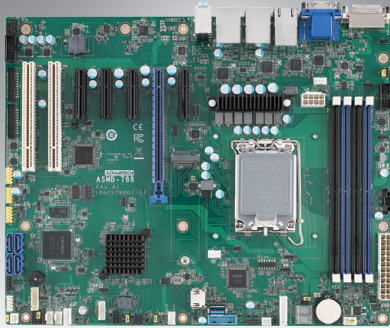


# ASMB-788

**LGA 1700 Intel® 12th Generation Core™  
ATX Server Board with 4 x DDR5, 5 x PCIe  
(1 x Gen5, 3 x Gen4, 1x Gen3), 7 x USB 3.2,  
4 x SATA3, Quad/Dual LANs, and IPMI**

**Preliminary**



## Features

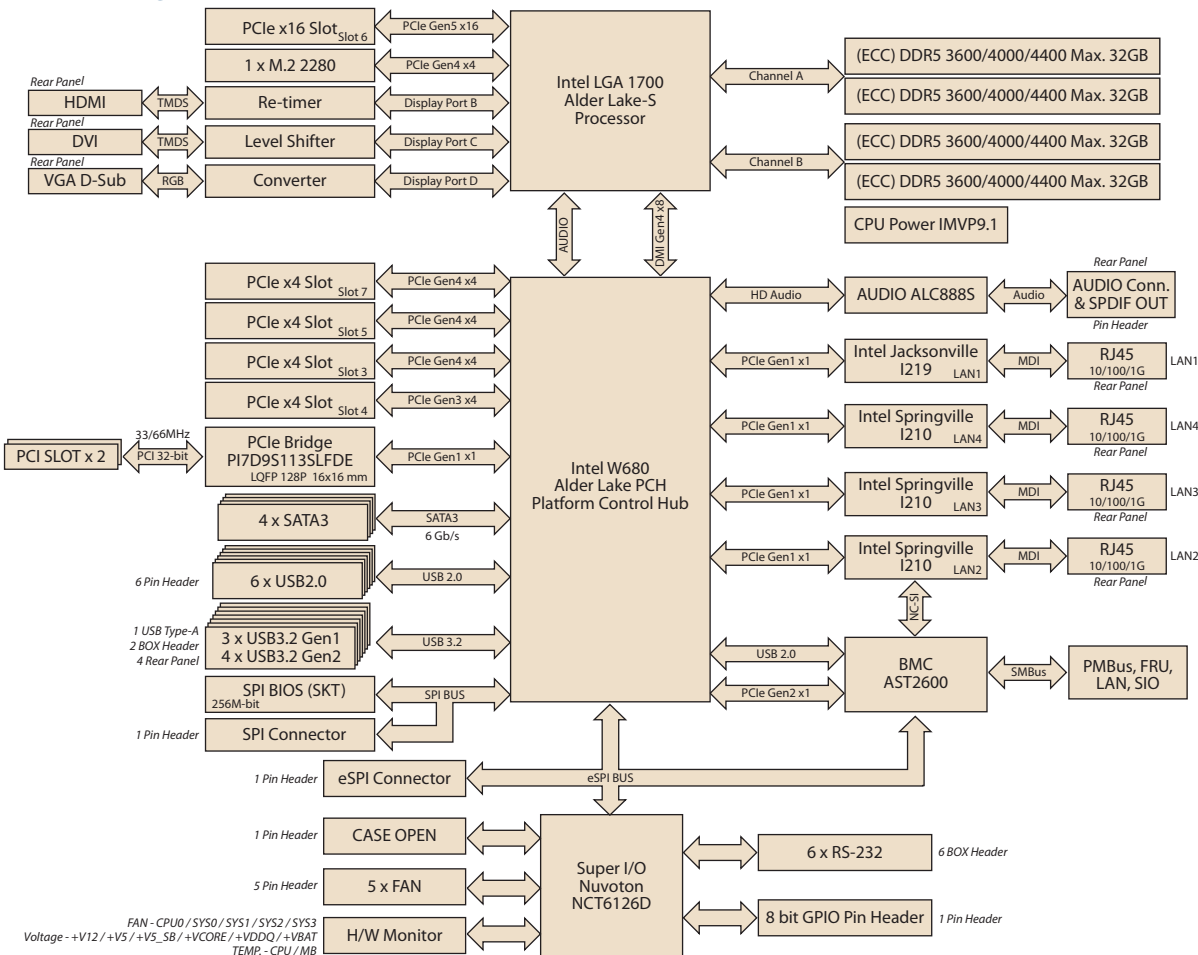
- LGA 1700 Intel® 12th Gen. Core™ i9/i7/i5/i3 processors with W680 chipset
- DDR5 ECC/Non-ECC 4400/4000/3600 MHz UDIMM up to 128 GB
- One PCIe x16 (Gen 5) and four PCIe x4 (3 x Gen4 & 1 x Gen3) slots
- Triple displays - DVI-D, VGA, and HDMI 2.0 ports
- Four SATA 3 ports and seven USB 3.2 ports
- One M.2 2280 (PCIe x4)
- Rackmount optimized placement with positive air flow design
- 0 ~ 60 °C (32 ~ 140 °F) ambient operating temperature range

CE FCC

## Specifications

Form Factor		ATX form factor				
Processor System	Socket	Intel® LGA 1700				
	CPU type	Intel® 12th Gen. 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 MHz UDIMM (288-pin)				
	Memory size	8 GB, 16 GB, 32GB				
Expansion Slots	Total PCI/PCIe slots	7				
	Slot location 1	PCI slot				
	Slot location 2	PCI slot				
	Slot location 3	PCIe x4 slot (Gen4 x4 link)				
	Slot location 4	PCIe x4 slot (Gen3 x4 link)				
	Slot location 5	PCIe x4 slot (Gen4 x4 link)				
	Slot location 6	PCIe x16 slot (Gen5 x16 link)				
Graphics	Slot location 7	PCIe x4 slot (Gen4 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 SATA 3 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				
Rear I/O Connector	Printer Port connector	-				
	PSU connector	24-pin SSI power connector + 8-pin SSI 12V power connector				
	USB connector	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 intruder	1				
	Front LAN LED	2				
	Serial port header	2 x RS-232 dual-port (4 ports), 1 x RS-232 single-port				
	Audio connector	1 x (ALC 888S)				
	PS/2 KB/Mouse	-				
	Watchdog Timer	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)				
RJ-45		2 x for G2 version; 4 for G4 version				
Audio connector		2 x (Mic-in, Line-out)				
Power Requirement	PS/2 KB/Mouse	-				
	Output	System reset				
Environment	Interval	Programmable 1 ~ 255 sec				
	Power On	3.3 V	5 V	12 V	12V_8P	5 V <sub>SB</sub>
Physical Characteristics	(Core i5-12500 3.0GHz DDR5 4800 16G*4)	2.05A	1.69A	0.36A	13A	0.10A
	Operating	Non-operating				
Physical Characteristics	Temperature	0 ~ 60 °C, depends on CPU speed and cooler solution				
	Humidity	40 °C @ 95% RH Non-condensing				
Physical Characteristics	Dimensions	304.8 x 244 mm (12 x 9.6 in)				
		60 °C @ 95% RH Non-condensing				

## 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
TBD	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700001788	COM1 cable	x 1
1960088021T001	I/O shield	x 1
1930005673-11	Screw for M.2	x 1

## I/O View



ASMB-788G4-00A1



ASMB-788G2-00A1

## 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
TBD	LGA 1700 CPU heatsink for 1U chassis
TBD	LGA 1700 CPU cooler for 2U/4U chassis (CPU 125W)
1970005349T000	LGA 1700 CPU cooler for 2U/4U chassis (CPU under 65W)
1960088060T001	1U I/O shield for ASMB-586/587/786/787/588/788
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
1700026254-01	Dual port RS-232 cable (45 cm / 17.7 in) with bracket
PCA-TPMSPI-00A1	TPM 2.0 Module by SPI
1700031926-11	JFP1 cable for 1U chassis

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