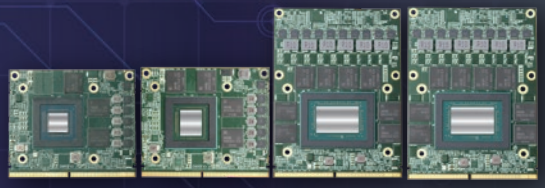
aetina

CoreEdge AI Accelerator & GPU

Compact Brilliance for Superior AI Acceleration

CoreEdge AI Accelerator & GPU



NVIDIA Series

Intel Arc Series

Compact Brilliance for Next-Gen AI Acceleration

Boost your edge AI with compact, drop-in accelerator modules designed for seamless performance gains. Our PCIe, MXM, and AI Accelerator products ensure easy integration into existing infrastructures without changes to your current infrastructure. Whether accelerating deep learning, image processing, or other demanding AI tasks, get the best of efficiency and adaptability. When space is at a premium, small form factor solutions like Aetina's MXM leverages parallel processing in ultra-compact COTS packages, bringing top-tier computing to embedded systems. Accelerate the AI performance you need, even in low-power consumption and limited spaces.

PCIe

Create stunning visual experiences and AI-accelerated applications without any delay using Aetina's line of plug-and-play PCIe cards powered by NVIDIA and Intel.

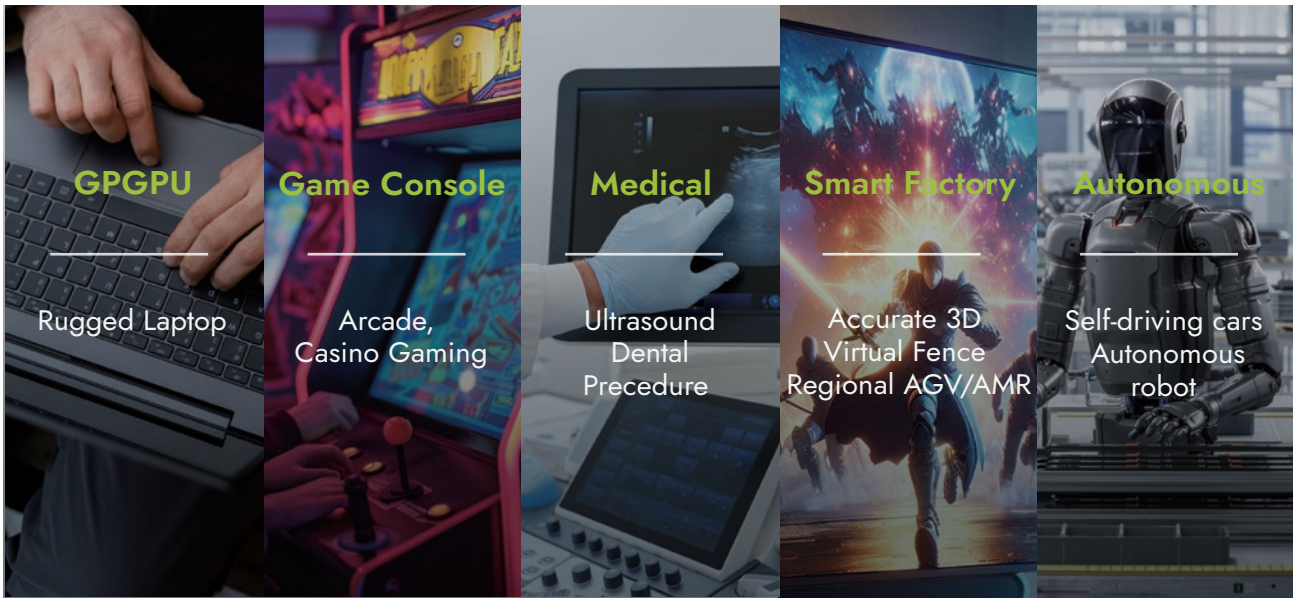
MXM

Aetina's MXM modules utilize cutting-edge NVIDIA embedded GPUs, Intel and SoC, delivering unparalleled power efficiency and high-level computing capabilities. It is ideal for embedded systems that require high performance along with size, weight, and power (SWaP) optimization for edge AI applications.

M.2

With low-power deep neural network inference, Aetina's M.2 is suitable for a broad range of market segments.

Industry Applications



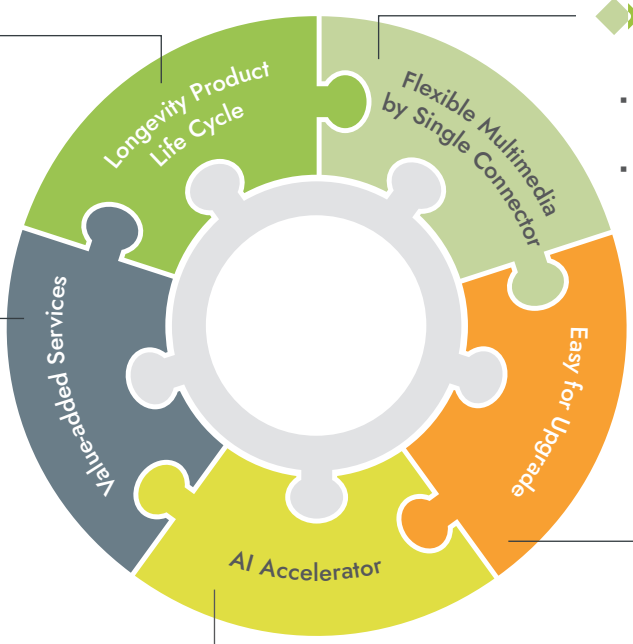
Purpose-Built for Embedded Vision AI

Longevity Product Life Cycle

- Five-year product longevity
- Dedicated technical supporting
- Save total cost of ownership (TCO)

Value-added Services

- Wide operating temperature
- Conformal coating providing
- Firmware customization
- Evaluation kit of carriers and thermals



Flexible Multimedia by Single Connector

- Consistent with 16-lane PCI express
- Up to 4 independent displays

Easy for Upgrade

- Modular design
- Ready-to-use drivers

AI Accelerator

- Available with diversified ASIC-based products

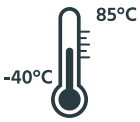
Key Features

Slim and Space-saving

- Small footprint and light weight
- Mounted flat to save mechanism space

Golden Finger 30μ"

- Extra protection from scratch and damage
- Ensure stable and quality signals



Extended Temperature

- Option temperature support : -20~70℃, -40~85℃
- Individual validation before shipping

Conformal Coating

- Protection against dust, moisture and corrosion
- Improve MTBF

CUDA Computing

- Up to thousands of CUDA cores
- Optimized parallel computing

Visual Computing

- Dedicated for AI acceleration
- Real-time image processing

Multi Displays

- 7680 x 4320 resolution
- DP / HDMI outputs

Configurable TDP

- Power cap customization
- Meet specific usage scenario

PCIe Series

Based on Intel Arc Graphics

IA380E-QUFL

- Intel Arc A380E GPU for the edge
- 128 Intel® XMX Engines Cores, 8 Xe-cores, 8 Ray Tracing and 128 Xe Vector Engines, 6GB GDDR6 memory
- PCIe Gen 4 x16 interface via golden finger
- Five-year long-term product availability support

Based on NVIDIA RTX Graphics

N4060-VSFX

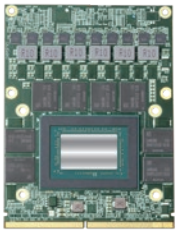
- Powered by NVIDIA RTX 4060 Ada Lovelace architecture
- 3072 CUDA cores, 24 RT cores and 96 Tensor cores, 8GB GDDR6 memory
- PCIe Gen 4 x16 interface via golden finger
- 15.11 TFLOPS peak FP32 performance

Model Number	IA380E-QUFL	N4060-VSFX
Engine	Intel Arc A380E Architecture: Intel Arc Xe-cores: 8 Intel® XMX Engines Cores: 128 XeVector Engines: 128 RT Cores: 8 Core Clock (MHz): 1250(Base) Floating Point Performance: 2.56 TFLOPS GPU peak TOPS (Int8) : 40.96	NVIDIA GeForce RTX 4060 Architecture: NVIDIA Ada Lovelace CUDA Cores: 3072 Tensor Cores: 96 RT Cores: 24 Core Clock (MHz): 1830(Base) / 2460(Boost) Floating Point Performance: 15.11 TFLOPS
Memory	Size: 6GB GDDR6 Clock: 15.5 Gbps Interface Width: 96-bit Bandwidth (GB / sec): 186	Size: 8GB GDDR6 Clock: 17 Gbps Interface Width: 128-bit Bandwidth (GB / sec): 272
Support	PCI Express 4.0 x8 DirectX: 12 Ultimate OpenVINO OpenCL 3.0 OpenGL 4.6 Vulkan 1.3 AV1 hardware encoding/decoding	PCI Express 4.0 x8 DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2
Display	Resolution: 7680x4320 Max: 4x Display Display connector: Mini DisplayPort	Resolution: 7680x4320 Max: 4x Display Display connector: DisplayPort1.4a / HDMI 2.1
Power Consumption	Total Graphics Power (TGP): 50W Min. System Power Requirement: 350W or better power supply	Total Graphics Power (TGP): 115 W Min. System Power Requirement2: 550 W Supplementary Power Connectors): 8-PIN
Form Factor	Low-profile / Single slot	ATX
Dimension (W x D)	169.69 x 68.9 mm (6.68" x 2.71")	152.05 x 114.15 mm (5.98" x 4.49")
Net Weight	0.202 kg (0.4453 lb)	0.401 kg (0.8841 lb)
Temperature	Standard Operating Temp. : 0 to + 55°C (32°F ~131°F)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F)	Standard Operating Temp. : 0 to + 55°C (32°F ~131°F)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F)
Humidity	40°C@ 95%, Non-condensing	40°C@ 95%, Non-condensing
OS Support	Windows 10 / 11 64-bit	Windows 10 / 11 64-bit / Linux
Certification	CE / FCC / UKCA	CE / FCC / UKCA

MXM Series

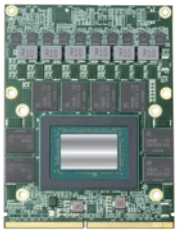
Based on NVIDIA Blackwell

Aetina's industrial-grade MXM AI Module brings NVIDIA RTX PRO™ Blackwell embedded GPUs to the edge, enabling physical AI and next-generation robotics. Designed for industrial reliability, it delivers exceptional performance per watt, expanded memory capacity, and FP4 precision in a compact MXM form factor—powering scalable, low-latency edge AI for autonomous robotics and advanced graphics computing applications.



MX5000B-XA

- NVIDIA RTX PRO™ 5000 Blackwell Embedded GPU
- 10,496 CUDA cores, 80 RT cores and 320 Tensor cores, 24GB GDDR7 memory
- PCIe Gen 4 x16 interface via golden finger
- 40.62 TFLOPS peak FP32 performance

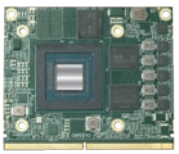


MX4000B-WA

- NVIDIA RTX PRO™ 4000 Blackwell Embedded GPU
- 7,680 CUDA cores, 60 RT cores and 240 Tensor cores, 16GB GDDR7 memory
- PCIe Gen 4 x16 interface via golden finger
- 33.75 TFLOPS peak FP32 performance

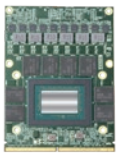
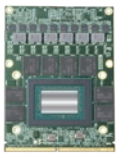
MX2000B-VA

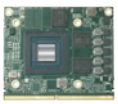
- NVIDIA RTX PRO™ 2000 Blackwell Embedded GPU
- 3328 CUDA cores, 26 RT cores and 104 Tensor cores, 8GB GDDR7 memory
- PCIe Gen 4 x8 interface via golden finger
- 13.78 TFLOPS peak FP32 performance



MX500B-QA

- NVIDIA RTX PRO™ 500 Blackwell Embedded GPU
- 1792 CUDA cores, 14 RT cores and 56 Tensor cores, 6GB GDDR7 memory
- PCIe Gen 4 x8 interface via golden finger
- 9.19 TFLOPS peak FP32 performance



Model Number	MX5000B-XA	MX4000B-WA	MX2000B-VA	MX500B-QA
GPU Engine	NVIDIA RTX PRO 5000 Blackwell Embedded GPU Architecture: NVIDIA Blackwell CUDA Cores: 10,496 Tensor Cores: 320 RT Cores: 80 Floating Point Performance: 36.53 TFLOPS Core Clock (MHz): Base= 1095 / Boost= 1740 Floating Point Performance: 40.62 TFLOPS Core Clock (MHz): Base= 1402 / Boost= 1935	NVIDIA RTX PRO 4000 Blackwell Embedded GPU Architecture: NVIDIA Blackwell CUDA Cores: 7,680 Tensor Cores: 240 RT Cores: 60 Floating Point Performance: 26.04 TFLOPS Core Clock (MHz): Base= 975 / Boost= 1695 Floating Point Performance: 33.75 TFLOPS Core Clock (MHz): Base= 1545 / Boost= 2197	NVIDIA RTX PRO 2000 Blackwell Embedded GPU Architecture: NVIDIA Blackwell CUDA Cores: 3328 Tensor Cores: 104 RT Cores: 26 Floating Point Performance: 11.03 TFLOPS Core Clock (MHz): Base= 952 / Boost= 1657 Floating Point Performance: 13.78 TFLOPS Core Clock (MHz): Base= 1522 / Boost= 2070	NVIDIA RTX PRO 500 Blackwell Embedded GPU Architecture: NVIDIA Blackwell CUDA Cores: 1792 Tensor Cores: 56 RT Cores: 14 Floating Point Performance: 6.42 TFLOPS Core Clock (MHz): Base= 1350 / Boost= 1792 Floating Point Performance: 9.19 TFLOPS Core Clock (MHz): Base= 2160 / Boost= 2565
Memory	Size: 24GB GDDR7 Speed: 28 Gbps Interface Width: 256-bit Bandwidth (GB/sec): 896	Size: 16GB GDDR7 Speed: 28 Gbps Interface Width: 256-bit Bandwidth (GB/sec): 896	Size: 8GB GDDR7 Speed: 24 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 384	Size: 6GB GDDR7 Speed: 24 Gbps Interface Width: 96-bit Bandwidth (GB/sec): 288
Support	PCI Express 4.0 x16 DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2	PCI Express 4.0 x16 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
Display	Resolution: 7680x4320 Maximum resolution 8K@240Hz (7690x4320) Max: 4x DisplayPort 2.1a (DSC1.2a)	Resolution: 7680x4320 Maximum resolution 8K@240Hz (7690x4320) Max: 4x DisplayPort 2.1a (DSC1.2a)	Resolution: 7680x4320 Maximum resolution 8K@60Hz (7690x4320) Max: 3x DisplayPort 2.1a (DSC1.2a)	Resolution: 7680x4320 Maximum resolution 8K@60Hz (7690x4320) Max: 3x DisplayPort 2.1a (DSC1.2a)
Power Consumption	Total Graphics Power (TGP): 95 W @PWR_SRC 19V Total Graphics Power (TGP): 115 W @PWR_SRC 19V	Total Graphics Power (TGP): 80 W @PWR_SRC 19V TTotal Graphics Power (TGP): 115 W @PWR_SRC 19V	Total Graphics Power (TGP): 45 W @PWR_SRC 19V Total Graphics Power (TGP): 60 W @PWR_SRC 19V	Total Graphics Power (TGP): 35 W @PWR_SRC 19V Total Graphics Power (TGP): 60 W @PWR_SRC 19V
Form Factor	MXM Graphics Module Version 3.1, Type B	MXM Graphics Module Version 3.1, Type B	MXM Graphics Module Version 3.1, Type A	MXM Graphics Module Version 3.1, Type A
Dimension (W x D x H)	82.0 x 110.0 mm (3.22" x4.33")	82.0 x 110.0 mm (3.22" x4.33")	82.0 x 70.0 mm (3.22" x2.75")	82.0 x 70.0 mm (3.22" x2.75")
Net Weight	0.073 kg (0.1609 lb)	0.073 kg (0.1609 lb)	0.038 kg (0.0838 lb)	0.038 kg (0.0838 lb)
Temperature	Standard: Operating Temp. :0 to + 55°C (32°F ~131°F)/ Extended Operating Temp. :-40 to + 70°C (T.B.D.)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F) Standard: Operating Temp. :0 to + 55°C (32°F ~131°F)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F)	Standard: Operating Temp. :0 to + 55°C (32°F ~131°F)/ Extended Operating Temp. :-40 to + 70°C (T.B.D.)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F) Standard: Operating Temp. :0 to + 55°C (32°F ~131°F)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F)	Standard: Operating Temp.: 0 to + 55°C (32°F ~131°F)/ Extended Operating Temp.: -40 to + 85°C (-40°F ~185°F) (T.B.D.)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F)	Standard: Operating Temp.: 0 to + 55°C (32°F ~131°F)/ Extended Operating Temp.: -40 to + 85°C (-40°F ~185°F) (T.B.D.)/ Storage Temperature: -40 to + 85°C (- 40°F ~ 185°F)
Humidity	40°C@ 95%, Non-condensing	40°C@ 95%, Non-condensing	40°C@ 95%, Non-condensing	40°C@ 95%, 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
Certification	CE / FCC / UKCA	CE / FCC / UKCA	CE / FCC / UKCA	CE / FCC / UKCA

*Product Specifications Are Subject To Change Without Prior Notice

MXM Series

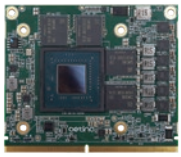
Based on NVIDIA Ada

MX5000A-WA

- NVIDIA RTX 5000 embedded graphics based on NVIDIA Ada Lovelace architecture
- 9728 CUDA cores, 76 RT cores and 304 Tensor cores, 16GB GDDR6 memory
- PCIe Gen 4 x16 interface
- 41.15 TFLOPS peak FP32 performance
- Support Error Correction Code(ECC)

MX3500A-SA

- NVIDIA RTX 3500 embedded graphics based on NVIDIA Ada Lovelace architecture
- 5120 CUDA cores, 40 RT cores and 160 Tensor cores, 12GB GDDR6 memory
- PCIe Gen 4 x16 interface
- 23.04 TFLOPS peak FP32 performance
- Support Error Correction Code(ECC)



MX2000A-VA

- NVIDIA RTX 2000 embedded graphics based on NVIDIA Ada Lovelace architecture
- 3072 CUDA cores, 24 RT cores and 96 Tensor cores, 8GB GDDR6 memory
- PCIe Gen 4 x8 interface
- 12.99 TFLOPS peak FP32 performance
- Support Error Correction Code(ECC)

Based on AI ASIC

AI-MXM-H84W

- Powered by 4 x 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

Based on Intel Arc

MXA380E-QA

- Intel Arc A380E GPU for the edge
- 128 Intel® XMX Engines Cores, 8 Xe-cores, 8 Ray Tracing and 128 Xe Vector Engines, 6GB GDDR6 memory
- PCIe Gen4.0 x8 signal
- Five-year long-term product availability support





Model Number	MX5000A-WA	MX3500A-SA	MX2000A-VA	AI-MXM-H84W	MXA380E-QA
Engine	NVIDIA RTX 5000 Ada Architecture: NVIDIA Ada Lovelace CUDA Cores: 9728 Tensor Cores: 304 RT Cores: 76 Floating Point Performance: 41.15 TFLOPS	NVIDIA RTX 3500 Ada Architecture: NVIDIA Ada Lovelace CUDA Cores: 5120 Tensor Cores: 160 RT Cores: 40 Floating Point Performance: 23.04 TFLOPS	NVIDIA RTX 2000 Ada Architecture: NVIDIA Ada Lovelace CUDA Cores: 3072 Tensor Cores: 96 RT Cores: 24 Floating Point Performance: 12.99 TFLOPS	4 x Hailo-8 AI processor with up to 26 TOPS and best-in-class power efficiency AI performance: 104 TOPS	Architecture: Intel Arc Xe-cores: 8 Intel® XMX Engines Cores: 128 Xe Vector Engines: 128 RT Cores: 8 Core Clock (MHz): 1250(Base) Floating Point Performance: 2.56 TFLOPS GPU peak TOPS (Int8): 40.96
Memory	Size: 16GB GDDR6 Speed: 18 Gbps Interface Width: 256-bit Bandwidth (GB/sec): 576	Size: 12GB GDDR6 Speed: 18 Gbps Interface Width: 192-bit Bandwidth (GB/sec): 432	Size: 8GB GDDR6 Speed: 16 Gbps Interface Width: 128-bit Bandwidth (GB/sec): 256	N/A	Size: 6GB GDDR6 Clock: 15.5 Gbps Interface Width: 96-bit Bandwidth (GB/sec): 186
Support	PCI Express 4.0 x16 DirectX: 12 Ultimate Open GL 4.6 Vulkan 1.2	PCI Express 4.0 x16 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 3.0 x16 Supported TensorFlow and ONNX	PCI Express Gen4.0 x8 DirectX: 12 Ultimate OpenVINO OpenCL 3.0 OpenGL 4.6 Vulkan 1.3 AV1 hardware encoding/ decoding
Display	Resolution: 7680x4320 Max: 4x DisplayPort	Resolution: 7680x4320 Max: 4x DisplayPort	Resolution: 7680x4320 Max: 3x DisplayPort	N/A	Resolution: 7680x4320 Max: 4x DisplayPort 1.4a / or 4x HDMI 1.4
Power Consumption	Total Graphics Power (TGP): 115 W	Total Graphics Power (TGP): 115 W	Total Graphics Power (TGP): 60 W	Total Graphics Power (TGP): 25W	Total Graphics Power (TGP): 50 W
Form Factor	MXM Graphics Module Version 3.1, Type B	MXM Graphics Module Version 3.1, Type B	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)	82.0 x 105.0 mm (3.22" x 4.13")	82.0 x 105.0 mm (3.22" x 4.13")	82.0 x 70.0 mm (3.22" x 2.75")	82.0 x 105.0 mm (3.22" x 4.13")	82.0 x 70.0 mm (3.22" x2.75")
Net Weight	0.06 kg (0.1323 lb)	0.0592 kg (0.1305 lb)	0.037 kg (0.082 lb)	0.05kg (0.1102 lb)	0.033 kg (0.073 lb)
Temperature	Standard Operating Temp. : 0°C ~ +55°C Storage Temp. : -40°C ~ +85°C	Standard Operating Temp. : 0°C ~ +55°C Storage Temp. : -40°C ~ +85°C	Standard Operating Temp. : 0°C ~ +55°C Extended Operating Temp. : -40°C ~ +85°C Storage Temp. : -40°C ~ +85°C	Standard: Operating Temp : -40°C ~ +85°C Storage Temp.: -40°C ~ +85°C	Standard: Operating Temp. : 0 to + 55°C Storage Temp. : -40 to + 85°C
Humidity	40°C@ 95%, Non-condensing	40°C@ 95%, Non-condensing	40°C@ 95%, Non-condensing	40°C@ 95%, Non-condensing	40°C@ 95%, 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 10/11 64-bit
Certification	CE / FCC / UKCA	CE / FCC / UKCA	CE / FCC / UKCA	CE / FCC	CE / FCC / UKCA

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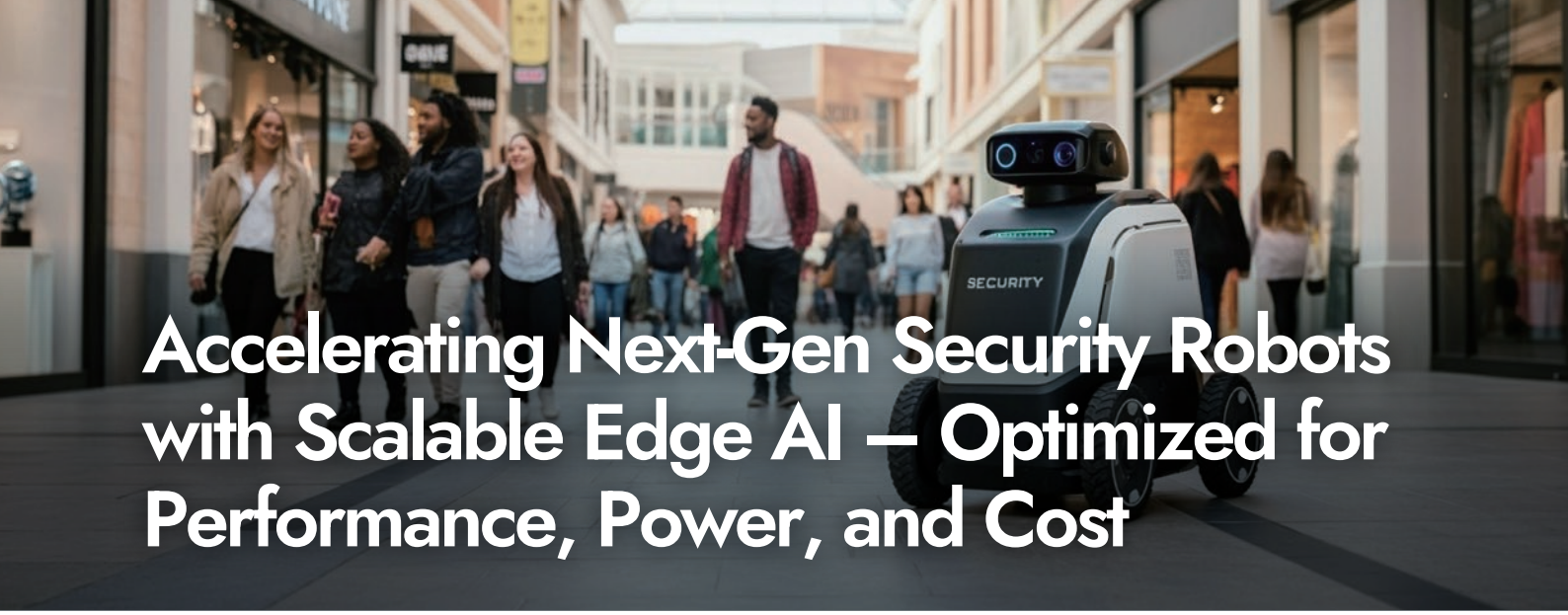

Accelerating Next-Gen Security Robots with Scalable Edge AI – Optimized for Performance, Power, and Cost

As labor costs rise, the security industry is rapidly adopting autonomous patrol robots. However, large-scale deployment remains challenged by high bandwidth demands from high-resolution video, increased power consumption from AI workloads, and the cost of embedded GPU solutions.

Aetina address these challenges with its compact MXA380E-QA MXM 3.1 Type A GPU module, powered by the Intel® Arc™ A380E GPU and integrated with x86 systems. Acting as the core of AI and visual computing for autonomous patrol robots, the module accelerates intruder detection and obstacle recognition tasks required by patrol applications. Combined with Intel® OpenVINO™ Toolkit and AV1 video encoding, Aetina's MXM solution enables efficient video compression and AI inference at the edge, significantly reducing bandwidth usage while optimizing performance and power efficiency. With its low power consumption, high efficiency and a rugged, anti-shock design, the Aetina Intel® Arc™ A380E MXM solution delivers an optimal balance of performance, power, and cost—making it a scalable platform for next-generation autonomous security patrol robots.

Benefits

- **High efficiency, Low power with Aetina AI acceleration:** MXA380E-QA delivers efficient edge AI inference at 50W TGP, enabling high-performance video analytics while optimizing power and cost.
- **Powered by Intel® Arc™ GPU, delivering up to 40.96 TOPS AI performance:** enables high-resolution, low-latency video streaming.
- **Aetina Industrial-Grade MXM Design:** Compact MXM 3.1 Type A form factor with rugged, anti-shock construction and wide-temperature support, optimized for mobile and industrial robotic platforms.

Results

- **Improved deployment efficiency:** Aetina's optimized MXM solution lowers system power and bandwidth requirements, simplifying large-scale robot deployment.
- **Extended operational uptime:** Reduced power consumption enables longer patrol duration and higher fleet utilization.
- **Lower total cost of ownership:** Helps customers scale autonomous security robots with reduced TCO.

Security Robots

Embedded MXM AI Module
for accelerating real-tim video processing, AI inference, and analytics

Aetina CoreEdge
MXA380E-QA

- **4 cameras** for 360° full surround visual monitoring
- **3D LiDAR** enabling real-time mapping, self-localization, and obstacle detection
- **Microphone** for audio sensing, event capture
- **Speaker** for voice alerts, audio notifications
- **Battery** module
- **Drive unit** controlling movement, navigation

aetina
Edge ON AI Beyond

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