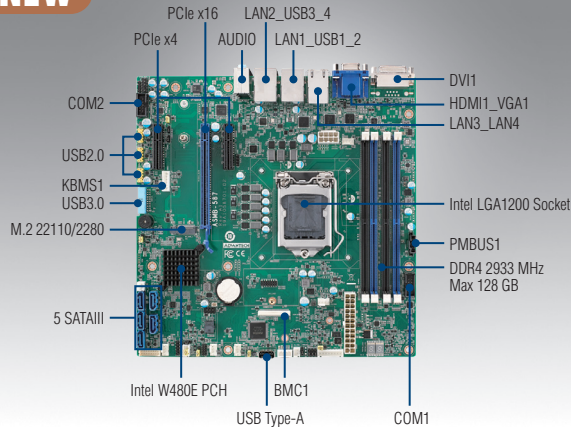


# ASMB-587

**LGA 1200 Intel® Xeon® W & 10th Gen. Core™ MicroATX Server Board with 4 x DDR4, 3 x PCIe, 6 x USB 3.2, 5 x SATA3, Quad/Dual LANs, and IPMI**

**NEW**



CE FCC

## Features

- LGA 1200 Intel® Xeon® W and 10th Gen. Core™ i9/i7/i5/i3 processor with W480E chipset
- DDR4 ECC/Non-ECC 2933/2666/2400 MHz UDIMM up to 128 GB
- One PCIe x16 and 2 x PCIe x4 slots
- Triple displays - DVI-D, VGA, and HDMI 2.0 ports
- Five SATA 3 ports and six USB 3.2 ports
- One M.2 22110/2280 (SATA / PCIe compatible)
- 0 ~ 60 °C (32 ~ 140 °F) ambient operating temperature range

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

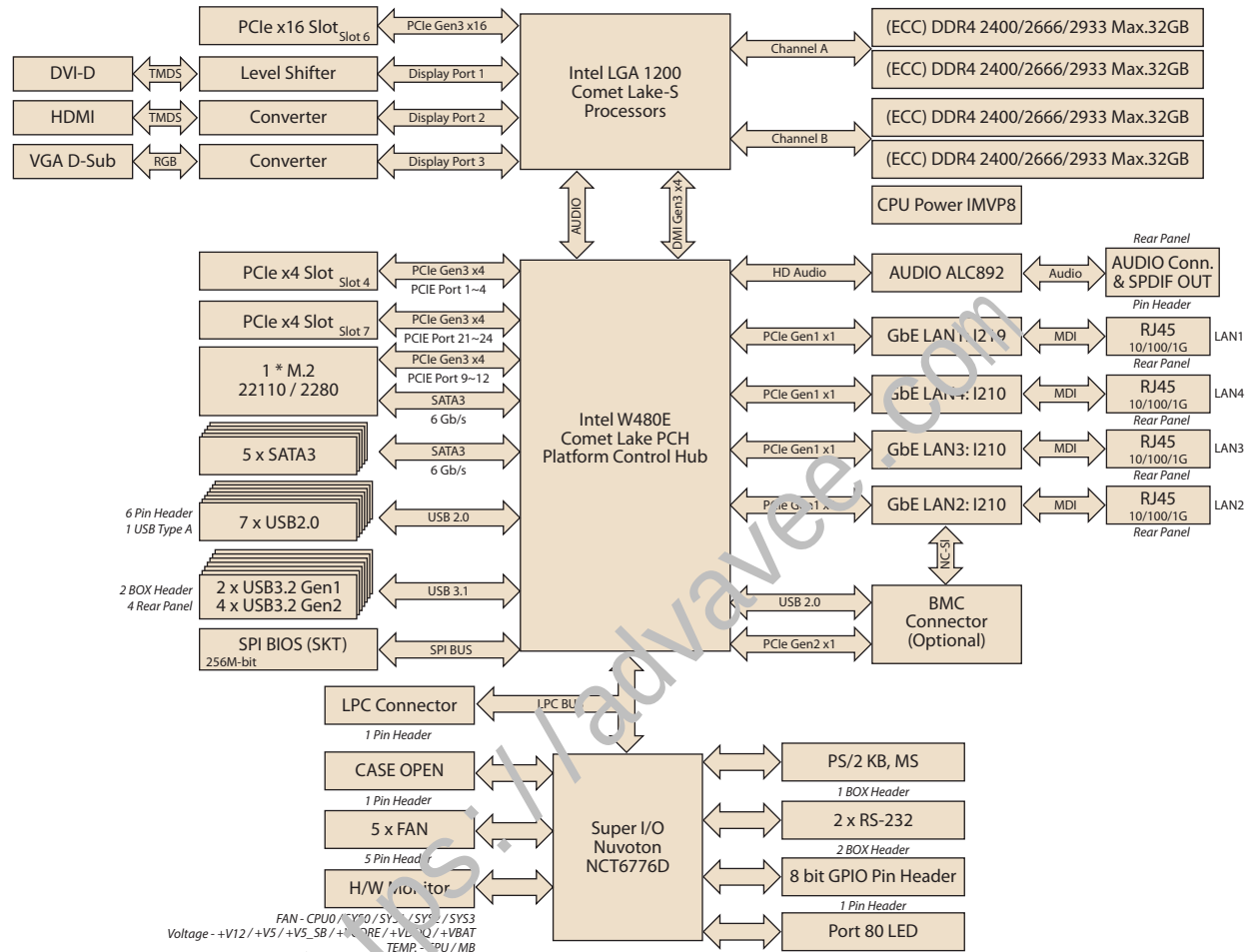
## Specifications

|                          |                                       |                                                                                                                                     |       |       |                               |                   |       |
|--------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------------------------------|-------------------|-------|
| Form Factor              |                                       | Micro ATX form factor                                                                                                               |       |       |                               |                   |       |
| Processor System         | Socket                                | Intel® LGA 1200                                                                                                                     |       |       |                               |                   |       |
|                          | CPU type                              | Intel® Xeon® W-1270x/W-1290x and 10th Gen. Core™ i3/i5/i7/i9 series processors (TDP up to 125W)                                     |       |       |                               |                   |       |
| Core Logic               | Chipset                               | Intel® W480E chipset                                                                                                                |       |       |                               |                   |       |
| Memory                   | Total slots                           | 4 (Dual Channel)                                                                                                                    |       |       |                               |                   |       |
|                          | Capacity                              | Maximum 128 GB                                                                                                                      |       |       |                               |                   |       |
|                          | Memory type                           | DDR4 ECC/Non-ECC 2933/2666/2400 MHz UDIMM (288-pin)*                                                                                |       |       |                               |                   |       |
|                          | Memory size                           | 4 GB, 8 GB, 16 GB, 32GB                                                                                                             |       |       |                               |                   |       |
| Expansion Slots          | Total PCIe slots                      | 3                                                                                                                                   |       |       |                               |                   |       |
|                          | Slot location 1                       | -                                                                                                                                   |       |       |                               |                   |       |
|                          | Slot location 2                       | -                                                                                                                                   |       |       |                               |                   |       |
|                          | Slot location 3                       | -                                                                                                                                   |       |       |                               |                   |       |
|                          | Slot location 4                       | PCIe x4 slot (Gen3 x4 link)                                                                                                         |       |       |                               |                   |       |
|                          | Slot location 5                       | -                                                                                                                                   |       |       |                               |                   |       |
|                          | Slot location 6                       | PCIe x16 slot (Gen3 x16 link)                                                                                                       |       |       |                               |                   |       |
| Graphics                 | Slot location 7                       | PCIe x4 slot (Gen3 x4 link)                                                                                                         |       |       |                               |                   |       |
|                          | Controller                            | Intel® HD Graphics**                                                                                                                |       |       |                               |                   |       |
|                          | VRAM                                  | 1 GB maximum shared memory with 2 GB and above system memory installed                                                              |       |       |                               |                   |       |
| Storage                  | SATA controller                       | Intel® W480E: 5 SATA3 6Gb/s ports with Rapid Storage Technology support (for Windows only)<br>(Supports software RAID 0, 1, 10 & 5) |       |       |                               |                   |       |
|                          | SAS controller                        | -                                                                                                                                   |       |       |                               |                   |       |
| Networking               | GbE LAN                               | 1 x Intel® I219LM + 3 x Intel® I210AT                                                                                               |       |       |                               |                   |       |
| Onboard I/O Connector    | LPT connector                         | -                                                                                                                                   |       |       |                               |                   |       |
|                          | PSU connector                         | 24-pin SSI power connector + 8-pin SSI 12 V power connector                                                                         |       |       |                               |                   |       |
|                          | USB connector                         | 1 x USB 3.2 Gen 1 (2 ports), 3 x USB 2.0 (6 ports), 1 x USB Type-A                                                                  |       |       |                               |                   |       |
|                          | M.2 connector                         | 1 x M.2 22110/2280 (PCIe/SATA)                                                                                                      |       |       |                               |                   |       |
|                          | Fan header                            | 5 x (4-pin)                                                                                                                         |       |       |                               |                   |       |
|                          | SMBus                                 | 1                                                                                                                                   |       |       |                               |                   |       |
|                          | Chassis intrusion                     | 1                                                                                                                                   |       |       |                               |                   |       |
|                          | Front LAN LED                         | 2                                                                                                                                   |       |       |                               |                   |       |
|                          | Serial port header                    | 2 x (RS-232)                                                                                                                        |       |       |                               |                   |       |
|                          | Audio Header                          | 1 x (ALC 892)                                                                                                                       |       |       |                               |                   |       |
|                          | PS/2 KB/Mouse                         | 1 x (Optional PS/2 KB/Mouse cable and bracket required)                                                                             |       |       |                               |                   |       |
| Rear I/O Connector       | External serial port                  | 1 (via COM cable in the package)                                                                                                    |       |       |                               |                   |       |
|                          | External USB port                     | 4 x (USB 3.2 Gen 2)                                                                                                                 |       |       |                               |                   |       |
|                          | VGA port                              | 1 x (Resolution up to 1920 x 1200 @ 60 Hz)                                                                                          |       |       |                               |                   |       |
|                          | DVI port                              | 1 x (Resolution up to 1920 x 1200 @ 60 Hz)                                                                                          |       |       |                               |                   |       |
|                          | HDMI                                  | 1 x (Resolution up to 4096 x 2160 @ 60 Hz)                                                                                          |       |       |                               |                   |       |
|                          | RJ-45                                 | 4                                                                                                                                   |       |       |                               |                   |       |
|                          | PS/2 KB/mouse                         | -                                                                                                                                   |       |       |                               |                   |       |
| Power Requirement        | Audio                                 | 2 x (Mic-in , Line-out)                                                                                                             |       |       |                               |                   |       |
|                          | Power On                              | 3.3 V                                                                                                                               | 5 V   | 12 V  | 12V_8P                        | 5 V <sub>SB</sub> | -12 V |
|                          | (Xeon W-1290E 3.5GHz DDR4 2666 32G*4) | 0.75A                                                                                                                               | 1.43A | 0.66A | 7.08A                         | 0.13A             | 0.1A  |
| Environment              | Temperature                           | Operating<br>0 ~ 60 °C, depends on CPU speed and cooler solution                                                                    |       |       | Non-operating<br>-40 ~ 85 °C  |                   |       |
|                          | Humidity                              | 40 °C @ 95% RH Non-condensing                                                                                                       |       |       | 60 °C @ 95% RH Non-condensing |                   |       |
| Watchdog Timer           | Output                                | System reset                                                                                                                        |       |       |                               |                   |       |
|                          | Interval                              | Programmable 1 ~ 255 sec/min                                                                                                        |       |       |                               |                   |       |
| Physical Characteristics | Dimensions                            | Programmable 1 ~ 255 sec/min                                                                                                        |       |       |                               |                   |       |
|                          |                                       | 244 x 244 mm (9.6 x 9.6 in)                                                                                                         |       |       |                               |                   |       |

\* ECC will not be supported when paired with Core i5/i7/i9 processors.

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

## Block Diagram



## Ordering Information

| Part Number     | Chipset | Memory                 | Display            | LAN | SATAIII | IPMI     |
|-----------------|---------|------------------------|--------------------|-----|---------|----------|
| ASMB-587G2-00A1 | W480E   | DDR4 ECC/Non-ECC UDIMM | VGA + DVI-D + HDMI | 2   | 5       | Optional |
| ASMB-587G4-00A1 | W480E   | DDR4 ECC/Non-ECC UDIMM | VGA + DVI-D + HDMI | 4   | 5       | Optional |

## Packing List

| Part Number    | Description          | Quantity |
|----------------|----------------------|----------|
| 2041058700     | Startup manual       | x 1      |
| 1700003194     | SATA data cables     | x 2      |
| 1700022749-11  | SATA power cables    | x 2      |
| 1700001788     | COM1 cable           | x 1      |
| 1960088021T001 | I/O shield           | x 1      |
| 1700031926-11  | JFP1 cable           | x 1      |
| 1930008364     | Screw for M.2 device | x 1      |

## Optional Accessories

| Part Number      | Description                                                   |
|------------------|---------------------------------------------------------------|
| 1960049408N001   | LGA 1200 CPU heatsink for 1U chassis                          |
| 1960067860N001   | LGA 1200 CPU cooler for 2U/4U chassis (CPU 125W)              |
| 1960052651N021   | LGA 1200 CPU cooler for 2U/4U chassis (CPU under 95W)         |
| 1960088060T001   | 1U I/O shield for ASMB-586/587/786/787                        |
| 1700002204       | Dual port USB 2.0 cable (27 cm / 10.6 in) with bracket        |
| 170008461        | Four ports USB 2.0 cable (30.5 cm / 12 in) with bracket       |
| 1700031926-11    | Dual port USB 3.0 cable (30 cm / 11.8 in) with bracket        |
| 1701090401       | Single port RS-232 cable (40 cm / 15.7 in) for COM2 connector |
| 1700019268-11    | Cable for onboard KBMS1 connector (35 cm / 13.7 in)           |
| 1960063434N000   | Cable bracket for 1700019268-11                               |
| IPMI-2000L-00A1  | IPMI Module                                                   |
| PCA-COM232-00A1E | 4 x ports RS-232 module connect to LPC connector              |
| PCA-COM485-00A1E | 4 x ports RS-422/485 module connect to LPC connector          |
| PCA-TPM-00B1E    | TPM 2.0 Module by LPC                                         |

Note: Users need to purchase ASMB-587's proprietary CPU cooler from Advantech Other brands' CPU coolers may NOT be compatible with ASMB-587.

## I/O View



ASMB-587G4-00A1



ASMB-587G2-00A1