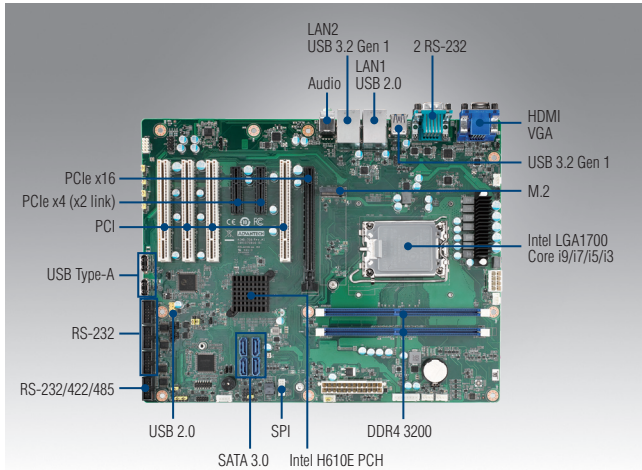


AIMB-708

LGA1700 12th/13th/14th Generation Intel® Core™ i9/i7/i5/i3 & Pentium®/Celeron® & Intel® Core™ Processor Series 2 ATX with HDMI/VGA, DDR4, USB 3.2, M.2, 6 COMs



Features

- Intel® 12th/13th/14th generation Core™ i9/i7/i5/i3 & Pentium®/Celeron® & Intel® Core™ Processor Series 2 processor with H610E chipset
- Two DIMM sockets up to 64GB DDR4 3200
- Dual display HDMI/VGA and dual GbE LAN
- M.2, SATA 3.0, USB 3.2 Gen1
- 5 RS-232 and 1 RS-232/422/485 serial ports
- 1 PCIe x16 (Gen 4) and 2 PCIe x4 (x2 Gen 3 link), and 4 PCI expansion slots

Note 1: Legacy platform is not supported.

Note 2: dTPM 2.0 module is required to enable Intel vPro and TPM technologies.

Note 3: Intel® Platform Trust Technology (Intel® PTT) ready for Windows 11.

Quiet Specifications

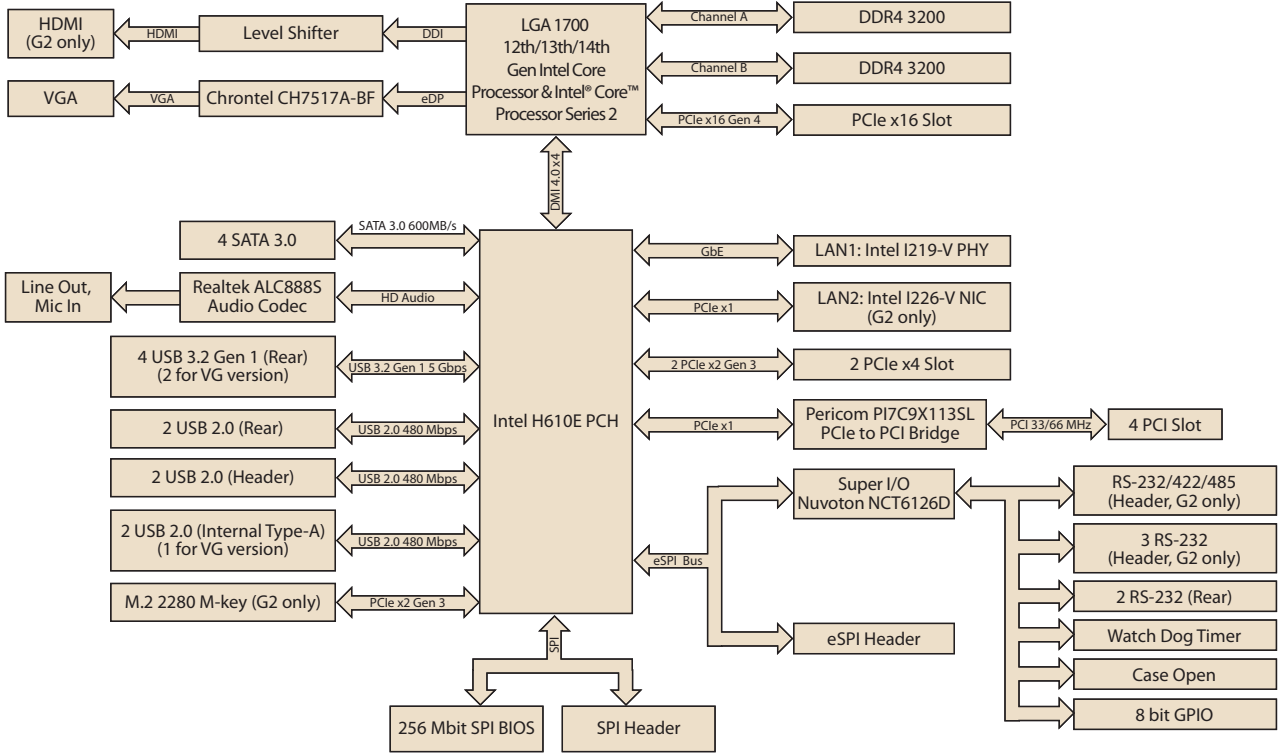


| | Core 9 273PPE | Core 9 273PTE | Core 7 253PE | Core 7 253PTE | Core 5 223PE | Core 5 223PTE | Core 5 213PE | Core 5 213PEF | Core 5 213PTE | | | | | |
|--|------------------------|--|--------------|---------------|--------------|---------------|--------------|---------------|---------------|--------------|-----------------|-----------------|----------------|-----------------|
| Intel® Core™ Processors Series 2 (Bartlett Lake-S) (P-Core Only) | P-core Base Frequency | 2.3 GHz | 1.4 GHz | 2.5 GHz | 1.8 GHz | 2.9 GHz | 2.3 GHz | 2.7 GHz | 2.1 GHz | | | | | |
| | L3 Cache | 36 MB | 36 MB | 33 MB | 33 MB | 24 MB | 24 MB | 24 MB | 24 MB | | | | | |
| | Cores | 12 | 12 | 10 | 10 | 8 | 8 | 8 | 8 | | | | | |
| | Processor Base Power | 65W | 45W | 65W | 45W | 65W | 45W | 65W | 45W | | | | | |
| Intel® Core™ Processors Series 2 (Bartlett Lake-S) | CPU | 251E | 251TE | 221E | 221TE | 211E | 211EF | 201E | 201TE | | | | | |
| | P-core Base Frequency | 2.1 GHz | 1.4 GHz | 2.7 GHz | 1.8 GHz | 2.7 GHz | 1.7 GHz | 3.6 GHz | 2.9 GHz | | | | | |
| | L3 Cache | 36 MB | 36 MB | 24 MB | 24 MB | 20 MB | 20 MB | 12 MB | 12 MB | | | | | |
| | Cores | 24 | 24 | 14 | 14 | 10 | 10 | 4 | 4 | | | | | |
| 14th Generation Processors | CPU | i9-14900 | i9-14900T | i7-14700 | i7-14701E | i7-14700T | i5-14500 | i5-14501E | i5-14500T | i5-14400 | i5-14400T | i5-14400F | i3-14100 | i3-14100T |
| | P-core Base Frequency | 2.0 GHz | 1.1 GHz | 2.1 GHz | 2.6 GHz | 1.3 GHz | 2.6 GHz | 3.3 GHz | 1.7 GHz | 2.5 GHz | 1.5 GHz | 2.5 GHz | 3.5 GHz | 2.7 GHz |
| | L3 Cache | 36 MB | 36 MB | 33 MB | 16 MB | 33 MB | 24 MB | 24 MB | 24 MB | 20 MB | 20 MB | 20 MB | 12 MB | 12 MB |
| | Cores | 24 | 24 | 20 | 8 | 20 | 14 | 6 | 14 | 10 | 10 | 10 | 4 | 4 |
| | Processor Base Power | 65 W | 35 W | 65 W | 65 W | 35 W | 65 W | 65 W | 35 W | 65 W | 35 W | 65 W | 60 W | 35 W |
| | CPU | i9-13900(E) | i9-13900TE | i7-13700(E) | i7-13700T(E) | i5-13500(E) | i5-13500T(E) | i5-13400(E) | i3-13100(E) | i3-13100T(E) | | | | |
| | P-core Base Frequency | 2.0 GHz | 1.1 GHz | 2.1 GHz | 1.4 GHz | 2.5 GHz | 1.6 GHz | 2.5 GHz | 3.4 GHz | 2.5 GHz | | | | |
| | L3 Cache | 36 MB | 36 MB | 30 MB | 30 MB | 24 MB | 24 MB | 20 MB | 12 MB | 12 MB | | | | |
| | Cores | 24 | 24 | 16 | 14 | 14 | 14 | 10 | 4 | 4 | | | | |
| | Processor Base Power | 65 W | 35 W | 65 W | 35 W | 65 W | 35 W | 65 W | 60 W | 35 W | | | | |
| 12th Generation Processors | CPU | i9-12900(E) | i9-12900TE | i7-12700(E) | i7-12700T(E) | i5-12500(E) | i5-12400 | i5-12500T(E) | i3-12100(E) | i3-12100T(E) | Pentium G7400TE | Pentium G7400TE | Celeron G6900E | Celeron G6900TE |
| | P-core Base Frequency | 2.4 GHz | 2.3 GHz | 2.1 GHz | 1.4 GHz | 2.9 GHz | 2.5 GHz | 1.9 GHz | 3.2 GHz | 2.1 GHz | 3.6 GHz | 3.0 GHz | 3.0 GHz | 2.4 GHz |
| | L3 Cache | 30 MB | 30 MB | 25 MB | 25 MB | 18 MB | 18 MB | 12 MB | 12 MB | 12 MB | 6 MB | 6 MB | 4 MB | 4 MB |
| | Cores | 16 | 16 | 12 | 12 | 6 | 6 | 6 | 4 | 4 | 2 | 2 | 2 | 2 |
| TDP | 65 W | 35 W | 65 W | 35 W | 65 W | 65 W | 35 W | 65 W | 35 W | 46 W | 35 W | 46 W | 35 W | |
| Processor System | Socket | LGA 1700 | | | | | | | | | | | | |
| | Chipset | H610E | | | | | | | | | | | | |
| | BIOS | AMI 256Mbit SPI Flash | | | | | | | | | | | | |
| Expansion Slot | PCI | 4 (32-bit/33 MHz) | | | | | | | | | | | | |
| | PCIe x4 (Gen 3) | 2 (x2 link) | | | | | | | | | | | | |
| | PCIe x16 (Gen 4)* | 1 | | | | | | | | | | | | |
| Memory | Technology | Dual Channel(Non-ECC) DDR4 3200 | | | | | | | | | | | | |
| | Max Capacity | 64 GB | | | | | | | | | | | | |
| | Sockets | 2 x 288-pin DIMM | | | | | | | | | | | | |
| Graphics | Controller | Chipset Integrated Intel UHD Graphics | | | | | | | | | | | | |
| | VRAM | Shared system memory is subject to OS | | | | | | | | | | | | |
| Ethernet | Interface | LAN1: 10/100/1000 Mbps; LAN2: 10/100/1000/2500 Mbps (G2 only) | | | | | | | | | | | | |
| | Controller | GbE LAN1: Intel I219-V GbE LAN2: Intel I226-V (G2 only) | | | | | | | | | | | | |
| | Connector | RJ-45 | | | | | | | | | | | | |
| SATA | Max Data Transfer Rate | 600 MB/s | | | | | | | | | | | | |
| | Channel | 4 | | | | | | | | | | | | |
| Rear I/O | VGA | 1 (Resolution up to 1920 x 1200 @ 60 Hz) | | | | | | | | | | | | |
| | HDMI | 1 for G2 version (Resolution up to 4096 x 2304 @ 30Hz) | | | | | | | | | | | | |
| | Ethernet | 2 for G2 version; 1 for VG version | | | | | | | | | | | | |
| | USB | G2: 6 (4 x USB 3.2 Gen 1 + 2 USB 2.0) V4: 4 (2 x USB 3.2 Gen 1 + 2 USB 2.0) | | | | | | | | | | | | |
| | Audio | 2 (Line-out, Mic-in) | | | | | | | | | | | | |
| | Serial | 2 (RS-232) | | | | | | | | | | | | |
| Internal Connectors | USB | G2: 4 (2 x USB 2.0 via pin header; 2 x USB 2.0 Type-A connector) V4: 3 (2 x USB 2.0 via pin header; 1 x USB 2.0 Type-A connector) | | | | | | | | | | | | |
| | Serial | G2: 4 (3 x RS-232; 1 x RS-232/422/485) | | | | | | | | | | | | |
| | SATA | 4 | | | | | | | | | | | | |
| | M.2 | G2: 1 (PCIe x2 M-key 2280 type) | | | | | | | | | | | | |
| | SPI | 1 (Optional dTPM 2.0 module available) | | | | | | | | | | | | |
| | GPIO | 8-bit | | | | | | | | | | | | |
| Watchdog Timer | Output | System reset | | | | | | | | | | | | |
| | Interval | Programmable 1 ~ 255 sec | | | | | | | | | | | | |
| Power Requirement* | Test Environment | Intel Core i 65W, DDR4 32 GB x 2 | | | | | | | | | | | | |
| | Voltage | +3.3V | +5V | +12V | -5Vsb | -12V | -5V | | | | | | | |
| | Current | 1.18 A | 1.65 A | 0.05 A | 0.06 A | 0.05 A | 0.01 A | | | | | | | |
| Environment | Operating | Non-Operating | | | | | | | | | | | | |
| | Temperature | 0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution | | | | | | | | | | | | |
| | Humidity | 40 °C @ 95% RH Non-condensing 60 °C @ 95% RH Non-condensing | | | | | | | | | | | | |
| Physical Characteristics | Dimensions (L x H) | 304.8 x 244 mm (12" x 9.6") | | | | | | | | | | | | |

* The PCIe x16 slot, from CPU, can only support graphic cards and storage cards according to the specification recommended by Intel. Other types of add-on cards might not work properly. For the compatible device list validated on the PCIe x16 slot, please refer to the user manual.

* CPU power requirement, +V12_BP is not included.

Block Diagram



Ordering Information

| Part Number | Chipset | Memory | Display | USB 3.2 Gen 1 | USB 2.0 | COM | GbE LAN | AMT | M.2 | SATA | SW RAID | Intelligent System Module Support |
|-----------------|---------|---------|------------|---------------|---------|-----|---------|-----|-----|------|---------|-----------------------------------|
| AIMB-708G2-00A1 | H610E | Non-ECC | HDMI + VGA | 4 | 6 | 6 | 2 | No | 1 | 4 | No | No |
| AIMB-708VG-00A1 | H610E | Non-ECC | VGA | 2 | 5 | 2 | 1 | No | 0 | 4 | No | No |

Packing List

| Part Number | Description | Quantity |
|----------------|---|----------|
| 1700003194 | SATA HDD cable | x2 |
| 1960106346T001 | I/O port bracket (for 2U chassis or higher) | x1 |
| 2041070800 | Startup manual | x1 |

Note: Driver CD is not provided. Please visit Advantech support website for driver download.

I/O View



AIMB-708G2-00A1



AIMB-708VG-00A1

Optional Accessories

| Part Number | Description |
|---|---|
| 1701090401 | Single COM port cable (40 cm) |
| 1701092300 | Dual COM port cable (28.5 cm) |
| 1970005349T000 | CPU cooler for 2U, 4U, and wallmount chassis (for CPU TDP=35-65W) |
| 1970005531T001 | CPU heatsink for 1U chassis (for CPU TDP≤65W only) |
| 1960112429N000 | I/O port bracket for 1U chassis |
| 1700022749-11/ 1700022749-12/ 1700022749-13 | SATA power cable |
| 1700002204 | 2-port USB 2.0 cable w/ BKT(27 cm) |
| PCA-TPMSPI-00A1 | dTPM 2.0 SPI module to enable TPM and vPro technologies |

Note: Purchasing AIMB-788's proprietary CPU cooler from Advantech is highly recommended. Other brands' CPU coolers are NOT compatible with AIMB-788. Especially the cooler type with fan aside is not allowed to use on AIMB-788 due to heat dissipation on MOSFET.

Riser Card

| Part Number | Description |
|------------------|---|
| AIMB-RP10P-01A1E | 1U riser card providing 1 PCI slot |
| AIMB-RF10F-01A1E | 1U riser card providing 1 PCIe x 16 slot |
| AIMB-RP30P-03A1E | 2U riser card providing 3 PCI slots |
| AIMB-RP3PF-21A1E | 2U riser card providing 1 PCIe x 16 and 2 PCI slots |