



Features

- High performance supported by 12/13/14th Generation Intel® Core™ i3/i5/i7/i9 Processors
- Upto 5 PCIe slot (1xPCIex16 incl.) for flexible expansions
- Support 3 high-resolution displays by 1x DP++ , 1x HDMI 1.4b
- Instant data transmission by 4x Intel 2.5 GbE LAN ports
- Up to 8 USB ports (USB 3.2 Gen2) for versatile peripheral integration
- Optional DVD ROM option & RAID design for secure data backup



1000W PSU



Flexible PCIe
Expansion



Smart Fan
Control



Data & Access
Security

Specifications

System Information

Processor	12th Gen Alder Lake/ 13th Gen Raptor Lake/ 14th Gen Raptor Lake Refresh Intel® Core™ i3/i5/i7/i9 Processors. Max TDP 125W
System Memory	4x U-DIMM socket, max. up to 192GB DDR5 4400MHz, optional ECC support
RAID	0,1,5,10
SBC	EAX-R680BP

Expansion

PCIe	2 x PCIe x16 Slots for 1 x PCIe x16 Gen5 Default or 2 x PCIe x8 Gen5 (BIOS selection), 2 x Gen4 PCIe x4 1 x Gen3 PCIe x4 1 x Gen3 PCIe x2
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Storage

M.2	2x M.2M-Key 2242/2280/22110 NVMe (Gen4 PCIe x4 for storage only, no SATA)
Storage	4x 2.5" SATA III HDD/SSD drive (optional 3.5")

Front I/O

Power Button	1x PWR Button
LED Indicator	1x Power on/off LED
USB	2x USB 2.0

Rear I/O

USB	8x USB 3.2 (Gen2 x 1)
COM	1x RS-232
LAN Port	4x RJ45
Audio	Line-out, Mic-in
DP	2x DP++
HDMI	1x HDMI
AC/DC Input	AC-In

Display

Graphic Chipset	Intel® Graphic chipset 12/13/14th & Series 2 Gen Core CPU integrated
Spec. & Resolution	HDMI 2.1b: Max 4K x 2K @ 60Hz DP 1.4a (Max. Resolution: 7680x4320 @ 60Hz)

Audio

Audio Codec	Realtek HD Audio Codec
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Power

Power Supply	1000W ATX power supply (optional medical PSU)
Power Mode	AT/ATX mode (default: ATX mode)
Power Input	100-240V AC

Ethernet

LAN Chipset	2x Intel® i226LM 2.5 Gigabit Ethernet 2x Intel® i226V 2.5 Gigabit Ethernet
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Software Support

OS	Win 10, Win 11, Linux
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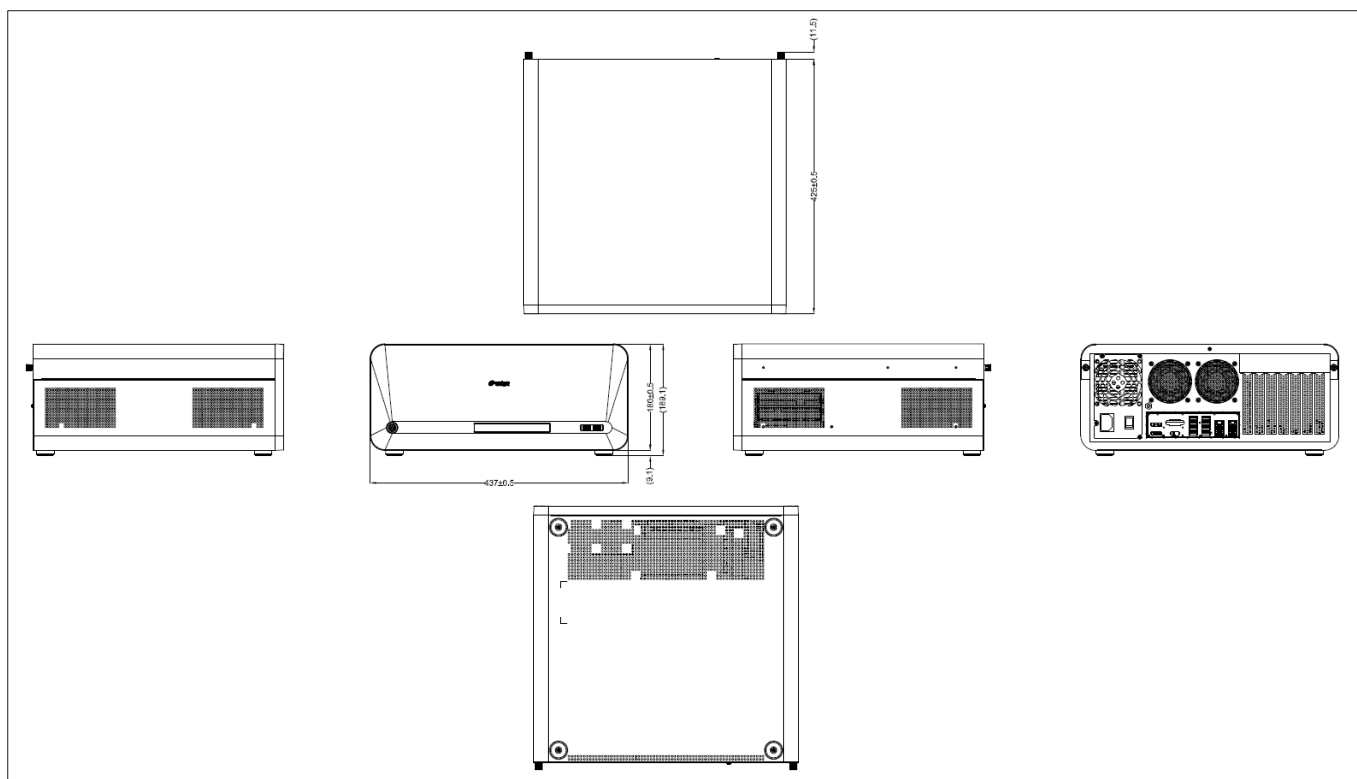
Certification

Certification Information	ITECE/FCC
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Mechanical & Environmental

Operating Temp.	0°C ~ 40°C (32°F ~ 104°F) with 0.5m/s air flow (turbo mode off)
Drop Test	Package drop test: One corner, three edges, six faces ISTA 2A, IEC-60068-2-32
Shock Test	With SSD : 10Gms, IEC 60068-2-27, half sine, 11ms
Vibration Test	Operating with SSD : 0.5 Gms, IEC 60068-2-64, 5 ~ 500Hz, 0.5hr/axis
Weight	10 kg
Dimension (W x L x H)	437x 425 x 189.2 mm
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Storage Temp.	-20°C ~ 60°C (-4°F ~ 140°F)

Mechanical Drawing



Ordering Information

P/N	Processor	Memory	Storage	Video Out	USB	LAN	Power Input	Working Temp.
MAB-T690-A1-R1	12th Gen Alder Lake/ 13th Gen Raptor Lake/ 14th Gen Raptor Lake Refresh Intel® Core™ i3/i5/i7/i9 Processors. Max TDP 125W	4 x U-DIMM socket, max. up to 192GB DDR5 4400MHz, optional ECC support	4 x 2.5" SATA III SSD drive	2x DP 1x HDMI	2 x USB 2.0 (front I/O) 8 x USB 3.2 Type A	4	ATX	0°C~40°C

Packing List

Item	Quantity
MAB-T690 System	1

Optional Items

Item
NVIDIA RTX PRO 5000 Blackwell
NVIDIA RTX A5000E
NVIDIA GeForce RTX 5090
NVIDIA RTX A4000E
NVIDIA RTX A2000E/T1000E/A1000/A400
YUAN 1080p PCIe4: SC400N2-L HDMI 2CH/ SC400N4 HDMI 4CH
YUAN 4K PCIe4: SC710N2-L HDMI 2CH/ SC410N4 HDMI 4CH
Intel 82574 1CH PCIe1 LAN Card
Intel I350AM2 2CH PCIe4 LAN Card
Intel I210 1CH PCIe1 PoE Card
PCIe WIFI 6/6E Module Kit/Set
PCIe 5G Module Kit/Set