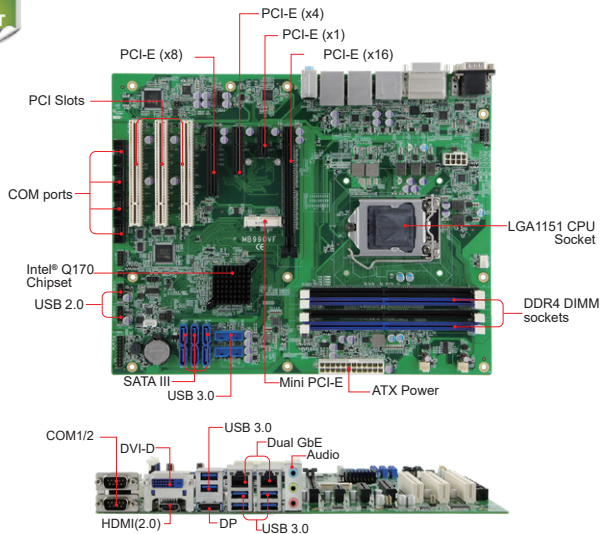




## Features

- 7th/6th Gen Intel® Core™ i7/i5/i3 / Pentium® / Celeron® QC/DC processors, up to 4.0GHz
- 4x DDR4 DIMM, Max. 64GB, ECC compatible
- Intel® processor integrated graphics supports DVI-D, HDMI and DisplayPort
- Dual Intel® Gigabit LAN
- 4x USB 2.0, 10x USB 3.0, 6x COM, 6x SATA III
- 1x PCI-E (x16), 1x PCI-E (x8) [(x4) Link], 1x PCI-E (x4) [(x1) Link], 1x PCI-E (x1), 3x PCI
- 1x Mini PCI-E
- Watchdog timer, Digital I/O, iAMT (11.0), TPM(1.2), vPro, iSMART

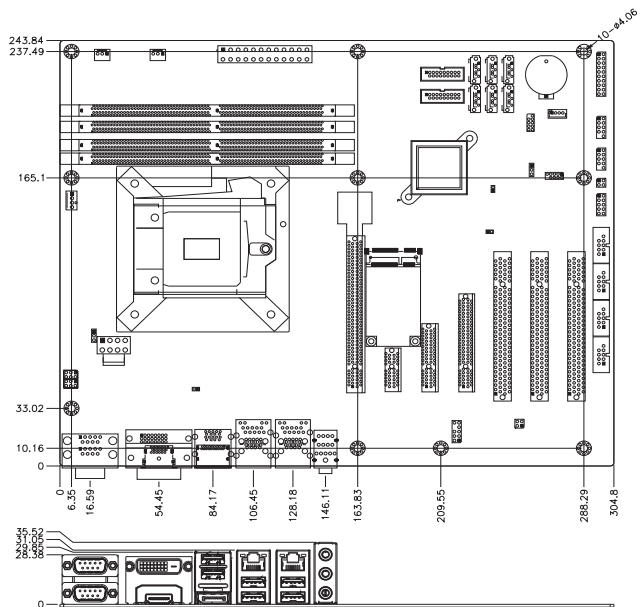
## Specifications

|                          |                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------|
| CPU Socket               | LGA1151                                                                                                 |
| CPU                      | 7th/6th Gen Intel® Core™ i7/i5/i3/ Pentium® / Celeron® QC/ DC processors, up to 4.0GHz                  |
| PCH                      | Intel® Q170 PCH                                                                                         |
| Memory Types             | 4x DDR4 DIMM, Max. 64GB (supports ECC by CPU SKUs)                                                      |
| BIOS                     | AMI                                                                                                     |
| Watchdog Timer           | 256 levels                                                                                              |
| H/W Monitor              | Yes                                                                                                     |
| Storage Device Interface | N/A                                                                                                     |
| Expansion Slots          | 1x PCI-E (x16), 1x PCI-E (x8), 1x PCI-E (x4), 1x PCI-E (x1), 3x PCI                                     |
| Mini Type Slots          | 1x Mini PCI-E                                                                                           |
| Graphics Controller      | 7th/6th Gen Intel® Core™ i7/i5/i3/ Pentium®/ Celeron® QC/ DC processors integrated                      |
| Video Output             | Supports DVI-D, HDMI and DisplayPort                                                                    |
| Ethernet                 | MB990VF: Intel® I219LM Gigabit LAN PHY<br>Intel® I211AT or I210AT Gigabit LAN (as 2nd LAN)              |
| I/O Chip                 | Fintek F81866AD-I                                                                                       |
| Serial Port              | 5x RS232, 1x RS232/422/485 (jumper-less selection)                                                      |
| USB 2.0                  | 4x USB 2.0 via pin-header                                                                               |
| USB 3.X                  | 10x USB 3.0<br>- 6 ports on board<br>- 4 ports via pin-header                                           |
| Serial ATA               | 6x SATA III                                                                                             |
| Audio                    | Intel® Q170 PCH built-in HD audio + Realtek ALC888S codec                                               |
| TPM                      | TPM (1.2)                                                                                               |
| Others                   | Digital I/O (4-in/4-out), RAID, iAMT (11.0), iSMART                                                     |
| Dimensions (L x W)       | 305mm x 244mm (12" x 9.6")                                                                              |
| Power Consumption        | Intel® Core™ i7-6700 3.4GHz w/ 4x 4GB DDR4-2133<br>+12V: 7.12A ; +5V: 1.99A; +5VSB: 0.15A; +3.3V: 0.43A |
| Operating Temperature    | 0°C~60°C (32°F~140°F)                                                                                   |
| Storage Temperature      | -20°C~80°C (-4°F~176°F)                                                                                 |
| Relative Humidity        | 10% ~ 90% (non-condensing)                                                                              |

## Ordering Information

|            |                                                                                                                        |
|------------|------------------------------------------------------------------------------------------------------------------------|
| MB990VFS-A | LGA1151 Q170 ATX motherboard w/ DVI-D, HDMI, DisplayPort, dual Gigabit LAN, RAID, iAMT (11.0), TPM (1.2), vPro, iSMART |
|------------|------------------------------------------------------------------------------------------------------------------------|

## Dimensions and Drawing



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