

Edge AI Product Guide



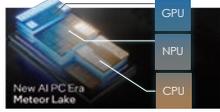
MITAC DIGITAL TECHNOLOGY CORP.



Edge AI Product Selection Guide

GPU Type

Integrated Intel® Xe LPG
GFX & NPU **22 TOPS**



Hailo VPU Modules **26 TOPS**



NVIDIA Jetson Orin **100 TOPS**



MiAi-H8 Card **208 TOPS**



NVIDIA High-end GFX **1200 TOPS**



MA1



MB2



MP2



MX2



MZ1



High Performance

Factory Automation	Machine Vision	Model	Size (Liters)	CPU Options	GPU Type	GPU Performance
Deep Learning	ML	MZ1	28	Core-i Socket	Nvidia GFX x2 (FHFL)	1200 TOPs
Machine Learning & Inference	AI Robotics	MZ1	28	Core-i Socket	Nvidia GFX x1 (FHFL)	600 TOPs
		MX2-D	8.4	Core-i Socket	Nvidia GFX x1 (FHFL)	120-300 TOPs
Inference	AOI	MX2	7.1	Core-i Socket	Hailo VPU Card (FHHL)	120-208 TOPs
	AMR	MP1-D	3.2	Core-i BGA	Hailo VPU (M.2)	26 TOPs
		MP2	1.9	Core-i BGA	Intel® Xe LPG GFX & NPU	22 TOPs
		MA1	0.7	Jetson Orin	Nvidia SOM	20-100 TOPs
	Worker Safety	NV1	7.2	Core-i BGA	Hailo VPU (M.2)	26 TOPs
IoT Gateway	Data Acquisition	MB2	1.3	Atom BGA	Hailo VPU (M.2)	26 TOPs

Low Power



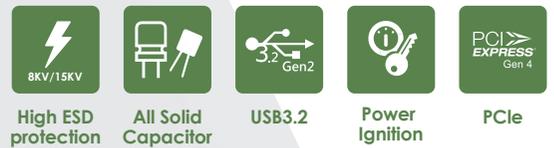
MZ1-10ADP

The MZ1-10ADP features a powerful Intel 12th/13th/14th Gen Core i processor, and cutting-edge AI capabilities by supporting two high-end FHFL GFX cards. This revolutionized design realizes the demand for intensive AI analytics, enabling no-latency inference and machine learning on the edge side. Its rugged design ensures durability even in harsh environments, making it an ideal choice for inference or machine learning applications such as factory automation and intelligent transportation systems.



Introduction

- Intel® 12th/13th/14th Gen Core-i processor
- Dual high-end GFX cards (600W+600W)
- 2 x DDR5 SO-DIMM (Up to 96GB)
- HDMI, DisplayPort, VGA, Dual 2.5G LAN
- Support 10 x USB, 4 x RS232, and 32-bit DIO
- 9~48V Wide Power Range



Supporting 125W Intel Core™ Processor



intel

- 12th Gen
Alder Lake-S Core™ Processors
- 13th Gen
Raptor Lake-S Core™ Processors
- 14th Gen
Raptor Lake-S Refresh Core™ Processors

Capable for x2 High-end GFX & AI Cards

Maximum
GFX Card Dimensions

358 mm × 150 mm × 4 Slots

intel

LEADTEK

NVIDIA

HAILO

oetino

SUPPORTS **AI**
the GPU &
AI Cards in the Market



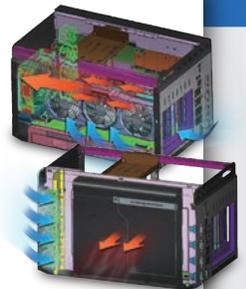
Hot Swappable and Lockable HDD Tray

- Hot Swappable Design with Door Key for Data Protection
- Support Dual 2.5" HDD and Dual 3.5" HDD tray



Dedicated Designed Cooling Airflow

- Embedded Aluminum Extrusion Thermal Heatsink to Concentrate Airflow from **4 x CPU Fan**
- Side Chassis with Venting Holes in Mesh Type for Cold Air Inlet to **233CFM System Fan**



GPU Type	GPU Performance
Nvidia GFX x2 (FHFL) 	1200 TOPs
Nvidia GFX x1 (FHFL) 	600 TOPs



MX2-10ADP

The MX2-10ADP is an advanced embedded box system designed for factory automation, machine vision, and Intelligent Transportation System markets. Powered by the Intel 12th/13th/14th Gen Core i processor, it delivers a significant performance boost while supporting rich I/O connectivity. The innovative Xpansion I/O Module design enables versatile I/O functionalities, supporting up to 12 PoE ports and accommodating a PCIe16 GPU card under 120W for graphics and AI applications.



Introduction

- Intel® Raptor Lake-S Refresh 14th/Raptor Lake-S 13th/Alder Lake-S 12th Core-i processor (Up to 65W)
- Support 2 x DDR5 SO-DIMM (Up to 96GB)
- HDMI, DisplayPort, VGA, 4 x 2.5G LAN
- Support 8 x USB, 3 x RS232, and 8-bit DIO
- 9~48V Wide Power Range

HAILO
Empowering Intelligence



AI Inferencing



Core™ i9 in Fanless Design

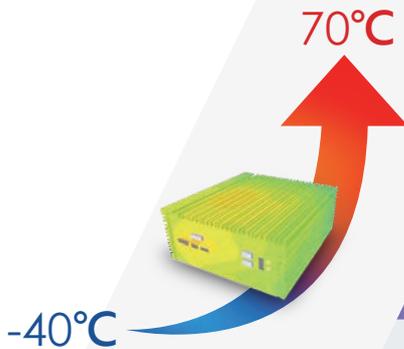
Core™ i9

UP TO
2.5X



PERFORMANCE IMPROVEMENT GEN-ON-GEN

Harsh Environment



I/O Expansion

UP TO		
LAN	× 14	
POE	× 12	
COM	× 11	
DIO	× 24	



GPU Type	GPU Performance
Hailo VPU Card (FHHL)	120-208 TOPs



MP2-10MTS

The MP2-10MTS, powered by Series 1 Intel® Core™ Ultra processors, boosts a 60% computing performance gain compared to the previous generation. To enhance I/O connectivity, the MP2-10MTS offers 4 x 2.5G LAN interface with optional PoE for Edge AI and machine vision, and with 4 x COM + 8-bit GPIO legacy I/O for factory automation applications. All these features make the MP2-10MTS a perfect fit for high performance and optimized size in various embedded applications.



Introduction

- Intel® Meteor Lake Core Ultra 7 & 5 processors
- Outstanding AI & Graphic computing capability with Integrated 4 x Intel® Iris Xe graphics
- Intel® vPro technology support
- 1 x DDR5 SO-DIMM and support up to 48GB
- Support 4 x i226LM 2.5G LAN (Optional PoE)
- 1 x 2.5" SSD/HDD slot
- 3 x USB 2.0, 4 x USB 3.2 Gen2, 1 x USB Type C, 4 x COM, and 8-bit GPIO
- 8V~26V wide voltage power input

HAILO
Empowering Intelligence



Intel Meteor Lake



Fanless Design



4x 2.5G LAN



Wide Range DC-in

New AI PC Era – Meteor Lake-U Integrates CPU, GPU, and NPU

GPU **Whole New Xe LPG GPU 64EU**
Ideal for AI infused in Media/3D/render pipeline

NPU **8X More Efficient with Dedicated NPU**
Ideal for sustained AI and AI offload

CPU **60% Fast Response**
60% Performance Gen to Gen improvement

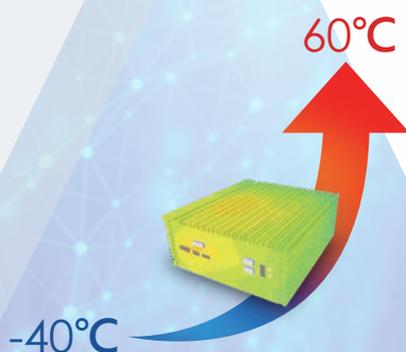
New AI PC Era Meteor Lake

Supports 4 x 2.5G LAN w/ PoE+ options

- Total supports 4 x 2.5G Intel i226-LM LAN
- Supports 802.3af and 802.3at PoE w/ optional PoE power module
- For AI-driven AOI, AI-driven surveillance, or AI-driven environmental monitoring applications



Harsh Environment



Intel® Series 1 (Meteor Lake-U) Core™ Ultra Processors (Up to 12 Cores)

New Generation of CPU architecture
Architecture on Intel 4(7nm) Process

Support Core Ultra 7
Up to 12 Cores, 14 Threads, 4.8GHz Turbo Frequency, 15W TDP

60% Performance improve
Work done faster

UP TO **1.30X**

METEOR LAKE CORE ULTRA 5

UP TO **1.60X**

METEOR LAKE CORE ULTRA 7
GEN-OVER-GEN IMPROVEMENT

GPU Type	GPU Performance
Hailo VPU (M.2)	26 TOPs



MB2-10ANS

The MB2-10ANS is a compact embedded system designed for Edge AI scenarios, such as functioning as an edge controller or an AIOT gateway. Powered by the Intel® Alder Lake-N N97/i3-N305 Processor, it is also equipped with 2x 2.5G Intel LAN and dedicated slots for WiFi, 4G, and 5G connectivity. With rich I/O ports supporting legacy I/Os, and its robust design featuring a wide operating voltage range and wide temperature tolerance, the MB2-10ANS becomes a reliable solution for diverse industrial environments.



Introduction

- Intel® Alder Lake-N N97 (4C) / i3-N305 (8C8T) Processor
- 1 x DDR5 SO-DIMM and support up to 16GB
- 2 x Intel® i226 2.5Gigabit Ethernet
- 1 x M.2 B Key, 1 x M.2 M Key, 1 x M.2 E Key slot
- 2 x USB 2.0, 3 x USB 3.2 Gen2 and 1 x USB Type C
- 8V~26V wide voltage power input

Powerful Alder Lake-N Processor

- i3-N305 (6M Cache, up to 3.8 GHz)
- N97 (6M Cache, up to 3.6 GHz)

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Empowering Intelligence



Fanless Design



Wide temperature



Wide Range DC-in



Peripheral Options



All Solid Capacitor

Lower Power Consumption Fanless Thermal Design for Less Environmental Impact



2.7x Performance Improvement (CPU Passmark)



2170 (23%) Intel® Pentium Core (2.5GHz)



5857 (58%) Intel® N97 4 x Core (3.6GHz)



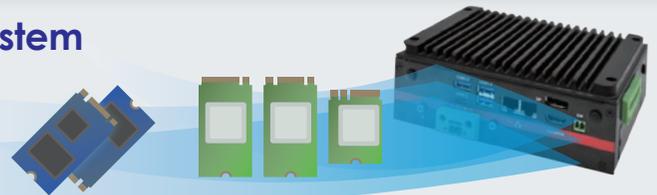
10074 (100%) Intel® i3-N305 8 x Core (3.8GHz)



Optional AI accelerating card

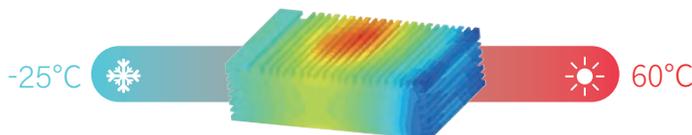
All the Necessary IOs & Slots in One System

- Support HDMI + DisplayPort dual display
- Support 2 x 2.5G Intel LAN for high speed data transmission
- Support 4 x COM port & 8-bit Digital I/O for IIoT application
- 3 x M.2 Slot (B+M+E Key) for expansion modules



-25~60°C Wide Temperature

MB2-10ANS is designed in patented aluminum enclosure not only for aesthetic appearance but also for fan-less application in extreme temperature condition from -25°C to 60°C.



Advanced Power Protection



Reverse Power Input Protection

- Over Voltage Protection
- Over Current Protection
- ESD Protection: +/-15kV (air), +/-8kV (contact)
- Surge Protection: 3kW



Wide Power Range

8V~26V



MA1

The MA1, powered by NVIDIA Jetson Orin Nano & NX, is an industrial Edge AI computer, operating in temperatures from -25°C to +60°C without a fan in a compact size. It features diverse I/O options, including 4K HDMI, dual RJ-45 Ethernet, USB 3.2 Gen 2 ports, RS-232 interface, M.2 2280 PCIe, NVMe connections, and 5G/LTE/WiFi-6E support. The MA1 targets applications requiring high AI inference performance in a compact footprint for public safety, smart retail, and smart transportation applications.



Introduction

- NVIDIA® Jetson Orin™ Nano and NX SoC, Up to 100TOPS
- Industrial Fanless & Compact Design
- HDMI up to 4K@60Hz Resolution
- 2x RJ-45 1GLAN, 2x USB3.2, 1x COM
- High-speed M.2 2280 PCIe x4 NVMe
- Wide Operating Temperature -25~60°C



AI Performance
(100TOPS)



Fanless
Design



Wide
temperature



Ubuntu



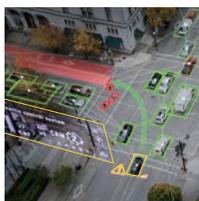
Public Safety

Serves as a potent Edge AI platform for real-time monitoring and event detection in public safety. It connects to IP cameras for real-time image analysis, detecting security events like criminal activities or fires. Dual 1GbE LAN ports support multiple camera connections, and 5G/LTE and WiFi-6E ensure reliable connectivity.



Smart Retail

Enhances customer experiences, data analytics, and theft prevention in smart retail. IP cameras capture customer behavior and product data, analyzed in real-time using Edge AI on MA1. MA1 offers 4K@60Hz HDMI output for promotions, USB3.2 Gen2, and RS-232 interfaces for retail equipment.



Traffic Management

Monitors traffic flow, identifies vehicles, and enhances traffic safety in traffic management. IP cameras at intersections capture data for real-time analysis on MA1, supported by dual 1GbE LAN ports, and works across a wide temperature range. 5G/LTE and WiFi-6E enable remote monitoring and data sharing.

Next-Gen NVIDIA Jetson Orin NX & Nano Compatibility

Unlock your Industrial Edge AI applications' full potential with the latest NVIDIA Jetson Orin NX and Nano System on Modules, delivering unmatched performance and efficiency.



High Reliability in Harsh Conditions

Robust, Fanless Design and Wide Operating Temperature Range for Seamless Industrial Integration and Unmatched Reliability in Harsh Conditions.



Empower Your Industrial Edge AI Applications by NVIDIA Jetson Orin Edge Computer

Supporting both NVIDIA® Jetson Orin™ NX and Nano SOMs, delivering 20~100 TOPS of AI performance at the edge, even in harsh environments.



RS-232
USB3.2
Peripherals

Wireless
Communication

IP cameras

HDMI
Monitor

Industrial
camera

5G/WIFI

Future-Ready Connectivity

Versatile RJ-45, USB, and RS-232, coupled with 5G/LTE and WiFi-6E support, facilitate seamless data exchange in evolving Industrial Edge AI.



MiAi-H8

The MiAi-H8 card is powered by Hailo-8™ AI acceleration chip technology, providing high performance with low power consumption for efficient processing in real-time edge AI applications. Supporting up to 8 x Hailo-8™ AI Processors, the MiAi-H8 card delivers impressive AI performance of up to 208 TOPS and 10,600 FPS. Specifically designed for deployment in MiTAC's edge computing systems like MZ1 and MX1, it enables powerful edge AI inference in a fan-less condition, making it a perfect fit to realize all kinds of embedded edge AI applications

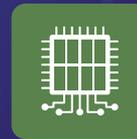


Introduction

- Support up to 8 x Hailo-8™ AI Processor
- Support up to 208 TOPs
- Support Hailo-8™ Software Development Kit
- Passive and active cooling alternatives
- Industrial grade design with all solid capacitors and wide temperature support



AI Performance
(208 TOPS)



8 x Hailo-8™
AI Processor

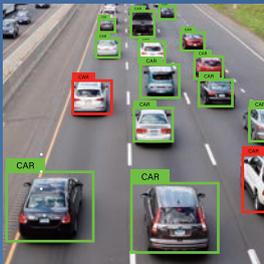


Energy
Saving



All Solid
Capacitor

Edge AI Application Scenarios



Intelligent Transportation System

- Autonomous Driving
- Mobile NVR
- Intelligent Passenger Information System



Smart Manufacturing

- Robotic Vision
- AI Inspection
- Workspace / Worker Safety



Smart City

- Traffic Monitoring & Control
- Public Safety
- Infrastructure & Services Management



Smart Retail

- Smart Analytics
- Self-Checkout
- Automated Store



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