NVIDIA ConnectX-6 Dx Adapter Cards Firmware Release Notes v22.46.3048

Table of contents

Firmware Compatible Products 3

Changes and New Features 5

- Customer Affecting Changes 6
- Declared Unsupported Features 7

Bug Fixes in this Firmware Version 8

Known Issues 9

PreBoot Drivers (FlexBoot/UEFI) 20

Validated and Supported Cables and Switches 21

Supported Non-Volatile Configurations 59

Release Notes History 63

- Changes and New Feature History 63
- Bug Fixes History 67

Legal Notices and 3rd Party Licenses 71

Release Notes Update History

Version	Date	Description
22.46.3048	September 18, 2025	Initial release of this Release Notes version.

Overview

Firmware which is added at the time of manufacturing, is used to run user programs on the device and can be thought of as the software that allows hardware to run. Embedded firmware is used to control the functions of various hardware devices and systems, much like a computer's operating system (OS) controls the function of software applications. Firmware may be written into read-only memory (ROM), erasable programmable read-only memory (EPROM) or flash memory.

Firmware Download

Please visit the firmware webpage.

Document Revision History

A list of the changes made to this document are provided in Document Revision History.

Firmware Compatible Products

The chapter contains the following sections:

These are the release notes for the NVIDIA® ConnectX®-6 Dx adapters firmware. This firmware supports the following protocols:

- Ethernet - 1GbE, 10GbE, 25GbE, 40GbE, 50GbE[1], 100GbE[1], 200GbE[2]
- PCI Express 4.0, supporting backwards compatibility for v3.0, v2.0 and v1.1

[1]. Speed that supports both NRZ and PAM4 modes in Force mode and Auto-Negotiation mode.

[2]. Speed that supports PAM4 mode only.

Note

When connecting an NVIDIA-to-NVIDIA adapter card in ETH PAM4 speeds, Auto-Neg should always be enabled.

Note

Please make sure to use a PCIe slot that can supply the required power to the ConnectX-6 Dx adapter card as stated in section Specifications in the adapter card's User Manual.

Supported Devices

This firmware supports the devices and protocols listed below: Refer to the hardware documentation for the list of supported devices.

Driver Software, Tools and Switch Firmware

The following are the drivers' software, tools, switch/HCA firmware versions tested that you can upgrade from or downgrade to when using this firmware version:

	Supported Version
ConnectX-6 Dx Firmware	22.46.3048 / 22.46.1006 / 22.45.1020
DOCA-HOST	3.1.0 / 3.0.0 **Note:** For the list of the supported Operating Systems, please refer to the driver's Release Notes.
WinOF-2	25.7.50000 / 25.4.50020 / 25.1.51010 **Note:** For the list of the supported Operating Systems, please refer to the driver's Release Notes.
MFT	4.33.0-169 / 4.32.0-120 / 4.31.0-149 **Note:** For the list of the supported Operating Systems, please refer to the driver's Release Notes.
FlexBoot	3.8.100
UEFI	14.39.13
Cumulus	5.13.0 onwards

Changes and New Features

Info

To generate PLDM packages for firmware updates, users must install and use the MFT version that corresponds with the respective firmware release.

Feature/Change	Description
22.46.3048	
Security Hardening Enhancements	This release contains important reliability improvements and security hardening enhancements. NVIDIA recommends upgrading your devices firmware to this release to improve the devices' firmware security and reliability.

Important Notes

Note

SR-IOV - Virtual Functions (VF) per Port - The maximum Virtual Functions (VF) per port is 127. For further information, see Known Issues.

Note

It is recommended to enable the "above 4G decoding" BIOS setting for features that require a large amount of PCIe resources (e.g., SR-

IOV with numerous VFs, PCIe Emulated Switch, Large BAR Requests).

Customer Affecting Changes

Changes in This Release

This section provides a list of changes that took place in the current version and break compatibility/interface, discontinue support for features and/or OS versions, etc.

Introduced in Version	Description
N/A	N/A

Changes Planned for Future Releases

This section provides a list of changes that will take place in a future version of the product and will break compatibility/interface, discontinue support for features and/or OS versions, etc.

Planned for Version	Description
N/A	N/A

Changes in Earlier Releases

This section provides a list of changes that took place throughout the past two major releases that broke compatibility/interface, discontinued support for features and/or OS versions, etc.

For an archive of all changes, please refer to the Release Notes History section.

Planned for Version	Description
N/A	N/A

Discontinued Features

List of features which are supported in previous generations of hardware devices.

N/A

Declared Unsupported Features

This section provides a list of features that are not supported by the software.

Unsupported Features

The following advanced feature are unsupported in the current firmware version:

- The following service types:
  - SyncUMR
  - Mellanox transport
  - RAW IPv6
- INT-A not supported for EQs only MSI-X
- PCI VPD write flow (RO flow supported)
- Streaming Receive Queue (STRQ) and collapsed CQ
- Subnet Manager (SM) on VFs
- RoCE LAG in Multi-Host/Socket-Direct

Unsupported Commands

- QUERY_MAD_DEMUX
- SET_MAD_DEMUX
- CREATE_RQ - MEMORY_RQ_RMP
- MODIFY_LAG_ASYNC_EVENT

Bug Fixes in this Firmware Version

This release does not include any bug fixes.

For a list of old Bug Fixes, please see Bug Fixes History.

Known Issues

VF Network Function Limitations in SRIOV Legacy Mode

Dual Port Device	Single Port Device
127 VF per PF (254 functions)	127

VF Network Function Limitations in Switchdev Mode

Dual Port Device	Single Port Device
127 VF per PF (254 functions)	127

VF+SF Network Function Limitations in Switchdev Mode

Dual Port Device	Single Port Device
• 127 VF per PF (254 functions) • 512 PF+VF+SF per PF (1024 functions)	• 127 VF (127 functions) • 512 PF+VF+SF per PF (512 functions)

Known Issues

Internal Ref.	Issue
4394475	**Description:** The existing congestion control configuration applies globally, rather than on a per-priority basis.
	Workaround: Ensure that the configuration values for all priorities are aligned in either `mlxconfig ROCE_CC_PRIO_MASK_P$port` or `sysfs ecn/roce_rp/enable/$port`.
	Keywords: Congestion control, ROCE_CC_PRIO
	Detected in version: 22.45.1020
2169950	**Description:** When decapsulation on a packet occurs, the FCS indication is not calculated correctly.

Internal Ref.	Issue
	Workaround: N/A
	Keywords: FCS
	Discovered in Version: 22.42.1000
3464393	**Description:** PhyLess Reset is currently not supported.
	Workaround: N/A
	Keywords: PhyLess Reset
	Discovered in Version: 22.39.1002
3525865	**Description:** Unexpected system behavior might be observed if the driver is loaded while reset is in progress.
	Workaround: N/A
	Keywords: Sync 1 reset, firmware reset
	Discovered in Version: 22.39.1002
3547022	**Description:** When `tx_port_ts` is set to `"true"`, due to a compensation mechanism in the Tx timestamp available in some hardware Rx timestamp errors, a symmetrical error and no clock offset occur when using the timestamps to synchronize the device clock. This might also cause an error while using timestamps for delay measurements (e,g., delay measurements reported by a PTP daemon) and even negative delay measurements in some cases.
	Workaround: N/A
	Keywords: PTP path delay
	Discovered in Version: 22.38.1002
3457472	**Description:** Disabling the Relaxed Ordered (RO) capability (relaxed_ordering_read_pci_enabled=0) using the vhca_resource_manager is currently not functional.
	Workaround: N/A
	Keywords: Relaxed Ordered
	Discovered in Version: 22.37.1014
3449960	**Description:** In some cases, performance degradation might be experienced when wrong usage of extra engines dedicated to DMA is removed.

Internal Ref.	Issue
	Workaround: N/A
	Keywords: Performance
	Discovered in Version: 22.37.1014
2878841	**Description:** Firmware rollback fails for the signature retransmit flow if the QPN field is configured in the mkey (as it only allows the given QP to use this Mkey) as the firmware rollback flow relies on an internal QP that uses the mkey.
	Workaround: N/A
	Keywords: Signature retransmit flow
	Discovered in Version: 22.37.1014
3171699	**Description:** Occasionally, after a few toggles, link may not raise when changing the speed when in loopback mode.
	Workaround: N/A
	Keywords: Link speed, loopback
	Discovered in Version: 22.37.1014
2444892	**Description:** PMA loopback feature is supported only with NRZ speeds .
	Workaround: N/A
	Keywords: PMA loopback, NRZ
	Discovered in Version: 22.36.1010
2745023	**Description:** RDMA statistics for sent packets are not updated when RoCE traffic is running in a loopback on the same uplink.
	Workaround: N/A
	Keywords: RoCE
	Discovered in Version: 22.35.2302
3266807	**Description:** PMA loop-back is not supported on PAM4 speeds.
	Workaround: N/A
	Keywords: Counters, CRC
	Discovered in Version: 22.35.2302

Internal Ref.	Issue
3267506	**Description:** CRC is included in the traffic byte counters as a port byte counter.
	Workaround: N/A
	Keywords: Counters, CRC
	Discovered in Version: 22.35.2302
3235397	**Description:** PCC force mode does not work if the link is raised after disabling DCQCN with PPCC.
	Workaround: N/A
	Keywords: PCC
	Discovered in Version: 22.35.1012
3200779	**Description:** Changing dynamic PCIe link width is not supported.
	Workaround: N/A
	Keywords: PCIe
	Discovered in Version: 22.34.1002
3033910	**Description:** BAR misses caused by a memory write/read actions are not reported in the AER and the device status.
	Workaround: N/A
	Keywords: BAR miss, AER
	Discovered in Version: 22.34.1002
3141072	**Description:** The "max_shaper_rate" configuration query via QEEC mlxreg returns a value translated to hardware granularity.
	Workaround: N/A
	Keywords: RX Rate-Limiter, Multi-host
	Discovered in Version: 22.34.1002
3106146	**Description:** Live migration of MPV affiliated function pair is not supported when port numbers are changed. Each function should stay on the same port number as before migration.
	Workaround: N/A
	Keywords: MPV live migration

Internal Ref.	Issue
	Discovered in Version: 22.34.1002
2870970	**Description:** GTP encapsulation (flex parser profile 3) is limited to the NIC domain. Encapsulating in the FDB domain will render a 0-size length in GTP header.
	Workaround: N/A
	Keywords: GTP encapsulation
	Discovered in Version: 22.34.1002
2937445	**Description:** A long linkup time can be seen 1/5 toggles when raising link in autoneg flow in ConnectX-6 Dx vs Ixia in 200G_4x.
	Workaround: N/A
	Keywords: AN, port toggling, Ixia
	Discovered in Version: 22.33.1048
2850003	**Description:** Occasionally, when rising a logical link, the link recovery counter is increase by 1.
	Workaround: N/A
	Keywords: Link recovery counter
	Discovered in Version: 22.33.1048
2825403	**Description:** When connecting NVIDIA Spectrum-3 devices and ConnectX-6 Dx devices with DAC MCP7F80-W002R26 while splitting to 8x with 50GbE per lane in force mode, effective BER may appear.
	Workaround: N/A
	Keywords: NVIDIA Spectrum-3, Cables, Split
	Discovered in Version: 22.32.2004
2866931	**Description:** When the host powers up directly into the standby mode, the adapter may not handle WOL packets.
	Workaround: N/A
	Keywords: WOL packets
	Discovered in Version: 22.32.1010
2864238	**Description:** VPD cannot be accessed after firmware upgrade or reset when the following sequence is performed:

Internal Ref.	Issue
	1. Upgrade to a new firmware and perform a cold reboot 2. Downgrade to an old firmware 3. Run fwreset 4. Upgrade to a new firmware 5. Run fwreset
	Workaround: Run the upgrade or reset sequence as follow: 1. Upgrade to a new firmware and perform a cold reboot 2. Downgrade to an old firmware 3. Run fwreset 4. Upgrade to a new firmware 5. **Perform a cold reboot**
	Keywords: VDP
	Discovered in Version: 22.32.1010
2863674	**Description:** Host management magic packet is not supported in Socket-Direct adapter cards' single PF per Numa mode.
	Workaround: N/A
	Keywords: Socket-Direct, single PF per Numa, host management, magic packet
	Discovered in Version: 22.32.1010
2836032	**Description:** When using SW steering mlx5dv_dr API to create rules containing encapsulation actions in MLNX_OFED v5.5-1.x.x.x, the user should upgrade firmware to the latest version. Otherwise, the maximum number of encapsulation actions that can be created will be limited to only 16K, and degradation for the rule insertion rate is expected compared to MLNX_OFED v5.4-.x.x.x.x.
	Workaround: N/A
	Keywords: Encapsulation rules insertion rate, firmware upgrade, MLNX_OFED
	Discovered in Version: 22.32.1010
2756866 / 2740651	**Description:** On rare occasions, following fast linkup (toggle link from the NIC side) a few effective errors might be seen in the first 20 seconds.
	Workaround: Perform link maintenance to fix it so additional errors will not be seen afterwards.

Internal Ref.	Issue
	Keywords: Link toggle, effective errors
	Discovered in Version: 22.31.2006
-	**Description:** Downgrading to an older firmware version that does not support the new flash type is not supported. Doing so will result in burning process failure and unknown errors will be received. The errors will be more informative in the next tools' version.
	Workaround: N/A
	Keywords: Burning tools, firmware downgrading, flash type
	Discovered in Version: 22.31.2006
2667681	**Description:** As the Connection Tracking (CT) is not moved to SW state after receiving a TCP RST packet, any packet that matches the windows even after the RST is marked as a valid packets.
	Workaround: N/A
	Keywords: Connection Tracking
	Discovered in Version: 22.31.1014
2607158	**Description:** When using more than 512 MSIX per function, the CPU PCIe Completion Timeout Value needs to be set to a value of 200us or higher.
	Workaround: N/A
	Keywords: Extended MSIX, Asymmetrical MSIX configuration, PF_NUM_PF_MSIX_VALID, PF_NUM_PF_MSIX
	Discovered in Version: 22.31.1014
2577966	**Description:** Fast linkup is not supported when connecting to an Ixia switch.
	Workaround: N/A
	Keywords: Fast linkup
	Discovered in Version: 22.30.1004
2446583	**Description:** On rare occasions, when both network devices are NVIDIA, PAM4 link will raise with several effective errors. These errors will not affect traffic once the link is up.
	Workaround: Clear counters once the link is up
	Keywords: Effective errors

Internal Ref.	Issue
	Discovered in Version: 22.29.2002
2371060	**Description:** When Emulated PCIe Switch is enabled, and the OS does resource reallocation, the OS boot process might halt.
	Workaround: N/A
	Keywords: Emulated PCIe Switch
	Discovered in Version: 22.29.1016
2297201	**Description:** Unable to complete migration when virtio device is in high traffic load (20/20 MPPS) as although vDPA hardware offload solution can support higher speed than the software solution, it needs to enable QEMU auto-converge to complete migration. For further information see: https://wiki.qemu.org/Features/AutoconvergeLiveMigration
	Workaround: Turn auto-converge on by adding `"--auto-converge"`. For example: `virsh migrate --verbose --live --persistent gen-l-vrt-295-005-CentOS-7.4 qemu+ssh://gen-l-vrt-295/system --unsafe --auto-converge`
	Keywords: virtio, vDPA, live migration
	Discovered in Version: 22.29.1016
2378593	**Description:** Sub 1sec firmware update (fast reset flow) is not supported when updating from previous releases to the current one. Doing so may cause network disconnection events.
	Workaround: Use full reset flow for firmware upgrade/downgrade.
	Keywords: Sub 1sec firmware update
	Discovered in Version: 22.29.1016
2384965	**Description:** Eye-opening can cause effective errors on the port.
	Workaround: N/A
	Keywords: Eye-opening
	Discovered in Version: 22.29.1016
2384849 / 2373640	**Description:** Phyless Reset functionality is not supported when updating firmware from v22.28.4000 (and below) to v22.29.1016 and higher.

Internal Ref.	Issue
	Workaround: N/A
	Keywords: Phyless Reset
	Discovered in Version: 22.29.1016

2213356	**Description:** The following are the Steering Dump limitations:
	• Supported only on ConnectX-5 adapter cards
	• Requires passing the version (FW/Stelib/MFT) and device type to stelib
	• Re-format is not supported
	• Advanced multi-port feature is not supported – LAG/ROCE_AFFILIATION/MPFS_LB/ESW_LB (only traffic vhca <-> wire)
	• Packet types supported:
	  ◦ Layer 2 Eth
	  ◦ Layer 3 IPv4/Ipv6/Grh
	  ◦ Layer 4 TCP/UDP/Bth/GreV0/GreV1
	  ◦ Tunneling VXLAN/Geneve/GREv0/Mpls
	• FlexParser protocols are not supported (e.g AliVxlan/VxlanGpe etc..).
	• Compiles only on x86

	Workaround: N/A
	Keywords: Steering Bump
	Discovered in Version: 22.29.1016
2365322	**Description:** When configuring adapter card's Level Scheduling, a QoS tree leaf (QUEUE_GROUP) configured with default rate_limit and default bw_share, may not obey the QoS restrictions imposed by any of the leaf's ancestors.
	Workaround: To prevent such a case, configure at least one of the following QoS attributes of a leaf: `max_average_bw` or `bw_share`
	Keywords: QoS
	Discovered in Version: 22.29.1016
2201468	**Description:** Running multiple resets (**"**mlxfwreset --sync=1") simultaneously is not functioning properly,
	Workaround: Wait a few seconds until you run "mlxfwreset --sync=0".
	Keywords: mlxfwreset, reset-sync, reset, sync
	Discovered in Version: 22.28.1002

Internal Ref.	Issue
2089277	**Description:** The CRC is being removed despite using the keep_crc flag, and the byte count of the packet are counted without the CRC.
	Workaround: N/A
	Keywords: Decapsulated packets
	Discovered in Version: 22.27.6008
2149437	**Description:** When the SLTP configuration is wrongly set, the “Bad status” explanation will not be presented (only error indication) to the user.
	Workaround: N/A
	Keywords: SLTP configuration
	Discovered in Version: 22.27.6008
1895917	**Description:** On Dual-Port devices, and only after Rx buffer modification, resetting all Physical Functions over one port (through reboot / driver restart / FLR), while there are active Physical Functions over the second port (which caused the Rx buffer changes), will cause the Rx buffer default values to be restored, although not expected by the active Physical Function on the second port.
	Workaround: • Re-apply the changes • Reset the functions from both ports together (driver restart / FLRs / reboot) • Power cycle or reset the firmware
	Keywords: VoQ, Shared Buffer, Rx Bufffer, PFCC, PBMC, PPTB, SBCM, SBPM, SBPR, Rx buffer modifications
	Discovered in Version: 22.27.2008
2120378	**Description:** Phyless Reset is not supported when using PAM4 mode.
	Workaround: N/A
	Keywords: Phyless, PAM4 mode, 200GbE
	Discovered in Version: 22.27.2008
2071210	**Description:** mlxconfig query for the BOOT_INTERRUPT_DIS TLV shows a wrong value in the "current value" field.
	Workaround: Use "next boot" indication to see the right value.

Internal Ref.	Issue
	Keywords: mlxconfig
	Discovered in Version: 22.27.1016
2063038	**Description:** PRBS is not functional when using Wedge switch.
	Workaround: N/A
	Keywords: PRBS
	Discovered in Version: 22.27.1016
1796936	**Description:** 200GbE Optical cables in Auto-Negotiation mode work only in 200GbE speed.
	Workaround: N/A
	Keywords: Cables
	Discovered in Version: 22.27.1016
2038821	**Description:** When running MH TCP, few packets are dropped every second due to no Receive WQEs.
	Workaround: Use 4K RX queue size: `ethtool -G <intf> rx 4096`
	Keywords: Performance, MH, WQE
	Discovered in Version: 22.27.1016
-	**Description:** After programing firmware in LF, power-cycle must be recovered.
	Workaround: N/A
	Keywords: LF
	Discovered in Version: 22.27.1016
2029716	**Description:** Software Reset does not work on ConnectX-6 Dx adapter cards.
	Workaround: N/A
	Keywords: Software Reset
	Discovered in Version: 22.27.1016

PreBoot Drivers (FlexBoot/UEFI)

FlexBoot Changes and New Features

For further information, please refer to the FlexBoot Release Notes.

UEFI Changes and Major New Features

For further information, please refer to the UEFI Release Notes.

Validated and Supported Cables and Switches

Validated and Supported Cables and Modules

Cables Lifecycle Legend

Lifecycle Phase	Definition
EOL	End of Life
LTB	Last Time Buy
HVM	GA level
MP	GA level
P-Rel	GA level
Preliminary	Engineering Sample
Prototype	Engineering Sample

200GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
HDR	200GE	980-9I548-00H001	MCP1650-H001E30	Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 1m	HVM
HDR	200GE	980-9I549-00H002	MCP1650-H002E26	Nvidia Passive Copper cable,up to 200Gbps, QSFP56 to QSFP56, 2m	HVM

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
HDR	200GE	980-9I54A-00H00A	MCP1650-H00AE30	Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 0.5m	HVM
HDR	200GE	980-9I54B-00H01A	MCP1650-H01AE30	Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 1.5 m	HVM
N/A	200GE	980-9I54C-00V001	MCP1650-V001E30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1m, black pulltab, 30AWG	LTB [HVM]
N/A	200GE	980-9I54D-00V002	MCP1650-V002E26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2m, black pulltab, 26AWG	LTB [HVM]
N/A	200GE	980-9I54G-00V003	MCP1650-V003E26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 3m, black pulltab, 26AWG	EOL [HVM]
N/A	200GE	980-9I54H-00V00A	MCP1650-V00AE30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 0.5m, black pulltab, 30AWG	LTB [HVM]
N/A	200GE	980-9I54I-00V01A	MCP1650-V01AE30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1.5m, black pulltab, 30AWG	LTB [HVM]
N/A	200GE	980-9I54L-00V02A	MCP1650-V02AE26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2.5m, black pulltab, 26AWG	LTB [HVM]
HDR	200GE	980-9I39E-00H001	MCP7H50-H001R30	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 1m	HVM
HDR	200GE	980-9I99F-	MCP7H50-H002R26	Nvidia Passive copper splitter cable, 200Gbps to	HVM

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00H002		2x100Gbps, QSFP56 to 2xQSFP56, 2m	
HDR	200GE	980-9I98G-00H01A	MCP7H50-H01AR30	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 1.5m	HVM
N/A	200GE	980-9I98H-00V001	MCP7H50-V001R30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 1m, 30AWG	LTB [HVM]
N/A	200GE	980-9I98I-00V002	MCP7H50-V002R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 2m, 26AWG	LTB [HVM]
N/A	200GE	980-9I98J-00V003	MCP7H50-V003R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 3m, 26AWG	EOL [HVM]
N/A	200GE	980-9I98K-00V01A	MCP7H50-V01AR30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 1.5m, 30AWG	EOL [HVM]
N/A	200GE	980-9I98M-00V02A	MCP7H50-V02AR26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 2.5m, 26AWG	LTB [HVM]
N/A	200GE	980-9I98O-00V002	MCP7H60-C002	NVIDIA DAC splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP-DD to 2xQSFP28, colored pulltabs, 2m	EOL [P-Rel]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	200GE	980-9IA3P-00V003	MCP7H60-C003	NVIDIA DAC splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP-DD to 2xQSFP28, colored pulltabs, 3m	EOL [P-Rel]
N/A	200GE	980-9IA3P-00V003-M	MCP7H60-C003-M	NVIDIA DAC splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP-DD to 2xQSFP28, colored pulltabs, 3m	EOL [P-Rel]
N/A	200GE	980-9IA3X-00V001	MCP7H70-V001R30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 1m, 30AWG	EOL [P-Rel]
N/A	200GE	980-9IA3Y-00V002	MCP7H70-V002R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 2m, 26AWG	EOL [P-Rel]
N/A	200GE	980-9I43Z-00V003	MCP7H70-V003R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4x4SFP56, colored, 3m, 26AWG	EOL [P-Rel]
N/A	200GE	980-9I430-00V01A	MCP7H70-V01AR30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 1.5m, 30AWG	EOL [P-Rel]
N/A	200GE	980-9I431-00V02A	MCP7H70-V02AR26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to4x50Gb/s, QSFP56 to 4xSFP56, colored, 2.5m, 26AWG	EOL [P-Rel]
HDR	200GE	980-9I46K-	MCP7Y60-H001	NVIDIA passive copper splitter cable,	MP

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00H001		400(2x200)Gbps to 2x200Gbps, OSFP to 2xQSFP56, 1m, fin to flat	
HDR	200GE	980-9I46L-00H002	MCP7Y60-H002	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 2x200Gbps, OSFP to 2xQSFP56, 2m, fin to flat	MP
HDR	200GE	980-9I93M-00H01A	MCP7Y60-H01A	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 2x200Gbps, OSFP to 2xQSFP56, 1.5m, fin to flat	MP
HDR	200GE	980-9I93N-00H001	MCP7Y70-H001	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 4x100Gbps, OSFP to 4xQSFP56, 1m, fin to flat	MP
HDR	200GE	980-9I93O-00H002	MCP7Y70-H002	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 4x100Gbps, OSFP to 4xQSFP56, 2m, fin to flat	MP
HDR	200GE	980-9I47P-00H01A	MCP7Y70-H01A	NVIDIA passive copper splitter cable, 400(2x200)Gbps to 4x100Gbps, OSFP to 4xQSFP56, 1.5m, fin to flat	MP
HDR	200GE	980-9I457-00H003	MFS1S00-H003V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 3m	MP
HDR	200GE	980-9I45D-00H005	MFS1S00-H005V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 5m	MP
HDR	200GE	980-9I45J-00H010	MFS1S00-H010V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 10m	MP

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
HDR	N/A	980-9I44L-00H015	MFS1S00-H015-LL	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, low latency, 15m	EOL [P-Rel]
HDR	200GE	980-9I45O-00H015	MFS1S00-H015V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 15m	MP
HDR	N/A	980-9I45R-00H020	MFS1S00-H020E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 20m	EOL [HVM]
HDR	200GE	980-9I45T-00H020	MFS1S00-H020V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 20m	MP
HDR	200GE	980-9I440-00H030	MFS1S00-H030V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 30m	MP
HDR	200GE	980-9I447-00H050	MFS1S00-H050V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 50m	MP
HDR	200GE	980-9I44H-00H100	MFS1S00-H100V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 100m	MP
HDR	200GE	980-9I44K-00H130	MFS1S00-H130V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 130m	MP
N/A	200GE	980-9I44P-00V003	MFS1S00-V003E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 3m	LTB [HVM]
N/A	200GE	980-9I45Q-00V005	MFS1S00-V005E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 5m	LTB [HVM]
N/A	200GE	980-9I45R-00V010	MFS1S00-V010E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 10m	LTB [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	200GE	980-9I44S-00V015	MFS1S00-V015E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 15m	LTB [HVM]
N/A	200GE	980-9I44T-00V020	MFS1S00-V020E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 20m	LTB [HVM]
N/A	200GE	980-9I44U-00V030	MFS1S00-V030E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 30m	LTB [HVM]
N/A	200GE	980-9I44V-00V050	MFS1S00-V050E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 50m	LTB [HVM]
N/A	200GE	980-9I44W-00V100	MFS1S00-V100E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 100m	EOL [HVM] [HIBERN/ATE]
HDR	200GE	980-9I445-00H003	MFS1S50-H003V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 3m	HVM
HDR	200GE	980-9I969-00H005	MFS1S50-H005V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 5m	HVM
HDR	200GE	980-9I96D-00H010	MFS1S50-H010V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 10m	HVM
HDR	200GE	980-9I96H-00H015	MFS1S50-H015V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 15m	HVM
HDR	200GE	980-9I96L-00H020	MFS1S50-H020V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 20m	HVM

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
HDR	200GE	980-9I96P-00H030	MFS1S50-H030V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 30m	HVM
HDR	200GE	980-9I95S-00H040	MFS1S50-H040V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 40m	Prototype
HDR	200GE	980-9I95T-00H050	MFS1S50-H050V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 50m	Prototype
N/A	200GE	980-9I95Q-00V003	MFS1S50-V003E	NVIDIA active fiber splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, black pulltab, 3m	EOL [HVM]
N/A	200GE	980-9I96R-00V005	MFS1S50-V005E	NVIDIA active fiber splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, black pulltab, 5m	EOL [HVM]
N/A	200GE	980-9I96S-00V010	MFS1S50-V010E	NVIDIA active fiber splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, black pulltab, 10m	EOL [HVM]
N/A	200GE	980-9I96T-00V015	MFS1S50-V015E	NVIDIA active fiber splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, black pulltab, 15m	EOL [HVM]
N/A	200GE	980-9I95U-00V020	MFS1S50-V020E	NVIDIA active fiber splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, black pulltab, 20m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	200GE	980-9I95V-00V030	MFS1S50-V030E	NVIDIA active fiber splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, black pulltab, 30m	EOL [HVM]
N/A	200GE	980-9I20T-00V000	MMA1T00-VS	NVIDIA transceiver, 200GbE, up to 200Gb/s, QSFP56, MPO, 850nm, SR4, up to 100m	HVM

Note

HDR links raise with RS_FEC.

100GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I90Z-00C000	FTLC9152RGPL	100Gb/s Transceiver, QSFP28, LC-LC, 850nm SWDM4 up to 100m Over Multi-Mode Fiber	EOL [MP]
N/A	100GE	980-9I62O-00C001	MCP1600-C001	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 1m 30AWG	EOL [HVM]
N/A	100GE	980-9I620-00C001	MCP1600-C001E30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 1m, Black, 30AWG, CA-N	HVM

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I62S-00C001	MCP1600-C001LZ	NVIDIA Passive Copper Cable, ETH 100GbE, 100Gb/s, QSFP, 1m, LSZH, 30AWG	EOL [MP]
N/A	100GE	980-9I621-00C002	MCP1600-C002	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 2m 30AWG	EOL [HVM]
N/A	100GE	980-9I62V-00C002	MCP1600-C002E30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 2m, Black, 30AWG, CA-N	HVM
N/A	100GE	980-9I62X-00C003	MCP1600-C003	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 3m 28AWG	EOL [HVM]
N/A	100GE	980-9I62Z-00C003	MCP1600-C003E26N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 3m, Black, 26AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I620-00C003	MCP1600-C003E30L	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 3m, Black, 30AWG, CA-L	HVM
N/A	100GE	980-9I622-00C003	MCP1600-C003LZ	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, 3m, LSZH, 26AWG	EOL [MP]
N/A	100GE	980-9I625-00C005	MCP1600-C005E26L	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 5m, Black, 26AWG, CA-L	HVM
N/A	100GE	980-9I627-00C00A	MCP1600-C00AE30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 0.5m, Black, 30AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I629-00C00B	MCP1600-C00BE30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 0.75m, Black, 30AWG, CA-N	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I62B-00C01A	MCP1600-C01A	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 1.5m 30AWG	EOL [HVM]
N/A	100GE	980-9I62C-00C01A	MCP1600-C01AE30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 1.5m, Black, 30AWG, CA-N	HVM
N/A	100GE	980-9I62G-00C02A	MCP1600-C02A	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 2.5m 30AWG	EOL [HVM]
N/A	100GE	980-9I62H-00C02A	MCP1600-C02AE26N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 2.5m, Black, 26AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I62I-00C02A	MCP1600-C02AE30L	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28,2.5m, Black, 30AWG, CA-L	HVM
N/A	100GE	980-9I62M-00C03A	MCP1600-C03A	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 3.5m 26AWG	EOL [P-Rel]
EDR	100GE	980-9I62P-00C001	MCP1600-E001	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m 30AWG	EOL [HVM]
EDR	100GE	980-9I62S-00C002	MCP1600-E002	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2m 28AWG	EOL [HVM]
EDR	100GE	980-9I62V-00C003	MCP1600-E003	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m 26AWG	EOL [HVM]
EDR	100GE	980-9I623-00C01A	MCP1600-E01A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1.5m 30AWG	EOL [HVM]
EDR	100GE	980-9I626-	MCP1600-E02A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP,	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00C02A		LSZH, 2.5m 26AWG	
N/A	100GE	980-9I645-00C001	MCP7F00-A001R	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, colored pulltabs, 1m, 30AWG	EOL [HVM]
N/A	100GE	980-9I486-00C001	MCP7F00-A001R30N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 1m, Colored, 30AWG, CA-N	LTB [HVM]
N/A	100GE	980-9I48A-00C002	MCP7F00-A002R	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, colored pulltabs, 2m, 30AWG	EOL [HVM]
N/A	100GE	980-9I48B-00C002	MCP7F00-A002R30N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2m, Colored, 30AWG, CA-N	LTB [HVM]
N/A	100GE	980-9I48G-00C003	MCP7F00-A003R26N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m, Colored, 26AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I48H-00C003	MCP7F00-A003R30L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m, Colored, 30AWG, CA-L	LTB [HVM]
N/A	100GE	980-9I48J-00C005	MCP7F00-A005R26L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 5m, Colored, 26AWG, CA-L	LTB [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I48M-00C01A	MCP7F00-A01AR	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, colored pulltabs,1.5m, 30AWG	EOL [HVM]
N/A	100GE	980-9I48N-00C01A	MCP7F00-A01AR30N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 1.5m, Colored, 30AWG, CA-N	LTB [HVM]
N/A	100GE	980-9I48S-00C02A	MCP7F00-A02AR26N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, Colored, 26AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I48T-00C02A	MCP7F00-A02AR30L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, Colored, 30AWG, CA-L	LTB [HVM]
N/A	100GE	980-9I48U-00C02A	MCP7F00-A02ARLZ	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, LSZH, Colored, 28AWG	EOL [P-Rel]
N/A	100GE	980-9I48X-00C03A	MCP7F00-A03AR26L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3.5m, Colored, 26AWG, CA-L	EOL [HVM]
N/A	100GE	980-9I99G-00C001	MCP7H00-G001R30N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 1m, Colored, 30AWG, CA-N	LTB [HVM]
N/A	100GE	980-9I99L-	MCP7H00-G002R30N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to	LTB [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00C002		2x50Gb/s, QSFP28 to 2xQSFP28, 2m, Colored, 30AWG, CA-N	
N/A	100GE	980-9I99Q-00C003	MCP7H00-G003R26N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 3m, Colored, 26AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I39R-00C003	MCP7H00-G003R30L	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 3m, Colored, 30AWG, CA-L	LTB [HVM]
N/A	100GE	980-9I99S-00C004	MCP7H00-G004R26L	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 4m, Colored, 26AWG, CA-L	EOL [HVM]
N/A	100GE	980-9I99X-00C01A	MCP7H00-G01AR30N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 1.5m, Colored, 30AWG, CA-N	LTB [HVM]
N/A	100GE	980-9I994-00C02A	MCP7H00-G02AR26N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 2.5m, Colored, 26AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I395-00C02A	MCP7H00-G02AR30L	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 2.5m, Colored, 30AWG, CA-L	LTB [HVM]
N/A	100GE	980-9I13S-00C003	MFA1A00-C003	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 3m	HVM

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I13X-00C005	MFA1A00-C005	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 5m	HVM
N/A	100GE	980-9I134-00C010	MFA1A00-C010	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 10m	HVM
N/A	100GE	980-9I13A-00C015	MFA1A00-C015	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 15m	HVM
N/A	100GE	980-9I13F-00C020	MFA1A00-C020	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 20m	HVM
N/A	100GE	980-9I13N-00C030	MFA1A00-C030	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 30m	HVM
N/A	100GE	980-9I130-00C050	MFA1A00-C050	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 50m	HVM
N/A	100GE	980-9I13B-00C100	MFA1A00-C100	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 100m	LTB [HVM]
N/A	100GE	980-9I37H-00C003	MFA7A20-C003	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 3m	EOL [HVM]
N/A	100GE	980-9I37I-00C005	MFA7A20-C005	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 5m	EOL [HVM]
N/A	100GE	980-9I40J-00C010	MFA7A20-C010	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 10m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I40K-00C020	MFA7A20-C020	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 20m	EOL [HVM]
N/A	100GE	980-9I40N-00C003	MFA7A50-C003	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m	EOL [HVM]
N/A	100GE	980-9I40O-00C005	MFA7A50-C005	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 5m	EOL [HVM]
N/A	100GE	980-9I49P-00C010	MFA7A50-C010	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 10m	EOL [HVM]
N/A	100GE	980-9I49Q-00C015	MFA7A50-C015	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 15m	EOL [HVM]
N/A	100GE	980-9I49R-00C020	MFA7A50-C020	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 20m	EOL [HVM]
N/A	100GE	980-9I49S-00C030	MFA7A50-C030	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 30m	EOL [HVM]
N/A	100GE	980-9I149-00CS00	MMA1B00-C100D	NVIDIA transceiver, 100GbE, QSFP28, MPO, 850nm, SR4, up to 100m, DDMI	HVM
N/A	100GE	980-9I17P-00CR00	MMA1L10-CR	NVIDIA optical transceiver, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, LR4 up to 10km	HVM

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I17Q-00CM00	MMA1L30-CM	NVIDIA optical module, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, CWDM4, up to 2km	MP
N/A	100GE	980-9I16X-00C000	MMS1C10-CM	NVIDIA active optical module, 100Gb/s, QSFP, MPO, 1310nm, PSM4, up to 500m	EOL [MP]
N/A	100GE	980-9I042-00C000	MMS1V70-CM	NVIDIA transceiver, 100GbE, QSFP28, LC-LC, 1310nm, DR1	P-Rel
NA	100GE	980-9I53X-00C000	SPQ-CE-ER-CDFL-M	40km 100G QSFP28 ER Optical Transceiver	P-Rel

50GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	50GE	980-9I79O-00G000	MAM1Q00A-QSA56	NVIDIA cable module, ETH 50GbE, 200Gb/s to 50Gb/s, QSFP56 to SFP56	EOL [POR]
N/A	50GE	980-9I873-00G001	MCP2M50-G001E30	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 1m, black pulltab, 30AWG	EOL [P-Rel]
N/A	50GE	980-9I874-00G002	MCP2M50-G002E26	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 2m, black pulltab, 26AWG	EOL [P-Rel]
N/A	50GE	980-9I875-00G003	MCP2M50-G003E26	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 3m, black pulltab, 26AWG	EOL [P-Rel]
N/A	50GE	980-9I876-	MCP2M50-G00AE30	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH,	EOL [P-Rel]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
		00G00A		0.5m, black pulltab, 30AWG	
N/A	50GE	980-9I877-00G01A	MCP2M50-G01AE30	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 1.5m, black pulltab, 30AWG	EOL [P-Rel]
N/A	50GE	980-9I878-00G02A	MCP2M50-G02AE26	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 2.5m, black pulltab, 26AWG	EOL [P-Rel]

FDR10 / 40GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
FDR10	40GE	980-9I66U-00B004	MC2206128-004	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 4m	EOL [HVM] [HIBERN/ATE]
FDR10	40GE	980-9I66V-00B005	MC2206128-005	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 5m	EOL [HVM]
FDR10	40GE	980-9I66W-00B001	MC2206130-001	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 1m	EOL [HVM]
FDR10	40GE	980-9I66X-00B002	MC2206130-002	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 2m	EOL [HVM]
FDR10	40GE	980-9I66Y-00B003	MC2206130-003	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 3m	EOL [HVM]
FDR10	40GE	980-9I66Z-00B00A	MC2206130-00A	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 0.5m	EOL [HVM]
FDR10	N/A	980-9I140-	MC2206310-003	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s,	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
		00T003		QSFP, 3m	
FDR10	N/A	980-9I141-00T005	MC2206310-005	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 5m	EOL [HVM]
FDR10	N/A	980-9I142-00T010	MC2206310-010	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 10m	EOL [HVM]
FDR10	N/A	980-9I143-00T015	MC2206310-015	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 15m	EOL [HVM]
FDR10	N/A	980-9I144-00T020	MC2206310-020	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 20m	EOL [HVM]
FDR10	N/A	980-9I145-00T030	MC2206310-030	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 30m	EOL [HVM]
FDR10	N/A	980-9I147-00T050	MC2206310-050	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 50m	EOL [HVM]
FDR10	N/A	980-9I148-00T100	MC2206310-100	NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 100m	EOL [HVM]
N/A	40GE	980-9I666-00B004	MC2210126-004	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 4m	EOL [HVM]
N/A	40GE	980-9I667-00B005	MC2210126-005	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 5m	EOL [HVM]
N/A	40GE	980-9I668-00B003	MC2210128-003	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m	EOL [HVM]
N/A	40GE	980-9I66A-00B001	MC2210130-001	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	40GE	980-9I66C-00B002	MC2210130-002	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m	EOL [HVM]
N/A	40GE	980-9I14D-00B003	MC2210310-003	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 3m	EOL [MP]
N/A	40GE	980-9I14E-00B005	MC2210310-005	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 5m	EOL [MP]
N/A	40GE	980-9I14F-00B010	MC2210310-010	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 10m	EOL [MP]
N/A	40GE	980-9I14G-00B015	MC2210310-015	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 15m	EOL [MP]
N/A	40GE	980-9I14H-00B020	MC2210310-020	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 20m	EOL [MP]
N/A	40GE	980-9I14I-00B030	MC2210310-030	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 30m	EOL [MP]
N/A	40GE	980-9I14J-00B050	MC2210310-050	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 50m	EOL [MP]
N/A	40GE	980-9I14K-00B100	MC2210310-100	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 100m	EOL [MP]
FDR10	40GE	980-9I170-00BM00	MC2210411-SR4E	NVIDIA optical module, 40Gb/s, QSFP, MPO, 850nm, up to 300m	EOL [HVM]
FDR10	N/A	980-9I21O-00TR00	MC2210511-LR4	NVIDIA optical module, 40Gb/s, QSFP, LC-LC, 1310nm, LR4 up to 10km	EOL [MP]
N/A	40GE	980-9I64V-	MC2609125-005	NVIDIA passive copper hybrid cable, ETH 40GbE	EOL [P-Rel]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
		00B005		to 4x10GbE, QSFP to 4xSFP+, 5m	
N/A	40GE	980-9I64W-00B001	MC2609130-001	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1m	EOL [HVM]
N/A	40GE	980-9I64Y-00B003	MC2609130-003	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 3m	EOL [HVM]
N/A	40GE	980-9I72J-00B005	MC6709309-005	NVIDIA passive fiber hybrid cable, MPO to 8xLC, 5m	EOL [HVM]
N/A	40GE	980-9I72K-00B010	MC6709309-010	NVIDIA passive fiber hybrid cable, MPO to 8xLC, 10m	EOL [HVM]
N/A	40GE	980-9I72L-00B020	MC6709309-020	NVIDIA passive fiber hybrid cable, MPO to 8xLC, 20m	EOL [HVM]
N/A	40GE	980-9I72M-00B030	MC6709309-030	NVIDIA passive fiber hybrid cable, MPO to 8xLC, 30m	EOL [HVM]
N/A	40GE	980-9I66U-00B001	MCP1700-B001E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m, Black Pulltab	EOL [HVM]
N/A	40GE	980-9I66V-00B002	MCP1700-B002E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m, Black Pulltab	EOL [HVM]
N/A	40GE	980-9I66W-00B003	MCP1700-B003E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m, Black Pulltab	EOL [HVM]
N/A	40GE	980-9I66X-	MCP1700-B01AE	NVIDIA passive copper cable, ETH 40GbE,	EOL [MP]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
		00B01A		40Gb/s, QSFP, 1.5m, Black Pulltab	
N/A	40GE	980-9I66Y-00B02A	MCP1700-B02AE	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2.5m, Black Pulltab	EOL [MP]
N/A	40GE	980-9I426-00BM00	MMA1B00-B150D	NVIDIA transceiver, 40GbE, QSFP+, MPO, 850nm, SR4, up to 150m, DDMI	EOL [HVM]

25GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	25GE	980-9I78I-00A000	MAM1Q00A-QSA28	NVIDIA cable module, ETH 25GbE, 100Gb/s to 25Gb/s, QSFP28 to SFP28	HVM
N/A	25GE	980-9I63J-00A001	MCP2M00-A001	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1m, 30AWG	EOL [HVM]
N/A	25GE	980-9I63L-00A001	MCP2M00-A001E30N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1m, Black, 30AWG, CA-N	LTB [HVM]
N/A	25GE	980-9I63M-00A002	MCP2M00-A002	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2m, 30AWG	EOL [HVM]
N/A	25GE	980-9I63O-00A002	MCP2M00-A002E30N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2m, Black, 30AWG, CA-N	LTB [HVM]
N/A	25GE	980-9I63R-00A003	MCP2M00-A003E26N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28,	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
				3m, Black, 26AWG, CA-N	
N/A	25GE	980-9I63S-00A003	MCP2M00-A003E30L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 3m, Black, 30AWG, CA-L	LTB [HVM]
N/A	25GE	980-9I63T-00A004	MCP2M00-A004E26L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 4m, Black, 26AWG, CA-L	EOL [HVM]
N/A	25GE	980-9I63V-00A005	MCP2M00-A005E26L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 5m, Black, 26AWG, CA-L	LTB [HVM]
N/A	25GE	980-9I63W-00A00A	MCP2M00-A00A	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 0.5m, 30AWG	EOL [HVM]
N/A	25GE	980-9I63X-00A00A	MCP2M00-A00AE30N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 0.5m, Black, 30AWG, CA-N	EOL [HVM]
N/A	25GE	980-9I63Z-00A01A	MCP2M00-A01AE30N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1.5m, Black, 30AWG, CA-N	LTB [HVM]
N/A	25GE	980-9I631-00A02A	MCP2M00-A02AE26N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, Black, 26AWG, CA-N	EOL [HVM]
N/A	25GE	980-9I632-00A02A	MCP2M00-A02AE30L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, Black, 30AWG, CA-L	LTB [HVM]
N/A	25GE	980-9IA1T-00A003	MFA2P10-A003	NVIDIA active optical cable 25GbE, SFP28, 3m	EOL [HVM]
N/A	25GE	980-9I53W-00A005	MFA2P10-A005	NVIDIA active optical cable 25GbE, SFP28, 5m	EOL [HVM]
N/A	25GE	980-9I53Z-00A007	MFA2P10-A007	NVIDIA active optical cable 25GbE, SFP28, 7m	EOL [HVM]
N/A	25GE	980-9I532-00A010	MFA2P10-A010	NVIDIA active optical cable 25GbE, SFP28, 10m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	25GE	980-9I535-00A015	MFA2P10-A015	NVIDIA active optical cable 25GbE, SFP28, 15m	EOL [HVM]
N/A	25GE	980-9I536-00A020	MFA2P10-A020	NVIDIA active optical cable 25GbE, SFP28, 20m	EOL [HVM]
N/A	25GE	980-9I539-00A030	MFA2P10-A030	NVIDIA active optical cable 25GbE, SFP28, 30m	EOL [HVM]
N/A	25GE	980-9I53A-00A050	MFA2P10-A050	NVIDIA active optical cable 25GbE, SFP28, 50m	EOL [HVM]
N/A	25GE	980-9I094-00AR00	MMA2L20-AR	NVIDIA optical transceiver, 25GbE, 25Gb/s, SFP28, LC-LC, 1310nm, LR up to 10km	MP
N/A	25GE	980-9I595-00AM00	MMA2P00-AS	NVIDIA transceiver, 25GbE, SFP28, LC-LC, 850nm, SR	HVM
N/A	25GE	980-9I34B-00AS00	MMA2P00-AS-SP	NVIDIA transceiver, 25GbE, SFP28, LC-LC, 850nm, SR, up to 100m, single package	EOL [HVM]
N/A	25GE	980-9I34D-00AS00	MMA2P00-AS_FF	NVIDIA transceiver, 25GbE, SFP28, LC-LC, 850nm, SR, up to 100m	EOL [HVM]

10GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	10GE	980-9I71G-00J000	MAM1Q00A-QSA	NVIDIA cable module, ETH 10GbE, 40Gb/s to 10Gb/s, QSFP to SFP+	HVM
N/A	10GE	980-9I65P-00J005	MC2309124-005	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 5m	EOL [P-Rel]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	10GE	980-9I65Q-00J007	MC2309124-007	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 7m	EOL [P-Rel]
N/A	10GE	980-9I65R-00J001	MC2309130-001	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 1m	EOL [HVM]
N/A	10GE	980-9I65S-00J002	MC2309130-002	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 2m	EOL [HVM]
N/A	10GE	980-9I65T-00J003	MC2309130-003	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 3m	EOL [HVM]
N/A	10GE	980-9I65U-00J00A	MC2309130-00A	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 0.5m	EOL [HVM] [HIBERN/ATE]
N/A	10GE	980-9I682-00J004	MC3309124-004	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 4m	EOL [HVM]
N/A	10GE	980-9I683-00J005	MC3309124-005	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 5m	EOL [HVM]
N/A	10GE	980-9I684-00J006	MC3309124-006	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 6m	EOL [HVM]
N/A	10GE	980-9I685-00J007	MC3309124-007	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 7m	EOL [HVM]
N/A	10GE	980-9I686-00J001	MC3309130-001	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	10GE	980-9I688-00J002	MC3309130-002	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m	EOL [HVM]
N/A	10GE	980-9I68B-00J003	MC3309130-003	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m	EOL [HVM]
N/A	10GE	980-9I68F-00J00A	MC3309130-00A	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 0.5m	EOL [HVM]
N/A	10GE	980-9I68G-00J01A	MC3309130-0A1	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1.5m	EOL [HVM]
N/A	10GE	980-9I68H-00J02A	MC3309130-0A2	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m	EOL [HVM]
N/A	10GE	980-9I68B-00J002	MCP2100-X002B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m, Blue Pulltab, Connector Label	EOL [HVM] [HIBERN/ATE]
N/A	10GE	980-9I68C-00J003	MCP2100-X003B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, Blue Pulltab, Connector Label	EOL [HVM]
N/A	10GE	980-9I68F-00J002	MCP2104-X002B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m, Black Pulltab, Connector Label	EOL [HVM]
N/A	10GE	980-9I68G-00J003	MCP2104-X003B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, Black Pulltab, Connector Label	EOL [HVM]
N/A	10GE	980-9I68H-00J01A	MCP2104-X01AB	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1.5m, Black Pulltab, Connector Label	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	10GE	980-9I68I-00J02A	MCP2104-X02AB	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m, Black Pulltab, Connector Label	EOL [HVM]
N/A	10GE	MFM1T02A-LR-F	MFM1T02A-LR-F	NVIDIA optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 1310nm, LR up to 10km	HVM
N/A	10GE	MFM1T02A-SR-F	MFM1T02A-SR-F	NVIDIA optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 850nm, SR up to 300m	HVM
N/A	10GE	MFM1T02A-SR-P	MFM1T02A-SR-P	NVIDIA optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 850nm, SR up to 300m	HVM

1GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
N/A	1GE	980-9I270-00IM00	MC3208011-SX	NVIDIA Optical module, ETH 1GbE, 1Gb/s, SFP, LC-LC, SX 850nm, up to 500m	EOL [P-Rel]
N/A	1GE	980-9I251-00IS00	MC3208411-T	NVIDIA module, ETH 1GbE, 1Gb/s, SFP, Base-T, up to 100m	HVM

Supported 3rd Party Cables and Modules

Note

Third-party devices that have not been qualified by NVIDIA may be used; however, please be aware that no performance guarantees are provided.

Any issues that arise will require initiating a new feature request process for third-party support.

Data Rate	Cable OPN	Description
100GE	FTLC1151RDPL	TRANSCIEVER 100GBE QSFP LR4
100GE	AFBR-89CDDZ	TRANSCIEVER 100GBE QSFP SR4
100GE	10137498-2010LF	PASSIVE COPPER CABLE ETH 100GBE QSFP 1M
100GE	10137498-2005LF	HPE 100G 2M COPPER CABLE
100GE	10137499-4050LF	PASSIVE COPPER CABLE ETH 100GBE QSFP 5M
100GE	CAB-Q-Q-100G-3M	PASSIVE COPPER CABLE ETH 100GBE QSFP 3M
100GE	FCBN425QE1C10-C1	AOC 100GBE QSFP 1M
100GE	SO-QSFP28-LR4	TRANSCIEVER 100GBE QSFP LR4
100GE	QSFP-40/100-SRBD	TRANSCIEVER 100GBE QSFP BI DIRECTIONAL (BIDIR)
100GE	FTLC9152RGPL	TRANSCEIVER 100GBE QSFP SWDM4
100GE	TR-FC13L-N00	100G QSFP28 OPTICAL TRANSCEIVERS QSFP28 LR4
100GE	NDAAFJ-C102	CISCO AMPHENOL SF-NDAAFJ100G-005M
100GE	TR-VC13T-N00	INNOLIGHT 100G OPTICAL TRANSCEIVER QSFP28 PSM4 TR-VC13T-N00,UP TO 2KM TRANSMISSI
100GE	FCBR425QF1C01	CBL ASSY 4X25G ETH QSFP 1M
100GE	FTLC9551REPM	100M PARALLEL MMF 100G QSFP28 OPTICAL TRANSCEIVER
100GE	RTXM420-550	MPO TYPE 210 M OM3 300 M OM4
100GE	RTXM420-551	100M PARALLEL MMF 100G QSFP28 OPTICAL TRANSCEIVER

Data Rate	Cable OPN	Description
100GE	FTLC9551REPM-H1	QSFP28 ACTIVE OPTICAL CABLE HIGH-SPEED INPUT-OUTPUT CONNECTORS 100G ETHERNET OFNP 1 METER
100GE	FOQQD33P00001	QSFP28 CWDM4, SINGLE RATE PULL TAB 100GBE 2KM OPTICAL TRANSCEIVER
100GE	LQ210CR-CPA2	QSFP28 CWDM4, SINGLE RATE PULL TAB 100GBE 2KM OPTICAL TRANSCEIVER
100GE	FCBN425QE1C01	100G QUADWIRE QSFP28 ACTIVE OPTICAL CABLE
100GE	AFBR-89CDDZ-JU1	100G QUADWIRE QSFP28 ACTIVE OPTICAL CABLE
100GE	AFBR-89CEDZ	100GBE QSFP28 PLUGGABLE, PARALLEL FIBER-OPTICS TRANSCEIVER MODULE, EXTENDED REACH 300M
100GE	FTLC9555REPM3-E6	FIBER OPTIC TRANSMITTERS, RECEIVERS, TRANSCEIVERS XCVR,QSFP28,100M,100GBASE-SR4
100GE	FCBR425QF1C03	4X25G, FULL-DUPLEX, ETHERNET, QSFP CABLE ENDS
100GE	FOQQD33P00009	CABLE ASSEMBLY, QSFP TO QSFP, OM 3 PLENUM, ACTIVE OPTICAL, 100GBPS, 2M
100GE	FOQQD33P00010	CABLE ASSEMBLY, QSFP TO QSFP, OM 3 PLENUM, ACTIVE OPTICAL, 100GBPS, 3M
100GE	NDAAFF-C403	CABLE ASSEMBLY UL 20276 3M 30AWG QSFP+ TO QSFP+ 38 TO 38 POS M-M BAG
100GE	NDAAFJ-M203	QSFP28GB 26AWG, 3METER PASSIVE
100GE	NDARHF-M206	QSFP28 TO 2X QSFP28 COPPER SPLITTER CABLE ASSEMBLIES 100G/200G, HIGH SPEED INPUT OUTPUT CONNECTORS, QSFP28GB 30AWG, 2.5METER PASSIVE.
100GE	AQPA9N09ADLN0817	ACTIVE OPTICAL CABLE 100G QSFP28
100GE	AQPA9N12ADLN0778	QSFP28 AOC 100G MMF 850NM TRANSCEIVER
100GE	AQPA9N35ADLN0817	ACTIVE OPTICAL CABLE 100G QSFP28
100GE	AQPMANQ4EDMA0784	QSFP28 100G SMF 500M TRANSCEIVER
100GE	AQPMANQ4EDMA0871	QSFP28 100G SMF 500M TRANSCEIVER

Data Rate	Cable OPN	Description
100GE	AFBR-89CDDZ-CS1	AVAGO AFBR-89CDDZ COMPATIBLE 100GBASE-SR4 QSFP28 850NM
100GE	DHZZjj-KCCC-030	200G QSFP56 TO 2X100G QSFP56 DIRECT ATTACH CABLE
100GE	SFBR-89BDDZ-CS2	100G AOM BIDI
100GE	SFBR-89BDDZ-CS4	100G AOM BIDI
100GE	SQF1002L4LNC101P	CISCO-SUMITOMO 100GBE AOM
100GE	ET7402-SR4	100G QSFP28 OPTICAL TRANSCEIVER
100GE	FCBN425QE2C05	4X25G, FULL-DUPLEX, ETHERNET, QSFP CABLE ENDS
100GE	FCBR425QE1C10-HP	FIBRE OPTIC CABLE ASSEMBLIES 4X25G, FULL-DUPLEX, ETHERNET, QSFP CABLE ENDS
100GE	DQF8503-4C01	4X25.78GB/S QSFP28 ACTIVE OPTICAL CABLE
100GE	DQF8503-4C05	4X25.78GB/S QSFP28 ACTIVE OPTICAL CABLE
100GE	10137628-4050LF	HPE 100GBE QSFP28 DAC 5M CABLE - 100GB/S DIRECT ATTACH COPPER QUAD
100GE	RTXM420-005	QSFP28 100G
100GE	TF-FC010-N00	100G OPTICAL TRANSCEIVER QSFP28 PARALLEL ACTIVE OPTICAL CABLE
100GE	DQF8503-4C23	QSFP28 AOCS 7M
100GE	TR-ZC13T-N00	QSFP28 FR1 (PAM4)
100GE	1002971151	ZQSFP+-TO-ZQSFP+ CABLE ASSEMBLY, 30 AWG, 1.50M LENGTH
100GE	1003461071	ZQSFP+TO 2ZQSFP+50G CBL ASSY 0.7
100GE	1003461076	ZQSFP+-TO-2 ZQSFP+ PASSIVE CABLE ASSEMBLY, 100 GBPS-TO-(2) 50 GBPS
100GE	1003461101	ZQSFP+ TO 2ZQSFP+ 50G CBL
100GE	1003461106	ZQSFP+-TO-2 ZQSFP+ PASSIVE CABLE ASSEMBLY, 100 GBPS-TO-(2) 50 GBPS, LOW-SMOKE ZERO-HALOGEN CABLE, 30 AWG, 1.0M LENGTH

Data Rate	Cable OPN	Description
100GE	1003463156	ZQSFP+-TO-2 ZQSFP+ PASSIVE CABLE ASSEMBLY, 100 GBPS-TO-(2) 50 GBPS, LOW-SMOKE ZERO-HALOGEN CABLE, 26 AWG, 1.50M LENGTH
100GE	1003463301	ZQSFP+-TO-2 ZQSFP+ PASSIVE CABLE ASSEMBLY, 100 GBPS-TO-(2) 50 GBPS, 26 AWG, 3.0M LENGTH
100GE	1AT-3Q4M01XX-12A	QSFP28 100G ACTIVE CABLE/MODULE
100GE	1AT-3Q3Q9211-01A	100G QSFP28 CWDM4 PN: 1AT-3Q3Q9211-01A TRANSCEIVER MODULE
100GE	ATRQ-A007	QSFP28 AOCS 7M
100GE	DQF8503-4C07	7M 100GB/S QSFP28 ACTIVE OPTICAL CABLES AOC DQF8503-4C10 100GBE
100GE	DQF8503-4C10	10M 100GB/S QSFP28 ACTIVE OPTICAL CABLES AOC DQF8503-4C10 100GBE
100GE	FCBN425QE2C07	100GBASE-AOC QSFP28 TO QSFP28 DIRECT ATTACH CABLE, 7M
100GE	FCBN425QE2C10	100GBASE-AOC QSFP28 TO QSFP28 DIRECT ATTACH CABLE, 10M
100GE	NDARXJ-B303	3M DAC, 200G TO 2X100G
100GE	RTXM420-010	QSFP28 AOCS 10M
100GE	SPQCEERCDFLM	100G ER QSFP28, UP TO 40KM SINGLE MODE TRANSCEIVER
100GE	SPQCELRCDFB	100G LR4 QSFP28, UP TO 10KM SINGLE MODE TRANSCEIVER
100GE	QSFP-SR4-AJ	
100GE	EOLQ-131HG-O-026	100G FR1
100GE	SPTSLP3SLCDF	100G DR1
100GE	QSFP28-FR-C	QSFP28, FR, 1310NM, 100G, 2KM, SMF, LC, DDM
100GE	QSFP28-SR4-AJ	QSFP28, SR4, 850NM, 100G, 100M, MMF, MPO12, C-TEMP
100GE	SPTSBP4LLCDF	QSFP28 100G LR4
100GE	JNP-QSFP-100G-LR	100GBASE LR4 QSFP28 TRANSCEIVER, LC, 10KM

Data Rate	Cable OPN	Description
		OVER SMF, JNP-QSFP-100G-LR4-LU
100GE	QSFP-100G-CWDM4	100GBASE CWDM4 QSFP TRANSCEIVER, LC, 2KM OVER SMF, JNP-QSFP-100G-CWDM4-LU
100GE	QSFP-100G-SR4-I	100GBASE-SR4 QSFP, MPO, 100M OVER OM4 MMF INDUSTRIAL TEMPERATURE RANGE, QSFP-100G-SR4-I-LU
100GE	QSFP-100G-SR4-LU	100GBASE-SR4 QSFP, QSFP-100G-SR4-LU
100GE	SPTSBP4LLCDF	QSFP28 100G LR4
100GE	QSFP-100G-DR-LU	100GBASE DR QSFP TRANSCEIVER, LC, 500M OVER SMF, QSFP-100G-DR-S-LU
100GE	NDYSV2-0003	400G TO 4X 100G QSFP DD - 4X QSFP56 CABLE ASSEMBLY, LINEAR ACTIVE, 30AWG, 3M, 56G / LANE, JACKET
100GE	NDYSV2-0008	400G TO 4X 100G QSFP DD - 4X QSFP CABLE ASSEMBLY, LINEAR ACTIVE, 30AWG, 2.5M, 56G / LANE, JACKET
100GE	NDYSYF-0001	400G TO 4X100G QSFP DD - 4X QSFP56 CABLE ASSEMBLY, PASSIVE, 30AWG, 1M
100GE	TR-ZC13H-NML	100G QSFP28 DR1 TRANSCEIVER
100GE	FCBN425QE2C02	HPE (FINISAR PN FCBN425QE2C02) 100G QUADWIRE QSFP28 ACTIVE OPTICAL CABLE, 2M
100GE	S2T38A	HPE (FINISAR PN FCBN425QN2C05) 100G QSFP28 5M E-TEMP AOC
100GE	DQF8503-4C03	QSFP28 100G ACTIVE OPTICAL CABLE (AOC),3M, MM
100GE	FCBN425QF1C01	QSFP28 100G ACTIVE OPTICAL CABLE (AOC), 1M, MM
100GE	FCBN425QE2C30	HPE (FINISAR PN FCBN425QE2C30) 100G QUADWIRE QSFP28 ACTIVE OPTICAL CABLE, 30M
100GE	NDAAFF-0003	AMPHENOL 100G, QSFP28 CABLE ASSEMBLY, PASSIVE, 30AWG, 3M, 28G / LANE, JACKET
100GE	NDYSYH-0003	AMPHENOL 400G TO 4X100G, QSFP DD - 4X QSFP CABLE ASSEMBLY, PASSIVE, 27AWG, 3M, 56G / LANE,

Data Rate	Cable OPN	Description
		JACKET
100GE	ATRQ-A010	HGTECH 100G QSFP28 AOC 10M
100GE	CAB-Q-Q-100GbE-3M	ARISTA 100G QSFP+ DAC 3M
100GE	FCBN425QE1C30-C1	QUADWIRE 100GBE QSFP28 30M AOC
100GE	QSFP-100G-AOC30M	CISCO 100G QSFP28 AOC 30M
100GE	QSFP28-LR4-AJ	CISCO 100G LR4 QSFP28 MODULE
100GE	RTXM420-007	ACCELINK 100G QSFP28 AOCS 7M
100GE	FTLC9555REPM3-HD	FINISAR 100G SR4 MODULE
100GE	ATRP-Bxxx	HGTECH 100G DSFP AOC
100GE	RTXM520-1xx	WTD 100G DSFP AOC
100GE	DMM8211-DCxx	HISENSE 100G DSFP AOC
10GE	FTLX8570D3BCL-C2	TRANSCIEVER 10GBE SFP SR
10GE	QSFP-4SFP10G-CU5M	QSFP-4SFP10G-CU5M
10GE--100GE	FCBN425QE1C30-C1	CISCO FINISAR CABLE ASSY QSFP28 M-M 30M
200GE	R5Z83A	200GB QSFP56 MPO SR4 100M
200GE	L6WQF102-SD-R	3M DAC, 200G TO 2X100G
200GE	MFS1S00-H030V	200G AOC
200GE	MFS1S00-H003V	200G AOC
200GE	R5Z84A	200GB QSFP56 LC CWDM4 FR4 XCVR
200GE	RTXM500-905	400G-2X200G SPLIT 5M AOC CABLES (400G QSFP-DD BREAKING OUT TO 2X 200G QSFP56) (Rev C0)
200GE	DEF8504-2C06-MB3	QSFP-DD ACTIVE OPTICAL CABLE (AOC) TO 2XQSFP-28 ACTIVE OPTICAL CABLE BREAK-OUT
200GE	NDYRYH-0003	400GGTO 2X200FG QSFP DD - 2X QSFP CABLE ASSEMBLY, PASSIVE, 27AWG, 3M, 56G / LANE, JACKET
200GE	DME8811-EC07	400G-2X200G SPLIT 7M AOC CABLES (400G QSFP-DD BREAKING OUT TO 2X 200G QSFP56 (Rev 12)

Data Rate	Cable OPN	Description
200GE	NDYRYF-0001	400G TO 2X200G, QSFP DD - 2X QSFP56 CABLE ASSEMBLY, PASSIVE, 30AWG, 1M
200GE	NDYRYH-0002	400G TO 2X200G, QSFP DD - 2X QSFP56 CABLE ASSEMBLY, PASSIVE, 27AWG, 2M
200GE	NDYRFH-0003	AMPHENOL QSFP DD - 2X QSFP CABLE ASSEMBLY, PASSIVE, 27AWG, 3M, 28G / LANE, JACKET
200GE	R8M49A	HPE 400GBE TO 2X200G QSFP-DD TO 2XQSFP56 5M ACTIVE OPTICAL CABLE
200GE	R8M50A	HPE 400GBE TO 2X200G, QSFP-DD TO 2XQSFP56 15M ACTIVE OPTICAL CABLE
200GE	NDAAXG-0002	AMPHENOL 200G QSFP CABLE ASSEMBLY, PASSIVE, 28AWG, 2M, 56G / LANE, JACKET
200GE	NDYRYF-0006	AMPHENOL 400G TO 2X200G QSFP DD - 2X QSFP CABLE ASSEMBLY, PASSIVE, 30AWG, 0.5M, 56G / LANE, JACKET
200GE	QSFP-200-CU3M	CISCO 200G QSFP56 DAC 3M
200GE	RTXM500-301-F1	ACCELINK 200G QSFP56 SR4
200GE	T-FX4FNS-N00	INNOLIGHT 200G QSFP56 SR4 MODULE
200GE	QSFP-200-CU3M	200G QSFP56 TO QSFP56 PASSIVE COPPER CABLE, 3M
25GE	SFP-H25G-CU2M	15M (49FT) AVAGO AFBR-7QER15Z COMPATIBLE 40G QSFP+ ACTIVE OPTICAL CABLE
400GE	C-DQ8FNM005-N00	MELLANOX SELECT 400GBE QSFP-DD AOC 5M
400GE	C-DQ8FNM050-N00	MELLANOX SELECT 400GBE QSFP-DD AOC 5M
400GE	QDD-400G-SR8	400GBASE-SR8 QSFP-DD PAM4 850NM 100M DOM MTP/MPO-16 MMF OPTICAL TRANSCEIVER MODULE
400GE	DMQ8811A-EC05	QSFP-DD AOC 100M
400GE	SPTSHP2PMCBE	400GBASE-DR4 , 500M
400GE	AAQD2QP2400C003	AOI 400G BREAKOUT TO 2X200G BREAKOUT AOC
400GE	ATRF-C020	HGTECH 200G QSFP56 AOC 20M
400GE	C-DQF8FNMxxx-N00	INNOLIGHT 400G QSFP-DD TO 2X200G QSFP56

Data Rate	Cable OPN	Description
		BREAKOUT AOC (Rev 1A)
400GE	FCBN950QE1C05	FINISAR 400G QSFP-DD TO 2X200G QSFP56 BREAKOUT AOC 5M (Rev A0)
400GE	FCBN950QE1C20	FINISAR 400G QSFP-DD TO 2X200G QSFP56 BREAKOUT AOC 20M
400GE	QDD-2Q200-CU3M	CISCO 400G QSFP-DD TO 2X200G BREAKOUT DAC 3M
400GE	QDD-4ZQ100-CU1M	CISCO 400G QSFP-DD TO 4X100G BREAKOUT DAC 1M
400GE	RTXM500-910	ACCELINK 400G QSFP-DD TO 2X200G QSFP56 BREAKOUT AOC 10M (Rev 10)
40GE	L45593-D118-B50	PASSIVE COPPER CABLE ETH 40GBE QSFP 3M
40GE	QSFP-H40G-CU1M	PASSIVE COPPER CABLE ETH 40GBE QSFP 1M
40GE	QSFP-40G-SR-BD	TRANSCIEVER 40GBE QSFP BI DIRECTIONAL (BIDIR)
40GE	AFBR-7QER15Z-CS1	CISCO 40GE 15M AOC
40GE	QAOC-40G4F1A25-C	CISCO-DELTA 25M 40GBE AOC
40GE	QSFP-H40G-CU1M	QSFP-H40G-CU1M
40GE	FTL410QD2C-HZ	40BASE-SR4/10GBASE-SR 300M QSFP+ GEN2 OPTICAL TRANSCEIVER MODULE
40GE	QSFP-40G-SRBD	ARISTA NETWORKS QSFP-40G-SRBD COMPATIBLE 40GBASE-SR BI-DIRECTIONAL QSFP+ OPTICAL TRANSCEIVER MODULE FOR DUPLEX MMF
40GE	AFBR-79EBPZ-HP8	40G BIDIRECTIONAL MMF QSFP+ TRANSCEIVER MODULE
40GE	NDCCGJ-C402	15M (49FT) AVAGO AFBR-7QER15Z COMPATIBLE 40G QSFP+ ACTIVE OPTICAL CABLE
40GE	L45593-D118-D30	PASSIVE COPPER CABLE ETH 40GBE QSFP 3M
40GE	DQF8501-4C01	QSFP+ SR4 4X10.3125GB/S QSFP+ SR4 ACTIVE OPTICAL CABLE
40GE	606770005	INTEL QSFP 40GBASE CR4
40GE	FTL4C1QE1C	40G LR4 QSFP+, UP TO 10KM SINGLE MODE TRANSCEIVER

Data Rate	Cable OPN	Description
40GE	JNP-QSFP-40G-LR4	40GBASE-LR4 QSFP+ 1310NM 10KM LC OVER SMF, JNP-QSFP-40G-LR4-LU
50GE	ATRP-B007	HGTECH 50G DSFP AOC 7M
50GE	ATRP-B010	HGTECH 50G DSFP AOC 10M
50GE	C-PD2FNM010-N00	INNOLIGHT 50G DSFP AOCS 10M
50GE	DMM8211-DC07	HISENSE 50G DSFP AOC 7M
50GE	DMM8211-DC10	HISENSE 50G DSFP AOC 10M
50GE	RTXM520-107	ACCELINK 50G DSFP AOCS 7M
50GE	RTXM520-110	ACCELINK 50G DSFP AOCS 10M
FDR	FTL414QB2N-E5	TRANSCIEVER FDR QSFP SR4

Tested Switches

400GbE Switches

Speed	Switch Silicon	OPN # / Name	Description	Vendor
400GbE	Spectrum-3	MSN4410	24 QSFP-DD28 and 8 QSFP-DD ports, 400GbE 1U Open Ethernet Switch with Onyx	NVIDIA
400GbE	Spectrum-3	MSN4700	32 QSFPDD ports, 400GbE 1U Open Ethernet Switch with Onyx	NVIDIA
400GbE	N/A	Wedge 400	Wedge 400-48X 400GbE Data Center Switch	Facebook
400GbE	N/A	Cisco Nexus 3432D-S	Cisco Nexus 3432D-S, 32 fixed 400-Gigabit Ethernet QSFP-DD ports with backward compatibility for QSFP56, QSFP28, and QSFP+	Cisco

200GbE Switches

Speed	Switch Silicon	OPN # / Name	Description	Vendor
200GbE	Spectrum-3	MSN4600V-XXXX	64 QSFP56 ports, 200GbE 2U Open Ethernet Switch with Onyx	NVIDIA
200GbE	Spectrum-2	MSN3700-XXXX	32 QSFP56 ports, 200GbE Open Ethernet Switch System	NVIDIA

100GbE Switches

Speed	NVIDIA SKU	Legacy OPN	Description
100GbE	920-9N302-00xA-xxx / 920-9N302-00x7-xxx	SN4600-XXXX	64-port Non-blocking 100GbE Open Ethernet Switch System
100GbE	920-9N201-00x7-xxx	SN3700C-XXXX	32-port Non-blocking 100GbE Open Ethernet Switch System
100GbE	920-9N213-00x7-xxx	SN3420-XXXX	48 SFP + 12 QSFP ports Non-blocking 100GbE Open Ethernet Switch System
100GbE	920-9N101-00x7-xxx	SN2700-XXXX	32-port Non-blocking 100GbE Open Ethernet Switch System
100GbE	N/A	QFX5200-32C-32	32-port 100GbE Ethernet Switch System
100GbE	N/A	7060CX-32S	32-port 100GbE Ethernet Switch System
100GbE	N/A	3232C	32-port 100GbE Ethernet Switch System
100GbE	N/A	N9K-C9236C	36-port 100GbE Ethernet Switch System
100GbE	N/A	93180YC-EX	48-port 25GbE + 6-port 100GbE Ethernet Switch System
100GbE	N/A	S6820-56HF	H3C S6850-56HF L3 Ethernet Switch with 48 SFP28 Ports and 8 QSFP28 Ports
100GbE	N/A	BMS T7032-IX7	32 QSFP28 ports support for 10/25/40/50/100GbE

PRM Revision Compatibility

This firmware version complies with the following Programmer's Reference Manual:

- Adapters Programmer's Reference Manual (PRM), Rev 0.53 or later, which has Command Interface Revision 0x5. The command interface revision can be retrieved by means of the QUERY_FW command and is indicated by the field cmd_interface_rev.

Supported Non-Volatile Configurations

Configuration	mlxconfig Parameter Name	Class
NV_MEMIC_CONF	MEMIC_BAR_SIZE	GLOBAL (0)
	MEMIC_SIZE_LIMIT	
NV_HOST_CHAINING_CONF	HOST_CHAINING_MODE	
	HOST_CHAINING_DESCRIPTORS	
	HOST_CHAINING_TOTAL_BUFFER_SIZE	
NV_FLEX_PARS_CONF	FLEX_PARSER_PROFILE_ENABLE	
	FLEX_IPV4_OVER_VXLAN_PORT	
NV_ROCE_1_5_CONF	ROCE_NEXT_PROTOCOL	
NV_INTERNAL_RESOURCE_CONF	ESWITCH_HAIRPIN_DESCRIPTORS	
	ESWITCH_HAIRPIN_TOT_BUFFER_SIZE	
NV_GLOBAL_PCI_CONF	NON_PREFETCHABLE_PF_BAR	
	NUM_OF_VFS	
	SRIOV_EN	
	PF_LOG_BAR_SIZE	
	VF_LOG_BAR_SIZE	
	NUM_PF_MSIX	
	NUM_VF_MSIX	
NV_TPT_CONF	INT_LOG_MAX_PAYLOAD_SIZE	
NV_POWER_CONF	SW_RECOVERY_ON_ERRORS	
	RESET_WITH_HOST_ON_ERRORS	
	ADVANCED_POWER_SETTINGS	

Configuration	mlxconfig Parameter Name	Class
NV_GLOBAL_MASK	ece_disable_mask	
NV_SW_OFFLOAD_CONFIG	CQE_COMPRESSION	
	IP_OVER_VXLAN_EN	
	PCI_ATOMIC_MODE	
	LRO_LOG_TIMEOUT0	
	LRO_LOG_TIMEOUT1	
	LRO_LOG_TIMEOUT2	
	LRO_LOG_TIMEOUT3	
	log_max_outstandng_wqe	
	NV_config.sr_enable (ConnectX-6 Dx and above)	
NV_IB_DC_CONF	LOG_DCR_HASH_TABLE_SIZE	
	DCR_LIFO_SIZE	
NV_VPI_LINK_TYPE	LINK_TYPE	PHYSICAL_PO (2)
NV_ROCE_CC	ROCE_CC_PRIO_MASK	
	ROCE_CC_ALGORITHM	
NV_ROCE_CC_ECN	CLAMP_TGT_RATE_AFTER_TIME_INC	
	CLAMP_TGT_RATE	
	RPG_TIME_RESET	
	RPG_BYTE_RESET	
	RPG_THRESHOLD	
	RPG_MAX_RATE	
	RPG_AI_RATE	
	RPG_HAI_RATE	
	RPG_GD	
	RPG_MIN_DEC_FAC	
	RPG_MIN_RATE	

Configuration	mlxconfig Parameter Name	Class
	RATE_TO_SET_ON_FIRST_CNP	
	DCE_TCP_G	
	DCE_TCP_RTT	
	RATE_REDUCE_MONITOR_PERIOD	
	INITIAL_ALPHA_VALUE	
	MIN_TIME_BETWEEN_CNPS	
	CNP_802P_PRIO	
	CNP_DSCP	
NV_LLDP_NB_CONF	LLDP_NB_DCBX	
	LLDP_NB_RX_MODE	
	LLDP_NB_TX_MODE	
NV_LLDP_NB_DCBX	DCBX_IEEE	
	DCBX_CEE	
	DCBX_WILLING	
NV_KEEP_LINK_UP	KEEP_ETH_LINK_UP	
	KEEP_IB_LINK_UP	
	KEEP_LINK_UP_ON_BOOT	
	KEEP_LINK_UP_ON_STANDBY	
NV_QOS_CONF	NUM_OF_VL	
	NUM_OF_TC	
	NUM_OF_PFC	
NV_MPFS_CONF	DUP_MAC_ACTION	
	SRIOV_IB_ROUTING_MODE	
	IB_ROUTING_MODE	
NV_HCA_CONF	PCI_WR_ORDERING	HOST-FUNCTION (3)
	MULTI_PORT_VHCA_EN	
NV_EXTERNAL_PORT_CTRL	PORT_OWNER	

Configuration	mlxconfig Parameter Name	Class
	ALLOW_RD_COUNTERS	
	RENEG_ON_CHANGE	
	TRACER_ENABLE	
NV_ROM_BOOT_CONF2	IP_VER	
	BOOT_UNDI_NETWORK_WAIT	
NV_ROM_UEFI_CONF	UEFI_HII_EN	
NV_ROM_UEFI_DEBUG_LEVEL	BOOT_DBG_LOG	
	UEFI_LOGS	
NV_ROM_BOOT_CONF1	BOOT_VLAN	
	LEGACY_BOOT_PROTOCOL	
	BOOT_RETRY_CNT	
	BOOT_LACP_DIS	
	BOOT_VLAN_EN	
NV_ROM_IB_BOOT_CONF	BOOT_PKEY	
NV_PCI_CONF	ADVANCED_PCI_SETTINGS	HOST (7)
SAFE_MODE_CONF	SAFE_MODE_THRESHOLD	
	SAFE_MODE_ENABLE	

Release Notes History

Changes and New Feature History

Note

This section includes history of 3 major releases back. For older releases history, please refer to the relevant firmware versions.

Feature/Change	Description
22.46.1006	
RSS with Crypto Offload	Added support for RSS with crypto offload enabling the NIC to parallelize packet processing across CPU cores while performing encryption/decryption in hardware. Additionally, introduced a new l4_type_ext parameter with values: 0 (None), 1 (TCP), 2 (UDP), 3 (ICMP).
Incoming NC-SI Messages Validation for the payload_len Field	Added an extra validation for the payload_len field in incoming NC-SI messages. Previously, invalid packets might have been accepted; now, such packets are silently dropped.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
22.45.1020	
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
22.44.1036	
PTP	Unified PTP is now supported across different VFs on the same PF.

Feature/Change	Description
Block SMP Traffic	Added a new NV config (SM_DISABLE, default 0) which, when enabled, blocks SMP traffic that does not originate from the SM.
Dynamic Long Cables	Added the ability to set cable length as a parameter in the PFCC access register. The cable length is used in the calculation of RX lossless buffer parameters, including size, Xoff, and Xon thresholds.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
22.43.1014	
RDMA Telemetry	Added the option to indicate an error CQE event on every selected function per eSwitch manager. This indication is defined as a new WQE including the relevant information about the error (such as: syndrome, function_id, timestamp, QPs num etc.). The feature is configured using a new general object: RDMA-Telemetry object, and depends on the following new caps: `HCA_CAP.rdma_telemetry_notification_types` and `HCA_CAP.rdma_telemetry`.
UID Permissions	Extended kernel lockdown permission set. The following sub-operations can now be called by tools (permission TOOLS_RESORCES) using new HCA capability bitmask field: tool_partial_cap. The 5 sub-operations are: • QUERY_HCA_CAP with other function • QUERY_VUID with direct data • QUERY_ROCE_ADDRESS with other vport • SET_HCA_CAP with other function • POSTPONE_CONNECTED_QP_TIMEOUT with other vport The new added caps are: • tool_partial_cap.postpone_conn_qp_timeout_other_vport, • tool_partial_cap.set_hca_cap_other_func • tool_partial_cap.query_roce_addr_other_vport • tool_partial_cap.query_vuid_direct_data • tool_partial_cap.query_hca_cap_other_func

Feature/Change	Description
Jump from NIC_TX to FDB_TX	Added `'table_type_valid'` and `'table_type'` fields to the steering action (STC) "Jump To Flow" table parameters to enable the user to jump from NIC_TX to FDB_TX and bypass the ACL table.
Jump to TIR or queue from FDB on Tx	Enabled hop reduction by bypassing NIC domain in various use cases. Such action r educes the number of hops (improves PPS) to deal with mass number of flows and devices. To enable this new capability, a new STC action type "JUMP_TO_FDB_RX" was added to allow jumping into the RX side of a table.
Cross E-Switch Scheduling	Added support for QoS scheduling across multiple E-Switches grouped in a LAG. VPort members of a Physical Function can be added to a rate group from another Physical Function and rate limits of the group will apply to those VPort members as well.
Flex Parser: ARC-IN and ARC-OUT	Increased the maximum number of supported "ARC-IN" from 1 to 8 and "ARC-OUT" from 3 to 8 for the dynamic flex parser.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
22.42.1000	
Memory Slow Release	Added a new command interface "Memory slow release" to enable/disable holding memory pages for a defined period of time. Once the timer expires, the firmware will return the pages to the driver.
Kernel Lockdown	Added support for MVTS register via a miscellaneous driver using the access_register PRM command.
Steering SF Traffic to a Specific PF MSI-X	MSI-X on SF can be received now through the PF's MSI-X vector.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
22.41.1000	
Unify Rx/Tx Table Domains in FDB	The new unified_fdb subdomain simplifies the FDB model by eliminating the need to duplicate rules for RX and TX tables. This domain is directionless, meaning no RX/TX specific actions are allowed. Firmware now handlea packet

Feature/Change	Description
	transitions IN and OUT of the unified domain, allowing for a more streamlined packet flow management. Software can now transition between unified_fdb and FDB_RX/FDB_TX domains as long as the packet maintains the same direction, without the risk of dropping the packet when crossing between RX and TX.
TRNG FIPS Compliance	Implemented Deterministic Random Bit Generator (DRBG) algorithm on top of firmware TRNG (the source for raw data input) in accordance with NIST SP800-90A.
vDPA Live Migration	Added support for vDPA virtual queue state change from suspend to ready, and discrete mkey for descriptor. vDPA Live Migration uses these two new capabilities to reduce downtime since vq can go back to ready state for traffic and descriptor-only-mkey can help reduce mkey mapping time.
64M Active Connections	Added the ability to generate up to 2^30 STE objects through the general object creation command.
NVConfig	Added a new NVConfig option to copy AR bit from the BTH header to the DHCP header.
Steering	Added the option provide field's offset and length in Steering add_action option.
Steering Match	Added support for steering match on packet l4_type through FTG/FTE.
Flex Parser Merge Mechanism	Extended Flex Parser merge mechanism to support hardware capabilities.
Flex Parser	Enabled the option to disable the native parser when the parse graph node is configured with the same conditions.
Flex Parser	Added support for father/son headers parsing.
LRO	Added support for tunnel_offload in LRO.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
22.40.1000	

Feature/Change	Description
Socket Direct Single netdev Mapped to Two PCIe Devices	Enabled Single Netdev mapping to two PCIe devices (Socket Direct). Now multiple devices (PFs) of the same port can be combined under a single netdev instance. Traffic is passed through different devices belonging to different NUMA sockets, thus saving cross-NUMA traffic and allowing apps running on the same netdev from different NUMAs to still feel a sense of proximity to the device and achieve improved performance. The netdev is destroyed once any of the PFs is removed. A proper configuration would utilize the correct close NUMA when working on a certain app/CPU. Currently, this capability is limited to PFs only, and up to two devices (sockets). To enable the feature, one must configure the same Socket Direct group (non zero) for both PFs through mlxconfig SD_GROUP.
ACL	Added support for egress ACL to the uplink by adding a new bit to the Set Flow Table Entry: allow_fdb_uplink_hairpin.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Bug Fixes History

> **Note**
>
> This section includes history of bug fixes of 3 major releases back. For older releases history, please refer to the relevant firmware versions Release Notes .

Internal Ref.	Issue
4366117	**Description:** Configuring a small MTU leads to fragmentation of packets critical for the PXE boot process. As a result, the PXE boot filters mistakenly discard these packets, causing the PXE boot to fail.
	Keywords: PXE boot filters

Internal Ref.	Issue
	Discovered in Version: 22.45.1020
	Fixed in Release: 22.46.1006

Internal Ref.	Issue
4368450	**Description:** Fixed an issue where `PCC_CNP_COUNT` could not be reset using the `pcc_counter.sh` script in the DOCA tools.
	Keywords: PCC
	Discovered in Version: 22.44.1036
	Fixed in Release: 22.45.1020
4274327	**Description:** Fixed an issue in the VQoS algorithm related to learning when an element is active and when it begins sending traffic.
	Keywords: VQoS algorithm
	Discovered in Version: 22.44.1036
	Fixed in Release: 22.45.1020
4274669	**Description:** Fixed a race condition that could prevent the application from transmitting when VQoS is enabled.
	Keywords: VQoS
	Discovered in Version: 22.44.1036
	Fixed in Release: 22.45.1020
4319008	**Description:** Fixed an issue that caused bandwidth to drop when unbinding multiple VFs with VQoS enabled.
	Keywords: VQoS
	Discovered in Version: 22.44.1036
	Fixed in Release: 22.45.1020
4199274	**Description:** Fixed an issue where RTT packets with any destination MAC address were incorrectly treated as having a valid destination MAC. The new firmware now discards RTT packets if their destination MAC does not match the port's MAC.
	Keywords: RTT, destination MAC

Internal Ref.	Issue
	Discovered in Version: 22.44.1036
	Fixed in Release: 22.45.1020

Internal Ref.	Issue
4154495	**Description:** Fixed rare issue that caused traffic to halt and prevented recovery when the emulation doorbell malfunctioned.
	Keywords: Doorbell
	Discovered in Version: 22.43.2026
	Fixed in Release: 22.44.1036

Internal Ref.	Issue
3961942	**Description:** Fixed an issue that resulted in setup crash when create_sq used invalid mbox. Now the invalid mbox is replaced with a valid DB.
	Keywords: mbox
	Discovered in Version: 22.42.1000
	Fixed in Release: 22.43.1014
4040226	**Description:** Added a recovery step in case of CQ doorbell getting lost during VF migration.
	Keywords: VF migration
	Discovered in Version: 22.42.1000
	Fixed in Release: 22.43.1014
4037364	**Description:** Fixed an upgrade issue that required firmware v22.36.1010 as an intermediate version when upgrading the firmware from v22.33.0428 or below to versions above 22.36.1010.
	Keywords: Firmware upgrade
	Discovered in Version: 22.42.1000
	Fixed in Release: 22.43.1014
4014351	**Description:** Fixed the query for FACTORY default NV configuration values. The firmware always returned the "next" value to be applied.

Internal Ref.	Issue
	Keywords: Access register MNVDA, QUERY / SET configurations
	Discovered in Version: 22.42.1000
	Fixed in Release: 22.43.1014

Legal Notices and 3rd Party Licenses

The following are the drivers' software, tools and HCA firmware legal notices and 3rd party licenses.

Product	Version	Legal Notices and 3rd Party Licenses
Firmware	xx.46.1006	• HCA Firmware EULA • 3rd Party Unify Notice • License
DOCA-Host	3.1.0	• License • 3rd Party Notice
MFT FreeBSD	4.33.0-169	• 3rd Party Notice • License
MFT Linux		• 3rd Party Notice • License
MFT VMware		• 3rd Party Notice • License
MFT Windows		• 3rd Party Notice • License

Customer should obtain the latest relevant information before placing orders and should verify that such information is current and complete.

NVIDIA products are sold subject to the NVIDIA standard terms and conditions of sale supplied at the time of order acknowledgement, unless otherwise agreed in an individual sales agreement signed by authorized representatives of NVIDIA and customer ("Terms of Sale"). NVIDIA hereby expressly objects to applying any customer general terms and conditions with regards to the purchase of the NVIDIA product referenced in this document. No contractual obligations are formed either directly or indirectly by this document.

NVIDIA products are not designed, authorized, or warranted to be suitable for use in medical, military, aircraft, space, or life support equipment, nor in applications where failure or malfunction of the NVIDIA product can reasonably be expected to result in personal injury, death, or property or environmental damage. NVIDIA accepts no liability for inclusion and/or use of NVIDIA products in such equipment or applications and therefore such inclusion and/or use is at customer's own risk.

NVIDIA makes no representation or warranty that products based on this document will be suitable for any specified use. Testing of all parameters of each product is not necessarily performed by NVIDIA. It is customer's sole responsibility to evaluate and determine the applicability of any information contained in this document, ensure the product is suitable and fit for the application planned by customer, and perform the necessary testing for the application in order to avoid a default of the application or the product. Weaknesses in customer's product designs may affect the quality and reliability of the NVIDIA product and may result in additional or different conditions and/or requirements beyond those contained in this document. NVIDIA accepts no liability related to any default, damage, costs, or problem which may be based on or attributable to: (i) the use of the NVIDIA product in any manner that is contrary to this document or (ii) customer product designs.

No license, either expressed or implied, is granted under any NVIDIA patent right, copyright, or other NVIDIA intellectual property right under this document. Information published by NVIDIA regarding third-party products or services does not constitute a license from NVIDIA to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property rights of the third party, or a license from NVIDIA under the patents or other intellectual property rights of NVIDIA.

Reproduction of information in this document is permissible only if approved in advance by NVIDIA in writing, reproduced without alteration and in full compliance with all applicable export laws and regulations, and accompanied by all associated conditions, limitations, and notices.

THIS DOCUMENT AND ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL NVIDIA BE LIABLE FOR ANY DAMAGES, INCLUDING WITHOUT LIMITATION ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF ANY USE OF THIS DOCUMENT, EVEN IF NVIDIA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Notwithstanding any damages that customer might incur for any reason whatsoever, NVIDIA's aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the Terms of Sale for the product.

Trademarks

NVIDIA and the NVIDIA logo are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated.