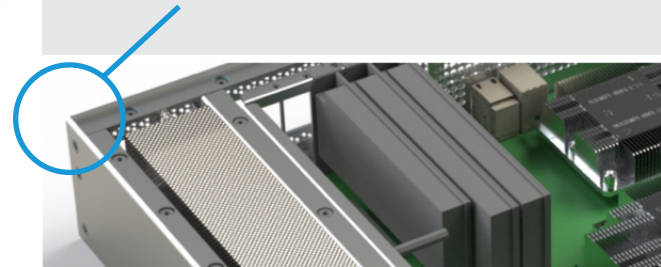


# VANGUARD

## 2U AND 3U RUGGED PLATFORMS FOR CRITICAL INDEPENDENT SYSTEMS



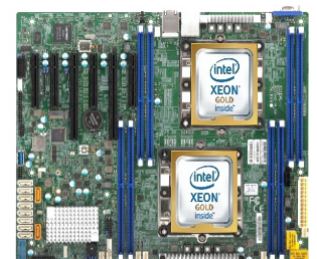
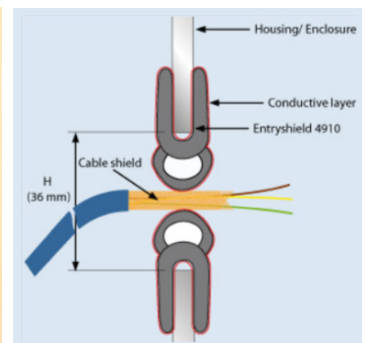
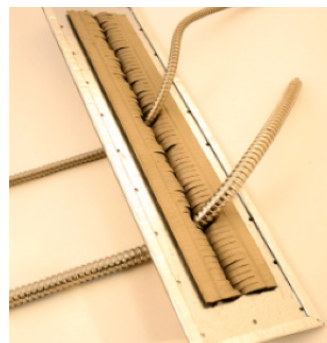
The **Vanguard Series** of extreme rugged defense servers distinguish themselves in that we design with heavy-duty, machined aluminum alloy using overlapped extrusions for superior torsional strength with EMC/EMI compliance to MIL-STD461.



### FEATURES:

- ✓ Latest generation of Intel® Scalable Xeon® processors
- ✓ Fully featured, dual socketed, shock isolated system board with 6-slots of PCIe expansion with robust card retention
- ✓ Hot-Swap storage bays with up to fourteen (14) 2.5" hot-swappable devices, with slim optical drive support in 2U or 30 devices maximum, all front panel accessible in 3U
- ✓ Performance R/W optimization with data security (Quick Erase/Security Erase/Destroy/Write Protect) SSD Options
- ✓ Hot-swap, dual-redundant 650W wide-range AC input power supplies; 500W 28VDC input option
- ✓ Three (3) removable, high-reliability, high velocity fans with optional air filters for dust ingress protection
- ✓ Short depth (20-inch), 19" rackmount with rugged sliders
- ✓ Customizable EMI-compliant Rear IO Panels
- ✓ Innovative EMC shielding for standard I/O cabling
- ✓ MIL-STD-810G, MIL-STD-167, MIL-STD-461F and selected DO-160 Qualifications

### Industry-leading EMC controlled design for rear-panel I/O and PCIe Slots



## FEATURES:

<b>OPERATING SYSTEM</b>	Windows 10 Pro, Windows 10 Enterprise LTSB, Windows Server 2016 or Linux	<b>BIOS AND SOFTWARE</b>	AMI UEFI, Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog
<b>PROCESSOR</b>	2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Dual Socket P (LGA 3647) supported, CPU TDP support up to 140W, 2 UPI > 10.4 GT/s	<b>PERIPHERAL DEVICES</b>	Four (4) USB 2.0 ports on the rear I/O panel
<b>CHIPSET</b>	Intel® C621 Chipset	<b>TRUSTED PLATFORM MODULE</b>	TPM 2.0 also supports Intel® vPro™ Technology and Intel® Trusted Execution Technology (Intel® TXT)
<b>MEMORY</b>	Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; Up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots RDIMM: 64GB, LRDIMM: 128GB 3DS LRDIMM: 128GB, 256GB	<b>POWER</b>	100-250VAC 650W Dual Redundant Hot-Swappable, US Standard EIA Plug Optional 28VDC 500W Dual Redundant Hot-Swappable MIL-STD-461 compliant, military grade input power EMI Filter MIL-STD-1399-300B, DOD-STD-1399-700-1
<b>STORAGE</b>	SATA 3.0 - Ten (8 SATA + 2 SATA DOM) SATA ports (I-SATA0~7 & S-SATA0/1) RAID Support via PCH - RAID 0, 1, 5, 10 128GB SSD, M.2 (2280) Interface, SATA3.0, 6.0Gb/s	<b>MECHANICAL</b>	Outer Chassis: Machined aluminum alloy #6061 T651 overlapping panel extrusions for superior EMC and zero torsional flex Inner Chassis: 5052 H32/H34 Dimensions: 2U x 19" W x 20" D Weight: 22.6 Lbs. Fully Loaded (3U) 50.1 Lbs.
<b>BASE BOARD MANAGEMENT CONTROLLER</b>	ASPEED AST2500 BMC supports IPMI 2.0 One (1) dedicated IPMI LAN VGA Graphics controller via AST2500 BMC	<b>ENVIRONMENTAL</b>	Operating Temp: 0-50°C; Storage Temp: -40-70°C Humidity: Up to 95% Non-Condensing Vibration: MIL-STD-167-1A & random vibration per MIL-STD-810G Shock: Operating while exposed to 20g shocks per MIL-STD-810G EMI/EMC: Tested per MIL-STD-461F*  *EMC performance is payload and configuration dependent; please inquire for specific performance results
<b>ETHERNET LAN</b>	Dual LAN Lewisburg Marvell 88E1512 PHY	<b>QUALIFICATIONS</b>	MIL-STD-1399, MIL-STD-810G, MIL-STD-461F MIL-STD-167 & selected DO-160 criteria
<b>SSD DEVICES</b>	MIL-STD-810-F/G 2.5" SATA SSD 3MR2-P SATA III MLC Flash w/ 3,000 P/E Cycle Limit Capacities from 8GB~2TB rated at sequential R/W of 520/450 MB/sec Data security (Quick Erase/ Security Erase/ Destroy/ Write Protect) High random R/W performance SMART disk health monitoring Intelligent error recovery system Enhanced power cycling management iCell technology for data protection	<b>OPTIONAL 3RD PARTY PCIE CARDS</b>	High Performance 3rd Party Graphics Reflective Memory Fiber / Copper Media 1GbE & 10GbE Ports MIL-STD-1553, ARINC 429 Ports
<b>EXPANSION SLOTS</b>	Two (2) PCI-Express 3.0 x16 slots supported by CPU1 and CPU2 Three (3) PCI-Express 3.0 x8 slots supported by CPU1 One (1) PCI-Express 3.0 x4 in x8 slot supported by CPU1 M.2 Interface: 1 SATA/PCI-E 3.0 x4 M.2 Form Factor: 2260, 2280, M-Key		

## TEST STANDARDS:

MIL-STD-810	ASTM B117
MIL-S-901	ASTM G53
MIL-STD-167	ASTM D4169
RTCA DO-160	UN TDG

