

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

1U NEBS Level 3 Certified Dual Processor (Intel) System with 4 GPUs (DC 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. 1300W -48Vdc single output redundant power supplies

Specifications

Product SKUs

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| SYS-1029GQ-TRT-NEBS-DC | <ul style="list-style-type: none"> SuperServer 1029GQ-TRT-NEBS-DC |
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Motherboard

Super X11DGQ

Processor

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|------------|---|
| CPU | <ul style="list-style-type: none"> 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 |
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| Cores | <ul style="list-style-type: none"> Up to 28 Cores |
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| Note | <p>[‡] BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).</p> |
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Extended thermal solutions may be required to support CPUs higher than 165W TDP, please contact Supermicro Technical Support for additional information.

GPU

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| Supported GPUs | <ul style="list-style-type: none"> 4 Double-Width/Single-Width PCI-E 3.0 x16 Card (Full Height Full Length) NVIDIA V100, V100S Compatible GPU list |
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| CPU-GPU Interconnect | <ul style="list-style-type: none"> PCI-E Gen 4 x16 Direct Connect CPU-GPU Dual-Root |
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System Memory

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| Memory Capacity | <ul style="list-style-type: none"> 12 DIMM slots Up to 3TB 3DS ECC DDR4-2933MHz[†] RDIMM/LRDIMM Supports Intel® Optane™ DCPMM^{††} |
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| Memory Type | <ul style="list-style-type: none"> 2933[†]/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM |
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| Note | <p>[†] 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro</p> <p>^{††} Cascade Lake only. Contact your Supermicro sales rep for more info.</p> |
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On-Board Devices

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| Chipset | <ul style="list-style-type: none"> Intel® C621 chipset |
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| SATA | <ul style="list-style-type: none"> SATA3 (6Gbps) with RAID 0, 1, 5, 10 |
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| Network Connectivity | <ul style="list-style-type: none"> Intel® X540 Dual Port 10GBase-T Virtual Machine Device Queues reduce I/O overhead Supports 10GBASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output |
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Chassis

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| Form Factor | <ul style="list-style-type: none"> 1U Rackmount |
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| Model | <ul style="list-style-type: none"> CSE-118GQETS-R0NP2 |
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Dimensions and Weight

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| Height | <ul style="list-style-type: none"> 1.7" (43mm) |
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| Width | <ul style="list-style-type: none"> 17.2" (437mm) |
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| Depth | <ul style="list-style-type: none"> 35.2" (894mm) 39.3" (997mm) with rails |
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| Package | <ul style="list-style-type: none"> 24" (H) x 8" (W) x 46" (D) |
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| Weight | <ul style="list-style-type: none"> Net Weight: 45 lbs (20.4 kg) Gross Weight: 58 lbs (26.31 kg) |
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| Available Color | <ul style="list-style-type: none"> Black |
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Front Panel

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| Buttons | <ul style="list-style-type: none"> Power On/Off button System Reset button |
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| LEDs | <ul style="list-style-type: none"> Power LED Hard drive activity LED Network activity LEDs System Overheat LED / Fan fail LED / UID LED |
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Expansion Slots

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| PCI-Express | <ul style="list-style-type: none"> 4 PCI-E 3.0 x16 (FHFL) slots - supporting up to 4 GPUs 2 PCI-E 3.0 x16 (LP) slots |
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Drive Bays

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| Hot-swap | <ul style="list-style-type: none"> 2 Hot-swap 2.5" SAS/SATA drive bays |
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| Fixed | <ul style="list-style-type: none"> 2 Internal 2.5" SATA drive bays |
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| M.2 | <ul style="list-style-type: none"> Support 1x M.2 2242/2260/2280 Support M.2 SATA and NVMe |
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System Cooling

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| Fans | <ul style="list-style-type: none"> 9 Heavy duty 4cm counter-rotating fans with air shroud & optimal fan speed control |
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-48Vdc Input Redundant Power Supplies

1300W DC48V Redundant Power Supplies

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| Total Output Power | <ul style="list-style-type: none"> 1300W: -44Vdc to -65Vdc |
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| Dimension (W x H x L) | <ul style="list-style-type: none"> 73.5 x 40 x 265 mm |
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| +12V | <ul style="list-style-type: none"> Max: 108.3A / Min: 0A (-44 to -65Vdc) |
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| +12Vsb | <ul style="list-style-type: none"> Max: 2.1A / Min: 0A |
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| Output Type | <ul style="list-style-type: none"> 25 pair Gold Finger |
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Operating Environment

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| IPMI | <ul style="list-style-type: none"> Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support |
| Graphics | <ul style="list-style-type: none"> ASPEED AST2500 BMC |

Input / Output

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| SATA | <ul style="list-style-type: none"> 4 SATA3 (6Gbps) ports |
| LAN | <ul style="list-style-type: none"> 2 RJ45 10GBase-T ports 1 RJ45 Dedicated IPMI LAN port |
| USB | <ul style="list-style-type: none"> 2 USB 3.0 ports (rear) |
| Video | <ul style="list-style-type: none"> 1 VGA port |
| Serial Header | <ul style="list-style-type: none"> 1 Fast UART 16550 header |

System BIOS

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

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| 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> Watch Dog |
| Power Configurations | <ul style="list-style-type: none"> ACPI / APM Power Management |

PC Health Monitoring

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| 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 |

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| 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

NEBS Tested Parts List

| | Part Number | Qty | Description |
|---------------------|--------------------------|-----|---|
| CPU | P4X-CLX6240-SRF8X | 2 | Cascade lake 6240 Processors |
| Memory | 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 |
| Hard Drives | 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 |
| GPUs | GPU-NVTV100-16 | - | Tesla V100 16GB |
| | GPU-NVTV100-32 | - | Tesla V100 32GB |
| | GPU-NVTV100S-32 | - | Tesla V100S 32GB |
| Add on Cards | AOC-STG-I4S-P | - | Standard LP 4-port 10G SFP+ |
| Software | <u>SFT-DCMS-Single</u> | - | Supermicro System Management Software license,HF,RoHS/REACH,PBF |