



289.00 EUR  
incl. 19% VAT, plus [shipping](#)

- Q470 !
- 3x LAN !

- Up to Intel® Comet Lake 10th Gen i9 125W (10 Cores) LGA1200 processor
- Intel Q470E Chipset
- Intel® vPro technology supported
- Support 1 x PCIe X16 slot, 1 x PCIe X8 slot, and 1 x PCI slot 1 x M.2 2280M-key (NVME), 1 x M.2 2230 E-key (CNVi)
- Support triple display for 1 x DisplayPort, 1 x HDMI and 1 x DVI
- Up to 6 x SATAIII (support RAID 0, 1, 5, 10)
- Up to 3 x Intel® Gigabit Ethernet
- Up to 6 x USB 3.2 Gen1, 4 x USB 2.0, 4 x COM ports
- ATX power input

|               |                                                                                                   |
|---------------|---------------------------------------------------------------------------------------------------|
| FORM FACTOR   | Micro-ATX: 9.6" x 9.6" (244 mm x 244 mm)                                                          |
| PROCESSOR     | 10th Gen Intel® Comet Lake LGA1200 Socket Processor, Core i9/i7/i5/i3 up to 10-core TDP Max. 125W |
| CHIPSET       | Intel® Q470E / W480E (Support RAID 0 / 1 / 5 / 10)<br>DDR4 2933MHz                                |
| SYSTEM MEMORY | / Max. 64 GB (Non-ECC: H420E/Q470E, ECC: W480E)<br>/ 4 x 288-pin U-DIMM                           |
| GRAPHICS      | Intel® HD Graphics                                                                                |
| ETHERNET      | Intel® I219-LM Giga LAN + 2 x Intel® I210-AT Giga LAN                                             |
| AUDIO         | Realtek® ALC662 / ALC888                                                                          |
| I/O CHIPSET   | Nuvoton NCT6126D(eSPI)                                                                            |
| TPM           | TPM Header / (support optional TPM module board NPCT750)                                          |

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|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EXPANSION SLOT        | <p>1.PCIe 3.0 X16 slot<br/>PCIe x16 support 3 options of PCIe switch:<br/>#1: 1 x PCIe X16,<br/>#2: 2 x PCIe X8,<br/>#3: 1 x PCIe X8 + 2 x PCIe X4</p> <p>2.PCIe 3.0 X8 slot (X4 Lanes)<br/>PCIe x4 lanes is switched with M.2 2242/2260/2280 slot</p> <p>3. PCI slot<br/>/ 4. M.2 2242 / 2260 / 2280 M key (PCIe x4 ,SATA)<br/>M.2 2280 for H420E support SATA only</p> <p>5. M.2 2230 E key (PCIe x1, USB2.0, CNVi)<br/>/ **5G card support is by BOM option. Please check with sales about the M.2 B Key 3052 5G card spec if you have any request</p> |
| BIOS                  | 256 Mbit SPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| H/W MONITOR           | Temperature Monitor / Voltage Monitor / Fan Monitor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WATCHDOG TIMER        | 1~255 steps by software program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SMART FAN CONTROL     | CPU Fan / System Fan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| VGA                   | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| DVI                   | Up to 1920 x 1200 @60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| HDMI                  | Up to 4K (4096 x 2160) @30 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DISPLAYPORT           | Up to 4K (4096 x 2304) @60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LVDS                  | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| eDP (Option)          | Up to 4K (4096 x 2304) @60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| USB                   | 2 x USB 2.0 / 4 x USB 3.1 Gen1 (Q470E / W480E) / 3 x USB 3.1 Gen1 (H420E)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DISPLAY I/O           | 1 x HDMI 1.4 / 1 x DisplayPort 1.2 / 1 x DVI-I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| AUDIO I/O             | 1 x 3-stack Audio Jack (Mic-in, Line-in, and Line-out)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| LAN I/O               | 3 x RJ-45 (1 x Optional)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SERIAL PORT           | 1 x RS232                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PS/2 PORT             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| OTHERS                | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| STORAGE               | 6 x SATAIII (Q470E / W480E)<br>/ 4 x SATAIII (H420E)<br>2 x USB 3.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| USB                   | / 2 x USB 2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DISPLAY I/O           | 1 x Backlight Connector / 1 x eDP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| AUDIO I/O             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SERIAL PORT           | 2 x RS232 / 1 x RS232 / 422 / 485                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PS/2 PORT             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| PARALLEL PORT         | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| GPIO                  | 1 x MiAPI Header (Programmable. Support 10-bit GPIO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| FAN                   | 1 x 4-pin CPU Fan Header / 1 x 4-pin System Fan Header                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| POWER                 | 1 x 8-pin ATX Power Connector / 1 x 24-pin ATX Power Connector / 1 x AT / ATX Mode Select Jumper                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| POWER INPUT           | ATX 8-pin + ATX 24-pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OPERATING TEMPERATURE | 0 ~ 60°C (32 ~140°F)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| STORAGE TEMPERATURE   | -20 ~ 70°C (-4 ~158°F)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| OPERATING HUMIDITY    | 10% ~ 95% R/H (Non-condensing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CERTIFICATION         | CE / *Class B by request for customization SKU / FCC Class A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| OS SUPPORT            | Windows® 10 64-bit / Linux (support by request)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PACKAGE               | 1 x Motherboard / 1 x 50 cm SATA Cable / 1 x I/O Bracket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |