

SuperServer 2029UZ-TN20R25M (Complete System Only)



Integrated Board



X11DPU-ZE+

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 10 U.2 NVMe).

[▶ Drivers & Utilities](#) | [▶ BIOS](#) | [▶ IPMI](#) | [▶ Tested Memory](#) | [▶ Tested M.2 List](#) | [▶ NVMe Options](#) | [▶ Manuals](#) | [▶ OS Certification Matrix](#)
[▶ 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. 1 PCI-E 3.0 x8 slots (LP)
4. 2x 25G SFP28 Ethernet ports
5. 24 Hot-swap 2.5" drive bays; 20 NVMe + 4 SAS3/SATA; 1 M.2 NVMe port, Optional extra M.2 NVMe and SATA3 ports
6. 4 Heavy duty 8cm fans
7. 1600W Redundant Power Supplies **Titanium Level (96%)**

Specifications

Product SKUs

| | |
|----------------------------|---|
| SYS-2029UZ-TN20R25M | <ul style="list-style-type: none"> SuperServer 2029UZ-TN20R25M (Black) |
|----------------------------|---|

Motherboard

Super X11DPU-ZE+

Processor

| | |
|------------|--|
| CPU | <ul style="list-style-type: none"> Dual Socket P (LGA 3647) 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors[‡], 3 UPI up to 10.4GT/s Support CPU TDP 70-205W |
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|--------------|--|
| Cores | <ul style="list-style-type: none"> Up to 28 Cores |
|--------------|--|

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| Note | <ul style="list-style-type: none"> [‡] BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R) |
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System Memory

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|------------------------|--|
| Memory Capacity | <ul style="list-style-type: none"> 24 DIMM slots Up to 6TB 3DS ECC DDR4-2933MHz[†] RDIMM/LRDIMM Supports Intel® Optane™ DCPMM^{††} |
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| Memory Type | <ul style="list-style-type: none"> 2933[†]/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM |
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| Note | <ul style="list-style-type: none"> [†] 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. |
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On-Board Devices

| | |
|----------------|---|
| Chipset | <ul style="list-style-type: none"> Intel® C621 chipset |
|----------------|---|

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|-------------|---|
| SATA | <ul style="list-style-type: none"> SATA3 (6Gbps); RAID 0, 1, 5, 10 |
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|-----------------------------|--|
| Network Connectivity | <ul style="list-style-type: none"> 2x 25GbE SFP28 ports via AOC-2UR68-m2TS (Mellanox ConnectX-4 Lx EN) Download networking card drivers here |
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| IPMI | <ul style="list-style-type: none"> Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support |
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|-----------------|--|
| Graphics | <ul style="list-style-type: none"> ASPEED AST2500 BMC |
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Input / Output

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| NVMe | <ul style="list-style-type: none"> 20 NVMe ports direct connect |
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| LAN | <ul style="list-style-type: none"> 2 25GbE SFP28 ports 1 RJ45 Dedicated IPMI LAN port |
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| USB | <ul style="list-style-type: none"> 3 USB 3.0 ports (2 rear, 1 Type A) |
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| Video | <ul style="list-style-type: none"> 2 VGA ports (1 rear, 1 onboard) |
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| Serial Port | <ul style="list-style-type: none"> 1 Serial header |
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|------------|---|
| DOM | <ul style="list-style-type: none"> 2 SuperDOM (Disk on Module) ports |
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Chassis

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|--------------------|--|
| Form Factor | <ul style="list-style-type: none"> 2U Rackmount |
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|--------------|---|
| Model | <ul style="list-style-type: none"> CSE-219U2TS-R1K62P-TN20 |
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Dimensions and Weight

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|---------------|---|
| Height | <ul style="list-style-type: none"> 3.5" (89mm) |
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|--------------|---|
| Width | <ul style="list-style-type: none"> 17.2" (437mm) |
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| Depth | <ul style="list-style-type: none"> 27.76" (705mm) |
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| Weight | <ul style="list-style-type: none"> Net Weight: 36 lbs (16.4 kg) Gross Weight: 72 lbs (32.7 kg) |
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|------------------------|---|
| Available Color | <ul style="list-style-type: none"> Black |
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Front Panel

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| Buttons | <ul style="list-style-type: none"> Power On/Off button System UID button |
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|-------------|--|
| LEDs | <ul style="list-style-type: none"> Power LED Hard drive activity LED Network activity LEDs UID LED |
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Expansion Slots

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| PCI-Express | <ul style="list-style-type: none"> 1 PCI-E 3.0 x8 slot (Low-profile) |
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Drive Bays / Storage

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| Hot-swap | <ul style="list-style-type: none"> 24 Hot-swap 2.5" drive bays 20 NVMe + 4 SAS3/SATA |
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| M.2 | <ul style="list-style-type: none"> 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 |
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System Cooling

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|-------------|---|
| Fans | <ul style="list-style-type: none"> 4 Heavy duty 8cm fans |
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Power Supply

1600W Redundant Power Supplies with PMBus

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|---------------------------|---|
| Total Output Power | <ul style="list-style-type: none"> 1600W/1000W |
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|------------------------------|--|
| Dimension (W x H x L) | <ul style="list-style-type: none"> 73.5 x 40 x 203 mm |
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| Input | <ul style="list-style-type: none"> 100-127Vac / 13 - 9A / 50-60Hz 200-240Vac / 10 - 8A / 50-60Hz |
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| +12V | <ul style="list-style-type: none"> Max: 83.3A / Min: 0A (100-127Vac) Max: 133A / Min: 0A (200-240Vac) |
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|--------------|---|
| 12Vsb | <ul style="list-style-type: none"> Max: 2.1A / Min: 0A |
|--------------|---|

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|--------------------|--|
| Output Type | <ul style="list-style-type: none"> 25 Pairs Gold Finger Connector |
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| Certification |   Titanium Level [Test Report] |
|----------------------|---|

Operating Environment

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

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-ZE+ | 1 | Super X11DPU-ZE+ Motherboard |
| | CSE-219U2TS-R1K62P-TN20 | 1 | CSE-219U2TS-R1K62P-TN20 |
| Add-on Card / Module | AOC-2UR68-M2TS-O | 1 | [NR]AOC-2UR68-M2TS-P |
| Add-on Card / Module | AOC-SLG3-2E4R-P | 2 | NVMe AOC by 8,HF,RoHS/REACH |
| Add-on Card / Module | AOC-SLG3-4E4R-P | 3 | NVMe AOC by 16,HF,RoHS/REACH |
| Backplane | BPN-NVME3-216N-S4 | 1 | 24-port 2U (SC216/219) NVMe direct-attached backplane, support 24x 2.5-inch NVMe devices, 4 of them are hybrid ports also support SAS3/SATA3 |
| Cable 1 | CBL-0306L | 1 | CBL,FRONT CNTL,16 TO 16 PIN,RA,RND TUBE,65CM,28AWG |
| Cable 2 | CBL-PWEX-1018 | 1 | BPN PWR,2X4F/GPU-White to 2x2F,P4.2, 12V, 42CM,18AWG, 11A/pin, -25~85C |
| Cable 3 | CBL-PWEX-1019 | 2 | BPN PWR,2X4F/GPU-White to 2x2F,P4.2, 12V, 67CM,18AWG, 11A/pin, -25~85C |
| Cable 4 | CBL-PWEX-1048 | 1 | BPN PWR,2X4F/GPU-White to 2x2F,P4.2, 12V, 82CM,18AWG, 11A/pin, -25~85C |
| Cable 5 | CBL-SAST-0657 | 1 | MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,55CM,SB,30AWG |
| Cable 6 | CBL-SAST-0820 | 2 | OCuLink v. 1.0,INT,PCIe NVMe SSD, 85CM,34AWG,RoHS/REACH |
| Cable 7 | CBL-SAST-0841 | 16 | MiniSAS HD source to OcuLink v 1.0,INT,PCIe, 76CM,34AWG,RoHS |
| Cable 8 | CBL-SAST-0847 | 2 | OcuLink v 1.0,INT,PCIe NVMe SSD, 76CM,34AWG |
| Drive Tray(s) | MCP-220-00047-0B | 4 | Black gen 3rd hot-swap 2.5inch HDD tray |
| 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-UMR-8 | 1 | 1U Ultra RHS Riser Card with 1 PCIE/SATA Hybrid M.2 & 1 PCIE |
| Riser Card | RSC-W2-66 | 1 | RSC-W2-66 |
| 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 9 | CBL-0088L | 4 | 4 PIN MIDDLE FAN POWER CABLE (PWM). 27cm, 24AWG |
| * Cable 10 | CBL-0174L | 2 | PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,14AWG,15A,125V,RoHS/REACH |
| * Cable 11 | 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-220-00121-0B | 20 | 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 |
| * Rail Set | MCP-290-00060-0N | 1 | Threaded rail adapter default for round hole rack |
| * 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.

Optional Parts List

| | Part Number | Qty | Description |
|---|--|--|--|
| Optional Upgrade for 2U LHS WIO Riser | RSC-R2UW-2E8E16 | 1 | 2U LHS WIO Riser card with 1 PCI-E x16 double width + 2 PCI-E x8 slots |
| | Or RSC-W2-66 | 1 | 2U LHS WIO Riser card with 2 PCI-E x16 double width slots |
| 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 |
| Storage Control Card and Cable for 4x Hybrid NVMe/SAS Drive Bays | AOC-S3008L-L8e & 1 CBL-SAST-0593 | 1 | Std LP, 8 internal ports, 12Gb/s per port- Gen3, 122HDD, HBA |
| | AOC-S3008L-L8i & 1 CBL-SAST-0593 | 1 | Std LP, 8 internal ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E |
| | AOC-S3108L-H8iR & 1 CBL-SAST-0593 | 1 | Std LP, 8 internal ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60 |
| | | | |
| Cable for internal M.2 SATA | CBL-SAST-0538 | 1 | 29cm 30AWG SATA S-RA cable |
| Compatible Networking Cables and Transceivers for System default Networking (AOC-2UR68-m2TS) | - | 1~2 | Networking Cables and Transceivers Compatibility Matrix |
| 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 |
| | 2U Cable Management Arm | MCP-290-00128-0N & MCP-290-00127-0N-01 | 1 |
| CacheVault(s) | BTR-CV3108-U1 | - | CacheVault for Broadcom 3108 with Supercap mounting for 2U Ultra |
| TPM security module | AOM-TPM-9670V | 1 | SPI capable TPM 2.0 with Infineon 9670 controller, Vertical form factor |
| TPM security module | AOM-TPM-9671V | 1 | SPI capable TPM 1.2 with Infineon 9670 controller, Vertical form factor |
| 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 | QS4HR3/2/1 | - | 3/2/1-year onsite 24x7x4 service |
| | QSNBD3/2/1 | - | 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) |