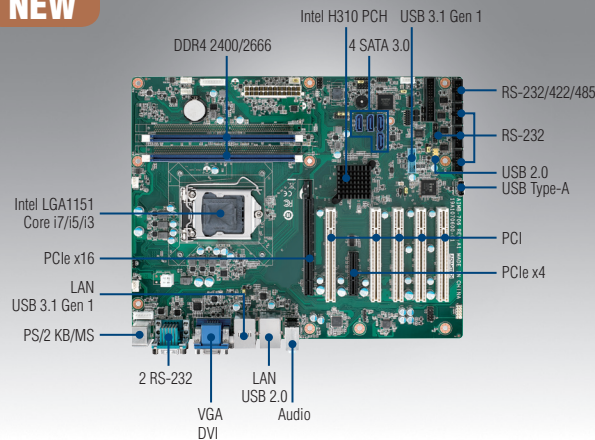


# AIMB-706

**LGA1151 8th/9th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® ATX with DVI/VGA, DDR4, SATA 3.0, USB 3.1 & 6 COMs**

**NEW**



## Features

- Intel® 8th/9th generation Core™ i7/i5/i3/Pentium®/Celeron® processor with H310 chipset
- Dual channel (Non-ECC) DDR4 2400/2666 up to 64 GB
- Support VGA and DVI display
- SATA 3.0, USB 3.1, dual GbEs
- 5 RS-232 and 1 RS-232/422/485 serial ports
- 1 PCIe x16 (Gen 3) and 1 PCIe x4 (Gen 2), and 5 PCI expansion slots

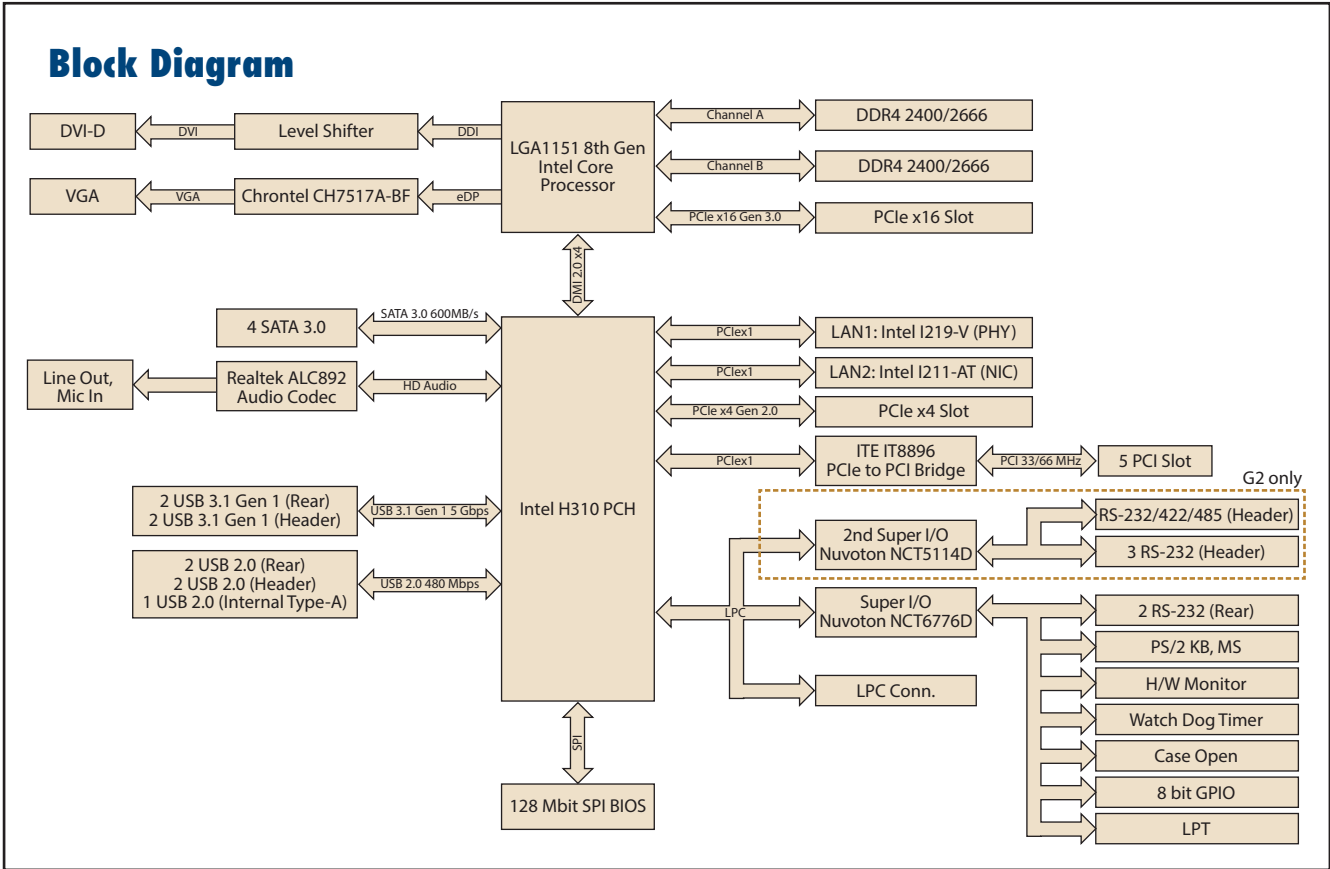
Note: Intel 8th/9th generation processors only support Windows 10 (64-bit).

## Quiet Specifications

CE FCC

|                          | CPU                    | i7-9700E   | i7-9700TE | i7-8700 | i7-8700T | i5-9500E | i5-9500TE | i5-8500 | i5-8500T | i3-9100E | i3-9100TE | i3-8100 | i3-8100T                      | G5400   | G5400T  | G4900   | G4900T  |  |
|--------------------------|------------------------|--|-----------|---------|----------|----------|-----------|---------|----------|----------|-----------|---------|-------------------------------|---------|---------|---------|---------|--|
| Processor System         | Speed                  | 2.6GHz   | 1.8 GHz   | 3.2 GHz | 2.4 GHz  | 3.0 GHz  | 2.2 GHz   | 3.0 GHz | 2.1 GHz  | 3.1 GHz  | 2.2 GHz   | 3.6 GHz | 3.1 GHz                       | 3.7 GHz | 3.1 GHz | 3.1 GHz | 2.9 GHz |  |
|                          | L3 Cache               | 12 MB  | 12 MB     | 12 MB   | 12 MB    | 9 MB     | 9 MB      | 9 MB    | 9 MB     | 6 MB     | 6 MB      | 6 MB    | 6 MB                          | 4 MB    | 4 MB    | 2 MB    | 2 MB    |  |
|                          | Cores                  | 8  | 8         | 6       | 6        | 6        | 6         | 6       | 6        | 4        | 4         | 4       | 4                             | 2       | 2       | 2       | 2       |  |
|                          | TDP                    | 65 W   | 35 W      | 65 W    | 35 W     | 65 W     | 35 W      | 65 W    | 35 W     | 65 W     | 35 W      | 65 W    | 35 W                          | 58 W    | 35 W    | 54 W    | 35 W    |  |
|                          | Socket                 | LGA1151  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Chipset                | Intel H310   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | BIOS                   | AMI 128Mbit SPI Flash  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
| Expansion Slot           | PCI                    | 32-bit/33 MHz, 5 slots   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | PCIe x4 (Gen 2)        | 2 GB/s per direction, 1 slot   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | PCIe x16 (Gen 3)       | 16 GB/s per direction, 1 slot  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
| Memory                   | Technology             | Dual Channel(Non-ECC) DDR4 2400/2666   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Max Capacity           | 64 GB  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Sockets                | 2 x 288-pin DIMM   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
| Graphics                 | Controller             | Chipset integrated Intel HD Graphics   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | VRAM                   | Shared system memory is subject to OS  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
| Ethernet                 | Interface              | 10/100/1000 Mbps   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Controller             | GbE LAN1: Intel I219-V, GbE LAN2: Intel I211-AT  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Connector              | 2 x 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)   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | DVI                    | 1 for G2 version (Resolution up to 1920 x 1200 @ 60 Hz)  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Ethernet               | 2 for G2 version; 1 for VG version   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | USB                    | 4 (2 x USB 3.1 Gen 1, 2 x USB 2.0)   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Audio                  | 2 (Line-out, Mic-in)   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Serial                 | 2 (RS-232)   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | PS/2                   | 2 (1 x keyboard and 1 x mouse)   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
| Internal Connectors      | USB                    | 5 (2 x USB 3.1 Gen 1 via header, 2 x USB 2.0 via header, 1 x USB 2.0 Type-A connector)           |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Serial                 | 4 for G2 version (3 x RS-232, box-header; 1 x RS-232/422/485 with auto-flow control, box-header) |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | SATA                   | 4  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Parallel               | 1  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | GPIO                   | 8-bit  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
| Watchdog Timer           | Output                 | System reset   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Interval               | Programmable 1 - 255 sec   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
| Power Requirement        | Test Environment       | Intel Core i7-8700 3.2GHz; DDR4 2400 16 GB x 2   |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Voltage                | 3.3V   | 5V        | 12V     | 5Vsb     | -5V      | -12V      |         |          |          |           |         |                               |         |         |         |         |  |
|                          | Current                | 2.74A  | 3.5A      | 5.92A   | 0.05A    | 0.01A    | 0.08A     |         |          |          |           |         |                               |         |         |         |         |  |
| Environment              | Operating              |  |           |         |          |          |           |         |          |          |           |         | Non-Operating                 |         |         |         |         |  |
|                          | Temperature            | 0 - 60 °C (32 - 140 °F), depends on CPU speed and system thermal solution                        |           |         |          |          |           |         |          |          |           |         | -40 - 85 °C (-40 - 185 °F)    |         |         |         |         |  |
|                          | 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")  |           |         |          |          |           |         |          |          |           |         |                               |         |         |         |         |  |

### Block Diagram



### Ordering Information

| Part Number     | Chipset | Memory  | Display   | USB 3.1 Gen 1 | USB 2.0 | COM | GbE LAN | AMT | SATA | SW RAID | Intelligent System Module Support |
|-----------------|---------|---------|-----------|---------------|---------|-----|---------|-----|------|---------|-----------------------------------|
| AIMB-706G2-00A1 | H310    | Non-ECC | VGA + DVI | 4             | 5       | 6   | 2       | No  | 4    | No      | No                                |
| AIMB-706VG-00A1 | H310    | Non-ECC | VGA       | 4             | 5       | 2   | 1       | No  | 4    | No      | No                                |

### Packing List

| Part Number    | Description      | Quantity |
|----------------|------------------|----------|
| 1700003194     | SATA HDD cable   | x2       |
| 1700022749-11  | SATA power cable | x1       |
| 1960050472T000 | I/O port bracket | x1       |
| 2001070611     | Startup manual   | x1       |

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

### I/O View



AIMB-706G2-00A1



AIMB-706VG-00A1

### Optional Accessories

| Part Number      | Description                                  |
|------------------|--|
| 1701090401       | Single COM port cable(40 cm)                 |
| 1701092300       | Dual COM port cable(28.5 cm)                 |
| 1700020294-01    | Printer port cable kit(42 cm)                |
| 1700028292-01    | 2-port USB 3.0 cable w/ BKT(30 cm)           |
| 1700002204       | 2-port USB 2.0 cable w/ BKT(27 cm)           |
| 1960052651N021   | CPU cooler for 2U, 4U, and wallmount chassis |
| 1960049408N001   | CPU heatsink for 1U chassis                  |
| 1960055954T000   | IO bracket for 1U chassis                    |
| PCA-COM232-00A1E | 4-port RS-232 LPC module                     |
| PCA-TPM-00B1E    | TPM2.0 module                                |

Note: Purchasing AIMB-706's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-705.

### 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 |