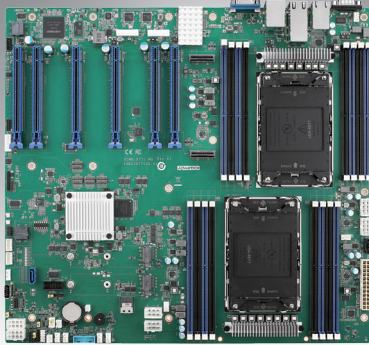


# ASMB-977S

## Dual 5th/4th Gen Intel® Xeon® Scalable Server Board with 16x DDR5, 6x PCIe x16, 5x SATA 3, 4x USB 3.2 (Gen 1), Dual 10GbE, and IPMI



### Features

- LGA4677 server board with 5th/4th Gen Intel® Xeon® scalable processor, TDP up to 350W
- DDR5 5200 MHz RDIMM up to 4TB (16 DIMMS)
- Features 6x PCIe x16 and 2x MCIO x8
- Intel® X710-AT2 dual 10GbE ports
- Five SATA 3 and two M.2 connectors (PCIe x4)
- 0 ~ 40 °C ( 32 ~ 104 °F) ambient operating temperature range

CE FCC

### Specifications

Form Factor	Proprietary							
Processor System	Socket	Dual Intel® LGA4677 (Socket E)						
	CPU type	5th/4th Gen Intel Xeon Scalable processors (CPU cooler should be purchased separately*)						
Core Logic	Chipset	Intel® C741 chipset						
	Total slots	16x (1 DIMM per channel)						
Memory	Capacity	Maximum 4TB ECC RDIMM						
	Memory type	DDR5 ECC-REG 4400/4800/5200 MHz RDIMM						
	Memory size	16GB, 32GB, 64GB, 128GB, 256GB (The supported Memory Density are 16Gb and 24Gb)						
Expansion Slots	Total PCIe slots	6						
	Slot location 1	PCIe x 16 slot (Gen5 x16 link), signal from CPU0, CXL support**						
	Slot location 2	PCIe x 16 slot (Gen5 x16 link), signal from CPU0, CXL support**						
	Slot location 3	N/A						
	Slot location 4	PCIe x 16 slot (Gen5 x16 link), signal from CPU0, CXL support**						
	Slot location 5	N/A						
	Slot location 6	PCIe x 16 slot (Gen5 x16 link), signal from CPU0, CXL support**						
	Slot location 7	N/A						
	Slot location 8	PCIe x 16 slot (Gen5 x16 link), signal from CPU1, CXL support**						
Graphics	Slot location 9	PCIe x 16 slot (Gen5 x16 link), signal from CPU1, CXL support**						
	VGA	Aspeed AST 2600						
Storage	SATA controller	Intel® C741: 4 x SATA3.0 (6 Gb/s) via Slim-SAS HD, support software RAID 0,1,5,10.						
	SAS controller	1 x SATA3.0 (6 Gb/s)						
Networking	GbE/10GbE LAN	2 x Intel® I210AT / Intel® X710-AT2 (dual 10GbE ports)						
Onboard I/O	PSU connector	24-pin SSI power connector + 6 x 8-pin SSI 12 V power connector***						
	USB connector	2 x USB 3.2 Gen 1 ports (one onboard header) + 1 x Type-A USB 2.0 port						
	Fan header	7 x 4-pin (2 for CPU + 5 for system) + 2 x 8-pin (for external rear fan)						
	M.2	2 x M.2 2242/2280 B+M key (PCIe)						
	MCIO	2 x MCIO (PCIe x8)						
	SMBus	1						
	Chassis intrusion	1						
	Front LAN LED	1						
	Audio Header	1						
	PS/2**** Keyboard/Mouse header	1						
Rear I/O Connector	Serial port header	1						
	External serial port	1						
	External USB port	2 (USB 3.2 Gen1)						
	VGA port	1						
	RJ-45	5 (1 port dedicated for IPMI function) for T2 SKU/3 (1 port dedicated for IPMI function) for I SKU						
	PS/2 KB/mouse	-						
Management Solution	Infiniband	-						
	Software	-						
Monitoring	Out of band remote management	Yes						
	CPU temperature	Yes						
Watchdog Timer	System monitoring	Yes						
	Output	System reset						
Power Requirements	Interval	Programmable 1 ~ 255 sec/min						
	Power On (205W CPU@1.6GHz DDR5 4800 64G*16)	3.3V	5V	12V	5Vsb	-12V	8P_CPU0	8P_CPU1
Environment		2.43A	1.76A	18.12A	1.54A	0A	16.29A	13.91A
	Temperature	Operating					Non-operating	
	Humidity	0 - 40 °C (32 ~ 104 °F), depends on CPU speed and cooler solution					-40 ~ 85 °C (-40 ~ 185 °F)	
Physical Characteristics		10% ~ 95%					10% ~ 95% (Non condensing)	
	Dimensions (L x H)	380 x 349.5 mm (14.96" x 13.76")						

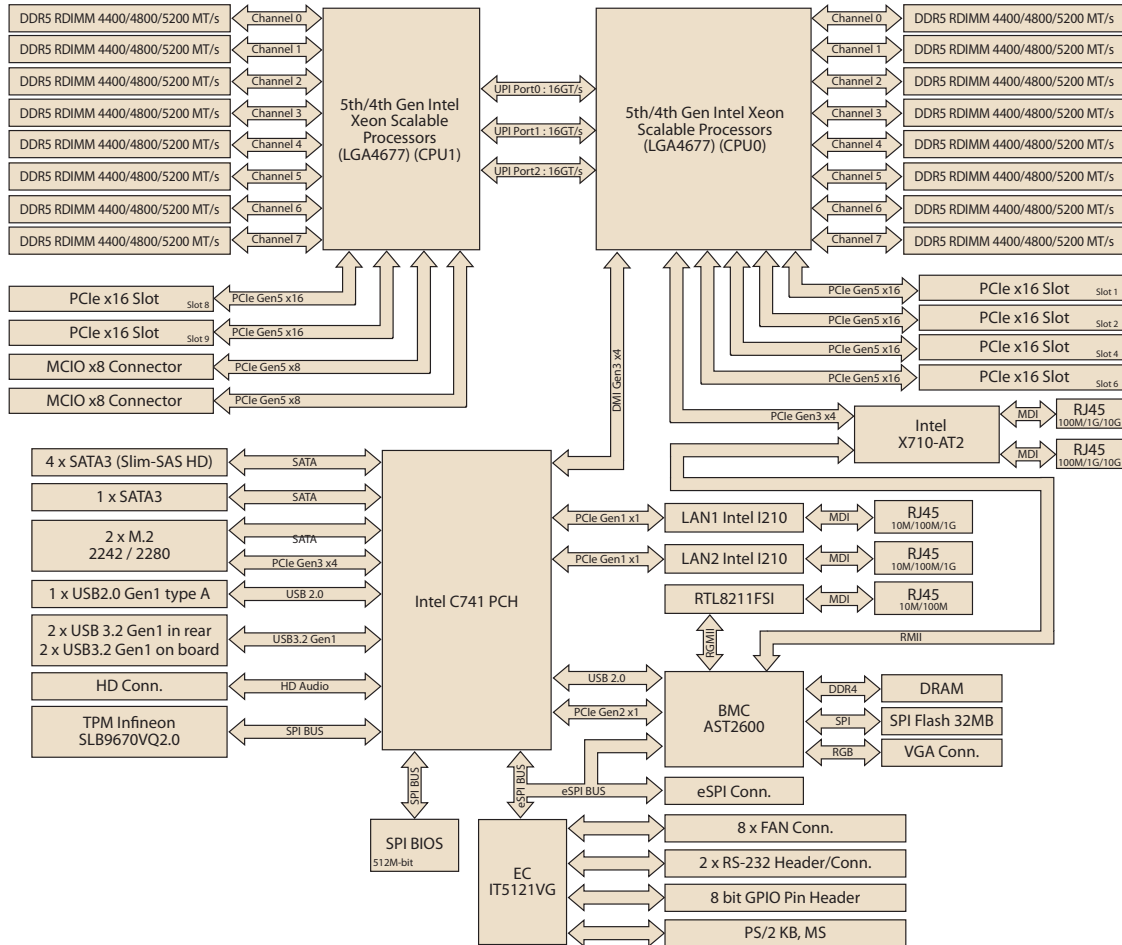
\*CPU power design support up to 350W TDP.

\*\*CXL 1.1 Type 1 and Type 2 device.

\*\*\*Please connect all 8-pin CPU PWR Conn. (ATX12V1/ ATX12V2/ ATX12V3/ ATX12V4) when using dual CPU both up to 205W TDP.

\*\*\*\*Due to the legacy nature of the PS/2 signal, compatibility issues may arise. For any related usage requirements, please consult with Advantech's AE team.

## Block Diagram



## Ordering Information

Part Number	CPU TDP	Memory	GbE/10GbE LAN	IPMI	Graphics
ASMB-977S-00A1	Dual 350W	16 x DDR5 RDIMM	2/2	Yes	AST 2600

## Packing List

Part Number	Description	Quantity
2042097700	Startup manual	x 1
1700003194	SATA data cables	x 1
1700022749-11	SATA power cables	x 1
1700019748	CPU power cable	x 2
1930008364	Screw for M.2 device	x 1
1960093947T002	I/O shield	x 1
1651003738-01	LGA4677 CPU carrier - E1A (XCC)	x 2
1651003739-01	LGA4677 CPU carrier - E1B (MCC)	x 2

## Optional Accessories

Part Number	Description
PCA-AUDIO-HDB1E	HD Audio-card
1970005860N000	LGA-4677 narrow CPU cooler for 2U/4U chassis (270W)
1970005933N001	LGA-4677 tower CPU cooler for 4U chassis (350W)
1700028024-01	Dual port USB 3.2 (Gen1) cable (45 cm / 17.7 in) with bracket
1701090401	Single port RS-232 COM cable (40 cm / 15.7 in) with bracket
1700019268-11	Cable for onboard KBMS1 connector (35 cm / 13.7 in)
1960063434N000	Cable bracket for 1700019268-11

Note:  
 1. PCA-AUDIO-HDB1E is not compatible with 3U chassis.  
 2. Select SATA cable from HPC chassis datasheet or contact sales representative.

## I/O View



ASMB-977S-00A1