



Features

- 12th Gen Intel® Core™ i9/i7/i5/i3 / Pentium® / Celeron® processors
- 4x DDR4 DIMM, Max.128GB
- Intel® processor integrated graphics supports HDMI (2.0b), DVI-D, and DisplayPort (1.4) (DP++)
- Dual Intel® 2.5G LAN
- 8x USB 3.1, 2x USB 2.0, 4x SATA 3.0, 4x COM
- 1x PCI-E(x16) (Gen5.0), 2x PCI-E(x4) (Gen4.0), 1x PCI-E(x1) (Gen3.0), 2x PCI
- 4x M.2 (B-Key, E-Key/ 2x M-Key)
- Watchdog timer, Digital I/O, iAMT (16.0), TPM (2.0)

Specifications

CPU Socket	LGA1700
CPU	12th Gen Intel® Core™ i9/i7/i5/i3 and Pentium®/ Celeron® processors
PCH	MBB-1000AF-R: Intel® R680E PCH MBB-1000AF-Q: Intel® Q670E PCH
Memory Types	4x DDR4-3200 MHz, Max. 128GB (Supports ECC by CPU SKUs + PCH R680E)
BIOS	AMI
Watchdog Timer	256 levels
H/W Monitor	Yes
Storage Device Interface	NVMe
Expansion Slots	1x PCI-E(x16) (Gen5.0), 2x PCI-E(x4) (Gen4.0), 1x PCI-E(x1) (Gen3.0), 2x PCI 4x M.2 (B-Key, E-Key/ 2x M-Key)
Mini Type Slots	1x M.2 (M-Key, type:2280, supports NVMe with PCI-E(x4) signal only) 1x M.2 (M-Key, type:2280) 1x M.2 (E-Key, type: 2230, supports CNVi) 1x M.2 (B-Key, type:3052, supports 4G/5G/LTE)
Graphics Controller	12th Gen Intel® Core™ i9/i7/i5/i3 processors integrated
Video Output	1x HDMI 2.0b, 1x DVI-D, 2x DisplayPort (1.4a) (DP++)
Ethernet	Intel® I225LM 2.5G Intel® I225V 2.5GbE
I/O Chip	Fintek F81964D-I
Serial Port	2x RS232, 2x RS232/422/485
USB 2.0	2x USB 2.0 via pin header
USB 3.0	4x USB 3.1 Gen2 (10Gbps), 2x USB 3.1 Gen1 (5Gbps), 2x USB 3.1 Gen1 (via box-header)
Serial ATA	4x SATA 3.0
Audio	Intel® R680E/ Q670E PCH-H built-in HD audio + Realtek ALC888S codec
TPM	TPM (2.0)
Others	Digital I/O (4-in/4-out), iAMT (16.0), 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	95% (non-condensing @60°C)

Ordering Information

MBB-1000AF-R	LGA1700 R680E ATX Motherboard w/ HDMI, DisplayPort, DVI-D, Dual 2.5G LAN, RAID, iAMT (16.0), TPM (2.0), supports ECC
MBB-1000AF-Q	LGA1700 Q670E ATX Motherboard w/ HDMI, DisplayPort, DVI-D, Dual 2.5G LAN, RAID, iAMT (16.0), TPM (2.0)

Dimensions and Drawing

