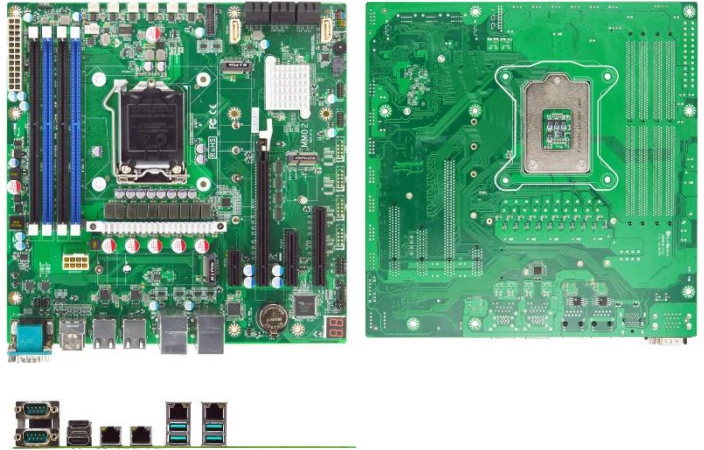




## MM02-20 Series

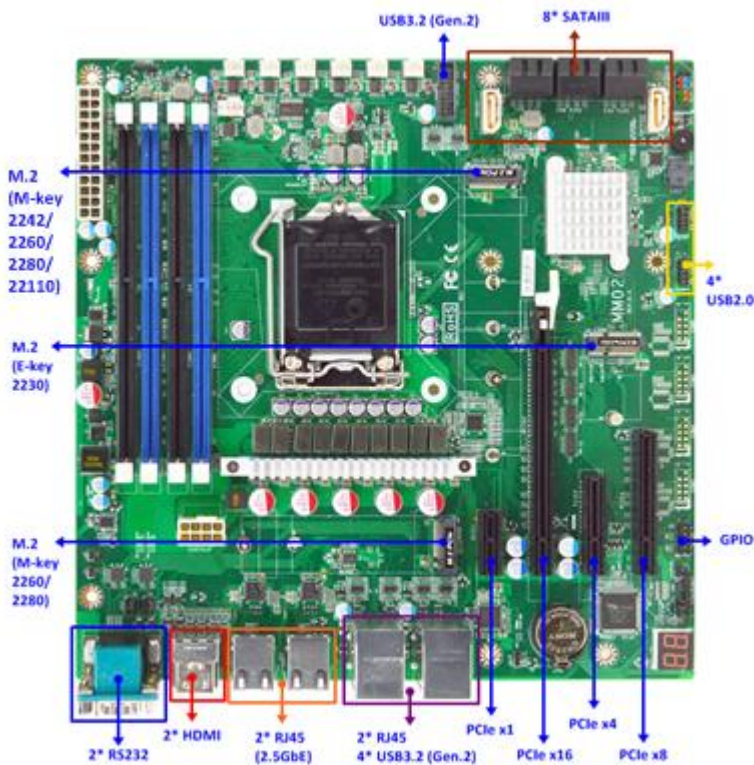
Intel® Comet Lake-S W480E Chipset, support LGA1200 CPU (Max 95W), DDR4 up to 128GB, 8\* SATAIII

1. Intel® LGA1200 Socket supports 10<sup>th</sup> Gen. Core Processor (Max 95W)
2. Intel® Comet Lake-S W480E Chip
3. 4\* DDR4 2933/2666/2400MHz up to 128GB support ECC
4. 1\* Intel® i219LM GbE, 1\* Intel® i210AT GbE, 2\* i225LM 2.5GbE
5. 8\* 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
8. 6\* USB3.2 (Gen.2), 4\* USB2.0
9. ATX Power Input
10. Support TPM2.0 (MM02-22 only)
11. Micro ATX Form Factor (244 \* 244 mm)



### I/O Diagram

### Mechanical Drawings (Unit = mm)



## Specifications

|  |   |
|--|---|
| <b>Model</b>   | <b>Form Factor</b>  |
| <ul style="list-style-type: none"><li>MM02-20</li><li>MM02-22 (TPM2.0)</li></ul>   | Micro ATX (244 x 244 mm)  |
| <b>Processor System</b>  | <b>Expansion Slot</b>   |
| <ul style="list-style-type: none"><li>Intel® LGA1200 Socket supports 10th Gen. Core Processor (Max 95W)</li><li>Intel W480E chipset</li><li>AMI 128Mb Flash ROM BIOS</li></ul>                                 | <ul style="list-style-type: none"><li>1* M.2 E-key, 2230 (PCIe x1 /USB2.0 interface) support CNVi</li><li>8* SATAIII support RAID 0/1/5/10</li><li>1* PCIe x16</li><li>1* PCIe x8 (share with PCIe x16)</li><li>1* PCIe x4</li><li>1* PCIe x1</li></ul>   |
| <b>Memory</b>  | <b>Graphics</b>   |
| 4* Long DIMM DDR4 2933/2666/2400 MHz DRAM up to 128GB support ECC  | <ul style="list-style-type: none"><li>Intel® HD Graphics, shared memory</li><li>2* HDMI 1.4 (Max Resolution: 4096x2160@30Hz)</li><li>Support Dual Displays</li></ul>  |
| <b>Ethernet</b>  | <b>Audio</b>  |
| <ul style="list-style-type: none"><li>1* Intel® i219LM GbE &amp; 1* Intel® i210AT GbE</li><li>2* Intel® i225LM 2.5GbE</li></ul>  | N/A   |
| <b>Rear I/O</b>  | <b>Internal I/O</b>   |
| <ul style="list-style-type: none"><li>2* HDMI</li><li>2* RJ45 (GbE)</li><li>2* RJ45 (2.5GbE)</li><li>4* USB3.2 (Gen.2)</li><li>2* COM (RS232)</li></ul>  | <ul style="list-style-type: none"><li>1* USB 3.2 (Gen.2)</li><li>4* USB 2.0</li><li>8* SATAIII (support RAID 0/1/5/10)</li><li>1* M.2 M-key 2242/2260/2280/22110 (PCIe x4 interface) support NVMe</li><li>1* M.2 M-key 2260/2280 (PCIe x2 interface)</li><li>1* E-key 2230 (PCIe x1 /USB2.0 interface) support CNVi</li><li>1* GPIO (8-bit)</li><li>1* Chassis intrusion</li><li>1* SMBUS/I2C</li><li>1* AT mode</li><li>1* TPM2.0 (MM02-22 only)</li></ul> |
| <b>Storage</b>   | <b>Watchdog Timer</b>   |
| <ul style="list-style-type: none"><li>8* SATAIII (6.0Gb/s, support RAID 0/1/5/10)</li><li>2* M.2 (M-key): 1* 2242/2260/2280/22110 (PCIe x4 interface) support NVMe, 1* 2260/2280 (PCIe x2 interface)</li></ul> | <ul style="list-style-type: none"><li>From Super I/O to drag RESETCON#</li><li>256 segments (10sec ~ 255min)</li></ul>  |
| <b>Power</b>   | <b>Compliance</b>   |
| ATX PWR (8+24 pin)<br>- AT: Directly PWR on as Power input ready<br>- ATX: Press Button to PWR on after Power input ready  | CE, FCC, RoHS, REACH  |
| <b>Temperature</b>   | <b>OS Support</b>   |
| <ul style="list-style-type: none"><li>Operating: 0°C ~ 60°C</li><li>Storage: -20°C ~ 85°C</li><li>Humidity: 10% ~ 90% RH @40°C (non-condensing)</li></ul>  | Windows 10, Linux   |
| <b>Warranty</b>  |   |
| 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-OXX-F | MM02 I/O shield |