

# SuperServer 1029GQ-TRT

## 1U Dual Processor (Intel) System with 4 PCI-E GPUs



Integrated Board



**X11DGQ**

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

▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#) ▶ [Drive Options](#) ▶ [Tested M.2 List](#) ▶ [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

- Edge Computing
- Micro Data Center
- AI/ML, Deep Learning Training and Inference
- Virtualization
- Cloud Computing

### Key Features

1. Supports up to 4 Active/Passive Cooling NVIDIA® GPUs in 1U
2. Dual Socket P (LGA 3647) support 2nd Gen Intel® Xeon® Scalable processors (Cascade Lake/Skylake)‡
3. 12 DIMMs; up to 3TB 3DS ECC DDR4-2933MHz† RDIMM/LRDIMM, Supports Intel® Optane™ DCPMM††
4. 4 PCI-E 3.0 x16 (FHFL) slots, 2 PCI-E 3.0 x16 (LP) slots
5. 2 Hot-swap 2.5" SAS/SATA drive bays, 2 Internal 2.5" SATA drive bays
6. Support 1x M.2 2242/2260/2280, Support M.2 SATA and NVMe
7. 2x 10GBase-T LAN ports via Intel X540
8. 9 Heavy duty 4cm counter-rotating fans with air shroud & optimal fan speed control
9. 2000W Redundant Power Supplies **Titanium Level (96%)**

# Specifications

## Product SKUs

- SYS-1029GQ-TRT** ■ SuperServer 1029GQ-TRT

## Motherboard

### Super X11DGQ

## 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 up to 165W

- 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).

Extended thermal solutions may be required to support CPUs higher than 165W TDP, please contact Supermicro Technical Support for additional information.

## GPU

- Supported GPUs** ■ 4 Double-Width/Single-Width PCI-E 3.0 x16 Card (Full Height Full Length)  
 ■ NVIDIA V100, M10, T4, Quadro RTX, A100  
 ■ Supports both active and passive cooled GPUs  
 ■ [Compatible GPU list](#)

- CPU-GPU Interconnect** ■ PCI-E Gen 4 x16 Direct Connect CPU-GPU Dual-Root

## System Memory

- Memory Capacity** ■ 12 DIMM slots  
 ■ Up to 3TB 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

- Network Connectivity** ■ Intel® X540 Dual Port 10GBase-T  
 ■ Virtual Machine Device Queues reduce I/O overhead  
 ■ Supports 10GBASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output

## Chassis

- Form Factor** ■ 1U Rackmount

- Model** ■ CSE-118GQETS-R2K05P2

## Dimensions and Weight

- Height** ■ 1.7" (43mm)

- Width** ■ 17.2" (437mm)

- Depth** ■ 35.2" (894mm)  
 ■ 39.3" (997mm) with rails

- Package** ■ 24" (H) x 8" (W) x 46" (D)

- Weight** ■ Net Weight: 45 lbs (20.4 kg)  
 ■ Gross Weight: 58 lbs (26.31 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** ■ 4 PCI-E 3.0 x16 (FHFL) slots - supporting up to 4 GPUs  
 ■ 2 PCI-E 3.0 x16 (LP) slots

## Drive Bays

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

- Fixed** ■ 2 Internal 2.5" SATA drive bays

- M.2** ■ Support 1x M.2 2242/2260/2280  
 ■ Support M.2 SATA and NVMe

## System Cooling

- Fans** ■ 9 Heavy duty 4cm counter-rotating fans with air shroud & optimal fan speed control

## 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)

<b>IPMI</b>	<ul style="list-style-type: none"> <li>Support for Intelligent Platform Management Interface v.2.0</li> <li>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support</li> </ul>
-------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500 BMC</li> </ul>
-----------------	----------------------------------------------------------------------

#### Input / Output

<b>SATA</b>	<ul style="list-style-type: none"> <li>4 SATA3 (6Gbps) ports</li> </ul>
-------------	-------------------------------------------------------------------------

<b>LAN</b>	<ul style="list-style-type: none"> <li>2 RJ45 10GBase-T ports</li> <li>1 RJ45 Dedicated IPMI LAN port</li> </ul>
------------	------------------------------------------------------------------------------------------------------------------

<b>USB</b>	<ul style="list-style-type: none"> <li>2 USB 3.0 ports (rear)</li> </ul>
------------	--------------------------------------------------------------------------

<b>Video</b>	<ul style="list-style-type: none"> <li>1 VGA port</li> </ul>
--------------	--------------------------------------------------------------

<b>Serial Header</b>	<ul style="list-style-type: none"> <li>1 Fast UART 16550 header</li> </ul>
----------------------	----------------------------------------------------------------------------

#### System BIOS

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

#### Management

<b>Software</b>	<ul style="list-style-type: none"> <li>Intel® Node Manager</li> <li><u>IPMI 2.0</u></li> <li>KVM with dedicated LAN</li> <li><u>SSM, SPM, SUM</u></li> <li><u>SuperDoctor® 5</u></li> <li>Watch Dog</li> </ul>
-----------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI / APM Power Management</li> </ul>
-----------------------------	-------------------------------------------------------------------------------

#### PC Health Monitoring

<b>CPU</b>	<ul style="list-style-type: none"> <li>Monitors for CPU Cores, Chipset Voltages, Memory.</li> <li>4+1 Phase-switching voltage regulator</li> </ul>
------------	----------------------------------------------------------------------------------------------------------------------------------------------------

<b>FAN</b>	<ul style="list-style-type: none"> <li>Fans with tachometer monitoring</li> <li>Status monitor for speed control</li> <li>Pulse Width Modulated (PWM) fan connectors</li> </ul>
------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>Temperature</b>	<ul style="list-style-type: none"> <li>Monitoring for CPU and chassis environment</li> <li>Thermal Control for fan connectors</li> </ul>
--------------------	------------------------------------------------------------------------------------------------------------------------------------------

<b>+12V</b>	<ul style="list-style-type: none"> <li>Max: 83.3A / Min: 0A (100-120Vac)</li> <li>Max: 150A / Min: 0A (200-220Vac)</li> <li>Max: 165A / Min: 0A (220-230Vac)</li> <li>Max: 166.7A / Min: 0A (230-240Vac)</li> <li>Max: 166.7A / Min: 0A (200-240Vac) (UL/cUL only)</li> </ul>
-------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>12Vsb</b>	<ul style="list-style-type: none"> <li>Max: 2.1A / Min: 0A</li> </ul>
--------------	-----------------------------------------------------------------------

<b>Output Type</b>	<ul style="list-style-type: none"> <li>25 Pairs Gold Finger Connector</li> </ul>
--------------------	----------------------------------------------------------------------------------

<b>Certification</b>	  <b>Titanium Level</b> <b>[ Test Report ]</b>
----------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

#### Operating Environment

<b>RoHS</b>	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
-------------	------------------------------------------------------------------

<b>Environmental Spec.</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)</li> <li>Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)</li> <li>Operating Relative Humidity: 8% to 90% (non-condensing)</li> <li>Non-operating Relative Humidity: 5% to 95% (non-condensing)</li> </ul>
----------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## Parts List

### Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X11DGQ	1	Super X11DGQ Motherboard
	CSE-118GQETS-R2K05P2	1	CSE-118GQETS-R2K05P2 Chassis
<b>Add-on Card / Module</b>	AOM-PIO-I2XT-P	1	AOM-PIO-I2XT
<b>Backplane</b>	BPN-SAS3-118GQE	1	2-port 1U SAS3 12Gbps backplane, support up to 2x 2.5-inch SAS3/SATA3 HDD/SSD
<b>Cable 1</b>	CBL-0484L	4	SATA,INT,ROUND,ST-ST,55CM,30AWG
<b>Cable 2</b>	CBL-PWEX-1026	3	GPU,2x4F/RA/CPU to 2x4F/CPU,P4.2, 35CM, 17AWG, 8A/pin, -25~85C, RoHS
<b>Cable 3</b>	CBL-PWEX-1027	1	GPU,2x4F/RA/CPU to 2x4F/CPU,P4.2, 14CM, 17AWG, 8A/pin, -25~85C, RoHS
<b>Riser Card</b>	RSC-G-A6	1	U RHS Active Rear Riser card with 1 PCI-E x16,HF,RoHS
<b>Riser Card</b>	RSC-G-A66	1	1U LHS Active GPU Riser card with two PCI-E x16 Slots,HF,RoH
<b>Riser Card</b>	RSC-GR-6-X	3	1U LHS GPU riser card with one PCI-E x16 slot,HF,RoHS
<b>Heatsink / Retention</b>	SNK-P0067PS	2	1U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
<b>Power Supply</b>	PWS-2K05A-1R	2	1U 2000W Redundant Titanium Power Supply W/PMbus 73.5x40x265mm,RoHS/REACH
<b>Fans</b>	FAN-0163L4	9	40x40x56 mm 23.3K-20.3K RPM Counter-rotating Fan
<b>Rail Set</b>	MCP-290-11809-0N	1	Rail set, Quick/Quick, Auto Latch, travel 535mm Short Version, Post to Post 685mm

### Optional Parts List

	Part Number	Qty	Description
<b>Additional brackets for T4</b>	MCP-120-11816-0N	1	GPU bracket Set for NVIDIA P4/T4 GPUs
<b>Intel/AMD/Quadro/M10 GPU Power Cables</b>	3x CBL-PWEX-1059 and 1x CBL-PWEX-1060	-	GPU,2x4F/RA/CPU to two (2x3F+2x1F)/PCIe, P4.2, 17/20AWG, 8A/pin(17AWG), 6A/pin(20AWG)
<b>6+8 Pin PCIe Right Angle GPU Power Cables</b>	3x CBL-PWEX-1061 and 1x CBL-PWEX-1062	-	GPU, 2x4F/RA/CPU to two (2x3F+2x1F)/PCIe, P4.2, 17/20AWG
<b>Storage Control Card and Cable(s)</b>	AOC-S3008L-L8i & 1x CBL-SAST-0699	-	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-S3108L-H8iR & 1x CBL-SAST-0699	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 16HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD,12G,INT,30AWG
	AOC-S3108L-H8iR-16DD & 1x CBL-SAST-0699	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 16HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD,12G,INT,30AWG
<b>Super Cap for LSI 3108</b>	1x BTR-TFM8G-LSICVM02 & 1x BKT-BBU-BRACKET-05	-	Supercap mounting bracket for PCI-E location
<b>Intel VROC RAID Key</b>	<a href="#">AOC-VROCINTMOD</a>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	<a href="#">AOC-VROCSTNMOD</a>	1	Intel VROC Standard, RAID 0, 1, 10
	<a href="#">AOC-VROCPREMOD</a>	1	Intel VROC Premium, RAID 0, 1, 5, 10
<b>Network Card(s)</b>	AOC-SGP-i2/4	-	Standard LP, 2/4x GbE RJ45, PCI-E x4, Intel i350
	AOC-STGN-i1S/i2S	-	Standard LP, 1/2x 10GbE SFP+, PCI-E x8, Intel 82599EN
	More	-	<a href="#">AOC Compatibility Matrix</a>
<b>TPM Security Module</b>	AOM-TPM-9670V	1	SPI capable vertical TPM 2.0 provisioned for client,RoHS
<b>Global Services &amp; Support</b>	<a href="#">OS4HR3/2/1</a>	-	3/2/1-year onsite 24x7x4 service
	<a href="#">OSNBD3/2/1</a>	-	3/2/1-year onsite NBD service
<b>Software</b>	<a href="#">SFT-OOB-LIC</a> • <a href="#">eStore</a>	1	OOB Management Package (per node license)
<b>Software</b>	<a href="#">SFT-DCMS-Single</a>	1	DataCenter Management Package (per node license)

Note: For Coprocessors, GPUs, VCA, FPGA cards not listed in table above please contact sales to discuss compatibility.

