



## 2U Expansion Optimized Server

The 2U EOS server revolutionizes the capabilities of homogenous systems containing closely coupled processors, NVMe solid-state storage, high-speed networking and accelerator co-processing elements such as GP-GPUs and FPGAs. The 2U EOS contains two of the newest Intel Scalable Processors and provides the widest BIOS compatibility with dense storage and accelerator expansion systems. This allows the highly integrated server to stand alone or form the core CPU and memory resources for a scale-out, rack level, expandable solution. The EOS server features two storage and I/O configurations providing up to six PCIe 3.0 x16 half-height slots or 24 U.2 NVMe drives. The server supports up to 4TB of memory and a resource expanded BIOS for scale-out device enumeration and large memory mapped I/O used for GP-GPUs and accelerators.

PN: OSS-MB-X11Q

### Features

- Dual Intel® Xeon™ Scalable Processors
- Up to 6 x16 PCIe 3.0 x16 expansion slots
- Up to 24x 2.5" NVMe or SAS storage devices
- Dual 1+1 redundant universal input power supplies
- Resource expanded BIOS for large expansion capability
- Guaranteed to operate with all OSS expansion products



## Specifications

<b>Dimensions:</b>	3.45" H x 17.2" (19" with rack ears) W x 28" D (8.7 x 43.7 x 71 cm)
<b>CPUs:</b>	Dual Intel® Xeon® Scalable Processors up to 205W TDP and 28 cores LGA 3647 socket P with 3 UPI chip-to-chip bus up to 10.7GT/s
<b>System Memory</b>	16x 288-pin DDR4 DIMM sockets Up to 4TB DDR4-2933MHz 3DS ECC RDIMM or LRDIMM, 1.2V low profile 2933/2666/2400/2133MHz Frequencies in 64GB, 128GB and 256GB capacities each module Up to 2TB Intel® Optane™ DC Persistent Memory in memory mode (Cascade Lake only)
<b>Expansion Slots:</b>	EOS configuration: <ul style="list-style-type: none"> <li>• 4 x PCIe 3.0 x16 HH/FL Double Width slots</li> <li>• 2 x PCIe 3.0 x16 HH/HL Single Width slots</li> <li>• 1 x PCIe 3.0 x4 HH/HL slot with x8 physical connector</li> <li>• 1x PCIe3.0 x4 M.2 slot for 2280 and 22110 M-Key modules</li> </ul> NVMe configuration: <ul style="list-style-type: none"> <li>• 2 x PCIe 3.0 x16 FH/HL Single Width slots</li> <li>• 2 x PCIe 3.0 x16 HH/HL Single Width slots</li> <li>• 1 x PCIe 3.0 x4 HH/HL slot with x8 physical connector</li> <li>• 1x PCIe3.0 x4 M.2 slot for 2280 and 22110 M-Key modules</li> </ul>
<b>Storage Subsystem:</b>	EOS configuration: <ul style="list-style-type: none"> <li>• 24x hot-swap configurable SATA-3, SAS-3 or NVMe x4 2.5" x 15mm drive carriers               <ul style="list-style-type: none"> <li>• 12Gb SAS-3 or 6Gb SATA-3 SFF-8680 slots via 3x SFF-8643 backplane connectors</li> <li>• NVMe x4 32Gb slots via 24x Oculink connectors</li> </ul> </li> <li>• Up to 10 SATA-3 slots use no PCIe slots</li> <li>• 12x and 24x SAS-3 slots require 1 and 2 PCIe x16 HHHL slots respectively</li> <li>• 8x and 16x NVMe x2 slots require 1 and 2 x16 PCIe HHHL slots respectively (for 24x NVMe x4 use NVMe config)</li> <li>• Further expansion up to 4PB possible using OSS JBOF expansion systems</li> <li>• 1x M.2 x4 and 2x SATA-DOM internal drive connections</li> </ul> NVMe configuration <ul style="list-style-type: none"> <li>• 24x hot-swap NVMe x4 2.5" x 15mm drive carriers</li> <li>• Up to 10 NVMe drive bays can be SATA-3 configured</li> <li>• 1x M.2 x4 and 2x SATA-DOM internal drive connections</li> </ul>



<b>On-board devices:</b>	Intel® C621 Express chipset ASPEED AST2500BMC IPMI support for IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
<b>Network Controllers:</b>	2x Intel® X550 10Gigabit Ethernet each with an RJ-45 Additional 25, 40 and 100Gb Ethernet, 100Gb Infiniband or 32Gb Fiber Channel interfaces available
<b>USB:</b>	5 USB 3.0 with 2 on rear panel, 2 on front panel and 1 Type A internal 4 USB 2.0 with 2 on rear panel and 2 internal headers
<b>Input/Output:</b>	7.1HD Audio Header, 1 VGA port, 2 COM ports (1 rear and 1 internal header) 2 Disk-on-Module ports 1 Trusted Platform Management TPM 1.2 20-pin header
<b>BIOS:</b>	128 Mb SPI flash EEPROM with AMI BIOS Supports PnP, PCI 3.0, ACPI 1.0-4.0, USB keyboard support, UEFI 2.3.1, 1TB BAR1 max size and 256 PCI bus enumeration support
<b>Cooling Fans:</b>	Four 80mm x 38mm PWM hot-swap Cooling fans
<b>Chassis:</b>	Rugged steel enclosure Liquid paint with customizable front bezel
<b>Weight:</b>	33-48lbs (15-22 kg)
<b>Power Supply</b>	1000W 90-264VAC, 47-63Hz Input: <ul style="list-style-type: none"><li>• 1+1 Redundant 80plus Silver efficiency with Active PFC, PM Bus and Over Voltage Protection</li><li>• 15A input current at 115VAC and 7.5A at 230VAC each module</li><li>• 15A @ 115VAC and 30A @ 230VAC max inrush current each module</li><li>• EPS 12V Output type with 22A at +5V, 83A at +12V, 0.5A at -12V, 22A at +3.3V and 3A at +5V Standby</li></ul>
<b>Environment:</b>	Operating: <ul style="list-style-type: none"><li>• 5°C to 35°C (41°F to 95°F) at 0 to 915m (3,000ft) altitude</li><li>• 5% to 90% non-condensing relative humidity, max dew point 21°C, max rate of change 5°C/hr</li></ul> Non-Operating: <ul style="list-style-type: none"><li>• -20°C to 60°C (-40°F to 140°F)</li><li>• 5% to 90% non-condensing relative humidity, max dew point 27°C, max rate of change 5°C/hr</li></ul>
<b>Agency:</b>	Tested to conform to the following standards: <ul style="list-style-type: none"><li>• FCC - Verified to comply with Part 15 of the FCC Rules, Class A</li><li>• Canada ICES-003, issue 4, Class A</li><li>• UL/IEC 60950-1</li><li>• CSA C22.2 No. 60950-1</li><li>• IEC 60950-1 (CB Certificate and CB Test Report)</li><li>• CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, EN61000-3-3)</li><li>• CISPR 22, Class A</li></ul> Designed to conform to the following extended standards: <ul style="list-style-type: none"><li>• NOM-019</li><li>• Argentina IEC60950-1</li><li>• Japan VCCI, Class A</li><li>• Australia/New Zealand AS/NZS CISPR 22, Class A</li><li>• China CCC (GB4943), GB9254 Class A, GB17625.1</li><li>• Taiwan BSMI CNS13438, Class A; CNS14336-1</li><li>• Korea KN22, Class A; KN24</li><li>• Russia/GOST ME01, IEC-60950-1, GOST R 51318.22, GOST R 51318.24, GOST R 51317.3.2,</li><li>• GOST R 51317.3.3</li><li>• TUV-GS (EN60950-1 /IEC60950-1,EK1-ITB2000)</li></ul>
<b>Compliance:</b>	RoHS 6 of 6, WEEE