The Viking Enterprise Solutions (VES) VSS2249R storage server offers 24, 2.5-inch U.2 (SFF-8639) SSDs utilizing the PCIe Gen 4 NVMe interface combined with two server modules equipped with AMD EPYC Rome CPUs. Each server has access to all 24 NVMe drives. The VSS2249R is a dense high availability solution that provides the ultimate storage performance in a small package.

The enclosure contains two hot swappable server modules. Each of the server modules includes an AMD EPYC™ Rome CPU, with x16 PCIe Gen4 and one OCPNIC v3.0 that supports Gen 4 PCIe add-in cards, and up to 8 DIMMs. The VSS2249R fits into an industry standard 19-inch 1.0 meter rack. The storage server’s flexible configuration allows it to be deployed in a variety of applications. This extremely fast 2U storage server supports 96 PCIe lanes to the drives and network, delivering a non-blocking architecture.

The VSS2249R alleviates job pipeline congestion, a common limitation caused by I/O bottlenecks in many high-performance applications, such as edge computing storage, analytics, machine learning, AI, OLTP databases, high frequency trading, as well as modeling, simulation, scientific research, and other HPC use cases.

VES offers a broad portfolio of product offerings:
- Leading-edge performing SSD arrays, SAS & NVMe
- Leading-edge high performance and high availability solutions
- Industry leading cold storage & object storage solutions
- Purpose-built compute and storage platforms

Working with VES provides an accelerated time-to-market for all server and storage product needs, and enables customers to leverage Viking Enterprise Solutions’ portfolio of proven product designs. Customers are also backed by an industry-leading design team and world-class electronics manufacturing services organization.

FEATURES
- Dimensions: 3.43 in. H x 17.2 in. W x 27.44 in. D (87 mm H x 438 mm W x 697 mm D)
- Latest AMD CPU technology provides 128 Gen 4 PCIe lanes per CPU and 24 hot-pluggable Gen 4 PCIe NVMe SSDs
- High availability system, each server accessing all drives
- Management interface for drive access and provisioning
- Hot-pluggable servers, power supplies, fans, and drives
- Up to 24 U.2 (SFF-8639) SSDs utilizing PCIe and NVMe protocols, (up to 25W per drive)
- Environmental operation up to 35°C ambient inlet
- Standard chassis customization and branding available
- Optional rail kit with CMA (cable management assembly)
- Optional TPM (trusted platform module)
**PRODUCT BRIEF | 2U 24 NVMe PCI Gen 4 drive Storage Server**

**VSS2249R**

### AC Power
- Nominal input range: 200-240V AC
- Input frequency: 50-60 Hz
- Power source: dual redundant 1600W
- Input current: 4 A max @ 180V AC per PSU
- Inrush current: 40 A peak per PSU
- Maximum system output power rating: 2200W

### Hot-swappable Components
- Two server modules
- Six fans
- Two AC to DC 1600W power modules
- Two independent AC power inputs
- U.2 (SFF-8639) SSDs utilizing Gen 4 PCIe and NVMe technology (hot pluggable)

### Firmware
- IPMI and Redfish (R) management
- CLI and GUI control for drive management & status of the enclosure

### Drive Partitioning
- Management software controls the visibility and access to each drive

### 2U Enclosure
- Dimensions: 3.43 in. H X 17.2 in. W X 27.44 in. D (87 mm H X 438 mm W X 697 mm D)
- Weight with drives, CMA, and rail kit: 56.2 lbs (22.8 kg) max
- Optional rail kit with CMA (cable management assembly)
- Optional TPM (trusted platform module)

<table>
<thead>
<tr>
<th><strong>Failure Notifications</strong></th>
<th><strong>Operating Environment</strong></th>
<th><strong>Non-Operating Environment</strong></th>
<th><strong>Drive Partitioning</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Status LEDs for the enclosure, drives, servers, and fans</td>
<td>Temperature: 5°C to 35°C</td>
<td>Temperature: -40°C to 60°C</td>
<td>Management software controls the visibility and access to each drive</td>
</tr>
<tr>
<td>Performance</td>
<td>Relative humidity: 20% to 80% (non-condensing)</td>
<td>Relative humidity: 10% to 90% (non-condensing)</td>
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</tr>
<tr>
<td>Up to 96 Gb/s bandwidth between both servers</td>
<td>Altitude: -200 ft to 10,000 ft</td>
<td>Altitude: -200 ft to 40,000 ft</td>
<td></td>
</tr>
<tr>
<td>24-drive capacity</td>
<td>Shock: 5G at 11ms, 1/2 sine wave pulse</td>
<td>Shock: 10G at 11ms, half sine wave pulse</td>
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<tr>
<td>Dual port drive support</td>
<td>Vibration: 0.10G at 5 Hz to 500 Hz</td>
<td>Vibration: 0.5G at 5 Hz to 500 Hz</td>
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<tr>
<td>Up to 25W per drive</td>
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### Safety Standards
- IEC 62368-1:2018

### Quality Standards
- Manufactured under an ISO 9002 registered quality system

### Servers
- AMD EPYC™ processors
- Eight lanes Gen 3 PCIe NTB
- Each CPU sees all 24 drives
- Each drive is dual ported and connected to each server module
- Highly available system

### Electromagnetic Emissions & Immunity Standards
- EN 55035:2017
- EN 55024:2010
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- FCC 47 CFR PART 15 SUBPART B
- ICES-003 ISSUE 6:2016

### Monitoring & Reporting
- Monitors temperature, power, cooling (including fan speed control), drives, as well as error rates and quality of service
- Reporting of all serial number, part number, and revisions of the server modules, power supplies, drives & chassis