

SuperServer 2049U-TR4 (Complete System Only)



Integrated Board



Super X11QPH+

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

Complete System Only: To maintain quality and integrity, this product is sold only as a completely-assembled system (with minimum 4 CPUs, 4 DIMMs and 1 HDD recommended). Please contact your Supermicro sales rep for special 2 CPUs with 2 DIMMs requirements with fees.

▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#) ▶ [NVMe Options](#) ▶ [Manuals](#) ▶ [OS Certification Matrix](#) ▶ [Quick-References Guide](#) ▶ [Drive Options](#)

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

Key Features

48 DDR4 DIMM Slots, up to 6TB
Up to 11 PCI-E 3.0 slots
4 Hot-Swap NVMe Bays support via optional NVMe AOC
Flexible Connectivity Options

1. Quad Socket P (LGA 3647) support
2nd Gen Intel® Xeon® Scalable processors (Cascade Lake/Skylake)[‡]
2. 48 DIMMs; up to 12TB 3DS ECC DDR4-2933MHz[†] RDIMM/LRDIMM, Supports Intel® Optane™ DCPMM^{††}
3. 5 PCI-E 3.0 x8 slots,
6 PCI-E 3.0 x16 slots
4. 4 GbE LAN ports via AOC-2UR66-i4G
1 dedicated IPMI LAN port
5. 24 Hot-swap 2.5" SAS3/SATA3 drive bays supported via optional Add-on RAID controller card; 4 Hybrid ports with NVMe support via extra AOC
6. Optional up to 2 Active Cooling GPUs
7. 4x 8cm heavy duty fans
8. 1600W Redundant Power Supplies
Titanium Level (96%)

Specifications

Product SKUs

SYS-2049U-TR4 ■ SuperServer 2049U-TR4 (Black)

Motherboard

Super X11QPH+

Processor

CPU ■ Quad 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 70-165W with IVR, 205W supported with optional kit

Cores ■ Up to 28 Cores

Note [‡] BIOS version 3.0 or above is required to support 2nd Gen Intel® Xeon® Scalable processors

System Memory

Memory Capacity ■ 48 DIMM slots
 ■ Up to 12TB 3DS ECC DDR4-2933MHz[†] RDIMM/LRDIMM
 ■ Supports Intel® Optane™ DCPMM^{††}

Memory Type ■ 2933[†]/2666MHz 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 via Intel C621; RAID 0, 1, 5, 10

Network Connectivity ■ 4 Gigabit Ethernet ports via AOC-2UR66-i4G; [Other options](#)

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

SATA ■ 12 SATA3 (6Gbps) ports

SAS ■ 24 SAS3 ports support via optional Add-on Cards

NVMe ■ 4 Hybrid ports with NVMe support via AOC

LAN ■ 4 RJ45 GbE LAN ports
 ■ 1 RJ45 Dedicated IPMI LAN port

USB ■ 2 USB 3.0 ports (rear)

Video ■ 1 VGA Connector

Serial Port / Header ■ 1 COM port (rear)

Chassis

Form Factor ■ 2U Rackmount

Model ■ **CSE-218UTS-R1K62P**

Dimensions and Weight

Width ■ 17.2" (437mm)

Height ■ 3.5" (89mm)

Depth ■ 30.7" (780mm)

Weight ■ Net Weight: 43 lbs (19.4 kg)
 ■ Gross Weight: 69 lbs (31.2 kg)

Available Colors ■ Black

Front Panel

Buttons ■ Power On/Off button
 ■ System Reset button

LEDs ■ Power status LED
 ■ HDD activity LED
 ■ Network activity LEDs
 ■ System information (overheat/UID) LED

Expansion Slots

PCI-Express ■ 5 PCI-E 3.0 x8 slots
 ■ 6 PCI-E 3.0 x16 slots
 (4 CPUs need to be installed for full access to PCI-E slots and onboard controllers. See [AOC Support](#) for details.)

Drive Bays

Hot-swap ■ 24 Hot-swap 2.5" SAS3/SATA3 drive bays
 ■ Optional 24 SAS3 ports via AOC
 ■ Optional 20 SAS3 ports via AOC + 4 NVMe ports via AOC

System Cooling

Fans ■ 4x 8cm heavy duty PWM fans

Power Supply

1600W Redundant Power Supplies with PMBus

Total Output Power ■ 1600W/*1000W

Dimension (W x H x L) ■ 73.5 x 40 x 203 mm

Input ■ *100-127Vac / 13 - 9A / 50-60Hz
 ■ 200-240Vac / 10 - 8A / 50-60Hz

+12V ■ Max: 83.3A / Min: 0A (100-127Vac)
 ■ Max: 133A / Min: 0A (200-240Vac)

12Vsb ■ Max: 2.1A / Min: 0A

Output Type ■ 25 Pairs Gold Finger Connector

Certification ■   **Titanium Level [Test Report]**

DOM	<ul style="list-style-type: none"> 2 Super<u>DOM</u> (Disk on Module) ports
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System BIOS

BIOS Type	<ul style="list-style-type: none"> 128Mb SPI Flash EEPROM with AMI BIOS
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Management

Software	<ul style="list-style-type: none"> <u>SuperDoctor@ 5</u> Watch Dog NMI <u>SUM</u> IPMI 2.0
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Power Configurations	<ul style="list-style-type: none"> ACPI Power Management Power-on mode for AC power recovery
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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
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FAN	<ul style="list-style-type: none"> Fans with tachometer monitoring Status monitor for speed control Pulse Width Modulated (PWM) fan connectors
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Temperature	<ul style="list-style-type: none"> Monitoring for CPU and chassis environment Thermal Control for fan connectors
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*** Supported with certain configuration and operating temperature limitations.**

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-X11QPH+	1	Super X11QPH+ Motherboard
	CSE-218UTS-R1K62P	1	2U Chassis
Add-on Card / Module	AOC-2UR66-I4G	1	2U Ultra Riser with 4 GbE ports and 2 PCI-E x16 3.0, Intel i350
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-PWEX-0673	3	8 pin female to 2x big 4 pin female power, 65/70CM, 18AWG,RoHS/REACH
Cable 2	CBL-SAST-0701	3	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,85CM,SB,30AWG,Ro
Riser Card	RSC-R1UW-E8R	1	1U RHS WIO Riser card with one PCI-E x8 slot
Riser Card	RSC-R2UW-4E8	1	2U LHS WIO Riser card with four PCI-E x8 slots
Riser Card	RSC-S2-66	2	2U Passive Standard Riser Card with two PCI-E 3.0 x16 Slots,
Heatsink / Retention	SNK-P0067PS	2	1U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
Heatsink / Retention	SNK-P0067PSMB	2	1U Passive High Performance Front CPU Heat Sink w/ an 18-mm Wide Middle Air Channel for X11 Purley Platform Equipped w/ a Narrow Retention Mechanism/Bolster
Power Supply	PWS-1K62A-1R	2	AC-DC 1600W, Titanium Level, Redundancy, 1U, DC Output: +12V and +12Vs, 203 x 73.5 x 40 mm, AC Input: 90 - 264 VAC/47-63Hz, PMBus 1.2 with DSP controller,HF,RoHS/REACH
FAN 1	FAN-0166L4	4	80x80x38 mm, 13.5K RPM, Optional Middle Cooling Fan for 2U Ultra Series Servers (Hot-swappable Version of FAN-0162L4)

Optional Parts List

	Part Number	Qty	Description
2.5" NVMe Drive Trays	MCP-220-00167-0B	1 ~ 4	Tool-less black hot-swap 2.5" NVMe drive tray (Orange tab, w/ key lock, clip design)
	MCP-220-00127-0B		Black hot-swap 2.5" NVMe drive tray (Orange tab, w/ key lock)
Add-on Card	AOC-VROCPREMOD	-	Intel VROC Premium, RAID 0, 1, 5, 10
	AOC-VROCSTNMOD	-	Intel VROC HW key (RSTe) standard upgrade module
Frequency optimized and 205 watt CPU option kit	MCP-240-21904-0N-OEM	1	RSC bkt set (left, Mid/Right) for SC829/219U (LP),Tool-less
	SNK-P0068PS	2	2U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
2000w power supply kit	MCP-250-21802-0N	-	Power adapter bracket for 2K03P in SC218U,HF,RoHS/REACH
	PWS-2K03P-1R	-	1U 2000W Redundant Power Supply Platinum 73.5mm width
Active Cooling GPU	GPU-NVQRTX8000	-	NVIDIA PNY Quadro RTX8000 48GB GDDR6 PCIe 3.0
	GPU-NVQRTX6000	-	NVIDIA PNY Quadro RTX6000 24GB GDDR6 PCIe 3.0
	GPU-NVQRTX5000	-	NVIDIA PNY Quadro RTX5000 16GB GDDR6 PCIe 3.0
	GPU-NVQRTX4000	-	NVIDIA PNY Quadro RTX4000 8GB GDDR6 PCIe 3.0
	GPU-NVK40C	-	NVIDIA Tesla K40 PCI-E 12GB GDDR5
	GPU-NVQM6000	-	NVIDIA PNY Quadro M6000 12GB GDDR5 PCIe 3.0
	GPU-NVQM6000-24	-	NVIDIA PNY Quadro M6000 24GB GDDR5 PCIe 3.0
	GPU-NVQGV100	-	NVIDIA PNY Quadro GV100 32GB HBM2 PCIe 3.0
GPU power cable	CBL-PWEX-1042	1/GPU	GPU, 2x4F/CPU to 2x4F/CPU, P4.2, 50CM, 16AWG, 10A/pin, -40~105C
	CBL-PWEX-1040	1/GPU	
CacheVault(s)	BTR-TFM8G-LSICVM02 & BKT-BBU-BRACKET-05	-	CacheVault for Broadcom 3108; Supercap mounting bracket for PCI-E location
	BTR-TFM8G-LSICVM02 & MCP-240-00127-0N	-	CacheVault for Broadcom 3108; Supercap mounting bracket for 2.5" HDD location

Network Card(s)	AOC-S40G-i2Q	-	Standard LP 2-port 40GbE controller, based on Intel Fortville XL710
	AOC-SGP-i2	-	Standard LP, 2x GbE RJ45, PCI-E x4, Intel i350AM2
	AOC-SGP-i4	-	Standard LP, 4x GbE RJ45, PCI-E x4, Intel i350
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S
	AOC-STGN-i2S	-	Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel 82599ES
	AOC-STGN-i1S	-	Standard LP, 1x 10GbE SFP+, PCI-E x8, Intel 82599EN
	AOC-STG-i2T	-	Standard LP, 2x 10GbE RJ45, PCI-E x8, Intel X540
Global Services & Support	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC • eStore	1	OOB Management Package (per node license)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)

Storage Options List

Cases	AOC	Cable	Connection
For 8 SAS3 HDD	AOC-S3008L-L8i x1 or AOC-S3108L-H8iR x1 or AOC-S3108L-H8iR-16DD x1	CBL-SAST-0532 x2	PCI-E slot 8
For 16 SAS3 HDD	AOC-S3008L-L8i x2 or AOC-S3108L-H8iR x2 or AOC-S3108L-H8iR-16DD x2	CBL-SAST-0532 x2 CBL-SAST-0593 x2	PCI-E slot 8 PCI-E slot 9
For 24 SAS3 HDD	AOC-S3008L-L8i x3 or AOC-S3108L-H8iR x3 or AOC-S3108L-H8iR-16DD x3	CBL-SAST-0532 x2 CBL-SAST-0593 x2 CBL-SAST-0568 x2	PCI-E slot 8 PCI-E slot 9 PCI-E slot 11
For 24 SAS3 HDD including 4 NVMe	AOC-S3008L-L8i x3 + AOC-SLG3-4E4T x1 or AOC-S3108L-H8iR x3 + AOC-SLG3- 4E4T x1 or AOC-S3108L-H8iR-16DD x 3 + AOC- SLG3-4E4T x1	CBL-SAST-0532 x2 CBL-SAST-0593 x2 CBL-SAST-0568 x2 CBL-SAST-0926 x4 (NVMe cable)	PCI-E slot 8 PCI-E slot 9 PCI-E slot 11 PCI-E Slot 10 (AOC-SLG3-4E4T)
TPM security module (optional, not included)	AOM-TPM-9670V AOM-TPM-9671V	1	TPM module (Vertical) TPM 2.0 TPM module (Vertical) TPM 1.2.