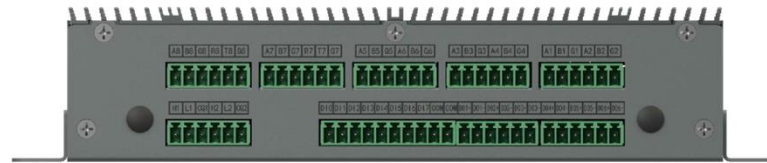| KMDA-3306-S002	Intel® Core™ Ultra 5 125U	1*DDR5 SODIMM, 3*LAN, 2*USB3.2, 4*USB2.0, 6*COM, 16bit Iso. DIO, 2*HDMI, Audio out + Mic, 1*Mini PCIe, 1*M.2 M-key, 1*I-Port, 1*mSATA, DC IN 9-36V
KMDA-3306-T002	Intel® Core™ Ultra 7 225U	
KMDA-3307-S002	Intel® Core™ Ultra 5 125U	1*DDR5 SODIMM, 3*LAN+6*Gigabit switch ports, 2*USB3.2, 4*USB2.0, 6*COM, 16bit Iso. DIO, 2*HDMI, Audio out + Mic, 1*Mini PCIe, 1*M.2 M-key, 1*mSATA, DC IN 9-36V
KMDA-3307-T002	Intel® Core™ Ultra 7 225U	
PA-60DC12 Unit	AC/DC power adapter with 12V/5A DC output (60W), includes X-type standard power cable	

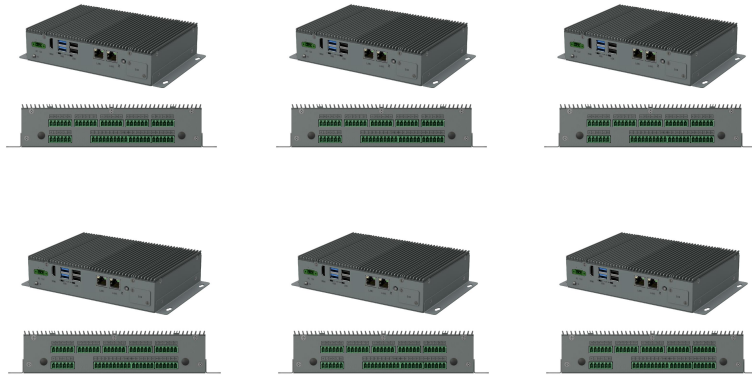KMDA-3306

Release Date

June 2025

KMDA-2632

KMDA-2632-S002	Intel Alder lake-N150	Embedded Box PC with Intel N150 CPU, 8*COM，2*USB3.2+2*USB2.0，2*LAN，1*HDMI，1*mSATA, 2*Mini PCIe slots with PCIeX1 and USB2.0 signals（1*Mini-PCIe supports 4G module and includes SIM card slot; 1*Mini-PCIe reserved for future expansion），8*DI+6*DO，2*CAN
KMDA-2632-S002-WP	Intel Alder lake-N150	
PA-60DC19 Unit	AC/DC power adapter with 19V/6.32A output (120W), includes X-type standard power cable	

www.jhctechnology.cn

KMDA-2632

Release Date

June, 2025

Q&A

JHCTECH

Stay in Touch

JHC Technology Development Co.,Ltd.

@ Shenzhen JHC Technology Development Co., Ltd.

@JHCTECH

Website

Youtube

CONTACTS

Marketing Department
marketing@jhctech.com.cn
sales@jhc-technology.com

Customer Solution Manager
lisheng@jhctech.com.cn

www.jhctechnology.cn