

# Q670EA-IM-A

ATX, LGA1700 Socket for 14<sup>th</sup> / 13<sup>th</sup> / 12<sup>th</sup> Gen. CPU, Q670E Chipset, 4\*U-DIMM, 3\*Lan, 2\*PCIe x16 slots, 2\*PCI, VGA, HDMI, DP++, 2\*M.2 slot, 6\*COM, 7\*SATA

## Features

- Support up to 125W Intel® 14<sup>th</sup> / 13<sup>th</sup> / 12<sup>th</sup> Gen. CPU
- 2\* PCIe x16 slots support dual graphic cards
- Four U-DIMM up to 128GB DDR5 4400 MHz
- Supports multiple displays: VGA/ HDMI / DP
- 7-year longevity supply

## Specifications

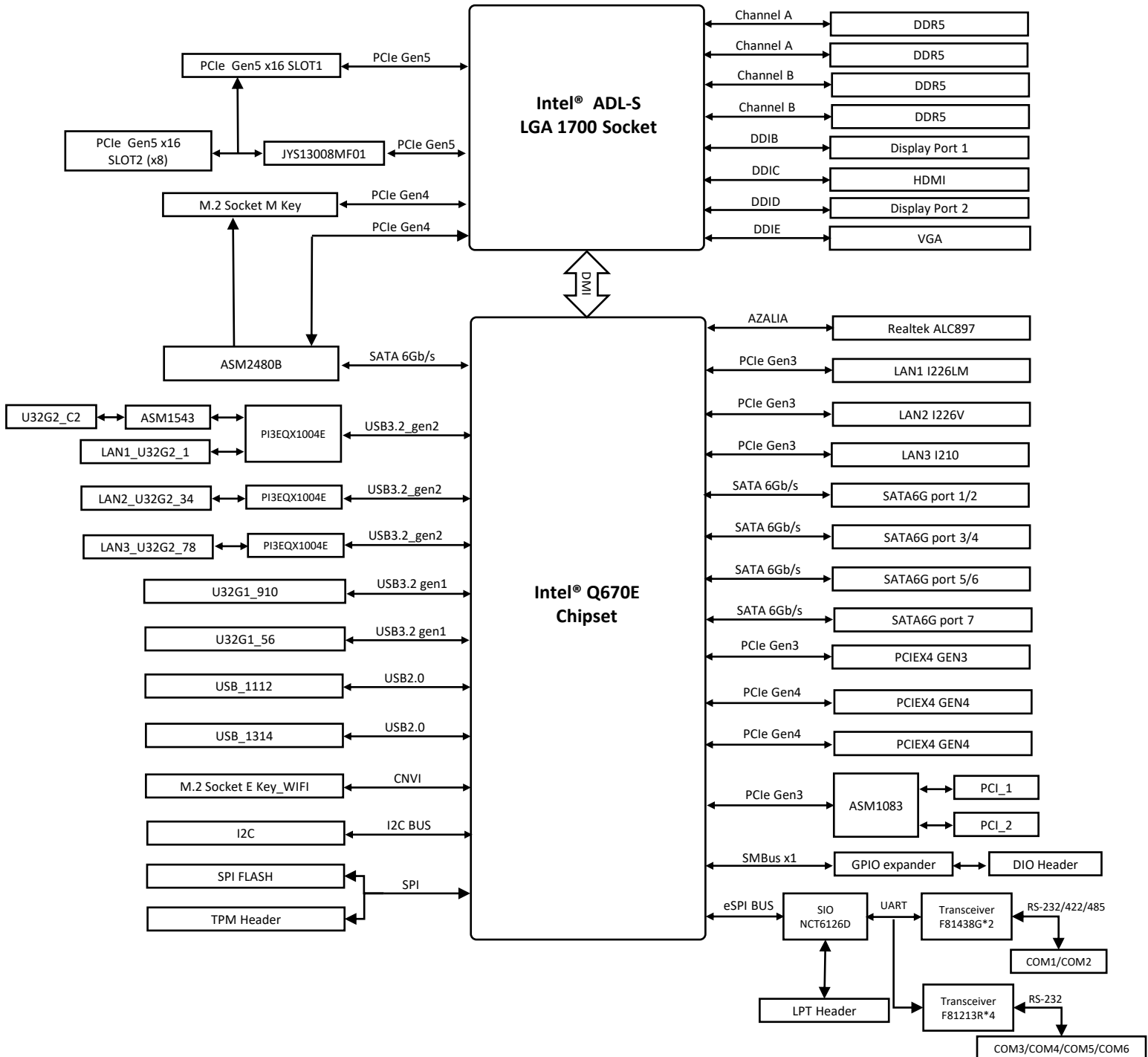


|                         |                               |   |
|-------------------------|-------------------------------|---|
| <b>Processor System</b> | CPU                           | LGA1700 for Intel® 14 <sup>th</sup> / 13 <sup>th</sup> / 12 <sup>th</sup> Gen. Core™ i9/ i7/ i5/ i3/ Pentium® /Celeron® Processors<br>Max. 125W TDP   |
|                         | Chipset                       | Intel® Q670E Chipset  |
| <b>Memory</b>           | Technology                    | DDR5 4400MT/s (2DPC - 1DIMM 1R&2R)<br>4000MT/s (2DPC - 2DIMM 1R)<br>3600MT/s (2DPC - 2DIMM 2R)  |
|                         | Max.                          | 128GB   |
|                         | Socket                        | 4 x U-DIMM  |
| <b>Display</b>          | Display Port                  | 2, Supports DP++ 1.4, up to 3840 x 2160 @ 60Hz  |
|                         | HDMI                          | 1, Supports 2.1, up to 4096 X 2160 @ 60Hz   |
|                         | VGA                           | 1   |
|                         | Multiple displays             | Max.4 displays, VGA+Dual DP.+HDMI   |
| <b>Expansion Slot</b>   | PCIe                          | 1 x PCIe 5.0 x16 Slot (1 x16 mode/ 2 x8 mode)<br>1 x PCIe 4.0 x4 Slot (x4 mode, open slot)<br>1 x PCIe 5.0 x16 Slot (x8 mode)<br>1 x PCIe 3.0 x4 Slot (x4 mode, open slot)<br>1 x PCIe 4.0 x4 Slot (x4 mode, open slot)       |
|                         | PCI                           | 2   |
|                         | M.2                           | 1 x M.2 M key, Type 2242/2260/2280 (PCIe x4 /SATA mode) supports NVMe<br>1 x M.2 E key, type 2230 for WIFI/BT device (only support Intel® CNVi)<br>*If install CNVI Wifi card on M.2 E key slot, USB port14 will be disabled. |
| <b>Ethernet</b>         | Speed                         | 10/100/1000/2500 Mbps   |
|                         | Controller                    | 1 x Intel® i210AT<br>1 x Intel® i226V<br>1 x Intel® i226LM (Intel vPro supported)   |
|                         | Connector                     | 3 x RJ-45   |
| <b>Audio</b>            | Codec                         | Realtek ALC897  |
| <b>Storage</b>          | SATA port                     | 7 x SATA Gen 3.0, Up to 6Gb/s, Support RAID 0,1,5,10  |
| <b>Rear I/O</b>         | Display Port                  | 2, Supports DP++ 1.4, up to 3840 x2160 @ 60Hz   |
|                         | HDMI                          | 1, Supports 2.1, up to 4096 X 2160 @ 30Hz   |
|                         | VGA                           | 1   |
|                         | USB 3.2 Gen2                  | 6 (5 x type A, 1 x Type C)  |
|                         | Ethernet                      | 3 x RJ45  |
|                         | Serial Port                   | 1 (RS232/422/485)   |
| Audio jack              | 3 (Line-Out, Line-In, Mic in) |   |

## Specifications

|                                  |                               |  |  |
|----------------------------------|-------------------------------|--|--|
| <b>Internal Connector</b>        | COM Header                    | 5 x COM Headers (1 x RS232/422/485, 4 x RS232)   |  |
|                                  | USB3.0 Gen1                   | 2 x Headers Support Additional 4 x USB3.2 Gen1 Ports   |  |
|                                  | USB2.0                        | 2 x Headers Support Additional 4 x USB2.0 Ports  |  |
|                                  | CPU Fan/ Chassis Fan          | 1 x Header (PWM Mode) / 3 x Headers (PWM Mode)   |  |
|                                  | Front Panel Audio (AAFP)      | 1 x Header   |  |
|                                  | System Panel                  | 1 x Header   |  |
|                                  | Chassis Intrusion             | 1 x Header   |  |
|                                  | Speaker connector             | 1 x Header   |  |
|                                  | I2C Header                    | 1 x Header   |  |
|                                  | Clear CMOS                    | 1 x Header   |  |
|                                  | COM Debug                     | 1 x Header   |  |
|                                  | LPT port header               | 1 x Header   |  |
|                                  | Buzzer                        | 1  |  |
|                                  | PS/2                          | 1 x Header   |  |
|                                  | SPDIF                         | 1 x Header   |  |
|                                  | GPIO                          | 1 x Header (8 Bit)   |  |
|                                  | DIS ME jumper                 | 1 x Header   |  |
|                                  | AT/ATX Select Header (Jumper) | 1 x Header   |  |
|                                  | Power connector               | 1 x 24-pin ATX Power connector, 1 x 8-pin ATX 12V Power connector  |  |
| <b>Security</b>                  | TPM                           | 1 x SPI TPM header   |  |
| <b>Watchdog Timer</b>            | H/W                           | YES  |  |
| <b>Power Type</b>                | Power Type                    | AT mode/ ATX mode  |  |
| <b>OS &amp; Software Support</b> | Microsoft Windows             | Windows® 10 (64bit) / Windows® IoT enterprise  |  |
|                                  | Linux                         | Ubuntu, RedHat Enterprise, Fedora Workstation, OpenSUSE  |  |
|                                  | ASUS IoT Suite                | <input checked="" type="checkbox"/> HW Monitor <input checked="" type="checkbox"/> Watch Dog Timer <input checked="" type="checkbox"/> Buzzer (API only) | <input checked="" type="checkbox"/> Power Scheduling <input checked="" type="checkbox"/> GPIO <input checked="" type="checkbox"/> I2C (API only) <input checked="" type="checkbox"/> Linux Sample code |
|                                  | User Interfaces               | <input checked="" type="checkbox"/> API  | <input checked="" type="checkbox"/> GUI  |
| <b>Environment</b>               | Operating Temperature         | 0~60° C  |  |
|                                  | Non-Operating Temperature     | -40~85° C  |  |
|                                  | Relative Humidity             | Operational humidity: 40° C@10%~95%  |  |
| <b>Mechanical</b>                | Dimensions                    | ATX, 305 x 244 mm  |  |
| <b>Certification</b>             | EMC (CLASS B)                 | CE, FCC, BSMI, VCCI, RCM   |  |
|                                  | Safety                        | CE-LVD   |  |

## Block Diagram



## Order Information

| Model name  | Part number | Description                       |
|-------------|-------------|-----------------------------------|
| Q670EA-IM-A | 90ME06J*    | LGA1700, Q670E, DP, HDMI, VGA, MB |

\* The part number might vary for different regulations and package. Please consult the TPM in your region for exact 90PN.

## Packing List

| Part number | Description    | Quantity |
|-------------|----------------|----------|
| 13020*      | IO shield      | 1        |
| 14013*      | SATA 6G CABLE  | 1        |
| 13020*      | M.2 SCREW PACK | 2        |

\* The part number might vary due to part number revision.