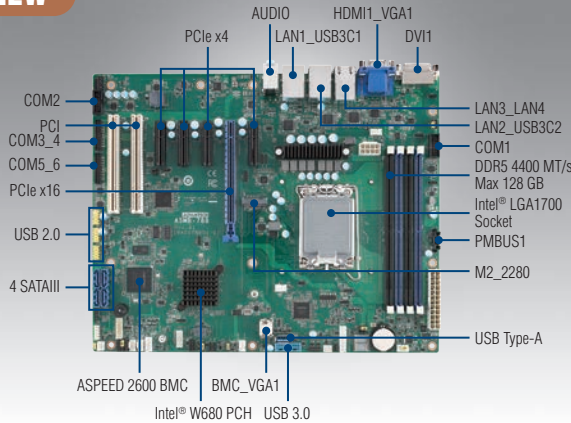


# ASMB-788

**LGA 1700 Intel® 13th/ 12th Gen. Core™ ATX Server Board with 4 x DDR5, 5 x PCIe (1 x Gen 5, 3 x Gen 4, 1x Gen 3), 7 x USB 3.2, 4 x SATA3, Quad/Dual LANs, and IPMI**

**NEW**



## Features

- LGA 1700 Intel® 13th/ 12th Gen. Core™ i9/i7/i5/i3 processors with W680 chipset
- DDR5 ECC/Non-ECC 4400/4000/3600 MT/s UDIMM up to 128 GB
- One PCIe x16 (Gen 5) and four PCIe x4 (3 x Gen 4 & 1 x Gen 3) slots
- Triple displays - DVI-D, VGA, and HDMI 2.0 ports
- Four SATA 3 ports and seven USB 3.2 ports
- One M.2 2280 (PCIe x4)
- Rackmount optimized placement with positive air flow design
- 0 ~ 60 °C (32 ~ 140 °F) ambient operating temperature range

Note: Supported OS including Windows 10/ 11 (64-bit) and Server 2022 (64-bit) have been validated.

CE FCC

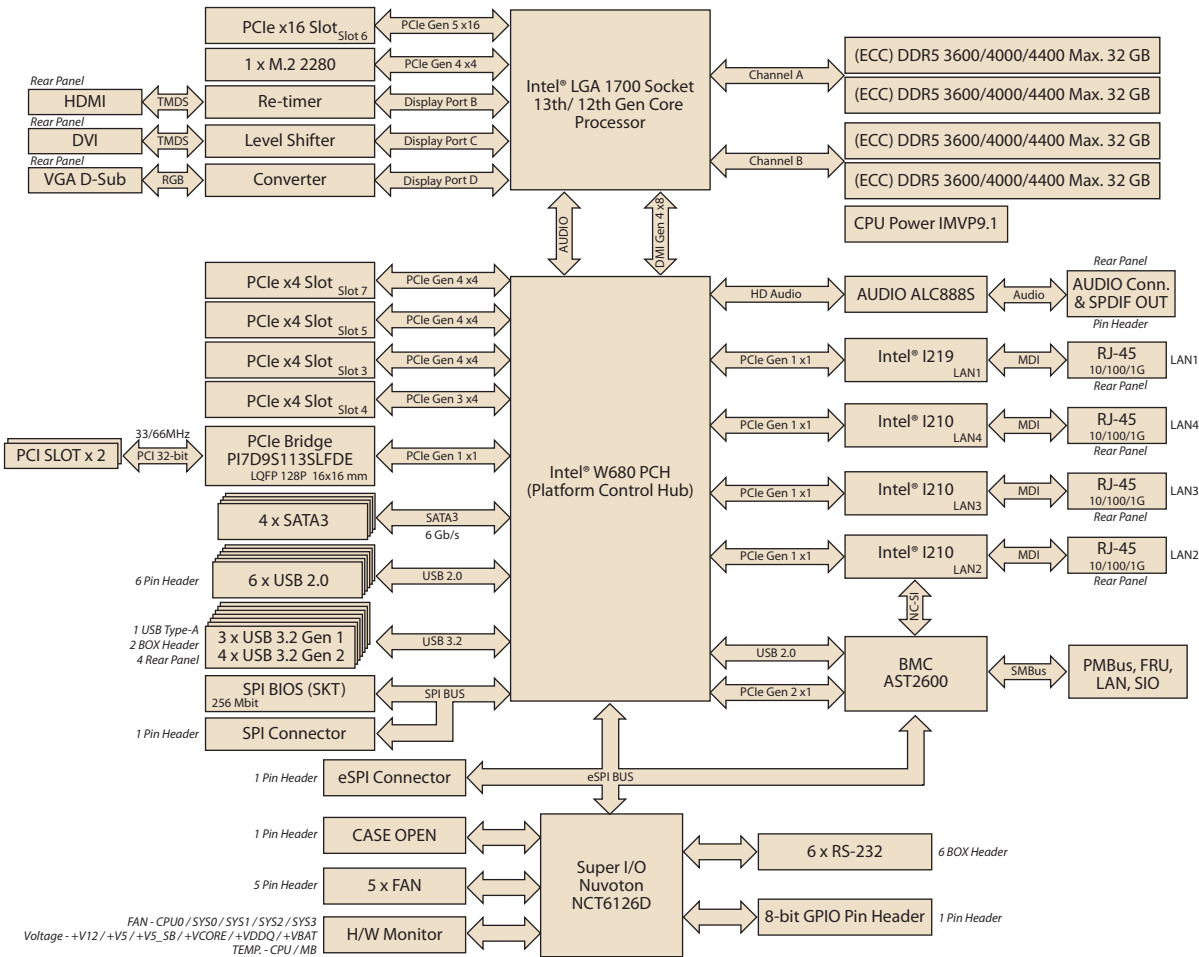
## Specifications

Form Factor	ATX form factor					
Processor System	Socket	Intel® LGA 1700				
	CPU type	13th/ 12th Gen Intel® Core™ i9/i7/i5/i3 series processors (TDP up to 125W)				
Core Logic	Chipset	Intel® W680 chipset				
Memory	Total slots	4 x (Dual Channel)				
	Max. capacity	128 GB				
	Memory type	DDR5 ECC*/Non-ECC 4400*/4000/3600 MT/s UDIMM (288-pin)				
	Memory size	8 GB, 16 GB, 32 GB				
Expansion Slots	Total PCI/PCIe slots	7				
	Slot location 1	PCI slot				
	Slot location 2	PCI slot				
	Slot location 3	PCIe x4 slot (Gen 4 x4 link)				
	Slot location 4	PCIe x4 slot (Gen 3 x4 link)				
	Slot location 5	PCIe x4 slot (Gen 4 x4 link)				
	Slot location 6	PCIe x16 slot (Gen 5 x16 link)				
Graphics	Slot location 7	PCIe x4 slot (Gen 4 x4 link)				
	Controller	Intel® HD Graphics				
Storage	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed				
	SATA controller	Intel® W680: 4 SATA3 6 Gb/s ports with Intel Rapid Storage Technology support (for Windows only) (Supports software RAID 0, 1, 10, & 5)				
Networking	SAS controller	-				
	Interface	10/100/1000 Mbps				
Onboard I/O Connector	Controller	GbE LAN1: Intel® I219; GbE LAN 2-4: Intel® I210-AT				
	Connector	RJ-45 x 2 for G2 version; RJ-45 x 4 for G4 version				
	Printer Port connector	-				
	PSU connector	24-pin SSI power connector + 8-pin SSI 12V power connector				
	USB connector	9, 1 x USB 3.2 Gen 1 (2 ports), 3 x USB 2.0 (6 ports), 1 x USB 3.2 Gen 1 Type-A				
	M.2 connector	1 x M.2 2280 (PCIe)				
	Fan header	5 x (4-pin)				
	SMBus	1				
	Chassis intrusion	1				
	Front LAN LED	2				
Rear I/O Connector	Serial port header	5, 2 x RS-232 dual-port (4 ports), 1 x RS-232 single-port				
	Audio connector	1 x (ALC 888S)				
	PS/2 KB/Mouse	-				
	External serial port	1 (via COM cable in the package)				
	External USB port	4 x (USB 3.2 Gen 2)				
	VGA port	1 x (Resolution up to 1920 x 1200 @ 60 Hz)				
	DVI port	1 x (Resolution up to 1920 x 1200 @ 60 Hz)				
HDMI port	1 x (Resolution up to 4096 x 2160 @ 60 Hz)					
Watchdog Timer	RJ-45	2 for G2 version; 4 for G4 version				
	Audio connector	2 x (Mic-in, Line-out)				
Power Requirement	PS/2 KB/Mouse	-				
	Output	System reset				
	Interval	Programmable 1 ~ 255 sec				
	Power On	3.3 V	5 V	12 V	12 V_8P	5 V <sub>SB</sub>
	(Core i5-12500 3.0GHz DDR5 4800 16 GB x 4)	2.05 A	1.69 A	0.36 A	13 A	0.10 A
	Operating	Non-operating				
Environment	Temperature	0 ~ 60 °C, depends on CPU speed and cooler solution				
	Humidity	40 °C @ 95% RH Non-condensing				
Physical Characteristics	Dimensions	60 °C @ 95% RH Non-condensing				
	Dimensions	304.8 x 244 mm (12 x 9.6 in)				

\* ECC will not be supported when paired with Core i3 processors.

\*\* 4400MT/s can only be supported with 1 DIMM per channel configuration (2 DIMMs in total).

## Block Diagram



## Ordering Information

Part Number	Chipset	Memory	Display	LAN	SATAIII	IPMI
ASMB-788G2-00A1	W680	DDR5 Non-ECC/ECC UDIMM	VGA + DVI-D + HDMI	2	4	-
ASMB-788G4-00A1	W680	DDR5 Non-ECC/ECC UDIMM	VGA + DVI-D + HDMI	4	4	Y

## Packing List

Part Number	Description	Quantity
2042078800	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700001788	COM1 cable	x 1
1960088021T011	I/O shield	x 1
1930005673-11	Screw for M.2 device	x 1

## Optional Accessories

Part Number	Description
1700029038-01	BMC VGA cable with bracket (35 cm / 13.7 in, for G4 SKU)

Note: If you need BMC KVM function, please select this cable.

Part Number	Description
1970005436T001	LGA 1700 CPU cooler for 2U/4U chassis (CPU 125W)
1970005349T000	LGA 1700 CPU cooler for 2U/4U chassis (CPU under 65W)
1700002204	Dual-port USB 2.0 cable (27 cm / 10.6 in) with bracket
1700008461	Four-port USB 2.0 cable (30.5 cm / 12 in) with bracket
1700028292-01	Dual-port USB 3.0 cable (30 cm / 11.8 in) with bracket
1701090401	Single port RS-232 COM cable (40 cm / 15.7 in) with bracket
1700026254-01	Dual-port RS-232 COM cable (45 cm / 17.7 in) with bracket
PCA-TPMSPI-00A1	TPM 2.0 Module by SPI

Note: Users need to purchase the ASMB-788 proprietary CPU cooler from Advantech. Other brands of CPU cooler may NOT be compatible with ASMB-788.

## I/O View



ASMB-788G4-00A1



ASMB-788G2-00A1