

X12SPG-NF



GPU Serverboard

Key Features

1. 3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP
2. Intel® C621A
3. Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots
4. 3 PCI-E 4.0 x16 Proprietary Slots
2 PCI-E 4.0 NVMe x4
M.2 Interface: 2 SATA/PCI-E 3.0 x4
M.2 Form Factor: 2280/22110
M.2 Key: M-Key
1 PCI-E 4.0 x8 AIOM
5. Single LAN with Realtek RTL8211F PHY
(dedicated IPMI)
6. Intel® C621A controller for 2 SATA3 (6 Gbps) ports; RAID 0,1

Specifications

Product SKUs

MBD-X12SPG-NF	<ul style="list-style-type: none"> X12SPG-NF
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Physical Stats

Form Factor	<ul style="list-style-type: none"> Proprietary
Dimension	<ul style="list-style-type: none"> 9.6" x 14.5" (24.38cm x 36.83cm)

Processor

CPU	<ul style="list-style-type: none"> 3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP
Core	<ul style="list-style-type: none"> Up to 40 cores

System Memory

Memory Capacity	<ul style="list-style-type: none"> 8 DIMM slots Up to 2TB Intel® Optane™ Persistent Memory 200 Series Up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz
Memory Type	<ul style="list-style-type: none"> 3200/2933/2666MHz ECC , DDR4 LRDIMM (3DS), RDIMM (3DS)
DIMM Sizes	<ul style="list-style-type: none"> 8GB, 16GB, 32GB, 64GB, 128GB, 256GB LRDIMM: 64GB, 128GB RDIMM: 8GB, 16GB, 32GB, 64GB
Memory Voltage	<ul style="list-style-type: none"> 1.2V
Error Detection	<ul style="list-style-type: none"> Corrects single-bit errors

On-Board Devices

Chipset	<ul style="list-style-type: none"> Intel® C621A
SATA	<ul style="list-style-type: none"> Intel® C621A controller for 2 SATA3 (6 Gbps) ports; RAID 0,1
IPMI	<ul style="list-style-type: none"> ASPEED AST2500 BMC
Graphics	<ul style="list-style-type: none"> ASPEED AST2500 BMC
Network Controllers	<ul style="list-style-type: none"> Single LAN with Realtek RTL8211F PHY (dedicated IPMI)

Input / Output

LAN	<ul style="list-style-type: none"> 1 RJ45 Dedicated IPMI LAN port
USB	<ul style="list-style-type: none"> 2 USB 3.2 Gen1 port(s) (2 rear)
Video Output	<ul style="list-style-type: none"> 1 VGA D-Sub Connector port(s)
Serial Port	<ul style="list-style-type: none"> 1 COM Port(s) (1 rear)
DOM	<ul style="list-style-type: none"> 2 SATA <u>DOM</u> (Disk on Module) power connector support
TPM	<ul style="list-style-type: none"> 1 TPM Header

Expansion Slots

PCI-E	<ul style="list-style-type: none"> 3 PCI-E 4.0 x16 Proprietary Slot
M.2	<ul style="list-style-type: none"> M.2 Interface: 2 SATA/PCI-E 3.0 x4, RAID 0 & 1 Form Factor: 2280/22110 Key: M-Key

System BIOS

BIOS Type	<ul style="list-style-type: none"> AMI UEFI
BIOS Features	<ul style="list-style-type: none"> ACPI 6.2 SMBIOS 3.0 or later UEFI 2.7

Management

Software	<ul style="list-style-type: none"> SuperDoctor® 5, <u>SUM</u>, KVM with dedicated LAN, <u>SPM</u>, Intel® Node Manager, <u>SSM</u>, <u>IPMI2.0</u>, Watchdog
System Management Software	<ul style="list-style-type: none"> IPMI (Intelligent Platform Management Interface) v1.5 / 2.0 with KVM support
Power Configurations	<ul style="list-style-type: none"> Power-on mode for AC power recovery, ACPI Power Management, CPU thermal trip support for processor protection

PC Health Monitoring

Voltage	<ul style="list-style-type: none"> VBAT, System temperature, Monitors CPU voltages, HT, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V
LED	<ul style="list-style-type: none"> UID/Remote UID BMC/IPMI Heartbeat LED Suspend static indicator LED CPU / System Overheat LED
Temperature	<ul style="list-style-type: none"> CPU thermal trip support PECI
FAN	<ul style="list-style-type: none"> System level control PWM fan speed control Fan speed control Overheat LED indication
Other Features	<ul style="list-style-type: none"> UID RoHS ACPI power management RoT

Operating Environment

Operating Temperature Range	<ul style="list-style-type: none"> 0°C - 50°C (32°F - 122°F)
Non-Operating Temperature Range	<ul style="list-style-type: none"> -20°C - 60°C (-4°F - 140°F)

Operating Relative Humidity Range	■ 10% - 85% (non-condensing)
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Non Operating Relative Humidity Range	■ 10% - 95% (non-condensing)
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Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X12SPG-NF	1	X12SPG-NF Motherboard

Optional Parts List			
Name	Part Number	Qty	Description
TPM security module	<u>AOM-TPM-9671V</u>	1	SPI capable TPM 1.2 with Infineon 9670 controller with vertical form factor SPI capable TPM 2.0 with Infineon 9670 controller with vertical form factor
	<u>AOM-TPM-9670V</u>	1	

Server (Optimized for X12SPG-NF)

Server Name
<u>SYS-210GP-DNR</u>

