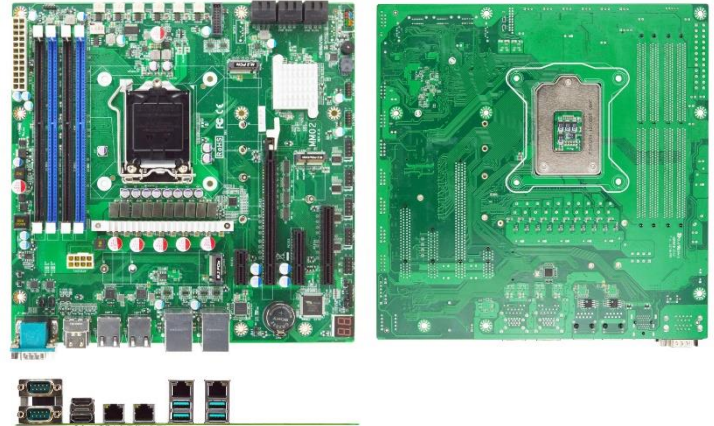




MM02-10 Series

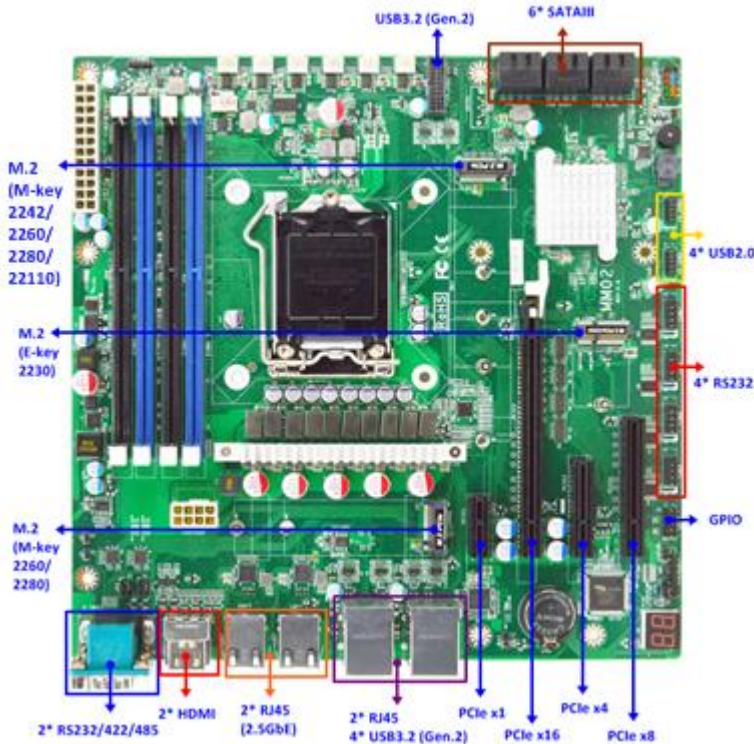
Intel® Comet Lake-S Q470E Chipset, support LGA1200 CPU (Max 95W), DDR4 up to 128GB, 6 SATAIII*

1. Intel® LGA1200 Socket supports 10th Gen. Core Processor (Max 95W)
2. Intel® Comet Lake-S Q470E Chip
3. Support 4* DDR4 2933/2666/2400MHz Long-DIMM up to 128GB
4. 1* Intel® i219LM GbE, 1* Intel® i210AT GbE, 2* i225LM 2.5GbE
5. 6* SATA III (6Gb/s) support RAID 0/1/5/10 & 2* M.2 (M-key), 1* M.2 (E-key) supports CNVi, 1* PCIe x16, 1* PCIe x8, 1* PCIe x4, 1* PCIe x1
6. 2* HDMI Output
7. 2* RS232/422/485, 4* RS232
8. 6* USB3.2 (Gen.2), 4* USB2.0
9. ATX Power Input
10. Support TPM2.0 (MM02-12 only)
11. Micro ATX Form Factor (244 * 244 mm)



I/O Diagram

Mechanical Drawings (Unit = mm)



Specifications

Model	Form Factor
<ul style="list-style-type: none">MM02-10MM02-12 (TPM2.0)	Micro ATX (244 x 244 mm)
Processor System	Expansion Slot
<ul style="list-style-type: none">Intel® LGA1200 Socket supports 10th Gen. Core Processor (Max 95W)Intel Q470E chipsetAMI 128Mb Flash ROM BIOS	<ul style="list-style-type: none">2* M.2 (M-key): 1* 2242/2260/2280/22110 (PCIe x4 interface) support NVMe, 1* 2260/2280 (PCIe x2 interface)1* M.2 E-key, 2230 (PCIe x1 /USB2.0 interface) support CNVi6* SATAIII support RAID 0/1/5/101* PCIe x161* PCIe x8 (share with PCIe x16)1* PCIe x41* PCIe x1
Memory	Graphics
4* Long DIMM DDR4 2933/2666/2400 MHz DRAM up to 128GB	<ul style="list-style-type: none">Intel® HD Graphics, shared memory2* HDMI 1.4 (Max Resolution: 4096x2160@30Hz)Support Dual Displays
Ethernet	Audio
<ul style="list-style-type: none">1* Intel® i219LM GbE & 1* Intel® i210AT GbE2* Intel® i225LM 2.5GbE	N/A
Rear I/O	Internal I/O
<ul style="list-style-type: none">2* HDMI2* RJ45 (GbE)2* RJ45 (2.5GbE)4* USB3.2 (Gen.2)2* COM (support RS232/422/485)	<ul style="list-style-type: none">1* USB 3.2 (Gen.2)4* USB 2.04* COM (RS232)6* SATAIII (support RAID 0/1/5/10)1* M.2 M-key 2242/2260/2280/22110 (PCIe x4 interface) support NVMe1* M.2 M-key 2260/2280 (PCIe x2 interface)1* E-key 2230 (PCIe x1 /USB2.0 interface) support CNVi1* GPIO (8-bit)1* Chassis intrusion1* SMBUS/I2C1* AT mode1* TPM2.0 (MM02-12 only)
Storage	Watchdog Timer
<ul style="list-style-type: none">6* SATAIII (6.0Gb/s, support RAID 0/1/5/10)2* M.2 (M-key): 1* 2242/2260/2280/22110 (PCIe x4 interface) support NVMe, 1* 2260/2280 (PCIe x2 interface)	<ul style="list-style-type: none">From Super I/O to drag RESETCON#256 segments (10sec ~ 255min)
Power	Compliance
ATX PWR (8+24 pin) - AT: Directly PWR on as Power input ready - ATX: Press Button to PWR on after Power input ready	CE, FCC, RoHS, REACH
Temperature	OS Support
<ul style="list-style-type: none">Operating: 0°C ~ 60°CStorage: -20°C ~ 85°CHumidity: 10% ~ 90% RH @40°C (non-condensing)	Windows 10, Linux
Warranty	
2 Years Limited Warranty	

* Specifications subject to change without notice, not responsible for typographical errors. Does not include HDD or OS.

Accessories

Parts Number	Description	Parts Number	Description
-----	MM02 M/B	F04-MB-0XX-F	MM02 I/O shield