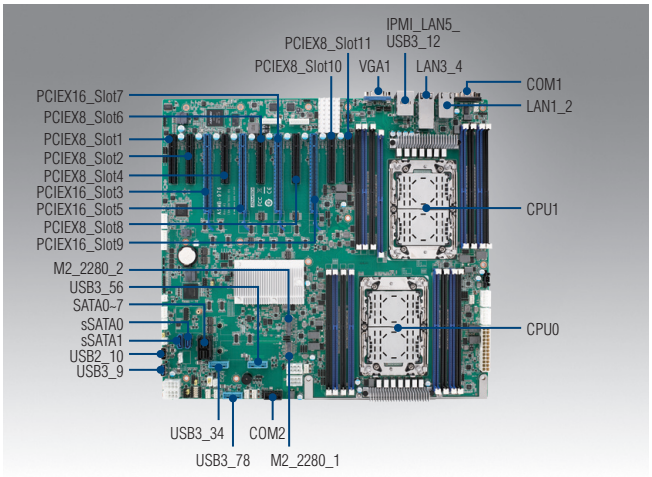
ASMB-976

LGA 4189 Intel® Xeon® Scalable Proprietary Server Board with 16x DDR4, 4 x PCIe x16, 10 x SATA3, 8 x USB 3.2 (Gen 1), Dual 10GbE, and IPMI



Features

- LGA4189 proprietary server board with 3rd Gen Intel® Xeon® scalable processor
- DDR4 3200 MHz RDIMM up to 2TB, and Intel® Optane™ support
- 4 x PCIe x16 and 7 x PCIe x8
- Intel® X550 dual 10GbE ports
- 10 x SATA3 and 2x M.2 connectors (SATA/PCIe compatible)
- 0 ~ 40 °C (32 ~ 104 °F) ambient operating temperature range

CE FCC

Specifications

Form Factor		Proprietary 380 x 346 mm (14.96" x 13.64")						
Processor System	Socket	Intel® LGA4189						
	CPU type	3rd Gen Intel® Xeon® Scalable processors(CPU cooler should be purchased separately and TDP up to 270W*)						
Core Logic	Chipset	Intel® C621A chipset						
Memory	Total slots	16 (1 DIMM per channel)						
	Capacity	Maximum 2TB ECC LRDIMM Maximum 1TB ECC RDIMM						
	Memory type	DDR4 ECC-REG 2666/2933/3200 MHz RDIMM/LRDIMM, support Intel® Optane™ Persistent Memory						
	Memory size	8 GB, 16 GB, 32 GB, 64 GB, 128 GB (LRDIMM)						
Expansion Slots	Total PCIe slots	11						
	Slot location 1	PCIe x8 slot (x8 link), signal from CPU0						
	Slot location 2	PCIe x8 slot (x8 link), signal from CPU1						
	Slot location 3	PCIe x16 slot (x16 link), signal from CPU0						
	Slot location 4	PCIe x8 slot (x8 link), signal from CPU1						
	Slot location 5	PCIe x16 slot (x16 link), signal from CPU0						
	Slot location 6	PCIe x8 slot (x8 link), signal from CPU0						
	Slot location 7	PCIe x16 slot (x16 link), signal from CPU1						
	Slot location 8	PCIe x8 slot (x8 link), signal from CPU0						
	Slot location 9	PCIe x16 slot (x16 link), signal from CPU1						
	Slot location 10	PCIe x8 slot (x8 link), signal from CPU1						
	Slot location 11	PCIe x8 slot (x8 link), signal from CPU1						
Graphics	VGA	Aspeed AST 2500						
Storage	SATA controller	Intel® C621A: 10 x SATA 3 (600 MB/s). 8 x SATA 3 support software RAID 0,1,5,10, 2 x SATA 3 support software RAID 0,1						
	SAS controller	-						
Networking	GbE/10GbE LAN	2 x Intel® I210AT / Intel® X550-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	6 x USB 3.2 Gen 1 ports (three onboard headers) + 1 x Type-A USB 3.2 Gen 1 port + 1 x Type-A USB 2.0 port						
	Fan header	9 x 4-pin (2 for CPU + 7 for system)						
	M.2	1 x M.2 2280 B+M key (SATA and PCIe) + 1 x M.2 2280 B+M key (PCIe)						
	SMBus	1						
	Chassis intruder	1						
	Front LAN LED	1						
	Audio Header	1						
	PS/2 Keyboard/Mouse header	1						
	Serial port header	1						
Rear I/O Connector	External serial port	1						
	External USB port	2 (USB 3.2 Gen. 1)						
	VGA port	1						
	RJ-45	5 (1 port dedicated for IPMI function)						
	PS/2 KB/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 Requirements	Power On	3.3V	5V	12V	5Vsb	-12V	8P_CPU0	8P_CPU1
	(220W CPU@2.6GHz DDR4 2666 32G*16)	1.91A	2.94A	3.98A	0.28A	0.01A	22.79A	22.84A
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	Dimensions (L x H)	380 x 346 mm (14.96" x 13.64")						

*CPU power design supports up to 270W TDP. Please consider additional air thermal solution while using CPU > 205W TDP.

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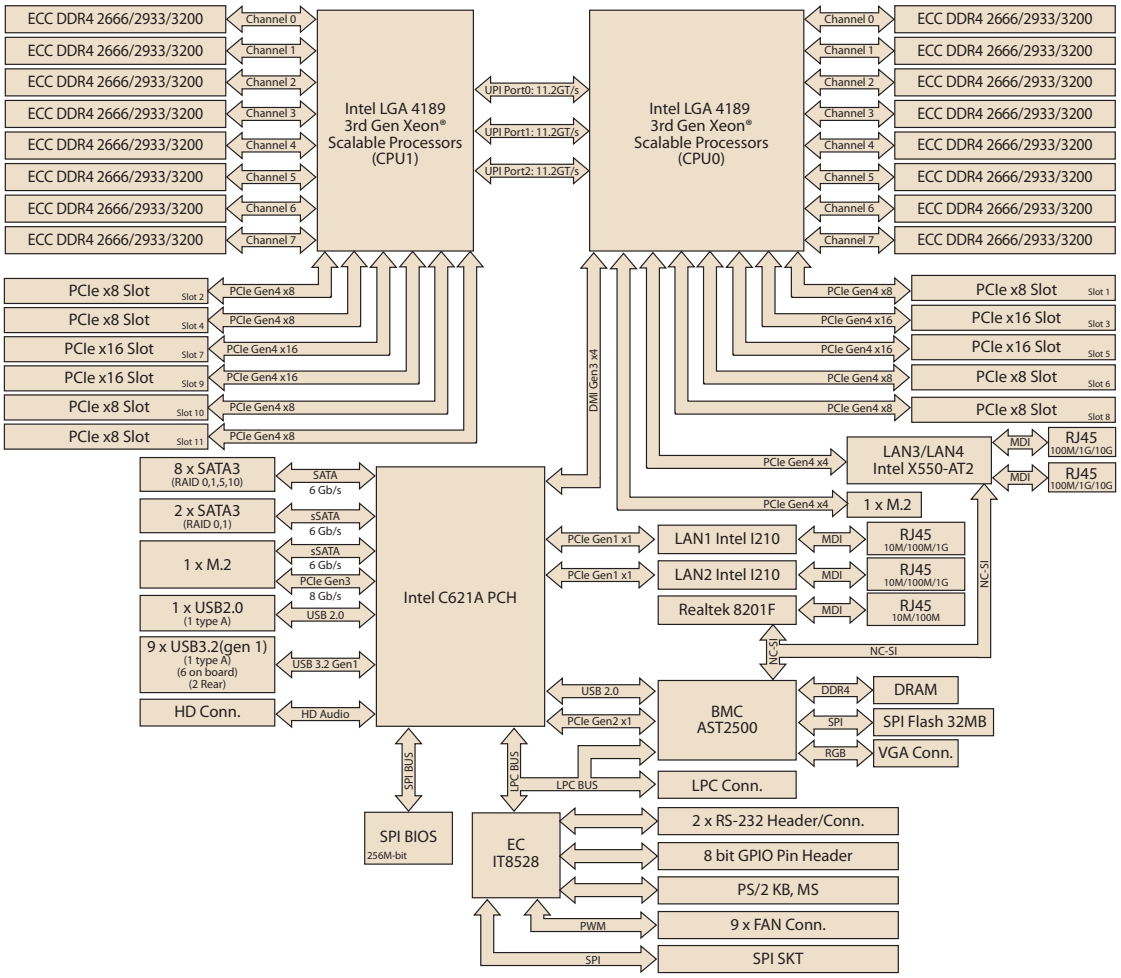
All product specifications are subject to change without notice.

Last updated: 24-Jan-2022

Block Diagram



Ordering Information

Part Number	Chipset	Memory	GbE/10GbE LAN	IPMI	Graphics
ASMB-976-00A1	C621A	16 x DDR4 RDIMM/LRDIMM	2/-	-	AST 2510
ASMB-976T2-00A1	C621A	16 x DDR4 RDIMM/LRDIMM	2/2	Yes	AST 2500

Packing List

Part Number	Description	Quantity
2041097600	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1930008089	Screw for M.2 device	x 2
1960093947T001	I/O shield	x 1
1651003476-01	LGA4189 CPU carrier	x 2

Optional Accessories

Part Number	Description
PCA-AUDIO-HDB1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 Module by LPC
1970004902T000	LGA-4189 narrow CPU cooler for 2U/4U chassis (205W)
1700028024-01	Dual port USB USB 3.2 (Gen1) cable (45 cm/17.7") with bracket
1701090401	COM port cable with bracket
1700019268-11	PS/2 port cable (35 cm/13.7")
1960063434N000	Cable bracket for 1700019268-11

Note: PCA-AUDIO-HDB1E is not compatible with Advantech 3U chassis.

I/O View

ASMB-976-00A1

ASMB-976T2-00A1