

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 U.2 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 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)[‡]
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)
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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
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.)
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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
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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)

System BIOS

BIOS Type

- AMI 32Mb SPI Flash ROM

Management

Software

- Intel® Node Manager
- [Redfish API](#)
- [IPMI 2.0](#)
- KVM with dedicated LAN
- NMI
- [SSM](#), [SPM](#), [SUM](#)
- [SuperDoctor® 5](#)

Power Configurations

- ACPI Power Management

PC Health Monitoring

CPU

- Monitors for CPU Cores, Chipset Voltages, Memory.
- 4+1 Phase-switching voltage regulator

FAN

- Fans with tachometer monitoring
- Status monitor for speed control
- Pulse Width Modulated (PWM) fan connectors

Temperature

- Monitoring for CPU and chassis environment
- Thermal Control for fan connectors

12Vsb

- Max: 2.1A / Min: 0A

Output Type

- 25 Pairs Gold Finger Connector

Certification



Titanium Level
[[Test Report](#)]

Operating Environment

RoHS

- RoHS Compliant

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
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 with 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 with 4 NVMe and PCI-Ex16,RoHS/REACH
Riser Card	RSC-UMR-8	1	1U Ultra RHS Riser Card with 1 PCIE/SATA Hybrid M.2 & 1 PCIE
Heatsink / Retention	SNK-P0068PS	2	2U Passive CPU Heat Sink for X11 Purley Platform Equipped with 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 with 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-swap 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 with lock (improved EMI for hotswap 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
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

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
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Add-on card for internal M.2 NVMe	AOC-SLG3-2M2	1	Low Profile PCIe x8 add-on card supports 2 PCI-E 3.0 x4 M-Key M.2 NVMe Modules
Cable for internal M.2 SATA	CBL-SAST-0538	1	29cm 30AWG SATA S-RA cable
Cable for front bay SATA	CBL-SAST-0657	1	55CM HD Mini SAS (S) to Mini SAS (RA) w/ SB 30AWG
2.5" SATA/SAS Drive Trays	MCP-220-00147-0B	1~4	Tool-less black hot-swap 2.5" drive tray (Red tab, clip design)
	MCP-220-00117-0B		Tool-less black hot-swap 2.5" drive tray (Red tab, button design)
	MCP-220-00047-0B		Black hot-swap 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 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
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	-	CacheVault for Broadcom 3108 with Supercap mounting for 2U Ultra
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-VROCINTMOD	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)