

SuperServer 4029GP-TRT



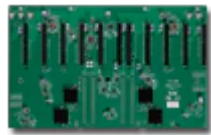
4U Dual Processor (Intel), Dual-Root GPU System with Up to 8 PCI-E GPUs



Integrated Board



X11DPG-OT-CPU



X9DRG-O-PCIE

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

▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#) ▶ [Tested M.2 List](#) ▶ [Drive Options](#) ▶ [NVMe Options](#) ▶ [Manuals](#) ▶ [OS Certification Matrix](#) ▶ [Compatible GPU List](#) ▶ [4U PCIe Root Architectures](#)

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

Key Applications

- 3D Rendering
- Astrophysics Simulation
- Chemistry Simulation
- Virtualization
- Cloud Computing
- Research Laboratory/National Laboratory

Key Features

1. Dual Root System for balanced performance & higher CPU to GPU communication
2. Dual Socket P (LGA 3647) support 2nd Gen Intel® Xeon® Scalable processors (Cascade Lake/Skylake)‡
3. 24 DIMMs; up to 6TB 3DS ECC DDR4-2933MHz† RDIMM/LRDIMM, Supports Intel® Optane™ DCPMM††
4. 8 PCI-E 3.0 x16 slots (support up to 8 double width GPU), 2 PCI-E 3.0 x8, 1 PCI-E 3.0 x4
5. Up to 24 Hot-swap 2.5" drive bays; 8x 2.5" SATA drives supported with included H/W, 2x 2.5" NVMe drives supported with included H/W, 1 NVMe based M.2 SSD
6. 2x 10GBase-T LAN ports via Intel C622
7. 8 Hot-swap 92mm RPM cooling fans
8. 2000W (2+2) Redundant Power Supplies **Titanium Level (96%+)**

Specifications

Product SKUs

- SYS-4029GP-TRT** ■ SuperServer 4029GP-TRT (**Black**)

Motherboard

Super X11DPG-OT-CPU

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** ■ 8 Double-Width/Single-Width PCI-E 3.0 x16 Card (Full Height Full Length)
 ■ NVIDIA V100, P40, T4, Quadro, RTX
 ■ Supports both active and passive cooled GPUs
 ■ [Compatible GPU list](#)

- CPU-GPU Interconnect** ■ PCI-E Gen 3 x16 Switch Dual-Root
 ■ [PCIe Root Architecture Chart](#)

- GPU-GPU Interconnect** ■ PCI-E, NVIDIA® NVLink™ Bridge (Optional)

System Memory

- Memory Capacity** ■ 24 DIMM slots
 ■ Up to 6TB 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® C622 chipset

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

- Network Controllers** ■ Dual Port 10GbE from C622

- 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

Chassis

- Form Factor** ■ 4U Rackmountable
 ■ Rackmount Kit (MCP-290-00057-0N)

- Model** ■ **CSE-418GTS-R4000BP2**

Dimensions

- Height** ■ 7.0" (178mm)

- Width** ■ 17.2" (437mm)

- Depth** ■ 29" (737mm)

- Weight** ■ Net Weight: 65.5 lbs (29.7 kg)
 ■ Gross Weight: 100 lbs (45.3 kg)

- Available Colors** ■ Black

Drive Bays / Storage

- Hot-swap** ■ Up to 24x 2.5" SAS/SATA drive bays
 ■ 8x 2.5" SATA supported natively
 ■ 2x 2.5" NVMe supported natively

- M.2** ■ 1 NVMe based M.2 SSD
 ■ Form Factors: 2260, 2280, 22110

Expansion Slots

- PCI-Express** ■ 8 PCI-E 3.0 x16 (FHFL) slots - supporting up to 8 GPUs
 ■ 2 PCI-E 3.0 x8 slots
 ■ 1 PCI-E 3.0 x4 slot

System Cooling

- Fans** ■ 8 Hot-swap 92mm cooling fans

Power Supply

2000W Redundant Power Supplies with PMBus

- Total Output Power** ■ 1000W: 100 – 120Vac
 ■ 1800W: 200 – 220Vac
 ■ 1980W: 220 – 230Vac
 ■ 2000W: 230 – 240Vac
 ■ 2000W: 200 – 240Vac (UL/CUL only)

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

- Input** ■ 100-120Vac / 12.5-9.5A / 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 / 11.8-9.8A / 50-60Hz (UL/cUL only)

- +12V** ■ Max: 83.3A / Min: 0A (100-120Vac)
 ■ Max: 150A / Min: 0A (200-220Vac)
 ■ Max: 165A / Min: 0A (220-230Vac)
 ■ Max: 166.7A / Min: 0A (230-240Vac)
 ■ Max: 166.7A / Min: 0A (200-240Vac) (UL/cUL only)

- 12Vsb** ■ Max: 2.1A / Min: 0A

- Output Type** ■ 25 Pairs Gold Finger Connector

Certification



Titanium Level
[Test Report]

SATA	<ul style="list-style-type: none"> 8 SATA3 (6Gbps) ports
LAN	<ul style="list-style-type: none"> 2 RJ45 10GBase-T LAN ports 1 RJ45 Dedicated IPMI LAN port
USB	<ul style="list-style-type: none"> 4 USB 3.0 ports (rear)
Video	<ul style="list-style-type: none"> 1 VGA Connector
COM Port	<ul style="list-style-type: none"> 1 COM port (header)

System BIOS

BIOS Type	<ul style="list-style-type: none"> AMI 32Mb SPI Flash ROM
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Management

Software	<ul style="list-style-type: none"> Intel® Node Manager <u>IPMI 2.0</u> KVM with dedicated LAN <u>SSM, SPM, SUM</u> <u>SuperDoctor® 5</u> Watchdog
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PC Health Monitoring

CPU	<ul style="list-style-type: none"> Monitors for CPU Cores, Chipset Voltages, Memory. 4+1 Phase-switching voltage regulator
FAN	<ul style="list-style-type: none"> Fans with tachometer monitoring Status monitor for speed control Pulse Width Modulated (PWM) fan connectors
Temperature	<ul style="list-style-type: none"> Monitoring for CPU and chassis environment Thermal Control for fan connectors

Operating Environment

RoHS	<ul style="list-style-type: none"> RoHS Compliant
Environmental Spec.	<ul style="list-style-type: none"> 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)

Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X11DPG-OT-CPU	1	Super X11DPG-OT-CPU Motherboard
	MBD-X9DRG-O-PCIE	1	Super X9DRG-O-PCIE Motherboard
	CSE-418GTS-R4000BP2	1	CSE-418GTS-R4000BP2 Chassis
Backplane	BPN-SAS3-216A-N4	1	24-port 2U SAS3 12Gbps hybrid backplane, support up to 20x 2.5-inch SAS3/SATA3 HDD/SSD and 4x SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-0449L	2	HDD power extension for X8OBN, special 8 pin to 4 HDD. 45cm. 18AWG
Cable 2	CBL-PWEX-1028	8	GPU,2x4F/CPU to 2x4F/CPU,P4.2, 30CM,16AWG, 10A/pin, -40~105C
Cable 3	CBL-SAST-0507-01	2	MINI SAS HD-MINI SAS,6G,INT,80CM,SB,28AWG
Cable 4	CBL-SAST-0972	2	OcuLink V. 1.0 source to MiniSAS HD,INT,PCIe, 70CM,34AWG,RoH
Parts	MCP-130-41801-0B	1	Black plastic palm cover for X9DRG-O-PCIE
Riser Card	RSC-X9DRG-O	4	RSC-X9DRG-O
Heatsink / Retention	SNK-P0068APS4	2	2U Active CPU Heat Sink Supporting Narrow Bolster Plate Mounting Mechanism for X11 Purley Platform
Power Supply	PWS-2K05A-1R	4	1U 2000W Redundant Titanium Power Supply W/PMbus 73.5x40x265mm,RoHS/REACH
FAN 1	FAN-0199L4	8	92x92x38 mm, 11.5K RPM, SC418G Middle Fan w/ Housing,RoHS/REACH,PBF
Rear Window	MCP-240-84802-0N	1	21 slot rear window for SC418X

Optional Parts List

	Part Number	Qty	Description
0.5U LID	MCP-230-41803-0N	1	Top cover for GTX card support
1U LID	MCP-230-41806-0N	1	Top cover for NVLINK BRIDGE support
2.5" NVMe Drive Trays	MCP-220-00121-0B	1 per drive	Black Gen-3 2.5" NVMe drive tray. Orange tab with lock
	MCP-220-00167-0B		Black Gen-3 2.5" NVMe drive tray. Orange tab with lock, Tool-less
GPU Dummy Tray	MCP-240-00096-0N	1	GPU / Add-on Card Dummy Assembly (2 Slots)
GPU Cables	CBL-PWEX-0665	1 per GPU***	GPU power cable (for NVIDIA P40, M40, M60, AMD MI25). 8pin FEMALE BLK to 8pin FEMALE WHT. 30cm 18AWG.
	CBL-PWEX-1017	1 per GPU	GPU power cable (for NVIDIA QUADRO, GTX). 8pin FEMALE CPU BLUE to 2x 6pin FEMALE / 2x 1pin FEMALE. 20cm 16AWG/20AWG.
	CBL-PWEX-1040*	1 per GPU	GPU power cable (for NVIDIA QUADRO, GTX). 8pin MALE CPU to 2x 6pin FEMALE / 2x 1pin FEMALE. 5cm 20AWG/16AWG.
	CBL-PWEX-1028**	1 per GPU	GPU power cable (for NVIDIA TESLA V100). 8pin FEMALE CPU BLUE to 8pin FEMALE CPU BLUE. 30cm 20AWG/16AWG.
Note:	* Use with CBL-PWEX-1028 ** 8 qty. included with each system *** 2 qty. required for each MI25		
Storage Control Cards and Cables	AOC-S3008L-L8I ²	1	Broadcom 3008 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0,1,1E,10
	AOC-S3008L-L8E ²	1	Broadcom 3008 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, HBA only
	AOC-S3108-H8IR ^{2,4,8}	1	Broadcom 3108 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0,1,5,6,10,50,60
	AOC-S3108L-H8IR-16DD ^{4,8}	1	Broadcom 3108 STD LP 8 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0,1,5,6,10,50,60. Maximum 16 HDD support with expander backplane
	AOC-SAS3-9361-16I ^{3,5}	1	Broadcom 9361 STD LP 16 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0 1 5 6 10 50 60

	AOC-SAS3-9361-24I ^{5, 6}	1	Broadcom 9361 STD LP 24 internal ports, 12Gb/s per port - SAS HBA Adapter Card, RAID 0,1,5,6,10,50,60.
	CBL-SAST-0531	2	n/a
	BTR-TFM4G-LSI00418 ⁷	1	LSI Remote CVKit with DVFlash Module CVFM04 for 9361 and 9380 Controller Series
	BTR-TFM8G-LSICVM02	1	LSI Supercap w/ 8GB CV + 24" cable for LSI S3108-H8IR. Optional installation kit: - MCP-240-00127-0N - BKT-BBU-BRACKET-05
	MCP-240-00127-0N	1	Remote Mounting Bracket for Supercap. Installs in 2.5" drive tray.
	BKT-BBU-BRACKET-05	1	Remote Mounting Board for Supercap. Full Height mounting bracket. Low Profile mounting bracket also included.
	BPN-SAS3-216EL1	1	SAS3 12Gb/s Single Expander Backplane with x24 2.5" SATA/SAS HDD/SSD.
Note:	2. Requires x2 CBL-SAST-0531 3. Requires x4 CBL-SAST-0531 4. Use BTR-TFM8G-LSICVM02 for Supercap 5. Use BTR-TFM4G-LSI00418 for Cache Vault 6. Requires x6 CBL-SAST-0531 7. Requires BKT-BBU-BRACKET-05 8. Optional BPN-SAS3-216EL1 Expander Backplane support. Will lose x2 U.2 NVMe support		
Network and Cables	AOC-STG-i4S	1	4 Port 10G SFP+ PCI-E x8 Ethernet card. Based on Intel X710-AMI
	AOC-STG-i2T	1	2 Port 10G RJ45 PCI-E x8 Ethernet card. Based on Intel X540
	AOC-S25G-B2S	1	2 Port 25G SFP28 PCI-E x8 Ethernet card. Based on Broadcom BCM57414
	AOC-S25G-M2S	1	2 Port 25G SFP28 PCI-E x8 Ethernet card. Based on Mellanox ConnectX-4 LX EN
	AOC-MCX4121A-ACAT	1	2 Port 25G SFP28 PCI-E X8 Ethernet card. Based on Mellanox ConnectX-4 LX EN
	AOC-S40G-I1Q	1	1 Port 40G QSFP+ PCI-E X8 Ethernet card. Based on Intel X710
	AOC-S40G-I2Q	1	2 Port 40G QSFP+ PCI-E X8 Ethernet card. Based on Intel X710
	AOC-MCX456A-ECAT	1	2 Port 100G QSFP28 PCI-E X16 EDR IB card. Based on Mellanox Connect-4 VPI
	AOC-MCX556A-ECAT	1	2 Port 100G QSFP28 PCI-E X16 EDR IB card. Based on Mellanox Connect-5 VPI
	CBL-NTWK-0944-MS28C30M	1	Ethernet Cable, SFP28,28GbE,PASSIVE,30 AWG,3M,Mellanox
	CBL-NTWK-0944-MS28C20M	1	Ethernet Cable, SFP28,28GbE,PASSIVE,30 AWG,2M,Mellanox
	AOC-E10GSFPSR	1	Ethernet Transceiver, SFP+ 1000Base-SX / 10GBase-SR
	CBL-NTWK-0446-01	1	Ethernet Cable, QSFP, 40GbE, PASSIVE, 28 AWG, 3M
	CBL-NTWK-0942-MQ28E20M	1	IB Cable, QSFP28, 100GbE, PASSIVE, 28 AWG, 2M
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> • <u>eStore</u>	1	OOB Management Package (per node license)
Software	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)

