

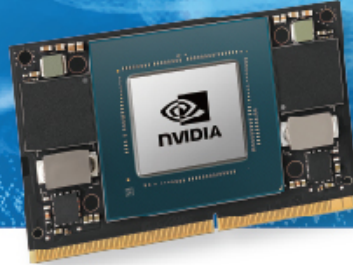


MITAC COMPUTING TECHNOLOGY CORP.

Rugged

MA1

NVIDIA Jetson Orin NX & Nano
Up to 100TOPs



Introducing the Latest Industrial Edge AI Computer

Introducing the latest industrial Edge AI Computer, MA1, a cutting-edge solution powered by the formidable NVIDIA Jetson Orin NX & Nano SOM. Designed to excel in various industrial applications, this compact Box PC is compatible with NVIDIA Jetson Orin Nano and NX SOM, delivering exceptional AI performance with up to 100TOPs.



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.



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.

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.



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.

[Disaster Response](#) [Anomaly Detection](#) [Infrastructure Protection](#)



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.

[Asset Protection](#) [Autonomous Shopping](#) [Customer and Store Analytics](#)



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.

[Real Time Alerts](#) [Incident Detection](#) [Speed Estimation](#)



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MA1

Industrial Edge AI Computer Powered by NVIDIA Jetson Orin NX & Nano SOM



I Introduction

- NVIDIA® Jetson Orin™ Nano and NX SOM Compatible Box PC, Up to 100TOPS/25W
- Industrial Fanless & Compact Design
- Wide Operating Temperature -25~60°C
- HDMI up to 4K@60Hz Resolution
- 2x RJ-45 1GbE LAN
- 2x USB3.2 Gen2 Type A
- 1x D-Sub9 RS-232 (4-wire)
- High-speed M.2 2280 PCIe x4 NVMe
- Support 5G/LTE and WiFi-6E



I I/O Interface

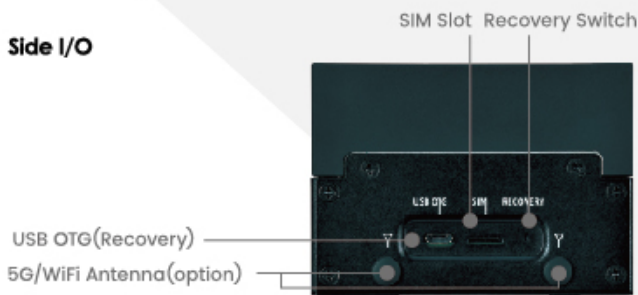
Front I/O



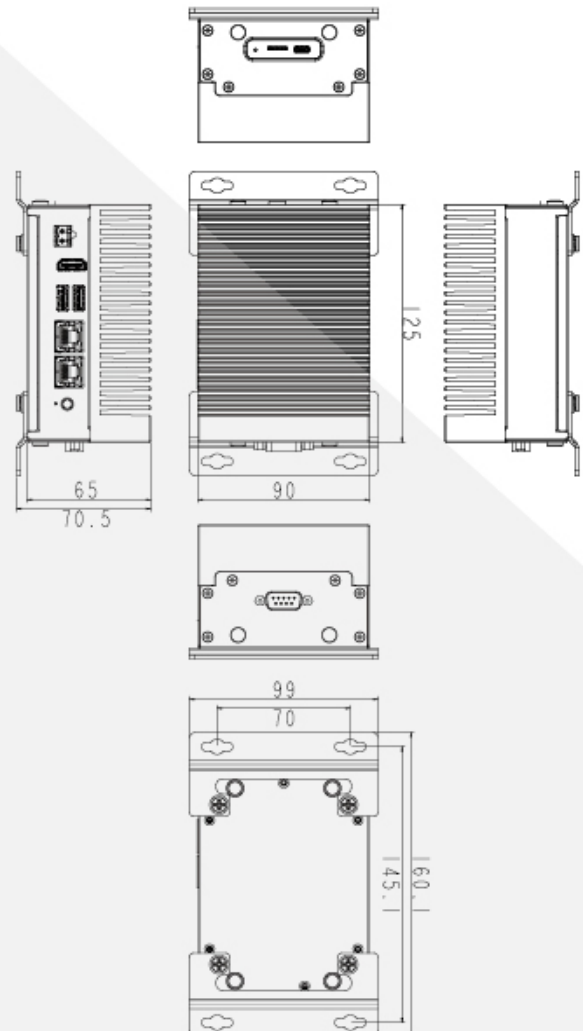
Side I/O



Side I/O



I Dimension (mm)



I MA1 Fanless Embedded System

MA1

SYSTEM

NVIDIA® Jetson Orin™ Compatible Module	NVIDIA® Jetson Orin™ Nano 4GB Module (7~10W) NVIDIA® Jetson Orin™ Nano 8GB Module (7~15W) NVIDIA® Jetson Orin™ NX 8GB Module (10~20W) NVIDIA® Jetson Orin™ NX 16GB Module (10~25W)
Display Interface	1 x HDMI 2.0 Type A, Up to 3840 x 2160 at 60 Hz Resolution
Storage Slot	1 x M.2 2280 M-Key Slot (PCIe x4 for NVMe)
Expansion Slot	1 x M.2 3042/3052 B-Key Slot (USB3.2) for 5G/LTE Module 1 x M.2 2230 E-Key Slot (PCIe/USB2.0) for WiFi Module 1 x Nano-SIM Slot
Front I/O	2 x USB 3.2 Gen 2 Type A 1 x USB2.0 MicroUSB OTG with Recovery Button (for Recovery Mode Only)
Rear I/O	2 x 1GbE RJ-45 / 1 x RS-232 DB9 (4-wire)

POWER REQUIREMENT

Power Input	12V DC Input
Power Adapter	60W AC-DC Power Adapter with 2-PIN Terminal Block

MECHANICAL

Thermal Design	Fanless
Dimensions (W X D X H)	90 x 125 x 65 mm

ENVIRONMENTAL

Operating Temperature	-25°C ~ 60°C
Operating Humidity	10% ~ 95% R/H (Non-condensing)
Certification	CE / FCC Class B

OS

OS Support	NVIDIA JetPack 5.1.1 (Ubuntu 20.04 with Linux Kernel 5.10 LTS)
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I Packing List

Packing

1 x MA1, 1 x AC-DC Power Adapter with 2-Pin Terminal Block, 1 x Power Cord, 1 x MicroUSB cable

