



Solution Guide for AI Applications

aetina

Table of Contents

Overview

About Aetina	P.4
Milestone	P.5
Pro-AI Service	P.6
Overall Product Introduction	P.8

Software & Service Package

Cloud Management Platforms	P.10
AI Development Tools	P.12
Utility Software	P.13

Edge AI Solutions

AI Inference / DeviceEdge	P.15
Jetson Series-Platform	P.16
Jetson Series-System	P.20
Jetson Series-Fanless System	P.24
Other Series	P.28
AI Inference / MegaEdge	P.30
AI Training / SuperEdge	P.33

3 AI Accelerator & GPU

MXM	P.37
PCIe	P.41
VPX	P.45
Expansion Kit	P.46

5 Application Note

AI Model Retraining	P.50
AOI Management	P.51
Virtual Fencing	P.52
Signal Processing & DL/ML	P.53
Ultrasonic Scanning	P.54
Hemodialysis	P.55
Fish Health Monitoring	P.56
Fire Detection System	P.57
Retail Customer Behavioral Analysis	P.58
Vehicle Recognition	P.59

About Aetina

Founded in 2012 in Taiwan, Aetina Corporation is a leading AI solution provider for numerous smart applications. Aside from the highly reputed GPU-acceleration portfolio, Aetina even provides ASIC-based products, software packages, and customization services. To help partners and clients build ideal AI projects successfully, Aetina offers Pro-AI service, including the processes of evaluation, development, deployment, monitoring and management. Furthermore, Aetina continuously enlarges the value-added ecosystem to accelerate AI applications in different vertical markets, such as smart city, manufacturing, retail, agriculture, healthcare, and more.

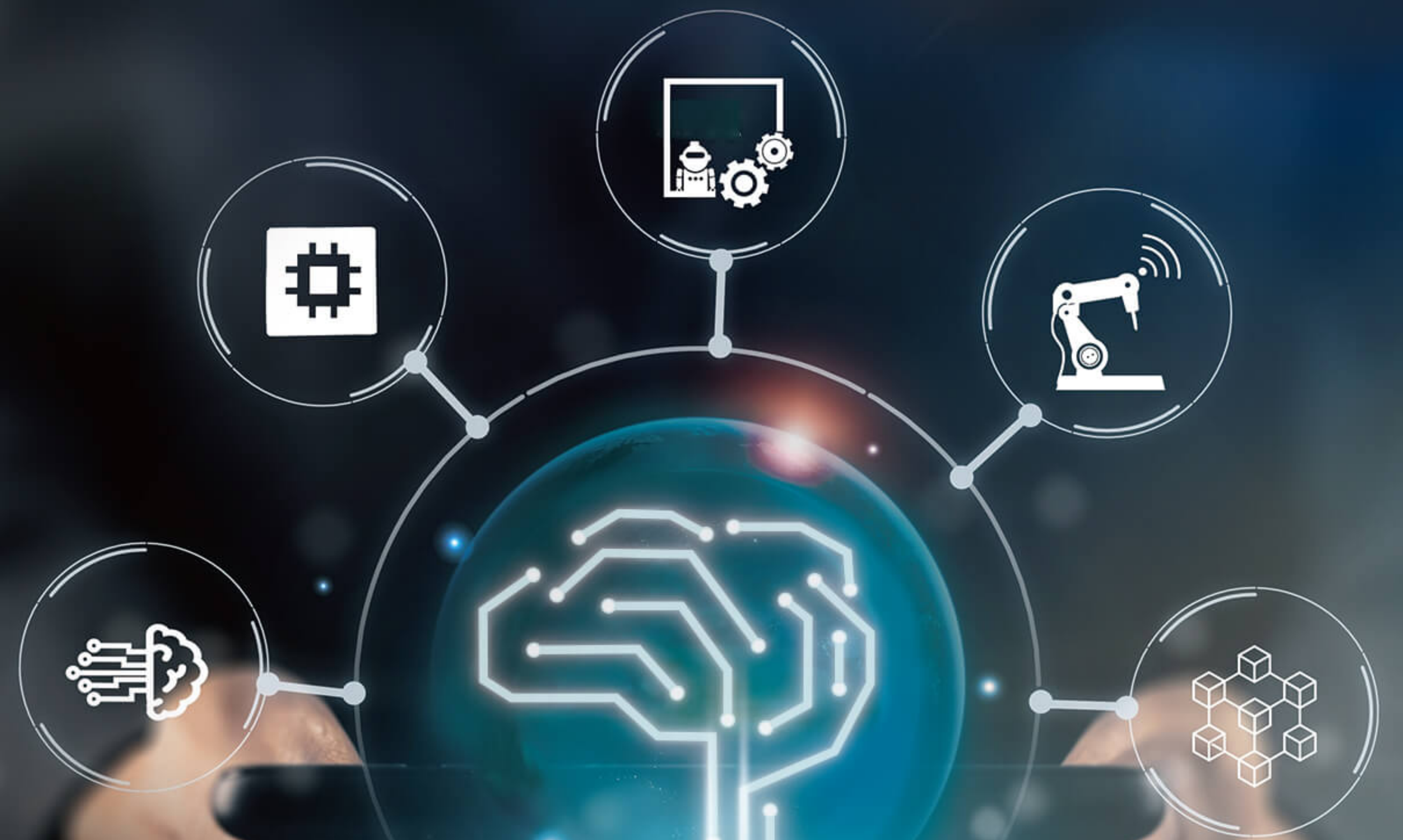
Ecosystem Partners



Milestone

2012	Founded for the industrial graphics card market in Banqiao	
2013	<ul style="list-style-type: none">• Built a full product line of embedded MXM GPU modules• Received reinvestment from Innodisk Corporation• Established Xizhi office	
2014	<ul style="list-style-type: none">• Launched the rugged GPGPU board series• Established European sales office	
2015	<ul style="list-style-type: none">• Entered the AI market with the first COM-Express SoM with NVIDIA Tegra• Established the China sales office	
2016	Launched multi-display graphics card series	
2017	Announced the smallest intelligent Jetson TX2 platform	
2018	<ul style="list-style-type: none">• Received ISO 9001:2015 certification and approval• Unveiled the AI security solution for Smart City	
2019	Built AIoT ecosystem partnerships with a variety of reputed companies	
2020	Developed Edge AI Starter Packages (EASP) for customers and partners to quickly enter edge AI	
2021	Announced Aetina Intelligent Management (AIM), package development tools based on Aetina designed software platform	
2022	<ul style="list-style-type: none">• Recognized as NPN Elite partner• Launch ASIC-based MXM and system	

Aetina Pro-AI Service



Aetina Pro-AI Service features comprehensive solutions that help developers, system integrators, and business owners adopt AI or create different AI verticals in a quicker and more effortless way. To deliver the most advanced solutions, Aetina integrates state-of-the-art AI hardware and software, establishes an ecosystem partner network, and forms a unique methodology that can lead to a systematic plan for AI adaptation. Aetina offers the most suitable solution based on client's needs.

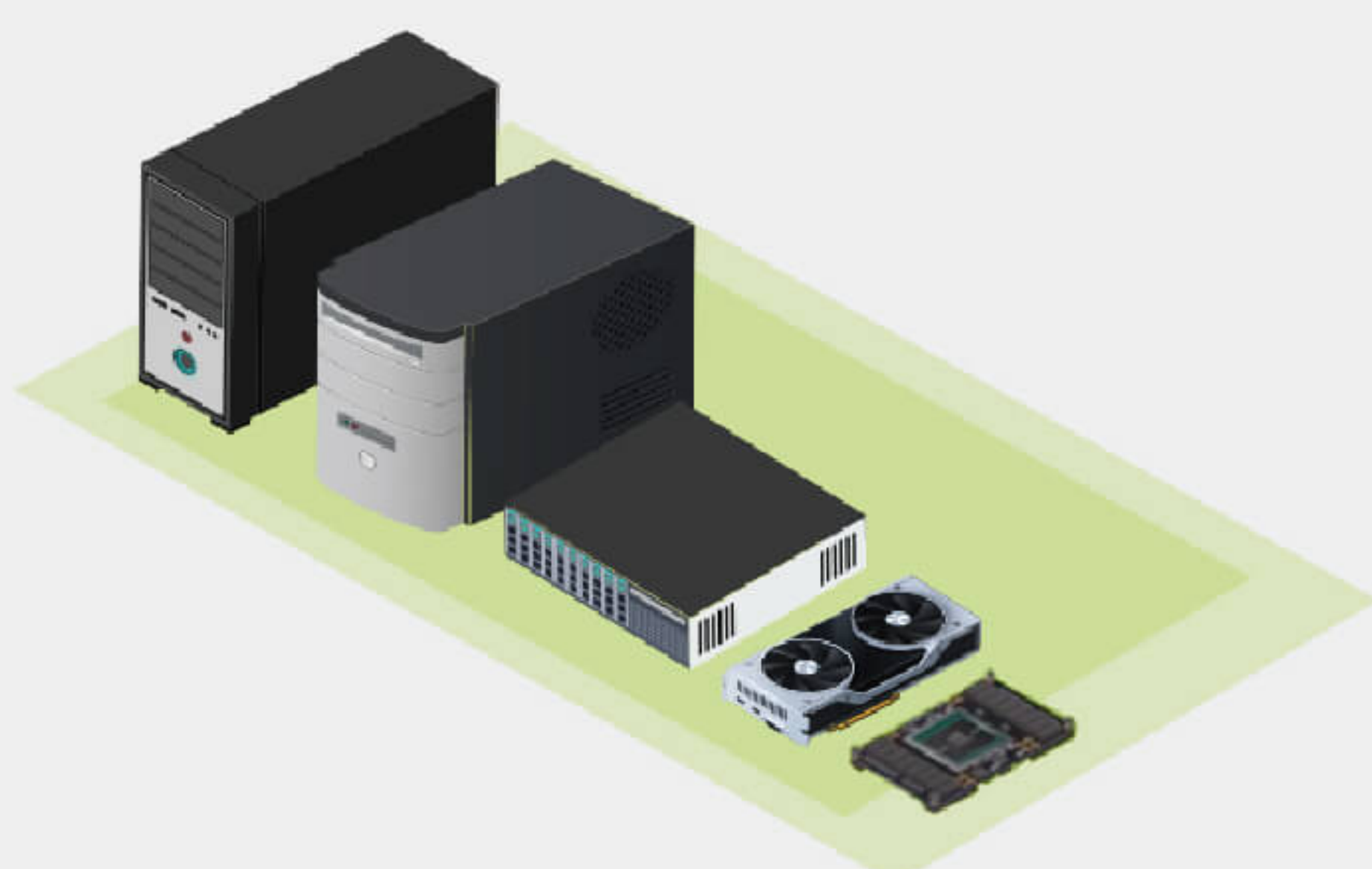
How it Works



Identify the needs to start AI adoption



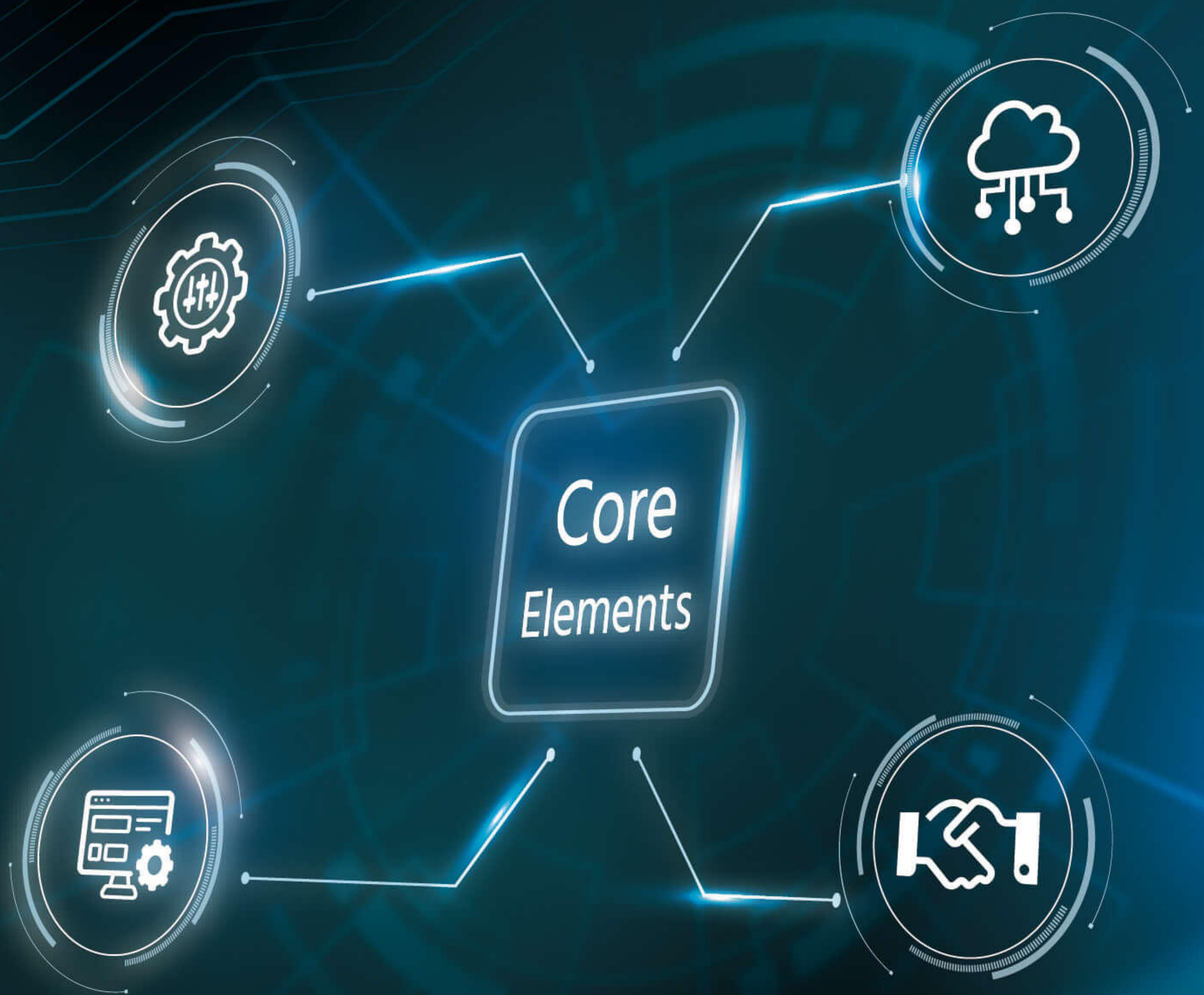
Evaluate IT capability for AI model training and deploying



Offer ideal hardware to execute AI projects



Collaborate with ecosystem partners to integrate peripherals and software



Customization

To build tailor-made AI solutions for clients, Aetina offers hardware/software customization service, including customization design of carrier boards and device enclosures, integrations of computing components and peripherals; AI model training, retraining, fine-tuning, and format converting; and customized software packages.



Cognition

Aetina provides no code AI tools that enables different AI systems to be build based on cognitive computing with simple and graphical user interfaces (GUI), speeding up AI model building which include the processes of training, evaluating, fine-tuning, and proof of concept (POC).



Connection

To help users effectively manage all edge devices that are located in different places, Aetina offers several cloud management platforms that can remotely deploy and update AI models anytime, anywhere, when the internet is connected.



Collaboration

Aetina continuously enlarges the ecosystem networks by collaborating with global partners that provide validated peripherals, algorithms, or software tools for large-scale or vertical-oriented AI projects.

The background of the slide features a futuristic industrial setting with yellow robotic arms. Overlaid on this are several glowing blue circular icons: a brain with circuitry, a cloud with server racks, a central 'Ai' logo with a chip, and a single microchip. A large, faint circular graphic with binary code (0s and 1s) is also visible in the background.

AI-driven Integration Range from Hardware to Software

In the process of developing intelligent systems, various types of enterprises face different pain points. As a result, enterprises need roles that can provide comprehensive AI solutions in the most efficient way in terms of cost effectiveness, manpower and time, thereby optimizing enterprise productivity and competitiveness.

Aetina constructs an effective service model after assess customers' needs and IT capabilities, providing **"AI Accelerator& GPU"** that can be easily integrated into customers' systems to improve overall computing performance, offering AI inference systems/platforms or AI training system for **"Edge AI Solutions"** according to the computing requirements and hardware architectures, and integrating validated hardware with user-friendly software and AI Suite SDK via **"Software & Service Package"**.

- **Software& Service Package**
- **Edge AI Solutions**
- **AI Accelerator& GPU**

Software & Service Package

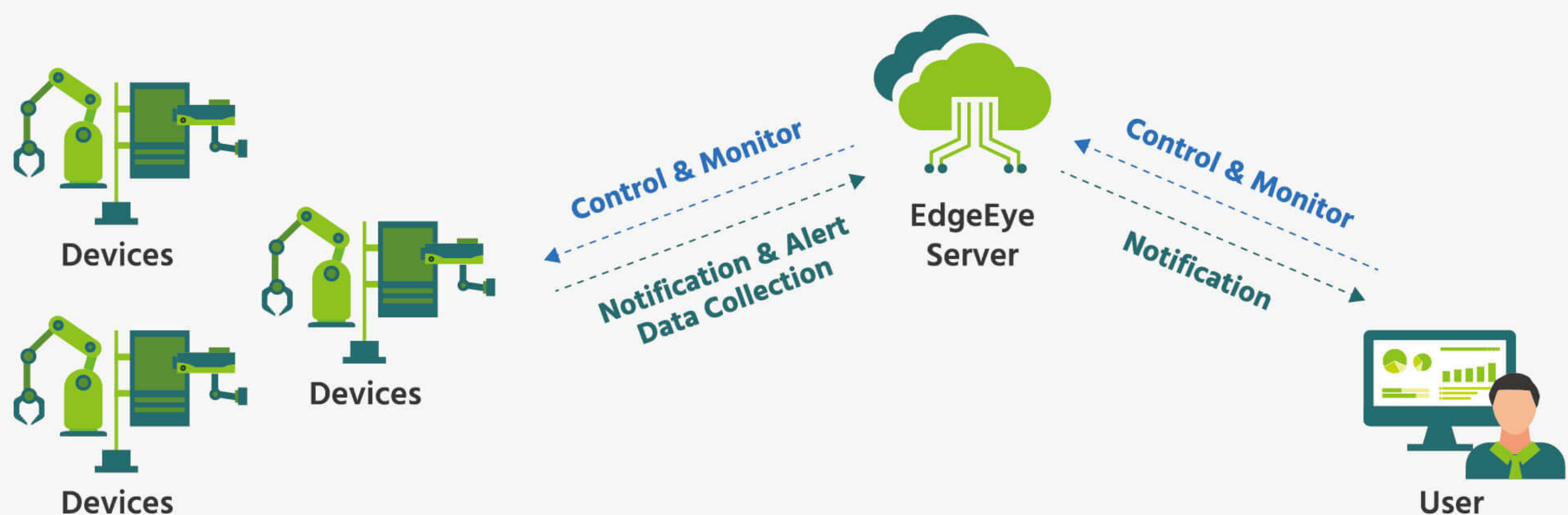


In the AIoT era, communication between hardware and software is vital to all smart industries. Therefore, Aetina launched **Software and Service Package** to make clients easily and comprehensively manage numerous devices via **cloud management platforms, AI development tools, and utility software.**

Cloud Management Platforms



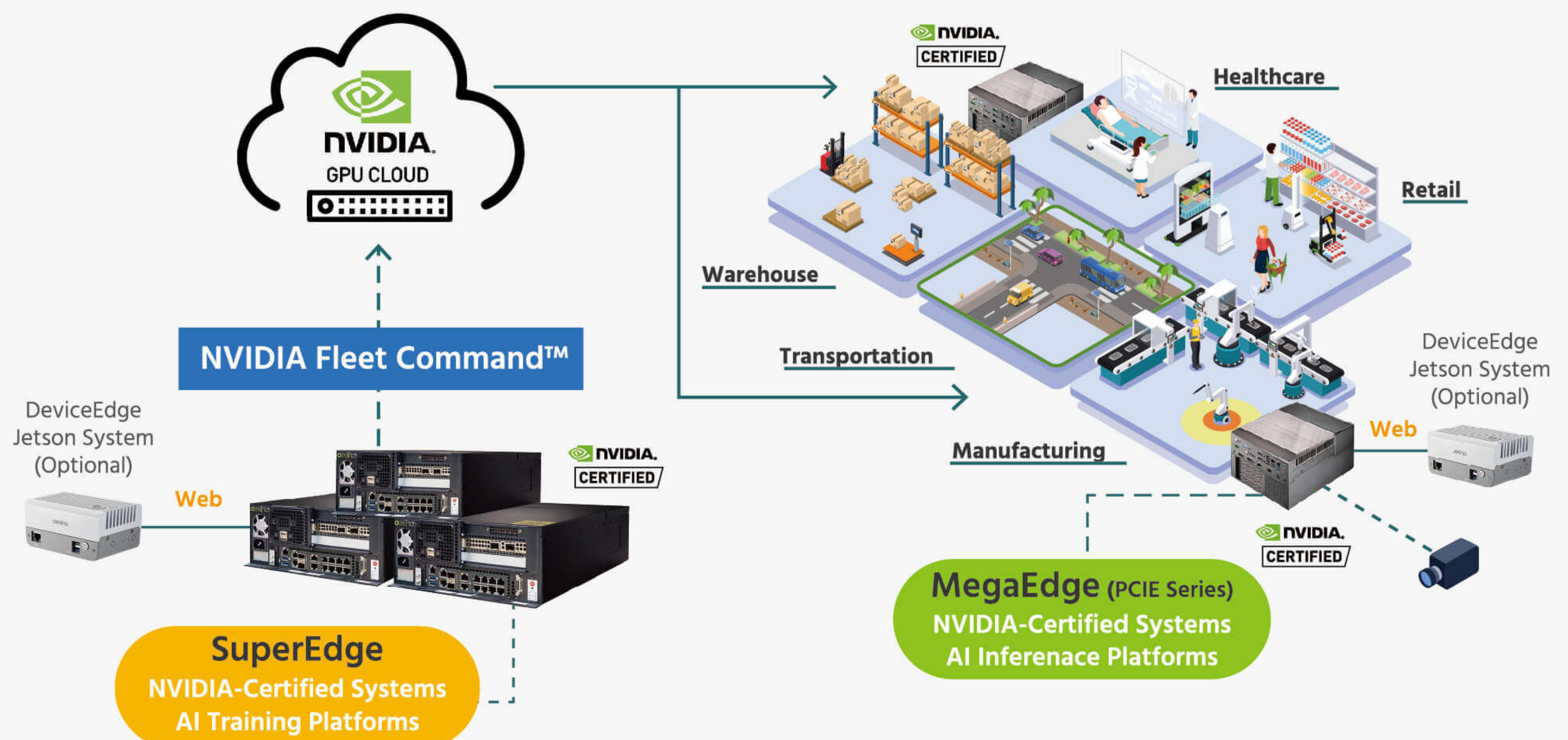
To help clients efficiently and systematically manage edge devices deployed in different locations, Aetina offers several cloud management platforms. For example, EdgeEye, an Aetina browser-accessed management platform, allows clients to conveniently manage edge devices via internet-connected smartphones, tablets, or laptops, no matter where the devices are deployed. EdgeEye displays diversified device status with user-friendly interfaces to help clients monitor if user-defined values are in the normal range, including CPU/GPU loading, operating temperatures, memory loading, storage status, and deployment sites. In addition, EdgeEye supports functions of reboot, shutdown, backup, and recovery via out-of-band management modules.




Cloud Management Platforms



NVIDIA Fleet Command™, a platform that securely orchestrates AI across numerous edge devices in distributed sites. As the AI model needs to be updated to remain accurate, assigning IT administrators to be on-site all the time is not cost-effective, especially if the deployment locations are too far for travel. Fortunately, NVIDIA Fleet Command can manage AI model deployments from the cloud at any time, from anywhere, reduce maintenance costs.



AI Development Tools

A futuristic graphic with a dark blue background. In the center is a large, glowing circular interface with the letters 'AI' in white. Surrounding this are several hexagonal icons: a monitor with a gear, a brain, and a network symbol. The background is filled with glowing blue lines and dots, suggesting a digital or data environment.

Based on clients' targeted scenarios such as license plate recognition in smart city and emotion recognition in smart healthcare or retail, Aetina offers a suggested product portfolio of AI development tools that ranges from AI model labeling, training to inference. Clients can easily get pretrained models of high accuracy and train AI models in hours rather than months. With multiple frameworks support, significantly streamline and standardize end-to-end AI processes to maximize overall computing performance.

Utility Software



Aetina utility software is designed to optimize the maintenance of devices. For instance, OTA, over the air, is an efficient way to fix bugs and update BSP remotely compared to manually upgrade each individual device that is difficult to access. OTA updates can catch issues before devices launch, reducing labor cost and time for the quality-assurance process.

Besides, backup and recovery tools offer replication functionality and make data disaster-proof especially when a system crashes. The tools support USB storage that is easy to boot up quickly by plugging in the USB drive, as well as supporting SSD bundles that can trigger recovery via one key button on Aetina platforms or systems.

Edge AI Solutions

Edge Computers for AI Training and Inference

Aetina conducts a vast array of systems and platforms for edge AI, including the **“SuperEdge”** for AI training achievements, the **“MegaEdge”** for generally excellent inference performance, and the **“DeviceEdge”** for efficient inference performance.

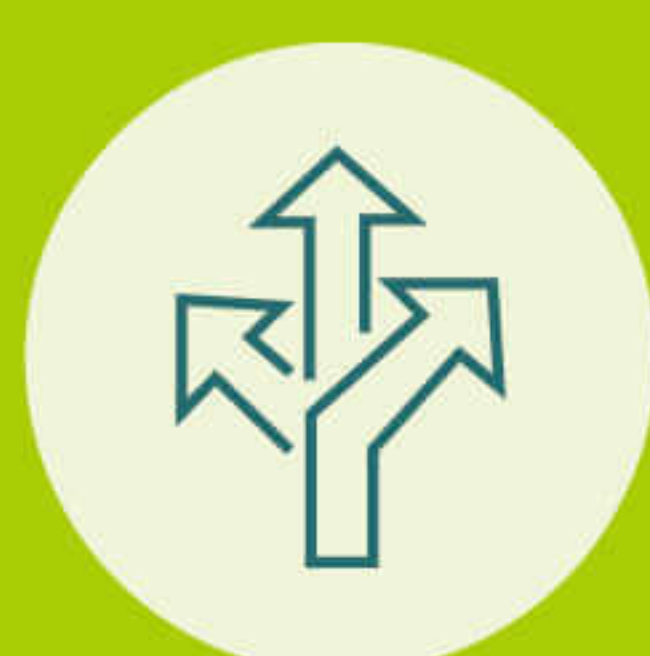
• DeviceEdge	15
• MedgaEdge	30
• SuperEdge	33

DeviceEdge

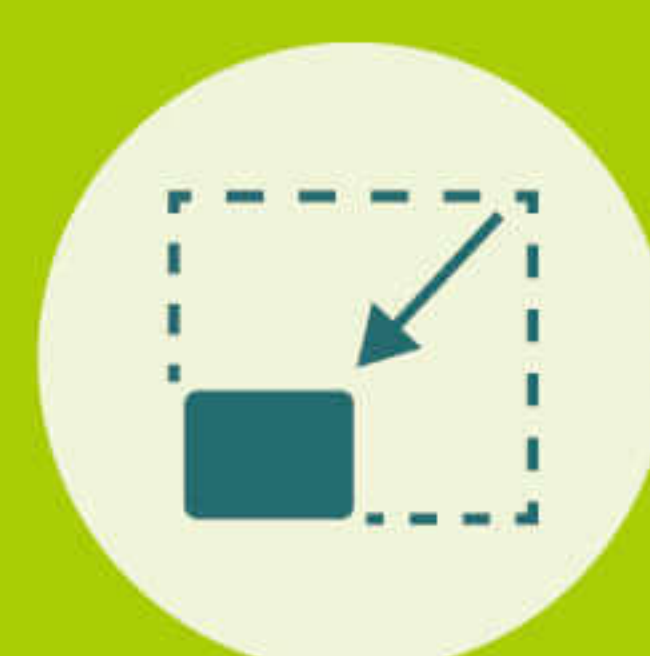
Comprehensive Edge Systems and Platforms



Aetina DeviceEdge comprises a wide variety of NVIDIA Jetson™ and AISC-based platforms and systems. Depending on computing performance and application requirements from clients, Aetina offers professional suggestions of suitable products and comprehensive customization service such as customized I/O interface and form factors, chip-down design service, thermal or housing design, BSP customization for 3rd party devices, 3rd party software pre-installation, device integration, and compliance test service.



Flexible Processor
Choices

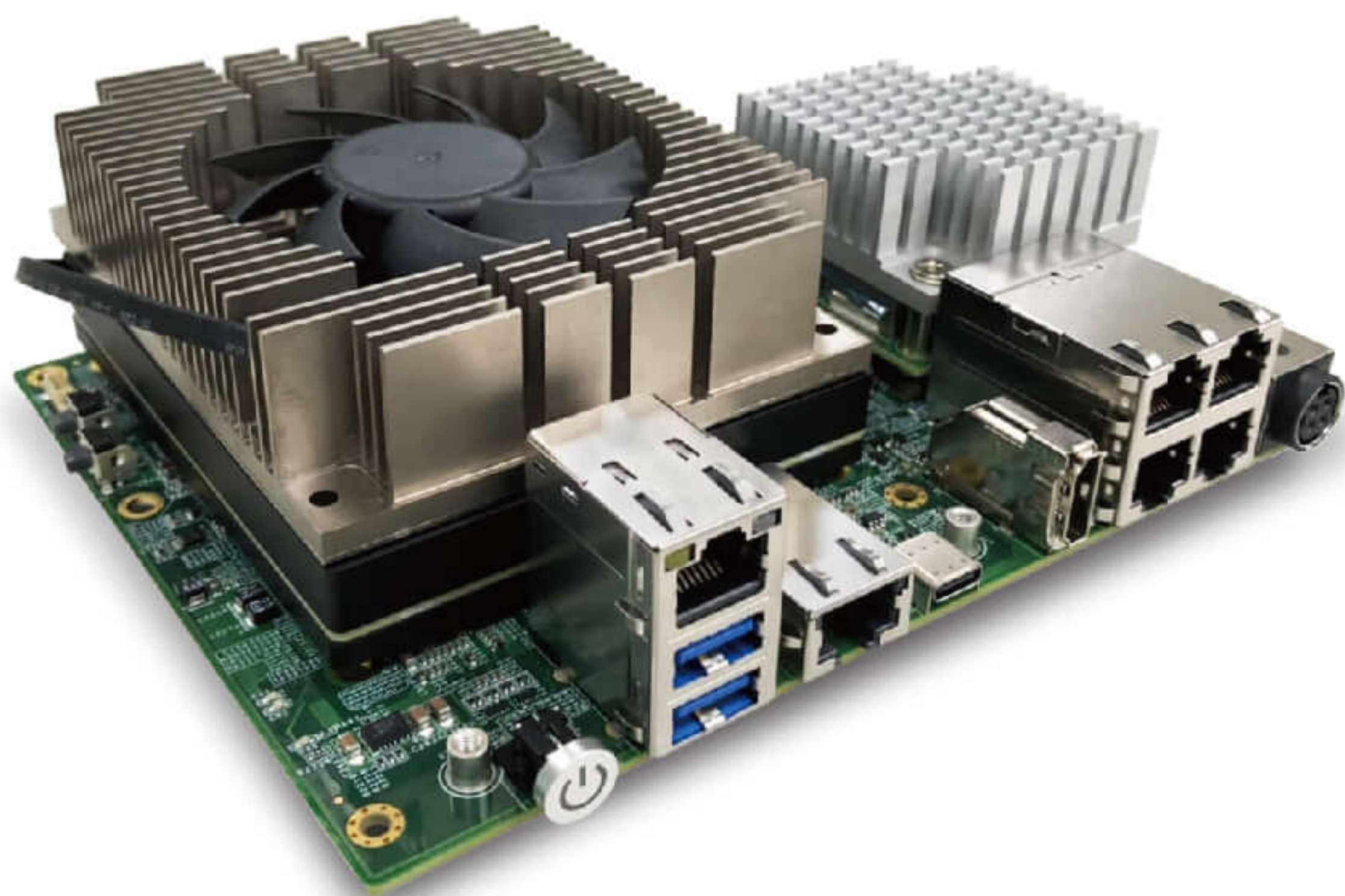


Compact Design



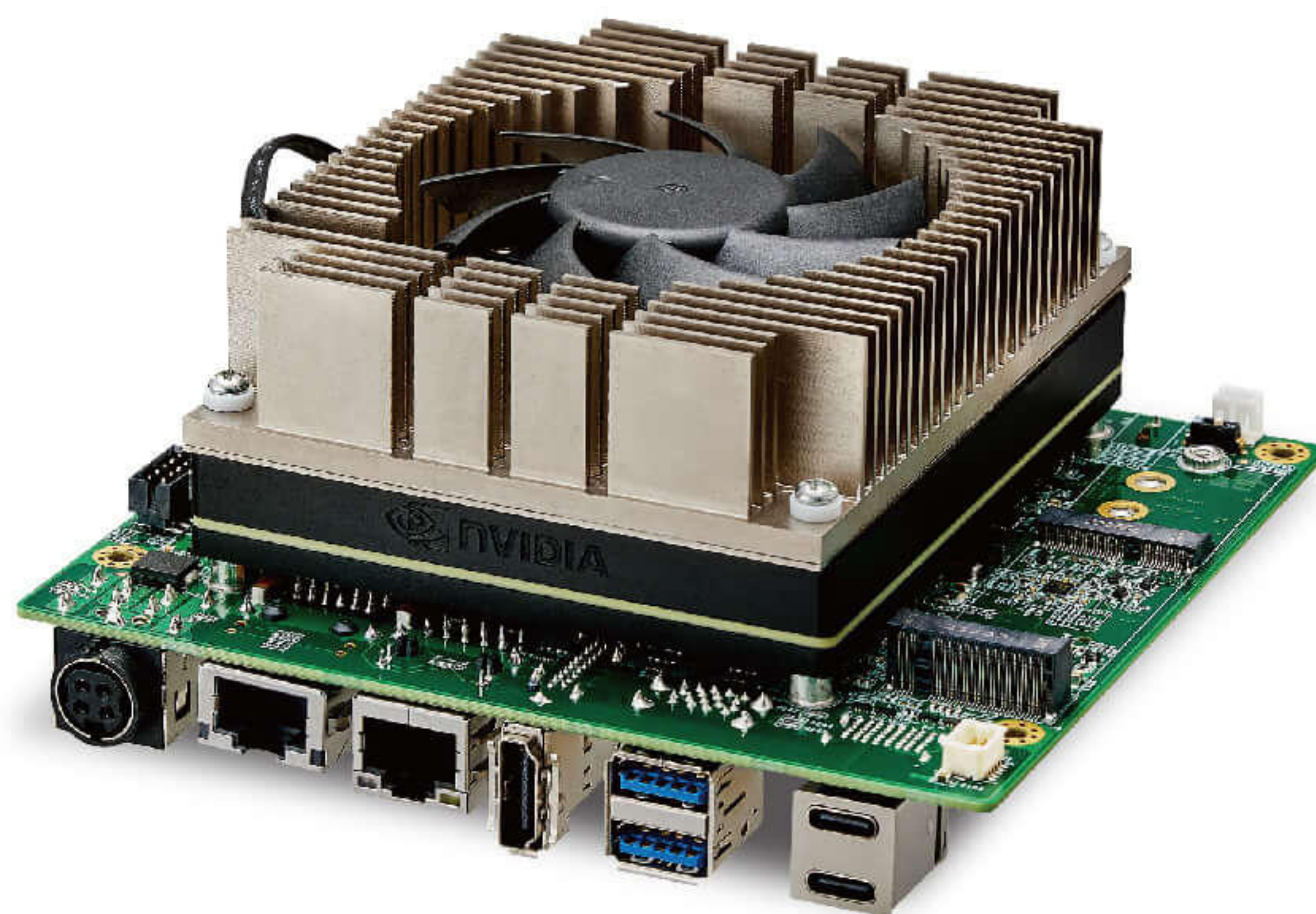
Comprehensive
Customization

Jetson Series-Platform Features



AIB-MX11/21 | AIB-MX12/22

- Supports NVIDIA Jetson AGX Orin™ 32GB/64GB
- Wide input voltage range from 9 to 36VDC
- 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key, 1 x GbE port, 1 x 10GbE port, and 2/4 x IEEE 802.3af GbE PSE ports
- Supports Innodisk Out-of-Band Remote Management Module
- Operating temperature: -25°C ~ +80°C



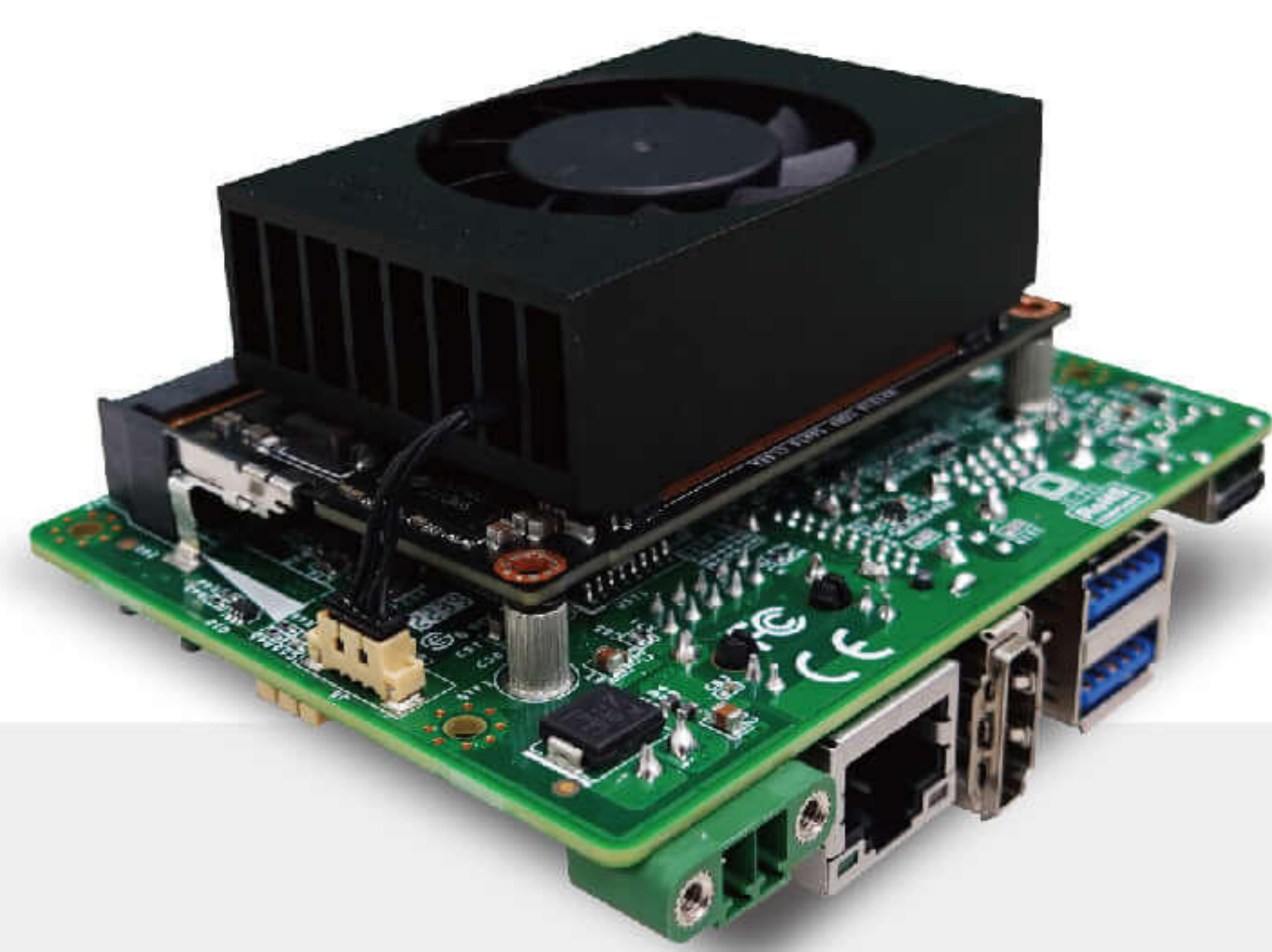
AIB-MX13/23

- Supports NVIDIA Jetson AGX Orin 32GB/64GB
- Wide input voltage range from 9 to 36VDC
- 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key
- 1 x GbE port, 1 x 10GbE port
- Operating temperature: -25°C ~ +80°C



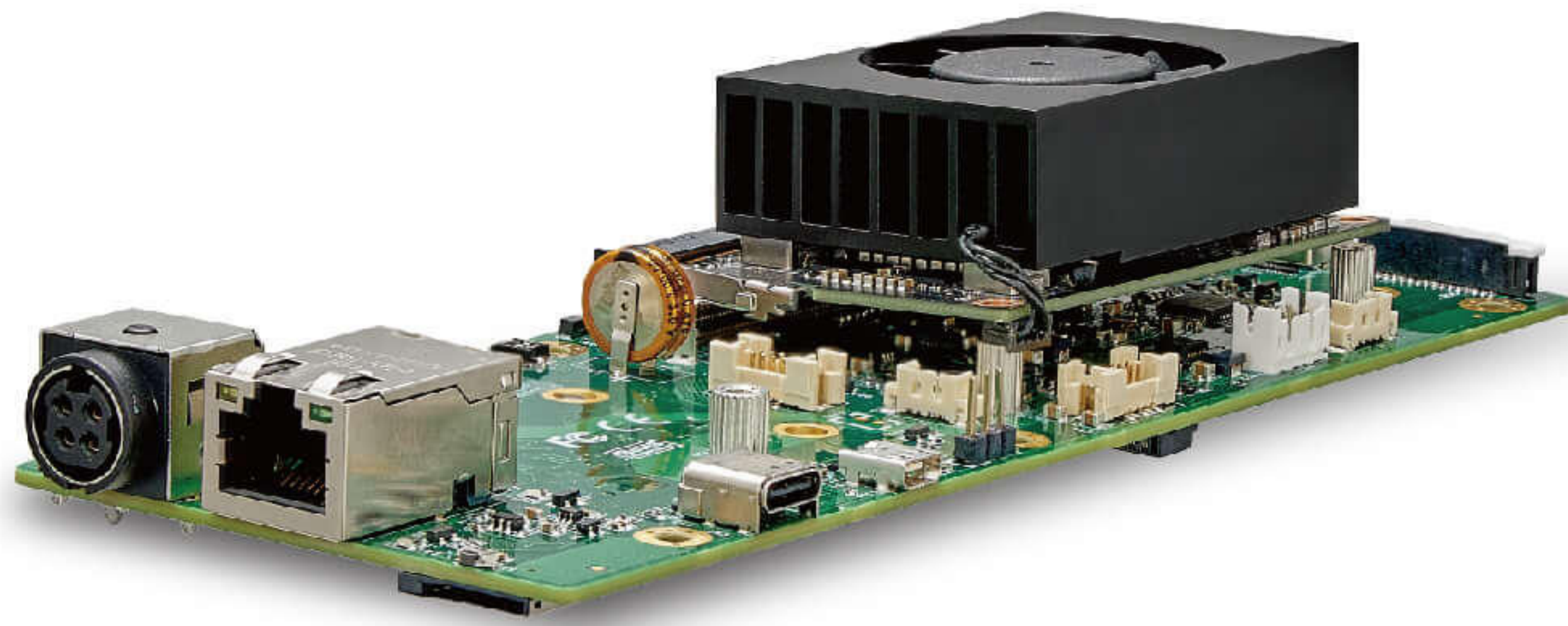
AIB-MO22/32 | AIB-MN32/42 *Preliminary

- Supports NVIDIA Jetson Orin NX™ 8GB/16GB
- Wide input voltage range from 12 to 24VDC
- Storage supports external 128GB M.2 2242 NVMe
- 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key, 1 x GbE port, 1 x 2.5GbE port
- Operating temperature: -25°C ~ + 80°C



AIB-SO21/31 | AIB-SN31/41

- Supports NVIDIA Jetson Orin NX 8GB/16GB
- Wide input voltage range from 12 to 24VDC
- Storage supports external 128GB M.2 2242 NVMe
- M.2 E-Key 2230 for wireless communication, and 1x GbE port
- Operating temperature: -25°C ~ + 80°C



AIB-SO11 | AIB-SN11/21 | AIB-ST41

- Supports NVIDIA Jetson Nano™, Jetson™ TX2 NX , Xavier™ NX
- 2x 2-lane MIPI Expansion Connector
- 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key (E-Key/M-Key selectable by switch)
- MicroSD for storage extension
- 12VDC power input



AX720 Series

- Supports NVIDIA Jetson AGX Xavier™
- Additional driver to support embedded peripheral modules for multiple I/O expansion capability
- On-board 2x HDMI, 1x M.2 M-Key, 1x M.2 E-Key and 3x RJ45 to support rich multimedia
- 9 to 20VDC power input
- Extended temperature range: -40°C~ +80°C



AN810 Series

- Supports NVIDIA Jetson Xavier NX 8GB/16GB
- 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key
- MicroSD for storage extension
- 12 to 19VDC power input
- Operating temperature: -20°C ~ + 70°C



AN110 Series

- Supports NVIDIA Jetson Xavier NX and Nano
- M.2 E-Key 2230 for wireless communication
- MicroSD for storage extension
- 12VDC power input
- Operating temperature: -20°C ~ + 80°C



AT017 Series

- Supports NVIDIA Jetson TX2 NX and Nano
- M.2 E-Key 2230 for wireless communication, and supporting 1 x mPCIe (only supports mSATA)
- MicroSD for storage extension
- 12VDC power input
- Operating temperature: -20°C ~ + 80°C



*Preliminary



Model Number	AIB-MX11/21 AIB-MX12/22	AIB-MX13/23	AIB-MO22/32 AIB-MN32/42	AIB-SO21/31 AIB-SN31/41
Module Compatibility	NVIDIA Jetson AGX Orin™ 32GB NVIDIA Jetson AGX Orin 64GB	NVIDIA Jetson AGX Orin 32/64GB	NVIDIA Jetson Orin Nano™ 4/8GB NVIDIA Jetson Orin™ NX 8/16GB	NVIDIA Jetson Orin Nano 4/8GB NVIDIA Jetson Orin NX 8/16GB
AI Performance	200 TOPS 275 TOPS	200/275 TOPS	20/40 TOPS 70/100 TOPS	20/40 TOPS 70/100 TOPS
Storage	64GB eMMC 5.1	64GB eMMC 5.1	128GB M.2 2242 NVMe PCIe SSD	128GB M.2 2242 NVMe PCIe SSD
Display	1 x HDMI Type A	1 x HDMI Type A	1 x HDMI Type A	1 x HDMI Type A
TPM	TPM v2.0 (optional)	TPM v2.0 (optional)	Not supported	Not supported
RTC battery	With super capacitor, battery optional	With super capacitor, battery optional	With super capacitor, battery optional	With super capacitor, battery optional
Audio	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)
Camera Input	1x 16-Lane MIPI Expansion Connector	1x 16-Lane MIPI Expansion Connector	1x 8-Lane MIPI Expansion Connector (120 Pin)	2 x 4 lane MIPI CSI-2, 22 pin FPC Connector
LAN	1 x RJ-45 GbE port, 1 x RJ-45 10GbE port, 2/4 x RJ-45 IEEE802.3af GbE PSE ports	1 x RJ-45 GbE port, 1 x RJ-45 10GbE port	2 x RJ-45 GbE Ports	1 x RJ-45 GbE Port (no PD function)
USB	2 x USB 3.2 Gen1 Type A, 1 x USB 3.2 Gen1 Type C, 1 x USB 2.0 (DB-15), 1 x USB 2.0 Type C (OTG only)	2 x USB 3.2 Gen1 Type A, 1 x USB 2.0 Type C (OTG only), 1 x USB 3.2 Gen2 Type C	2x USB 3.2 Gen2 Type A 1x USB 2.0 Type C (OTG only)	2x USB 3.2 Gen2 Type A 1x USB 2.0 Type C (OTG only)
I/O Interfaces	5V power supply (5 Watt), 12V power supply (5 Watt), 2 x I ² C, 1 x I ² S, 1 x SPI, 5 x GPIO	2 x I ² C, 1 x I ² S, 1 x SPI, 5 x GPIO, 1 x 3.3VDC/0.5A, 2 x 5VDC/0.5A, 1 x 12VDC/0.5A, 1 x USB 2.0	5 x GPIO, 1 x SPI, 3 x I ² C, 1 x UART1, 1 x UART3 (Debug only), 1 x RS-232, 1x CAN (Isolation), 1 x RS-422/485	5 x GPIO, 1 x I ² C, 1 x RS-232, 1 x UART1, 1 x UART3 (Debug only), 1 x SPI, 1 x CAN (Isolation)
Expansion	1 x M.2 B-Key 3042/3052 1 x M.2 E-Key 2230 1 x M.2 M-Key 2242 1 x microSD slot	1 x M.2 B-Key 3042/3052 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280 1 x microSD slot	1 x M.2 B-Key 3042/3052 1 x M.2 E-Key 2230 1 x M.2 M-Key 2242	1 x M.2 E-Key 2230 1 x M.2 M-Key 2242
MISC. Function	1 x Power/Recovery/Reset button 2 x UART, 1 x UART3 (Debug only) 1 x RS-232, 1x RS-422/485 2 x CAN 2.0b	1 x Power/Recovery/Reset button 2 x UART, 1 x UART3 (Debug only) 1 x RS-232 1x RS-422/485 2 x CAN 2.0b	1x Power/Recovery/Reset button	1x Power/Recovery/Reset button
Power Consumption	Idle: TBD Full Loading: TBD	Idle: TBD Full Loading: TBD	Idle: TBD Full Loading: TBD	Idle: TBD Full Loading: TBD
Power Input / Connector	DC-in 9 to 36 VDC / 4-pin DC Jack Power Connector	DC-in 9 to 36 VDC / 4-pin DC Jack Power Connector	DC-in 12 to 24 VDC / 4-pin DC Jack Power Connector	DC-in 12 to 24VDC / 2-Pin Euro block
Dimension (W x D x H)	172 x 136 x 58.92 mm	131 x 120 x 63.9 mm	100 x 120 x 57.5 mm	87.4 x 67.4 x 28.45 mm
Net Weight	TBD	688g (with Fansink)	TBD	TBD
Temperature	Operating:-25 ~ + 80°C Storage:-40~ + 85°C	Operating:-25 ~ + 80°C Storage:-40~ + 85°C	Operating:-25 ~ + 80°C Storage:-40~ + 85°C	Operating:-25 ~ + 80°C Storage:-40~ + 85°C
Humidity	5 to 90% (non-condensing) 40°C	5 to 90% (non-condensing) 40°C	5 to 90% (non-condensing) 40°C	5 to 90% (non-condensing) 40°C
OS Support	Ubuntu 20.04	Ubuntu 20.04	Ubuntu 20.04	Ubuntu 20.04
Certification	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A



AIB-SO11 AIB-SN11/21 AIB-ST41	AX720 Series	AN810 Series	AN110 Series	AT017 Series
NVIDIA Jetson Nano™ NVIDIA Jetson Xavier™ NX 8/16GB NVIDIA Jetson™ TX2 NX	NVIDIA Jetson AGX Xavier™ 32/64GB	NVIDIA Jetson Xavier NX 8/16GB	NVIDIA Jetson Nano NVIDIA Jetson Xavier NX 8/16GB	NVIDIA Jetson Xavier NX 8/16GB NVIDIA Jetson TX2 NX
0.5 TFLOPS 14/21 TOPS 1.33 TFLOPS	32 TOPS	14/21 TOPS	0.5 TFLOPS 14/21 TOPS	14/21 TOPS 1.33 TFLOPS
16 GB eMMC 5.1	32 GB eMMC 5.1	16 GB eMMC 5.1	16 GB eMMC 5.1	16 GB eMMC 5.1
1x Micro HDMI Type D	2x HDMI Type A	1 x HDMI Type A	1 x HDMI Type A 1 x eDP	1 x HDMI Type A
Not supported	Not supported	Not supported	Not supported	Not supported
Not supported	Yes with Battery (opt.)	Yes with Battery (opt.)	Not supported	Yes with Battery (opt.)
HDMI Integrated	HDMI Integrated	HDMI Integrated	HDMI Integrated	HDMI Integrated
2 x 2 lane MIPI CSI-2, 15 pin FPC Connector	1x 16-Lane MIPI Expansion Connector, Compatible With Dev. Kit	1x 12-Lane MIPI Expansion Connector (120 Pin)	1 x 2 lane MIPI CSI-2, 15 pin FPC Connector 1 x 4 lane MIPI CSI-2, 36 pin FPC Connector	not supported
1 x RJ-45 GbE port	1 x RJ-45 GbE Port	1 x RJ-45 GbE Port	1 x RJ-45 GbE Port	1 x RJ-45 GbE Port
1 x USB 2.0 Type C (OTG only)	2 x USB 3.2 Gen1 Type A 1x USB3.2 Gen2 Type C 1x USB2.0 Micro AB (OTG Only)	2 x USB 3.2 Gen1 Type A 1x USB2.0 Micro AB (OTG Only)	2 x USB 3.2 Gen1 Type A 1x USB2.0 Micro AB (OTG Only)	2 x USB 3.2 Gen1 Type A 1x USB2.0 Micro AB (OTG Only)
5V power supply (5 Watt), 12V power supply (5 Watt), 1 x I²C, 4 x GPIO, 1x RS-485, 2 x UART1 / UART2, 1 x UART3 (Debug only)	1 x RS-232, 2 x UART1 / UART2, 1 x UART3 (Debug Only), 2 x CAN 2.0b, 5 x GPIO, 1 x I²C, 1 x SPI	5 x GPIO, 1 x SPI, 3 x I²C, 2 x UART1 / UART2, 1 x UART3 (Debug Only), 1 x RS-232, 1x CAN	5 x GPIO, 1 x I²C, 1 x RS-232, 2 x UART1 / UART2, 1 x UART3 (Debug Only), 1 x SPI	8x GPIO, 1x RS-232, 1x SPI, 1 x I²C, 2 x UART1 / UART2, 1 x UART3 (Debug Only), 1x Relay (2 x 20pin Terminal block)
1 x M.2 B-Key 3052 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280 (optional) 1 x MicroSD slot 1 x Sim slot	1 x M.2 E-Key 2230 1 x M.2 M-Key 2280 1 x MicroSD Slot	1 x M.2 B-Key 3050 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280 1 x MicroSD slot	1 x M.2 E-Key 2230 1 x MicroSD Slot	1 x M.2 E-Key 2230 1 x mPCIe (Only support mSATA) 1 x MicroSD Slot
1x Power/Recovery/Reset Button	1 x Power/Recovery/Reset Button	1 x Recovery / Reset Button	1 x Power/Recovery/Reset Button	1 x Power/Recovery/Reset Button
Idle: TBD Full Loading: TBD	Idle: 3.63W Full Loading: 27.48W	Idle: 1.68W Full Loading: 15.97W	Idle: 1.098W Full Loading: 17.061W	Idle: 1.08W Full Loading: 17.64W
DC-in 12VDC / DC Jack	DC-in 9 to 20VDC / 6-pin ATX Power Connector	DC-in 12 to 19VDC / 6-pin ATX power connector	DC-in 12VDC / 2 Pin Euro block	DC-in 12VDC / DC Jack
172 x 66 x 25.66mm	131 x 120 x 30.5mm	120 x 120 x 28.5mm	87.4 x 67.4 x 28.7mm	115 x 98 x35.32mm
(with PD module) Nano with Heatsink: 158g TX2 NX with Fansink: 167g Xavier NX with Fansink: 172g	640g(with Fansink)	190g(with Fansink)	Nano with Heatsink: 125g Xavier NX with Fansink: 140g	Xavier NX with Fansink: 140g TX2 NX with Fansink: 135g
Operating:-20 ~ + 70°C Storage:-40~ + 85°C	Operating:-20 ~ + 80°C Storage:-40~ + 85°C	Operating:-20 ~ + 70°C Storage:-40~ + 85°C	Operating:-20 ~ + 80°C Storage:-40~ + 85°C	Operating:-20 ~ + 80°C Storage:-40~ + 85°C
5 to 90% (non-condensing) 40°C	5 to 90% (non-condensing) 40°C	5 to 90% (non-condensing) 40°C	5 to 90% (non-condensing) 40°C	5 to 90% (non-condensing) 40°C
Ubuntu 18.04	Ubuntu 18.04	Ubuntu 18.04	Ubuntu 18.04	Ubuntu 18.04
CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A

Jetson Series-System Features



AIE-KX11/21 | AIE-KX12/22

- Supports NVIDIA Jetson AGX Orin™ 32GB/64GB
- Wide input voltage range from 9 to 36VDC
- 1 x GbE port, 1 x 10GbE port, and 2/4 x IEEE 802.3af GbE PSE ports
- Built-in 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key
- Operating temperature: -25°C ~ +70°C



AIE-KX13/23

- Supports NVIDIA Jetson AGX Orin 32GB/64GB
- Wide input voltage range from 9 to 36VDC
- 1 x GbE port, 1 x 10GbE port
- Built-in 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key
- Operating temperature: -25°C ~ +70°C



AIE-KO21/31 | AIE-KN31/41

- Simultaneously supports NVIDIA Jetson Orin™ NX and Orin Nano™
- Specifically designed for high performance and low-power develop AI computing
- Real-time monitoring for status of device through EdgeEye



AIE-KO22/32 | AIE-KN32/42 *Preliminary

- Simultaneously supports NVIDIA Jetson Orin NX and Orin Nano
- Specifically designed for high performance and low-power develop AI computing
- Real-time monitoring for status of device through EdgeEye



AIE-KN13/23

- Supports NVIDIA Jetson Xavier™ NX
- 12 to 19VDC power input
- 1 x GbE port
- Built-in M.2 M-key 2242 NVMe 128G SSD and support M.2 E-key 2230 for Wifi/BT Function
- 9 x USB for Type A and 1 x USB for Type C (OTG only)



AX720 Series

- Supports NVIDIA Jetson AGX Xavier™
- 19VDC power input
- 1 x GbE port
- Built-in M.2 M-Key 2280 and support M.2 E-key 2230 for Wifi/BT Function
- 2 x USB 3.2 Gen1 for Type A, 1 x USB 3.2 Gen2 for Type C and 1 x USB 2.0 Micro AB for OTG



AN810 Series

- Supports NVIDIA Jetson Xavier NX
- 12VDC power input
- Built-in 1 x GbE port
- Supports M.2 M-key 2280 (PCIe x4 / SATA), M.2 E-Key 2230 (USB2.0/PCIe x1), and M.2 B-Key



*Preliminary

*Preliminary

Model Number	AIE-KX11/21 AIE-KX12/22	AIE-KX13/23	AIE-KO21/31 AIE-KN31/41	AIE-KO22/32 AIE-KN32/42
Module Compatibility	NVIDIA Jetson AGX Orin™ 32GB NVIDIA Jetson AGX Orin 64GB	NVIDIA Jetson AGX Orin 32/64GB	NVIDIA Jetson Orin Nano™ 4/8GB NVIDIA Jetson Orin™ NX 8/16GB	NVIDIA Jetson Orin Nano 4/8GB NVIDIA Jetson Orin NX 8/16GB
Storage	64GB eMMC 5.1	64GB eMMC 5.1	128GB M.2 2242 NVMe PCIe SSD	128GB M.2 2242 NVMe PCIe SSD
Display	1 x HDMI Type A	1 x HDMI 2.1 Type A	1 x HDMI Type A	1 x HDMI Type A
TPM	TPM v2.0 (optional)	TPM v2.0 (optional)	Not supported	Not supported
RTC Battery	With super capacitor, battery optional	With super capacitor, battery optional	With super capacitor, battery optional	With super capacitor, battery optional
Audio	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)
LAN	1 x RJ-45 1GbE ports, 1 x RJ-45 10GbE port, 2/4 x RJ-45 IEEE802.3af GbE PSE ports	1 x RJ-45 GbE port, 1 x RJ-45 10GbE port	1 x RJ-45 GbE Port (no PD function)	2 x RJ-45 GbE Ports
USB	2 x USB 3.2 Gen1 Type A, 1 x USB 2.0 (DB-15), 1 x USB 2.0 Type C (OTG only), 1x USB 3.2 Gen1 Type C	2 x USB 3.2 Gen1 Type A, 1 x USB 2.0 (DB-15), 1 x USB 2.0 Type C(OTG only), 1 x USB 3.2 Gen2 Type C	2 x USB 3.2 Gen2 Type A 1 x USB2.0 Type C (OTG only)	2 x USB 3.2 Gen2 Type A, 1 x USB 2.0 Type C (OTG only)
I/O Interfaces	2 x I ² C, 1 x I ² S, 1 x SPI, 5 x GPIO 1 x RS-232, 1x RS-422/485 2 x CAN 2.0b	1x RS-422/485	5 x GPIO,1 x I ² C, 1 x RS-232, 1 x UART, 1 x CAN (Isolation)	5 x GPIO, 3 x I ² C, 1 x UART, 1 x RS-232, 1 x CAN (Isolation), 1 x RS-422/485
Expansion	1 x M.2 B-Key 3042/3052 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280 1 x microSD slot	1 x M.2 B-Key 3042/3052 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280	1 x M.2 E-Key 2230 1 x M.2 M-Key 2242	1 x M.2 B-Key 3042/3052 1 x M.2 E-Key 2230 1 x M.2 M-Key 2242
MISC. Function	1 x Power / Recovery / Reset Button 2 x UART, 1 x UART3 (Debug only)	1 x Power / Recovery / Reset Button 2 x UART, 1 x UART3 (Debug only)	1 x Power / Recovery / Reset Button 2 x UART, 1 x UART3 (Debug only)	1 x Power / Recovery / Reset Button
Power Consumption	Idle: TBD Full Loading: TBD	Idle: TBD Full Loading: TBD	Idle: TBD Full Loading: TBD	Idle: TBD Full Loading: TBD
Power Input / Connector	DC-in 9 to 36VDC / 4-pin DC Jack Power Connector	DC-in 9 to 36VDC / 4-pin DC Jack Power Connector	DC-in 12 to 24VDC / 2-Pin Euro block	DC-in 12 to 24VDC / 4-pin DC Jack Power Connector
Dimension (W x D x H)	220 x 170 x 79mm	210 x 124.7 x 84mm	123 x 99 x 56 mm	TBD
Mounting	Wall Mount / Din Rail (Optional)	Wall Mount / Din Rail (Optional)	Wall Mount / Din Rail (Optional)	Wall Mount / Din Rail (Optional)
Net Weight	TBD	1969g	TBD	TBD
Temperature	Operating: -20 ~ +70°C Storage: -40 ~ +85°C	Operating: -20 ~ +70°C Storage: -40 ~ +85°C	Operating: -20 ~ +70°C Storage: -40 ~ +85°C	Operating: -20 ~ +70°C Storage: -40 ~ +85°C
Humidity	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing
OS Support	Ubuntu 20.04	Ubuntu 20.04	Ubuntu 20.04	Ubuntu 20.04
Certification	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A



AIE-KN13/23	AX720 series	AN810 Series
NVIDIA Jetson AGX Xavier™ 32/64GB	NVIDIA Jetson AGX Xavier 32/64GB	NVIDIA Jetson Xavier™ NX 8/16GB
16GB eMMC 5.1 Flash	32GB eMMC 5.1 Flash	16GB eMMC 5.1 Flash
1 x HDMI 2.0 With Micro HDMI D Type Connector	2 x HDMI 2.0 Type A	1 x HDMI Type A
Not supported	Not supported	Not supported
Not supported	Not supported	Not supported
HDMI Integrated	HDMI Integrated	HDMI Integrated
1 x RJ-45 GbE Port	1 x RJ-45 GbE Port	1 x RJ-45 GbE Port
9 x USB 3.2 Gen1 Type A 1 x USB 2.0 Type C (OTG only)	2 x USB 3.2 Gen1 Type A 1 x USB 3.2 Gen2 Type C 1x USB2.0 Micro AB (OTG only)	2 x USB3.2 Gen1 Type A 1x USB2.0 Micro AB (OTG only)
5 x GPIO, 1x UART, 1x I²C, 1x CAN bus	5 x GPIO, 3 x UART, 2 x CAN bus, 1 x RS-232, 1 x I²C, 1 x SPI	5 x GPIO, 3 x I²C, 1 x CAN bus, 1 x SPI
1 x M.2 E-key 2230 1 x M.2 M-key 2242	1 x M.2 E-key 2230 1 x M.2 M-key 2280	1 x M.2 B-key 3042/52 1 x M.2 E-key 2230 1 x M.2 M-key 2280 1 x MicroSD slot
1 x AI Button (iTons) 1 x Power Button 1 x Recovery Button 1 x Reset Button	1 x Power Button 1 x Recovery Button 1 x Reset Button	1 x Power Button 1 x Recovery Button 1 x Reset Button 3 x UART (UART 3 only for debug)
Idle: 4.56W Full Loading: 32.52W	Idle: 3.63W Full Loading: 27.48W	Idle: 1.68W Full Loading: 15.97W
DC-in 12 to 19VDC / DC Jack 4pin	DC-in 19VDC / 6 pin ATX power connector	DC-in 12 to 19VDC / 6-pin ATX power connector
145 x 86 x 65mm	147 x 122 x 81mm	125 x 125 x 80mm
Din Rail (Optional)	Din Rail (Optional)	Din Rail (Optional)
690g	1240g	790g
Operating: -20 ~ +60°C Storage: -40 ~ +85°C	Operating: -20 ~ +70°C Storage: -40 ~ +85°C	Operating: -20 ~ +70°C Storage: -40 ~ +85°C
5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing
Ubuntu 18.04	Ubuntu 18.04	Ubuntu 18.04
CE/FCC Class A	CE/FCC Class A	CE/FCC Class A

Jetson Series-Fanless System Features



AIE-PX13/23

***Preliminary**

- Supports NVIDIA Jetson AGX Orin™ 32GB/64GB
- Wide input voltage range from 9 to 36VDC
- 1 x GbE port, 1 x 10GbE port
- Built-in 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key



AIE-PX11/21 | AIE-PX12/22 ***Preliminary**

- Supports NVIDIA Jetson AGX Orin 32GB/64GB
- Wide input voltage range from 9 to 36VDC
- 1 x GbE port, 1 x 10GbE port, and 2/4 x IEEE 802.3af GbE PSE ports
- Built-in 1x M.2 B-Key, 1x M.2 E-Key, 1x M.2 M-Key



AIE-CO21/31 | AIE-CN31/41 ***Preliminary**

- Simultaneously supports NVIDIA Jetson Orin Nano™ and Orin™ NX
- Specifically designed for high performance and low-power develop AI computing
- Real-time monitoring for status of device through EdgeEye



AIE-PO22/32 | AIE-PN32/42 ***Preliminary**

- Simultaneously supports NVIDIA Jetson Orin NX and Orin Nano
- Specifically designed for high performance and low-power develop AI computing
- Real-time monitoring for status of device through EdgeEye



AIE-CN12/22 | AIE-CT42

- Supports NVIDIA Jetson Xavier™ NX and Jetson™ TX2 NX
- 12 to 19VDC power input
- 1 x GbE port and 2 x PSE/PD port
- Built-in M.2 M-key 2242 NVMe 128G SSD and support M.2 E-key 2230 for Wifi/BT Function



AIE-CN11/21 | AIE-CT41

- Supports NVIDIA Jetson Xavier NX and TX2 NX
- 12 to 19VDC power input
- 1 x GbE port and 1 x PoE/PD port
- Built-in M.2 M-key 2242 NVMe 128G SSD and support M.2 E-key 2230 for Wifi/BT Function







AN110 Series

- Supports NVIDIA Jetson Nano™ and Xavier NX
- 12VDC power input
- Built-in 1 x GbE port
- Supports M.2 E-key 2230 for Wifi/BT Function



AT017 Series

- Supports NVIDIA Jetson Nano and Xavier NX
- 12VDC power input
- Built-in 1 x GbE port
- Built-in M.2 E-key and support 1 x mPCIe (only support mSATA)

				
	*Preliminary	*Preliminary	*Preliminary	*Preliminary
Model Number	AIE-PX13/23	AIE-PX11/21 AIE-PX12/22	AIE-CO21/31 AIE-CN31/41	AIE-PO22/32 AIE-PN32/42
Module Compatibility	NVIDIA Jetson AGX Orin™ 32/64GB	NVIDIA Jetson AGX Orin 32GB NVIDIA Jetson AGX Orin 64GB	NVIDIA Jetson Orin Nano™ 4/8GB NVIDIA Jetson Orin™ NX 8/16GB	NVIDIA Jetson Orin Nano 4/8GB NVIDIA Jetson Orin NX 8/16GB
AI Performance	200/ 275 TOPS	200 TOPS 275 TOPS	20/40 TOPS 70/100 TOPS	20/40 TOPS 70/100 TOPS
Storage	64GB eMMC 5.1	64GB eMMC 5.1	128GB M.2 2242 NVMe PCIe SSD	128GB M.2 2242 NVMe PCIe SSD
Display	1 x HDMI 2.1 Type A	1 x HDMI Type A	1 x HDMI Type A	1 x HDMI Type A
TPM	TPM v2.0 (optional)	TPM v2.0 (optional)	Not supported	Not supported
RTC Battery	With super capacitor, battery optional	With super capacitor, battery optional	With super capacitor	With super capacitor
Audio	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)	Line-out/Line-in/Mic (opt. with Daughter Board)
Camera Input	N/A	N/A	N/A	N/A
LAN	1 x RJ-45 GbE port, 1 x RJ-45 10GbE port	1 x RJ-45 1GbE port, 1 x RJ-45 10GbE port, 2/4 x RJ-45 IEEE802.3af GbE PSE ports	1 x RJ-45 GbE port (no PD function)	1 x RJ-45 GbE port, 1 x RJ45 2.5GbE port
USB	2 x USB 3.2 Gen1 Type A, 1 x USB 2.0 (DB-15), 1 x USB 2.0 Type C (OTG only), 1 x USB 3.2 Gen2 Type C	2 x USB 3.2 Gen1 Type A, 1 x USB 2.0 (DB-15), 1 x USB 2.0 Type C (OTG only), 1 x USB 3.2 Gen1 Type C	2 x USB 3.2 Gen2 Type A 1 x USB 2.0 Type C (OTG only)	2 x USB 3.2 Gen2 Type A, 1 x USB 2.0 Type C (OTG only)
I/O Interfaces	TBD	TBD	5 x GPIO, 1 x I²C, 1 x UART, 1 x CAN (Isolation)	5 x GPIO, 3 x I²C, 1 x UART, 1 x RS-232, 1 x CAN (Isolation), 1 x RS-422/485
Expansion	1 x M.2 B-Key 3042/3052w/ micro sim holder 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280	1 x M.2 B-Key 3042/3052w/ micro sim holder 1 x M.2 E-Key 2230 1 x M.2 M-Key 2280 1 x microSD slot	1 x M.2 E-Key 2230 1 x M.2 M-Key 2242	1 x M.2 B-Key 3042/3052w/ sim holder 1 x M.2 E-Key 2230 1 x M.2 M-Key 2242
MISC. Function	TBD	TBD	1 x Power / Recovery / Reset Button	1 x Power / Recovery / Reset Button
Power Consumption	Idle:TBD Full Loading:TBD	Idle:TBD Full Loading:TBD	Idle:TBD Full Loading:TBD	Idle:TBD Full Loading:TBD
Power Input / Connector	DC-in 9 to 36VDC / 4-pin DC Jack Power Connector	DC-in 9 to 36VDC / 4-pin DC Jack & 6-pin ATX Power Connector	DC-in 12 to 24VDC / 2-Pin Euro block	DC-in 12 to 24VDC / 4-pin DC Jack Power Connector
Dimension (W x D x H)	TBD	TBD	130 x 90.2 x 73.2mm	135 x 125 x 79mm
Mounting	VESA Mount / Din Rail (Optional)	VESA Mount / Din Rail (Optional)	VESA Mount / Din Rail (Optional)	VESA Mount / Din Rail (Optional)
Net Weight	TBD	TBD	TBD	TBD
Temperature	Operating: -20 ~ +55°C Storage: -40 ~ +85°C	Operating: -20 ~ +55°C Storage: -40 ~ +85°C	Operating: -20 ~ +55°C Storage: -40 ~ +85°C	Operating: -20 ~ +55°C Storage: -40 ~ +85°C
Humidity	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing
OS Support	Ubuntu 20.04	Ubuntu 20.04	Ubuntu 18.04	Ubuntu 18.04
Certification	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A, IEC 62368	CE/FCC Class A, IEC 62368



AIE-CN12/22 AIE-CT42	AIE-CN11/21 AIE-CT41	AN110 Series	AT017 Series
NVIDIA Jetson Xavier™ NX 8/16GB NVIDIA Jetson™ TX2 NX	NVIDIA Jetson Xavier NX 8/16GB NVIDIA Jetson TX2 NX	NVIDIA Jetson Nano™ NVIDIA Xavier NX 8/16GB	NVIDIA Jetson Nano NVIDIA Xavier NX 8/16GB
14/21TOPS 1.33 TFLOPs	14/21TOPS 1.33 TFLOPs	0.5 TFLOPS 14/21TOPS	0.5 TFLOPS 14/21TOPS
16GB eMMC 5.1 Flash	16GB eMMC 5.1 Flash	16 GB eMMC 5.1 Flash	16 GB eMMC 5.1 Flash
1 x HDMI 2.0 With Micro HDMI Type D Connector	1 x HDMI 2.0 With Micro HDMI Type D Connector	1 x HDMI 2.0 Type A	1 x HDMI 1.4 With Micro HDMI Type D Connector
Not supported	Not supported	Not supported	Not supported
Not supported	Not supported	Not supported	Not supported
HDMI Integrated	HDMI Integrated	HDMI Integrated	HDMI Type A
N/A	N/A	N/A	N/A
3 x RJ-45 for GbE ports (2 for PoE PSE 802.3 af)	2 x RJ-45 for GbE ports (1 For PoE PD 802.3 af)	1 x RJ-45 GbE port	1 x RJ-45 GbE port
2 x USB 3.2 Gen1 Type A 1 x USB 2.0 Type-C (OTG only)	2 x USB 3.2 Gen1 Type A 1 x USB 2.0 Type-C (OTG only)	2 x USB 3.2 Gen1 Type A 1x USB2.0 Micro AB (OTG Only)	2 x USB3.2 Gen1 Type A 1x USB2.0 Micro AB (OTG Only)
5 x GPIO, 1 x UART, 1 x I2C, 1 x CAN bus	5 x GPIO, 1 x UART, 1 x I2C, 1 x CAN bus	5 x GPIO, 1 x RS-232	8 x GPIO, 1 x UART, 1 x RS-232, 1 x I2C, 1x SPI, 2 x Relay
1 x M.2 E-key 2230 1 x M.2 M-key 2242	1 x M.2 E-key 2230 1 x M.2 M-key 2242	1 x M.2 E-key 2230 1 x MicroSD card slot	1 x M.2 E-key 2230 1 x mPCIe(Only Support mSATA)
1 x AI Button (iTons) 1 x Power Button 1 x Recovery Button 1 x Reset Button	1 x AI Button (iTons) 1 x Power Button 1 x Recovery Button 1 x Reset Button	1 x Power Button	1 x Power Button 1 x Recovery Button 1 x Reset Button
Idle: 3.29W Full Loading: 26.76W	Idle: 3.29W Full Loading: 26.76W	Idle: 1.098W Full Loading: 17.061W	Idle: 1.08W Full Loading: 17.64W
DC-in 12 to 19VDC / DC Jack 4 Pin	DC-in 12 to 19VDC / DC Jack 4 Pin	DC-in 12VDC / DC Jack 4pin	DC-in 12VDC / DC Jack
132.6 x 88.7 x 63.6mm	132.6 x 88.7 x 63.6mm	120 x 72.5 x 100mm	120 x 72.5 x 100mm
VESA Mount / Din Rail (Optional)	VESA Mount / Din Rail (Optional)	Din Rail (Optional)	NA
970g	970g	880g	800g
Operating: -20 ~ +55°C Storage: -40 ~ +85°C	Operating: -20 ~ +55°C Storage: -40 ~ +85°C	Operating: -20 ~ +55°C Storage: -40 ~ +85°C	Operating: -20 ~ +50°C Storage: -40 ~ +85°C
5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing	5 to 90% @ 40°C Related Humidity, Non-condensing
Ubuntu 18.04	Ubuntu 18.04	Ubuntu 18.04	Ubuntu 18.04
CE/FCC Class A	CE/FCC Class A	CE/FCC Class A	CE/FCC Class A

Other Series Features



AIE-CP1A-A1

- Blaize P1600 SoC with 16 core El Cano GSP
- Dual ARM Cortex A53MP 64-bit RISC
- 16 TOPs AI performance
- H.264/H.265 Video Encoder Decoder
- Supports commercial and industrial grade



AIP-CR68

***Preliminary**

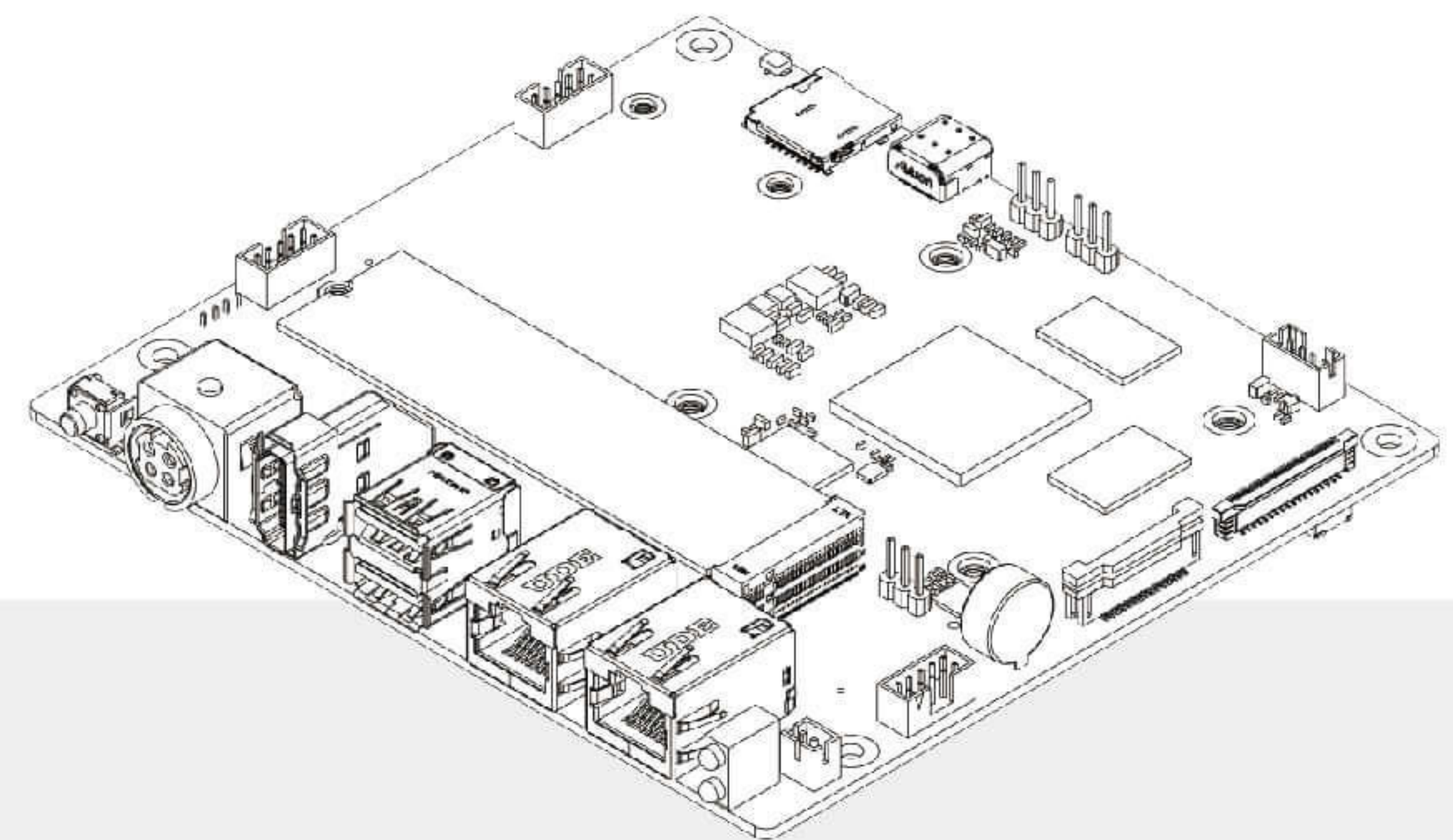
- Powered by Intel 13th Gen Core™ i7/i5/i3/Celeron processors, TDP under 35W
- Supports single HDMI 2.1 and dual DP++ port
- Dual M.2 M-Key supports NVMe AI accelerator
- Supports 1x RJ-45 10GbE port and 3x RJ-45 2.5GbE ports (2 x RJ-45 supports POE 802.3 at)
- Supports 1x USB Type-C (20G) and 8x USB 3.2 Type A(10G)



AIE-CR1A-A1

***Preliminary**

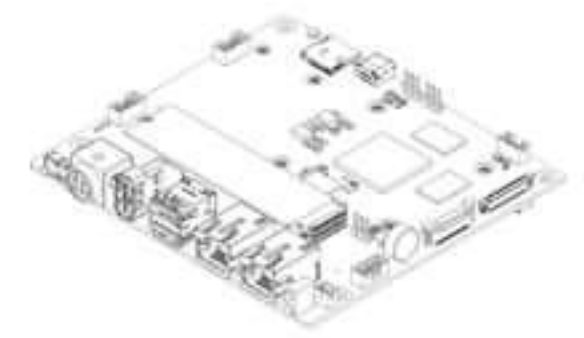
- Powered by Rockchip RK3588
- LPDDR4 8GB, eMMC 32GB
- 2x M.2 M-Key (1x w/ PCIe 3.0 x4 for ASIC accelerator, and 1x w/SATA for storage)
- 1 x M.2 E-Key for WIFI/BT, 1 x Mini PCIe for LTE
- Compact size with active thermal solution



AIB-MRA1-A1

***Preliminary**

- Powered by Rockchip RK3588
- LPDDR4 8GB, eMMC 32GB
- 2x M.2 M-Key (1x w/ PCIe 3.0 x4 for ASIC accelerator, and 1x w/SATA for storage)
- 1 x M.2 E-Key for WIFI/BT, 1 x Mini PCIe for LTE
- 2 x USB 3.2 Gen1, 2 x GbE, 2 x COM, 1 x HDMI 2.1



*Preliminary

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*Preliminary

Model Number	AIE-CP1A-A1	AIP-CR68	AIE-CR1A-A1	AIB-MRA1-A1
Module Compatibility	Blaize P1600 SoM	Intel 13th Core™ Celeron/i3	Rockchip RK3588	Rockchip RK3588
Storage	8GB eMMC 1x Micro-SD slot	2 x M.2 M Key(NVMe 1.4) 1 x 2.5" SATA 3.0 SSD	32GB eMMC 1 x Micro-SD slot 1 x M.2 Key M w/SATA for storage	32GB eMMC 1 x Micro-SD slot 1 x M.2 Key M w/SATA for storage
Display	1 x HDMI 1.4 (HDMI Type A Connector)	1x HDMI 2.1 2x DP++	1x HDMI 2.1 (HDMI Type A Connector)	1 x HDMI 2.1 (HDMI Type A Connector)
Audio	HDMI Integrated	1x Audio- Line out/1x Mic in	1 x MIC-In, 1 x Line-Out, 1 x Line-In (Optional with daughter board)	1 x MIC-In, 1 x Line-Out, 1 x Line-In (Optional with daughter board)
LAN	1x RJ-45 GbE port	1x RJ-45 10GbE port 1x RJ-45 2.5GbE port (2x RJ-45 supports Dual POE 802.3 at)	2x RJ-45 GbE ports	2x RJ-45 GbE ports
USB	2x USB 3.2 Gen1 Type A 1x USB Type C (Supports UART)	8 x USB3.2 1x USB 3.2 Type C(20G)	2 x USB 3.2 Gen1 (1 x Type A, 1 x Type C) 1 x USB 2.0 Type A	2 x USB 3.2 Gen1 (1 x Type A, 1 x Type C) 1 x USB 2.0 Type A
COM	1 x DB9 for RS-232	2x RS-232/485/422	1 x DB9 for RS-232 (TX/RX) / RS-485	1 x RS-232 header (TX/RX only) 1 x RS-485 header
MISC. Function	1x LED for SoM Power Good 1x Reset Button	TBD	1 x Power Button 1 x Reset Button	1 x Power Button/1 x Reset Button 1 x Recovery/Debug header 1 x InnoAGE/OSR header (Optional OOB/Recovery SSD) 1 x InnoAGENT header (Optional OOB Module) 1 x CPU fan header
Power Consumption	TBD	TBD	TBD	TBD
Power Input / Connector	DC-in 12VDC / DC Jack 4pin	DC-in 12 to 48VDC, 4-pin Terminal Block	DC-in 12VDC / DC Jack 4pin	DC-in 12VDC / DC Jack 4pin
Dimension (W x D x H)	150 x 125 x 80mm	336 x 203.6 x 76.6mm	185 x 125 x 60mm	131 x 120 x 50mm
Mounting	Deskmount	TBD	Deskmount	N/A
Net Weight	1.886kg	TBD	TBD	TBD
Vibration	3 Grms, IEC 60068-2-64, Random, 5 ~ 500 Hz, 1 Hr/axis (Estimated)	3 Grms ,IEC60068-2-64,Random, 5 ~ 500 Hz ,1Hr / Axis	3 Grms, IEC 60068-2-64, Random, 5 ~ 500 Hz, 1 Hr/axis (Estimated)	N/A
Shock	30 G, IEC 60068-2-27, Half Sine, 11 ms Duration (Estimated)	20 G, IEC 60068-2-27, Half Sine, 11 ms Duration	30 G, IEC 60068-2-27, Half Sine, 11 ms Duration (Estimated)	N/A
Temperature	Operating: 0 ~ +60°C Storage: -40 ~ +85°C	Operating: -20 ~ +50°C Storage: -40 ~ +80°C	Operating: 0 ~ +60°C Storage: -40 ~ +85°C	Operating: -20 ~ +70°C Storage: -40~ +85°C
Humidity	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity,	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing
Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC

MegaEdge

AI Inference Platforms with High Expandability

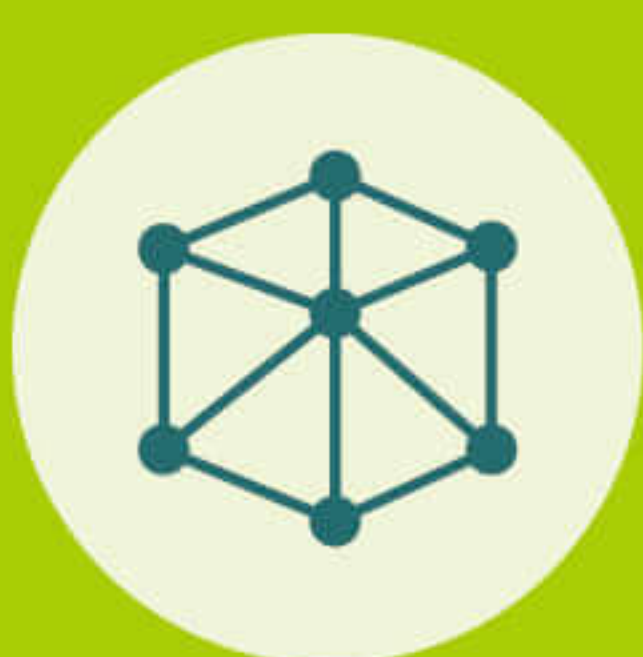


● PCIe series

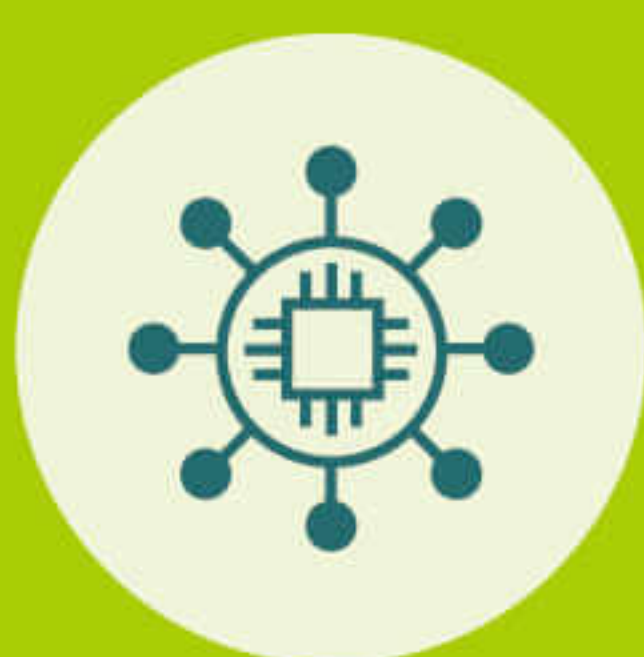
● MXM series

Aetina **MegaEdge** is a series of expandable AI inference platforms to power heterogeneous processing, flexibly integrated into a wide range of AI-related systems to run AI inference tasks via rich I/O interfaces that support various types of peripherals, including sensors, cameras, monitors, robotic arms and so on.

To satisfy different deployment needs, Aetina rolled out MXM series and PCIe series for MegaEdge . Both series help users complete AI projects easily and target a broad range of applications, including smart city, factory, retail, healthcare, security, banking, greenhouse farming and so forth.



Stability



Flexibility



Computability

MegaEdge Features



AIP-FR68 Series

***Preliminary**

- Supports Intel 13th Gen Core™ i9/i7/i5 processors, TDP under 65W
- Multiple PCIe slots, and 2x M.2 M-Key supports AI accelerators with NVME
- Supports 1x 10GbE, 3x 2.5GbE Ports, 1x USB Type-C (20G) and 8x USB 3.2 Type-A(10G)
- Supports Up to 3x 2.5" SSD and Raid 0/1/5/10 by PCH
- Built-in out-of-band remote management module



AIP-SQ67 Series

***Preliminary**

- Supports Intel 12th Gen. Core™ i7/i5 processors, TDP under 65W
- 2x M.2 M-Key NVME Gen 4x4 /SATA
- 5x 2.5G RJ45 LAN Ports
- 6x USB 3.2 Gen2 x 1 Type-A, 1x USB 3.2 Gen2 x2 Type-C
- Built-in out-of-band remote management module



AIP-SQ37 Series

- Supports Intel 9th Gen. Core i5/i7 processors, TDP under 65W
- 1x DIO (3x DI/3x DO), 1x M.2 M-Key, 1x M.2 B-Key
- 1x Full-size mini PCIe supporting PCIe x1 and USB 2.0
- Supports 2x 2.5" SATAIII SSD/HDD
- Supports device remote monitoring via EdgeEye



AIP-FQ47 Series

- Supports Intel 10th Gen. Core i7/i5 processors, TDP under 65W
- Supports full length Graphic card such as NVIDIA® RTX™ A4500
- Supports NVIDIA Triton™ Inference Server



AIP-FH31 Series

- Supports Intel 9th/8th Gen. Core i7/i5 processors, TDP under 65W
- Integrated Intel HD Graphics: 1x DVI-D, 1x VGA, 1x DisplayPort, 2x Independent display outputs
- 1x M.2 M-Key, 1x M.2 E-Key
- 4x GbE LAN Ports, 4x COM Ports, 8x USB Ports
- Supports NVIDIA A2 Tensor core GPU



*Preliminary



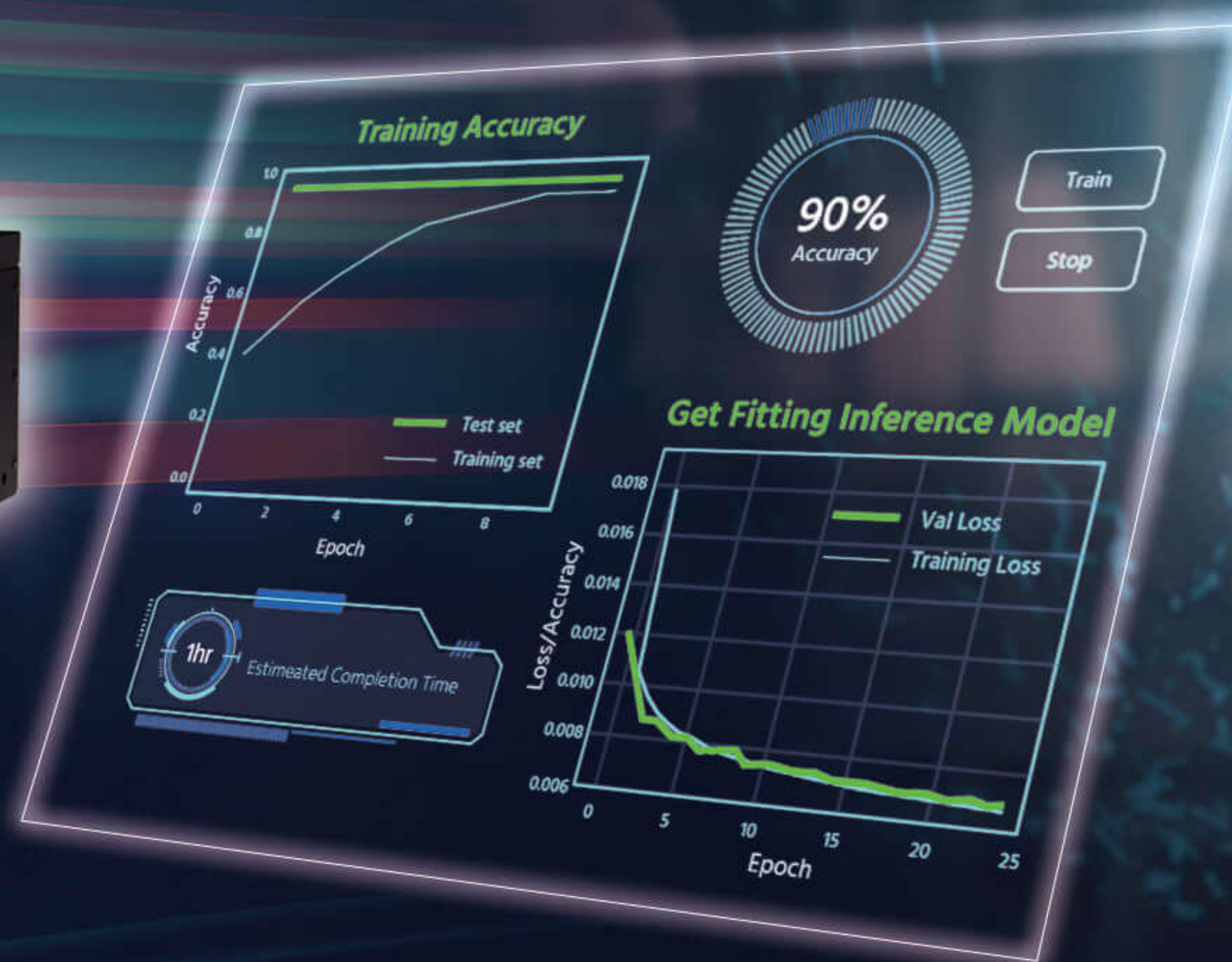
*Preliminary



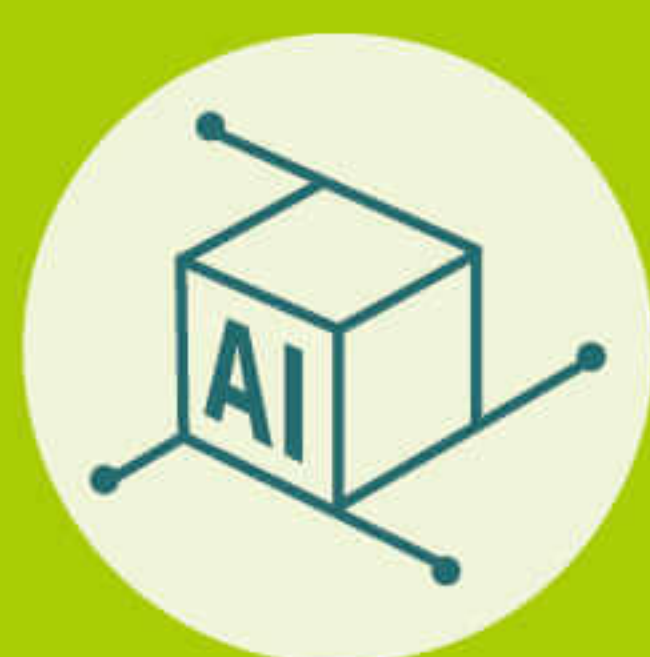
Model Number	AIP-FR68 Series	AIP-SQ67 Series	AIP-SQ37 Series	AIP-FQ47 Series	AIP-FH31 Series
CPU	Intel 13th Core™ i5/i7	Intel 12th Core i5/i7	Intel 9th Core i5/i7	Intel 10th Core i5/i7	Intel 9th Core i5/i7
Chipset	Intel R680E Chipset	Intel Q670E Chipset	Intel Q370 Chipset	Intel Q470E Chipset	Intel H310 Chipset
GPU(Optional)	PCIe A6000/A5500/A5000/A4500/A4000/A3000/A2000/A2/T4/L4	MXM A1000/A2000/T1000/A4500/RTX5000	MXM A1000/A2000/T1000/A4500/RTX5000	PCIe A6000/A5500/A5000/A4500/A4000/A3000/A2000	PCIe A6000/A5500/A5000/A4500/A4000/A3000/A2000
Memory	4x DDR5 U-DIMM Support 4400 MHZ	2x DDR5 SO-DIMM Support Dual Channel DDR5 4800MHZ	2x DDR4 SO-DIMM Support Dual Channel DDR4 2666/2400 MHZ	2x DDR4 SO-DIMM Support Dual Channel 3200 MHZ	2x DDR4 SO-DIMM Support Dual Channel DDR4 2666/2400 MHZ
Storage	4 x 2.5" SATA 3.0 SSD 2 x M.2 M-Key (NVMe 1.4)	2x 2.5" SATA SSD	2x 2.5" SATA SSD	4x 2.5" HDD/SSD 1x 2280 M.2 M-Key	3x 2.5" HDD/SSD 1x 2280 M.2 M-Key
Front I/O	1x Line out/1x Mic in 1x RJ-45 10GbE port 8 x USB 3.2/1x USB 3.2 Type C(20G) 3x RJ-45 2.5GbE ports(2 RJ-45 support Dual POE 802.3 at) 1x RS-485 2x COM 1x DIO	6 x USB3.2 Gen2 1 x USB 3.2 Gen2 x2 (20G) Type C 5 x RJ-45 4 x RS-232/422/485 1 x DIO	2x DP 2x USB2.0 Gen2 6x USB3.1 Gen2 1x Audio-Line out/Mic 1x DCIN Jack (12 ~19V) 1x DIO(3x DI/3xDO) 2x RJ-45 2x RS-232	1 x Power Switch/Power/HDD LED 3 x Audio (Line in&out,Mic in) 1 x DP/1 x DVI-D/1 x VGA 4 x COM (2x RS-232/422/485 & RI/5V/12V) 4 x RJ45 4 x USB 3.2 Gen 1/ 6 x USB 2.0 1 x 4-pin Terminal Block 2 x External Antenna Holes (Optional)	1x Power Switch/ Power/ HDD LED 3x Audio Jacks (Line in/Line out/Mic in) 1x Display Port/1x DVI-D/1x VGA 4x COM (2x RS-232/422/285&2x RS-232) 4x RJ45 4x USB 3.2/ 4x USB 2.0 1x 4-pin Terminal Block
Rear I/O	N/A	5x DP++ 2x Audio-Line Out/Mic 2x CAN Bus-Isolation 2.0B 2x USB2.0 Gen2 1x OOB	N/A	N/A	N/A
Internal I/O	2 x CAN Bus 4 x SATA 3.0 2 x USB2.0	N/A	N/A	N/A	N/A
Expansion	1x mini PCIe 1x M.2 2230 E-key 1x M.2 3052 1x SIM slot 1x PCIe Gen5x16(or 2x Gen4x16) 1x PCIe Gen3x4 1x PCIe Gen4x4 1x PCIe Gen3x1	1 x MXM Slot (Type B+) 2 x M.2 M-key 2280(1x Support InnoAGE)	1x MXM Slot (Type B+) 1x mPCIe Full slot, support PCIe x1 + USB 2.0 1x M.2 B-Key, support PCIe x2 + USB 3.0	1 x M.2 2280 M-Key 1 x M.2 2230 E-Key 1 x mPCIe 1 x PCIe	1x 2230 M.2 E-Key 1x Full-size mini PCIe with SIM slot 1x PCIe x1 (Gen3 x1) 1x PCIe x16 (Gen3 x16)
MISC. Function	TBD	N/A	N/A	TBD	TBD
Power Consumption	TBD	Turbo-on: 361W (w/o MXM)	Turbo-on: 327W (w/o MXM)	Turbo-on: 340W (w/o PCIe)	Turbo-on: 336W (w/o PCIe)
Power Input / Connector	DC-in 24 to 48VDC , 4-pin Terminal Block	DC-in 24VDC / 4-pin Terminal Block	DC-in 19VDC	DC-in 24VDC / 4-pin Terminal Block	DC-in 24VDC / 4-pin Terminal Block
Dimension (W x D x H)	336 x 203.6 x 270mm	270 x 155 x 252mm	264.3 x 158.2 x 210mm	224 x 368 x 166.3mm	224 x 343 x 146mm
Mounting	Wallmount	Deskmount	Deskmount/Wallmount	TBD	TBD
Net Weight	TBD	5.5kg	4.0kg	TBD	TBD
Vibration	2 Grms ,IEC60068-2-64,Random,5 ~ 500 Hz ,1Hr / Axis	2 Grms ,IEC60068-2-64,Random, 5 ~ 500 Hz ,1Hr / Axis (With MXM)	1 Grms ,IEC60068-2-64,Random, 5 ~ 500 Hz ,1Hr / Axis (With MXM)	Operation: IEC 60068-2-64, 1 Grms, random, 5 ~ 500 Hz, 1 hr / Per Axis, With SSD/M.2 2280 (w/o PCIe) Non-operation: IEC 60068-2-6, 2 G, Sine, 10 ~ 500 Hz, 1 Oct/min, 1 hr / Per Axis	Operation: IEC 60068-2-64, 3 Grms, random, 5 ~ 500 Hz, 1 hr / Per Axis, With SSD/M.2 2280 Non-operation: IEC 60068-2-6, 2 G, Sine, 10 ~ 500 Hz, 1 Oct/min, 1 hr / Per Axis
Shock	5G, IEC 60068-2-27, Half Sine, 11 ms Duration	5G, IEC 60068-2-27, Half Sine, 11 ms Duration (With MXM)	2G, IEC 60068-2-27, Half Sine, 11 ms Duration (With MXM)	Operation: IEC 60068-2-27, 50 G, half sine, 11 ms duration, With SSD	Operation: IEC 60068-2-27, 50 G, half sine, 11 ms duration, With SSD
Temperature	Operating : -20 ~ +50°C Storage : -40 ~ +85°C	Operating: 0 ~ + 50°C (With Expansion Kit) / Storage: -40 ~ + 85°C	0 ~ +50°C (With Expansion Kit)	Operating: -20 ~ +50°C	Operating: -20 ~ +50°C
Humidity	95% @ 40°C Related Humidity	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	Operating humidity: 0-90% (non-condensing)	Operating humidity: 0-90% (non-condensing)
OS Support	Ubuntu/Windows 11	Ubuntu 22.04/Windows 10	Ubuntu 22.04/Windows 10	Ubuntu 22.04/Windows 10	Ubuntu 22.04/Windows 10
Certification	CE/FCC	CE/FCC/BSMI/LVD	CE/FCC	CE/FCC	CE/FCC

SuperEdge

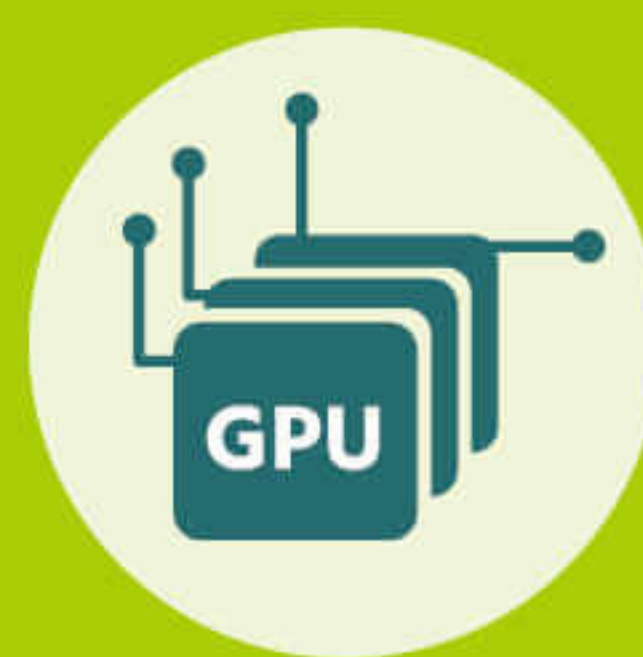
AI Training Platforms with Flagship-level Performance



Aetina SuperEdge is a series of advanced AI training platforms, powered by NVIDIA high-performance GPU, featuring reliability, scalability, security, and manageability. Backed by comprehensive AI tools from the NCS catalog, SuperEdge gives developers the confidence to pull and run the latest software containers for AI.



AI Training



Scalable Configurability



Validated test

SuperEdge Features



AIS-D422

- Specifically designed for high performance and flexibility develop AI computing
- Suitable for industrial inspection and security



AIS-FR68

***Preliminary**

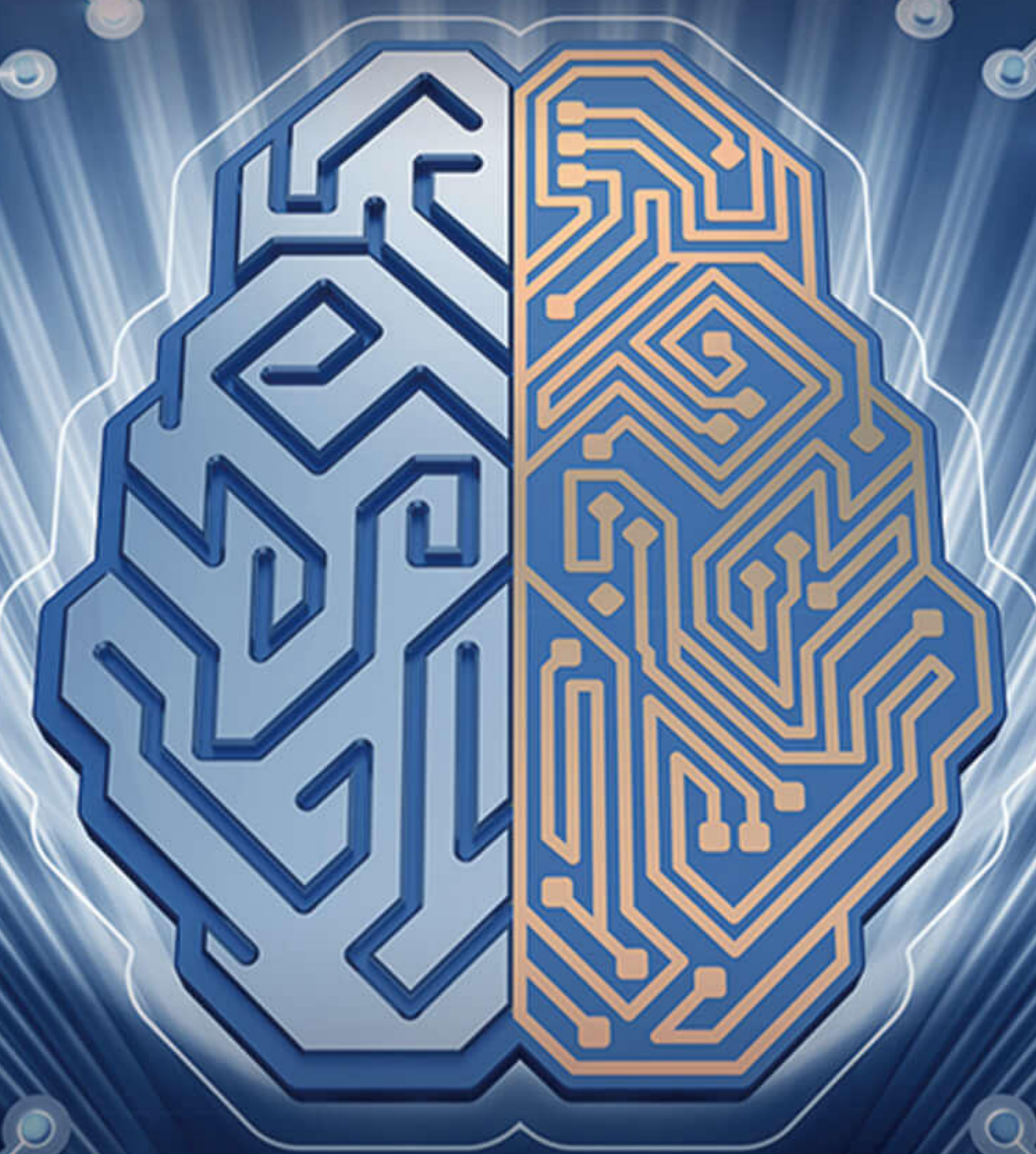
- Powered by Intel 13th Gen Core™ i9 processors, TDP under 65W
- Supports NVIDIA L4/A30
- 2x M.2 M-Key support NVMe AI accelerator
- Supports 1x RJ-45 10GbE port and 3x RJ-45 2.5GbE ports
- Up to 4x 2.5" SSD available and support Raid 0/1/5/10 by PCH



*Preliminary

Model Number	AIS-FR68	AIS-D422
CPU	Intel 13th Core i9	Intel Xeon® processor D-2146NT
Chipset	Intel R680E Chipset	System on Chip (SoC)
GPU(Optional)	PCIe A30	PCIe A2/T4/A6000/A5500/A5000/ A4500/A4000/A3000/A2000
Memory	4x DDR5 U-DIMM Support 4400 MHZ	4x RDIMM slots
Storage	4x 2.5" SATA 3.0 SSD 2x M.2 M-Key (NVMe 1.4)	4x SATA 2.5" Drive
Front I/O	1x Audio- Line out/1x Mic in 1x RJ-45 10GbE port 8x USB 3.2/1x USB 3.2 Type C(20G) 3x RJ-45 2.5GbE ports (2x RJ-45 support Dual POE 802.3 at) 1x RS-485 2x COM 1x DIO	N/A
Rear I/O	N/A	9x RJ-45 GbE ports 2x RJ-45 10GbE ports 2x 10G SFP+ ports 2xUSB3.0/2xUSB2.0 1x VGA 1x COM
Internal I/O	2x CAN bus 2x USB2.0	N/A
Expansion	1x mPCIe(USB 2.0) 1x M.2 2230/1x M.2 3052 1x SIM slot 1x PCIe Gen5x16 or 2x PCIe Gen4x8 1x PCIe Gen3x4 1x PCIe Gen4x4 1x PCIe Gen3x1	2x PCIe 3.0 x16 or 2x PCIe 3.0 x8, 1x PCIe 3.0 x16 1x M.2 M-Key 2280/22110 1x M.2 E-Key 2230 1x M.2 B-Key 3042
Power Input / Connector	DC-in 24 to 48VDC , 4-pin Terminal Block	AC 100 to 240VDC
Dimension (W x D x H)	336 x 203.6 x 270mm	267 x 109 x 406mm
Net Weight	TBD	Gross Weight:10.43kg Net Weight:7.7kg
Temperature	Operating : -20 ~ +50°C Storage: -40 ~ +85°C	Operating: 0 ~ +50°C Storage: -40 ~ +70°C
Humidity	95% @ 40°C Related Humidity	Operating: 8% to 90% (non-condensing) Storage: 5% to 95% (non-condensing)
OS Support	Windows 11/Linux	Windows 10
Certification	CE/FCC	N/A

AI Accelerator & GPU

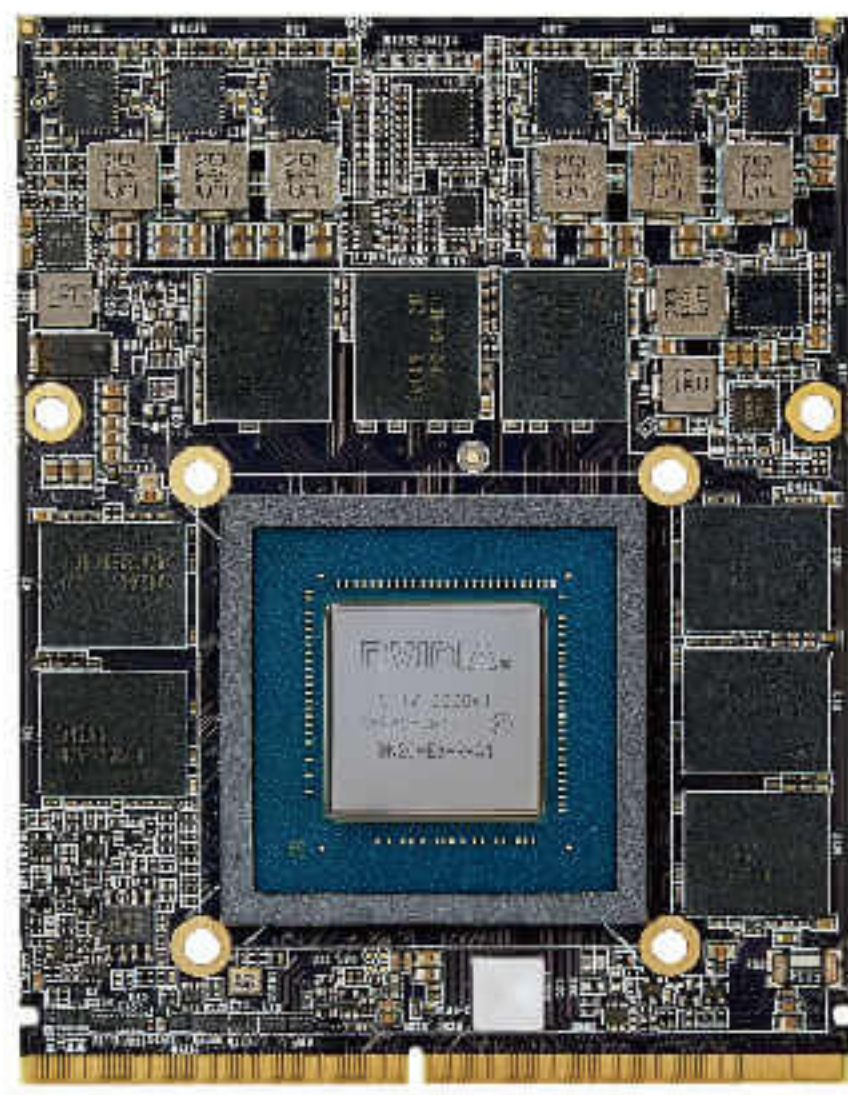


Flexible Utilization for Superlative AI Acceleration

“AI Accelerator & GPU” can be easily and quickly plugged into existing edge systems to improve AI computing performance. Aetina offers a variety of modules with different form factors, including M.2, PCIe, Mobile PCIe Module (MXM), VPX, and expansion kits that all deliver unmatched efficiency, flexibility, and expandability.

• MXM	37
• PCIe	41
• VPX	45
• Expansion Kit	46

MXM Features



M3A4500-WP

- NVIDIA RTX A4500 embedded graphics based on NVIDIA Ampere architecture
- 5888 CUDA cores, 80 RT cores and 184 Tensor cores, 16GB GDDR6 memory
- 18.55 TFLOPS peak FP32 performance
- Supports CUDA Compute version 8.6, OpenGL 4.6, Vulkan 1.2, DirectX 12 Ultimate and Shader Model 7.0
- Supports Error Correction Code (ECC)



M3A2000-VY

- NVIDIA RTX A2000 embedded graphics based on NVIDIA Ampere architecture
- 2560 CUDA cores, 20 RT cores and 80 Tensor cores, 8GB GDDR6 memory
- 8.25 TFLOPS peak FP32 performance
- PCIe Gen 4 x8 interface
- Supports Error Correction Code (ECC)



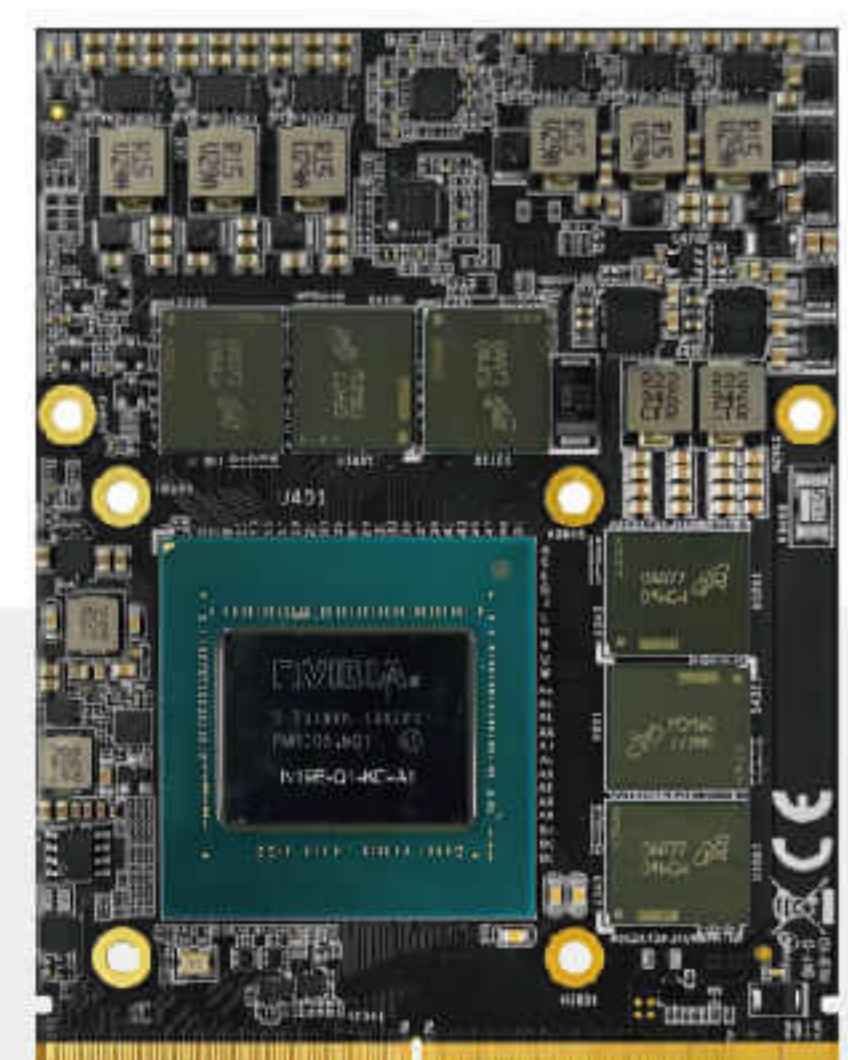
M3A1000-PP

- NVIDIA RTX A1000 embedded graphics based on Ampere architecture
- 2048 CUDA cores, 16 RT cores and 64 Tensor cores, 4GB GDDR6 memory
- 6.66 TFLOPS peak FP32 performance
- PCIe Gen 4 x8 interface



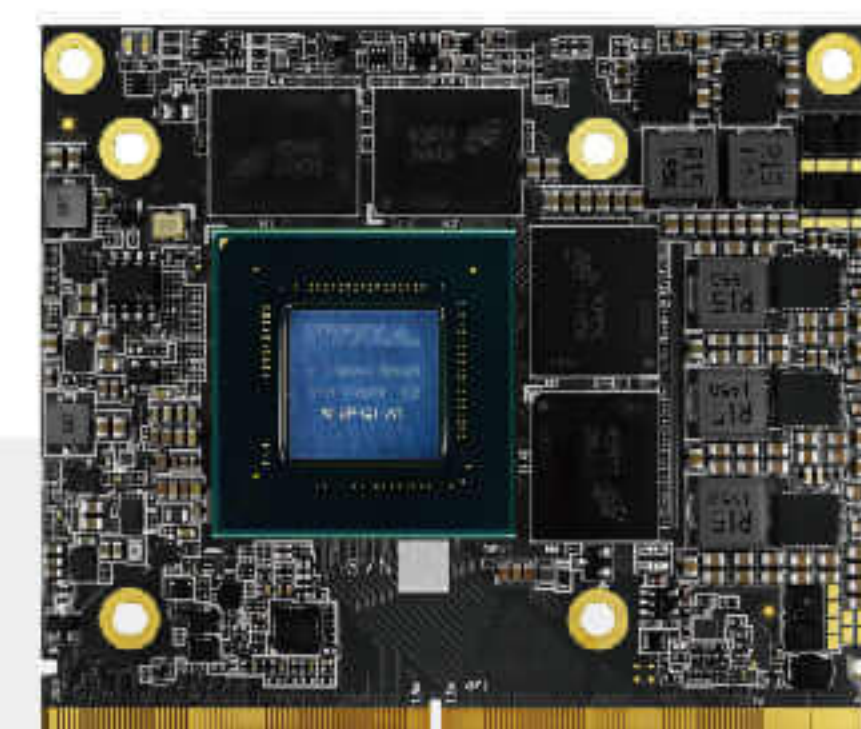
M3A500-PP

- NVIDIA RTX A500 embedded graphics based on Ampere architecture
- 2048 CUDA cores, 16 RT cores and 64 Tensor cores, 4GB GDDR6 memory
- 6.54 TFLOPS peak FP32 performance
- PCIe Gen 4 x4 interface



M3T3000-QN

- NVIDIA Quadro RTX 3000 embedded graphics based on NVIDIA Turing architecture
- 1920 CUDA cores, 30 RT cores and 240 Tensor cores, 6GB GDDR6 memory
- 5.3 TFLOPS peak FP32 performance
- Supports up to 4x DisplayPort 1.4 displays
- Supports CUDA Compute version 7.5, OpenCL 1.2, OpenGL 4.6, DirectX 12 and Vulkan 1.1 API



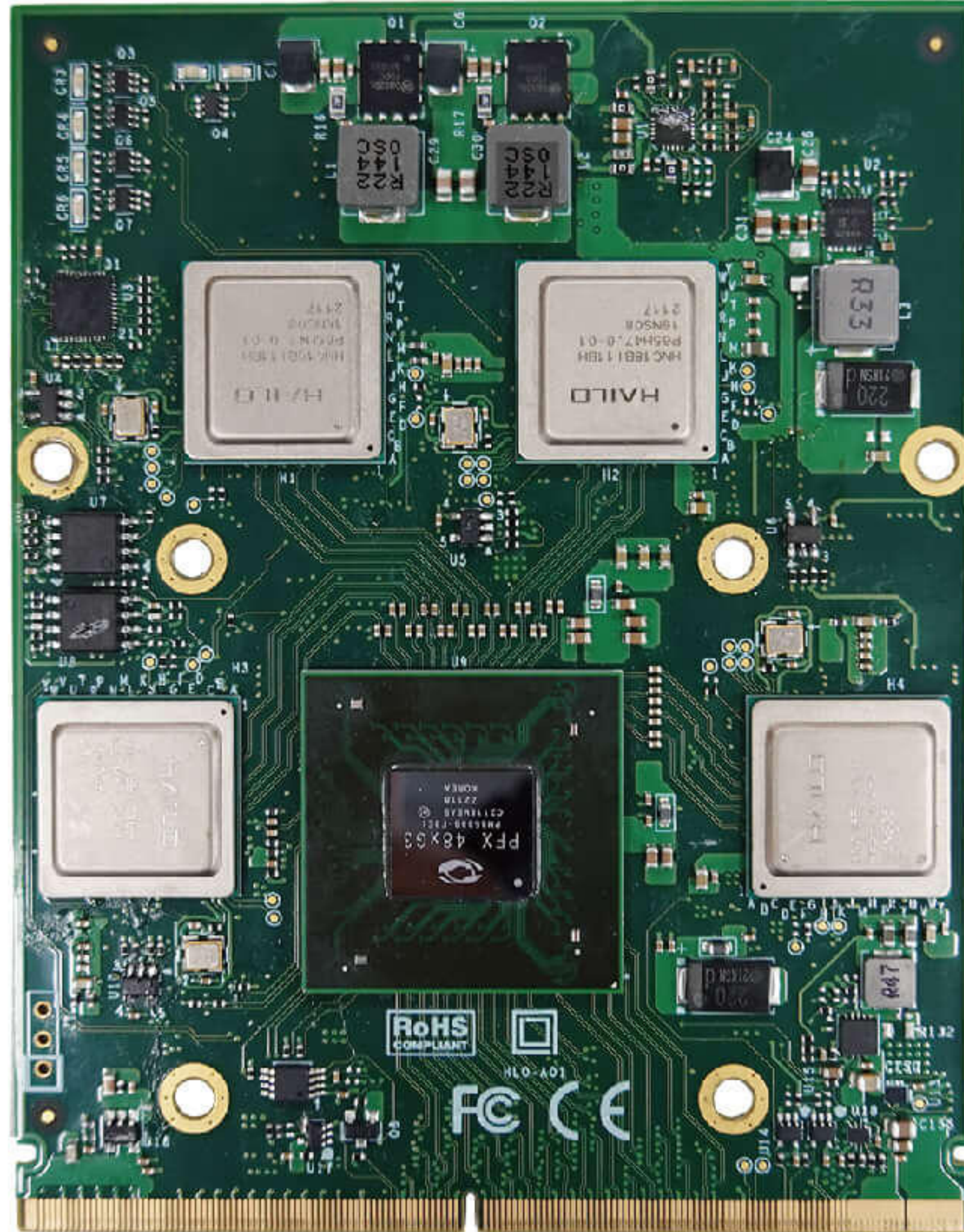
M3T1000-PN

- NVIDIA Quadro T1000 embedded graphics based on NVIDIA Turing architecture
- 896 CUDA cores, 4GB GDDR6 memory
- 2.6 TFLOPS peak FP32 performance
- Supports up to 4x DisplayPort 1.4 displays
- Supports CUDA Compute version 7.5, OpenCL 1.2, OpenGL 4.6, DirectX 12 and Vulkan 1.1 API



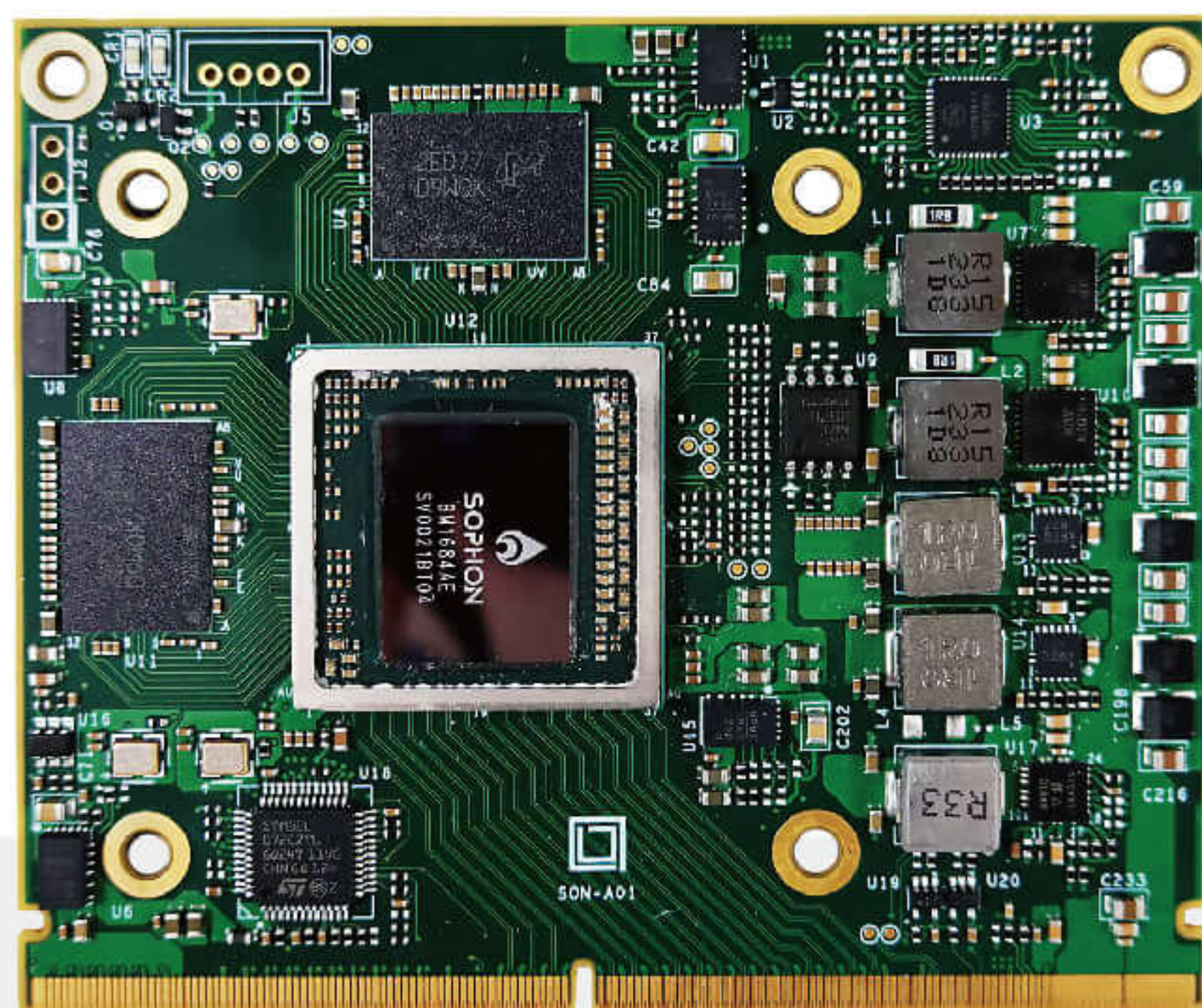
Model Number	M3A4500-WP	M3A2000-VY	M3A1000-PP	M3A500-PP	M3T3000-QN	M3T1000-PN
Engine	NVIDIA RTX A4500 Architecture: NVIDIA Ampere CUDA Cores: 5888 Tensor Cores: 184 RT Cores: 80 Floating Point Performance: 18.55 TFLOPS	NVIDIA RTX A2000 Architecture: NVIDIA Ampere CUDA Cores: 2560 Tensor Cores: 80 RT Cores: 20 Floating Point Performance: 8.25 TFLOPS	NVIDIA RTX A1000 Architecture: NVIDIA Ampere CUDA Cores: 2048 Tensor Cores: 64 RT Cores: 16 Floating Point Performance: 6.66 TFLOPS	NVIDIA RTX A500 Architecture: NVIDIA Ampere CUDA Cores: 2048 Tensor Cores: 64 RT Cores: 16 Floating Point Performance: 6.54 TFLOPS	NVIDIA Quadro RTX 3000 Architecture: NVIDIA Turing TU106 CUDA Cores: 1920 Tensor Cores: 240 RT Cores: 30 Floating Point Performance: 5.3 TFLOPS	NVIDIA Quadro T1000 Architecture: NVIDIA Turing TU117 CUDA Cores: 896 Floating Point Performance: 2.6 TFLOPS
Memory	Size: 16GB GDDR6 Clock: 16 Gbps Interface Width: 256-bit Bandwidth (GB/sec): 512	Size: 8GB GDDR6 Clock: 14 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 224	Size: 4GB GDDR6 Clock: 12 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 192	Size: 4GB GDDR6 Clock: 12 Gbps Interface Width: 64-bit Bandwidth (GB/sec): 96	Size: 6GB GDDR6 Clock: 14 Gbps Interface Width: 192-bit Bandwidth (GB/sec): 336	Size: 4GB GDDR6 Clock: 12 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 192
Support	PCI Express 4.0 x16 Support ECC DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2	PCI Express 4.0 x8 DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2	PCI Express 4.0 x8 DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2	PCI Express 4.0 x4 DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2	PCI Express 3.0 DirectX: 12 Open GL 4.6 Vulkan 1.1 API	PCI Express 3.0 DirectX: 12 Open GL 4.6 Vulkan 1.1 API
Display	Resolution: 7680x4320 Max: 4x DisplayPort	Resolution: 7680x4320 Max: 4x DisplayPort	Resolution: 7680x4320 Max: 4x DisplayPort	N/A	Resolution: 7680x4320 Max: 4x DisplayPort	Resolution: 7680x4320 Max: 4x DisplayPort
Power Consumption	Total Graphics Power (TGP): 125 W	Total Graphics Power (TGP): 60 W	Total Graphics Power (TGP): 60 W	Total Graphics Power (TGP): 45W	Total Graphics Power (TGP): 80 W	Total Graphics Power (TGP): 50 W
Form Factor	MXM Graphics Module Version 3.1, Type B	MXM Graphics Module Version 3.1, Type A	MXM Graphics Module Version 3.1, Type A	MXM Graphics Module Version 3.1, Type A	MXM Graphics Module Version 3.1, Type B	MXM Graphics Module Version 3.1, Type A
Dimension (W x D x H)	82 x 105mm	82 x 70mm	82 x 70mm	82 x 70mm	82 x 105mm	82 x 70mm
Net Weight	0.0616 kg	0.037 kg	0.037 kg	0.037 kg	0.065 kg	0.033 kg
Vibration	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis
Temperature	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Extended Operating Temp. : -40 to + 85°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Extended Operating Temp. : -40 to + 85°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Extended Operating Temp. : -40 to + 85°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to +55°C Extended Operating Temp. : -40 to +70°C Storage Temperature: -40 to +85°C	Standard Operating Temp. : 0 to +55°C Extended Operating Temp. : -40 to +85°C Storage Temperature: -40 to +85°C
Humidity	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing
OS Support	Windows 10/11 64-bit Linux 64-bit	Windows 10/11 64-bit Linux 64-bit	Windows 10/11 64-bit Linux 64-bit	Windows 10/11 64-bit Linux 64-bit	Windows 10 64-bit Linux 64-bit	Windows 10 64-bit Linux 64-bit
Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC

MXM Features



AI-MXM-H84A

- Powered by 4x Hailo-8 AI Processors
- MXM Type B small form factor
- Delivers up to 104 TOPS of AI performance at a typical power consumption of 25W
- Dedicated enablement S/W package and AI developer tools, with out-of-the-box support for state-of-the-art NN models



AI-MXM-S41A

- Powered by 1 x Sophgo BM1684 AI Processors
- 4 x LPDDR4 2GB
- MXM Type A small form factor
- Delivers up to 17.6 TOPS of AI performance at a typical power consumption of 30W
- Supports INT8 and FP32 precision, greatly improving AI performance



Model Number	AI-MXM-H84A	AI-MXM-S41A
Engine	4x Hailo-8 AI processor with up to 26 TOPS and best-in-class power efficiency	1 x Sophgo BM1684 AI processor
AI performance	104 TOPS	17.6 TOPS
Memory	N/A	4 x LPDDR4 2GB
Support	PCI Express 3.0 x16 Support TensorFlow and ONNX	PCI Express 3.0 x16
Display	N/A	N/A
Power Consumption	25W (Typical power consumption)	30W (Typical power consumption)
Form Factor	MXM graphics module version 3.1, Type B	MXM graphics module version 3.1, Type A
Dimension (W x D x H)	82 x 105mm	82 x 70mm
Net Weight	0.05 kg	TBD
Vibration	2.4Grms @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms @5~500 Hz, Sine, 0.5Hr/axis (Est.)
Temperature	Standard Operating Temp. : 0 to + 70°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Extended Operating Temp. : -40 to + 85°C Storage Temperature: -40 to + 85°C
Humidity	90% @ 40°C Related Humidity, Non-condensing	90% @ 40°C Related Humidity, Non-condensing
OS Support	Windows 10/11 64-bit Linux 64-bit	Windows 10, Linux
Certification	CE/FCC	CE/FCC

PCIe Features



N3050-VSFX-A1

- Powered by NVIDIA RTX 3050 Ampere architecture 2560 CUDA cores, 20 RT cores and 80 Tensor cores, 8GB GDDR6 memory
- PCIe Gen 4 x8 interface
- 9.11 TFLOPS peak FP32 performance



N206S-V9FX

- Powered by NVIDIA Turing architecture GeForce RTX platform
- The first GPU capable of real time ray tracing
- Up to 6X the performance of previous generation graphics cards



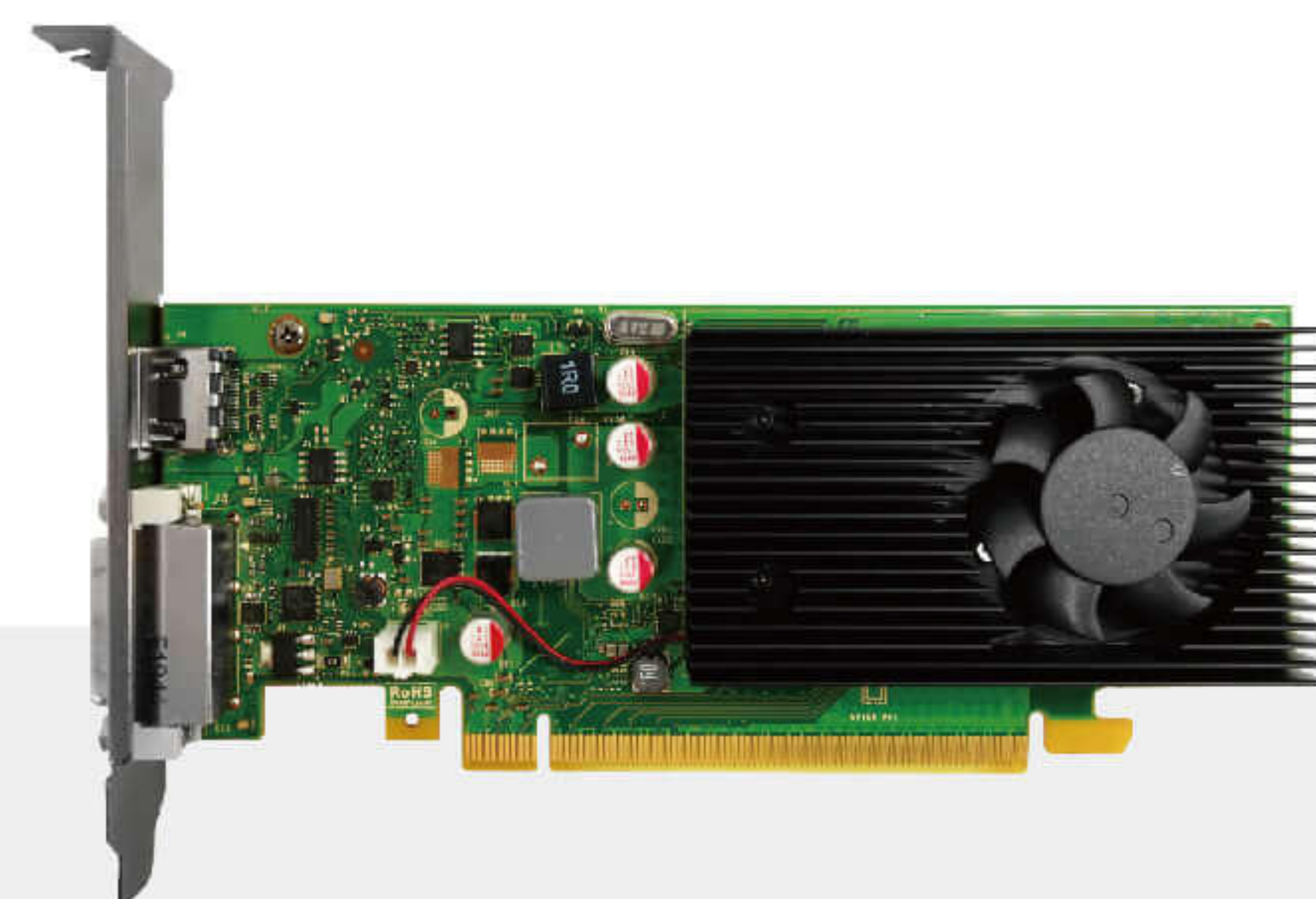
N1650-L9FX

- Powered by NVIDIA Turing architecture GeForce GTX 1650
- Integrated with 4GB GDDR5 128 bit memory interface
- 3 years longevity product supply service



N1630-P9FX-A1

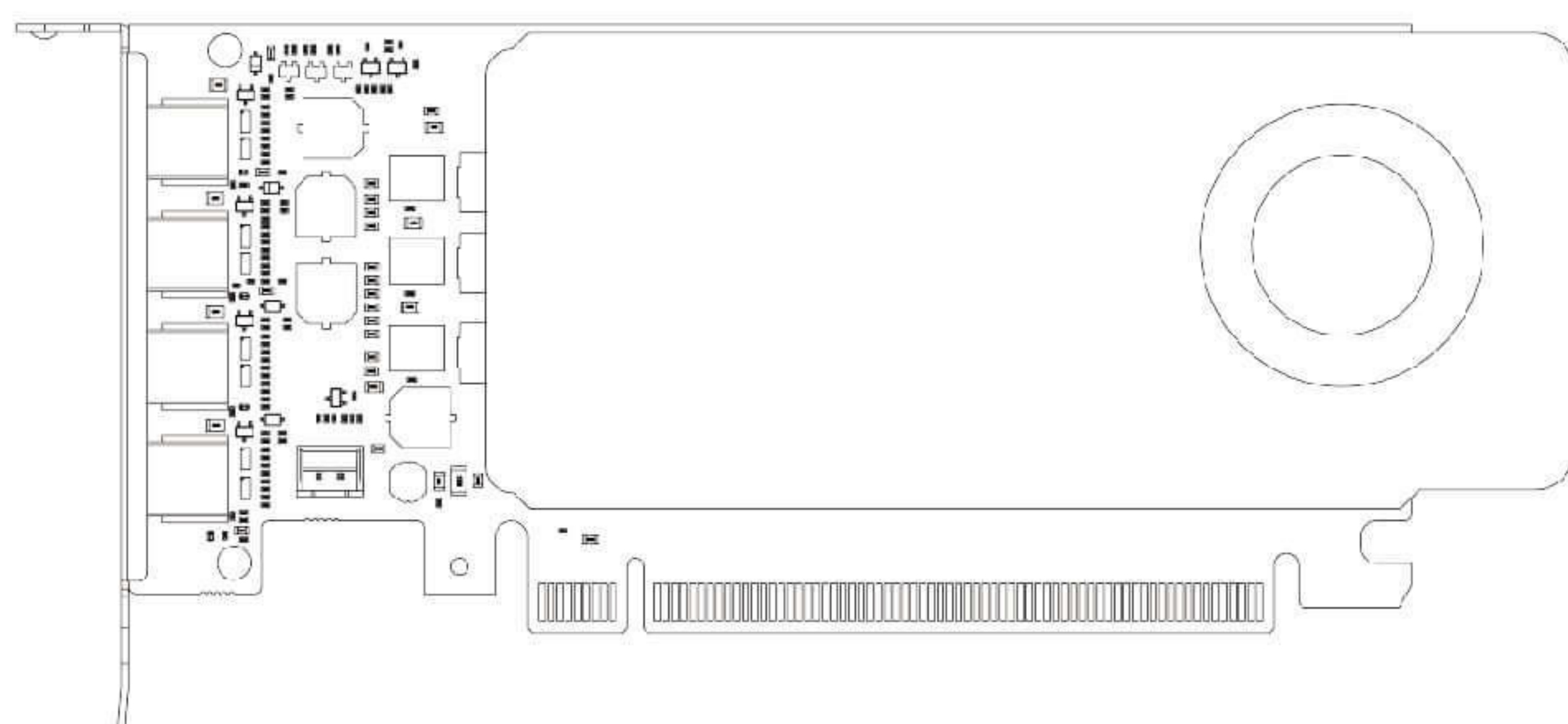
- Powered by NVIDIA Turing architecture GeForce GTX 1630
- Integrated with 4GB GDDR5 128 bit memory interface
- 3 years longevity product supply service



N1030-J6FL

- NVIDIA power-efficient GPU GeForce GT 1030
- Analog display supported
- Small form factor suitable for slim systems
- OpenCL 1.2, OpenGL 4.5, DirectX 12 and Vulkan compatible
- 3 years longevity product supply service

PCIe Features



MGC-N16mDP4

***Preliminary**

- Native 4x mini DisplayPort 1.4 for four displays simultaneously
- Single-slot fan, low-profile size for space and power-constrained chassis
- Large 4GB on-board frame buffer memory
- Resolution up to 8K, 7680x4320 60Hz with 30-bit color



M4-P107mDP

- Native 4x mini DisplayPort 1.2 for four displays simultaneously
- Single-slot fan, low-profile size for space and power-constrained chassis
- Large 4GB on-board frame buffer memory
- Resolution up to 8K, 7680x4320 60Hz with 30-bit color



M9-P107

- Singler card single GPU drive up to 9 displays, ideal for 3x3 video wall
- Maximum 5760x3240 high resolution, support 1920x1080 per port
- Supports H.265/HEVC video decoder, drive 4x 4K videos simultaneously
- Supports hardware EDID caching optimize displaying quality and stability

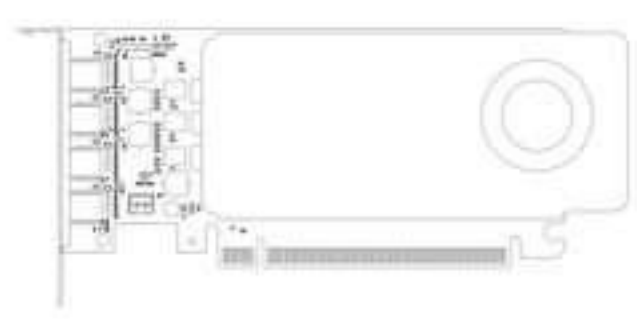


M12-P107

- Drives up to 12 displays in single card with single GPU
- Maximum 5760x4320 high resolution, support 1920x1080 per port
- Supports H.265/HEVC video decoder, drive 4x 4K videos simultaneously
- Supports hardware EDID caching optimize displaying quality and stability



Model Number	N3050-VSFX-A1	N2065-V9FX	N1650-L9FX	N1630-P9FX-A1	N1030-J6FL
Engine	NVIDIA GeForce RTX 3050 Architecture: NVIDIA Ampere CUDA Cores: 2560 Tensor Cores: 80 RT Cores: 20 Floating Point Performance: 9.11 TFLOPS	NVIDIA GeForce RTX 2060 Super Architecture: NVIDIA Turing CUDA Cores: 1650 Floating Point Performance: 7.18 TFLOPS	NVIDIA GeForce RTX 1650 Architecture: NVIDIA Turing CUDA Cores: 896 Floating Point Performance: 2.98 TFLOPS	NVIDIA GeForce RTX 1630 Architecture: NVIDIA Turing CUDA Cores: Floating Point Performance: TFLOPS	NVIDIA GeForce GT 1030 Architecture: NVIDIA Pascal CUDA Cores: 384 Floating Point Performance: GFLOPS
Memory	Size: 8GB GDDR6 Clock: 14 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 224	Size: 8GB GDDR6 Clock: 14 Gbps Interface Width: 256-bit Bandwidth (GB/sec): 448	Size: 4GB GDDR5 Clock: 8 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 128	Size: 4GB GDDR5 Clock: 8 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 128	Size: 2GB GDDR5 Clock: 6 Gbps Interface Width: 64-bit Bandwidth: 48
Support	PCI Express 4.0 x8 DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2	PCI Express 3.0 x16 DirectX: 12 API Open GL 4.6 Vulkan API	PCI Express 3.0 x16 DirectX: 12 API Open GL 4.6 Vulkan API	PCI Express 3.0 x16 DirectX: 12 API Open GL 4.6 Vulkan API	PCI Express 3.0 x16 DirectX: 12 Open GL 4.5 Vulkan 1.2
Display	Resolution: 7680x4320 Max. Display: 4 Display connector: DisplayPort 1.4a / HDMI 2.1	Resolution: 7680x4320 Max. Display: 3 Display connector: DisplayPort 1.4a / HDMI 2.0b / DL-DVI	Resolution: 7680x4320 Max. Display: 3 Display connector: DisplayPort 1.4a / HDMI 2.0b / DL-DVI-D	Resolution: 7680x4320 Max. Display: 3 Display connector: DisplayPort 1.4 / HDMI 2.0 / DL-DVI	Resolution: 1920x1200 Max. Display: 2 Display connector: SL-DVI-D
Power Consumption	Total Graphics Power (TGP): 130 W Min. System Power Requirement: 550 W Supplementary Power Connectors): 8-PIN	Total Graphics Power (TGP): 175 W Min. System Power Requirement: 550 W Supplementary Power Connectors): 8-PIN	Total Graphics Power (TGP): 75 W Min. System Power Requirement: 300 W	Total Graphics Power (TGP): 75 W Min. System Power Requirement: 300 W	Total Graphics Power (TGP): 30 W Min. System Power Requirement: 300 W
Form Factor	ATX	ATX	ATX	ATX	ATX
Dimension (W x D x H)	147.3 x 111.1mm	189.3 x 111.7mm Width: Two Slot	168 x 111mm	TBD	167.7 x 68.9mm
Net Weight	0.406kg	0.745kg	0.32kg	0.3kg	TBD
Vibration	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis
Temperature	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C
Humidity	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing
OS Support	Windows 10/11 64-bit / Linux	Windows 10/11 64-bit / Linux	Windows 7/10 64-bit / Linux	Windows 7/11 64-bit / Linux	Windows 7/11 64-bit / Linux
Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC



*Preliminary



Model Number	MGC-N16mDP4	M4-P107mDP	M9-P107	M12-P107
Engine	NVIDIA GeForce RTX 1650 Architecture: NVIDIA Turing CUDA Cores: 896 Floating Point Performance: 2.98 TFLOPS	NVIDIA GeForce GTX 1050Ti Architecture: NVIDIA Pascal CUDA Cores: 768 Floating Point Performance: 1.98 TFLOPS	NVIDIA GeForce GTX 1050Ti Architecture: NVIDIA Pascal CUDA Cores: 768 Floating Point Performance: 1.98 TFLOPS	NVIDIA GeForce GTX 1050Ti Architecture: NVIDIA Pascal CUDA Cores: 768 Floating Point Performance: 1.98 TFLOPS
Memory	Size: 4GB GDDR5 Clock: 8 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 128	Size: 4GB GDDR5 Clock: 7 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 112	Size: 4GB GDDR5 Clock: 7 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 112	Size: 4GB GDDR5 Clock: 7 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 112
Support	PCI Express 3.0 x16 DirectX: 12 API Open GL 4.6 Vulkan API	PCI Express 3.0 x16 DirectX: 12 API Open GL 4.5	PCI Express 3.0 x16 DirectX: 12 API Open GL 4.5	PCI Express 3.0 x16 DirectX: 12 API Open GL 4.5
Display	Resolution: 7680 x 1080 (4 x 1 mode) Max. Display: 4 Display connector: Mini Displayport 1.4	Resolution: 7680 x 4320 (3 x 4 mode) Max. Display: 4 Display connector: Mini Displayport 1.2	Resolution: 5760 x 4320 (3 x 4 mode) Max. Display: 9 Display connector: 3 x VHDCI	Resolution: 5760 x 4320 (3 x 4 mode) Max. Display: 12 Display connector: 4 x VHDCI
Power Consumption	Total Graphics Power (TGP): 75 W Min. System Power Requirement: 300 W	Total Graphics Power (TGP): 75 W Min. System Power Requirement: 300 W	Total Graphics Power (TGP): 75 W Min. System Power Requirement: 300 W	Total Graphics Power (TGP): 75 W Min. System Power Requirement: 300 W
Form Factor	SFF	SFF	ATX	ATX
Dimension (W x D x H)	68.9 x 169.6mm Width: One slot	68.9 x 169.6mm Width: One slot	111.15 x 203.6mm Width: Two slot	115.15 x 203.6mm Width: Two slot
Net Weight	0.1742kg	0.1742kg	0.2739kg	0.2739kg
Vibration	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis
Temperature	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C	Standard Operating Temp. : 0 to + 55°C Storage Temperature: -40 to + 85°C
Humidity	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing
OS Support	Windows 7/11 64-bit / Linux	Windows 7/10	Windows 7/10	Windows 7/10
Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC

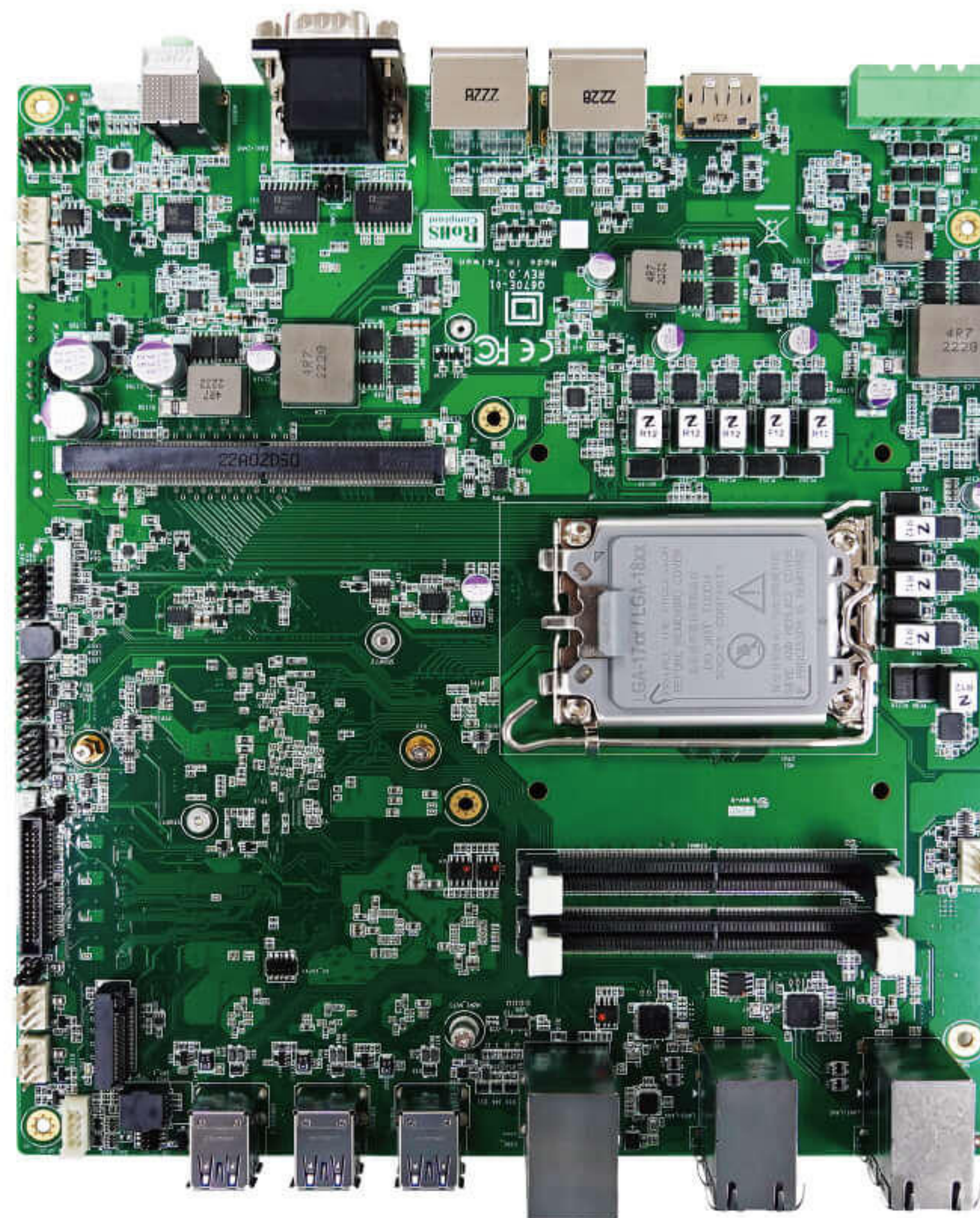


V3T3000-QRC

- Rugged 3U VPX with NVIDIA Quadro® RTX 3000
- 1920 CUDA cores, 30 RT cores and 240 Tensor cores, 6GB GDDR6 memory
- 5.3 TFLOPS peak FP32 performance
- Supports up to 4 DisplayPort 1.4b displays
- Supports CUDA Compute version 7.5, OpenCL1.2, OpenGL 4.6, DirectX 12 and Vulkan 1.1 API

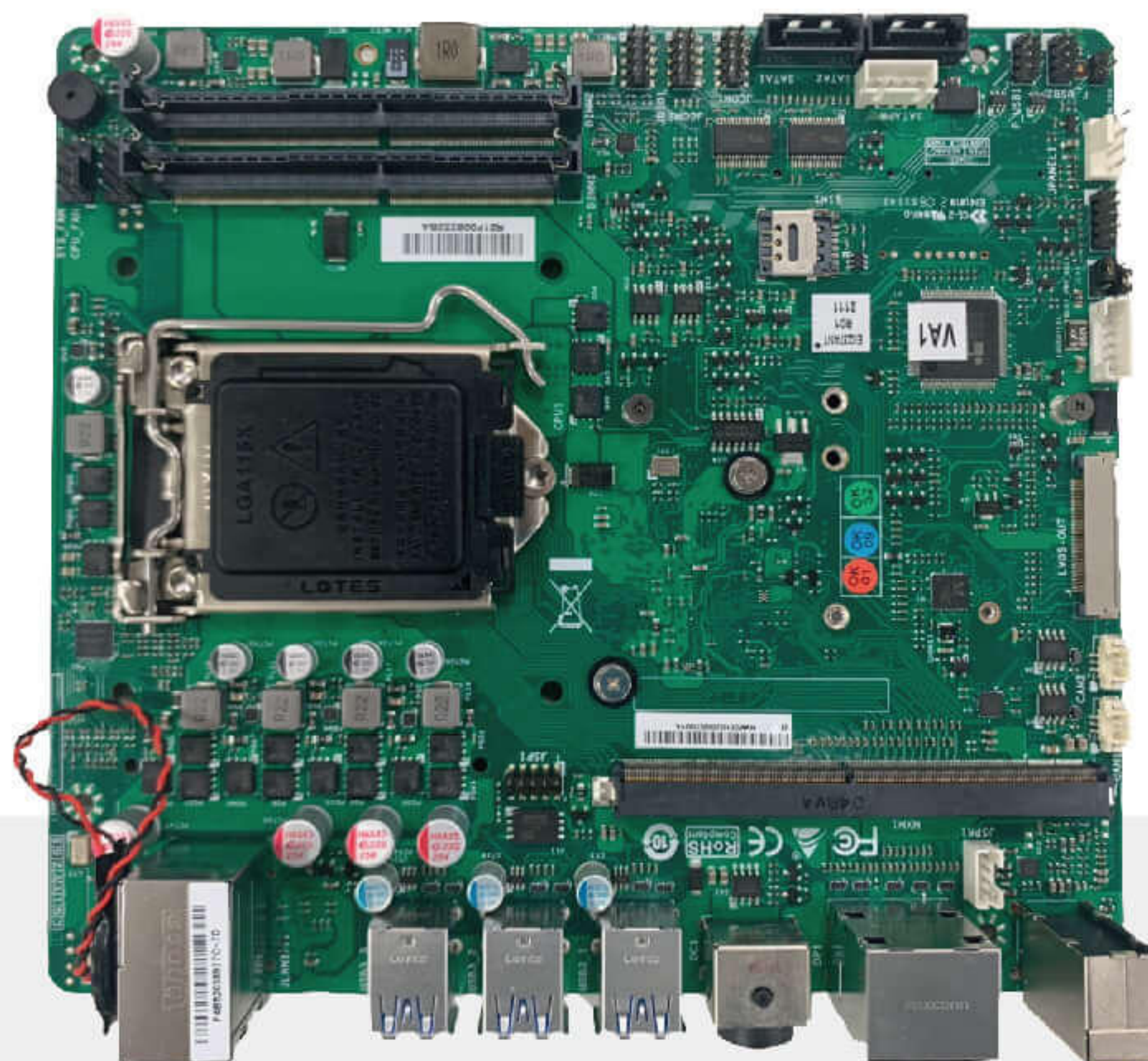
Model Number	V3T3000-QRC
Engine	Quadro RTX 3000
Memory	6GB GDDR6
Support	PCI Express 3.0 DirectX: 12 Open GL 4.6 Vulkan 1.1 API
Display	Resolution: 7680x4320 Max: 4x DisplayPort Display interface: 4x DisplayPort 1.4 outputs to VPX P2
Power Consumption	Max. Board Power Consumption (TGP): 80 W
Form Factor	Conduction cooled 3U VPX
Dimension (W x D x H)	100.0 x 160.0 mm
Net Weight	71.5g
Vibration	2.4Grms, @5~500 Hz, Sine, 0.5Hr/axis
Temperature	Standard Operating: 0 to +55°C (at Wedge-lock) Extended Operating: -40 to +71°C (at Wedge-lock) Storage: -40 to +85°C
Humidity	95% @ 40°C Related Humidity, Non-condensing
OS Support	Windows 10 64-bit, Linux 64-bit
Certification	CE/FCC

Expansion Kit Features



AIB-SQ67

- Supports Intel 12th Gen Core™ i5/i7 processor in LGA1700 Socket
- 2x DDR5 SO-DIMM sockets
- 2x M.2 M-Key NVMe Gen 4x4 /SATA
- 5x 2.5G RJ45 LAN Ports



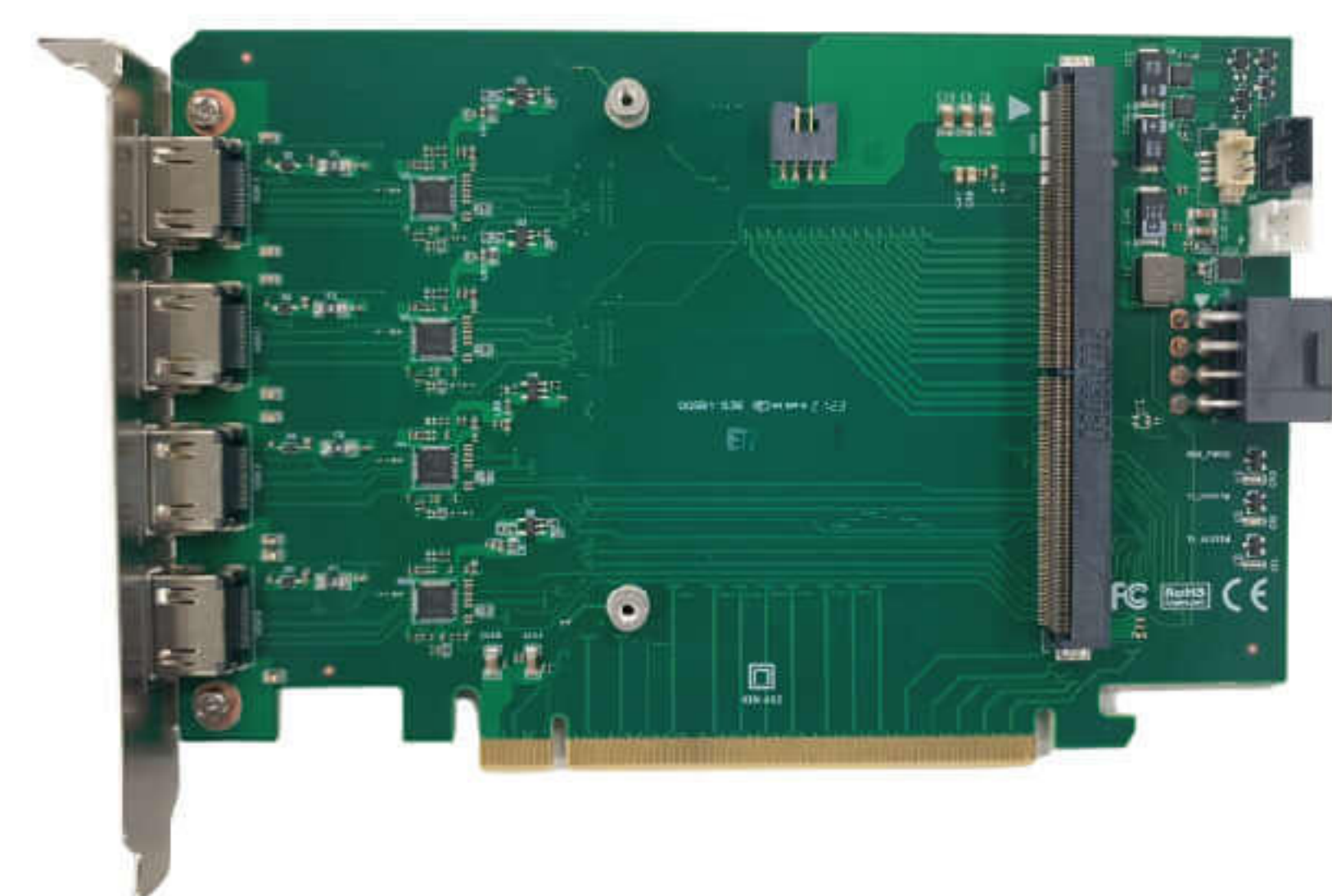
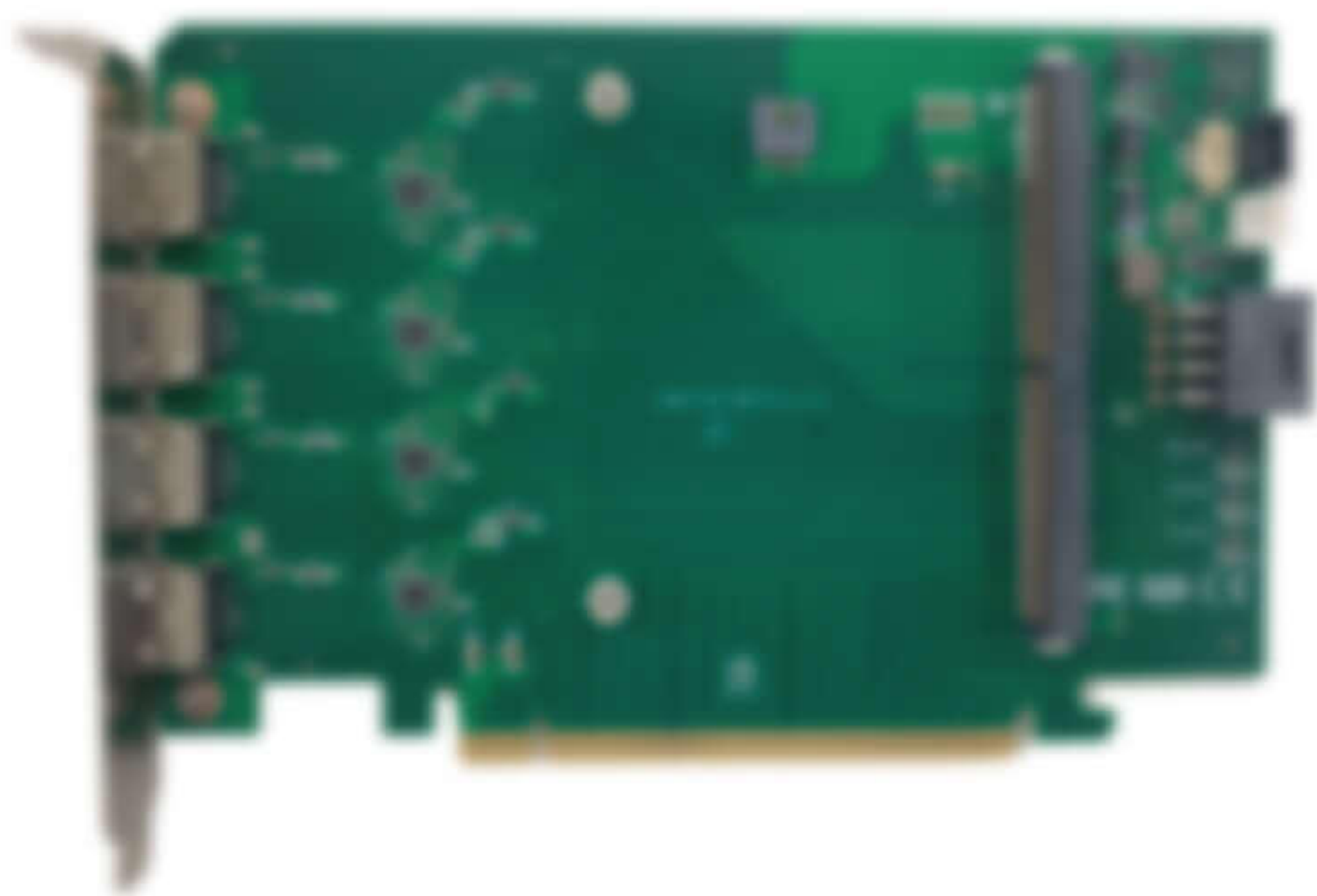
AIB-SQ37

- Integrated 1x MXM slot to support Type B MXM module, enhancing computing power
- Dual Channel DDR4, 2x SO-DIMMs up to 32GB
- 1x M.2 M-Key, 1x M.2 B-Key



Model Number	AIB-SQ67	AIB-SQ37
CPU	Support Intel 12th Gen Core™ i5/i7 processor in LGA1700 Socket, TDP under 65W	Support Intel 9th Gen Core™ i5/i7 processor in LGA1151 Socket, TDP under 65W
Memory	Support 2x DDR5 SO-DIMM sockets, Max. Capacity 32 GB	Support 2x DDR4 SO-DIMM sockets, Max. Capacity 32 GB
GPU	MXM T1000/A1000/A2000/RTX5000/A4500	MXM T1000/A1000/A2000/RTX5000
Storage	2x SATAIII 6Gb/s Connector	2x SATAIII 6Gb/s Connector
I/O Interface	(Front) 5x RJ45 LAN connector(1+4)-4x RS232/RS485/RS422 (COM1~4), 3x USB3.2 Gen2 Dual Connector 1x USB 3.2 Gen2 x2 (20G) Type C Connector (Rear) 1x DCIN EURO Block (24VDC) 2x CAN bus 2.0B 1x Audio jacks, support Line out/Mic 4x DP Connector (From MXM Port A/B/C/D) 1x DisplayPort(from CPU)	(Front) 2x DisplayPorts (1 for CPU, 1 for GPU) 6x USB3.1 Gen2 1x Audio jacks, support Line out/Mic 1x DCIN Jack (12 to 19VDC) 2x RJ-45 GbE port
Internal I/O	(Front) 4x COM Port male 1x DIO DB9 female (Rear) 2x USB 2.0 1x OOB	(Front) 1x DIO(3x DI/3xDO) 2x RS-232 2x USB 2.0
Expansion	1x MXM Type B+ (19VDC@10A) 2 x M.2 M-Key, support PCIe Gen4x4+ SATA interface for NVME, Size 2280 (1x M.2 M-Key supports InnoAGE)	1x MXM Type B+ 1x Mini PCIe Full slot, support PCIe x1 + USB 2.0 interface 1x M.2 B-Key slot, support PCIe x2 + USB 3.0(Colay PCIe ,Default PCIe), Size 2280 1x M.2 M-Key slot, support PCIe *4+ SATA interface for NVMe,Size 2280
Power Input	1 x DCIN Jack 24VDC(4 pin Phoenix header)	1 x DCIN Jack 19VDC
Dimension (W x D x H)	222x 248 x 45 mm (10 Layers)	170 x 188 x 35 mm (8 Layers)
Net Weight	0.6kg	0.4kg
Temperature	0 to 60°C	0 to 60°C
Humidity	5% ~ 90%	5% ~ 90%
Certification	CE/FCC/BSMI/LVD	CE/FCC

Expansion Kit Features



DEV-MXM-4H

- Built based on PCI Express x16 Gen3, converting the MXM slot to a PCI Express slot
- Compatible with Aetina Embedded MXM Module
- Display interface : 4 x HDMI



MSB-DP28H

- 2x DP input to 8x HDMI output video splitter
- Maximum 15360x1200 high resolution, support 1920x1200 per port
- Supports EDID caching
- Easy and quick installation without driver
- Active cooling, low power consumption, low-profile metal case

DEV-MXM-4D

***Preliminary**

- Built based on PCI Express x16 Gen3, converting the MXM slot to a PCI Express slot
- Compatible with Aetina Embedded MXM Module
- Display interface : 4 x DisplayPorts



MSB-DP39H

- 3xDP input to 9xHDMI output video splitter
- Maximum 5760x3600 high resolution, support 1920x1200 per port
- Supports EDID caching
- Easy and quick installation without driver
- Active cooling, low power consumption, low-profile metal case



MSB-DP24H

- 2xDP input to 4xHDMI output video splitter
- Maximum 7680x1200 high resolution, support 1920x1200 per port
- Supports EDID caching
- Easy and quick installation without driver
- Passive cooling, low power consumption, low-profile metal case



*Preliminary



Model Number	DEV-MXM-4H	DEV-MXM-4D	MSB-DP39H	MSB-DP28H	MSB-DP24H
Display	4x HDMI	4x DisplayPorts	Resolution: 5760x3600 Max: 9x DisplayPor	Resolution: 15360x1200 Max: 8x DisplayPort	Resolution: 7680x1200 Max: 4x DisplayPort
Power Connector	Supplementary Power Connectors: 8-pin	Supplementary Power Connectors: 8-pin	Power supply :5V 3A DC	Power supply :5V 3A DC	Power supply :5V 2A DC
Dimension (W x D x H)	111.2 x 168mm	111.15 x 168mm	175 x 105 x 38mm	175 x 105 x 38mm	120 x 98 x 38mm
Net Weight	71.5g	71.5g	598g	589g	347g
Temperature	Standard Operating Temp.: 0 to +55°C	Standard Operating Temp.: 0 to +55°C	Standard Operating Temp.: 0°C to +45°C Storage Temperature: -20°C to +65°C	Standard Operating Temp.: 0°C to +45°C Storage Temperature: -20°C to +65°C	Standard Operating Temp.: 0°C to +45°C Storage Temperature: -20°C to +65°C
Humidity	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing	95% @ 40°C Related Humidity, Non-condensing
Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC

Makes AI Model Retraining Time-Saving and Cost-Effective

With almost every industry attempting to keep pace with the proliferation of more connected devices, data and systems than ever before, more smart applications require real-time decision-making. Cloud computing and training certainly help speed up processing by bypassing on-premise solutions, but the move to cloud services means latency is becoming increasingly noticeable. Besides, the data distribution tends to drift significantly from the initial training distribution in the long term, it is usually a good common practice to retrain the AI model on the newer data distribution to keep up with the high model performance. If AI retraining is still executed via cloud, the training and server costs are expected to increase exponentially. Therefore, independent software vendors (ISV) and AI algorithm development companies seek cost-effective alternatives.

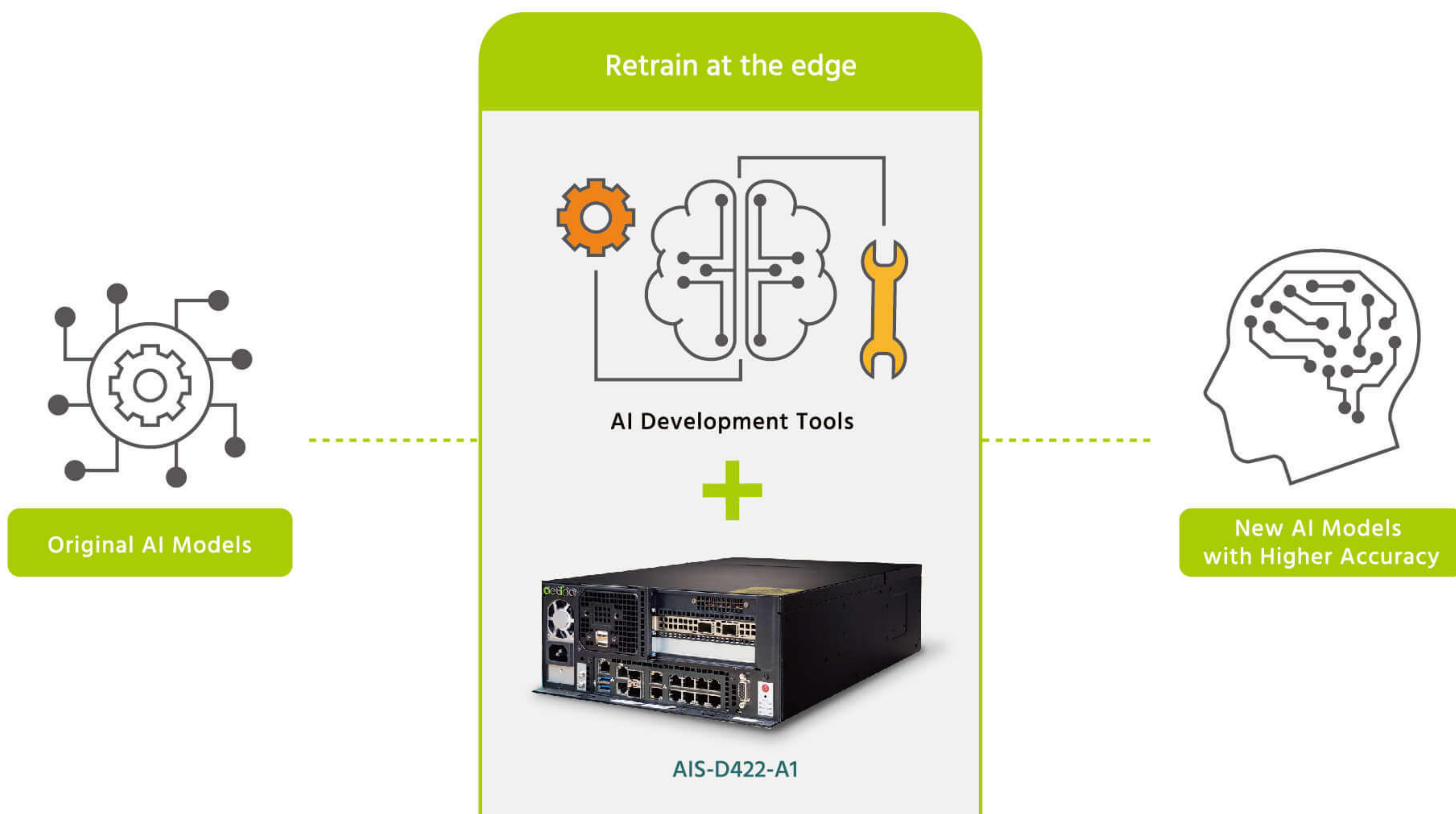
The Aetina SuperEdge AIS-D422-A1, NVIDIA-Certified Systems (NCS), successfully completed a rigorous suite of functional and performance tests that validate excellent configuration for reliability, scalability, manageability, and security. It retrains AI models at the edge with low latency in spite of unstable communication networks. What's more, with Aetina AI development tools, AI model retraining time and costs are shortened.

Benefits

- Secures workflows in low latency by protecting data on site
- Easy to utilize AI development tools with GUI customization interface

Results

- Reduces AI model retraining time
- Saves AI model retraining and server costs



Streamlining AOI Solution From AI Training to Deployment

Manufacturers are dedicated to increasing overall production efficiency and yield rates, and Industry 4.0 is revolutionizing the way companies manufacture products. To improve inspection quality and speed, Aetina built a solution for clients, including integrating AI models, industrial-grade cameras, and NVIDIA-Certified Systems (NCS).

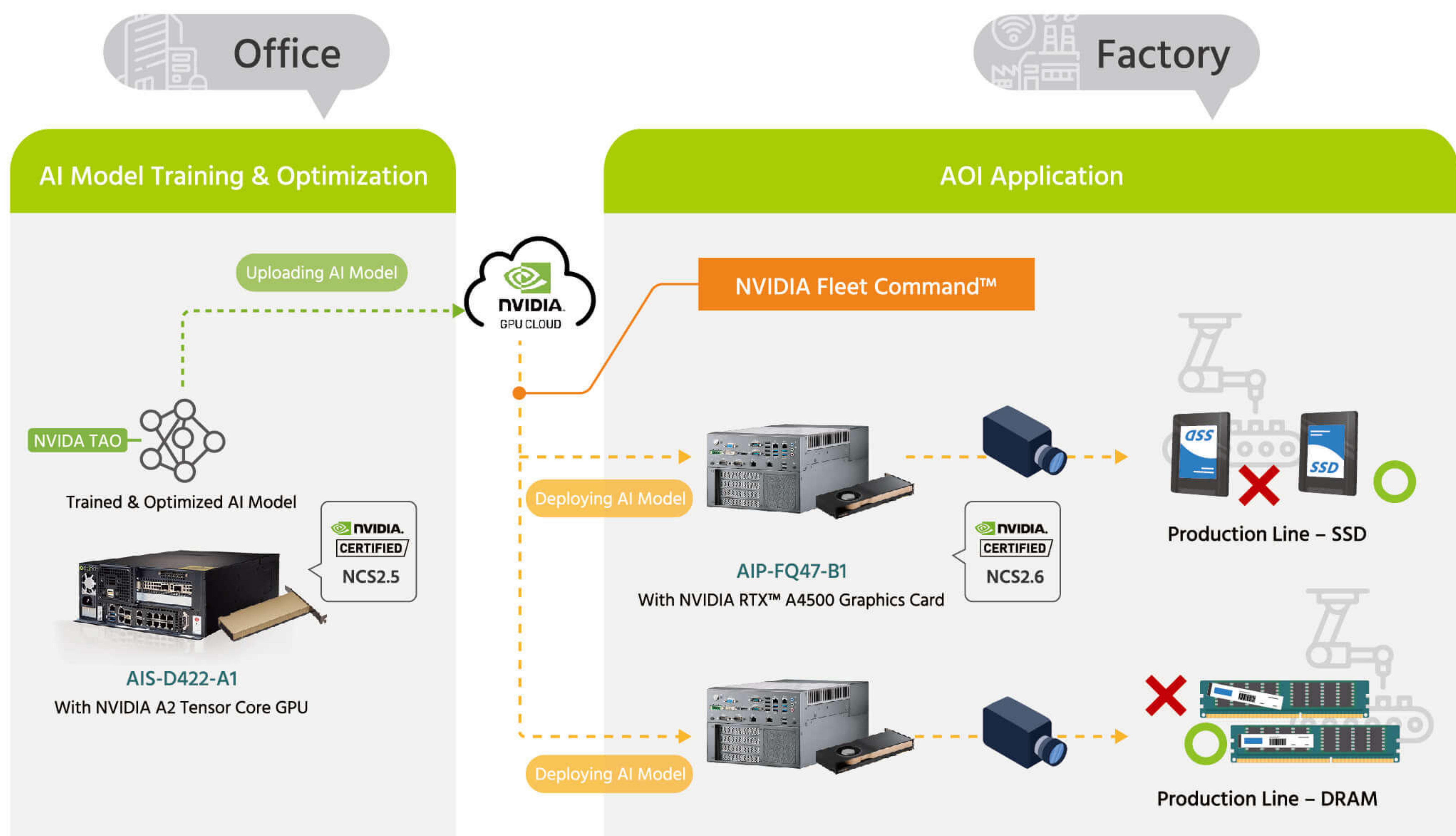
The most suitable pre-trained AI model was selected from the NVIDIA GPU Cloud (NGC) Catalog and downloaded to NCS for AI training. With NVIDIA TAO and Aetina's GUI customization interface, AI model training time was shortened with the added benefit of simplifying retraining and resizing operations. Then, the AI model was uploaded to the NGC Catalog and deployed on NCS for AI inference. As the AI model needs to be updated to remain accurate, assigning IT administrators to be on-site all the time is not cost-effective. Therefore, NVIDIA Fleet Command™ can manage AI model deployments from the cloud at any time, from anywhere, saving on maintenance costs.

Benefits

- One stop service includes NVIDIA AI Enterprise Software Suite support, AI model training, evaluating, fine-tuning, and deployment
- NVIDIA-Certified Systems(NCS) ensures high reliability and computability
- Comprehensive technical supports and personnel training

Results

- Improves overall defect detection percentage by several orders of magnitude
- Effectively manages production line
- Saves maintenance costs and time



Real-time AI Inference Ensures Accurate 3D Virtual Fence Solution

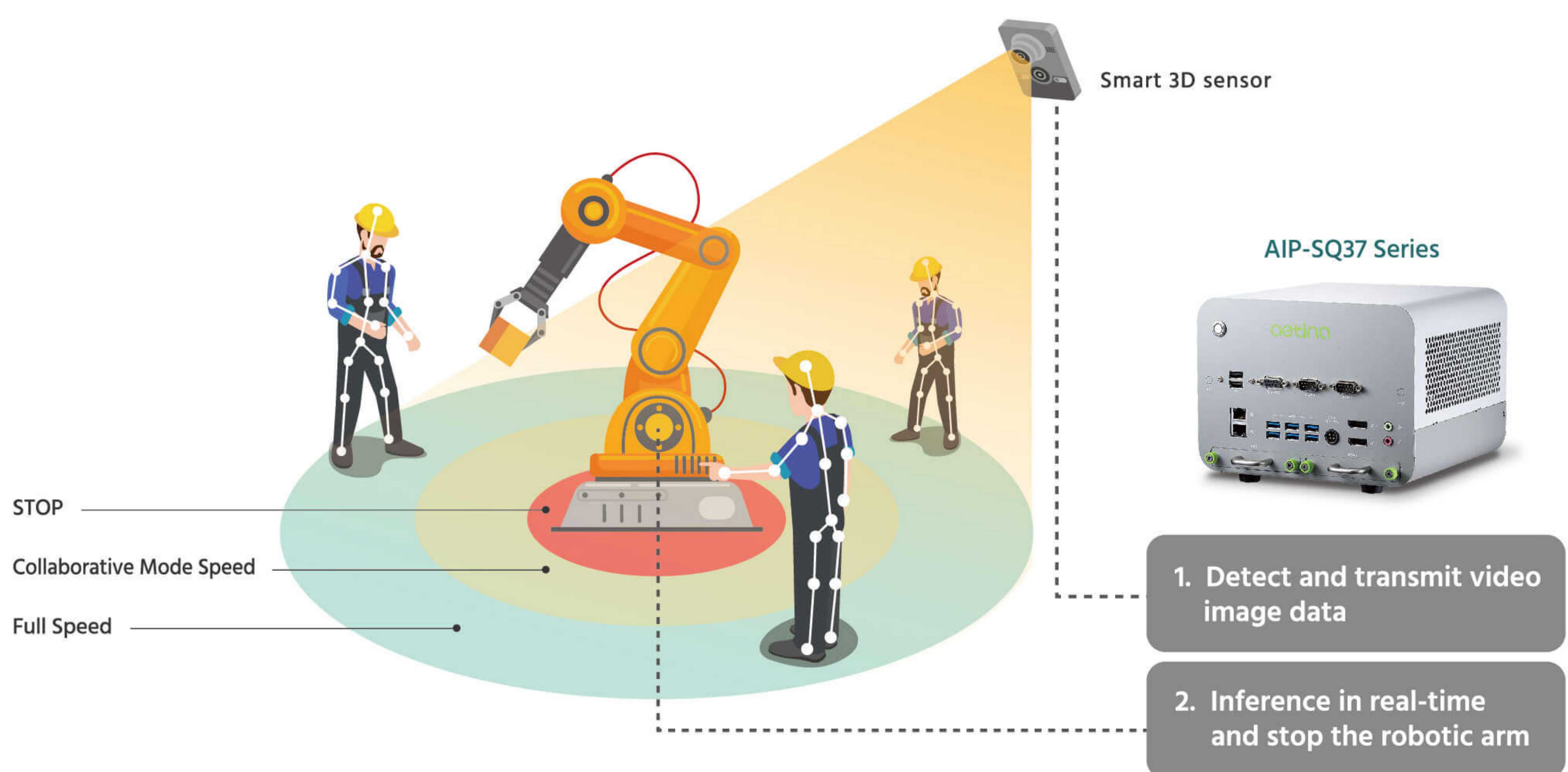
40% of workplace injuries are caused by accidental contact with harmful objects or substances, and the cost of workplace injury is serious, especially in the factory. To reduce the occurrence of accidents, a 3D virtual fence solution was developed, consisting of Aetina MegaEdge AIP-SQ37 Series, several smart 3D sensors and motion recognition algorithms. When intruders are detected by smart 3D sensors, AIP-SQ37 Series will inference those skeletons in real-time. Meanwhile, motion recognition algorithms ensure the recognition result is precise, sending alarm signals or stopping the operation of robotic arms.

Benefits

- Integrated one MXM slot to support MXM Type B module, enhancing computing power
- Comprised of solid components with long-term stability
- Equipped with two removable 2.5" SSD drive trays, allowing users to swap SSD quickly

Results

- Efficiently prevents people from accessing to 3D virtual space
- Dramatically improves workplace safety



ML/DL Applications for Clarifying Complex Signals

Powerful computing ability is required in signal process when an increase in the complexity of algorithms is encountered. So, hardware becomes the key component to improve the capability of the algorithm. The development of data processing technology based on edge computing makes it possible to improve computing power.

Aetina's partner unveils COTS products, which incorporates the Aetina MXM M3A2000-VY that conducts scalable, portable, and affordable GPU acceleration, and brings the extreme compute acceleration and ease-of-programming of MXM for modular test & measurement(T&W) and electronic warfare (EW). Due to 8.25 FP32 TFLOPS peak compute performance, M3A2000-VY strengthens the most demanding signal processing, machine learning (ML), and deep learning (DL) for AI-based signal classification and geolocation.

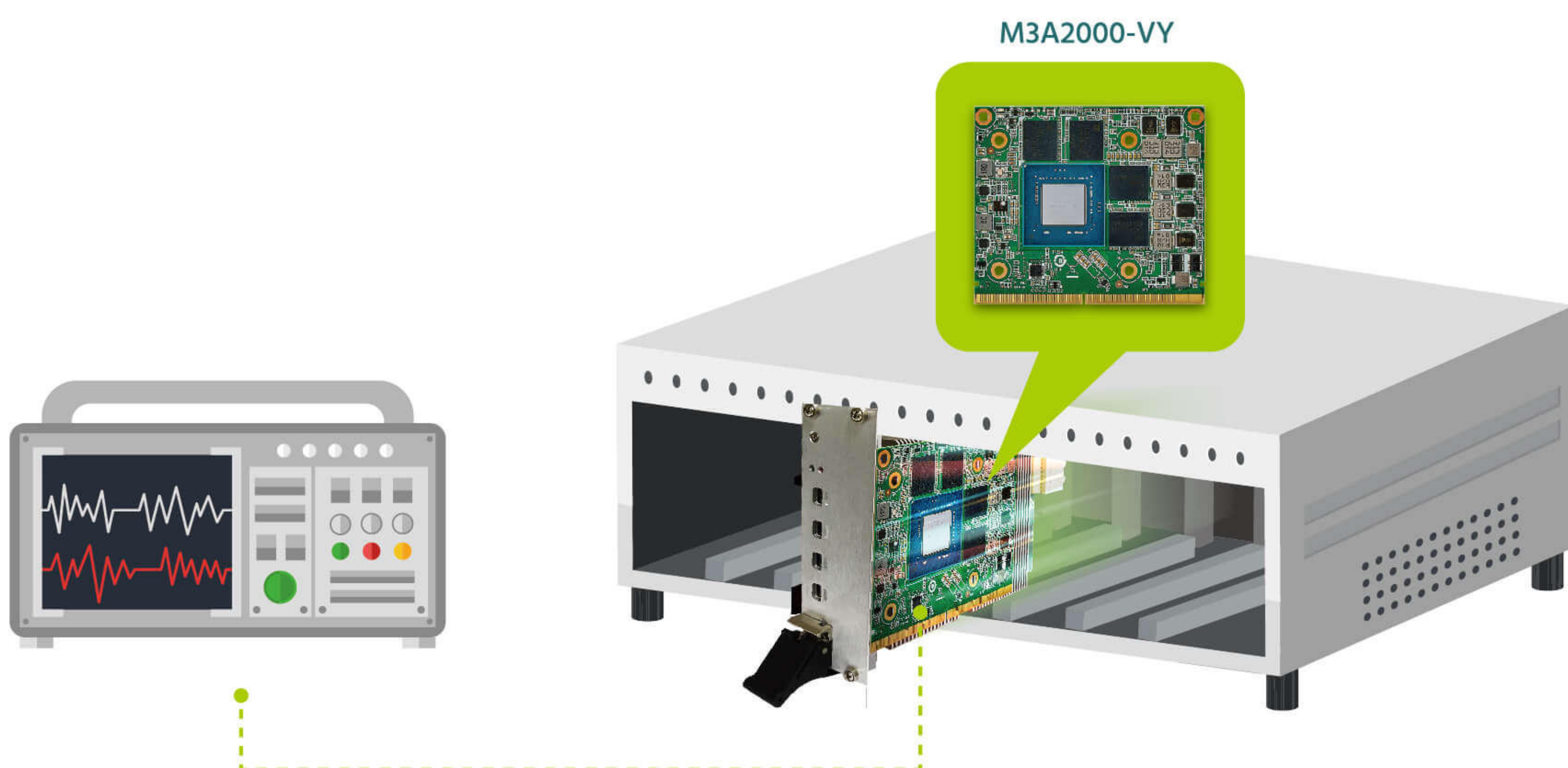
M3A2000-VY also supports programming via MATLAB™, Python and C/C++, enabling compute acceleration via NVIDIA CUDA® and OpenCL®, and making a convenient and flexible manner to improve accuracy and resolution bandwidths (RBWs) for enhanced signal processing.

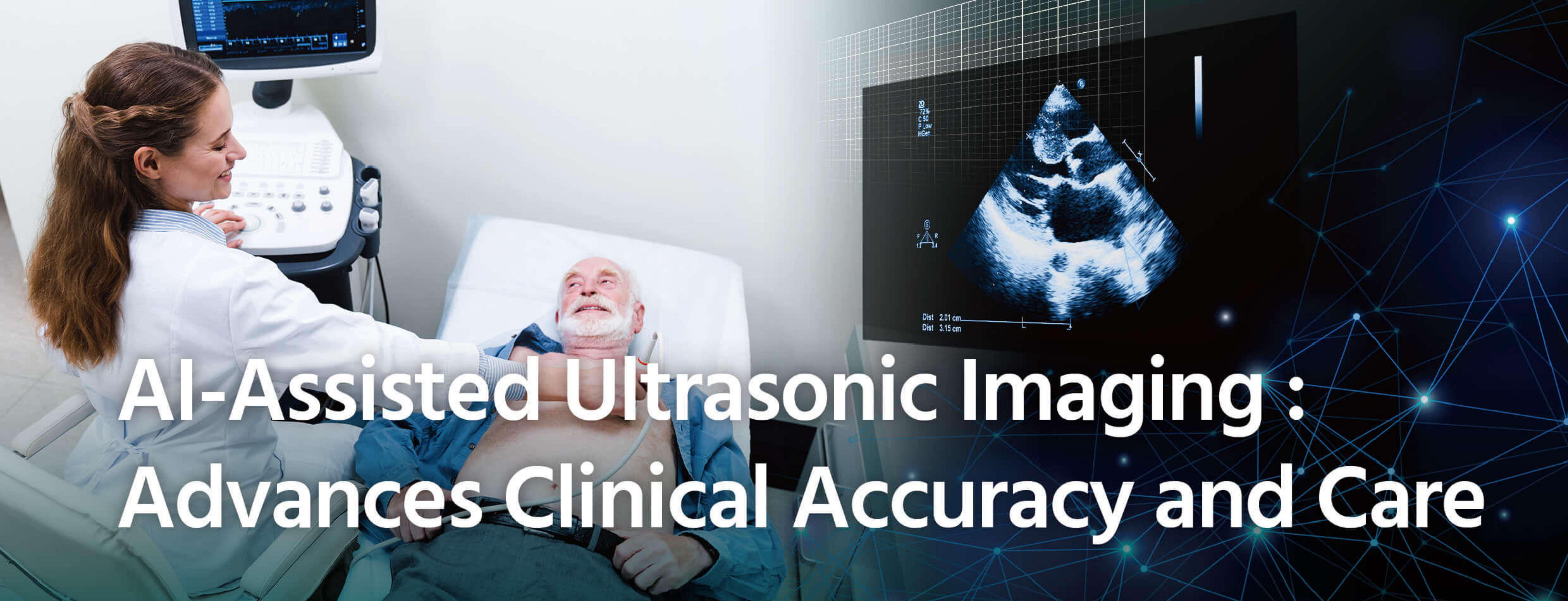
Benefits

- Offers 8.25 TFLOPs intensive computing performance capabilities
- 5-year long-term supply
- Easy-to-program via MATLAB™, Python and C/C++

Results

- Users can conduct fast and accurate signal processing and analysis on acquired data
- Enhances extreme level of advanced graphics, DSP, and ML/DL
- Realizes cost-effective, easy-to-program, and high-performance compute acceleration for T&W and EW





AI-Assisted Ultrasonic Imaging: Advances Clinical Accuracy and Care

Investment in healthcare is sharply increasing, particularly AI in ultrasound. An AI-powered ultrasound solution can be implemented to improve patient outcomes by increasing the accuracy of diagnoses. One of Aetina partners, global manufacturers of diagnostic and prenatal ultrasound equipment, adopted Aetina ASIC-based MXM AI-MXM-H84A to speed up the auto-segmentation model to reduce image adjustment time and task operated manually.

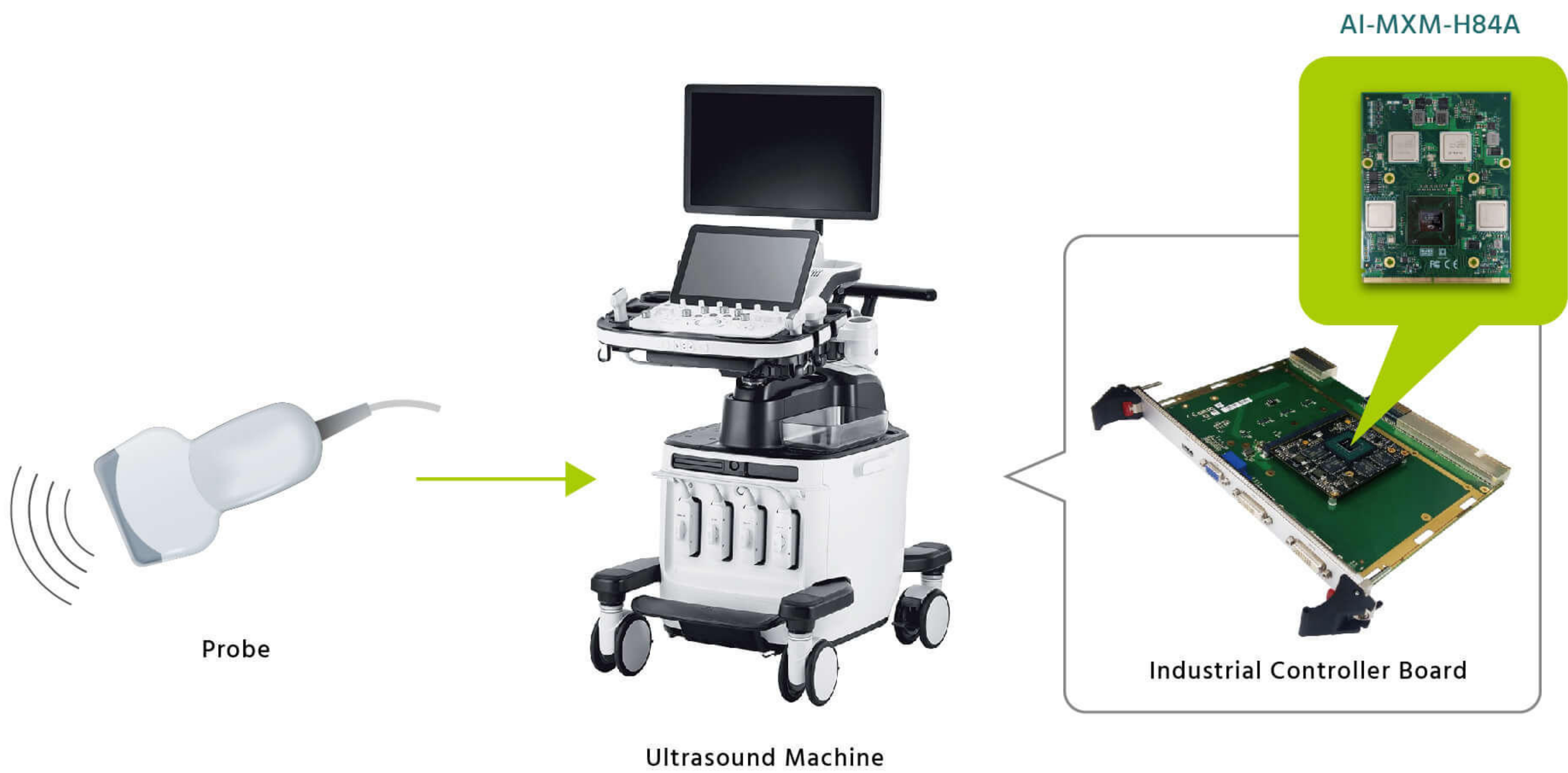
AI-MXM-H84A drives unprecedented AI performance and provides the advanced image analytics deep learning model at a high-frame rate while in low latency. As a result, assessments become faster and more accurate.

Benefits

- High flexibility and scalability to compliant with existing X86 or ARM systems
- Handles heavy inference workloads with low latency
- Comprehensive software package such as AI development tools and customization services

Results

- Improves patient diagnosis outcomes through optimized accuracy
- Saves ultrasound AI system maintenance costs



Real-Time Hemodialysis for Heart Failure Prediction

One of Aetina's partners is committed to improving outcomes for kidney dialysis with an AI model that predicts heart failure risk in real time during dialysis procedures in hospitals. The AI analytics tool can display key factors for risk prediction on a dashboard for clinicians, detect abnormal patterns in the streaming data from dialysis machines, and instantly alert doctors and nursing staff to intervene.

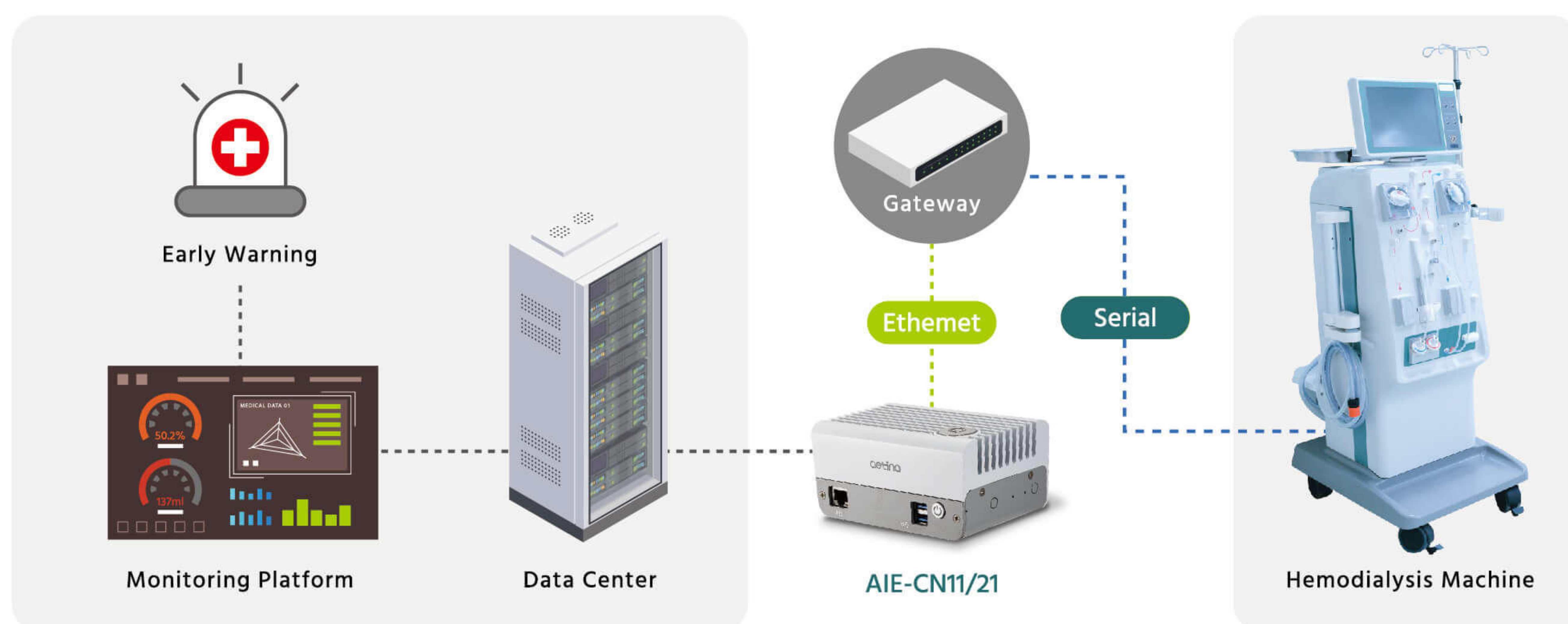
To achieve real-time AI inference using streaming data over the course of a four-hour dialysis session, the hospital adapted Aetina's DeviceEdge AIE-CN11/21 powered by NVIDIA Jetson Xavier™ NX, which packs the power to process up to 21 trillion operations per second (TOPS) in a compact module that consumes only 10 watts. By shifting processing to the edge, The AIE-CN11/21 helps reduce the computation workload on main servers, freeing up resources to support other high-quality medical models.

Benefits

- Fanless design, capable of running AI inference tasks without overheating and causing noise
- Energy-efficient, while providing sufficient AI performance
- Small-size, suitable for limited space

Results

- Cost-effectively runs the real-time prediction by shifting the AI inference process to the edge
- Greatly reducing server workloads, free up the computer resources of the main servers





Seamless Fish Health Monitoring Maximums Welfare

Traditionally, it's hard to efficiently monitor the status of fish in real time. For example, major discrepancies often occur between records and actual weight development in the production cycle. Thus, fish farmers are unlikely to sell fish at the right price and order the right transport, causing erratic margins. Fortunately, Aetina collaborates with the partner who targets fish welfare monitoring solutions, helping fish farmers get unique insights into fish health to accurately predict welfare indicators. These solutions consist mainly of Aetina DeviceEdge AX720-X32 powered by NVIDIA Jetson AGX Xavier™ module, cameras, monitoring platforms, and several AI models such as fish growth tracking, fish wounds detection, and lice counting.

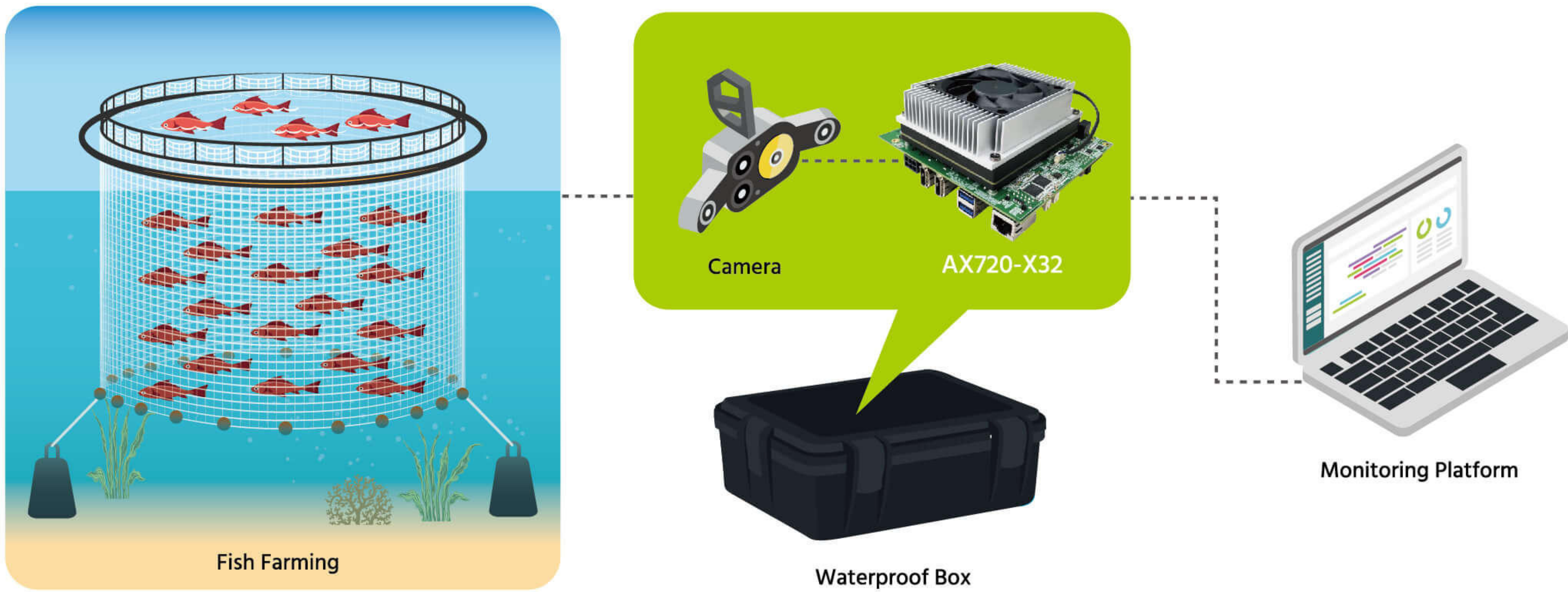
As the related images from underwater shooting need to be processed with low latency, AX720-X32 is perfect to execute edge computing with high performance. Above all, AX720-X32 is small enough to be installed in the confined space than other form factors such as PCIe graphic cards.

Benefits

- Tiny edge computing platforms to be installed in confined space
- Energy-efficient, while providing high performance
- Easy to integrate MIPI camera with BSP customization support

Results

- Efficiently monitors fish health data in real time
- Enable to accurately predict the right selling price and transport for fish welfare
- Increase the overall fish farming profits



Real-Time Fire Warning Avoids Accidents

The construction industry deals with a variety of hazards, and fire hazard on construction sites is the most common one. Construction projects are taking place in densely populated metropolitan cities and the completion date is often on tight schedule, any accident leads to a delay of schedule and even affects profitability.

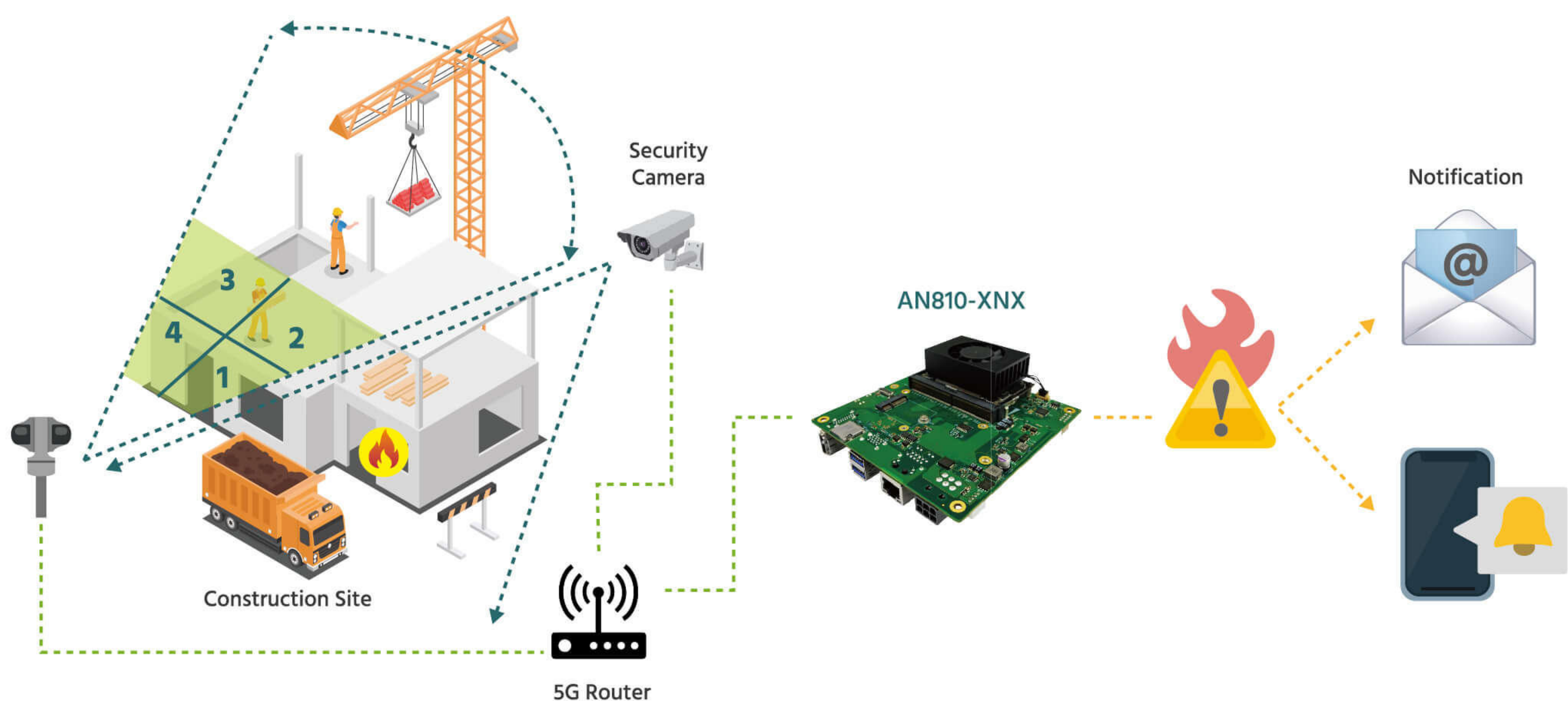
To detect fire in construction site on the spot, Aetina collaborates with the partner to provide a fire detection solution, including high-definition cameras, and Aetina's DeviceEdge AN810-XNX powered by NVIDIA Jetson Xavier™ NX Module. The AN810-XNX is designed in a compact platform, supporting 5G network, and delivering up to 21 TOPS.

✔ Benefits

- High computing capability for processing images from multiple interface cameras
- M.2 B-Key 3050 supporting 5G
- Perfect for space-constrained challenging environments

📊 Results

- Accurately detecting at early-stage fire daytime and night-time
- Completes construction projects on time



Prevents Shoplifting with Customer Behavioral Analysis



The main challenges that retailers face nowadays include safety of customers and employees, shortage of manpower and the rising threat of retail theft. Fortunately, the safety of customers and employees can be enhanced by using customer behavioral analysis and pose estimation technologies.

Aetina and partners develop a customer behavioral analysis solution to alert staff of potential shoplifters in real time. The key element of the solution is the AIE-CP1A-A1, an ASIC-based fanless system powered by Blaize® P1600 embedded System on Module (SoM), compatible with cameras and sensors to run quick image recognition and video analytics tasks. Thanks to Blaize NetDeploy and Picasso software development platform, the AIE-CP1A-A1 can flexibly develop customer behavioral analysis algorithms with high accuracy.

Benefits

- Fanless, compact and reliable with 16 TOPS AI performance
- Supports H.264/H.265 video encoder and decoder

Results

- Lower labor cost and reduce manpower required in response to labor shortage
- Prevent shoplifting and reduce theft crime in the retail stores





Improves Traffic Safety via Vehicle Recognition and Device Management

To improve road traffic and safety in many cities, a government team developed AI models that can recognize cars by types, brands, and license plates. With these vehicle data and accurate analytics, the team could work on launching a suitable traffic improvement project.

The team needed a huge amount of edge devices with sufficient computing performance for the AI model to function properly in many locations. Therefore, the team adapted more than 500 Aetina's customized systems powered by NVIDIA Jetson Xavier™ NX and closed-circuit television cameras, allowing the AI model to run the recognition tasks for vehicle data from the traffic analysis.

Furthermore, the Aetina's EdgeEye can efficiently manage hundreds of systems via intranet-connected devices, monitor real-time status of all devices, and support functions of reboot, shutdown, bootup, backup and recovery via out-of-band management modules, reducing maintenance costs.

Benefits

- Customized form factor designed to meet the specific scenarios
- Small-size and energy-efficient edge systems
- Defines custom threshold of hardware status with user-friendly interface management platforms

Results

- Reduces the high operation costs
- Improves traffic safety in cities

