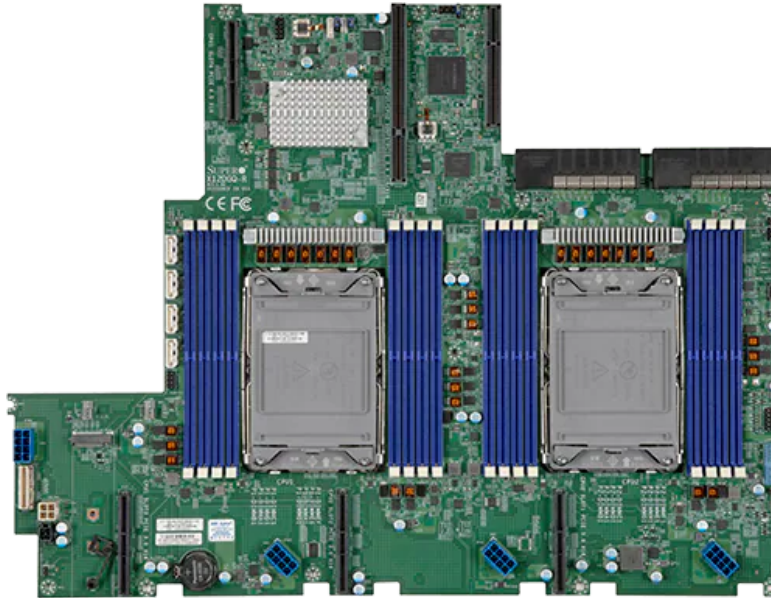# X12DGQ-R (For SuperServer Only)

GPU Serverboard

Key Features

3rd Gen Intel® Xeon® Scalable processors

Dual Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP, 3 UPI up to 11.2 GT/s

Intel® C621A

Up to 4TB RDIMM, DDR4-3200MHz; Up to 4TB LRDIMM, DDR4-3200MHz

Up to 4TB Intel® Optane™ Persistent Memory 200 Series, DDR4-3200MHz (OC), in 16 DIMM slots

1 PCIexpress 4.0 x32 riser supporting x16/x16,

4 PCIexpress 4.0 x16 slots,

1 PCIexpress 4.0 x4 M.2 slot

M.2 Form Factor: 2242/2260/2280/22110

M.2 Key: M-Key

1 PCIexpress 4.0 x8 SlimSAS ports supporting two NVME drives

Intel® C621A controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

1 VGA D-Sub Connector port

Optimized Servers

SYS-120GQ-TNRT

Specifications

Product SKUs
MBD-X12DGQ-R

Physical Stats
Form Factor
Proprietary
Dimension
16.9" x 12.9" (42.93cm x 32.77cm)

Processor
CPU
3rd Gen Intel® Xeon® Scalable processors

Dual Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP, 3 UPI up to 11.2 GT/s
Core
Up to 40 cores

System Memory
Memory Capacity
16 DIMM slots

Up to 4TB Intel® Optane™ Persistent Memory 200 Series, DDR4-3200MHz

Up to 4TB ECC LRDIMM, DDR4-3200MHz; Up to 4TB ECC RDIMM, DDR4-3200MHz
Memory Type
3200/2933/2666 MT/s ECC DDR4 LRDIMM, RDIMM
DIMM Sizes
16GB, 32GB, 64GB, 128GB, 256GB
Memory Voltage
1.2V
Error Detection
Corrects single-bit errors

Detects double-bit errors (using ECC memory)

On-Board Devices
Chipset
Intel® C621A
SATA
Intel® C621A controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
IPMI
ASPEED AST2600 BMC
Graphics
1 ASPEED AST2600 BMC port(s)
Network Controllers
Dual LAN with 10Gbase-T, via the AOM-PIO-I2XT installed on JSLOT6

Input / Output
USB
4 USB 3.2 Gen2 port(s) (2 rear type A; 2 Others front panel)
Video Output
1 VGA D-Sub Connector port(s)
Serial Port
1 COM Port(s) (1 header)

Expansion Slots
PCIe
1 PCIe 4.0 x32 Right Riser Slot,
4 PCIe 4.0 x16 (in x16 slot),
1 PCIe 4.0 x8 SlimSAS
M.2
M.2 Interface: 1 PCIe 4.0 x4
Form Factor: 2242/2260/2280/22110
Key: M-Key

System BIOS
BIOS Type
AMI UEFI

Management
Software
Redfish API, Supermicro Server Manager (SSM), Supermicro Power Manager (SPM), Supermicro Update Manager (SUM), SuperDoctor® 5, Super Diagnostics Offline , KVM with dedicated LAN , IPMI 2.0

Security
Hardware
Trusted Platform Module (TPM) 2.0

PC Health Monitoring
Voltage
VBAT, System temperature, PCH temperature, Monitors CPU voltages, CPU temperature, Chassis intrusion header, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, VRM temperature, Memory Voltages, CPU thermal trip support
FAN
9x 4-pin fan headers (up to 9 fans)
System level control
Fan speed control
Other Features
UID
CPU thermal trip support for processor protection
Chassis intrusion detection
RoT

Operating Environment
Operating Temperature Range
10°C - 35°C (50°F - 95°F)
Non-Operating Temperature Range
-40°C - 70°C (-40°F - 158°F)
Operating Relative Humidity Range
8% - 90% (non-condensing)
Non Operating Relative Humidity Range
5% - 95% (non-condensing)

Parts List