

## SuperServer 2029U-TR4 (Complete System Only)



**Integrated Board**



**Super X11DPU**

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 2 CPUs and 4 DIMMs).

[▶ Drivers & Utilities](#) | [▶ BIOS](#) | [▶ IPMI](#) | [▶ Tested Memory](#) | [▶ Tested M.2 List](#) | [▶ NVMe Options](#) | [▶ Manuals](#) | [▶ OS Certification Matrix](#)  
[▶ Compatible GPU List](#) | [▶ Quick-References Guide](#) | [▶ Drive Options](#) | [▶ Network Card \(AOC\) Matrix](#)

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

### Key Features

**Virtualization**  
**Hyperconverge Storage**  
**Cloud Computing**  
**High End Enterprise Server**

1. Dual Socket P (LGA 3647) support 2nd Gen Intel® Xeon® Scalable processors (Cascade Lake/Skylake)<sup>‡</sup>
2. 24 DIMMs; up to 6TB 3DS ECC DDR4-2933MHz<sup>†</sup> RDIMM/LRDIMM, Supports Intel® Optane™ DCPMM<sup>††</sup>
3. 1 PCI-E 3.0 x16 slot (FH, 10.5" L), 5 PCI-E 3.0 x8 slots (FH, 10.5" L), 1 PCI-E 3.0 x8 slot (LP), 1 PCI-E 3.0 x8 slot (internal LP)
4. 4 1GbE LAN ports via Intel i350
5. 24 Hot-swap 2.5" Drive Bays; 14 SATA3 (optional 20 SAS3 + 4 NVMe/SAS3), Optional 2 hot-swap 2.5" rear drive bays for SSDs; Optional M.2 NVMe and SATA3 ports
6. 4 Heavy duty 8cm PWM fans
7. 1000W Redundant Power Supplies **Titanium Level (96%)**

# Specifications

## Product SKUs

**SYS-2029U-TR4** ■ SuperServer 2029U-TR4 (Black)

## Motherboard

**Super X11DPU**

## Processor

**CPU** ■ Dual Socket P (LGA 3647)  
 ■ 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors<sup>‡</sup>,  
 Dual UPI up to 10.4GT/s  
 ■ Support CPU TDP 70-205W

**Cores** ■ Up to 28 Cores

**Note** <sup>‡</sup> BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R)

## System Memory

**Memory Capacity** ■ 24 DIMM slots  
 ■ Up to 6TB 3DS ECC DDR4-2933MHz<sup>†</sup> RDIMM/LRDIMM  
 ■ Supports Intel® Optane™ DCPMM<sup>††</sup>

**Memory Type** ■ 2933<sup>†</sup>/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM  
 ■ 2666 ECC DDR4 NVDIMM

**Note** <sup>†</sup> 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro  
<sup>††</sup> Cascade Lake only. Contact your Supermicro sales rep for more info.

## On-Board Devices

**Chipset** ■ Intel® C621 chipset

**SATA** ■ SATA3 (6Gbps); RAID 0, 1, 5, 10

**Network Connectivity** ■ 4x 1GbE LAN ports via Intel® i350 (AOC-2UR68-i4G)

**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** ■ 14 SATA3 (6Gbps) ports

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

**USB** ■ 5 USB 3.0 ports (2 rear, 2 onboard header, 1 Type A)

**Video** ■ 1 VGA Connector

**Serial Header** ■ 1 Serial header

**DOM** ■ 2 SuperDOM (Disk on Module) ports

## System BIOS

**BIOS Type** ■ AMI 32Mb SPI Flash ROM

## Chassis

**Form Factor** ■ 2U Rackmount

**Model** ■ **CSE-219U2TS-R1K02P-T**

## Dimensions and Weight

**Width** ■ 17.2" (437mm)

**Height** ■ 3.5" (89mm)

**Depth** ■ 27.76" (705.3mm)

**Weight** ■ Net Weight: 36 lbs (16.4 kg)  
 ■ Gross Weight: 72 lbs (32.7 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** ■ 1 PCI-E 3.0 x16 (FH, 10.5" L)  
 ■ 5 PCI-E 3.0 x8 (FH, 10.5" L)  
 ■ 1 PCI-E 3.0 x8 (LP)  
 ■ 1 PCI-E 3.0 x8 (internal LP)

**(Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and [AOC Support](#) for details.)**

## Drive Bays / Storage

**Hot-swap** ■ 24 Hot-swap 2.5" drive bays;  
 14 SATA3 (optional 20 SAS3 + 4 NVMe/SAS3)

**M.2** ■ 1 M.2 PCI-E 3.0 x4 M-Key NVMe or 1 M.2 M-Key SATA3 (2240/2260/2280/22110) via optional riser card (see optional parts list)  
 ■ 2 M.2 PCI-E 3.0 x4 M-Key NVMe (2260/2280/22110) via optional add-on card AOC-SLG3-2M2

## Backplane

2U SAS/SATA backplane

## System Cooling

**Fans** ■ 4 Heavy duty 8cm PWM fans

## Power Supply

1000W Redundant Power Supplies with PMBus

**Total Output Power** ■ 800W: 100 – 127Vac  
 ■ 1000W: 200 – 240Vac  
 ■ 1000W: 200 – 240Vdc (for CCC only)

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**Management**

- Software**
- Intel® Node Manager
  - [Redfish API](#)
  - [IPMI 2.0](#)
  - KVM with dedicated LAN
  - NMI
  - [SSM](#), [SPM](#), [SUM](#)
  - [SuperDoctor® 5](#)
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- Power Configurations**
- ACPI Power Management
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**PC Health Monitoring**

- CPU**
- Monitors for CPU Cores, Chipset Voltages, Memory.
  - 4+1 Phase-switching voltage regulator
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- FAN**
- Fans with tachometer monitoring
  - Status monitor for speed control
  - Pulse Width Modulated (PWM) fan connectors
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- Temperature**
- Monitoring for CPU and chassis environment
  - Thermal Control for fan connectors
- 

- Dimension (W x H x L)**
- 73.5 x 40 x 203 mm
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- Input**
- 100-127Vac / 9.8 - 7A / 50-60Hz
  - 200-240Vac / 7 - 5A / 50-60Hz
  - 200-240Vdc / 7 - 5A (for CCC only)
- 

- +12V**
- Max: 66.7A / Min: 0A (100-127Vac)
  - Max: 83A / Min: 0A (200-240Vac)
  - Max: 83A / Min: 0A (200-240Vdc)
- 

- 12Vsb**
- Max: 2.1A / Min: 0A
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- Output Type**
- 25 Pairs Gold Finger Connector
- 

- Certification**



**Titanium Level**  
[ [Test Report](#) ]

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**Operating Environment**

- RoHS**
- RoHS Compliant
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- Environmental Spec.**
- Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)
  - Non-operating Temperature: -40°C to 70°C (-40°F to 158°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
<b>Motherboard / Chassis</b>	MBD-X11DPU	1	Super X11DPU Motherboard
	CSE-219U2TS-R1K02P-T	1	2U Chassis
<b>Add-on Card / Module</b>	AOC-2UR68-I4G-P	1	2U Ultra Riser based on Intel i350AM4 controller with 4 GbE RJ45 ports, 1 internal PCI-E x8 3.0 slot, 1 PCI-E x16 3.0, and 1 PCI-E x8 3.0 (in x16 slot)
<b>Backplane</b>	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
<b>Cable 1</b>	CBL-PWEX-0673	3	8 pin female to 2x big 4 pin female power, 65/70CM, 18AWG,RoHS/REACH
<b>Cable 2</b>	CBL-SAST-0591	1	MINI SAS HD-4 SATA,6G,INT,RF,Cross Over,75CM,75CM SB,30AWG
<b>Cable 3</b>	CBL-SAST-0655	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,47CM,SB,30AWG
<b>Cable 4</b>	CBL-SAST-0656	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,39CM,SB,30AWG
<b>Cable 5</b>	CBL-SAST-0657	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,55CM,SB,30AWG
<b>Air Shroud</b>	MCP-310-82921-0N	1	Plastic air shroud for SC829U, 219U (X11 24DIMM, left side)
<b>Air Shroud</b>	MCP-310-82922-0N	1	Plastic air shroud for SC829U, 219U (X11 24DIMM, right side)
<b>Riser Card</b>	RSC-R1UW-E8R	1	1U RHS WIO Riser card with one PCI-E x8 slot
<b>Riser Card</b>	RSC-R2UW-4E8	1	2U LHS WIO Riser card with four PCI-E x8 slots
<b>Heatsink / Retention</b>	SNK-P0068PS	2	2U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
<b>Power Supply</b>	PWS-1K02A-1R	2	1U 1000W Redundant Power Supply 73.5mm width Titanium Level,RoHS/REACH
<b>FAN 1</b>	FAN-0118L4	4	80 x 80 x 38 mm, 9.5K RPM, 4-pin PWM Fan, Hot

### Optional Parts List

	Part Number	Qty	Description
<b>Add-on card for internal M.2 NVMe</b>	AOC-SLG3-2M2	1	Low Profile PCI-E x8 add-on card supports 2 PCI-E 3.0 x4 M-Key M.2 NVMe Modules
<b>2U Cable Management Arm</b>	MCP-290-00128-0N & MCP-290-00127-0N	1	2U Supermicro Cable Management Arm 2nd Gen (Compatible for racks that are 42" in depth)
<b>Internal Drive Tray for Two 2.5" Drives</b>	MCP-120-82916-0N	1	Internal drive plate Supports Two 2.5" Drive, PCI slots
	CBL-PWEX-0650	1	Power cable for Two internal 2.5" drives
	CBL-0080L	2	
	CBL-0484L Or CBL-SAST-0654 Or	2	SATA3 S-S Cable
	CBL-SAST-0948	1	miniSAS(iPass) to 4 SATA Cable
<b>Cable for 4 NVMe Hybrid Drive Bays</b>	2 CBL-SAST-0929 & 2 CBL-SAST-0972	1	OCuLink source to MiniSAS HD target V.91,INT,PCIe NVMe SSD, 57CM,34AWG
<b>2.5" NVMe Drive Trays</b>	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)
<b>2 Internal M.2 slots (1 SATA, 1 NVMe)</b>	RSC-UMR-8 & CBL-SAST-0538 & MCP-120-82924-0N & MCP-310-21902-0N	1	1U Ultra RHS Riser Card with 1 PCIE/SATA Hybrid M.2 & 1 PCIE X8
<b>2 Rear 2.5" Hot-swap SATA Drive Bays (Complete System Only)</b>	MCP-240-82922-0N-OEM	-	Rear 2x 2.5" HDDs riser bracket kit for SC829U/219U, tool-less

<b>Storage Control Card and Cable(s)</b>	<a href="#">AOC-S3008L-L8e &amp; 2x CBL-SAST-0593</a>	1~3	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 122HDD, HBA; MINI SAS HD,12G,INT,60CM,30AWG
	<a href="#">AOC-S3008L-L8i &amp; 2x CBL-SAST-0593</a>		Std LP, 8 internal ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E; MINI SAS HD,12G,INT,60CM,30AWG
	<a href="#">AOC-S3108L-H8iR &amp; 2x CBL-SAST-0593</a>		Std LP, 8 internal ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD,12G,INT,60CM,30AWG
	<a href="#">AOC-S3108L-H8iR-16DD &amp; 2x CBL-SAST-0593</a>		Std LP, 8 internal ports, 12Gb/s per port- Gen3, 16HDD, RAID 0, 1, 5, 6, 10, 50, 60; MINI SAS HD,12G,INT,60CM,30AWG
<b>Network Card(s)</b>	<a href="#">AOC-SGP-i2/4</a>	-	Standard LP, 2/4x GbE RJ45, PCI-E x4, Intel i350
	<a href="#">AOC-STGN-i1S/i2S</a>	-	Standard LP, 1/2x 10GbE SFP+, PCI-E x8, Intel 82599EN
	<a href="#">AOC-STGF-i2S</a>	-	Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel XL710-BM2
	<a href="#">AOC-STG-i4S</a>	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Intel XL710
	<a href="#">AOC-STG-b4S</a>	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S
	<a href="#">AOC-STG-i2T</a>	-	Standard LP, 2x 10GbE RJ45, PCI-E x8, Intel X540
	<a href="#">AOC-STGS-i1/2T</a>	-	Standard LP, 1/2x 10GbE RJ45, PCI-E x8, Intel X550
	<a href="#">AOC-STG-i4T</a>	-	Standard LP, 4x 10GbE RJ45, PCI-E x8, Intel XL710
	<a href="#">AOC-STG-i2</a>	-	Standard LP, 2x 10GbE CX4, PCI-E x8, Intel 82598EB
	<a href="#">AOC-S25G-m2S</a>	-	Standard LP, 2x 25GbE SFP28, Mellanox ConnectX-4 LX EN
	<a href="#">AOC-S40G-i2Q</a>	-	Standard LP 2-port 40GbE controller, Intel Fortville XL710
	<a href="#">More</a>	-	<a href="#">AOC Compatibility Matrix</a>
<b>CacheVault(s)</b>	<a href="#">BTR-CV3108-U1</a>	-	CacheVault for Broadcom 3108 with Supercap mounting for 2U Ultra
<b>TPM security module</b>	<a href="#">AOM-TPM-9670H-S</a>	1	TCG 2.0 compliant trusted platform module (TPM), Horizontal FF
	<a href="#">AOM-TPM-9671H-S</a>	1	TCG 1.2 compliant trusted platform module (TPM), Horizontal FF
<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>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)