

# SuperServer 1029GQ-TRT-NEBS (Complete System Only)

## 1U NEBS Level 3 Certified Dual Processor (Intel) System with 4 GPUs (AC power)



Integrated Board



**X11DGQ**

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

▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#)

▶ For CPU, Memory, Drive, AOC, etc., please see [NEBS Tested Parts 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. NEBS Level 3 certified
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-NEBS** ■ SuperServer 1029GQ-TRT-NEBS

## 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, V100S  
 ■ [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>
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<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500 BMC</li> </ul>
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#### Input / Output

<b>SATA</b>	<ul style="list-style-type: none"> <li>4 SATA3 (6Gbps) ports</li> </ul>
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<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>
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<b>USB</b>	<ul style="list-style-type: none"> <li>2 USB 3.0 ports (rear)</li> </ul>
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<b>Video</b>	<ul style="list-style-type: none"> <li>1 VGA port</li> </ul>
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<b>Serial Header</b>	<ul style="list-style-type: none"> <li>1 Fast UART 16550 header</li> </ul>
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#### System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI 32Mb SPI Flash ROM</li> </ul>
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#### 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>
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<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI / APM Power Management</li> </ul>
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#### 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>
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<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>
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<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>
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<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>
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<b>12Vsb</b>	<ul style="list-style-type: none"> <li>Max: 2.1A / Min: 0A</li> </ul>
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<b>Output Type</b>	<ul style="list-style-type: none"> <li>25 Pairs Gold Finger Connector</li> </ul>
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<b>Certification</b>	  <b>Titanium Level</b> <b>[ Test Report ]</b>
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#### Operating Environment

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

### NEBS Tested Parts List

	Part Number	Qty	Description
<b>CPU</b>	P4X-CLX6240-SRF8X	2	Cascade lake 6240 Processors
<b>Memory</b>	MEM-DR480L-HL05-ER26	-	8GB - DDR4 – 2666 Hynix
	MEM-DR480L-HL01-ER29	-	8GB - DDR4 – 2933 Hynix
	MEM-DR432L-CL01-ER29	-	32GB - DDR4 – 2933 Micron
	MEM-DR464L-SL01-ER29	-	64GB – DDR4 – 2933 Samsung
<b>Hard Drives</b>	HDS-M2T-MTFDDAK480TDN1AT	-	Micron 5200 – 480GB
	HDS-M2T-MTFDDAK480TDT1AW	-	Micron 5300 Max – 480GB
	HDS-S2T1-MZ7LH7T6HMLA05	-	Samsung – 7.68TB
	HDS-X2T-XA960ME10063	-	Seagate – 960GB
	HDS-I2T0-SSDSC2KG038T8	-	Intel – 3.84TB
<b>GPUs</b>	GPU-NVTV100-16	-	Tesla V100 16GB
	GPU-NVTV100-32	-	Tesla V100 32GB
	GPU-NVTV100S-32	-	Tesla V100S 32GB
<b>Add on Cards</b>	AOC-STG-I4S-P	-	Standard LP 4-port 10G SFP+
<b>Software</b>	<u>SFT-DCMS-Single</u>	-	Supermicro System Management Software license,HF,RoHS/REACH,PBF