

# HPE 866573-B21

## Datasheet

## Product Overview

- The HPE Mellanox SH2200 is a high-performance TAA switch module within the HPE Synergy infrastructure, engineered for cutting-edge data centers.
- This switch module serves hybrid IT environments and targets enterprise data centers needing flexible compute, storage, and networking management.
- It features Gigabit Ethernet with 25Gb, 40Gb, and 50Gb speeds, QSFP28 connectors, and operates with a maximum switching capacity of 2.8 Tbps.
- Built on Mellanox Spectrum ASIC, it brings ultra-low latency, hardware virtualization, and strong support for storage offloading.
- Efficient management aligns with industry standards, allowing easy control over network services for IT teams.
- The SH2200 ensures your data center can adapt to dynamic demands—delivering reliability, low latency, and high throughput for mission-critical tasks.

## Product Highlights

- **Flexible Multi-speed Connectivity:** Supports 25Gb, 40Gb, and 50Gb Ethernet, adapting to diverse data center bandwidth requirements.
- **Ultra-Low Latency Performance:** Spectrum ASIC technology ensures deterministic low latency, ideal for high-demand applications.
- **Advanced Virtualization Support:** Integrates hardware-based virtualization and storage offloading functions for efficient modern workloads.
- **Seamless Infrastructure Management:** Compatible with industry-standard management tools for quick, streamlined network operations.

## Detailed Features



866573-B21

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| Component      | Specification                    |
|----------------|----------------------------------|
| Switch Type    | L3 Managed, plug-in module       |
| Uplinks        | 8 x 100/40Gb QSFP28              |
| Downlinks      | 12 x 50/25Gb Ethernet (midplane) |
| Connector Type | QSFP28, 10BASE-T, TAA Compliant  |

### Next-Generation Switching Capacity

The SH2200 provides up to 2.8 Tbps fabric throughput and 8.4 BPPS performance. This enables instant, high-volume data transfers without bottlenecks for intensive enterprise workloads such as virtualization or financial trading. The switch architecture is tailored for consistent line-rate performance in demanding infrastructures, ensuring minimal delays and maximum reliability.

### Multi-Speed Port Flexibility

Equipped with 8 x 100/40Gb uplinks and 12 x 50/25Gb downlink ports, the module supports multiple network speeds via QSFP28 and 10BASE-T. This flexibility allows seamless scaling and integration into new or existing network fabrics, supporting ever-increasing traffic loads while maintaining backward compatibility.

### Advanced Virtualization and Storage Support

Hardware-based virtualization and advanced storage offloading features enable smoother integration of compute and storage resources. Network administrators can leverage these enhancements for optimized performance in environments that require resource pooling, rapid provisioning, and high availability.

### Intelligent ASIC Design

Built with the Mellanox Spectrum ASIC, the SH2200 delivers uniform, ultra-low latency response for critical workloads. The ASIC optimizes network processing for deterministic latency and is engineered to handle diverse traffic patterns efficiently benefiting data centers focused on NFV, HFT, or transactional integrity.

### Strong Security and Authentication

Multiple access control and authentication protocols such as RADIUS, TACACS+, ACL, and SSH v2 are included to protect your enterprise network from unauthorized access and to ensure compliance with strict regulatory requirements.

### Rich Layer 3 Protocols and Management

Robust support for L3 routing protocols, including BGP-4, OSPFv2, and IGMP, enables advanced network segmentation and redundancy. CLI, SNMP, SSH, and Telnet management interfaces allow mainstream, efficient device administration for deployment and daily operation.

### Resilient and Scalable Design

Its managed architecture and support for modern standards, such as DCBX and VRRPv2, ensure network resilience, automated failover, and easy expansion as organizational needs grow. VLAN and jumbo frame support further boost traffic efficiency and flexibility.

### Robust Environment & Compliance

Operating reliably in 10°C-40°C temperatures, the module is engineered for diverse data center environments globally. TAA compliance ensures suitability for institutional or government use, providing security and procurement flexibility for regulated markets.

## Technical Specifications

### Product Specifications

| Feature             | Value                                           |
|---------------------|-------------------------------------------------|
| Product Line        | Mellanox                                        |
| Networking Type     | Switch                                          |
| Layer Support       | Layer 3                                         |
| Manageable          | Yes                                             |
| Ports               | 8 x 100Gbit/40Gbit LAN QSFP28 (uplink)          |
| Ports               | 12 x 50Gbit/25Gbit Ethernet (midplane downlink) |
| Port Type           | QSFP28                                          |
| VLANs Supported     | 4096                                            |
| Jumbo Frame Support | 9216 bytes                                      |



| Feature                     | Value                                                                                                                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fabric Throughput           | 2.8 Tbps                                                                                                                                                                                                            |
| Compliant Standards         | IEEE 802.11ab                                                                                                                                                                                                       |
| Compliant Standards         | IEEE 802.1Q, IEEE 802.1Qau, IEEE 802.1Qaz, IEEE 802.1Qbb                                                                                                                                                            |
| Compliant Standards         | IEEE 802.1w, IEEE 802.1x, IEEE 802.3ad (LACP), IEEE 802.3x, WEEE                                                                                                                                                    |
| Authentication Methods      | RADIUS, SSH v2, TACACS+                                                                                                                                                                                             |
| Remote Management Protocols | CLI, RMON 2, SNMP v1/v2/v3, SSH, Telnet, TFTP                                                                                                                                                                       |
| Routing Protocols           | BGP-4, PIM bidirectional, ECMP, IGMP (v1/v2/v3), OSPFv2, Static IPv4 & IPv6 Routing, VRRPv2                                                                                                                         |
| Features                    | Access Control List (ACL), BPDU Filter, DCBX support, DHCP protection, ECN, Flow Control, ICMP, LLDP support, Loop Guard, MLAG, NTP, Port Mirroring, QoS, PVRST+, Root Guard, sFlow, STP Root Guard, Syslog support |
| Status Indicators           | Status                                                                                                                                                                                                              |
| Form Factor                 | Plug-in module                                                                                                                                                                                                      |
| Color                       | Gray                                                                                                                                                                                                                |
| TAA Compliant               | Yes                                                                                                                                                                                                                 |
| Operating Temperature       | 10°C to 40°C (50°F to 104°F)                                                                                                                                                                                        |
| Operating Humidity          | 5% to 95% (non-condensing)                                                                                                                                                                                          |
| Storage Temperature         | -30°C to 60°C (-22°F to 140°F)                                                                                                                                                                                      |
| Storage Humidity            | 5% to 95% (non-condensing)                                                                                                                                                                                          |
| Compatibility               | PC; Data Center Networking Select                                                                                                                                                                                   |
| Packaged Quantity           | 1                                                                                                                                                                                                                   |
| Subcategory                 | Network hubs and switches                                                                                                                                                                                           |
| Additional Comments         | Uplink                                                                                                                                                                                                              |

## Product Comparison

| Feature            | 866573-B21          | NVIDIA Mellanox MSN4600-CS2FC | NVIDIA Mellanox MSN3700-CS2RC |
|--------------------|---------------------|-------------------------------|-------------------------------|
| Switching Capacity | 2.8 Tbps            | 12.8 Tbps                     | 6.4 Tbps                      |
| Uplink Ports       | 8 × 100/40Gb QSFP28 | 64 × 100Gb QSFP28             | 32 × 100Gb QSFP28             |



| Feature              | 866573-B21                    | NVIDIA Mellanox MSN4600-CS2FC | NVIDIA Mellanox MSN3700-CS2RC           |
|----------------------|-------------------------------|-------------------------------|-----------------------------------------|
| Downlink Ports       | 12 × 50/25Gb Ethernet         | N/A                           | N/A                                     |
| Layer Support        | Layer 3                       | Layer 3                       | Layer 3                                 |
| Manageability        | CLI, SNMP, SSH, Telnet, TFTP  | CLI, SNMP, REST API           | CLI, SNMP, REST API                     |
| VLAN Support         | 4096                          | 4096                          | 4096                                    |
| Jumbo Frame Support  | 9216 bytes                    | 9216 bytes                    | 9216 bytes                              |
| Form Factor          | Plug-in module                | 1 RU fixed                    | 1 RU fixed                              |
| PoE Support          | N/A                           | N/A                           | N/A                                     |
| Operating Temp       | 10°C to 40°C                  | 0°C to 45°C                   | 0°C to 45°C                             |
| Compliance           | TAA                           | RoHS, NEBS                    | RoHS                                    |
| Application Scenario | Synergy compute/Uplink module | High-density core switching   | High-density core/aggregation switching |

## Accessories

| Category             | Accessories                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Included Accessories | <ul style="list-style-type: none"> <li>- Power Adapter</li> <li>- Mounting Bracket</li> <li>- Quick Installation Guide</li> </ul>    |
| Optional Accessories | <ul style="list-style-type: none"> <li>- QSFP28 Transceiver</li> <li>- High-Speed DAC Cable</li> <li>- Blank Cover Module</li> </ul> |



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## References

[1] HPE. (2023). Mellanox SH2200 Switch Module for HPE Synergy - Technical Documentation. Retrieved from [https://support.hpe.com/hpesc/public/docDisplay?docId=a00045102en\\_us&page=GUID-109AB28E-8137-4F48-A9A8-5D3AAEA087CC.html&docLocale=en\\_US](https://support.hpe.com/hpesc/public/docDisplay?docId=a00045102en_us&page=GUID-109AB28E-8137-4F48-A9A8-5D3AAEA087CC.html&docLocale=en_US)