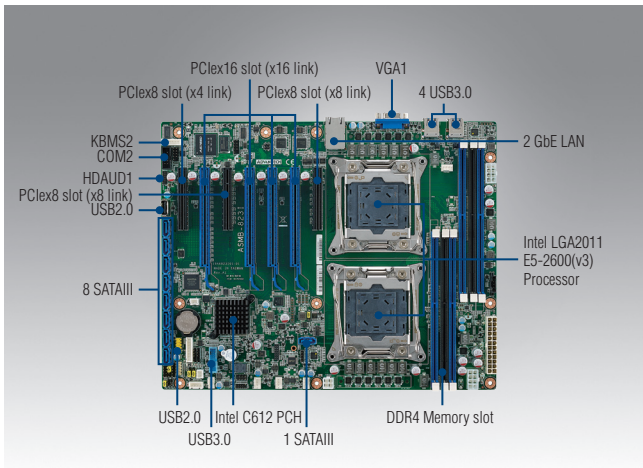


# ASMB-823

**Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/ v4 ATX Server Board with 6 DDR4, 4 PCIe x16, 6 USB 3.0, SATA3, Dual LAN, IPMI**



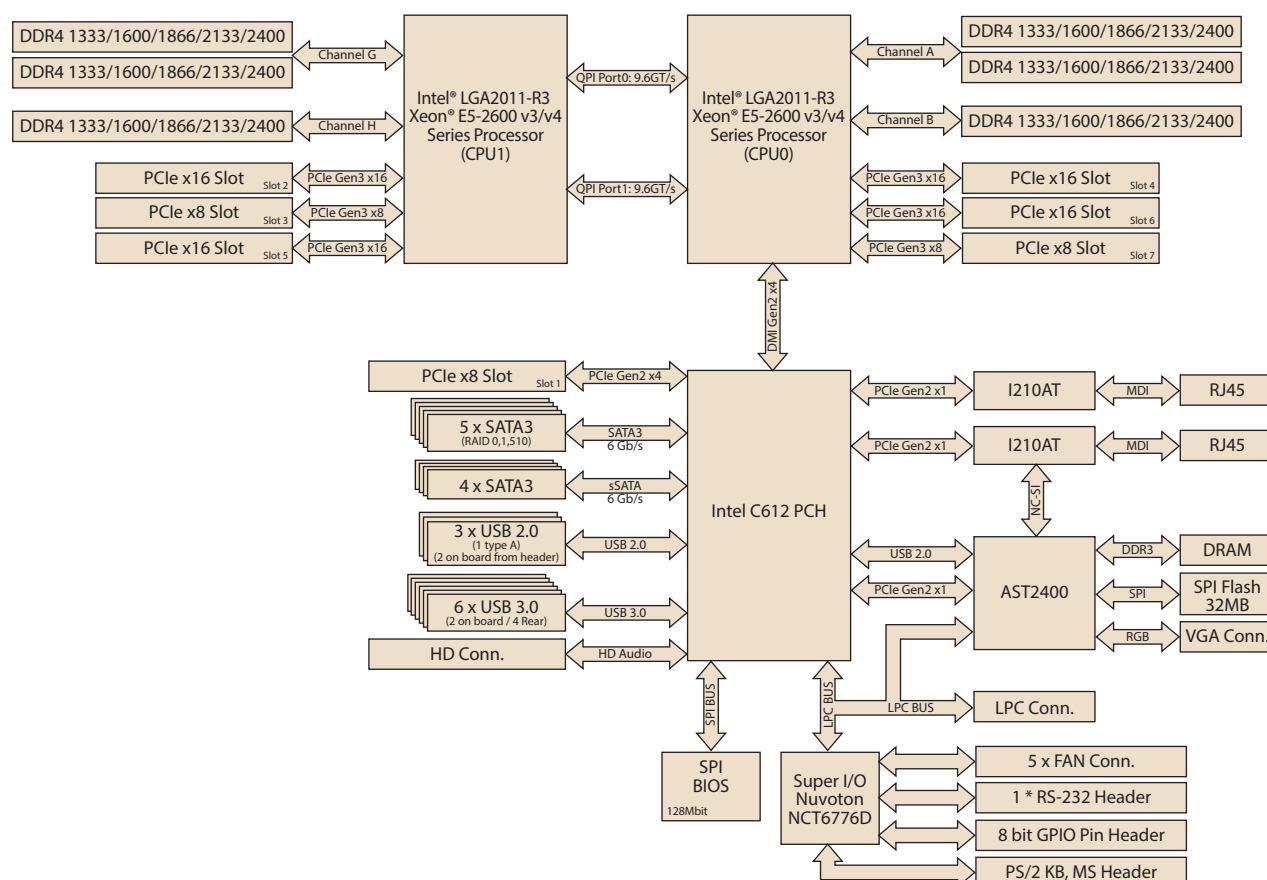
## Features

- ATX server board with dual Xeon® E5-2600 v3/v4 processors
- DDR4 2400 MHz RDIMM up to 192 GB
- Four PCIe x16 slots (Gen3), two PCIe x8 (Gen3) and one PCIe x4 (Gen2) slots
- Nine SATA3 ports and six USB 3.0 ports
- 0 ~ 40 °C ambient operating temperature range

## Specifications

|                          |                               |                                                                                                                                                                                                                          |       |        |                            |        |
|--------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|----------------------------|--------|
| Form Factor              |                               | ATX form factor                                                                                                                                                                                                          |       |        |                            |        |
| Processor System         | Socket                        | Intel LGA 2011-R3                                                                                                                                                                                                        |       |        |                            |        |
|                          | CPU type                      | Intel® Xeon® E5-2600 v3/v4 dual processor (CPU cooler should be purchased separately and TDP up to 160W)<br>Intel® Xeon® E5-1600 v3/v4 Series (1S conditional support, please contact to Advantech application engineer) |       |        |                            |        |
| Core Logic               | Chipset                       | Intel C612 chipset                                                                                                                                                                                                       |       |        |                            |        |
| Memory                   | Total slots                   | 6 (Quad Channel)                                                                                                                                                                                                         |       |        |                            |        |
|                          | Capacity                      | Maximum 192 GB ECC RDIMM                                                                                                                                                                                                 |       |        |                            |        |
|                          | Memory type                   | DDR4 ECC-REG 2400/2133/1866/1600/1333 MHz DIMM                                                                                                                                                                           |       |        |                            |        |
|                          | Memory size                   | 1 GB, 2 GB, 4 GB, 8 GB, 16 GB, 32 GB                                                                                                                                                                                     |       |        |                            |        |
| Expansion Slots          | Total PCI/PCI-X/PCIe slots    | 7                                                                                                                                                                                                                        |       |        |                            |        |
|                          | Slot location 1               | PCIe x8 slot (x4 link), signal from PCH                                                                                                                                                                                  |       |        |                            |        |
|                          | Slot location 2               | PCIe x16 slot (x16 link), signal from CPU1                                                                                                                                                                               |       |        |                            |        |
|                          | Slot location 3               | PCIe x8 slot (x8 link), signal from CPU1                                                                                                                                                                                 |       |        |                            |        |
|                          | Slot location 4               | PCIe x16 slot (x16 link), signal from CPU0                                                                                                                                                                               |       |        |                            |        |
|                          | Slot location 5               | PCIe x16 slot (x16 link), signal from CPU1                                                                                                                                                                               |       |        |                            |        |
|                          | Slot location 6               | PCIe x16 slot (x16 link), signal from CPU0                                                                                                                                                                               |       |        |                            |        |
|                          | Slot location 7               | PCIe x8 slot (x8 link), signal from CPU0                                                                                                                                                                                 |       |        |                            |        |
| Graphics                 | VGA                           | Aspeed AST2400/1400 64 MB                                                                                                                                                                                                |       |        |                            |        |
| Storage                  | IDE controller                | -                                                                                                                                                                                                                        |       |        |                            |        |
|                          | SATA controller               | Intel C610: 9 SATA3 6 Gb/s ports Intel Rapid Storage Technology (for Windows only)<br>(SATA0-SATA4 supports software RAID 0, 1, 10 & 5)                                                                                  |       |        |                            |        |
|                          | SAS controller                | -                                                                                                                                                                                                                        |       |        |                            |        |
| Networking               | GbE LAN                       | 2 x Intel I210AT                                                                                                                                                                                                         |       |        |                            |        |
| Onboard I/O Connector    | Floppy connector              | -                                                                                                                                                                                                                        |       |        |                            |        |
|                          | PSU connector                 | 24-pin SSI power connector + 2 x 8-pin SSI 12 V power connector + 4-pin SSI 12 V power connector                                                                                                                         |       |        |                            |        |
|                          | USB connector                 | 2 x USB2.0 ports (in one header) + 2 x USB3.0 ports (in one header) + 1*Type-A USB2.0 ports                                                                                                                              |       |        |                            |        |
|                          | Fan header                    | 5 x 4-pin (2 for CPU + 3 for SYS)                                                                                                                                                                                        |       |        |                            |        |
|                          | SMBus                         | 1                                                                                                                                                                                                                        |       |        |                            |        |
|                          | Chassis intruder              | 1                                                                                                                                                                                                                        |       |        |                            |        |
|                          | Front LAN LED                 | 2                                                                                                                                                                                                                        |       |        |                            |        |
|                          | Audio Header                  | 1                                                                                                                                                                                                                        |       |        |                            |        |
|                          | Serial port header            | 1                                                                                                                                                                                                                        |       |        |                            |        |
| Rear I/O Connector       | External serial port          | -                                                                                                                                                                                                                        |       |        |                            |        |
|                          | External USB port             | 4 (USB 3.0)                                                                                                                                                                                                              |       |        |                            |        |
|                          | VGA port                      | 1                                                                                                                                                                                                                        |       |        |                            |        |
|                          | RJ-45                         | 2 (one sharing IPMI function)                                                                                                                                                                                            |       |        |                            |        |
|                          | PS/2 KB/mouse                 | 1 (by onboard connector)                                                                                                                                                                                                 |       |        |                            |        |
|                          | Infiniband                    | -                                                                                                                                                                                                                        |       |        |                            |        |
| Management Solution      | Software                      | -                                                                                                                                                                                                                        |       |        |                            |        |
|                          | Out of band remote management | Yes                                                                                                                                                                                                                      |       |        |                            |        |
| Monitoring               | CPU temperature               | Yes                                                                                                                                                                                                                      |       |        |                            |        |
|                          | System Monitoring             | Yes                                                                                                                                                                                                                      |       |        |                            |        |
| Watchdog Timer           | Output                        | System reset                                                                                                                                                                                                             |       |        |                            |        |
|                          | Interval                      | Programmable 1 ~ 255 sec/min                                                                                                                                                                                             |       |        |                            |        |
| Power Requirement        | Power On                      | 3.3V                                                                                                                                                                                                                     | 5V    | 12V    | 5Vsb                       | -12V   |
|                          |                               | 1.67A                                                                                                                                                                                                                    | 0.85A | 18.11A | 0.05A                      | 0.004A |
| Environment              | Operating                     |                                                                                                                                                                                                                          |       |        | Non-operating              |        |
|                          | Temperature                   | 0 ~ 40 °C, depends on CPU speed and cooler solution                                                                                                                                                                      |       |        | -40 ~ 85 °C                |        |
|                          | Humidity                      | 10% ~ 90%                                                                                                                                                                                                                |       |        | 10% ~ 95% (Non condensing) |        |
| Physical Characteristics | Dimension (L x H)             | 304.8 x 244 mm (12" x 9.6")                                                                                                                                                                                              |       |        |                            |        |

## Block Diagram



## Ordering Information

| Part Number     | Chipset | Memory     | GbE LAN | IPMI | Graphics |
|-----------------|---------|------------|---------|------|----------|
| ASMB-823-00A1E  | C612    | DDR4 RDIMM | 2       | -    | AST 1400 |
| ASMB-823I-00A1E | C612    | DDR4 RDIMM | 2       | Yes  | AST 2400 |

## Packing List

| Part Number    | Description       | Quantity |
|----------------|-------------------|----------|
| 2066823I01     | Driver CD         | x 1      |
| 2006823I10     | Startup manual    | x 1      |
| 1700003194     | SATA data cables  | x 2      |
| 1700022749-11  | SATA power cables | x 2      |
| 1700019748     | CPU power cable   | x 2      |
| 1920000777T000 | I/O shield        | x 1      |

## I/O View



ASMB-823I-00A1E  
ASMB-823-00A1E

## Optional Accessories

| Part Number      | Description                                           |
|------------------|-------------------------------------------------------|
| PCA-AUDIO-HDA1E  | HD Audio-card                                         |
| PCA-TPM-00B1E    | TPM 2.0 Module by LPC                                 |
| 1960057226N001   | LGA2011 square CPU heatsink for 1U chassis (95W)      |
| 1960055362N001   | LGA2011 square CPU cooler for 2U/4U chassis (145W)    |
| 1960065684N011   | LGA2011 square CPU cooler for 4U chassis (160W)*      |
| 1700019127       | FAN connector extended cable 1*4P-2.54/1*4P-2.54 35cm |
| 1700002204       | Dual port USB cable (27 cm) with bracket              |
| 1700008461       | Four port USB cable (30.5 cm) with bracket            |
| 1700020277-01    | Dual port USB 3.0 cable (30 cm) with bracket          |
| 1701090401       | COM port cable (40 cm) with bracket                   |
| 1700019268-11    | PS/2 cable (35 cm)                                    |
| 1960063434N000   | Cable bracket for 1700019268-11                       |
| 1920000806T000   | 1U chassis I/O shield                                 |
| PCA-COM232-00A1E | 4 ports RS-232 module connect to LPC connector        |
| PCA-COM485-00A1E | 4 ports RS-422/485 module connect to LPC connector    |
| 968EMLSAP2       | SUSIAccess Pro 3.0                                    |

Note : Purchasing ASMB-823's proprietary CPU cooler from Advantech is a must. The 160W cooler for 4U chassis has option of CPUFAN1 cable 1700019127 when length is an issue.