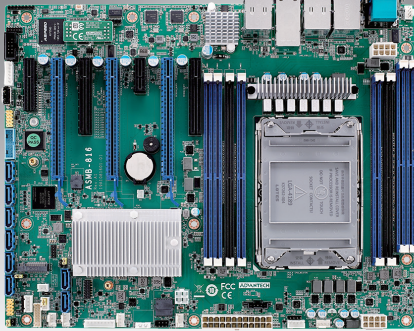


# ASMB-816

**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



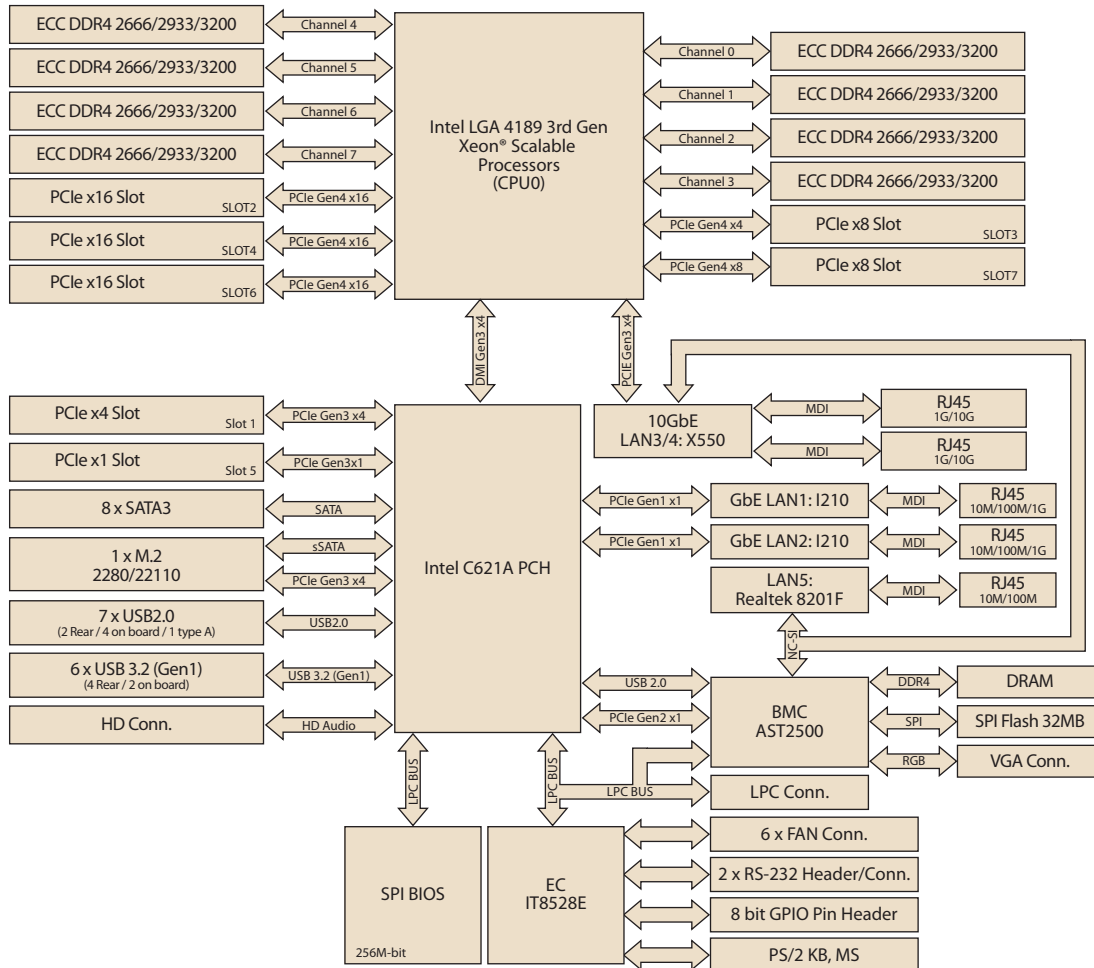
## Specifications

Form Factor	ATX form factor	
Processor System	Socket	Intel LGA4189 (Socket P+)
	CPU type	Intel 3 <sup>rd</sup> 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
Rear I/O Connector	PS/2 KB/Mouse	1
	Serial port header	1
	External serial port	1
	External USB port	4 USB 3.2 Gen1 + 2 USB 2.0
	VGA port	1
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
	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.

## 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
1930008364	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 by LPC
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 2.0 cable (27 cm / 10.6 in) with bracket
1700008461	Four port USB 2.0 cable (30.5 cm / 12 in) with bracket
1700028292-01	Dual port USB 3.2 (Gen1) cable (30 cm / 11.8 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
1960082347T000	1U chassis I/O shield

## I/O View



ASMB-816T2-00A1

ASMB-816I-00A1

ASMB-816-00A1