NVIDIA ConnectX-6 Lx Adapter Cards Firmware Release Notes v26.46.3048

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Release Notes Update History

Version	Date	Description
26.46.3048	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 Lx adapters firmware. This firmware supports the following protocols:

- Ethernet - 1GbE, 10GbE, 25GbE, 50GbE
- 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.

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

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 Lx Firmware	26.46.3048 / 26.46.1006 / 26.45.1020
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
26.46.3048	
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: 26.45.1020
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: 26.42.1000
3464393	**Description:** PhyLess Reset is currently not supported.
	Workaround: N/A
	Keywords: PhyLess Reset
	Discovered in Version: 26.39.1002
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: 26.39.1002
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: 26.37.1014
3444395	**Description:** Assert 0x8ced would happen when using MEMIC and VDPA features together.
	Workaround: N/A
	Keywords: vDPA, MEMIC, assert
	Discovered in Version: 26.37.1014
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: 26.37.1014

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: 26.35.2000
3200779	**Description:** Changing dynamic PCIe link width is not supported.
	Workaround: N/A
	Keywords: PCIe
	Discovered in Version: 26.34.1002
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: 26.34.1002
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: 26.34.1002
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: 26.32.1010
2864238	**Description:** VPD cannot be accessed after firmware upgrade or reset when the following sequence is performed: 1. Upgrade to a new firmware and perform a cold reboot 2. Downgrade to an old firmware 3. Run fwreset

Internal Ref.	Issue
	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: 26.32.1010
2780349	**Description:** As a result of having a single LED per port, features such as the Blinking Detection can work only when in low speed mode.
	Workaround: N/A
	Keywords: LED, port, Blinking Detection
	Discovered in Version: 26.32.1010
2834990	**Description:** On rare occasions, when toggling both sides of the link, the link may not rise.
	Workaround: Toggle the port to free it.
	Keywords: Port toggling, link
	Discovered in Version: 26.31.1014
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: 26.31.1014
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.

Internal Ref.	Issue
	Keywords: Sub 1sec firmware update
	Discovered in Version: 26.29.1016

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: 26.29.1016
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: 26.29.1016
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: 26.28.1002

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
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]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
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]
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]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
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]

100GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
N/A	100GE	980-9I620-00C001	MCP1600-C001E30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 1m, Black, 30AWG, CA-N	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	980-9I62Z-	MCP1600-C003E26N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28,	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00C003		3m, Black, 26AWG, CA-N	
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	980-9I627-00C00A	MCP1600-C00AE30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 0.5m, Black, 30AWG, CA-N	EOL [HVM]
N/A	100GE	980-9I62C-00C01A	MCP1600-C01AE30N	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 1.5m, Black, 30AWG, CA-N	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
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	980-9I626-00C02A	MCP1600-E02A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2.5m 26AWG	EOL [HVM]
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-	MCP7F00-A001R30N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE,	LTB [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00C001		QSFP28 to 4xSFP28, 1m, Colored, 30AWG, CA-N	
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]
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-	MCP7F00-A02AR30L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE,	LTB [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00C02A		QSFP28 to 4xSFP28, 2.5m, Colored, 30AWG, CA-L	
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-00C002	MCP7H00-G002R30N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 2m, Colored, 30AWG, CA-N	LTB [HVM]
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-	MCP7H00-G01AR30N	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
		00C01A		2x50Gb/s, QSFP28 to 2xQSFP28, 1.5m, Colored, 30AWG, CA-N	
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
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-	MFA1A00-C100	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH,	LTB [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
		00C100		100m	
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]
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	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy P/N	Description	LifeCycle Phase
				4x25GbE, QSFP28 to 4xSFP28, 20m	
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	980-9I625-00C005	MCP1600-C005E26L	NVIDIA Passive Copper cable, ETH 100GbE, 100Gb/s, QSFP28, 5m, Black, 26AWG, CA-L	HVM

Note

The spilt cables cables above can be used as split cables when ConnectX-6 Lx adapter card in on the split side.

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]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
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, 3m, Black, 26AWG, CA-N	EOL [HVM]
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,	LTB [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
				2.5m, Black, 30AWG, CA-L	
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]
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]
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]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
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]
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,	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
				10Gb/s, SFP+, 3m, Black Pulltab, Connector Label	
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]
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]

IB Data Rate	Eth Data Rate	NVIDIA P/N	Legacy OPN	Description	LifeCycle Phase
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
50GE	FTLF8556D1BCW	FIBRE OPTIC TRANSMITTERS, RECEIVERS, TRANSCEIVERS 850NM OXIDE VCSEL, 50GE, 53.125/25.78/10.3 GB/S TRANSCEIVER
50GE	FTLF8556E1BCL	50G SFP56 SR UNIVERSAL TRANSCEIVER, 850NM, 100M, LC-DUPLEX, MULTIMODE MMF
50GE	NDYNYH-0001	AMPHENOL QSFP DD - 8X SFP CABLE ASSEMBLY, PASSIVE, 27AWG, 1M, 56G / LANE, JACKET
50GE	NDYNYH-0002	AMPHENOL QSFP DD - 8X SFP CABLE ASSEMBLY, PASSIVE, 27AWG, 2M, 56G / LANE, JACKET
50GE	NDYNYH-0003	AMPHENOL QSFP DD - 8X SFP CABLE ASSEMBLY, PASSIVE, 27AWG, 3M, 56G / LANE, JACKET
40GE	L45593-D178-B50	CISCO 40G QSFP TO 4X10G SFP BREAKOUT DAC, 5M

Data Rate	Cable OPN	Description
25GE	FTLF8536P4BCL	TRANSCIEVER 25GBE SFP SR
25GE	LTF8507-PC07	HISENSE ACTIVE FIBER CABLE, 25GBE
25GE	FTLF1436P3BCL	TRANSCIEVER 25GBE SFP LR
25GE	SFP-H25G-CU3M	CISCO 25GBASE-CR1 COPPER CABLE 3-METER NDCCGJ-C403
25GE	74752-9520	CISCO MOLEX SFP H10GB CX1 PASSIVE CU3M 74752 9520
25GE	NDCCGJ-C403	CISCO 3M COPPER CABLE
25GE	GSS-MDO250-007CA	25GE SFP28 ENHANCED AOC
25GE	MMA2L20-AR-PLV	25G LR SFP28 TRANSCEIVER (SMF, 1310NM, 10KM, LC, DOM)
25GE	MMA2P00-AS-PLV	25GBASE-SR SFP28 TRANSCEIVER (MMF, 850NM, 100M, LC, DOM)
25GE	ATRS-2005	HGTECH 25G SFP28 AOC 5M
25GE	ATRS-2007	HGTECH 25G SFP28 AOC 7M
25GE	FCBG125SD1C05M	FINISAR SFP28 AOCS 5M
25GE	FCBG125SD1C10M	FINISAR SFP28 AOCS 7M
25GE	LTF8507-PC05	HISENSE 25G SFP28 AOCS 5M
25GE	RTXM330-005	ACCELINK 25G SFP28 AOCS 5M
25GE	RTXM330-007	ACCELINK 25G SFP28 AOCS 7M
25GE	AFBR-735ASMZ-HT1	BROADCOM DUAL RATE 10G/25G SR SFP28 MODULE
10GE	1-2053783-2	PASSIVE COPPER CABLE ETH 10GBE SFP 3M
10GE	SFP-H10GB-CU5M	PASSIVE COPPER CABLE ETH 10GBE SFP 3M
10GE	QSFP-H40G-CU5M	PASSIVE COPPER CABLE ETH 10GBE SFP 5M
10GE	CAB-SFP-SFP-1M	PASSIVE COPPER CABLE ETH 10GBE SFP 1M
10GE	CAB-SFP-SFP-5M	PASSIVE COPPER CABLE ETH 10GBE SFP 5M
10GE	CAB-SFP-SFP-3M	PASSIVE COPPER CABLE ETH 10GBE SFP 3M

Data Rate	Cable OPN	Description
10GE	MTKP1045M1CNN	TRANSCIEVER SFP TO BASET 10G
10GE	SFP-10G-SR	CISCO 10GBASE SFP
10GE	SFP-H10GB-SU5M	MOLEX SFP-H10GB-SU5M
10GE	SFP-H10GB-CU5M	CISCO-MOLEX SFP-H10GB-CU5M
10GE	FTLX8574D3BCL	FTLX8571D3BCL-ME 10GBASE-LR
10GE	FTLX1471D3BCL-ME	FTLX1471D3BCL-ME 10GBASE-LR
10GE	QSFP-4SFP10G-CU5M	CISCO QSFP-4SFP10G-CU5M
10GE	FTLX8571D3BCL-ME	DELL FINISAR 10GB SFP 850NM OPTIC TRANSCEIVER
10GE	FTLX8571D3BCL-ME	10GB SFP 850NM OPTIC TRANSCEIVER
10GE	SFP-10GB-SR	CISCO-SUMITOMO 100GBE AOM
10GE	SFP-10G-T-A-ENC	10GBASE-T COPPER SFP+ FOR CAT6A CAT7 RJ 45 30M MAX
10GE	FTLX1471D3BCL-EM	10GB/S 10KM SINGLE MODE DATACOM SFP+ TRANSCEIVER
10GE	FTLX1672D3BCL	10GB/S, 40KM SINGLE MODE, MULTI-RATE SFP+ TRANSCEIVER
10GE	AFBR-703SDZ-MX1	AVAGO 10GB ETHERNET 850NM 10GBASE-SR
10GE	D4SFP10G1	10GBE SFPS
10GE	FTLX8574D3BCV	FIBRE OPTIC TRANSMITTERS, RECEIVERS, TRANSCEIVERS 10G 850-NM VCSEL 1G/10G DUAL-RATE
10GE	MFM1T02A-SR	10GBASE-LR SFP+
10GE	R0R41A	10GB BASE-T P15891-001 SFP+ RJ45 30M XCVR TRANSCEIVER
10GE	R0R41B	10GBASE-T SFP+ RJ45 300M
10GE	SP7051-HP	SFP+ 10GBASE-T
10GE	DM7053	COPPER 10G BASE-T

Data Rate	Cable OPN	Description
10GE	GLC-T-10G-AO	CISCO GLC-T-10G COMPATIBLE TAA COMPLIANT 100,1000,10000BASE-TX SFP+ TRANSCEIVER (COPPER, 30M, RJ-45)
10GE	EX-SFP-10GE-LR	1FP+ 10GBASE-LR 10 GIGABIT ETHERNET OPTICS, 1310NM FOR 10KM TRANSMISSION ON SMF, EX-SFP-10GE-LR-LU
10GE	EX-SFP-10GE-SR	10GBASE-SR SFP+ TRANSCEIVER, 850NM, 300M, EX-SFP-10GE-SR-LU
10GE	74752-9096	CISCO-MOLEX 10G SFP+ ACTIVE DAC, 5M
10GE	74752-9521	CISCO 10G SFP+ MODULE
10GE	SFP-H10GB-CU1M	CISCO 10G SFP+ DAC
10GE--40GE	FCBN510QE2C03	CABLE 4SFP+-QSFP+ M-M 3M
1GE	FTLF8519P3BTL-N1	1000BASE-SX AND 2G FIBRE CHANNEL (2GFC) 500M INDUSTRIAL TEMPERATURE SFP OPTICAL TRANSCEIVER
1GE	FTLF1428P2BNV	8 GIGABIT ROHS COMPLIANT LONG-WAVELENGTH SFP+ TRANSCEIVER
1GE	FTLF8528P2BCV	8.5 GB/S SHORT-WAVELENGTH SFP+ TRANSCEIVER
1GE	FCLF8522P2BTL	CBL ASSY 4X25G ETH QSFP 1M
1GE	FCLF8521P2BTL	1000BASE-T ROHS COMPLIANT COPPER SFP TRANSCEIVER
1GE	AFBR-5710PZ	AVAGO AFBR-5710PZ COMPATIBLE 1000BASE-SX SFP 850NM
1GE	RTXM191-450-H3C	1.25G-1310NM-40KM OPTICAL TRANSCEIVER SFP
1GE	FTLF1318P3BTL-IB	TRANSCEIVER MODULE ETHERNET, FIBRE CHANNEL 1.25GBPS 1310NM 3.3V LC DUPLEX PLUGGABLE, SFP
1GE	FTLF8519P3BNL-IB	TRANSCEIVER MODULE ETHERNET, FIBRE CHANNEL 1.25GBPS 1310NM 3.3V LC DUPLEX PLUGGABLE, SFP
1GE	FTLF1318P3BTL	TRANSCEIVER MODULE ETHERNET, FIBRE CHANNEL 1.25GBPS 1310NM 3.3V LC DUPLEX PLUGGABLE, SFP
1GE	FCLF8521P2BTL-HP	1GBT SFP+ RJ-45 TRANSCEIVER MODULE

Tested Switches

100GbE Switches

Speed	Switch Silicon	OPN # / Name	Description	Vendor
100GbE	Spectrum-3	MSN4600-XXXX	64-port Non-blocking 100GbE Open Ethernet Switch System	NVIDIA
100GbE	Spectrum-2	MSN3700C-XXXX	32-port Non-blocking 100GbE Open Ethernet Switch System	NVIDIA
100GbE	Spectrum-2	MSN3420-XXXX	48 SFP + 12 QSFP ports Non-blocking 100GbE Open Ethernet Switch System	NVIDIA
100GbE	Spectrum	MSN2410-XXXX	48-port 25GbE + 8-port 100GbE Open Ethernet Switch System	NVIDIA
100GbE	Spectrum	MSN2700-XXXX	32-port Non-blocking 100GbE Open Ethernet Switch System	NVIDIA
100GbE	N/A	QFX5200-32C-32	32-port 100GbE Ethernet Switch System	Juniper
100GbE	N/A	S6820-56HF	48 SFP+ + 8 QSFP Ports 100GbE Switch Ethernet	H3C
100GbE	N/A	CE6860-1-48S8CQ-EI	Huawei 100GbE Ethernet switch	Huawei
100GbE	N/A	7060CX-32S	32-port 100GbE Ethernet Switch System	Arista
100GbE	N/A	3232C	32-port 100GbE Ethernet Switch System	Cisco
100GbE	N/A	N9K-C9236C	36-port 100GbE Ethernet Switch System	Cisco
100GbE	N/A	93180YC-EX	48-port 25GbE + 6-port 100GbE Ethernet Switch System	Cisco
100GbE	N/A	T7032-IX7	32-port 100GbE Ethernet Switch System	Quanta

10/40GbE Switches

Speed	Switch Silicon	OPN # / Name	Description	Vendor
10GbE	N/A	5548UP	32x 10GbE SFP+ Switch System	Cisco
10/40GbE	N/A	7050Q	16 x 40GbE QSFP+ Switch System	Arista
10/40GbE	N/A	7050S	48x 10GbE SFP+ and 4 x 40GbE QSFP+ Switch System	Arista
10/40GbE	N/A	G8264	48x 10GbE SFP+ and 4 x 40GbE QSFP+ Switch System	Lenovo
10/40GbE	N/A	QFX3500	48x 10GbE SFP+ and 4 x 40GbE QSFP+ Switch System	Juniper
10/40GbE	N/A	S4810P-AC	48x 10GbE SFP+ and 4 x 40GbE QSFP+ Switch System	Force10
10/40GbE	N/A	3064	48x 10GbE SFP+ and 4 x 40GbE QSFP+ Switch System	Cisco
10/40GbE	N/A	8164F	48x 10GbE SFP+ and 2 x 40GbE QSFP+ Switch System	Dell
10/40GbE	N/A	S5000	48x 10GbE SFP+ and 4 x 40GbE QSFP+ Switch System	Dell
10/40GbE	N/A	3132Q	4x 10GbE SFP+ and 32 x 40GbE QSFP+ Switch System	Cisco
40GbE	N/A	7050QX	32x 40GbE QSFP+ Switch System	Arista
40GbE	N/A	G8316	16x 40GbE QSFP+ Switch System	Lenovo
40GbE	N/A	S6000	32x 40GbE QSFP+ Switch System	Dell

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
26.46.1006	
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
26.45.1020	
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
26.44.1036	
Precision Time Protocol (PTP)	Enhanced traffic management of PTP packets to reduce their impact on regular network traffic.

Feature/Change	Description
NV config	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
26.43.1014	
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.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
26.42.1000	
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.
Bug Fixes	See *Bug Fixes in this Firmware Version* section.

Feature/Change	Description
26.41.1000	
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.
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

Feature/Change	Description
	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
26.40.1000	
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.

Internal Ref.	Issue
	Keywords: PXE boot filters
	Discovered in Version: 26.45.1020
	Fixed in Release: 26.46.1006

Internal Ref.	Issue
4362972	**Description:** Fixed an issue where configuring PHY_RATE_MASK for 10G in NV settings incorrectly disabled 10G capabilities.
	Keywords: PHY, 10G
	Discovered in Version: 26.44.1036
	Fixed in Release: 26.45.1020
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
	Discovered in Version: 26.44.1036
	Fixed in Release: 26.45.1020

Internal Ref.	Issue
4174552	**Description:** Enabled the get_pf_mac_address function for all available PFs.
	Keywords: PF
	Discovered in Version: 26.42.1000
	Fixed in Release: 26.44.1036
4055323	**Description:** Fixed a reference counter issue that resulted in the firmware assertion 0x889f with CQ reference counter underflow to solve a race condition.
	Keywords: FW assertion
	Discovered in Version: 26.42.1000
	Fixed in Release: 26.44.1036

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: 26.42.1000
	Fixed in Release: 26.43.1014
4040226	**Description:** Added a recovery step in case of CQ doorbell getting lost during VF migration.
	Keywords: VF migration
	Discovered in Version: 26.42.1000
	Fixed in Release: 26.43.1014
4014351	**Description:** Fixed the query for FACTORY default NV configuration values. The firmware always returned the "next" value to be applied.
	Keywords: Access register MNVDA, QUERY / SET configurations
	Discovered in Version: 26.42.1000
	Fixed in Release: 26.43.1014

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