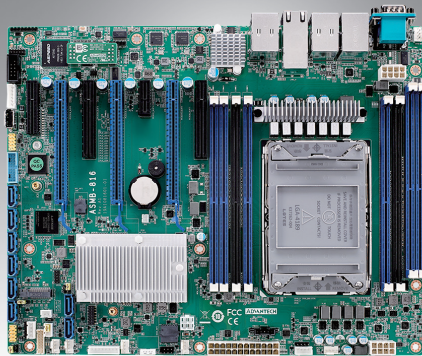


ASMB-816

LGA 4189 Intel® Xeon® Scalable ATX Server Board with 8x DDR4, 3x PCIe x16, 8x SATA 3, 6x USB 3.0, Dual 10GbE, and IPMI

Preliminary



Features

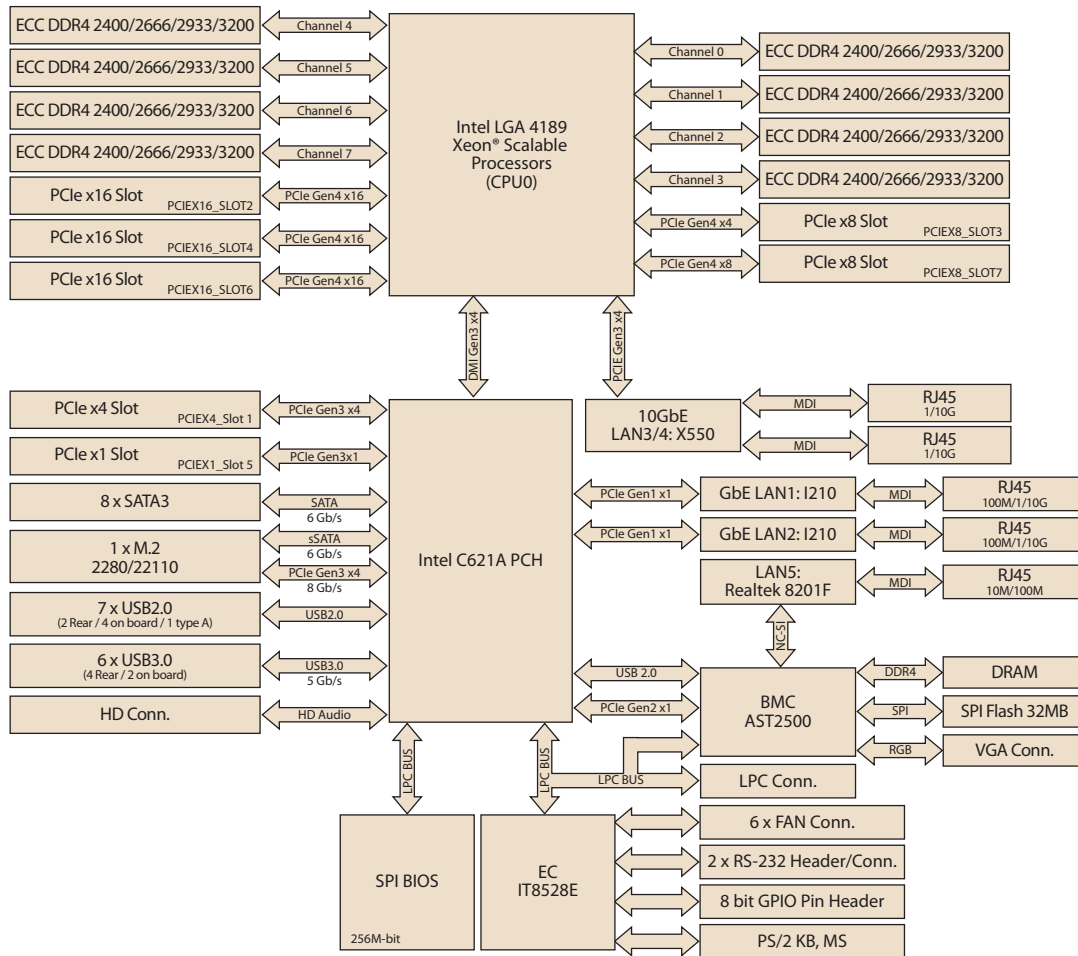
- LGA4189 (Socket P+) ATX server board with 3rd Gen. Xeon® Scalable processor
- DDR4 3200 MHz RDIMM up to 512 GB (8 DIMMs) supports Intel® Optane™ Persistent Memory
- Features 3x PCIe x16, 1x PCIe x8, 2x PCIe x4, and 1x PCIe x1
- Intel® X550 dual 10GbE ports
- Eight SATA 3 and one M.2 connectors (SATA/PCIe 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 rd 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	
Storage	SATA controller	Intel® C621A: 8 x SATA 3 (600 MB/s) support software RAID 0,1,5,10
	SAS controller	-
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 3.0 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 intruder	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	4x (USB 3.0) + 2x USB (2.0)
	VGA port	1
Management Solution	RJ-45	5x (1 port dedicated for IPMI function)
	PS/2 KB/mouse	-
	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 5Vsb -12V 12V_8P
	(220W CPU@2.6GHz DDR4 2400 8G*8)	13.9754 4.565 9.40565 0.22408 0.08241 25.14
Environment	Operating	Non-operating
	Temperature	0 ~ 60 °C/32 ~ 140 °F, depends on CPU speed and cooling solution
	Humidity	10% ~ 95%
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.

Block Diagram



Ordering Information

Part Number	Chipset	Memory	GbE/10GbE LAN	IPMI	Graphics
ASMB-816I-00A1	C621A	DDR4 RDIMM	2/-	Yes	AST 2500
ASMB-816T2-00A1	C621A	DDR4 RDIMM	2/2	Yes	AST 2500

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 2
1960076488T000	I/O shield	x 1
1651003167-01	LGA4189 CPU carrier	x 1
(TBD)	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
1970004597T000	LGA-4189 narrow CPU cooler for 2U/4U chassis (205W)
1700002204	Dual port USB cable (27 cm/10.6 in) with bracket
1700008461	Four port USB cable (30.5 cm/12 in) with bracket
1700020277-01	Dual port USB 3.0 cable (30 cm/11.8 in) with bracket
1701090401	COM port cable (40 cm/15.7 in) with bracket
1700019268-11	PS/2 port cable (35 cm/13.77 in)
1960063434N000	Cable bracket for 1700019268-11
1960082347T000	For 1U chassis I/O shield

I/O View



ASMB-816T2-00A1



ASMB-816I-00A1