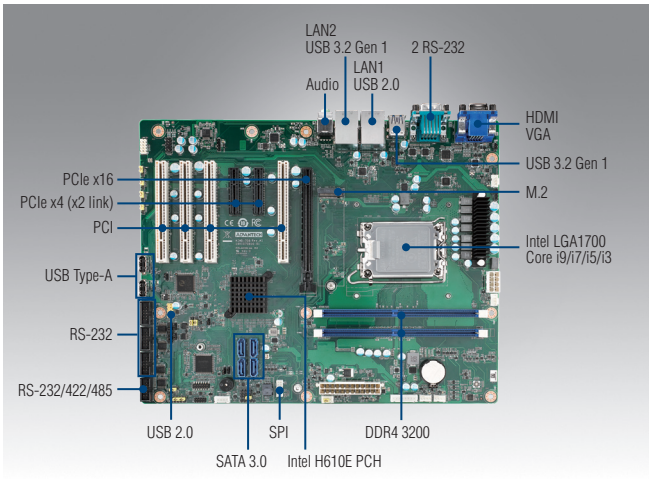
AIMB-708

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



Features

- Intel® 12th/13th generation Core™ i9/i7/i5/i3 & Pentium®/Celeron® 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

CE FCC

Specifications

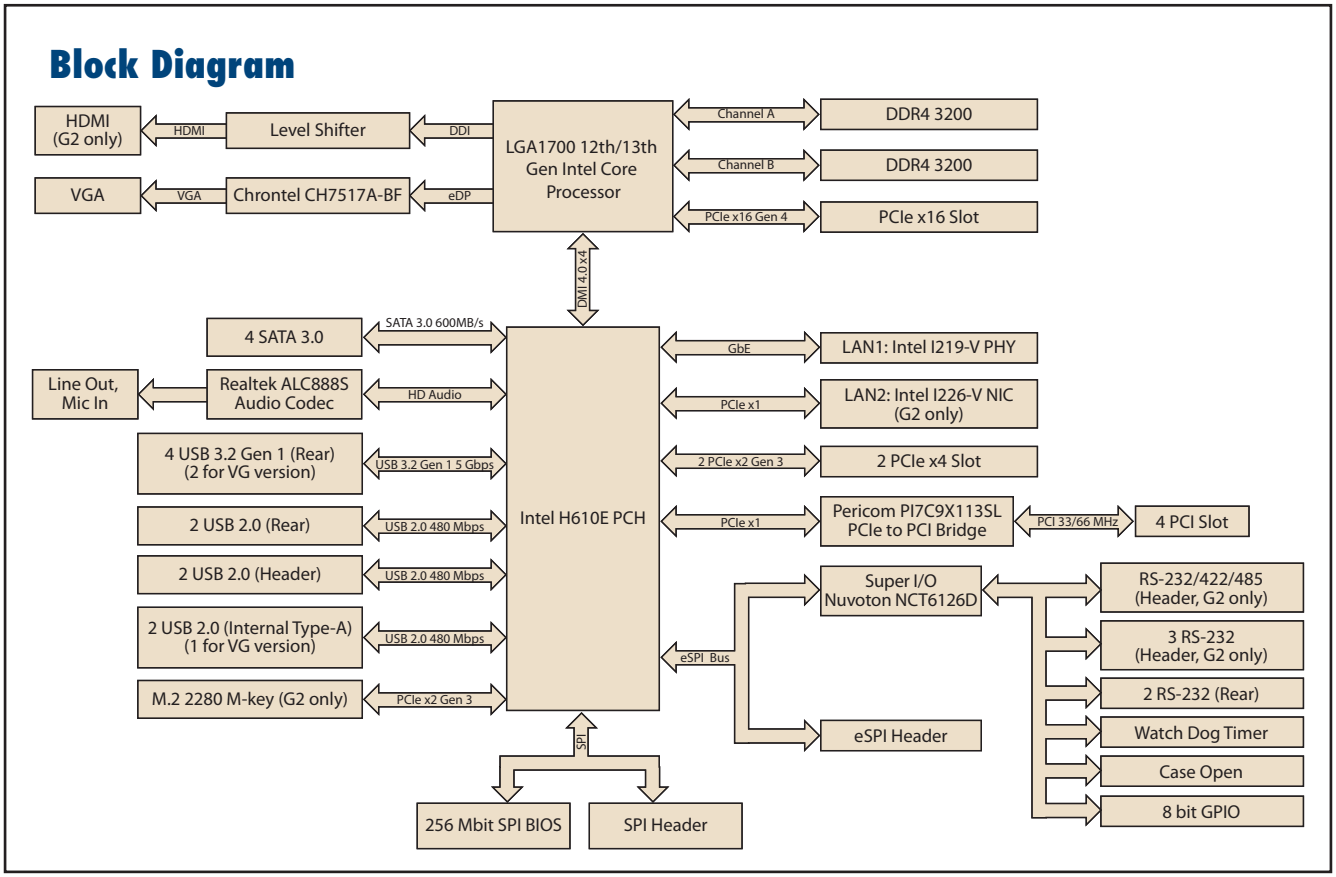
13th Generation Processors	CPU	i9-13900(E)	i9-13900TE	i7-13700(E)	i7-13700T(E)	i5-13500(E)	i5-13500T(E)	i5-13400(E)	i3-13100(E)	i3-13100T(E)				
	P-core Base Frequency (Up to)	2.0 GHz	1.1 GHz	2.1 GHz	1.4 GHz	2.5 GHz	1.6 GHz	2.5 GHz	3.4 GHz	2.5 GHz				
	L3 Cache	36 MB	36 MB	30 MB	30 MB	24 MB	24 MB	20MB	12 MB	12 MB				
	Cores	24	24	16	16	14	14	10	4	4				
	Processor Base Power	65 W	35 W	65 W	35 W	65 W	35 W	65W	60 W	35 W				
12th Generation Processors	CPU	i9-12900(E)	i9-12900TE	i7-12700(E)	i7-12700TE	i5-12500(E)	i5-12400	i5-12500TE	i3-12100(E)	i3-12100TE	Pentium G7400TE	Pentium G7400TE	Celeron G6900E	Celeron G6900TE
	P-core Base Frequency (Up to)	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	18 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
	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) VG: 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) VG: 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		0.06 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								-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")												

* 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_8P, is not included.

All product specifications are subject to change without notice.

Last updated: 5-Oct-2023

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