

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	1x PCIe x16 Gen5 or 2x PCIe x8 Gen5 2x PCIe x4 Gen4, 1x PCIe x4 Gen3, 1x 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 I/O 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
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Certification

Certification Information	IT CE/FCC
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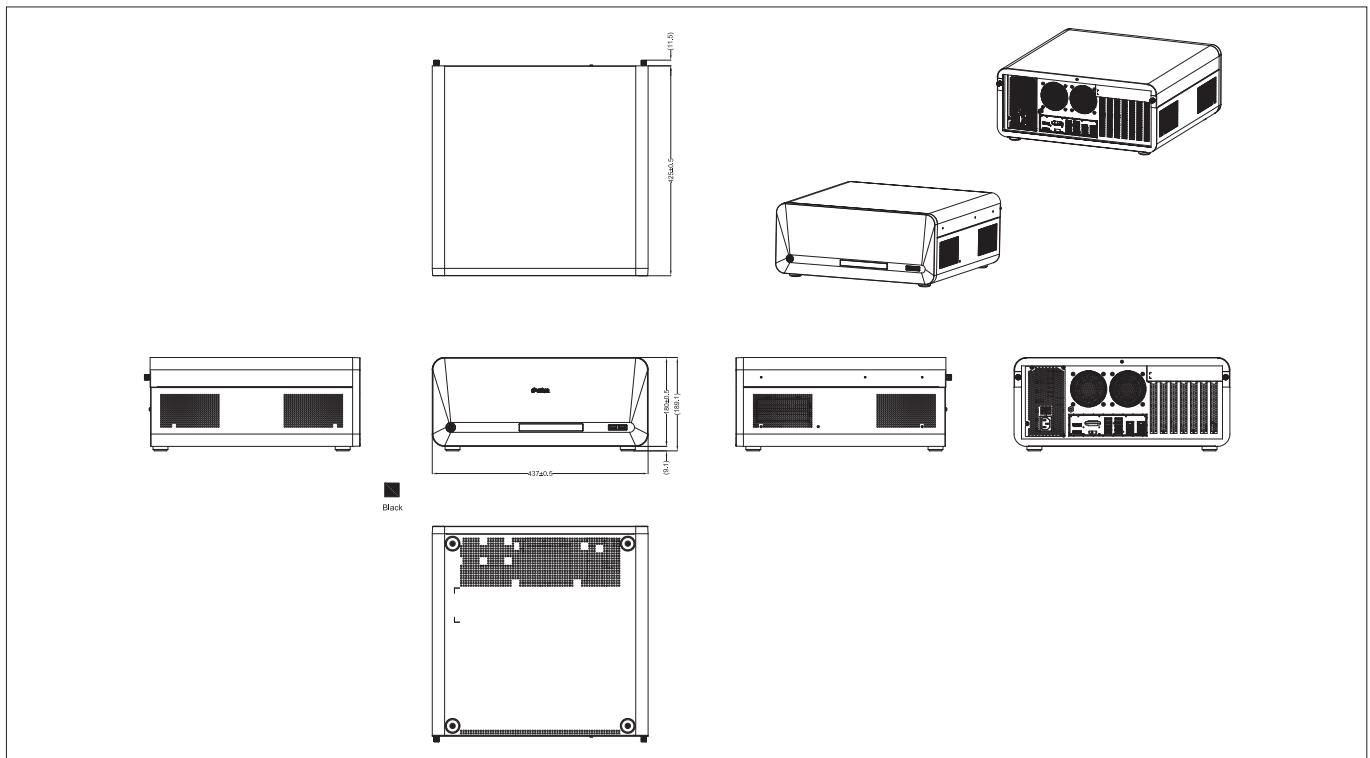
Mechanical & Environmental

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-RTXL-02R
NVIDIA RTX 2000E ADA	RCC-GPU-RTXL-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	E1702031833R
JP Power Cord	E1702031834R
UK Power Cord	E170P060380R
AU Power Cord	E1702031831R
CN Power Cord	E170P060391R

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I/O Overview

