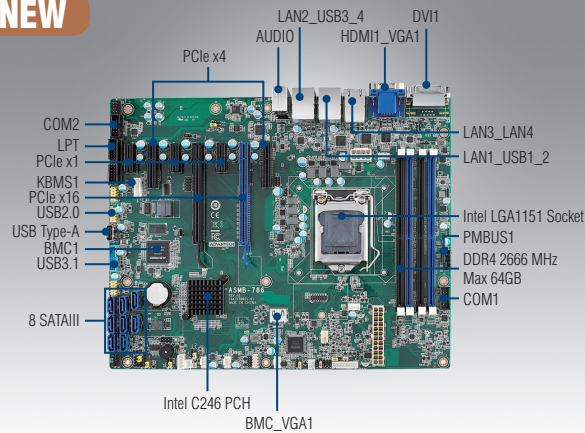


# ASMB-786

## LGA 1151 Intel® Xeon® E & 8th/9th Generation Core™ ATX Server Board with 4 DDR4, 7 PCIe, 6 USB 3.1, 8 SATA3, Quad/Dual LANs, IPMI

**NEW**



### Features

- LGA 1151 Intel® Xeon® E & 8th/9th Generation Core™ i7/i5/i3 processors with C246 chipset
- DDR4 2666/2400/2133 MHz ECC/Non-ECC UDIMM up to 128 GB
- One Gen 3.0 PCIe x16 link (or two PCIe x16 slots with x8 link), two PCIe x4, and three PCIe x1 slots
- Triple displays - DVI-D, VGA and HDMI 2.0 ports
- Eight SATA3 ports and six USB 3.1 ports
- Rackmount optimized placement with positive air flow design
- 0 ~ 60° C ambient operating temperature range

Note: Supported OS including Windows 10 (64-bit) and Server 2016/2019 (64-bit) have been validated.

CE FCC

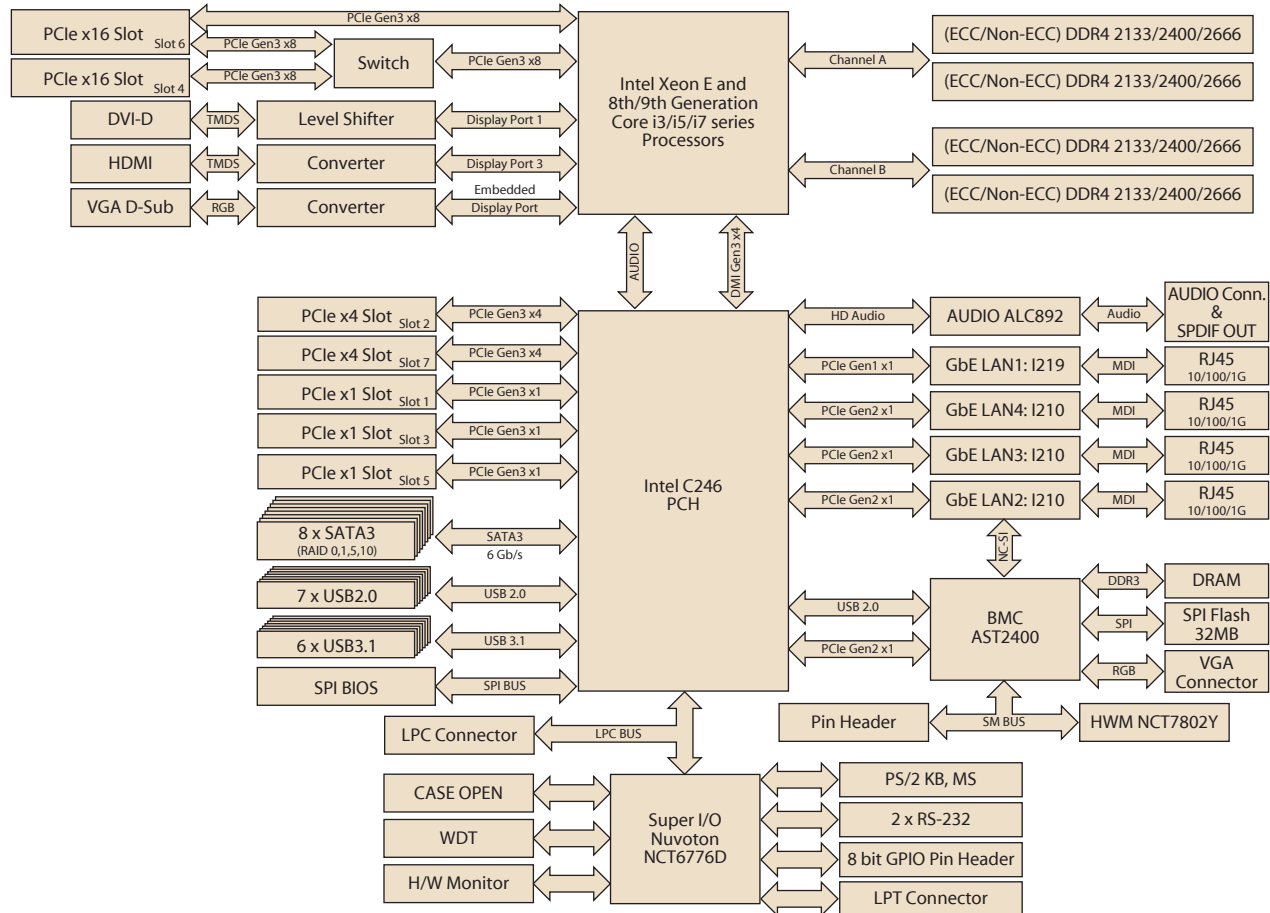
### Specifications

|                          |                                      |  |
|--------------------------|--------------------------------------|--|
| Form Factor              | ATX form factor                      |  |
| Processor System         | Socket                               | Intel LGA 1151   |
|                          | CPU type                             | Intel® Xeon® E-21xx/E-22xx and 8th/9th Generation Core™ i3/i5/i7 series (TDP up to 95W)  |
| Core Logic               | Chipset                              | Intel C246 chipset   |
| Memory                   | Total slots                          | 4 (Dual Channel)   |
|                          | Max. capacity                        | 128 GB   |
|                          | Memory type                          | DDR4 ECC/Non-ECC 2666/2400/2133 MHz UDIMM (288-pin)*   |
|                          | Memory size                          | 4 GB, 8 GB, 16 GB, 32GB  |
| Expansion Slots          | Total PCI/PCI-X/PCIe slots           | 7  |
|                          | Slot location 1                      | PCIe x1  |
|                          | Slot location 2                      | PCIe x4 slot (Gen3 x4 link)  |
|                          | Slot location 3                      | PCIe x1  |
|                          | Slot location 4                      | PCIe x16 slot (Gen3 x8 link)   |
|                          | Slot location 5                      | PCIe x1  |
|                          | Slot location 6                      | PCIe x16 slot (Gen3 x8 or x16 link)  |
| Graphics                 | Controller                           | Intel HD Graphics**  |
|                          | VRAM                                 | 1 GB maximum shared memory with 2 GB and above system memory installed   |
| Storage                  | SATA controller                      | Intel C246: 8 SATA3 6 Gb/s ports with Intel Rapid Storage Technology Enterprise support (for Windows only) (Supports software RAID 0, 1, 10 & 5) |
|                          | SAS controller                       | -  |
| Networking               | Interface                            | 10/100/1000 Mbps   |
|                          | Controller                           | GbE LAN1: Intel I219; GbE LAN 2-4: Intel I210-AT   |
|                          | Connector                            | RJ-45 x 2 for G2 version; RJ-45 x 4 for G4 version   |
| Onboard I/O Connector    | Printer Port connector               | 1  |
|                          | PSU connector                        | 24-pin SSI power connector + 8-pin SSI 12V power connector   |
|                          | USB connector                        | 1 USB 3.1 Gen 1 (2 ports), 3 USB 2.0 (6 ports), 1 USB Type-A   |
|                          | Fan header                           | 5 (4-pin)  |
|                          | SMBus                                | 1  |
|                          | Chassis intruder                     | 1  |
|                          | Front LAN LED                        | 2  |
|                          | Serial port header                   | 2 (RS-232)   |
|                          | Audio connector                      | 1 (ALC 892)  |
|                          | PS/2 KB/Mouse                        | 1 (Optional PS/2 KB/Mouse cable and bracket required)  |
| Rear I/O Connector       | External serial port                 | - (via COM cable in the package)   |
|                          | External USB port                    | 4 (USB 3.1 Gen 2)  |
|                          | VGA port                             | 1 (Resolution up to 1920 x 1200 @ 60 Hz)   |
|                          | DVI port                             | 1 (Resolution up to 1920 x 1200 @ 60 Hz)   |
|                          | HDMI port                            | 1 (Resolution up to 4096 x 2160 @ 60 Hz)   |
|                          | RJ-45                                | 2 for G2 version; 4 for G4 version   |
|                          | Audio connector                      | 2 (Mic-in, Line-out)   |
|                          | PS/2 KB/Mouse                        | -  |
| Watchdog Timer           | Output                               | System reset   |
|                          | Interval                             | Programmable 1 ~ 255 sec   |
| Power Requirement        | Power On                             | 3.3 V      5 V      12 V      12V_8P      5 Vsb      -12 V   |
|                          | (Xeon E-2176G 3.7GHz DDR4 2400 4G*4) | 3.44A      2.61A      1.04A      6.3A      0.09A      -0.02A   |
| Environment              | Operating                            | Non-operating  |
|                          | Temperature                          | 0 ~ 60° C (32 ~ 140° F)      -40 ~ 85° C (-40 ~ 185° F)  |
|                          | Humidity                             | Depends on CPU speed and cooler solution      10 ~ 95% (Non-condensing)  |
| Physical Characteristics | Dimensions                           | 304.8 x 244 mm (12" x 9.6")  |

\* ECC will not be supported when paired with Core i5/i7 processors.

\*\* Some Xeon processors have no graphic support. Please check Intel specification for processor graphics availability.

### Block Diagram



### Ordering Information

| Part Number     | Chipset | Memory                 | Display            | LAN | SATAIII | IPMI |
|-----------------|---------|------------------------|--------------------|-----|---------|------|
| ASMB-786G2-00A1 | C246    | DDR4 Non-ECC/ECC UDIMM | VGA + DVI-D + HDMI | 2   | 8       | -    |
| ASMB-786G4-00A1 | C246    | DDR4 Non-ECC/ECC UDIMM | VGA + DVI-D + HDMI | 4   | 8       | Y    |

### Packing List

| Part Number    | Description                   | Quantity |
|----------------|-------------------------------|----------|
| 2001S78610     | Startup manual                | x 1      |
| 1700003194     | SATA data cables              | x 1      |
| 1700019381     | SATA data cable (right angle) | x 1      |
| 1700022749-11  | SATA power cables             | x 2      |
| 1700001788     | COM1 cable                    | x 1      |
| 1960088021T001 | I/O shield                    | x 1      |

### Optional Accessories

| Part Number      | Description   |
|------------------|---|
| 1960052651N021   | LGA 1151/1150/1155 CPU cooler for 2U/4U and wallmount chassis |
| 1960049408N001   | LGA 1151/1150/1155 CPU heatsink for 1U chassis                |
| 1960088060T001   | 1U I/O shield   |
| 1700008809       | Printer port cable kit (25 cm)                                |
| 1700020294-01    | Printer port cable kit (42 cm)                                |
| 1701090401       | Single port RS-232 cable with bracket (40 cm)                 |
| 1700002204       | Dual port USB 2.0 cable (27 cm) with bracket                  |
| 1700008461       | Four port USB 2.0 cable (30.5 cm) with bracket                |
| 1700020277-01    | Dual port USB 3.0 cable with bracket (30 cm)                  |
| 1700019268-11    | Cable for onboard KBMS1 connector (35cm)                      |
| 1960063434N000   | Cable bracket for 1700019268-11                               |
| 1700029038-01    | BMC VGA cable with bracket (35cm, for G4 SKU)                 |
| PCA-COM232-00A1E | 4 ports RS-232 module to LPC connector                        |
| PCA-COM485-00A1E | 4 ports RS-485 module to LPC connector                        |
| PCA-TPM-00B1E    | TPM 2.0 Module by LPC   |

### I/O View



ASMB-786G4-00A1



ASMB-786G2-00A1

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