

SuperServer 6029U-TRTP (Complete System Only)



Integrated Board



Super X11DPU

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

Key Applications

Virtualization
Hyperconverge Storage
Cloud Computing
High End Enterprise Server
Flexible Networking Options

Key Features

1. Dual Socket P (LGA 3647) support
2nd Gen Intel® Xeon® Scalable
processors (Cascade Lake/Skylake)‡
2. 24 DIMMs; up to 6TB 3DS ECC
DDR4-2933MHz† RDIMM/LRDIMM,
Supports Intel® Optane™ DCPMM††
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. 12 Hot-swap 3.5" drive bays:
12 SATA (opt. 8 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 fans
7. 1000W High efficiency (96%)
Redundant PSU; **Titanium Level**

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.

Product SKUs

- **SYS-6029U-TRTP** SuperServer 6029U-TRTP (**Black**)

Motherboard

Super X11DPU

Processor

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

- **Cores** Up to 28 Cores

- **Note** [‡] 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[†] RDIMM/LRDIMM
 - Supports Intel® Optane™ DCPMM^{††}

- **Memory Type**
 - 2933[†]/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM
 - 2666 ECC DDR4 NVDIMM

- **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 (6Gbps) with 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** 12 SATA3 (6Gbps) ports
- **SAS** 8 SAS3 + 4 SAS3/NVMe support optional
- **LAN**
 - 2 10G SFP+ ports
 - 1 RJ45 Dedicated IPMI LAN port
- **USB** 3 USB 3.0 ports (2 rear, 1 Type A)
- **Video** 2 VGA ports (1 rear, 1 onboard)
- **Serial Port / Header** 1 Serial header
- **DOM** 2 SuperDOM (Disk on Module) ports

Chassis

- **Form Factor** 2U Rackmount
- **Model** CSE-829U2TS-R1K02P-T

Dimensions and Weight

- **Width** 17.2" (437mm)
- **Height** 3.5" (89mm)
- **Depth** 28.46" (723mm)
- **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**
 - 12 Hot-swap 3.5" drive bays
 - 12 SATA3 ports by default; Optional 8 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

System BIOS

BIOS Type	<ul style="list-style-type: none"> AMI 32Mb SPI Flash ROM
Management	
Software	<ul style="list-style-type: none"> Intel® Node Manager <u>IPMI 2.0</u> KVM with dedicated LAN NMI <u>SSM, SPM, SUM</u> <u>SuperDoctor® 5</u>
Power Configurations	<ul style="list-style-type: none"> ACPI Power Management
PC Health Monitoring	
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

Power Supply

1000W Redundant Power Supplies with PMBus

Total Output Power	<ul style="list-style-type: none"> 800W: 100 – 127Vac 1000W: 200 – 240Vac 1000W: 200 – 240Vdc (for CCC only)
Dimension (W x H x L)	<ul style="list-style-type: none"> 73.5 x 40 x 203 mm
Input	<ul style="list-style-type: none"> 100-127Vac / 9.8 - 7A / 50-60Hz 200-240Vac / 7 - 5A / 50-60Hz 200-240Vdc / 7 - 5A (for CCC only)
+12V	<ul style="list-style-type: none"> Max: 66.7A / Min: 0A (100-127Vac) Max: 83A / Min: 0A (200-240Vac) Max: 83A / Min: 0A (200-240Vdc)
12Vsb	<ul style="list-style-type: none"> Max: 2.1A / Min: 0A
Output Type	<ul style="list-style-type: none"> 25 Pairs Gold Finger Connector
Certification	 Titanium Level [Test Report]

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 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 - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X11DPU	1	Super X11DPU Motherboard
	CSE-829U2TS-R1K02P-T	1	2U Chassis
Add-on Card / Module	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)
Backplane	BPN-SAS3-826A-N4	1	12-port 2U SAS3 12Gbps hybrid backplane, support up to 8x 3.5-inch SAS3/SATA3 HDD/SSD and 4x SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-PWEX-0652	1	8 pin female to 2x RA(Right Angle) big 4 pin female power, 60/65CM, 18AWG,RoHS/REACH
Cable 2	CBL-PWEX-0673	1	8 pin female to 2x big 4 pin female power, 65/70CM, 18AWG,RoHS/REACH
Cable 3	CBL-SAST-0655	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,47CM,SB,30AWG
Cable 4	CBL-SAST-0656	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,39CM,SB,30AWG
Cable 5	CBL-SAST-0657	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,55CM,SB,30AWG
Parts	MCP-240-82910-0N	1	Ultra I/O bracket for SC829U, 219U (i2XS),HF,RoHS/REACH
Air Shroud	MCP-310-82921-0N	1	Plastic air shroud for SC829U, 219U (X11 24DIMM, left side)
Air Shroud	MCP-310-82922-0N	1	Plastic air shroud for SC829U, 219U (X11 24DIMM, right side)
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
Heatsink / Retention	SNK-P0068PS	2	2U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
Power Supply	PWS-1K02A-1R	2	1U 1000W Redundant Power Supply 73.5mm width Titanium Level,RoHS/REACH
FAN 1	FAN-0118L4	4	80 x 80 x 38 mm, 9.5K RPM, 4-pin PWM Fan, Hot

Optional Parts List

	Part Number	Qty	Description	
Add-on card for internal M.2 NVMe	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	
2U Cable Management Arm	MCP-290-00128-0N & MCP-290-00127-0N	1	2U Supermicro Cable Management Arm 2nd Gen (Compatible for racks that are 42" in depth)	
Internal Drive Tray for Two 2.5" Drives	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 CBL-SAST-0948	2	SATA3 S-S Cable	
		1	miniSAS(iPass) to 4 SATA Cable	
	1	miniSAS HD to 4 SATA Cable		
Cable for 4 NVMe Hybrid Drive Bays	2 CBL-SAST-0929 & 2 CBL-SAST-0972	1	OCuLink source to MiniSAS HD target V.91,INT,PCIe NVMe SSD, 57CM,34AWG	
Hot-swap 3.5" to 2.5" NVMe Drive Tray	MCP-220-00138-0B	1~4	Tool-less black hot-swap 3.5-to-2.5 converter NVMe drive tray (Orange tab)	
Hot-swap 3.5" to 2.5" SATA/SAS Drive Trays	MCP-220-00118-0B	1~12	Tool-less black hot-swap 3.5-to-2.5 converter HDD drive tray (Red tab)	
	MCP-220-00043-0N		Black hot-swap 3.5-to-2.5 converter HDD drive tray (Red tab)	
2 Internal M.2 slots (1 SATA, 1 NVMe)	RSC-UMR-8 & CBL-SAST-0538 & MCP-120-82924-0N & MCP-310-21902-0N & FST-SCRW-0074L	1	1U Ultra RHS Riser Card with 1 PCIE/SATA Hybrid M.2 & 1 PCIE X8	
2 Rear 2.5" Hot-swap SATA Drive Bays (Complete System Only)	MCP-240-82922-0N-OEM	-	Rear 2x 2.5" HDDs riser bracket kit for SC829U/219U, tool-less	
Storage Control Card and Cable(s)	AOC-S3008L-L8e & 2x CBL-SAST-0593	1~2	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	
Compatible Networking Cables and Transceivers for System default Networking (AOC-2UR68-i2XS)	-	1~2	<u>Networking Cables and Transceivers Compatibility Matrix</u>	
Network Card(s)	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>AOC Compatibility Matrix</u>	
CacheVault(s)	BTR-CV3108-U1	-	CacheVault for Broadcom 3108 with Supercap mounting for 2U Ultra	
Hot-swap 3.5" to 2.5" Hard Disk Drive Tray	MCP-220-00043-0N	-	Black hot-swap 3.5" to 2.5" HDD tray	
TPM security module	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	
Intel VROC RAID Key	<u>AOC-VROCINTMOD</u>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)	
	<u>AOC-VROCSTNMOD</u>	1	Intel VROC Standard, RAID 0, 1, 10	
	<u>AOC-VROCPREMOD</u>	1	Intel VROC Premium, RAID 0, 1, 5, 10	

Global Services & Support	<u>OS4HR3/2/1</u>	-	3/2/1-year onsite 24x7x4 service
	<u>OSNBD3/2/1</u>	-	3/2/1-year onsite NBD service
Software	<u>SFT-OOB-LIC</u> • <i>eStore</i>	1	OOB Management Package (per node license)
Software	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)