

# SuperServer 2029U-TRTP (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 Applications

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

## Key Features

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. 2 10G SFP+ Ethernet ports
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-TRTP** ■ SuperServer 2029U-TRTP (**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** ■ 2 10G SFP+ ports via AOC-2UR68-i2XS (Intel® 82599ES)

- 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** ■ 2 10G SFP+ 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

## 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)

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI 32Mb SPI Flash ROM</li> </ul>
<b>Management</b>	
<b>Software</b>	<ul style="list-style-type: none"> <li>Intel® Node Manager</li> <li><a href="#">Redfish API</a></li> <li><a href="#">IPMI 2.0</a></li> <li>KVM with dedicated LAN</li> <li>NMI</li> <li><a href="#">SSM</a>, <a href="#">SPM</a>, <a href="#">SUM</a></li> <li><a href="#">SuperDoctor® 5</a></li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI Power Management</li> </ul>

**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>
<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>
<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>

<b>Dimension (W x H x L)</b>	<ul style="list-style-type: none"> <li>73.5 x 40 x 203 mm</li> </ul>
<b>Input</b>	<ul style="list-style-type: none"> <li>100-127Vac / 9.8 - 7A / 50-60Hz</li> <li>200-240Vac / 7 - 5A / 50-60Hz</li> <li>200-240Vdc / 7 - 5A (for CCC only)</li> </ul>
<b>+12V</b>	<ul style="list-style-type: none"> <li>Max: 66.7A / Min: 0A (100-127Vac)</li> <li>Max: 83A / Min: 0A (200-240Vac)</li> <li>Max: 83A / Min: 0A (200-240Vdc)</li> </ul>
<b>12Vsb</b>	<ul style="list-style-type: none"> <li>Max: 2.1A / Min: 0A</li> </ul>
<b>Output Type</b>	<ul style="list-style-type: none"> <li>25 Pairs Gold Finger Connector</li> </ul>
<b>Certification</b>	  <b>Titanium Level</b> <b>[ Test Report ]</b>

**Operating Environment**

<b>RoHS</b>	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
<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 70°C (-40°F to 158°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

### 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-I2XS	1	2U Ultra Riser based on Intel 82599ES controller with 2 10Gb SFP+ 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 x4 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>* Cable 6</b>	CBL-0088L	4	4 PIN MIDDLE FAN POWER CABLE (PWM). 27cm, 24AWG
<b>* Cable 7</b>	CBL-0160L	2	NEMA5-15P to C13 US power cord 16AWG 6ft, PBF (default for high watt)
<b>* Cable 8</b>	CBL-0318L	1	CBL,FRONT CNTL,16 TO 16 PIN,RA,RND TUBE,24CM,28AWG
<b>* FAN 1</b>	FAN-0118L4	4	80 x 80 x 38 mm, 9.5K RPM, 4-pin PWM Fan, Hot
<b>* Drive Tray(s)</b>	MCP-220-00147-0B	24	Black gen-3 hot-swap 2.5"; Tool-less HDD tray (clip design)
<b>* Rail Set</b>	MCP-290-00057-0N	1	Rail set, quick/quick, default for 4U 17.2"; W
<b>* Rail Set</b>	MCP-290-00060-0N	1	Threaded rail adapter default for round hole rack
<b>* Air Shroud</b>	MCP-310-81905-0B	1	Plastic air shroud for SC819U, 119U, 829U, 219U (PWS),RoHS/REACH
<b>* Front Panel</b>	TB826	1	Front panel adaptor board (TB826) forSC826,213,216,219
<b>* Rail Set</b>	MCP-290-00115-0N	1	Inner rail, quick-release type
<b>* Rail Set</b>	MCP-290-00117-0N	1	Outer rail, quick-release type

### Notes:

1. Parts with \* are inside the chassis
2. Excessive parts might not be shipped, including but not limited to excessive drive trays, fans, riser brackets, air shrouds, IO shields, cables.....etc.

### 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 1	SATA3 S-S Cable miniSAS(iPass) to 4 SATA Cable	
	CBL-SAST-0948	1	miniSAS HD 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>	AOC-S3008L-L8e & 2x CBL-SAST-0593	1~3	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 122HDD, HBA; MINI SAS HD,12G,INT,60CM,30AWG	
	AOC-S3008L-L8i & 2x CBL-SAST-0593		Std LP, 8 internal ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E; MINI SAS HD,12G,INT,60CM,30AWG	
	AOC-S3108L-H8iR & 2x CBL-SAST-0593		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	
	AOC-S3108L-H8iR-16DD & 2x CBL-SAST-0593		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>Compatible Networking Cables and Transceivers for System default Networking (AOC-2UR68-i2XS)</b>	-	1~2	<u><a href="#">Networking Cables and Transceivers Compatibility Matrix</a></u>	
<b>Network Card(s)</b>	AOC-SGP-i2/4	-	Standard LP, 2/4x GbE RJ45, PCI-E x4, Intel i350	
	AOC-STGN-i1S/i2S	-	Standard LP, 1/2x 10GbE SFP+, PCI-E x8, Intel 82599EN	
	AOC-STGF-i2S	-	Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel XL710-BM2	
	AOC-STG-i4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Intel XL710	
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S	
	AOC-STG-i2T	-	Standard LP, 2x 10GbE RJ45, PCI-E x8, Intel X540	
	AOC-STGS-i1/2T	-	Standard LP, 1/2x 10GbE RJ45, PCI-E x8, Intel X550	
	AOC-STG-i4T	-	Standard LP, 4x 10GbE RJ45, PCI-E x8, Intel XL710	
	AOC-STG-i2	-	Standard LP, 2x 10GbE CX4, PCI-E x8, Intel 82598EB	
	AOC-S25G-m2S	-	Standard LP, 2x 25GbE SFP28, Mellanox ConnectX-4 LX EN	
	AOC-S40G-i2Q	-	Standard LP 2-port 40GbE controller, Intel Fortville XL710	
	More	-	<u><a href="#">AOC Compatibility Matrix</a></u>	
	<b>CacheVault(s)</b>	BTR-CV3108-U1	-	CacheVault for Broadcom 3108 with Supercap mounting for 2U Ultra
	<b>TPM security module</b>	AOM-TPM-9670H-S	1	TCG 2.0 compliant trusted platform module (TPM), Horizontal FF
AOM-TPM-9671H-S		1	TCG 1.2 compliant trusted platform module (TPM), Horizontal FF	
<b>Intel VROC RAID Key</b>	<u><a href="#">AOC-VROCINTMOD</a></u>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)	
	<u><a href="#">AOC-VROCSTNMOD</a></u>	1	Intel VROC Standard, RAID 0, 1, 10	
	<u><a href="#">AOC-VROCPREMOD</a></u>	1	Intel VROC Premium, RAID 0, 1, 5, 10	
<b>Global Services &amp; Support</b>	<u><a href="#">OS4HR3/2/1</a></u>	-	3/2/1-year onsite 24x7x4 service	
	<u><a href="#">OSNBD3/2/1</a></u>	-	3/2/1-year onsite NBD service	
<b>Software</b>	<u><a href="#">SFT-OOB-LIC</a></u> • <b>eStore</b>	1	OOB Management Package (per node license)	
<b>Software</b>	<u><a href="#">SFT-DCMS-Single</a></u>	1	DataCenter Management Package (per node license)	