



## Features

- High performance supported by 12/13/14th Generation Intel® Core™ i3/i5/i7/i9 Processors
- Up to 5 PCIe slot (1x PCIe x16 ind.) 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	4 x U-DIMM socket, max. up to 192GB DDR5 4400MHz, optional ECC support
RAID	0,1,5,10
SBC	EAX-R680BP

### Expansion

PCIe	1 x Gen5 PCIe x16 or 2 Gen5 PCIe x8 2 x Gen4 PCIe x4 1 x Gen3 PCIe x4 1 x Gen3 PCIe x2
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### Storage

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

### Front I/O

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

### Rear I/O

USB	8 x USB 3.2 (Gen2 x 1)
LAN Port	4 x 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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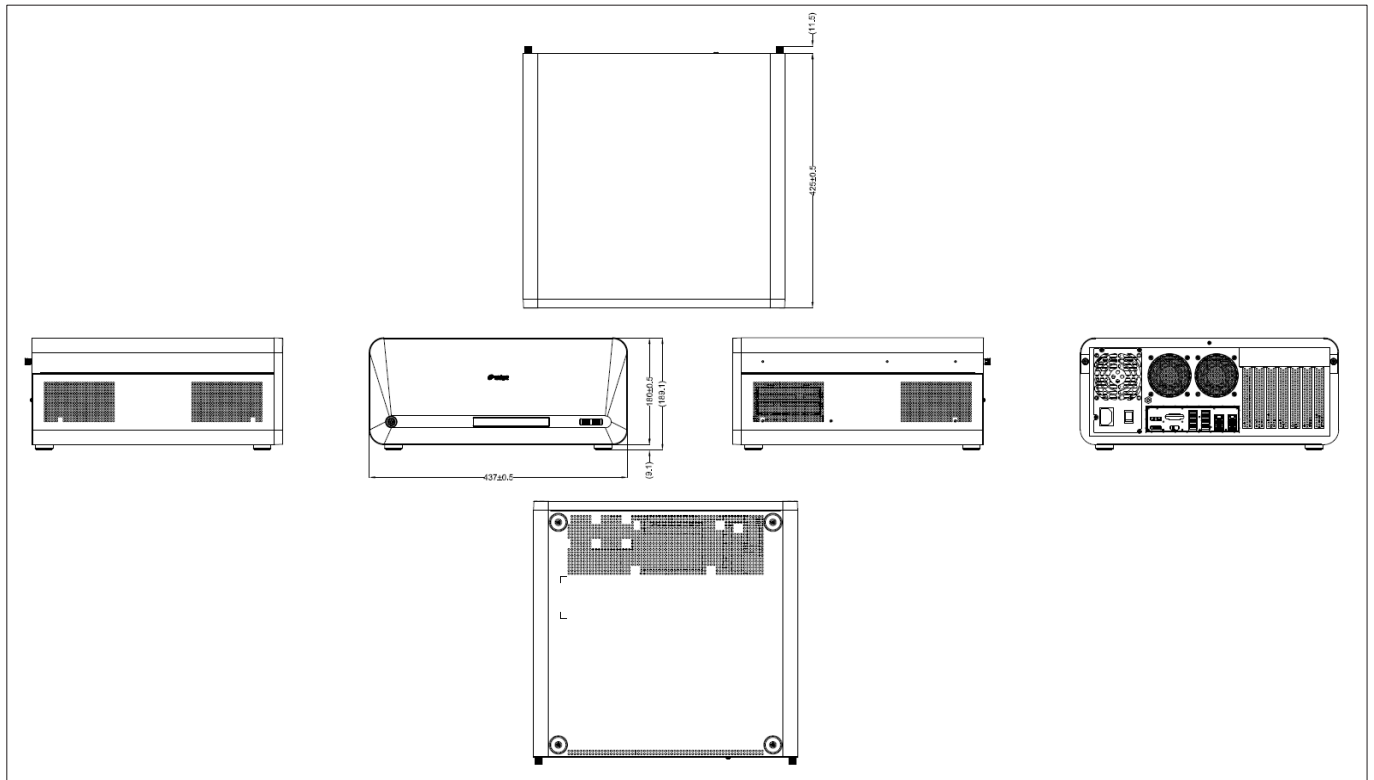
### Certification

Certification Information	ITE CE/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 : 10 Grms, IEC 60068-2-27, half sine, 11ms
Vibration Test	Operating with SSD : 0.5 Grms, IEC 60068-2-64, 5 ~500Hz, 0.5hr/axis
Weight	10 kg
Dimension (W x L x H)	437 x 433 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" SATAIII SSD drive	2xDP 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 RTX5000 ADA PCIe16
NVIDIA RTX5090 Blackwell PCIe16
NVIDIA RTX4000 ADA PCIe16
NVIDIA RTX4000 SFF ADA PCIe16
NVIDIA RTX2000 ADA PCIe8
NVIDIA A1000 PCIe16
YUAN SC710N2-L HDMI 2CH 4K Capture Card
YUAN SC400N2-L HDMI 2CH 1080p Capture Card
YUAN SC400N4 HDMI 4CH 1080p Capture Card
YUAN SC410N4 HDMI 4CH 4K Capture Card
Intel 82574 LAN Card
Intel I350AM2 LAN Card
Intel I210 PoE Card
WiFi 6E set ENL-5400PCI PCIe Adapter