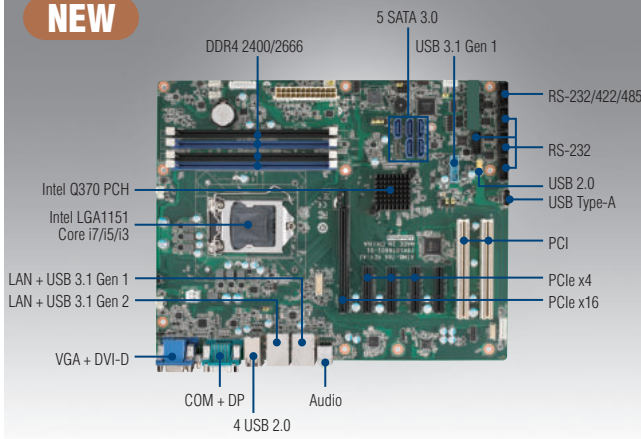


# AIMB-786

## LGA1151 8th/9th Generation Intel® Core™ i7/i5/i3 & Pentium®/Celeron® ATX with Triple Display, DDR4, USB 3.1, SATA 3.0

NEW



### Features

- Intel® 8th/9th generation Core™ i7/i5/i3 & Pentium®/Celeron® processor with Q370 chipset
- Four DIMM sockets up to 128 GB DDR4 2400/2666
- Triple display VGA/DVI-D/DP and dual GbE LAN
- SATA RAID 0, 1, 5, 10, USB 3.1
- Supports Intel vPro, AMT & TPM technologies

Note 1: TPM module is required to enable Intel vPro and TPM technologies.

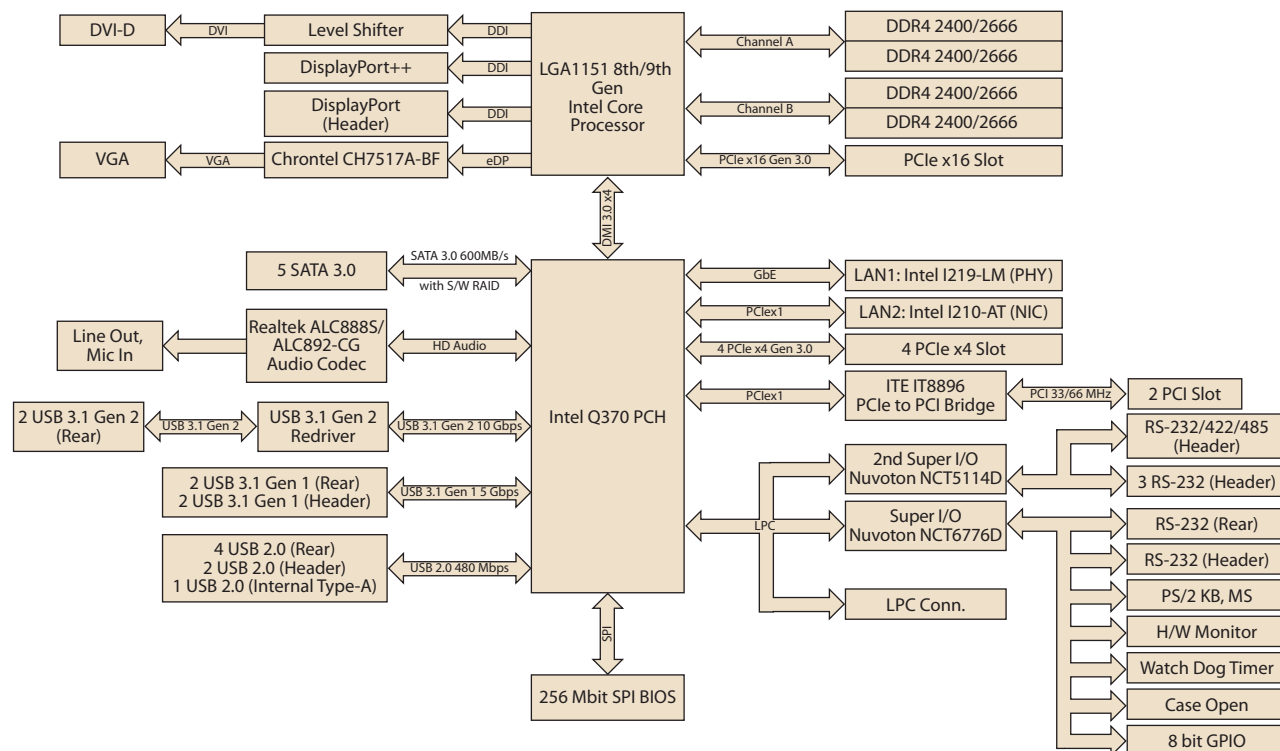
Note 2: Intel 8th/9th generation processors only support Windows 10 (64-bit).

### Quiet Specifications

CE FCC

| Processor System         | CPU                    | i7-9700E                                                                               | i7-9700TE | i7-8700 | i7-8700T | i5-9500E | i5-9500TE | i5-8500 | i5-8500T | i3-9100E | i3-9100TE | i3-8100 | i3-8100T | G5400   | G5400T  | G4900   | G4900T  |
|--------------------------|------------------------|----------------------------------------------------------------------------------------|-----------|---------|----------|----------|-----------|---------|----------|----------|-----------|---------|----------|---------|---------|---------|---------|
|                          | Speed                  | 2.6GHz                                                                                 | 1.8 GHz   | 3.2 GHz | 2.4 GHz  | 3.0 GHz  | 2.2 GHz   | 3.0 GHz | 2.1 GHz  | 3.1 GHz  | 2.2 GHz   | 3.6 GHz | 3.1 GHz  | 3.7 GHz | 3.1 GHz | 3.1 GHz | 2.9 GHz |
| Expansion Slot           | L3 Cache               | 12 MB                                                                                  | 12 MB     | 12 MB   | 12 MB    | 9 MB     | 9 MB      | 9 MB    | 9 MB     | 6 MB     | 6 MB      | 6 MB    | 6 MB     | 4 MB    | 4 MB    | 2 MB    | 2 MB    |
|                          | Cores                  | 8                                                                                      | 8         | 6       | 6        | 6        | 6         | 6       | 6        | 4        | 4         | 4       | 4        | 2       | 2       | 2       | 2       |
| Memory                   | 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     | 58 W    | 35 W    | 54 W    | 35 W    |
|                          | Socket                 | LGA1151                                                                                |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Graphics                 | Chipset                | Q370                                                                                   |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | BIOS                   | AMI 256 Mbit SPI                                                                       |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Ethernet                 | PCI                    | 2 (32-bit/33 MHz)                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | PCIe x4 (Gen 3)        | 4                                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| SATA                     | PCIe x16 (Gen 3)       | 1                                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Technology             | Dual Channel Non-ECC UDIMM DDR4 2400/2666                                              |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Rear I/O                 | Max. Capacity          | 128 GB                                                                                 |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Socket                 | 4 (288-pin DIMM)                                                                       |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Internal Connectors      | Controller             | Intel HD Graphics                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | VRAM                   | 1 GB maximum shared memory with 2 GB and above system memory installed                 |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Watchdog Timer           | Interface              | 10/100/1000 Mbps                                                                       |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Controller             | GbE LAN1: Intel I219-LM, GbE LAN2: Intel I210-AT                                       |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Power Requirement        | Connector              | 2 (RJ-45)                                                                              |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Max Data Transfer Rate | 600 MB/s                                                                               |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Environment              | Channel                | 5                                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | RAID                   | 0,1,5,10                                                                               |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Physical Characteristics | VGA                    | 1 (Resolution up to 1920 x 1200 @ 60 Hz)                                               |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | DVI-D                  | 1 (Resolution up to 1920 x 1200 @ 60 Hz)                                               |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Internal Connectors      | DisplayPort            | 1 (Resolution up to 4096 x 2304 @ 60 Hz)                                               |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Ethernet               | 2                                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Watchdog Timer           | USB                    | 8 (2 x USB 3.1 Gen 2, 2 x USB 3.1 Gen 1, 4 x USB 2.0)                                  |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Audio                  | 2 (Line-out, Mic-in)                                                                   |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Power Requirement        | Serial                 | 1 (RS-232)                                                                             |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | PS/2                   | -                                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Environment              | USB                    | 5 (2 x USB 3.1 Gen 1 via header, 2 x USB 2.0 via header, 1 x USB 2.0 Type-A connector) |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Serial                 | 5 (4 x RS-232, 1 x RS-232/422/485)                                                     |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Physical Characteristics | SATA                   | 5                                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | DisplayPort            | 1                                                                                      |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Watchdog Timer           | GPIO                   | 8-bit                                                                                  |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | PS/2 KB/Mouse          | 1 (Optional PS/2 KB/Mouse Cable is required)                                           |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Power Requirement        | Output                 | System reset                                                                           |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Interval               | Programmable 1 ~ 255 sec                                                               |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Environment              | Power On               | Intel Core i7-8700 3.2 GHz; DDR4 2400 16 GB x 4                                        |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Voltage                | +12V                                                                                   |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Physical Characteristics | Current                | 3.77A                                                                                  |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Operating              | 0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution              |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Watchdog Timer           | Non-Operating          | -40 ~ 85 °C (-40 ~ 185 °F)                                                             |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Humidity               | 40 °C @ 95% RH Non-condensing                                                          |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
| Power Requirement        | Dimensions (L x H)     | 304.8 x 244 mm (12" x 9.6")                                                            |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |
|                          | Operating              | 60 °C @ 95% RH Non-condensing                                                          |           |         |          |          |           |         |          |          |           |         |          |         |         |         |         |

## Block Diagram



## Ordering Information

| Part Number                       | Chipset | Memory                              | Display          | USB 3.1 Gen 2 | USB 3.1 Gen 1 | USB 2.0 | COM | GbE LAN | AMT | SATA 3.0 | SW RAID |
|-----------------------------------|---------|-------------------------------------|------------------|---------------|---------------|---------|-----|---------|-----|----------|---------|
| AIMB-786G2-00A3                   | Q370    | Non-ECC DDR4 2400/2666 up to 128 GB | VGA + DVI-D + DP | 2             | 4             | 7       | 6   | 2       | Yes | 5        | Yes     |
| AIMB-786G2-00A3U (Made in Taiwan) | Q370    | Non-ECC DDR4 2400/2666 up to 128 GB | VGA + DVI-D + DP | 2             | 4             | 7       | 6   | 2       | Yes | 5        | Yes     |

## Packing List

| Part Number                                       | Description      | Quantity |
|---------------------------------------------------|------------------|----------|
| 1700003194                                        | SATA HDD cable   | x 2      |
| 1700022749-11/<br>1700022749-12/<br>1700022749-13 | SATA power cable | x 2      |
| 1960086615T001                                    | I/O port bracket | x 1      |
| 2001078612                                        | Startup manual   | x 1      |

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

## I/O View



AIMB-786G2-00A3  
AIMB-786G2-00A3U

## Optional Accessories

| Part Number    | Description                                       |
|----------------|---------------------------------------------------|
| 1700002204     | 2-port USB 2.0 cable w/ BKT(27 cm)                |
| 1700028292-01  | 2-port USB 3.0 cable w/ BKT(30 cm)                |
| 1960047669N001 | CPU cooler for 2U/4U and wallmount chassis        |
| 1701092300     | Dual COM port cable(28.5 cm)                      |
| 1700019268-11  | PS/2 KB/Mouse cable                               |
| 1960063434N000 | IO bracket for PS/2 KB/Mouse cable                |
| PCA-TPM-00B1E  | TPM2.0 module to enable TPM and vPro technologies |

Note: Purchasing AIMB-786's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-786.

## Riser Card

| Part Number      | Description                                     |
|------------------|-------------------------------------------------|
| AIMB-R430P-03A2E | 2U riser card with 3 PCI expansion              |
| AIMB-R431F-21A1E | 2U riser card with 1 PCIe16 & 1 PCIe1 expansion |
| AIMB-R43PF-21A1E | 2U riser card with 1 PCIe16 & 2 PCI expansion   |
| AIMB-R4301-03A1E | 2U riser card with 1 PCIe1 expansion            |

Note: AIMB-786 is not compatible with 1U chassis.