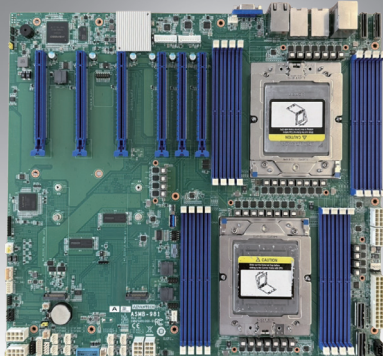


ASMB-981

**LGA 6096 AMD® EPYC™ Embedded
9004/9005 Server Board with 16 x DDR5,
6 x PCIe x16, 4 x MCIO, 5 x USB 3.2
(Gen1), Dual 10GbE, and IPMI**

Preliminary



CE FCC

Features

- LGA 6096 (Socket SP5) server board with Dual AMD® EPYC™ Embedded 9004/9005 processor
- Up to DDR5 6400 MHz RDIMM
- Six PCIe x16 (Gen5) and support four double-deck cards
- Intel® X710-AT2 dual 10GbE ports and i226LM Dual 2.5G
- Four MCIO connectors (Gen5/SATA), Five USB 3.2 (Gen1)
- Two M.2 2280/22110 (PCIe compatible)
- 0 ~ 40 °C (32 ~ 104 °F) ambient operating temperature range

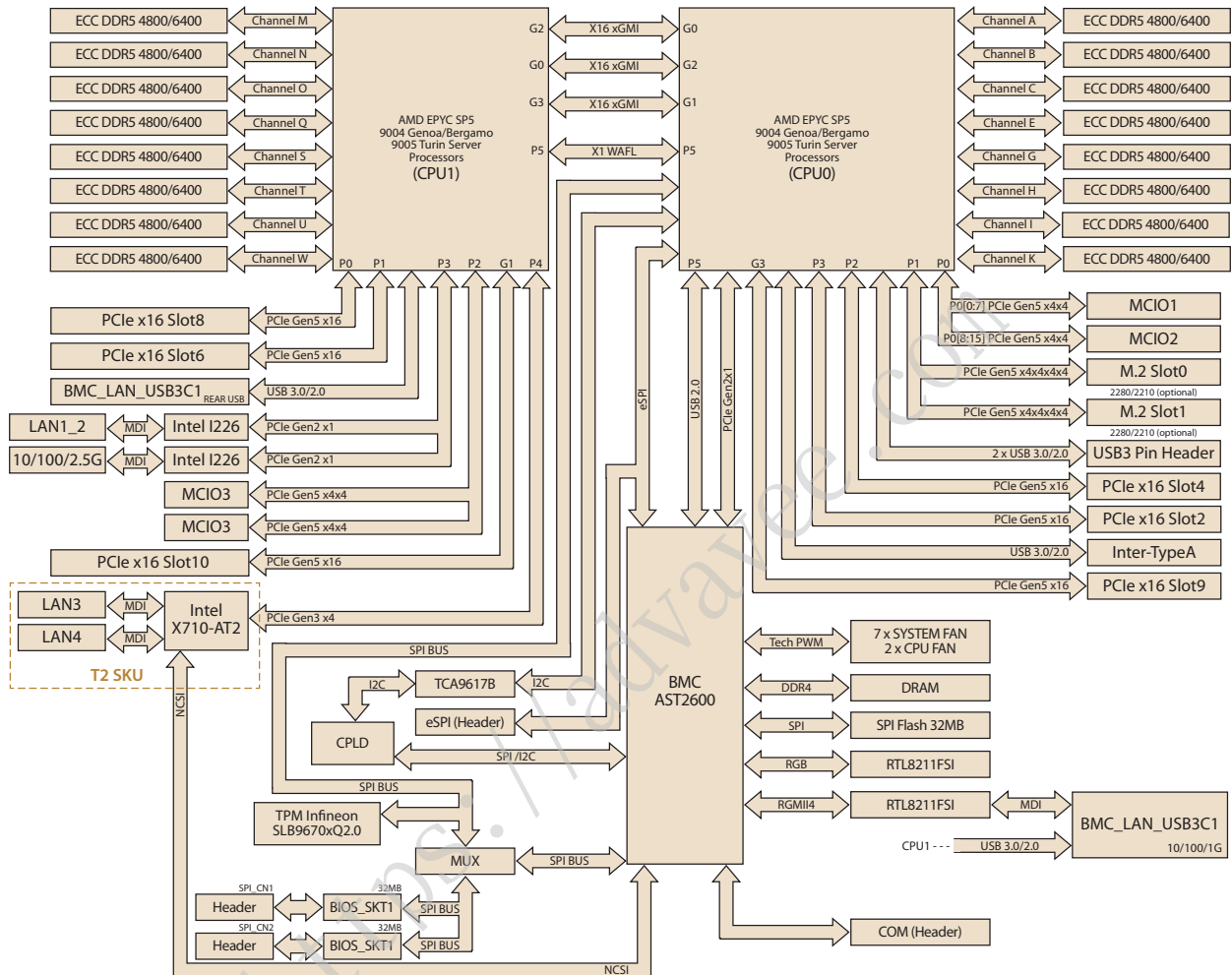
Specifications

Form Factor		Proprietary			
Processor System	Socket	AMD Dual LGA 6096 (Socket SP5)			
	CPU type	AMD EPYC™ Embedded 9004/9005 processors (CPU cooler should be purchased separately*)			
Memory	Total slots	16 (1 DIMM per channel)			
	Capacity	Maximum 4TB ECC RDIMM			
	Memory type	Up to 4800MHz ECC DDR5 RDIMM (AMD EPYC 9004) Up to 6400MHz ECC DDR5 RDIMM (AMD EPYC 9005)			
	Memory size	16 GB, 32 GB, 64 GB, 96, 128, 256 GB			
Expansion Slots	Total PCI/PCI-X/PCIe slots	6			
	Slot location 1	N/A			
	Slot location 2	PCIe x16 slot (Gen5 x16 link), CXL support**			
	Slot location 3	N/A			
	Slot location 4	PCIe x16 slot (Gen5 x16 link), CXL support**			
	Slot location 5	N/A			
	Slot location 6	PCIe x16 slot (Gen5 x16 link), CXL support**			
	Slot location 7	N/A			
	Slot location 8	PCIe x16 slot (Gen5 x16 link), CXL support**			
	Slot location 9	PCIe x16 slot (Gen5 x16 link)			
	Slot location 10	PCIe x16 slot (Gen5 x16 link)			
Graphics	VGA	ASPEED AST2600			
Storage	SATA controller	AMD EPYC™ CPU integrated: 16 (via 2 x MCIO)			
	SAS controller	-			
Networking	2.5GbE/10GbE LAN	2 x Intel® I226LM / Intel® X710-AT2 (dual 10GbE ports)			
Onboard I/O Connector	PSU connector	24-pin SSI power connector + 6 x 8-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	11 x 4-pin (8 for Dual 4-pin system + 1 for system + 2 for CPU) + 2 x 8-pin (2 for system)			
	M.2	2 x M.2 2280/22110 (PCIe Gen5), CXL support**			
	MCIO	4 x MCIO (2 x PCIe Gen5 x8, 2 x PCIe Gen5 x8/SATA), CXL support**			
	SMBus	1			
	chassis intrusion	1			
	Front LAN LED	1			
	Audio Header	-			
	PS/2 KB/Mouse header	-			
	Serial port header	-			
Rear I/O Connector	External serial port	1			
	External USB port	2 (USB 3.2 Gen1)			
	VGA port	1			
	RJ-45	5 (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	SLOT12V
	400W CPU@3.65 GHz DDR5-4800 16G*16)	2.51A	6.95A	76.64A	0.73A
Environment		Operating			Non-operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F), depends on CPU speed and cooler solution			-40 ~ 85 °C/-40 ~ 185 °F
	Humidity	10% ~ 95%			10% ~ 95% (Non condensing)
Physical Characteristics	Dimension (L x H)	380 x 352.5 mm (14.96" x 13.88")			

*CPU power design support up to 400W TDP. Please consider extended thermal solution while using CPU > 300W TDP

**CXL 2.0 + Type 3 device

Block Diagram



Ordering Information

Part Number	Memory	2.5GbE/10GbE LAN	IPMI	Graphics
ASMB-981T2-00A1	16 x DDR5 RDIMM	2/2	Yes	AST 2600
ASMB-981T2-00A1U	16 x DDR5 RDIMM	2/2	Yes	AST 2600
ASMB-981I-00A1	16 x DDR5 RDIMM	2/-	Yes	AST 2600

Packing List

Part Number	Description	Quantity
2042098100	Startup manual	x 1
1700019748	CPU power cable	x 2
1930008738	Screw for M.2 device	x 2
1960119686N000	I/O Shield	x 1
1700019414	COM cable	x 1

Optional Accessories

Part Number	Description
1970006026N000	LGA-6096 CPU cooler for 4U chassis (300W)
1970005676N001	LGA-6096 CPU cooler for 2U/4U chassis (220W)
1700028292-01	Dual port USB 3.2 Gen1 cable (30 cm/11.8 in) with bracket
1700031926-11	Front panel convert cable

Note:
1. Select MCIO cable from HPC chassis datasheet or contact sales representative.

I/O View



ASMB-981T2-00A1



ASMB-981I-00A1