

Preliminary



## KEY FEATURES

- Intel® 14th Gen Core™ Processors with H610 Chipset
- 2 x 262-pin DDR5 SO-DIMM up to 96GB (48GB per DIMM)
- 1 x M.2 Key M, 2 x M.2 Key B, 1 x M.2 Key E
- 4 x USB 3.2 Gen2x1, 2 x USB 2.0 Gen2x1, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 4 x Intel 2.5G LAN (2 support PoE)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA
- 1 x PCIe x16 (PCIe Gen5)
- Powerful Edge AI acceleration enabled by the most flexible mechanical, thermal, and power design, with support for 275mm x 138 mm x 60 mm (D x H x W) max. and up to 600W graphic card
- Supported NVIDIA GPU: RTX 4000 Ada, RTX 2000 Ada, RTX A2000, A2

## SPECIFICATIONS

### Processor System

CPU	Intel® 14th Gen Core™ Processors
Chipset	Intel® H610
Socket	LGA 1700

### Memory

Technology	Dual Channel DDR5 5600MHz
Capacity	96 GB (48 GB per DIMM)
Socket	2 x 262-pin SO-DIMM

### Graphics

Controller	Intel® UHD Graphics
DisplayPort	DisplayPort 1.4a , DP++ Max resolution up to 4096x2160@60Hz
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920x1200@60Hz

### Audio

Interface	Realtek ALC897, High Definition Audio
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### Expansion Slot

PCIe	1 x PCIe Gen5 x16 (single x16), PCIe x16 slot with default power cable can support up to 180W graphic card (275mm x 113mm x 60mm (D x H x W), if remove the card holder, it can be limited on 275mm x 138mm x 60mm) Graphic card can be up to 600W with optional VGA module
RF& Antenna	8 x SMA connector hole reserved
M.2	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B1, 2280/3042/3052) with PCIe Gen3 x1 and USB2.0 for 4G / 5G 1 x M.2 (Key B2, 3042/3052) with PCIe Gen3 x1 and USB2.0 for 4G / 5G

### Expansion Slot

SIM Socket	2 x Nano SIM Card slot (2 connected to M.2 Key B)
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### Ethernet

Controller/ Speed	2 x Intel® i226IT 2 x Intel® i226IT (PoE Support, each port supports IEEE 802.3AT PoE, PoE output max.30W/single port or 30W/two ports shared)
Connector	4 x RJ45

### Storage

M.2	1 x M.2 (Key M, 2242/2280/22110/25110) with Gen3 x1 for NVMe SSD
SATA	4 x SATA3 (6Gb/s) 4 x 2.5" HDD/SSD Tray (Default 1 piece)
CFast (Option)	1 x Type II socket (Shared with SATA3)

### Front I/O

DisplayPort	1
HDMI	1
VGA	1
Ethernet	4 x Intel 2.5G LAN
USB	4 x USB 3.2 Gen2x1, 2 x USB 2.0 Gen2x1, 1 x USB2.0 internal connector w/ lock function
Audio	1 x Mic-in, 1 x Line-out
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection , COM6)
DIO	2 x RS232 (COM3, COM4) 8DI/8DOs

### Watchdog Timer

Output Interval	From Super I/O to drag RESETCON# 256 Segments, 0, 1, 2, ...255sec
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### Power Requirements

Input PWR	9V~36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 1.3-mode condition condition.
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### Environment

Operation Temperature (w/ air flow 0.5~0.8 m/s)	35W CPU: -40°C~75°C (-40°F~167°F) 45W~65W CPU: -40°C~55°C (-40°F~131°F) (with FAN inside, without Add-on Card)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	Operating: 50 G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

### Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	209.8mm (W) x 290.8mm (D) x 207.1mm (H) (8.26" x 11.45" x 7.94")
Net Weight	10kg

### Others

OS Support	Windows 10 & Linux
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

### NVIDIA GPU Card (optional)

Model Name	Description
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W
RTX 4000 Ada	RTX4000 Ada 8GB GDDR6, 130W
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W
RTX A2000	RTX A2000 12GB GDDR6, 70W
A2	A2 Tensor 16GB GDDR6, 60W