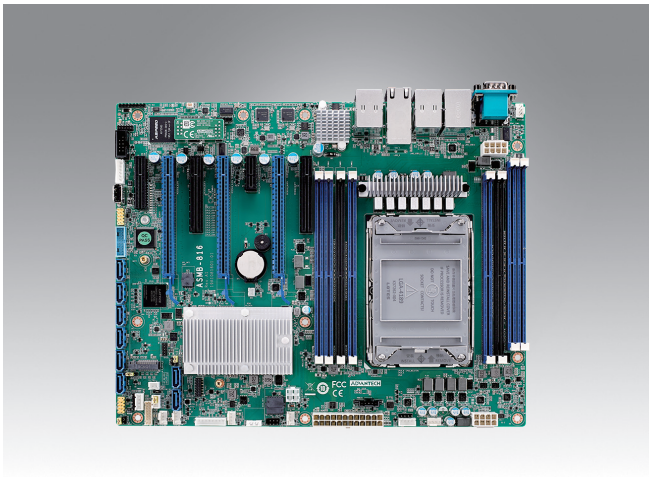
ASMB-816

LGA 4189 Intel® 3rd Gen Xeon® Scalable ATX Server Board with 8x DDR4, 3x PCIe x16, 8x SATA 3, 6x USB 3.2 (Gen1), Dual 10GbE, and IPMI



Features

- LGA4189 ATX server board with 3rd Gen. Xeon® Scalable processor
- DDR4 3200 MHz RDIMM up to 512 GB (8 DIMMs) supports Intel® Optane™ Persistent Memory
- Features 3x PCIe x16, 1x PCIe x8, 2x PCIe x4, and 1x PCIe x1
- Intel® X550 dual 10GbE ports
- Eight SATA 3 and one M.2 connectors (SATA/PCIe compatible)
- 0 ~ 60 °C/ 32 ~ 140 °F ambient operating temperature range

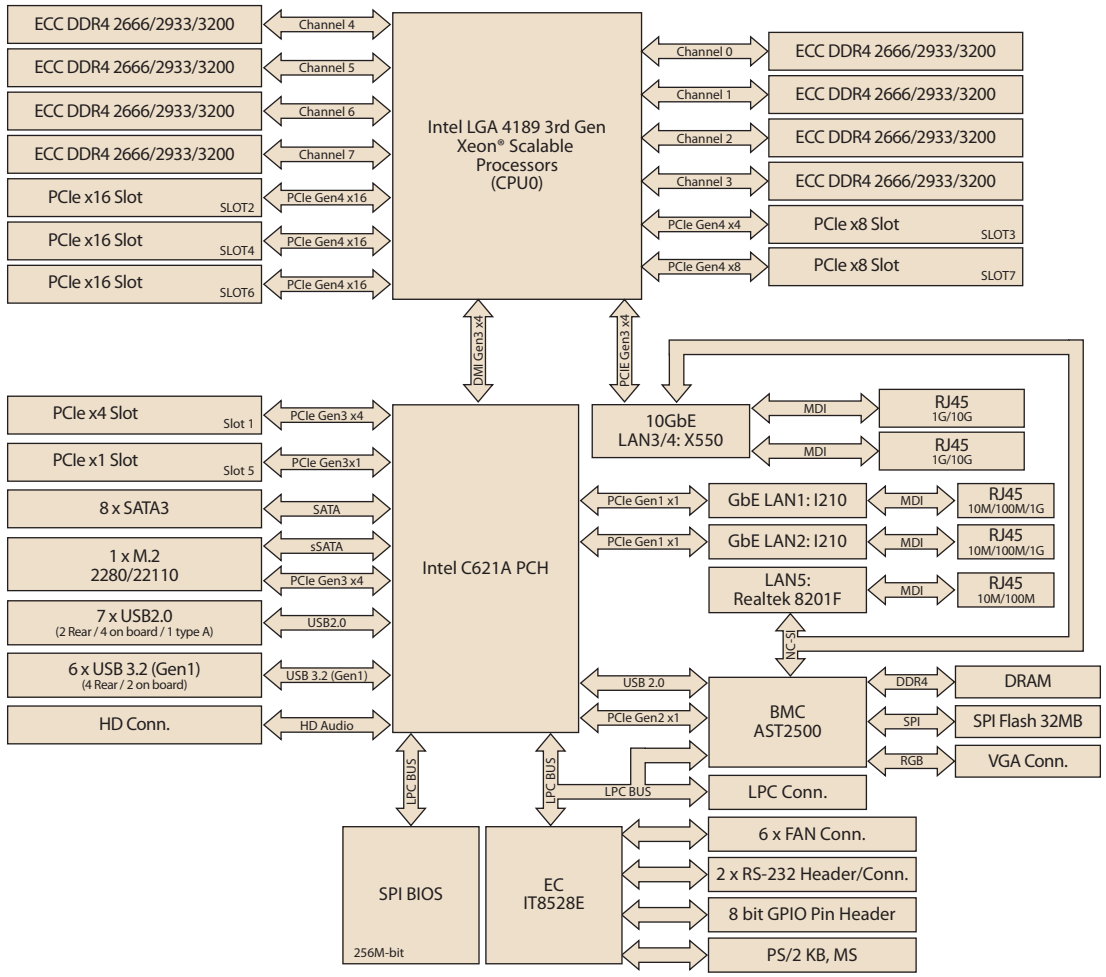
Specifications

Form Factor		ATX form factor					
Processor System	Socket	Intel LGA4189 (Socket P+)					
	CPU type	Intel 3rd Generation Xeon Scalable processors (CPU cooler should be purchased separately*)					
Core Logic	Chipset	Intel C621A chipset					
Memory	Total slots	8x (1 DIMM per channel)					
	Capacity	Maximum 512GB ECC RDIMM					
	Memory type	DDR4 ECC-REG 2666/2933/3200 MHz RDIMM/LRDIMM, supports Intel® Optane™ Persistent Memory**					
	Memory size	8 GB, 16 GB, 32 GB, 64 GB, 128 GB (LRDIMM)					
Expansion Slots	Total PCI/PCI-X/PCIe slots	7					
	Slot location 1	PCIe x4 slot (x4 link), signal from PCH					
	Slot location 2	PCIe x16 slot (x16 link), signal from CPU					
	Slot location 3	PCIe x8 slot (x4 link), signal from CPU					
	Slot location 4	PCIe x16 slot (x16 link), signal from CPU					
	Slot location 5	PCIe x1 slot (x1 link), signal from PCH					
	Slot location 6	PCIe x16 slot (x16 link), signal from CPU					
	Slot location 7	PCIe x8 slot (x8 link), signal from CPU					
Graphics	VGA	Aspeed AST 2500/2510					
Storage	SATA controller	Intel® C621A: 8 x SATA3.0 (6 Gb/s) support software RAID 0,1,5,10					
Networking	GbE/10GbE LAN	2 x Intel® I210AT / Intel® X550-AT2 (dual 10GbE ports)					
Onboard I/O Connector	PSU connector	24-pin SSI power connector + 2 x 8-pin SSI 12 V power connector + 4-pin SSI 12 V power connector					
	USB connector	4 x USB 2.0 ports (two onboard headers) + 2 x USB 3.2 Gen1 ports (one onboard header) + 1 x Type-A USB 2.0 port					
	Fan header	6 x 4-pin (5 for system + 1 for CPU)					
	M.2	1 x M.2 2280/22110 B+M key (SATA and PCIe)					
	SMBus	1					
	Chassis intrusion	1					
	Front LAN LED	1					
	Audio Header	1					
	PS/2 KB/Mouse	1					
	Serial port header	1					
Rear I/O Connector	External serial port	1					
	External USB port	4 USB 3.2 Gen1 + 2 USB 2.0					
	VGA port	1					
	RJ-45	5 (1 port dedicated for BMC)					
Management Solution	Software	Advantech remote monitoring utility					
	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	5Vsb	-12V	12V_8P
	(220W CPU@2.6GHz DDR4 2400 8G*8)	2.1A	2.7A	0.2A	0.2A	0.1A	25.1A
Environment		Operating			Non-operating		
	Temperature	0 ~ 60 °C/32 ~ 140 °F, depends on CPU speed and cooling solution			-40 ~ 85 °C/-40 ~ 185 °F		
	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 270W TDP. Please consider extended air thermal solution while using CPU > 205W TDP.
**Memory frequency depends on the memory speed supported by the CPU.

All product specifications are subject to change without notice.

Block Diagram



Ordering Information

Part Number	Chipset	Memory	GbE/10GbE LAN	IPMI	Graphics
ASMB-816T2-00A1	C621A	DDR4 RDIMM	2/2	Yes	AST2500
ASMB-816I-00A1	C621A	DDR4 RDIMM	2/-	Yes	AST2500
ASMB-816-00A1	C621A	DDR4 RDIMM	2/-	-	AST2510

Packing List

Part Number	Description	Quantity
2041081600	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 1
1960076488T000	I/O shield	x 1
1651003476-01	LGA4189 CPU carrier	x 1
1700031684-01	Front panel convert cable	x 1

Optional Accessories

Part Number	Description
PCA-AUDIO-HDB1E	HD Audio-card
PCA-TPM-00B1E	TPM 2.0 module
1970004565N001	LGA-4189 narrow CPU heatsink for 1U chassis (105W)
1970004902T000	LGA-4189 narrow CPU cooler for 2U/4U chassis (205W)
1700002204	Dual port USB cable (27 cm) with bracket
1700008461	Four port USB cable (30.5 cm) with bracket
1700020277-01	Dual port USB 3.2 (Gen1) cable (30 cm) with bracket
1701090401	COM port cable (40 cm) with bracket
1700019268-11	PS/2 port cable (35 cm)
1960063434N000	Cable bracket for 1700019268-11
1960082347T000	1U chassis I/O shield

I/O View



ASMB-816T2-00A1 ASMB-816I-00A1 ASMB-816-00A1