

# Specifications

## Product SKUs

<b>SSG-540P-E1CTR36L</b>	▪ SuperServer SSG-540P-E1CTR36L ( <b>Black</b> )
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## Motherboard

**Super X12SPI-TF**

## Processor

<b>CPU</b>	▪ Single Socket P+ (LGA-4189) ▪ 3rd Gen Intel® Xeon® Scalable processors ▪ Support CPU TDP 270W
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## System Memory

<b>Memory</b>	▪ Memory Capacity: 8 DIMM slots ▪ Up to 2TB: 8x 256 GB DRAM ▪ Up to 3TB: 4x 256 GB DRAM and 4x 512 GB PMem ▪ Memory Type: 3200/2933/2666MHz ECC DDR4 RDIMM;LRDIMM ▪ Intel® Optane™ persistent memory 200 series
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<b>Memory Voltage</b>	▪ 1.25 V
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<b>Error Detection</b>	▪ Yes
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## On-Board Devices

<b>SATA</b>	▪ SATA3 (6Gbps) via C621A Chipset; RAID 0, 1, 5, 10 support
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<b>SAS</b>	▪ SAS3 (12Gbps) via Broadcom 3808 (IT mode)
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<b>Chipset</b>	▪ Intel® C621A
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<b>Network Connectivity</b>	▪ 2x 10GbE BaseT with Intel® X550
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<b>IPMI</b>	▪ 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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## Input / Output

<b>LAN</b>	▪ 1 RJ45 Dedicated IPMI LAN port ▪ 2 RJ45 10GBase-T LAN ports
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<b>USB</b>	▪ 4 USB 2.0 port(s) (2 headers; 2 rear) ▪ 5 USB 3.2 Gen 1 port(s) (2 headers; 2 rear; 1 Type A)
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<b>Video</b>	▪ 1 VGA port(s)
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<b>Serial Port</b>	▪ 1 COM Port(s) (1 header)
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## Chassis

<b>Form Factor</b>	▪ 4U Rackmount
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<b>Model</b>	▪ <b>CSE-847BTS-R1K23LPBP4</b>
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## Dimensions and Weight

<b>Height</b>	▪ 7" (178mm)
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<b>Width</b>	▪ 17.2" (437mm)
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<b>Depth</b>	▪ 27.5" (699mm)
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<b>Package</b>	▪ 17.5" (H) x 27" (W) x 39.5" (D)
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<b>Weight</b>	▪ Net Weight: 66.5 lbs (29.7 kg) ▪ Gross Weight: 102.5 lbs (46.4 kg)
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<b>Available Color</b>	▪ Black
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## Front Panel

<b>Buttons</b>	▪ Power On/Off ▪ System Reset
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<b>LEDs</b>	▪ Device Activity ▪ LAN 1 Activity ▪ LAN 2 Activity ▪ Power Failure LED ▪ Power status ▪ System information
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## Expansion Slots

<b>PCI-Express (PCI-E)</b>	▪ Slot 2: PCI-E 4.0 x8 LP ▪ Slot 4: PCI-E 4.0 x16 LP ▪ Slot 6: PCI-E 4.0 x16 LP ▪ Slot 7: PCI-E 4.0 x8 LP
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## Drive Bays / Storage

<b>Hot-swap</b>	▪ 36x 3.5" hot-swap SATA/SAS drive bays
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<b>M.2</b>	▪ 1x PCI-E 3.0 x4 and SATA ▪ Form Factor: 2280, 22110 ▪ Key: M-key
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<b>Peripheral Bays</b>	▪ 2x 2.5" SATA or NVMe drive bays (optional)
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## System Cooling

<b>Fans</b>	▪ 7x (8cm x8cm x3.8cm) heavy duty fans with optimal fan speed control
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<b>Air Shroud</b>	▪ 1 Air Shroud(s)
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## Power Supply

AC 1200W, Titanium Level, Redundancy,PMBUS 1.2, +12V/+5Vsb, 360x76x40 mm,HF,RoHS/REACH

<b>DOM</b>	<ul style="list-style-type: none"> <li>2 SuperDOM (Disk on Module) port with built-in power</li> </ul>
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### System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI 32MB SPI Flash EEPROM</li> </ul>
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### Management

<b>Software</b>	<ul style="list-style-type: none"> <li>IPMI2.0</li> <li>Redfish API</li> <li>SSM</li> <li>Intel® Node Manager</li> <li>SPM</li> <li>KVM with dedicated LAN</li> <li>SUM</li> <li>NMI</li> </ul>
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<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI/APM Power Management</li> </ul>
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### PC Health Monitoring

<b>CPU</b>	<ul style="list-style-type: none"> <li>7+1 Phase-switching voltage regulator module (VRM)</li> <li>Monitors for CPU Cores, Chipset Voltages, Memory</li> </ul>
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<b>FAN</b>	<ul style="list-style-type: none"> <li>Fans with tachometer monitoring</li> <li>Pulse Width Modulated (PWM) fan connectors</li> <li>Status monitor for speed control</li> </ul>
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<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>
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<b>Dimension (W x H x L)</b>	<ul style="list-style-type: none"> <li>76 x 40 x 336 mm</li> </ul>
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<b>Output Type</b>	<ul style="list-style-type: none"> <li>Gold Finger</li> </ul>
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<b>Certification</b>	 <b>Titanium Level</b> <a href="#">[ Test Report ]</a>
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### Operating Environment

<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>
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## Parts List

Parts List - (Items Included)			
	Part Number	Qty	Description
Motherboard / Chassis	MBD-X12SPI-TF	1	Super X12SPI-TF Motherboard
	CSE-847BTS-R1K23LPBP4	1	4U Chassis
Add-on Card / Module	AOC-S3808L-L8IT-P	1	8 int 12Gb/s SAS3 ports, x8 Gen4, HBA - LP, 122 HDD w/ exp,RoHS
Add-on Card / Module	AOM-SAS3-8I8E-LP	1	8-port Mini SAS HD Int-to-Ext cable adapter w/ LP bracket,HF,RoHS/REACH
Backplane	BPN-SAS3-826EL1-N4	1	12-Port 2U Backplane with Expander support up to 8 x 3.5" SAS3/SATA3 HDD/SDD and 4 x SAS3/SATA3/NVMe Storage Devices,HF,RoHS/REACH
Backplane	BPN-SAS3-846EL1	1	24-port 4U SAS3 12Gbps single-expander backplane, support up to 24x 3.5-inch SAS3/SATA3 HDD/SSD
Cable 1	CBL-0296L	4	9" 4 PIN FAN PWS EXTENSION CORD, PBF
Cable 2	CBL-CDAT-0728	1	4 Pin to 4 Pin I2C Cable, 65cm, 26AWG, 4 Wires, Pinout 1-1
Cable 3	CBL-SAST-0531-01	4	Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s [FCI]
Cable 4	CBL-SAST-1264-100	1	Slimline x8 (STR) to 2x MiniSAS HD x4,65CM,100 OHM,RoHS
Parts	MCP-260-00042-1N	1	Standard I/O Shield for X12SPi with EMI Gasket
Manual	MNL-2360-QRG	1	540P-E1CTR36L/H Quick Reference Guide
Software	SFT-OOB-LIC	1	License key for enabling OOB BIOS management
Heatsink / Retention	SNK-P0078P	1	2U Passive CPU Heat Sink for X12 Generation Intel Whitley and Cedar Island Platforms
*Power Supply	PWS-1K23A-1R	2	AC-DC 1200W, Titanium Level, Redundancy, 1U, PMBUS 1.2, +12V/+5Vsb, 336x76x40 mm,HF,RoHS/REACH

### 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
2x 2.5" NVMe Cage (Rear)	MCP-220-82619-0N + 1x CBL-SAST-1264-85	1	Rear hot-swap 2x 2.5" NVMe drive kit
2x 2.5" SATA/SAS Cage (Rear)	<u>MCP-220-82616-0N</u> • <a href="#">eStore</a>	1	Rear hot-swap 2x 2.5" SATA/SAS drive kit
3.5" to 2.5" Converter Tray(s)	MCP-220-00043-0N • <a href="#">eStore</a>	-	Hot-swap Gen-4 3.5" to 2.5" HDD tray, Black
Intel VROC RAID Key for NVMe	<u>AOC-VROCPREMOD</u>	1	Premium Upgrade module (Intel + 3rd party Vendor SSD); RAID 0/1/10/5
	<u>AOC-VROCSTNMOD</u>	1	Standard Upgrade module (Intel + 3rd party Vendor SSD); RAID 0/1/10
	<u>AOC-VROCINTMOD</u>	1	Intel SSD Only Upgrade module; RAID 0/1/10/5
Internal Drive Tray	CBL-0082L • <a href="#">eStore</a>	2	Y split SATA power extension
	CBL-SAST-0616 • <a href="#">eStore</a>	1	Internal Mini SAS HD to 4 SATA 50CM, w/ 50cm SB

	MCP-220-84701-0N	2	Internal drive tray for 1x 3.5" HDD or 2x 2.5" HDD
<b>Software</b>	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)
<b>TPM</b>	AOM-TPM-9671V-O	1	TPM 1.2, vertical form factor, provisioned for server
	AOM-TPM-9670V-O	1	TPM 2.0, vertical form factor, provisioned for server