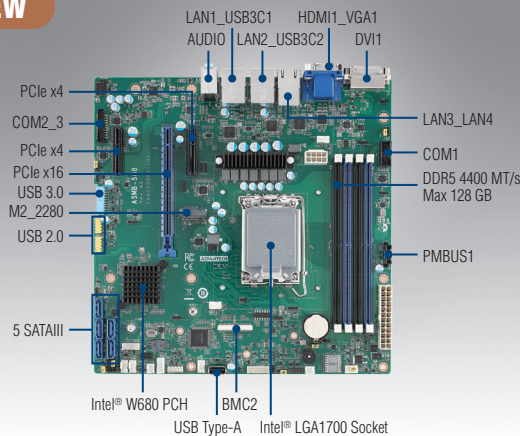


# ASMB-588

**LGA 1700 Intel® 13th/ 12th Gen. Core™  
MicroATX Server Board with 4 x DDR5,  
3 x PCIe (1 x Gen 5, 2 x Gen 4), 6 x USB  
3.2, 5 x SATA3, Quad/Dual LANs, and IPMI**

**NEW**



CE FCC

## 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 two PCIe x4 (Gen 4) slots
- Triple displays - DVI-D, VGA, and HDMI 2.0 ports
- Five SATA 3 ports and six 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.

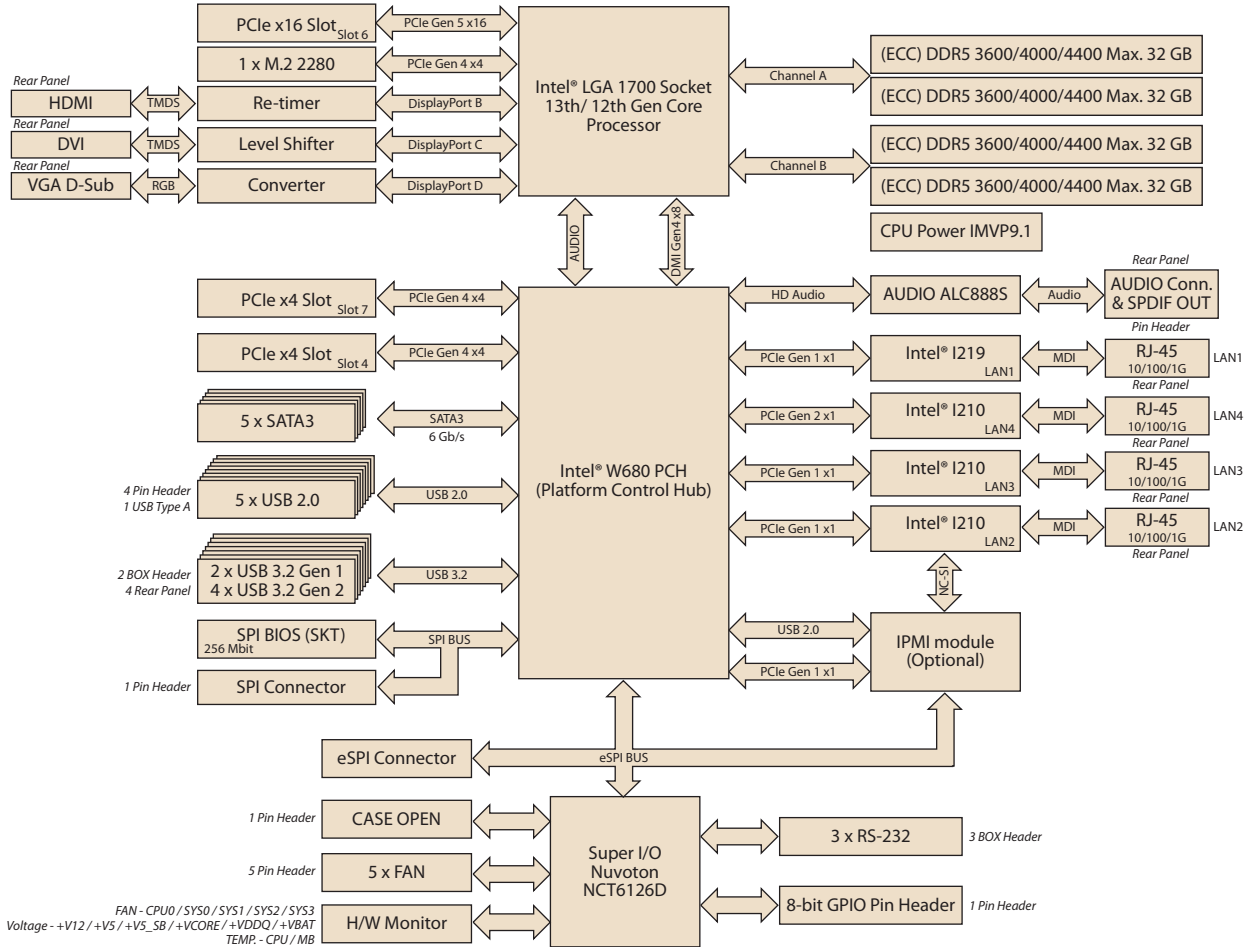
## Specifications

Form Factor		Micro 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 (Dual Channel)	
	Capacity	Maximum 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 PCIe slots	3	
	Slot location 1	-	
	Slot location 2	-	
	Slot location 3	-	
	Slot location 4	PCIe x4 slot (Gen 4 x4 link)	
	Slot location 5	-	
	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: 5 SATA3 6Gb/s ports with Rapid Storage Technology support (for Windows only) (Supports software RAID 0, 1, 10 & 5)	
Networking	SAS controller	-	
	GbE LAN	1 x Intel® I219LM + 3 x Intel® I210AT	
Onboard I/O Connector	LPT connector	-	
	PSU connector	24-pin SSI power connector + 8-pin SSI 12 V power connector	
	USB connector	7, 1 x USB 3.2 Gen 1 (2 ports), 2 x USB 2.0 (4 ports), 1 x USB 2.0 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	
	Serial port header	2, 1 x RS-232 dual-port (2 ports)	
	Audio Header	1 x (ALC 888S)	
Rear I/O Connector	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	1 x (Resolution up to 4096 x 2160 @ 60 Hz)	
	RJ-45	4	
	PS/2 KB/mouse	-	
Power Requirement	Audio	2 x (Mic-in, Line-out)	
	Power On	3.3 V      5 V      12 V      12V_8P      5 V <sub>SB</sub>	
	(Core i9-12900K 3.2GHz DDR5 4800 16 GB x 4)	0.76 A      0.92 A      0.03 A      4.82 A      0.15 A	
	Environment	Operating	Non-operating
		Temperature	0 ~ 60 °C, depends on CPU speed and cooler solution
Watchdog Timer	Humidity	-40 ~ 85 °C	
	Output	40 °C @ 95% RH Non-condensing	
Physical Characteristics	Interval	60 °C @ 95% RH Non-condensing	
	System reset	Programmable 1 ~ 255 sec/min	
Physical Characteristics	Dimensions	Programmable 1 ~ 255 sec/min	
	244 x 244 mm (9.6 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-588G2-00A1	W680	DDR5 ECC/Non-ECC UDIMM	VGA + DVI-D + HDMI	2	5	Optional
ASMB-588G4-00A1	W680	DDR5 ECC/Non-ECC UDIMM	VGA + DVI-D + HDMI	4	5	Optional

## Packing List

Part Number	Description	Quantity
2042058800	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
1970005531T001	LGA 1700 CPU heatsink for 1U chassis
1970005436T001	LGA 1700 CPU cooler for 2U/4U chassis (CPU 125W)
1970005349T000	LGA 1700 CPU cooler for 2U/4U chassis (CPU under 65W)
1960088060T011	1U I/O shield for ASMB-588
1700031926-11	JFP1 cable for 1U chassis
1990040376T000	1U air duct for ASMB-588 + HPC-7120S
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
IPMI-2000-00A1	IPMI Module
PCA-TPMSPI-00A1	TPM 2.0 Module by SPI

## I/O View



ASMB-588G4-00A1



ASMB-588G2-00A1

Note: Users need to purchase the ASMB-588 proprietary CPU cooler from Advantech. Other brands of CPU coolers may NOT be compatible with ASMB-588.