

# SuperServer 1029GQ-TVRT (Complete System Only)



## Key Features

- Up to 4 NVIDIA® Tesla® V100 SXM2 GPUs
- Up to 300 GB/s GPU-to-GPU NVIDIA® NVLINK™
- Optimized for NVIDIA® GPUDirect™ RDMA

1. Dual socket P (LGA 3647) supports Intel® Xeon® Scalable Processors, 3 UPI up to 10.4GT/s
2. Up to 1.5TB ECC 3DS LRDIMM, up to DDR4-2666MHz; 12 DIMM slots
3. 4 PCI-E 3.0 x16 slots
4. 2 Hot-swap 2.5" SAS/SATA drive bays, 2 Internal 2.5" drive bays
5. Support 1x M.2 2242/2260/2280, Support M.2 SATA and NVMe
6. 2x 10GBase-T LAN ports via Intel X540
7. 7 Heavy duty 4cm counter-rotating fans with air shroud & optimal fan speed control
8. 2000W Redundant Power Supplies Titanium Level (96%)

Due to the complexity of integration, this product is sold as a completely assembled system only (with minimum 2 CPU, 4 DIMM, 2 GPUs installed). Please contact your Supermicro sales rep for special requirements.

- ▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#)
- ▶ [Tested M.2 List](#) ▶ [Manuals](#) ▶ [OS Certification Matrix](#) ▶ [Compatible GPU List](#) ▶ [Drive Options](#)

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

## Specifications

### Product SKUs

SYS-1029GQ-TVRT	▪ SuperServer 1029GQ-TVRT (Black)
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### Motherboard

[Super X11DGO](#)

### Processor/Cache

CPU	<ul style="list-style-type: none"> <li>▪ Dual Socket P (LGA 3647)</li> <li>▪ Intel® Xeon® Scalable Processors, 3 UPI up to 10.4GT/s</li> <li>▪ Support CPU TDP up to 165W</li> </ul>
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Cores	▪ Up to 28 Cores with Intel® HT Technology
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<a href="#">GPU</a>	<ul style="list-style-type: none"> <li>▪ 4 NVIDIA® Tesla® V100 SXM2 GPUs</li> <li>▪ Up to 300GB/s GPU-to-GPU NVIDIA® NVLINK™</li> </ul>
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### System Memory

Memory	▪ 12 DIMM slots
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### Chassis

Form Factor	▪ 1U Rackmount
Model	▪ CSE-118GQPTS-R2K05P2



### Dimensions and Weight

Height	▪ 1.7" (43mm)
Width	▪ 17.2" (437mm)
Depth	<ul style="list-style-type: none"> <li>▪ 35.2" (894mm)</li> <li>▪ 39.3" (997mm) with rails</li> </ul>
Package	▪ 24" (H) x 8" (W) x 46" (D)
Weight	<ul style="list-style-type: none"> <li>▪ Net Weight: 45 lbs (15.9 kg)</li> <li>▪ Gross Weight: 58 lbs (21.8 kg)</li> </ul>
Available Color	▪ Black

### Front Panel

Buttons	<ul style="list-style-type: none"> <li>▪ Power On/Off button</li> <li>▪ UID button</li> </ul>
	▪ Power LED

Capacity	<ul style="list-style-type: none"> <li>Up to 1.5TB ECC 3DS LRDIMM, 1.5TB ECC RDIMM, DDR4 up to 2666MHz</li> </ul>
Memory Type	<ul style="list-style-type: none"> <li>2666/2400/2133MHz ECC DDR4 SDRAM</li> </ul>
<b>On-Board Devices</b>	
Chipset	<ul style="list-style-type: none"> <li>Intel® C621 chipset</li> </ul>
SATA	<ul style="list-style-type: none"> <li>SATA3 (6Gbps) with RAID 0, 1, 5, 10</li> </ul>
Network Connectivity	<ul style="list-style-type: none"> <li>Intel® X540 Dual Port 10GBase-T</li> <li>Virtual Machine Device Queues reduce I/O overhead</li> <li>Supports 10GBASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output</li> </ul>
IPMI	<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>
Graphics	<ul style="list-style-type: none"> <li>ASPEED AST2500 BMC</li> </ul>
<b>Input / Output</b>	
SATA	<ul style="list-style-type: none"> <li>4 SATA3 (6Gbps) ports</li> </ul>
LAN	<ul style="list-style-type: none"> <li>2 RJ45 10GBase-T ports</li> <li>1 RJ45 Dedicated IPMI LAN port</li> </ul>
USB	<ul style="list-style-type: none"> <li>2 USB 3.0 ports (rear)</li> </ul>
Video	<ul style="list-style-type: none"> <li>1 VGA port</li> </ul>
Serial Header	<ul style="list-style-type: none"> <li>1 Fast UART 16550 header</li> </ul>
<b>System BIOS</b>	
BIOS Type	<ul style="list-style-type: none"> <li>AMI 32Mb SPI Flash ROM</li> </ul>
<b>Management</b>	
Software	<ul style="list-style-type: none"> <li>Intel® Node Manager</li> <li>IPMI 2.0</li> <li>KVM with dedicated LAN</li> <li>SSM, SPM, SUM</li> <li>SuperDoctor® 5</li> <li>Watch Dog</li> </ul>
Power Configurations	<ul style="list-style-type: none"> <li>ACPI / APM Power Management</li> </ul>
<b>PC Health Monitoring</b>	
CPU	<ul style="list-style-type: none"> <li>Monitors for CPU Cores, Chipset Voltages, Memory.</li> <li>4+1 Phase-switching voltage regulator</li> </ul>
FAN	<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>
Temperature	<ul style="list-style-type: none"> <li>Monitoring for CPU and chassis environment</li> <li>Thermal Control for fan connectors</li> </ul>

LEDs	<ul style="list-style-type: none"> <li>Hard drive activity LED</li> <li>Network activity LEDs</li> <li>System Overheat LED / Fan fail LED / UID LED</li> </ul>
<b>Expansion Slots</b>	
PCI-Express	<ul style="list-style-type: none"> <li>4 PCI-E 3.0 x16 slots</li> </ul>
<b>Drive Bays</b>	
Hot-swap	<ul style="list-style-type: none"> <li>2 Hot-swap 2.5" SAS/SATA drive bays</li> </ul> <p>Note: Can be upgraded to 2 U.2 NVMe drives by addition of optional NVMe kit (please see details in optional parts list below).</p>
Fixed	<ul style="list-style-type: none"> <li>2 Internal 2.5" drive bays</li> </ul>
M.2	<ul style="list-style-type: none"> <li>Support 1x M.2 2242/2260/2280</li> <li>Support M.2 SATA and NVMe</li> </ul>
<b>System Cooling</b>	
Fans	<ul style="list-style-type: none"> <li>7 Heavy duty 4cm counter-rotating fans with air shroud &amp; optimal fan speed control</li> </ul>
<b>Power Supply</b>	
2000W Redundant Power Supplies with PMBus	
Total Output Power	<ul style="list-style-type: none"> <li>1000W/1800W/1980W/2000W</li> </ul>
Dimension (W x H x L)	<ul style="list-style-type: none"> <li>73.5 x 40 x 265 mm</li> </ul>
Input	<ul style="list-style-type: none"> <li>100-120Vac / 12.5-9.5A / 50-60Hz</li> <li>200-220Vac / 10-9.5A / 50-60Hz</li> <li>220-230Vac / 10-9.8A / 50-60Hz</li> <li>230-240Vac / 10-9.8A / 50-60Hz</li> <li>200-240Vac / 11.8-9.8A / 50-60Hz (UL/cUL only)</li> </ul>
+12V	<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>
12Vsb	<ul style="list-style-type: none"> <li>Max: 2.1A / Min: 0A</li> </ul>
Output Type	<ul style="list-style-type: none"> <li>25 Pairs Gold Finger Connector</li> </ul>
Certification	  <ul style="list-style-type: none"> <li>UL/cUL/CB/BSMI/CE/CCC Titanium Level [ Test Report ]</li> </ul>
<b>Operating Environment</b>	
RoHS	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
Environmental Spec.	<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 - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X11DGQ	1	Super X11DGQ Motherboard
	CSE-118GQPTS-R2K05P2	1	CSE-118GQPTS-R2K05P2 Chassis
Add-on Card / Module	AOM-PIO-I2XT-P	1	AOM-PIO-I2XT
Add-on Card / Module	AOM-SXMV-P	1	AOM housing Volta SXM 2.0 modules in conjunction with X11DGQ DP MB,HF,RoHS
Backplane	BPN-SAS3-118GQE	1	2-port 1U SAS3 12Gbps backplane, support up to 2x 2.5-inch SAS3/SATA3 HDD/SSD
Cable 1	CBL-0484L	4	SATA,INT,ROUND,ST-ST,55CM,30AWG
Cable 2	CBL-PWEX-1025	3	GPU,2x4F/RA/CPU to 2x4F/RA/CPU,P4.2, 6CM,17AWG, 8A/pin, -25~85C, RoHS
Cable 3	CBL-PWEX-1028	1	GPU,2x4F/CPU to 2x4F/CPU,P4.2, 30CM,16AWG, 10A/pin, -40~105C
Cable 4	CBL-SAST-0934-1	4	Oculink-Oculink 8 lanes Pascal Cable 50cm 34AWG,RoHS
Riser Card	RSC-G-A66-X1	1	1U RHS Active Rear Riser card with two PCI-E x16 Slot,HF,RoH
Riser Card	RSC-GN2-66	1	1U Passive LHS GPU Riser Card with two NVMe ports and two PC
Heatsink / Retention	SNK-P0067PS	2	1U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
Heatsink / Retention	SNK-P4000V	4	1U Passive GPU Heat Sink for NVIDIA SXM2 Module in SYS-1028GQ-TXR(T) Series Servers
Heatsink / Retention	SNK-P4004V	4	1U Passive GPU Heat Sink for NVIDIA SXM2 Module Equipped with Pascal or Volta GPU
Power Supply	PWS-2K05A-1R	2	1U 2000W Redundant Titanium Power Supply W/PMbus 73.5x40x265mm,RoHS/REACH
FAN 1	FAN-0163L4	7	40x40x56 mm, 23.3K-20.3K RPM, Counter-rotating Fan
Rear Window	MCP-240-11807-0N	1	SC118GQE Rear Window for 2x PCI-FL or 4th GPU
Rail Set	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
AOC-S3008L-L8i (SAS3)	CBL-SAST-0699	1	Mini SAS HD to 4 SATA 12G
AOC-S3108L-H8IR-16DD (SAS3)	CBL-SAST-0699	1	Mini SAS HD to 4 SATA 12G
AOC-S3108L-H8IR (SAS3)	CBL-SAST-0699	1	Mini SAS HD to 4 SATA 12G
Super Cap for LSI 3108	BKT-BBU-BRACKET-05	1	Mounting Bracket for LSI BBUs
	BTR-TFM8G-LSICVM02	1	LSI Super Cap
SXM2 GPU Dummy	MCP-120-11812-0N	1	Optional SXM2 GPU dummy
U.2 NVMe Kit	BPN-NVMe3-118GQE	1	NVMe Backplane
	CBL-SAST-0935-1	1	Oculink cable x8
	MCP-220-00121-0B	2	NVMe HS tray
TPM	AOM-TPM-9670H	-	SPI capable horizontal TPM 2.0 provisioned for client,RoHS
Global Services & Support	<a href="#">QS4HR3/2/1</a>	-	3/2/1-year onsite 24x7x4 service
	<a href="#">QSNBD3/2/1</a>	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC	1	OOB Management Package (per node license)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)