# ASMB-817 Series LGA 4677 Intel 4th Generation Xeon® Scalable ATX Server Board with 8 DDR5, 3 PCIe x16, 8 SATA3, 4 USB3.2 (Gen1), Dual 10GbE, IPMI

# Startup Manual

## Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

- 1 x ASMB-817 Startup Manual
- 2 x SATA data cables
- 2 x SATA power cables
- 2 x CPU power cables (8P)
- 1 x CPU carrier
- 1 x I/O port bracket
- 1 x M.2 screw

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

## Specifications

### Standard M/B Functions

- **CPU:** LGA4677 Intel 4th Generation Xeon® Scalable processors
- **BIOS:** AMI 512 Mbit SPI BIOS
- **Chipset:** Intel® C741 PCH
- **System Memory:** 8* DDR5 4400/4800 Registered ECC DIMM, Max. Capacity 512 GB

  **Note:** Due to the inherent limitations of older PC architectures, the system may not fully detect 512 GB RAM when 512 GB RAM is installed.

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This manual is for the ASMB-817 series Rev. A1.

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## Specifications (Cont.)

- **SATA Interface:** 8 x SATA3 6Gb/s ports Intel Rapid Storage (for Windows only) (SATA0-SATA7 supports software RAID* 0, 1, 10 & 5) * Limited support
- **Serial Ports:** One onboard header, only supports RS-232
- **Keyboard/Mouse Header (KBMS1):** Supports the standard PS/2 keyboard and mouse via PS/2 cable.
- **Watchdog Timer:** 255 level timer intervals
- **USB Port:** Supports up to 4 x USB 3.2(Gen1) ports (2 ports from onboard 20-pin header) and 9 x USB 2.0 ports (1*Type-A, 4 ports from onboard 10-pin header)

### VGA Interface

- **Chipset:** ASPEED AST2600
- **Display Memory:** 64 MB
- **Resolution:** Supports VGA up to resolution 1920 x 1200 @ 60 Hz refresh rate

### Ethernet Interface

- **Interface:** 10/100/1000 Mbps & 10 GbE Base-T
- **Controller:** LAN1/2: Intel I210; LAN3/4: Intel X710

### Mechanical and Environment

- **Dimensions (L x W):** 244 x 304 mm (9.6” x 12”)
- **Power Supply Voltage:** +3.3 V, +5 V, +12 V, +5 Vsb
- **Power Consumption (mainboard only, excluding IO device):** Max. load: +3.3 V @ 1.239 A, +5 V@ 1.314 A, +12 V @ 0.052 A,+5 Vsb @ 0.7 A, 12 V_8P @ 20.833 A
- **Operating Temperature:** 0 ~ 60° C (depending on CPU)
- **Net Weight:** 0.97 kg

## Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the jumpers and connectors.

| Connectors | |
|---|---|
| **Label** | **Function** |
| ATXPWR1 | ATX 24-pin main power connector |
| ATX12V1, ATX12V2 | Processor power connector (for CPU0) |
| BH2 | For optional battery kit |
| BIOS_SKT1 | BIOS SPI ROM |
| COM2 | Serial port: RS-232 |
| CPUFAN0 | CPU FAN connector |

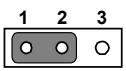
## Jumpers and Connectors

| | |
|---|---|
| DIMMA1, DIMMB1, DIMMC1, DIMMD1, DIMME1, DIMMF1, DIMMG1, DIMMH1 | DDR5 slot |
| EXT_THR1 | Connector for external thermistor |
| GPIO1 | GPIO connector |
| HDAUD1 | Audio header |
| KBMS1 | External keyboard and mouse connector (6-pin) |
| LAN1_USB2C1, LAN2_USB2C2, LAN3_4 | RJ-45 LAN connector |
| BMCLAN_USB3C1 | IPMI dedicated LAN connector |
| SPI_TPM1 | TPM connector |
| M2_22110_1 | M.2 connector (SATA & PCIe x4) |
| PMBUS1 | PMBUS connector to communicate with power supply |
| SATA0~SATA7 | SATA connector 0~7 |
| SGPIO1,SGPIO2 | SATA SGPIO header |
| PCIEX1_SLOT1 | PCIE x1 slot, close end (x1 link) (PCH) |
| PCIEX16_SLOT2 | PCIE x16 slot (x16 link) (CPU) |
| PCIEX4_SLOT3 | PCIE x4 slot, close end (x4 link) (CPU) |
| PCIEX16_SLOT4 | PCIE x16 slot (x16 link) (CPU) |
| PCIEX8_SLOT5 | PCIE x8 slot, open end (x8 link) (CPU) |
| PCIEX16_SLOT6 | PCIE x16 slot (x16 link) (CPU) |
| PCIEX8_SLOT7 | PCIE x8 slot, close end (x8 link) (CPU) |
| SLOT12V1 | For PCIe slot 12V input only |
| SMBUS1 | SMBus header |
| SPI_CN1 | Connector for BIOS update tool |
| BMC_SPI1 | BMC EEPROM |
| SYSFAN0~ SYSFAN4 | System FAN connector |
| LAN1_USB2C1, LAN2_USB2C2, USB2H1,USB2H2 | USB 2.0 port 1,2,3,4; USB 2.0 port 9, 10, 13, 14 (9-pin header) |
| USB2A1 | USB 2.0 port 11 (Type-A) |
| BMCLAN_USB3C1 USB3H1 | USB 3.2(Gen1) port 1, 2; USB 3.2(Gen1) port 3, 4 (20-pin header) |
| VGA1_COM1 | VGA + COM connector, Serial: RS-232 |
| VOLT1 | Voltage display |
| ESPI1 | eSPI connector for TPM module |
| SYS_LED | System LED connector |
| LANLED1 | LAN LED connector |

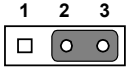
## Jumpers and Connectors (Cont.)

| Jumper list | |
|---|---|
| **Label** | **Function** |
| JCASE1 | Chassis case open alarm |
| JCMOS1 | CMOS clear |
| JFP1, JFP1+JFP12 | Front panel header |
| JME1 | ME update |
| JTHR_SEL1 | To select on board or external thermistor |
| JWDT1 | Watch Dog Reset |
| PSON1 | AT(1-2)/ATX(2-3), default (2-3) |

| JCMOS1/JME1: CMOS clear/ME update function | |
|---|---|
| **Closed pins** | **Result** |
| 1-2 | Keep CMOS data/Disable ME update* |
| 2-3 | Clear CMOS data/Enable ME update |
| *: Default | |




Keep CMOS data/
Disable ME update



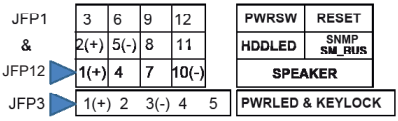

Clear CMOS data/
Enable ME update

## Declaration of Conformity

The device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;
2. This device must accept any interference received, including interference that may cause undesired operation.

## Installation Note




| JFP1+JFP12 | |
|---|---|
| Pin.3 | #PWR_SW |
| Pin.6 | GND |
| Pin.9 | #RST_SW |
| Pin.12 | GND |
| Pin.8, Pin.11 | HWM_SMB_DATA, HWM_SMB_CLK |

*Power button pin is located in Pin 3 & 6 of front panel connector.

## Installation Note (Cont.)

| 2.0 mm JFP1 connector on board | | | |
|---|---|---|---|
| **Description** | **Pin Number** | | **Description** |
| RST BTN | 2 | ▼1 | PWD BTN |
| PWD GND | 4 | 3 | PWD GND |
| LAN1_LED+ | 6 | 5 | LAN2_LED+ |
| LAN1_LED- | 8 | 7 | LAN2_LED- |
| X | 10 | 9 | SYS_LED+ |
| GND | 12 | 11 | SYS_LED- |
| PWR LED+ | 14 | 13 | HDD_LED+ |
| PWR LED- | 16 | 15 | HDD_LED- |

## Installation Note (Cont.)

| 2.0 mm JFP1 connector to 2.54 mm pitch header | | | |
|---|---|---|---|
| **Description** | **Pin Number** | | **Description** |
| (Red) PWD BTN | ▼1 | 2 | RST BTN (White) |
| (Black) PWD GND | 3 | 4 | PWD GND (Black) |
| (Blue) LAN1_LED+ | 5 | 6 | LAN2_LED+(Brown) |
| (Red) LAN1_LED- | 7 | 8 | LAN2_LED-(Black) |
| | | | |
| | | | |
| | | Key | |
| (Orang) HDD_LED+ | 13 | 14 | PWR LED+ (Red) |
| (Black) HDD_LED- | 15 | | |
| | Key | 16 | PWR LED- (Black) |

## Board Layout

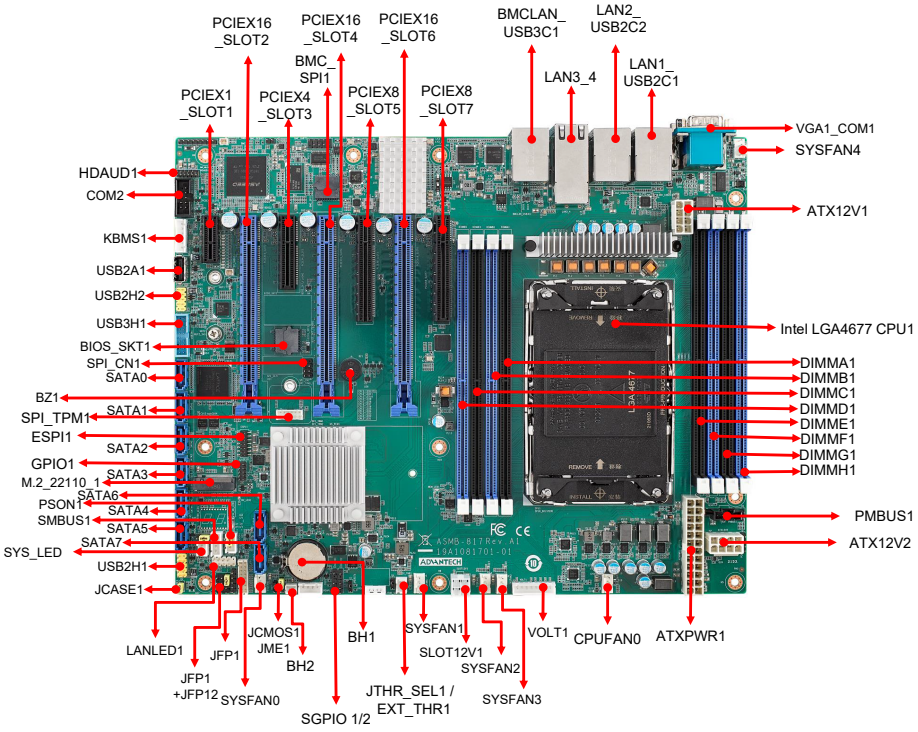



*Figure 1: Board Layout: Jumper and Connector Locations*