

SuperServer 2029U-TN24R4T (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, 4 DIMMs and 6 NVMe).

▶ [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)‡

2. 24 DIMMs; up to 6TB 3DS ECC
DDR4-2933MHz† RDIMM/LRDIMM,
Supports Intel® Optane™ DCPMM††

3. 2 PCI-E 3.0 x16 slots (FH, 10.5" L),
1 PCI-E 3.0 x8 slot (LP)

4. 4 10GBase-T LAN ports with Intel X550

5. 24 Hot-swap 2.5" drive bays;
24 NVMe (4 hybrid ports - SAS3 via opt.
AOC), 2 rear Hot-swap 2.5" drive bays;
2 internal M.2 (1 SATA3, 1 NVMe);
1 M.2 NVMe port, Optional extra
M.2 NVMe and SATA3 ports

6. 4 Heavy duty 8cm PWM fans

7. 1600W High efficiency (96%)
Redundant PSU; **Titanium Level**

Specifications

Product SKUs

- SYS-2029U-TN24R4T** ■ SuperServer 2029U-TN24R4T (Black)

Motherboard

Super X11DPU

Processor/Cache

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

- Cores** ■ Up to 28 Cores

- Note** ‡ BIOS version 3.0a or above is required to support 2nd Gen. Intel® Xeon® Scalable processors

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

- Storage** ■ SATA3 (6Gbps); RAID 0, 1, 5, 10 per node

- Network Connectivity** ■ 4x 10GBase-T ports via Intel® X550 Ethernet Controller
 - 1x Realtek RTL8211E PHY (dedicated IPMI)

- 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

- NVMe** ■ 24 NVMe ports

- LAN** ■ 4 10GBase-T LAN 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 port

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

Chassis

- Form Factor** ■ 2U Rackmount

- Model** ■ CSE-219UBTS-R1K62P-TN24

Dimensions and Weight

- Width** ■ 17.2" (437mm)

- Height** ■ 3.5" (89mm)

- Depth** ■ 27.76" (705.3mm)

- Weight** ■ Net Weight: 39 lbs (17.7 kg)
 - Gross Weight: 63 lbs (28.6 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** ■ 2 PCI-E 3.0 x16 (FH, 10.5" L)
 - 1 PCI-E 3.0 x8 (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: 24 NVMe (4 hybrid ports - SAS3 via opt. AOC)
 - 2 rear Hot-swap 2.5" SATA drive bays

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

System Cooling

- Fans** ■ 4 Heavy duty 8cm 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

System BIOS

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



Titanium Level

[[Test Report](#)]

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 60°C (-40°F to 140°F)
 - Operating Relative Humidity: 8% to 90% (non-condensing)
 - Non-operating Relative Humidity: 5% to 95% (non-condensing)
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Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard / Chassis	MBD-X11DPU	1	Super X11DPU Motherboard
	CSE-219UBTS-R1K62P-TN24	1	2U Chassis
Add-on Card / Module	AOC-2UR6N4-i4XT-P	1	2U Ultra Riser w ith 4-port 10GbE RJ45 (10GBase-T)
Backplane	BPN-NVME3-216EB	1	BPN-NVMe3-216A-S4 Backplane Base Board
Backplane	BPN-NVME3-216EL	2	PCIe Gen3x16 input to PLX9765 to support 12x NVMe port
Backplane	BPN-SAS3-826TQ-B2B	1	2-port 2U SAS3 12Gbps backplane, support up to 2x 2.5-inch SAS3/SATA3 HDD/SSD
Cable 1	CBL-0097L-03	1	MINI SAS-4 SATA,INT,51CM,51CM SB,30AWG
Cable 2	CBL-PWEX-0653	3	8 pin female to 4 pin female power, 37cm, 18AWG,RoHS/REACH
Cable 3	CBL-PWEX-0702	1	PWEX,2X4F/P4.2 TO 1X4F/P5.08/RA,32CM,18AWG,YEL,BLK*2,RED
Cable 4	CBL-PWEX-1008	2	BPN PWR,2x4F/CPU to 2x4F/PCIe,P4.2, 12V,40CM,16AWG, 10A/pin, 0~80C
Cable 5	CBL-SAST-0819	4	OCuLink v 1.0,INT,PCIe NVMe SSD, 65CM,34AWG,RoHS/REACH
Cable 6	CBL-SAST-0820	4	OCuLink v. 1.0,INT,PCIe NVMe SSD, 85CM,34AWG,RoHS/REACH
Parts	MCP-110-00015-0N	8	Pan head screw , #6-32 x 6L
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-U2N4-6	1	2U Ultra Riser Card w ith 4 NVME and PCI-Ex16,RoHS/REACH
Riser Card	RSC-UMR-8	1	1U Ultra RHS Riser Card w ith 1 PCIe/SATA Hybrid M.2 & 1 PCIe
Heatsink / Retention	SNK-P0068PS	2	2U Passive CPU Heat Sink for X11 Purley Platform Equipped w ith a Narrow Retention Mechanism
* 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 w ith DSP controller,HF,RoHS/REACH
* Cable 7	CBL-0088L	4	4 PIN MIDDLE FAN POWER CABLE (PWM). 27cm, 24AWG
* Cable 8	CBL-0174L	2	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,14AWG,15A,125V,RoHS/REACH
* Cable 9	CBL-0318L	1	CBL,FRONT CNTL,16 TO 16 PIN,RA,RND TUBE,24CM,28AWG
* FAN 1	FAN-0158L4	4	80x80x38 mm, 10.5K RPM, Optional Middle Cooling Fan for X10 2U Ultra and HFT Series Servers,RoHS/REACH
* Drive Tray(s)	MCP-220-00117-0B	2	Black gen-3 hot-sw ap tool-less 2.5- inch HDD tray
* Drive Tray(s)	MCP-220-00121-0B	24	Black gen-3 2.5 NVMe drive tray, Orange tab w ith lock (improved EMI for hotsw ap NVMe drive)
* Rail Set	MCP-290-00053-0N-01	1	36"; Rail set for Auto-latch, quick/quick, 2, 3U 17.2";W
* Air Shroud	MCP-310-81905-0B	1	Plastic air shroud for SC819U, 119U, 829U, 219U (PWS),RoHS/REACH
* Front Panel	TB826	1	Front panel adaptor board (TB826) forSC826,213,216,219
* Rail Set	MCP-290-00115-0N	1	Inner rail, quick-release type

Notes:

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

Mounting Rails	MCP-290-00053-0N-01	1	Auto-latch, inner/outer rail set, quick-release type, 26.9" to 36.4"
	MCP-290-00060-0N	1	Threaded rail adapter default for round hole rack

Optional Parts List

	Part Number	Qty	Description
Add-on card for internal M.2 NVMe	AOC-SLG3-2M2	1	Low Profile PCIe x8 add-on card supports 2 PCIe 3.0 x4 M-Key M.2 NVMe Modules

2.5" SATA/SAS Drive Trays	MCP-220-00147-0B	1~4	Tool-less black hot-sw ap 2.5" drive tray (Red tab, clip design)
	MCP-220-00117-0B		Tool-less black hot-sw ap 2.5" drive tray (Red tab, button design)
	MCP-220-00047-0B		Black hot-sw ap 2.5" drive tray (Red tab)
2U Cable Management Arm	MCP-290-00128-0N & MCP-290-00127-0N-01	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 Tw o 2.5" Drive, PCI slots
	CBL-PWEX-0650	1	Power cable for Tw o internal 2.5" drives
	CBL-0080L	2	
	CBL-0484L Or	2	SATA3 S-S Cable
	CBL-SAST-0654 Or CBL-SAST-0948	1 1	miniSAS(iPass) to 4 SATA Cable miniSAS HD to 4 SATA Cable
Storage Control Card and Cable(s)	AOC-S3008L-L8e & 1x CBL-SAST-0531	1	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 122HDD, HBA; MINI SAS HD,12G,INT,60CM,30AWG
	AOC-S3008L-L8i & 1x CBL-SAST-0531		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 & 1x CBL-SAST-0531		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 & 1x CBL-SAST-0531		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
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	-	AOC Compatibility Matrix
	CacheVault(s)	BTR-CV3108-U1	-
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	AOC-VROCIINTMOD	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	AOC-VROCSTNMOD	1	Intel VROC Standard, RAID 0, 1, 10
	AOC-VROCPREMOD	1	Intel VROC Premium, RAID 0, 1, 5, 10
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)