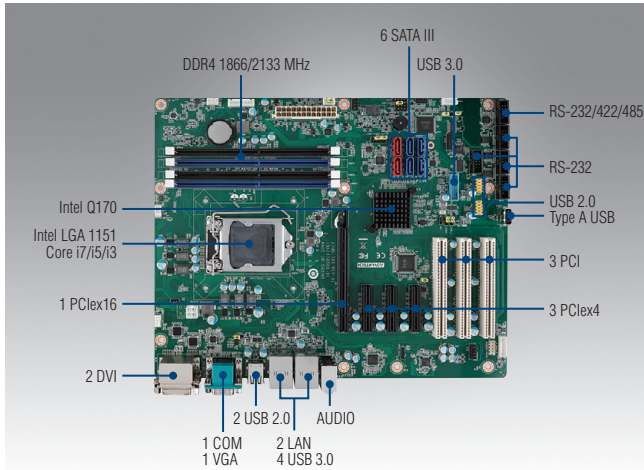


# AIMB-785

## LGA1151 6th/7th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® ATX with Triple Display, DDR4, SATA III



### Features

- Supports Intel® 6th/7th generation Core™ i7/i5/i3/Pentium®/Celeron® processor with Q170 chipset
- Four DIMM sockets support up to 64 GB DDR4 1866/2133
- Supports triple display VGA/2 DVI-D and dual GbE LAN
- Supports SATA RAID 0, 1, 5, 10, USB 3.0
- Supports Intel vPro, AMT 11.0 & TPM technologies

Note 1: dTPM 2.0 module is required to enable Intel vPro and TPM technologies.

Note 2: Only Intel 6th generation processor can support Windows 7.

### Quiet Specifications



|                          |                        |   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|--------------------------|------------------------|---|-------------------------------|---------|-----------|---------|----------|---------|-----------|----------|-----------|---------|-----------|----------------------------|---------|--------|---------|-----|--|
| Processor System         | CPU                    | i7-7700   | i7-7700T                      | i7-6700 | i7-6700TE | i5-7500 | i5-7500T | i5-6500 | i5-6500TE | i3-7101E | i3-7101TE | i3-6100 | i3-6100TE | G4400                      | G4400TE | G3900  | G3900TE |     |  |
|                          | Speed                  | 3.6GHz  | 2.9GHz                        | 3.4GHz  | 2.4GHz    | 3.4GHz  | 2.7GHz   | 3.2GHz  | 2.3GHz    | 3.9GHz   | 3.4GHz    | 3.7GHz  | 2.7GHz    | 3.3GHz                     | 2.9GHz  | 2.8GHz | 2.6GHz  |     |  |
|                          | L3 Cache               | 8MB   | 8MB                           | 8MB     | 8MB       | 6MB     | 6MB      | 6MB     | 6MB       | 3MB      | 3MB       | 4MB     | 4MB       | 3MB                        | 3MB     | 2MB    | 2MB     |     |  |
|                          | Cores                  | 4   | 4                             | 4       | 4         | 4       | 4        | 4       | 4         | 2        | 2         | 2       | 2         | 2                          | 2       | 2      | 2       |     |  |
|                          | TDP                    | 65 W  | 35 W                          | 65 W    | 35 W      | 65 W    | 35 W     | 65 W    | 35 W      | 54 W     | 35 W      | 65 W    | 35 W      | 65 W                       | 35 W    | 65 W   | 35 W    |     |  |
|                          | Socket                 | LGA1151   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Chipset                | Q170  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | BIOS                   | AMI 128 Mbit SPI  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Expansion Slot         | PCI   | 32-bit/33 MHz, 3 slots        |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          |                        | PCIe x4 (Gen3)  | 4 GB/s per direction, 3 slots |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| PCIe x16 (Gen3)          |                        | 16 GB/s per direction, 1 slot   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| Memory                   | Technology             | Dual Channel Non-ECC UDIMM DDR4 1866/2133   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Max. Capacity          | 64 GB   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Socket                 | 4 (288-pin DIMM)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| Graphics                 | Controller             | Intel HD Graphics   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | VRAM                   | 1 GB maximum shared memory with 2 GB and above system memory installed                        |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| Ethernet                 | Interface              | 10/100/1000 Mbps  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Controller             | GbE LAN1: Intel I219LM, GbE LAN2: Intel I210-AT   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Connector              | 2 (RJ-45)   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| SATA                     | Max Data Transfer Rate | 600 MB/s  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Channel                | 6 (4 from Intel® Q170 and 2 from Marvell 9186A2)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | RAID                   | 0,1,5,10 (4 SATAIII ports from Intel®)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| Rear I/O                 | VGA                    | 1 (Up to 1920x1200@60Hz)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | DVI-D                  | 2 (Up to 1920x1200@60Hz)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Ethernet               | 2   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | USB                    | 6 (USB3.0 x 4, USB2.0 x 2)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Audio                  | 2 (Mic-in, Line-out)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| Internal Connectors      | Serial                 | 1 (RS-232)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | USB                    | 7 (USB 3.0 with wafer box x 2, USB 2.0 with wafer box x 4, USB 2.0 with type A connector x 1) |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Serial                 | 5 (4 x RS-232, 1 x RS-232/422/485)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | SATA                   | 6   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | LPC                    | 1 (Optional dTPM 2.0 module available)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | GPIO                   | 8-bit   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | PS/2 KB/Mouse          | 1 (Optional PS/2 KB/Mouse Cable is required)  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| Watchdog Timer           | Output                 | System reset  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Interval               | Programmable 1 ~ 255 sec  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
| Power Requirement        | Power On               | Intel Core i7-6700 3.4GHz; DDR4 2133 8GB x 4  |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Voltage                | +12V  |                               |         |           | +5V     |          |         |           | +3.3V    |           |         |           | +5Vsb                      |         | -12V   |         | -5V |  |
|                          | Current                | 6.78A   |                               |         |           | 1.38A   |          |         |           | 1.35A    |           | 0.12A   |           | 0.05A                      |         | 0.05A  |         |     |  |
| Environment              | Operating              | Non-Operating   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |
|                          | Temperature            | 0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution                     |                               |         |           |         |          |         |           |          |           |         |           | -40 ~ 85 °C (-40 ~ 185 °F) |         |        |         |     |  |
| Physical Characteristics | Dimensions (L x H)     | 304.8 x 244 mm (12" x 9.6")   |                               |         |           |         |          |         |           |          |           |         |           |                            |         |        |         |     |  |

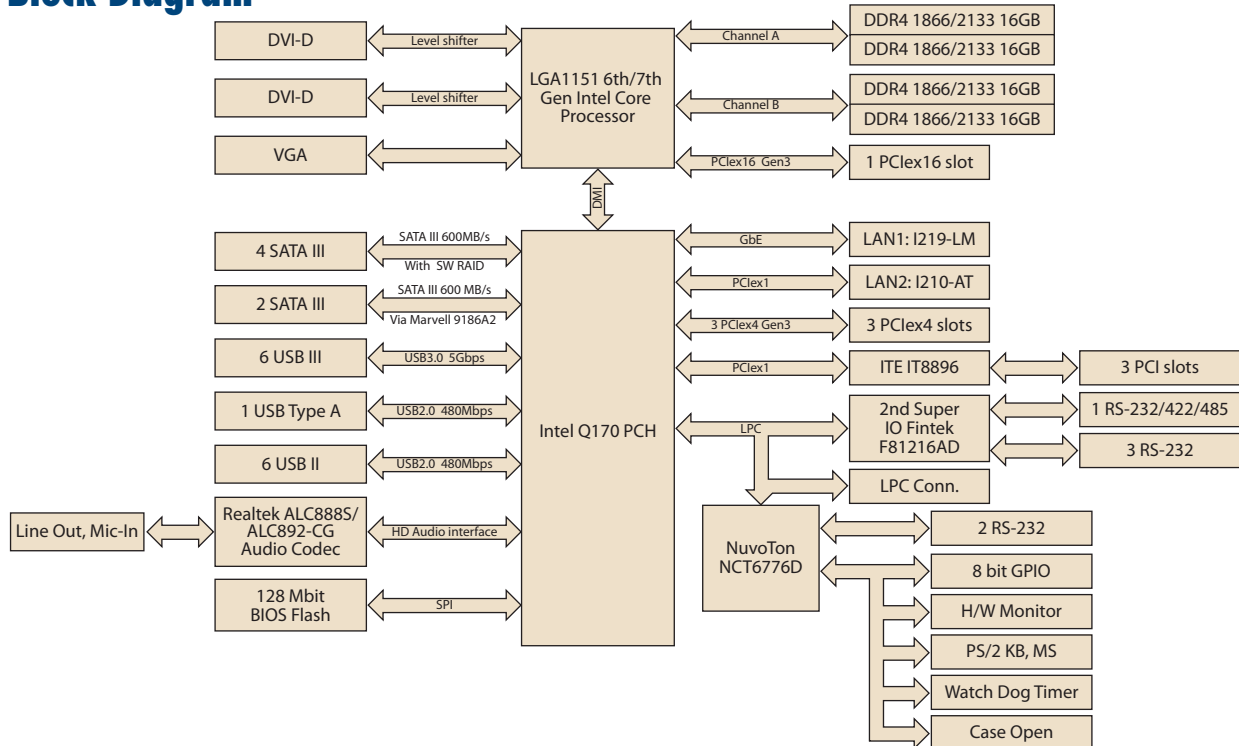


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**AIMB-785**

## Block Diagram



## Ordering Information

| Part Number                       | Chipset | Memory                            | Display        | USB 3.0 | USB 2.0 | COM | GbE LAN | AMT | SATA III | SW RAID |
|-----------------------------------|---------|-----------------------------------|----------------|---------|---------|-----|---------|-----|----------|---------|
| AIMB-785G2-00A3                   | Q170    | Non-ECC DDR4 1866/2133 up to 64GB | VGA + dual DVI | 6       | 7       | 6   | 2       | Yes | 6        | Yes     |
| AIMB-785G2-00A3U (Made in Taiwan) | Q170    | Non-ECC DDR4 1866/2133 up to 64GB | VGA + dual DVI | 6       | 7       | 6   | 2       | Yes | 6        | Yes     |

Note: SATA0 and SATA1 (red SATA ports) don't support RAID function.

## 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      |
| 19Z0000884T000                                     | I/O port bracket | x 1      |
| 2006078512   | Startup manual   | x 1      |
| 2066078502   | Driver CD        | x 1      |

## 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)                      |
| 1960052651N021 | CPU cooler for 2U, 4U and wallmount chassis             |
| 1960049408N001 | CPU heatsink for 1U chassis (for CPU TDP=35W only)      |
| 1960069666N101 | IO bracket for 1U chassis ACP-1010MB only               |
| 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  | dTPM 2.0 LPC module to enable TPM and vPro technologies |

Note: Purchasing AIMB-785's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-785.

## I/O View



AIMB-785G2-00A3  
 AIMB-785G2-00A3U

## Riser Card

| Part Number      | Description                                     |
|------------------|---|
| AIMB-RF10F-01A1E | 1U riser card with 1 PCIe16 expansion           |
| AIMB-R4104-01A1E | 1U riser card with 1 PCIe4 expansion            |
| 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-R4301-03A2E | 2U riser card with 1 PCIe1 expansion            |