



Features

- Intel® Core™ 200E / 200PE & 14th/13th/12th Core i LGA1700 Processors with Intel R680E/Q670E PCH
- 4x DDR5 U-DIMM sockets, Max. 192GB
- Supports 2x DisplayPort (1.4a), HDMI (2.0b), DVI-D
- LAN 1: Intel® I226LM, supports iAMT
- LAN 2: Intel® I226V, supports 2.5G only
- 4x USB 3.2 (Type-A), 3x USB 3.2, 2x USB 2.0, 4x SATA III
- 2x COM (RS232) +2x COM (RS232/422/485)
- 2x PCIe(x16) [Gen5.0], 2x PCIe(x4) [Gen4.0], 2x PCIe(x1) [Gen3.0]
- 4x M.2, including E-Key (2230), B-Key (3052) and 2x M-Key (2280)
- Watchdog timer, Digital I/O, iSMART (4.0), iAMT (16.1), dTPM (2.0)

Specifications

CPU Socket	LGA1700
CPU	Intel® Core™ 200E / 200PE & 14th/13th/12th Core i LGA1700 Processors
PCH	Q670E, R680E
Memory	4x DDR5 U-DIMM sockets, Max. 192GB
BIOS	AMI
Watchdog Timer	256 levels
H/W Monitor	Yes
Storage Device Interface	SATA III & NVMe
Expansion Slots	2x PCIe (x16) [Gen.5.0]; 2x PCIe (x4) [Gen.4.0] ; 2x PCIe (x1) [Gen.3.0]
Mini Type Slots	2x M.2 (M2280, supports NVMe (Gen4)) 1x M.2 (E2230, supports CNVi) 1x M.2 (B3052, supports 5G module)
Graphics Controller	12th Gen Intel® Core™ i9/i7/i5/i3 processors integrated
Video Output	2x DisplayPort /DP++ (1.4a) 1x HDMI (2.0) 1x DVI-D
Ethernet	LAN 1: Intel® I226LM, supports iAMT LAN 2: Intel® I226V, supports 2.5G only
I/O Chipset	Fintek F81964D-I
Serial Port	4x COM ports: 2x RS232/422/485 + 2x RS232
USB 2.0	2x USB 2.0 via pin-header
USB 3.X	4x USB 3.2(10 Gbps) @ rear panel 2x USB 3.1 Gen1(5 Gbps) support Type-A @ rear panel 2x USB 3.2 @ onboard box headers 1x USB 3.2 @ onboard vertical connector
Serial ATA	4x SATA III
Audio	Built-in HD Audio controller + Realtek ALC888S-VD2-GR w/ 7.1 channels
TPM	TPM(2.0)
Others	Digital I/O (4-in/4-out), iSMART (4.0), iAMT (16.1), dTPM (2.0), RAID
Dimensions (L x W)	305mm x 244mm (12"x 9.6")

Power Consumption	TBD
Operating Temperature	0°C~60°C (32°F~140°F)
Storage Temperature	-20°C~80°C (-4°F~176°F)
Relative Humidity	90% (non-condensing @60°C)

Ordering Information

MBB1004AF-R	LGA1700 R680E ATX Motherboard w/ HDMI, DisplayPort, DVI-D, Dual 2.5G LAN, RAID, iAMT (16.1), dTPM (2.0), iSMART(4.0), supports ECC
MBB1004AF-Q	LGA1700 Q670E ATX Motherboard w/ HDMI, DisplayPort, DVI-D, Dual 2.5G LAN, RAID, iAMT (16.1), dTPM (2.0), iSMART(4.0)

