

NVIDIA
NVIDIA Quantum-X800
Q3400-RA
(920-9B36F-00RX-8S0)
Datasheet

Product Overview

- The NVIDIA Quantum-X800 Q3400-RA is a fixed-configuration 4U XDR InfiniBand switch built for large-scale AI and high-performance computing fabrics.
- Its 144 XDR ports across 72 OSFP cages provide dense 800Gb/s connectivity for spine and super-spine networks serving large GPU clusters.
- Powered by the NVIDIA Quantum-3 switch ASIC, it delivers 115.2Tb/s switching capacity and supports 400Gb/s or 800Gb/s InfiniBand links per port.
- The high-radix design supports two-level fat-tree fabrics and other topologies for connecting thousands of network interface cards and GPUs.
- A dedicated OSFP fabric-management port connects the switch to NVIDIA UFM, while front Ethernet management, console, USB, and status interfaces support operations.
- The air-cooled 4U chassis is designed for a standard 19-inch rack and combines C2P airflow, eight replaceable AC power supplies, and ten replaceable fans.

Product Highlights

- **144-Port XDR Density:** Provides 144 XDR InfiniBand ports through 72 OSFP cages, with up to 800Gb/s per port for dense AI and HPC fabrics.
- **115.2Tb/s Switching Capacity:** The Quantum-3 based system delivers 115.2Tb/s aggregate switching capacity for high-radix spine and super-spine deployments.
- **UFM Fabric Management:** A dedicated OSFP fabric-management port provides in-band connectivity for NVIDIA Unified Fabric Manager operations.
- **Serviceable Air-Cooled Platform:** The standard-depth 4U chassis uses connector-to-power airflow, eight replaceable AC PSUs, and ten replaceable fans.

Detailed Features



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Component	Specification
System Model	NVIDIA Quantum-X800 Q3400-RA
Official NVIDIA SKU	920-9B36F-00RX-8S0
Data Interfaces	144 XDR InfiniBand ports over 72 OSFP cages
Switching Capacity	115.2 Tb/s; 400Gb/s or 800Gb/s per port
Chassis and Power	4U, 19-inch rack mount, C2P airflow, 8 AC power supplies

Quantum-X800 XDR Fabric

The Q3400-RA uses NVIDIA Quantum-3 switching technology with 200Gb/s-per-lane SerDes. It provides 144 XDR ports at up to 800Gb/s per port, giving large AI and HPC clusters a high-radix fabric platform with dense front-panel connectivity.

High-Radix Spine Architecture

The 4U system provides 144 ports across 72 OSFP cages and supports two-level fat-tree designs. NVIDIA documents connectivity for up to 10,368 network interface cards, while other supported topologies can scale to tens of thousands of GPUs.

400Gb/s and 800Gb/s Operation

Each XDR port supports 400Gb/s or 800Gb/s InfiniBand operation. The InfiniBand protocol automatically adjusts link speed, allowing the switch to operate in XDR and compatible lower-generation fabric environments where supported.

Topology Flexibility

The Quantum-X800 platform supports Fat Tree, Dragonfly+, multidimensional Torus, and other network topologies. The Q3400-RA can serve as a spine in large fabrics and can be paired with smaller Q3200-RA systems as leaf or edge components.

Dedicated UFM Connectivity

The separate OSFP fabric-management port provides in-band access for NVIDIA Unified Fabric Manager. It keeps fabric management traffic distinct from the standard data interfaces and helps operators monitor and manage large InfiniBand fabrics.

NVOS Management Platform

The switch runs NVIDIA NVOS, which provides management interfaces and protocols for controlling and monitoring the system. The managed configuration also includes front RJ45 management, RS232 console, USB Type-A, status LEDs, and a reset button.

Redundant Power and Cooling

Eight replaceable AC power supplies and ten replaceable fans support serviceable operation in a high-power data-center chassis. The C2P airflow path brings air in from the connector side and exhausts it through the power side.

Rack-Ready AI Infrastructure

The air-cooled Q3400-RA is designed for standard 19-inch racks and ships with a rail kit. Its 4U form factor, 115.2Tb/s capacity, and XDR port density make it suitable for AI factories, HPC clusters, and large-scale GPU interconnects.

Technical Specifications

Product Specifications

Feature	Value
User SKU	MLNX:Q3400-RA
Official NVIDIA ordering SKU	920-9B36F-00RX-8S0
System model	Q3400-RA
Product family	NVIDIA Quantum-X800 Q32xx and Q34xx XDR InfiniBand switch systems
Product type	4U fixed-configuration XDR InfiniBand switch
Switch ASIC	NVIDIA Quantum-3
High-speed ports	144 XDR InfiniBand ports
Connector cages	72 OSFP cages
Port speed	400Gb/s or 800Gb/s per port
Switching capacity	115.2 Tb/s
Data interface	InfiniBand
Supported fabric rates	QDR, FDR, EDR, HDR, NDR, and XDR InfiniBand where supported by the system and link configuration



Feature	Value
Topology support	Fat Tree, Dragonfly+, multidimensional Torus, and other InfiniBand topologies
Maximum documented scale	Up to 10,368 network interface cards in a two-level fat-tree topology
Management software	NVIDIA NVOS; NVIDIA UFM integration through the fabric-management port
Management interfaces	2 x RJ45 10/100/1000Mb Ethernet management ports; 1 x RJ45 RS232 console port
Fabric management	1 x OSFP FNM fabric-management port; XDR-Lite operation
USB interface	1 x USB 2.0 Type-A port
Local controls	Reset button; status and port LEDs
CPU	Intel CFL 4-core i3-8100H, 3GHz
Form factor	4U, standard-depth chassis
Mounting	19-inch rack mount
Dimensions (H x W x D)	177.8 mm x 438 mm x 850 mm
Weight	60 kg with 8 PSUs
Airflow	C2P, connector-side inlet to power-side outlet
Cooling	Air-cooled
Replaceable fans	10
Power supplies	8 replaceable AC power supplies
Input voltage	200-240 VAC per PSU
Input current	10 A per PSU
Input frequency	50/60 Hz
Typical global power consumption	2,900 W with passive cables under ATIS conditions
Maximum global power consumption	7,000 W with active cables
Operating temperature	0 to 35 °C, reverse airflow
Non-operating temperature	-40 to 70 °C
Operating humidity	10% to 85%, non-condensing
Non-operating humidity	10% to 90%, non-condensing
Operating altitude	Up to 3050 m
Noise level	78.4 dBA at room temperature
Safety certifications	CB, cTUVus, CE, CU



Feature	Value
EMC certifications	CE, FCC, VCCI, ICES, RCM
RoHS	RoHS compliant
Package contents	1 x system; 1 x rail kit; 73 OSFP thermal caps
Power cords	Not included with the system package

Product Comparison

Feature	NVIDIA Q3400-RA / 920-9B36F-00RX-8S0	NVIDIA Q3200-RA / 920-9B34F-00RX-FS0	NVIDIA Q3401-RD / 920-9B36P-00RX-8S0
System model	Q3400-RA	Q3200-RA	Q3401-RD
Chassis	4U	2U	4U
High-speed interfaces	144 XDR over 72 OSFP cages	72 XDR over 36 OSFP cages	144 XDR over 72 OSFP cages
Maximum port speed	800Gb/s	800Gb/s	800Gb/s
Switching capacity	115.2 Tb/s	57.6 Tb/s	115.2 Tb/s
CPU	Intel CFL 4-core i3-8100H, 3GHz	Intel CFL 4-core i3-8100H, 3GHz	Intel CFL 4-core i3-8100H, 3GHz
Management interfaces	2 x RJ45 MGT; RJ45 console; USB 2.0 Type-A; OSFP FNM	2 x RJ45 MGT; RJ45 console; USB 2.0 Type-A; OSFP FNM	2 x RJ45 MGT; RJ45 console; USB 2.0 Type-A; OSFP FNM
AC power supplies	8 replaceable	4 replaceable	Not applicable, busbar powered
Replaceable fans	10	5	8
Airflow	C2P	C2P	C2P
Operating temperature	0 to 35 °C	0 to 35 °C	0 to 35 °C
Dimensions (H x W x D)	177.8 x 438 x 850 mm	88 x 438 x 680 mm	175 x 438 x 852 mm
Weight	60 kg with 8 PSUs	49 kg	Not specified in the cited table
Best-fit role	Large-scale XDR spine or super-spine	Smaller XDR platform or leaf deployment	4U XDR deployment with 48V DC busbar power



Accessories

Category	Accessories
Included Accessories	- 1 x Q3400-RA system - 1 x Q3400-RA rail kit - 73 x OSFP thermal caps
Optional Accessories	- 930-9SKIT-00L0-00B: rail kit for NVIDIA Quantum-3 4U switch - 930-9SFAN-00RM-00B: C2P fan unit for Q3200 and Q3400 - 930-9SPSU-00RA-00A: 2000W AC PSU for Q3200 and Q3400 - 930-9BPWA-00NA-000: US 250V 15A C14-to-C15 power cord - 930-9BPWE-00NA-000: Europe and China 250V 10A C14-to-C15 power cord



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- [2] NVIDIA. (2026). Q3400-RA Technical Specifications. <https://networking-docs.nvidia.com/xdrswitcheshw/specifications>
- [3] NVIDIA. (2026). Interfaces. <https://networking-docs.nvidia.com/xdrswitcheshw/interfaces>