

SuperServer 2029GP-TR

2U Dual Processor (Intel) System with 6 PCIe GPUs



Integrated Board



X11DPG-SN

Views: | [Angled View](#) | [Top View](#) |
| [Front View](#) | [Rear View](#) |

Barebone or Complete System requires SIOM or network adapter

▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#) ▶ [Drive Options](#) ▶ [NVMe Options](#) ▶ [Manuals](#) ▶ [OS Certification Matrix](#) ▶ [Compatible GPU List](#)

Note: Image above may show a varied configuration of optional parts. Please refer to parts list for standard parts included.

Key Applications

- 2D/3D and CAD Applications
- Big Data Analytics
- Edge Computing
- VDI
- Cloud Computing
- Virtualization

Key Features

1. Supports up to 6 GPUs
2. Dual Socket P (LGA 3647) support 2nd Gen Intel® Xeon® Scalable processors (Cascade Lake/Skylake)‡
3. 16 DIMMs; up to 4TB 3DS ECC DDR4-2933MHz† RDIMM/LRDIMM, Supports Intel® Optane™ DCPMM††
4. 6 PCI-E 3.0 x16 slots (FHFL), 1 PCI-E 3.0 x8 (in x16) slot (LP)
5. 8 Hot-swap 2.5" SAS/SATA drive bays, 2 Hot-swap 2.5" SATA/NVMe drive bays
6. 1 [SIOM](#) for flexible Networking
7. 5x 80mm heavy duty fans with optimal fan speed control
8. 2000W (1+1) Redundant Power Supplies **Platinum Level (94%)**

Specifications

Product SKUs

SYS-2029GP-TR ■ SuperServer 2029GP-TR (Black)

Motherboard

Super X11DPG-SN

Processor

CPU ■ Dual Socket P (LGA 3647)
 ■ 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors[‡],
 3 UPI up to 10.4GT/s
 ■ Support CPU TDP 70-205W

Cores ■ Up to 28 Cores

Note [‡] BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R)

GPU

Supported GPUs ■ 6 Double-Width/Single-Width PCI-E 3.0 x16 Card (Full Height Full Length)
 ■ NVIDIA V100, M10, T4, Quadro RTX
 ■ [Compatible GPU list](#)

CPU-GPU Interconnect ■ PCI-E Gen 3 x16 Switch CPU-GPU Interconnect

System Memory

Memory Capacity ■ 16 DIMM slots
 ■ Up to 4TB 3DS ECC DDR4-2933MHz[†] RDIMM/LRDIMM
 ■ Supports Intel® Optane™ DCPMM^{††}

Memory Type ■ 2933[†]/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM

Note [†] 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro
^{††} Cascade Lake only. Contact your Supermicro sales rep for more info.

On-Board Devices

Chipset ■ Intel® C621 chipset

SATA ■ SATA3 (6Gbps) with RAID 0, 1, 5, 10

IPMI ■ Support for Intelligent Platform Management Interface v.2.0
 ■ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support

Graphics ■ ASPEED AST2500 BMC

Input / Output

LAN ■ 1 RJ45 Dedicated IPMI LAN port

USB ■ 2 USB 3.0 ports (rear)

Video ■ 1 VGA port

Serial Header ■ 1 Fast UART 16550 header

Chassis

Form Factor ■ 2U Rackmount

Model ■ **CSE-218GH-R2K03B**

Dimensions and Weight

Height ■ 3.5" (89mm)

Width ■ 17.2" (437mm)

Depth ■ 31" (787mm)

Package ■ 26.5" (H) x 11" (W) x 44.5" (D)

Weight ■ Net Weight: 39.5 lbs (17.9 kg)
 ■ Gross Weight: 54 lbs (24.5 kg)

Available Color ■ Black

Front Panel

Buttons ■ Power On/Off button
 ■ System Reset button

LEDs ■ Power LED
 ■ Hard drive activity LED
 ■ Network activity LEDs
 ■ System Overheat LED / Fan fail LED / UID LED

Expansion Slots

PCI-Express ■ 6 PCI-E 3.0 x16 (FHFL) slots - supporting up to 6 GPUs
 ■ 1 PCI-E 3.0 x8 (in x16, LP) slot

Drive Bays

Hot-swap ■ 8 Hot-swap 2.5" SAS/SATA drive bays
 ■ 2 Hot-swap 2.5" SATA/NVMe drive bays

System Cooling

Fans ■ 5x 8cm Heavy duty fans with optimal fan speed control

Power Supply

2000W 1U Redundant Power Supplies with PMBus

Total Output Power ■ 1000W: 100 - 120Vac
 ■ 1800W: 200 - 220Vac
 ■ 1980W: 220 - 230Vac
 ■ 2000W: 230 - 240Vac
 ■ 1980W: 200 - 240Vac (UL/cUL only)
 ■ 2000W: 200 - 240Vdc (for CCC only)

Dimension (W x H x L) ■ 73.5 x 40 x 265 mm

Input ■ 100-120Vac / 12.5-10.5A / 50-60Hz
 ■ 200-220Vac / 10-9.5A / 50-60Hz
 ■ 220-230Vac / 10-9.8A / 50-60Hz
 ■ 230-240Vac / 10-9.8A / 50-60Hz
 ■ 200-240Vac / 10-9.8A (UL/cUL only)
 ■ 200-240Vdc / 10-9.1A (CCC only)

System BIOS

-
- BIOS Type** ■ AMI 256Mb SPI Flash ROM
-

Management

- Software**
- Intel® Node Manager
 - IPMI 2.0
 - KVM with dedicated LAN
 - SSM, SPM, SUM
 - SuperDoctor® 5
 - Watch Dog
-

- Power Configurations** ■ ACPI / APM Power Management
-

PC Health Monitoring

- CPU**
- Monitors for CPU Cores, Chipset Voltages, Memory.
 - 4+1 Phase-switching voltage regulator
-

- FAN**
- Fans with tachometer monitoring
 - Status monitor for speed control
 - Pulse Width Modulated (PWM) fan connectors
-

- Temperature**
- Monitoring for CPU and chassis environment
 - Thermal Control for fan connectors
-

+12V

- Max: 83.3A / Min: 0.1A (100-120Vac)
 - Max: 150A / Min: 0.1A (200-220Vac)
 - Max: 165A / Min: 0.1A (220-230Vac)
 - Max: 166.7A / Min: 0.1A (230-240Vac)
 - Max: 166.7A / Min: 0.1A (200-240Vac) (UL/cUL only)
-

12V SB

- Max: 3.5A / Min: 0A
-

Output Type

- 25 Pairs Gold Finger Connector
-

Certification

Platinum Level
[[Test Report](#)]

Operating Environment

RoHS

- RoHS Compliant
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Environmental Spec.

- Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)
 - Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)
 - Operating Relative Humidity: 8% to 90% (non-condensing)
 - Non-operating Relative Humidity: 5% to 95% (non-condensing)
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Parts List

Parts List - (Items Included)

| | Part Number | Qty | Description |
|------------------------------|-------------------|-----|---|
| Motherboard / Chassis | MBD-X11DPG-SN | 1 | Super X11DPG-SN Motherboard |
| | CSE-218GH-R2K03B | 1 | CSE-218GH-R2K03B Chassis |
| Backplane | BPN-SAS3-218GH-N2 | 1 | 2U 10-Port Hybrid Backplane Supports 8 x 2.5" SAS3/SATA3 HDD/SSD and 2 x 2.5" SAS3/SATA3/NVMe Storage Device for GPU Platform, HF, RoHS |
| Cable 1 | CBL-0157L | 1 | CBL, SGPIO, 2X4F TO 2X4F, P2.54, RIBBON IN RND TUBE, 40CM, 28AWG |
| Cable 2 | CBL-PWEX-1028 | 6 | GPU, 2x4F/CPU to 2x4F/CPU, P4.2, 30CM, 16AWG, 10A/pin, -40~105C |
| Cable 3 | CBL-PWEX-1064 | 1 | 8pin CPU 12V to 4pin x 2pcs 280mm, 16AWG, RoHS |
| Cable 4 | CBL-SAST-0624 | 2 | SATA, INT, ROUND, ST-ST, 70CM, 30AWG |
| Cable 5 | CBL-SAST-0974-1 | 2 | OcuLink v 1.0, INT, PCIe NVMe SSD, 37CM, 34AWG |
| Cable 6 | CBL-SAST-1014 | 2 | MINI SAS HD(RA)-MINI SAS, INT, 70CM, 30AWG, RoHS |
| Riser Card | RSC-G2B-A66-X1 | 1 | 2U Rear Left hand side Active GPU riser card with two PCI-E |
| Riser Card | RSC-G2F-A66-X1 | 1 | 2U Front LHS Active GPU riser card with two PCI-E x16 slots |
| Riser Card | RSC-G2FR-A66 | 1 | RSC-G2FR-A66-O-P |
| Riser Card | RSC-R2UG-E16R-X9 | 1 | RSC-R2UG-E16R-X9 |
| Heatsink / Retention | SNK-P0068PS | 1 | 2U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism |
| Heatsink / Retention | SNK-P0068PSC | 1 | 2U Passive CPU Heat Sink with a Side Air Channel for X11 Purley Platform Equipped with a Narrow Retention Mechanism |
| Power Supply | PWS-2K03P-1R | 2 | 1U 2000W Redundant Power Supply Platinum 73.5mm width., RoHS/REACH |
| Rail Set | MCP-290-00057-0N | 1 | Rail set, quick/quick, for 17.2" W |

Optional Parts List

| | Part Number | Qty | Description |
|--|---|-------|--|
| Bracket Set | MCP-120-21807-0N | 1 set | CSE-218GH Nvidia T4 GPU Bracket Set (2x per set) |
| Storage Control Card and Cable(s) | AOC-S3008L-L8e & 2x CBL-SAST-0593 | - | Supermicro 12Gb/s Eight-Port SAS Internal HBA Adapter Supermicro 12Gb/s Eight-Port SAS Internal HBA Adapter with IPMI support Std LP, 8 internal ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD, 12G, INT, 30AWG |
| | AOC-S3008L-L8e+ & 2x CBL-SAST-0593 | | |
| | AOC-S3008L-L8i & 2x CBL-SAST-0593 | | |
| | AOC-S3108L-H8iR & 2x CBL-SAST-0593 | | |
| | AOC-S3108L-H8iR-16DD & 2x CBL-SAST-0593 | | |
| Super Cap for LSI 3108 | 1x BTR-TFM8G-LSICVM02 & 1x BKT-BBU-BRACKET-05 | - | Supercap mounting bracket for PCI-E location |
| Intel VROC RAID Key | <u>AOC-VROCINTMOD</u> | 1 | Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only) |
| | <u>AOC-VROCSTNMOD</u> | 1 | Intel VROC Standard, RAID 0, 1, 10 |
| | <u>AOC-VROCPREMOD</u> | 1 | Intel VROC Premium, RAID 0, 1, 5, 10 |
| 2.5" NVMe Drive Trays | MCP-220-00121-0B | - | Black Gen-3 2.5" NVMe or drive tray, orange tab with lock Tool-less balck hot-swap 2.5" NVMe drive tray (Orange tab, w/ key lock, clip design) |
| | MCP-220-00167-0B | | |
| TPM Security Module | AOM-TPM-9670V | 1 | SPI capable vertical TPM 2.0 provisioned for client, RoHS |
| Global Services & Support | <u>OS4HR3/2/1</u> | - | 3/2/1-year onsite 24x7x4 service |
| | <u>OSNBD3/2/1</u> | - | 3/2/1-year onsite NBD service |
| Software | <u>SFT-OOB-LIC</u> • eStore | 1 | OOB Management Package (per node license) |

| | | | |
|-----------------|------------------------|---|--|
| Software | <u>SFT-DCMS-Single</u> | 1 | DataCenter Management Package (per node license) |
|-----------------|------------------------|---|--|