MAB-T690

Box PC with Intel 12th/13th/14th Alder Lake/ Raptor Lake/ Raptor Lake Refresh/ Bartlett Lake-S FCLGA700 Processor support Compatible with medical standard



Features

- 12/13/14th Generation Intel® Core™ i3/i5/i7/i9 Processors. Max TDP 125W
- Intel® R680E Chipset
- 4 x UDIMM sockets support DDR5 4400MHz up to 192GB (ECC support depending on selected CPU)
- 2 x DP 1.4, 1 x HDMI
- 1 x PCIe x16 Gen5 or 2 x PCIe x8 Gen5, 2 x PCIe x4 Gen 4, 1 x PCIe x2 Gen 3, 1 x PCIe x4 Gen3
- 2 x M.2 M-Key NVMe support
- 4 x Intel 2.5 GbE LAN
- 4 x Internal 2.5" or 3.5" Drive bay
- 8 x USB3.2 Gen2 at Rear, 2 x USB 2.0 at Front
- 0 ~ 40°C (32°F ~ 104°F) Operating Temp.

ATX Power | Expansion Slot | Smart Fan Control | IT Grade

Specifications

System Information	
Processor	Intel® 12/13/14th Gen, Alder Lake/ Raptor Lake/ Raptor Lake-Refresh/ Bartlett Lake-S Core™ i9/i7/i5/i3 Processors, supports LGA 1700 CPU Up to 125W Max
Platform Controller Hub	Intel® R680E Chipset
System Memory	4 x 288-pin DDR5 UDIMM support up to 192GB, optional ECC support (CPU dependent)
I/O Chipset	Nuvoton NCT6126D (eSPI super IO)
BIOS	AMI uEFI BIOS, 256Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 5~255 seconds/ 5~255 minutes
H/W Status Monitor	CPU temperature monitoring, Voltages monitoring, CPU fan speed control
RAID	Support RAID 0, 1, 5, 10
TPM	TPM 2.0
iAMT	By CPU (i9/i7/i5)
SBC	EAX-R680BP
Expansion	
M.2	2 x M.2 M-Key NVMe 2242/2280/22110 (PCIe Gen4x4, no SATA)
PCIe	2 x PCIe x16 Slots for 1 x PCIe x16 Gen5 Default or 2 x PCIe x8 Gen5 (BIOS selection), 2 x PCIe x4 Gen4, 1 x PCIe x4 Gen3, 1 x PCIe x4 slot for 1 x PCIe x2 (Gen3)
Expansion	1x DVD ROM (Black, Optional)
Compatible GPU	GPU supports up to NVIDIA RTX PRO 5000 Blackwell (Optional)
Storage	
M.2	2 x M.2 NVMe Key M 2242/2280/22110 (PCIe Gen4x4, no SATA)
Storage	4 x Internal 2.5"or 3.5"Drive Bay
Front I/O	
Power Button	1 x PWR Button
LED Indicator	1 x Power on/off LED
USB	2 x USB 2.0
Rear I/O	
USB	8 x USB3.2 Gen 2
COM Port	1 x DB9 Connector at IO support RS-232 Optional up to 5 RS-232 COM port (I/O from PCIe slot)
LAN Port	4 x 2.5GbE RJ45
DP	2 x DP 1.4a
HDMI	1 x HDMI 2.1b
AC/DC Input	AC-In

Display	
Graphic Chipset	Intel® Integrated Graphics with up to 32 EU
Spec. & Resolution	2 x DP (DP1.4a): Max: 7680 x 4320@60 Hz 1 x HDMI: HDMI 2.1b, max resolution 4096 x 2160@60Hz (with HDR)
Audio	
Audio Codec	Realtek HD Audio Codec
Audio Amplifier	TI TPA3113D2 Class-D 2 x 6W 8Ω Amplifier
Power Requirement	
Power Supply Unit	IT grade 1000W (Default) Medical grade 1000W (Optional)
Power Mode	AT/ATX mode (Default ATX)
Ethernet	
LAN Chipset	2 x Intel® i226-LM 2.5G Gigabit Controller 2 x Intel® i226V 2.5G Gigabit Controller
Data Rate Per Port	i226-LM: 10/100/1000/2500 Base-Tx GbE compatible i226V: 10/100/1000/2500 Base-Tx GbE compatible
Software Support	
OS	Win 11, Linux
Certification	
Certification Information	IT CE/FCC
Mechanical & Environmental	
Color	White
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F) with 0.5m/s air flow (turbo mode off) 0°C ~ 35°C (32°F ~ 95°F) with 0.5m/s air flow (turbo mode off) for the configuration with TDP 125W CPU and Nvidia RTX PRO Blackwell 5000 (48GB)
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)

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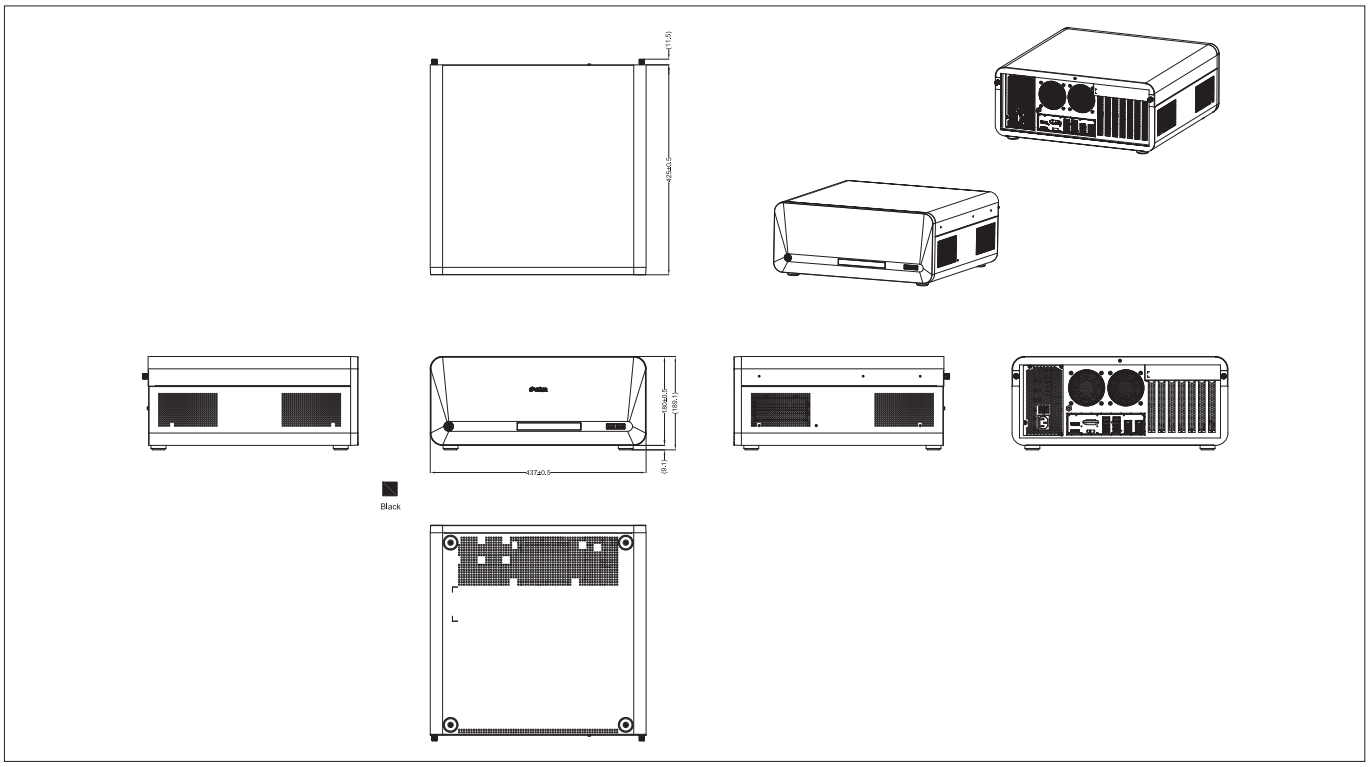
Mechanical Drawing



Ordering Information

P/N	Processor	Memory	Storage	I/O	USB	LAN	Power Input	Working Temp.
MAB-T690-A1-1R	Intel® 12/13/14th Gen, Alder Lake/ Raptor Lake/ Raptor Lake-Refresh/ Bartlett Lake-S Core™ i9/i7/i5/i3 Processors, supports LGA 1700 CPU up to 125W Max	4 x 288-pin DDR5 UDIMM support up to 192GB, optional ECC support (CPU dependent)	2 x M.2 NVMe Key M 2242/2280/22110 (PCIe Gen4x4, no SATA) 4 x Internal 2.5"or 3.5" Drive Bay	2 x DP 1 x 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	P/N	Quantity
CPU cooler 0.84A/12V/Fan 91 x 87.5 x 64.6mm	ACC-FAN-170-02R	1
Screws (M3 x 8mm) for 2.5" drive installation	E1930030803R	16
Screws (6#-32 x 8mm) for 3.5" drive installation	E19300B0800R	16
Rubber for shockproof	E199RK00010R	16
Screws (M3 x 4mm) for M.2	E1932030401R	2
PSU cable kit	N/A	1

Optional Items

Item	P/N
NVIDIA RTX PRO 5000 Blackwell (48GB)	RCC-GPU-RTXPRO-02R
NVIDIA RTX 4000E ADA	RCC-GPU-RTXLL-02R
NVIDIA RTX 2000E ADA	RCC-GPU-RTXLL-01R
NVIDIA RTX PRO 4000 SFF Blackwell	RCC-GPU-RTXPRO-01R
SC710N2-L HDMI Capture Card	RCC-CAP-PCIE-01R
SC400N2-L HDMI Capture Card	RCC-CAP-PCIE-04R
Intel 82574 LAN Card	RCC-LAN-PCIE-01R
Intel I350AM2 LAN Card	RCC-LAN-PCIE-02R
Intel I210 PoE Card	RCC-POE-PCIE-03R
WiFI 6E set ENL-5400PCI PCIe Adapter	RCC-WIFI-PCIE-01R
EU Power Cord	E1702031000R
US Power Cord	E170P060390R
JP Power Cord	E170P060410R
UK Power Cord	E170P060380R
AU Power Cord	E1702031831R
CN Power Cord	E170P060391R

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I/O Overview

