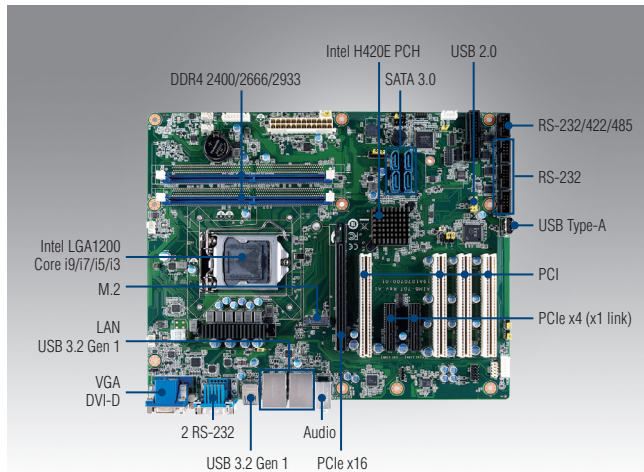


# AIMB-707

## LGA1200 10th Generation Intel® Core™ i9/i7/i5/i3 & Pentium®/Celeron® ATX with DVI/VGA, DDR4, USB 3.2, M.2, 6 COMs



### Features

- Intel® 10th generation Core™ i9/i7/i5/i3 & Pentium®/Celeron® processor with H420E chipset
- Dual channel (Non-ECC) DDR4 2400/2666/2933 up to 64 GB
- Support VGA and DVI display
- M.2, SATA 3.0, USB 3.2, dual GbEs
- 5 RS-232 and 1 RS-232/422/485 serial ports
- 1 PCIe x16 (Gen 3) and 2 PCIe x4 (x1 Gen 3 link), and 4 PCI expansion slots

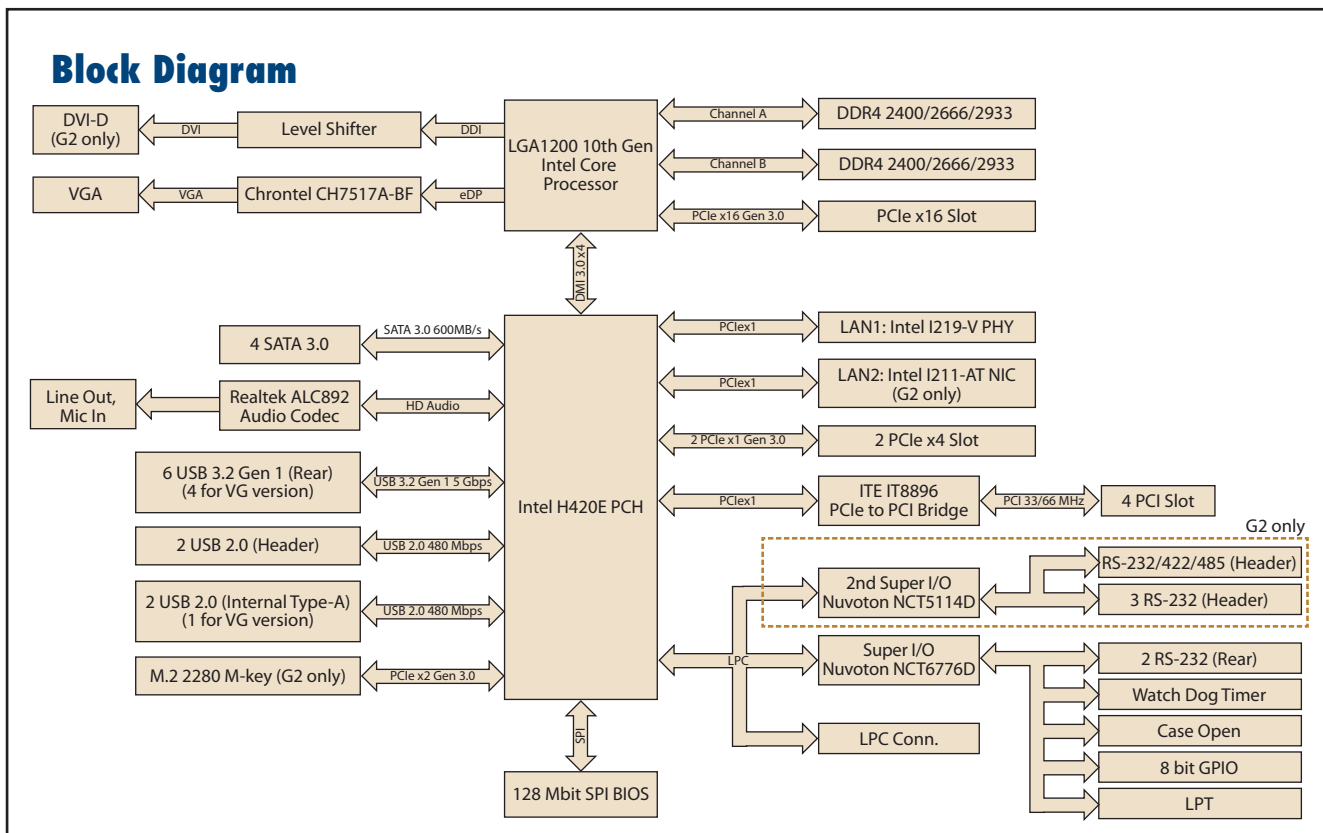
Note: Legacy platform is not supported.

### Quiet Specifications



|                          | CPU                           | i9-10900E  | i9-10900TE | i7-10700E | i7-10700TE | i5-10500E | i5-10500TE | i3-10100E | i3-10100TE | G6400E  | G6400TE | G5900E  | G5900TE |       |  |  |
|--------------------------|-------------------------------|--|------------|-----------|------------|-----------|------------|-----------|------------|---------|---------|---------|---------|-------|--|--|
| Processor System         | Base Frequency                | 2.8 GHz  | 1.8 GHz    | 2.9 GHz   | 2.0 GHz    | 3.1 GHz   | 2.3 GHz    | 3.2 GHz   | 2.3 GHz    | 3.8 GHz | 3.2 GHz | 3.2 GHz | 3.0 GHz |       |  |  |
|                          | L3 Cache                      | 20 MB  | 20 MB      | 16 MB     | 16 MB      | 12 MB     | 12 MB      | 6 MB      | 6 MB       | 4 MB    | 4 MB    | 2 MB    | 2 MB    |       |  |  |
|                          | Cores                         | 10   | 10         | 8         | 8          | 6         | 6          | 4         | 4          | 2       | 2       | 2       | 2       |       |  |  |
|                          | TDP                           | 65 W   | 35 W       | 65 W      | 35 W       | 65 W      | 35 W       | 65 W      | 35 W       | 65 W    | 35 W    | 65 W    | 35 W    |       |  |  |
|                          | Socket                        | LGA1200  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Chipset                       | Intel H420E  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | BIOS                          | AMI 128Mbit SPI Flash  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Expansion Slot           | PCI                           | 4 (32-bit/33 MHz)  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | PCIe x4 (Gen 3)               | 2 (link x1)  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | PCIe x16 (Gen 3)              | 1  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Memory                   | Technology                    | Dual Channel(Non-ECC) DDR4 2400/2666/2933  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Max Capacity                  | 64 GB  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Sockets                       | 2 x 288-pin DIMM   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Graphics                 | Controller                    | Chipset integrated Intel HD Graphics   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | VRAM                          | Shared system memory is subject to OS  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Ethernet                 | Interface                     | 10/100/1000 Mbps   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Controller                    | GbE LAN1: Intel I219-V, GbE LAN2: Intel I211-AT  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Connector                     | 2 x RJ-45  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| SATA                     | Max Data Transfer Rate        | 600 MB/s   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Rear I/O                 | Channel                       | 4  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | VGA                           | 1 (Resolution up to 1920 x 1200 @ 60 Hz)   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | DVI                           | 1 for G2 version (Resolution up to 1920 x 1200 @ 60 Hz)  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Ethernet                      | 2 for G2 version; 1 for VG version   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | USB                           | 6 (USB 3.2 Gen 1 for G2 version; 4 for VG version)   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Audio                         | 2 (Line-out, Mic-in)   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Serial                        | 2 (RS-232)   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Internal Connectors      | USB                           | 4 (2 x USB 2.0 via header, 2 x USB 2.0 Type-A) for G2 version; 3 (2 x USB 2.0 via header, 1 x USB 2.0 Type-A) for VG version |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Serial                        | 4 for G2 version (3 x RS-232, box-header; 1 x RS-232/422/485 with auto-flow control, box-header)                             |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | SATA                          | 4  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | M.2                           | 1 for G2 version (PCIe x2 M-key 2280 type)   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Parallel                      | 1  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | GPIO                          | 8-bit  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Watchdog Timer           | Output                        | System reset   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Interval                      | Programmable 1 - 255 sec   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Power Requirement        | Test Environment              | Intel Core i9-10900E; DDR4 32 GB x 2   |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Voltage                       | 3.3V   |            |           | 5V         |           |            | 12V       |            |         | 5Vsb    |         |         | -12V  |  |  |
|                          | Current                       | 0.72A  |            |           | 1.29A      |           |            | 6.5A      |            |         | 0.11A   |         |         | 0.04A |  |  |
| Environment              | Operating                     | Non-Operating  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
|                          | Temperature                   | 0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Humidity                 | 40 °C @ 95% RH Non-condensing |  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |
| Physical Characteristics | Dimensions (L x H)            | 304.8 x 244 mm (12" x 9.6")  |            |           |            |           |            |           |            |         |         |         |         |       |  |  |

### Block Diagram



### Ordering Information

| Part Number     | Chipset | Memory  | Display   | USB 3.2 Gen 1 | USB 2.0 | COM | GbE LAN | AMT | M.2 | SATA | SW RAID | Intelligent System Module Support |
|-----------------|---------|---------|-----------|---------------|---------|-----|---------|-----|-----|------|---------|-----------------------------------|
| AIMB-707G2-00A1 | H420E   | Non-ECC | VGA + DVI | 6             | 4       | 6   | 2       | No  | 1   | 4    | No      | No                                |
| AIMB-707VG-00A1 | H420E   | Non-ECC | VGA       | 4             | 3       | 2   | 1       | No  | 0   | 4    | No      | No                                |

### Packing List

| Part Number    | Description      | Quantity |
|----------------|------------------|----------|
| 1700003194     | SATA HDD cable   | x2       |
| 1960097974T001 | I/O port bracket | x1       |
| 2041070700     | Startup manual   | x1       |

Note: Driver CD is not provided. Please visit Advantech support website for driver download.

### I/O View



AIMB-707G2-00A1



AIMB-707VG-00A1

### Optional Accessories

| Part Number                                       | Description                                  |
|---|--|
| 1701090401  | Single COM port cable(40 cm)                 |
| 1701092300  | Dual COM port cable(28.5 cm)                 |
| 1700022749-11/<br>1700022749-12/<br>1700022749-13 | SATA power cable                             |
| 1700019268-11                                     | PS/2 KB/Mouse cable                          |
| 1960063434N000                                    | I/O bracket for PS/2 KB/Mouse cable          |
| 1700002204  | 2-port USB 2.0 cable w/ BKT(27 cm)           |
| 1960052651N021                                    | CPU cooler for 2U, 4U, and wallmount chassis |
| 1960049408N001                                    | CPU heatsink for 1U chassis                  |
| TBD   | I/O bracket for 1U chassis                   |
| PCA-COM232-00A1E                                  | 4-port RS-232 LPC module                     |
| PCA-COM485-00A1E                                  | 4-port RS-422/485 LPC module                 |
| PCA-TPM-00B1E                                     | TPM2.0 module                                |

Note: Purchasing AIMB-707's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-707.

### Riser Card

| Part Number      | Description   |
|------------------|---|
| AIMB-RP10P-01A1E | 1U riser card providing 1 PCI slot                  |
| AIMB-RF10F-01A1E | 1U riser card providing 1 PCIe x 16 slot            |
| AIMB-RP30P-03A1E | 2U riser card providing 3 PCI slots                 |
| AIMB-RP3PF-21A1E | 2U riser card providing 1 PCIe x 16 and 2 PCI slots |