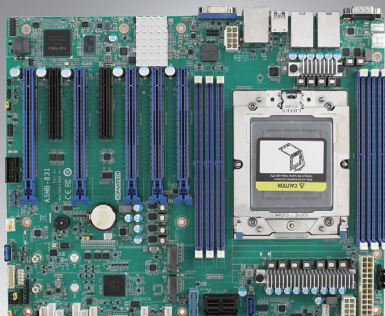


# ASMB-831

**LGA 6096 AMD® EPYC™ Embedded 9004  
ATX Server Board with 6 x DDR5,  
5 x PCIe x16 + 2 x PCIe x8, 9 x SATA3,  
7 x USB 3.2 (Gen1), Dual 10GbE, and IPMI**



CE FCC

## Features

- LGA 6096 (Socket SP5) ATX server board with AMD® EPYC™ Embedded 9004 processor
- DDR5 4800 MHz RDIMM
- Five PCIe x16 (Gen5) and two PCIe x8 (Gen5) for four double-deck cards
- Intel® X710-AT2 dual 10GbE ports
- Nine SATA3 and seven USB 3.2 (Gen1) ports
- Two M.2 2280/22110 (SATA / PCIe compatible)
- 0 ~ 60 °C/ 32 ~ 140 °F ambient operating temperature range

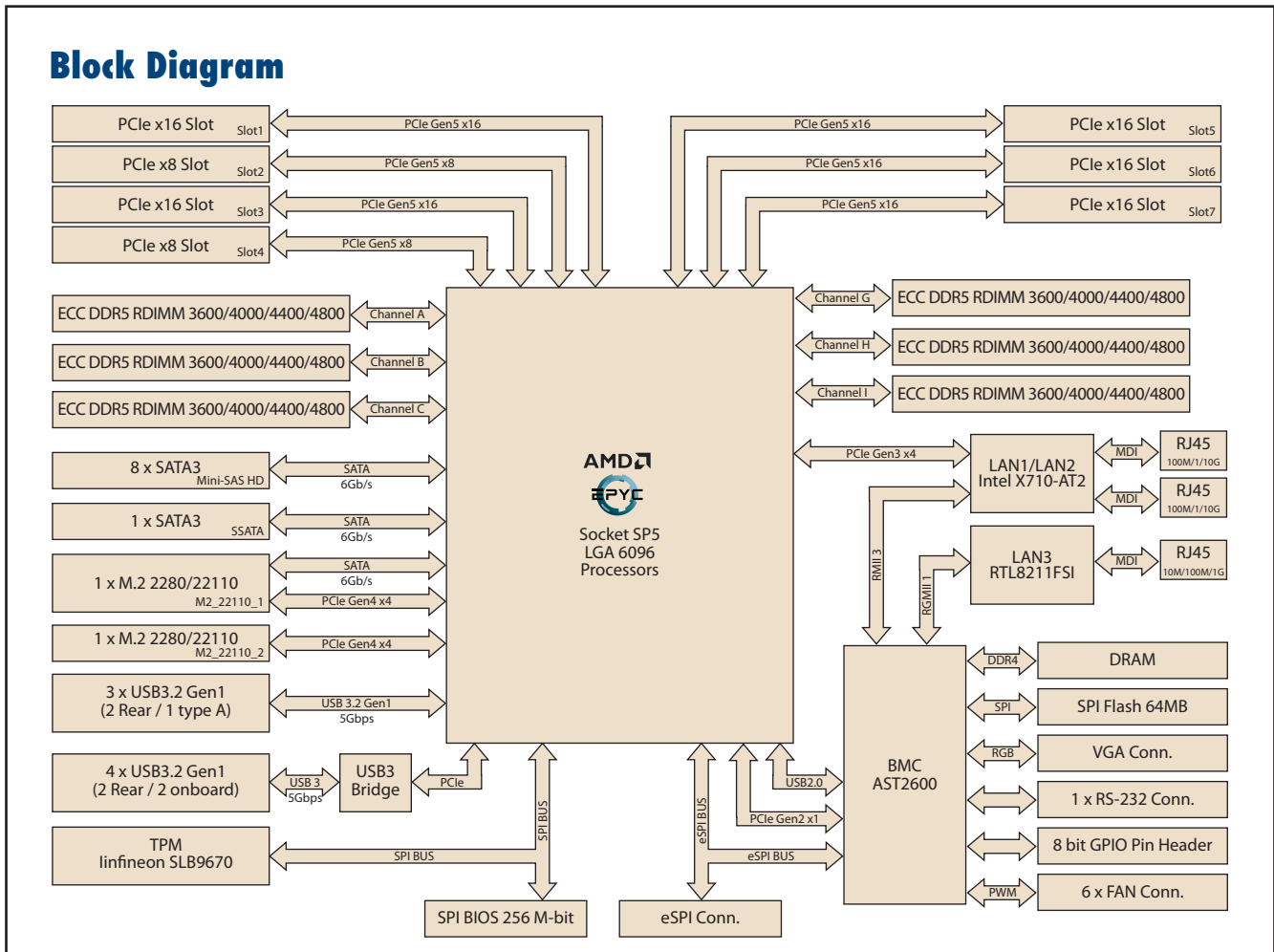
## Specifications

Form Factor	ATX form factor					
Processor System	Socket	AMD LGA 6096 (Socket SP5)				
	CPU type	AMD EPYC™ Embedded 9004 processors (CPU cooler should be purchased separately*)				
Memory	Total slots	6x (1 DIMM per channel)				
	Capacity	Maximum 384GB ECC RDIMM				
	Memory type	DDR5 ECC-REG 3600/4000/4400/4800 MHz RDIMM				
	Memory size	16 GB, 32 GB, 64 GB (RDIMM)				
Expansion Slots	Total PCI/PCI-X/PCIe slots	7				
	Slot location 1	PCIe x16 slot (Gen5 x16 link)				
	Slot location 2	PCIe x8 slot (Gen5 x8 link)				
	Slot location 3	PCIe x16 slot (Gen5 x16 link)				
	Slot location 4	PCIe x8 slot (Gen5 x8 link)				
	Slot location 5	PCIe x16 slot (Gen5 x16 link), CXL support**				
	Slot location 6	PCIe x16 slot (Gen5 x16 link), CXL support**				
Graphics	Slot location 7	PCIe x16 slot (Gen5 x16 link), CXL support**				
	VGA	ASPEED AST2600				
Storage	SATA controller	AMD EPYC™ CPU integrated: Eight (via Mini-SAS HD SFF-8643) + one SATA3				
	SAS controller	-				
Networking	GbE/10GbE LAN	Intel® X710-AT2 (dual 10GbE ports)				
Onboard I/O Connector	PSU connector	24-pin SSI power connector + 2 x 8-pin SSI 12V power connector + 1 x 4-pin SSI 12V power connector				
	USB connector	2 x USB 3.2 Gen1 ports (one onboard header) + 1 x Type-A USB 3.2 Gen1 port				
	Fan header	6 x 4-pin (5 for system + 1 for CPU)				
	M.2	1 x M.2 2280/22110 (PCIe Gen4 / SATA) + 1 x M.2 2280/22110 (PCIe Gen4 only)				
	SMBus	1				
	chassis intrusion	1				
	Front LAN LED	1				
	Audio Header	-				
	PS/2 KB/Mouse header	-				
Rear I/O Connector	Serial port header	-				
	External serial port	1				
	External USB port	4 (USB 3.2 Gen1)				
	VGA port	1				
	RJ-45	3 (1 port dedicated LAN and 1 port shared LAN for IPMI function)				
	PS/2 Keyboard/Mouse	-				
	Infiniband	-				
Management Solution	Software	-				
	Out of band remote management	Yes				
Monitoring	CPU temperature	Yes				
	System Monitoring	Yes				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Power Requirement	Power On	3.3V	5V	12V	12V_8P_1	12V_4P_1
	(210W CPU@2.6GHz DDR5-4800 64G*6)	2.976A	3.264A	0.616A	15.72A	6.876A
Environment	Operating		Non-operating			
	Temperature	0 ~ 60 °C/32 ~ 140 °F (CPU TDP under 240W)			-40 ~ 85 °C/-40 ~ 185 °F	
		0 ~ 50 °C/32 ~ 122 °F (CPU TDP between 240W and 300W) Also depends on CPU cooling solution				
Humidity	10% ~ 95%			10% ~ 95% (Non condensing)		
Physical Characteristics	Dimension (L x H)	304 x 244 mm (12 x 9.6 in)				

\*CPU power design support up to 300W TDP. Please consider extended thermal solution while using CPU > 210W TDP

\*\*CXL 1.1+ Type 3 device

### Block Diagram



### Ordering Information

Part Number	Memory	GbE/10GbE LAN	IPMI	Graphics
ASMB-831T2-00A1	6 x DDR5 ECC-REG DIMM	-/2	Yes	AST2600

### Packing List

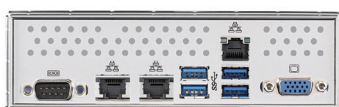
Part Number	Description	Quantity
2042083100	Startup manual	x 1
1700003194	SATA data cables	x 1
1700022749-11	SATA power cables	x 1
1700019748	CPU power cable	x 2
1930008738	Screw for M.2 device	x 2
1960109293T001	I/O Shield	x 1
1960109237N010	PCIe I/O support	x 1
1700031926-11	Front panel convert cable	x 1

### Optional Accessories

Part Number	Description
1970005676N001	LGA-6096 CPU cooler for 2U/4U chassis (210W)
1700028292-01	Dual port USB 3.2 Gen1 cable (30 cm/11.8 in) with bracket

Note:  
1. Select SATA cable (SFF-8643) from HPC chassis datasheet or contact sales representative.

### I/O View



ASMB-831T2-00A1