



**NVIDIA ConnectX-6 Dx Adapter Cards
Firmware Release Notes
v22.49.1014 (June 2026 GA Release)**

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This version is not intended for GB/B customers. GB/B customers should use the designated release package to ensure full compatibility, qualification, and support alignment.

1 Release Notes Update History

| Version | Date | Description |
|------------|-----------|------------------------------------------------|
| 22.49.1014 | June 2026 | Initial release of this Release Notes version. |

2 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.

2.1 Firmware Download

Please visit the [firmware webpage](#).

2.2 Document Revision History

A list of the changes made to this document are provided in [Document Revision History](#).

3 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, 50GbE¹, 100GbE¹, 200GbE²
- 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.



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



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.

3.1 Supported Devices

This firmware supports the devices and protocols listed below:

Refer to the hardware [documentation](#) for the list of supported devices.

3.2 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 | 22.49.1014 / 22.48.1000 / 22.47.1088 |
| DOCA-HOST | 3.4.0 / 3.3.0 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes. |
| WinOF-2 | 26.4.50010 / 26.1.50000 / 25.10.51000 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes. |
| MFT | 4.36.0-147 / 4.35.0-159 / 4.34.1-10 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes. |
| FlexBoot | 3.9.101 |
| UEFI | 14.42.11 |

| | Supported Version |
|---------|-------------------|
| Cumulus | 5.15.0 onwards |

4 Changes and New Features



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 |
|-------------------|--------------------------------------------------------|
| 22.49.1014 | |
| Bug Fixes | See <i>Bug Fixes in this Firmware Version</i> section. |

4.1 Important Notes



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



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).

4.2 Customer Affecting Changes

4.2.1 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 |

4.2.2 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 |

4.2.3 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 |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| xx.47.1026 | <p>To align with updated Microsoft UEFI Secure Boot requirements and the upcoming end-of-life of the 2011 Certificate Authority (CA), NVIDIA is transitioning to the 2023 CA. To ensure successful loading of the Expansion ROM (ExpROM) during the UEFI Secure Boot process, system BIOS and operating system trust stores must be updated to include the 2023 CA.</p> <p>Note: When performing a firmware update of ConnectX and BlueField devices the new certificate is required for Secure Boot. To continue supporting Secure Boot, systems must be updated to recognize the "Microsoft Option ROM UEFI CA 2023."</p> |

4.2.4 Discontinued Features

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

N/A

4.3 Declared Unsupported Features

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

4.3.1 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

4.3.2 Unsupported Commands

- QUERY_MAD_DEMUX
- SET_MAD_DEMUX
- CREATE_RQ - MEMORY_RQ_RMP
- MODIFY_LAG_ASYNC_EVENT

5 Bug Fixes in this Firmware Version

| Internal Ref. | Issue |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4774394 / 4890471 / 4890472 / 4890473 | <p>Description: Fixed an issue where vDPA doorbell resources were not released, which could cause failures when running other functionality after a vDPA FLR. Doorbell resources are now properly unlocked.</p> <p>Keywords: vDPA</p> <p>Detected in version: 22.48.1000</p> <p>Fixed in Release: 22.49.1014</p> |
| 4796182 | <p>Description: Fixed an issue where the live migration target did not receive a port state change event on the resume VHCA command. The target now generates this event so software that depends on port state is notified of any changes.</p> <p>Keywords: Live migration</p> <p>Detected in version: 22.47.1026</p> <p>Fixed in Release: 22.49.1014</p> |
| 4924450 / 4942300 / 4942302 / 4942304 | <p>Description: Fixed an issue in PCC where RDMA traffic could stall at large scale for certain IP and UDP source-port combinations when a PCC user algorithm was active and no CC algorithm was configured in slot 0.</p> <p>Keywords: PCC, RDMA</p> <p>Detected in version: 22.47.1026</p> <p>Fixed in Release: 22.49.1014</p> |

For a list of old Bug Fixes, please see [Bug Fixes History](#).

6 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 |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • 127 VF per PF (254 functions) • 512 PF+VF+SF per PF (1024 functions) | <ul style="list-style-type: none"> • 127 VF (127 functions) • 512 PF+VF+SF per PF (512 functions) |

Known Issues

| Internal Ref. | Issue |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4721 472 | <p>Description: When VXLAN or other encapsulation is used, the additional header is inserted after the SxD unit, and this header is not included in the rate calculations. VQoS distributes tokens based on the SxD output. Therefore, when VQoS allocates 130 Gbps (the configured rate limit), SxD transmits 130 Gbps, but downstream units (SXW/SXCC/SXE) add the encapsulation header. As a result, the actual line rate observed on the wire (e.g., via mlnxperf) may exceed the configured rate limit.</p> <p>Workaround: N/A</p> <p>Keywords: VxLAN, VQoS</p> <p>Detected in version: 22.47.1088</p> |
| 4394 475 | <p>Description: The existing congestion control configuration applies globally, rather than on a per-priority basis.</p> <p>Workaround: Ensure that the configuration values for all priorities are aligned in either <code>mlxconfig ROCE_CC_PRIO_MASK_P\$port</code> or <code>sysfs ecn/roce_rp/enable/\$port</code>.</p> <p>Keywords: Congestion control, ROCE_CC_PRIO</p> <p>Detected in version: 22.45.1020</p> |
| 3464 393 | <p>Description: PhyLess Reset is currently not supported.</p> <p>Workaround: N/A</p> <p>Keywords: PhyLess Reset</p> <p>Discovered in Version: 22.39.1002</p> |

| Internal Ref | Issue |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3525865 | <p>Description: Unexpected system behavior might be observed if the driver is loaded while reset is in progress.</p> <p>Workaround: N/A</p> <p>Keywords: Sync 1 reset, firmware reset</p> <p>Discovered in Version: 22.39.1002</p> |
| 3547022 | <p>Description: When <code>tx_port_ts</code> 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.</p> <p>Workaround: N/A</p> <p>Keywords: PTP path delay</p> <p>Discovered in Version: 22.38.1002</p> |
| 3449960 | <p>Description: In some cases, performance degradation might be experienced when wrong usage of extra engines dedicated to DMA is removed.</p> <p>Workaround: N/A</p> <p>Keywords: Performance</p> <p>Discovered in Version: 22.37.1014</p> |
| 2878841 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: Signature retransmit flow</p> <p>Discovered in Version: 22.37.1014</p> |
| 3171699 | <p>Description: Occasionally, after a few toggles, link may not raise when changing the speed when in loopback mode.</p> <p>Workaround: N/A</p> <p>Keywords: Link speed, loopback</p> <p>Discovered in Version: 22.37.1014</p> |
| 2444892 | <p>Description: PMA loopback feature is supported only with NRZ speeds.</p> <p>Workaround: N/A</p> <p>Keywords: PMA loopback, NRZ</p> <p>Discovered in Version: 22.36.1010</p> |
| 3266807 | <p>Description: PMA loop-back is not supported on PAM4 speeds.</p> <p>Workaround: N/A</p> <p>Keywords: Counters, CRC</p> <p>Discovered in Version: 22.35.2302</p> |

| Internal Ref | Issue |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3267506 | <p>Description: CRC is included in the traffic byte counters as a port byte counter.</p> <p>Workaround: N/A</p> <p>Keywords: Counters, CRC</p> <p>Discovered in Version: 22.35.2302</p> |
| 3235397 | <p>Description: PCC force mode does not work if the link is raised after disabling DCQCN with PPCC.</p> <p>Workaround: N/A</p> <p>Keywords: PCC</p> <p>Discovered in Version: 22.35.1012</p> |
| 3200779 | <p>Description: Changing dynamic PCIe link width is not supported.</p> <p>Workaround: N/A</p> <p>Keywords: PCIe</p> <p>Discovered in Version: 22.34.1002</p> |
| 3033910 | <p>Description: BAR misses caused by a memory write/read actions are not reported in the AER and the device status.</p> <p>Workaround: N/A</p> <p>Keywords: BAR miss, AER</p> <p>Discovered in Version: 22.34.1002</p> |
| 3141072 | <p>Description: The "max_shaper_rate" configuration query via QEEC mlxreg returns a value translated to hardware granularity.</p> <p>Workaround: N/A</p> <p>Keywords: RX Rate-Limiter, Multi-host</p> <p>Discovered in Version: 22.34.1002</p> |
| 3106146 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: MPV live migration</p> <p>Discovered in Version: 22.34.1002</p> |
| 2870970 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: GTP encapsulation</p> <p>Discovered in Version: 22.34.1002</p> |
| 2937445 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: AN, port toggling, Ixia</p> |

| Internal Ref | Issue |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Discovered in Version: 22.33.1048 |
| 2850003 | <p>Description: Occasionally, when rising a logical link, the link recovery counter is increase by 1.</p> <p>Workaround: N/A</p> <p>Keywords: Link recovery counter</p> <p>Discovered in Version: 22.33.1048</p> |
| 2825403 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: NVIDIA Spectrum-3, Cables, Split</p> <p>Discovered in Version: 22.32.2004</p> |
| 2864238 | <p>Description: VPD cannot be accessed after firmware upgrade or reset when the following sequence is performed:</p> <ol style="list-style-type: none"> 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 <p>Workaround: Run the upgrade or reset sequence as follow:</p> <ol style="list-style-type: none"> 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. <u>Perform a cold reboot</u> <p>Keywords: VDP</p> <p>Discovered in Version: 22.32.1010</p> |
| 2863674 | <p>Description: Host management magic packet is not supported in Socket-Direct adapter cards' single PF per Numa mode.</p> <p>Workaround: N/A</p> <p>Keywords: Socket-Direct, single PF per Numa, host management, magic packet</p> <p>Discovered in Version: 22.32.1010</p> |
| 2836032 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: Encapsulation rules insertion rate, firmware upgrade, MLNX_OFED</p> <p>Discovered in Version: 22.32.1010</p> |

| Internal Ref | Issue |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2756 866 / 2740 651 | <p>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.</p> <p>Workaround: Perform link maintenance to fix it so additional errors will not be seen afterwards.</p> <p>Keywords: Link toggle, effective errors</p> <p>Discovered in Version: 22.31.2006</p> |
| - | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: Burning tools, firmware downgrading, flash type</p> <p>Discovered in Version: 22.31.2006</p> |
| 2667 681 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: Connection Tracking</p> <p>Discovered in Version: 22.31.1014</p> |
| 2607 158 | <p>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.</p> <p>Workaround: N/A</p> <p>Keywords: Extended MSIX, Asymmetrical MSIX configuration, PF_NUM_PF_MSIX_VALID, PF_NUM_PF_MSIX</p> <p>Discovered in Version: 22.31.1014</p> |
| 2577 966 | <p>Description: Fast linkup is not supported when connecting to an Ixia switch.</p> <p>Workaround: N/A</p> <p>Keywords: Fast linkup</p> <p>Discovered in Version: 22.30.1004</p> |
| 2446 583 | <p>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.</p> <p>Workaround: Clear counters once the link is up</p> <p>Keywords: Effective errors</p> <p>Discovered in Version: 22.29.2002</p> |

| Internal Ref | Issue |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2371060 | <p>Description: When Emulated PCIe Switch is enabled, and the OS does resource reallocation, the OS boot process might halt.</p> <p>Workaround: N/A</p> <p>Keywords: Emulated PCIe Switch</p> <p>Discovered in Version: 22.29.1016</p> |
| 2297201 | <p>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</p> <p>Workaround: Turn auto-converge on by adding "--auto-converge" . For example: <code>virsh migrate --verbose --live --persistent gen-l-vrt-295-005-CentOS-7.4 qemu+ssh://gen-l-vrt-295/system --unsafe --auto-converge</code></p> <p>Keywords: virtio, vDPA, live migration</p> <p>Discovered in Version: 22.29.1016</p> |
| 2384965 | <p>Description: Eye-opening can cause effective errors on the port.</p> <p>Workaround: N/A</p> <p>Keywords: Eye-opening</p> <p>Discovered in Version: 22.29.1016</p> |
| 2384849 / 2373640 | <p>Description: Phyless Reset functionality is not supported when updating firmware from v22.28.4000 (and below) to v22.29.1016 and higher.</p> <p>Workaround: N/A</p> <p>Keywords: Phyless Reset</p> <p>Discovered in Version: 22.29.1016</p> |
| 2201468 | <p>Description: Running multiple resets ("mlxfwreset --sync=1") simultaneously is not functioning properly,</p> <p>Workaround: Wait a few seconds until you run "mlxfwreset --sync=0".</p> <p>Keywords: mlxfwreset, reset-sync, reset, sync</p> <p>Discovered in Version: 22.28.1002</p> |
| 2089277 | <p>Description: The CRC is being removed despite using the keep_crc flag, and the byte count of the packet are counted without the CRC.</p> <p>Workaround: N/A</p> <p>Keywords: Decapsulated packets</p> <p>Discovered in Version: 22.27.6008</p> |
| 2149437 | <p>Description: When the SLTP configuration is wrongly set, the "Bad status" explanation will not be presented (only error indication) to the user.</p> <p>Workaround: N/A</p> <p>Keywords: SLTP configuration</p> |

| Internal Ref | Issue |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Discovered in Version: 22.27.6008 |
| 1895 917 | <p>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.</p> <p>Workaround:</p> <ul style="list-style-type: none"> • Re-apply the changes • Reset the functions from both ports together (driver restart / FLRs / reboot) • Power cycle or reset the firmware <p>Keywords: VoQ, Shared Buffer, Rx Buffer, PFCC, PBMC, PPTB, SBCM, SBPM, SBPR, Rx buffer modifications</p> <p>Discovered in Version: 22.27.2008</p> |
| 2120 378 | <p>Description: Phyless Reset is not supported when using PAM4 mode.</p> <p>Workaround: N/A</p> <p>Keywords: Phyless, PAM4 mode, 200GbE</p> <p>Discovered in Version: 22.27.2008</p> |
| 2071 210 | <p>Description: mlxconfig query for the BOOT_INTERRUPT_DIS TLV shows a wrong value in the "current value" field.</p> <p>Workaround: Use "next boot" indication to see the right value.</p> <p>Keywords: mlxconfig</p> <p>Discovered in Version: 22.27.1016</p> |
| 2063 038 | <p>Description: PRBS is not functional when using Wedge switch.</p> <p>Workaround: N/A</p> <p>Keywords: PRBS</p> <p>Discovered in Version: 22.27.1016</p> |
| 1796 936 | <p>Description: 200GbE Optical cables in Auto-Negotiation mode work only in 200GbE speed.</p> <p>Workaround: N/A</p> <p>Keywords: Cables</p> <p>Discovered in Version: 22.27.1016</p> |
| 2038 821 | <p>Description: When running MH TCP, few packets are dropped every second due to no Receive WQEs.</p> <p>Workaround: Use 4K RX queue size: <code>ethtool -G <intf> rx 4096</code></p> <p>Keywords: Performance, MH, WQE</p> <p>Discovered in Version: 22.27.1016</p> |
| - | <p>Description: After programing firmware in LF, power-cycle must be recovered.</p> <p>Workaround: N/A</p> <p>Keywords: LF</p> <p>Discovered in Version: 22.27.1016</p> |

| Internal Ref | Issue |
|--------------|----------------------------------------------------------------------------------|
| 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 |

7 PreBoot Drivers (FlexBoot/UEFI)

7.1 FlexBoot Changes and New Features

For further information, please refer to the [FlexBoot Release Notes](#).

7.2 UEFI Changes and Major New Features

For further information, please refer to the [UEFI Release Notes](#).

8 Validated and Supported Cables and Switches

8.1 Validated and Supported Cables and Modules

8.1.1 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 |

8.1.2 200GbE Cables

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy P/N | Description | LifeCycle Phase |
|--------------|---------------|------------------|-----------------|----------------------------------------------------------------------------------------|-----------------|
| HDR | 200GE | 980-91548-00H001 | MCP1650-H001E30 | Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 1m | HVM |
| HDR | 200GE | 980-91549-00H002 | MCP1650-H002E26 | Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 2m | HVM |
| HDR | 200GE | 980-9154A-00H00A | MCP1650-H00AE30 | Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 0.5m | HVM |
| HDR | 200GE | 980-9154B-00H01A | MCP1650-H01AE30 | Nvidia Passive Copper cable, up to 200Gbps, QSFP56 to QSFP56, 1.5 m | HVM |
| N/A | 200GE | 980-9154C-00V001 | MCP1650-V001E30 | NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1m, black pulltab, 30AWG | LTB [HVM] |
| N/A | 200GE | 980-9154D-00V002 | MCP1650-V002E26 | NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2m, black pulltab, 26AWG | LTB [HVM] |
| N/A | 200GE | 980-9154G-00V003 | MCP1650-V003E26 | NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 3m, black pulltab, 26AWG | EOL [HVM] |
| N/A | 200GE | 980-9154H-00V00A | MCP1650-V00AE30 | NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 0.5m, black pulltab, 30AWG | LTB [HVM] |
| N/A | 200GE | 980-9154I-00V01A | MCP1650-V01AE30 | NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1.5m, black pulltab, 30AWG | LTB [HVM] |
| N/A | 200GE | 980-9154L-00V02A | MCP1650-V02AE26 | NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2.5m, black pulltab, 26AWG | LTB [HVM] |
| HDR | 200GE | 980-9139E-00H001 | MCP7H50-H001R30 | Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 1m | HVM |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy P/N | Description | LifeCycle Phase |
|--------------|---------------|--------------------|-----------------|-----------------------------------------------------------------------------------------------------------|-----------------|
| HDR | 200GE | 980-9I99F-00H002 | MCP7H50-H002R26 | Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 2m | HVM |
| 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] |
| 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 4xSFP56, colored, 3m, 26AWG | EOL [P-Rel] |
| N/A | 200GE | 980-9I43O-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 | 980-9I43I-00V02A | MCP7H70-V02AR26 | NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 2.5m, 26AWG | EOL [P-Rel] |
| HDR | 200GE | 980-9I46K-00H001 | MCP7Y60-H001 | NVIDIA passive copper splitter cable, 400(2x200)Gbps to 2x200Gbps, OSFP to 2xQSFP56, 1m, fin to flat | MP |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy P/N | Description | LifeCycle Phase |
|--------------|---------------|------------------|-----------------|--------------------------------------------------------------------------------------------------------|-----------------|
| 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 |
| 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 | 980-9I44O-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] |
| N/A | 200GE | 980-9I44S-00V015 | MFS1S00-V015E | NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 15m | LTB [HVM] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy P/N | Description | LifeCycle Phase |
|--------------|---------------|------------------|---------------|----------------------------------------------------------------------------------------------------------------|------------------------|
| N/A | 200GE | 980-9144T-00V020 | MFS1S00-V020E | NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 20m | LTB [HVM] |
| N/A | 200GE | 980-9144U-00V030 | MFS1S00-V030E | NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 30m | LTB [HVM] |
| N/A | 200GE | 980-9144V-00V050 | MFS1S00-V050E | NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 50m | LTB [HVM] |
| N/A | 200GE | 980-9144W-00V100 | MFS1S00-V100E | NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 100m | EOL [HVM] [HIBERN/ATE] |
| HDR | 200GE | 980-91445-00H003 | MFS1S50-H003V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 3m | HVM |
| HDR | 200GE | 980-91969-00H005 | MFS1S50-H005V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 5m | HVM |
| HDR | 200GE | 980-9196D-00H010 | MFS1S50-H010V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 10m | HVM |
| HDR | 200GE | 980-9196H-00H015 | MFS1S50-H015V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 15m | HVM |
| HDR | 200GE | 980-9196L-00H020 | MFS1S50-H020V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 20m | HVM |
| HDR | 200GE | 980-9196P-00H030 | MFS1S50-H030V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 30m | HVM |
| HDR | 200GE | 980-9195S-00H040 | MFS1S50-H040V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 40m | Prototype |
| HDR | 200GE | 980-9195T-00H050 | MFS1S50-H050V | Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 50m | Prototype |
| N/A | 200GE | 980-9195Q-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 | 980-9196R-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 | 980-9196S-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 | 980-9196T-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 | 980-9195U-00V020 | MFS1S50-V020E | NVIDIA active fiber splitter cable, 200GbE, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, LSZH, black pulltab, 20m | EOL [HVM] |
| N/A | 200GE | 980-9195V-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 | 980-9120T-00V000 | MMA1T00-VS | NVIDIA transceiver, 200GbE, up to 200Gb/s, QSFP56, MPO, 850nm, SR4, up to 100m | HVM |



HDR links raise with RS_FEC.

8.1.3 100GbE Cables

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy P/N | Description | LifeCycle Phase |
|--------------|---------------|------------------|------------------|-------------------------------------------------------------------------------------|-----------------|
| N/A | 100GE | 980-9I90Z-00C000 | FTLC9152R GPL | 100Gb/s Transceiver, QSFP28, LC-LC, 850nm SWDM4 up to 100m Over Multi-Mode Fiber | EOL [MP] |
| N/A | 100GE | 980-9I620-00C001 | 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 |
| 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] |
| 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] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy P/N | Description | LifeCycle Phase |
|--------------|---------------|------------------|------------------|-------------------------------------------------------------------------------------------------------------|-----------------|
| 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 | 980-9I486-00C001 | 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] |
| 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] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy P/N | Description | LifeCycle Phase |
|--------------|---------------|------------------|------------------|-------------------------------------------------------------------------------------------------------------|-----------------|
| 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-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 | 980-9I39S-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-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] |

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

8.1.4 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] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|------------------|-----------------|-------------------------------------------------------------------------------------|-----------------|
| N/A | 50GE | 980-91876-00G00A | MCP2M50-G00AE30 | NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 0.5m, black pulltab, 30AWG | EOL [P-Rel] |
| N/A | 50GE | 980-91877-00G01A | MCP2M50-G01AE30 | NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 1.5m, black pulltab, 30AWG | EOL [P-Rel] |
| N/A | 50GE | 980-91878-00G02A | MCP2M50-G02AE26 | NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 2.5m, black pulltab, 26AWG | EOL [P-Rel] |

8.1.5 FDR10 / 40GbE Cables

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|------------------|---------------|-------------------------------------------------------------|-----------------|
| FDR10 | 40GE | 980-9166V-00B005 | MC2206128-005 | NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 5m | EOL [HVM] |
| FDR10 | 40GE | 980-9166W-00B001 | MC2206130-001 | NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 1m | EOL [HVM] |
| FDR10 | 40GE | 980-9166X-00B002 | MC2206130-002 | NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 2m | EOL [HVM] |
| FDR10 | 40GE | 980-9166Y-00B003 | MC2206130-003 | NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 3m | EOL [HVM] |
| FDR10 | 40GE | 980-9166Z-00B00A | MC2206130-00A | NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 0.5m | EOL [HVM] |
| FDR10 | N/A | 980-91140-00T003 | MC2206310-003 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 3m | EOL [HVM] |
| FDR10 | N/A | 980-91141-00T005 | MC2206310-005 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 5m | EOL [HVM] |
| FDR10 | N/A | 980-91142-00T010 | MC2206310-010 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 10m | EOL [HVM] |
| FDR10 | N/A | 980-91143-00T015 | MC2206310-015 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 15m | EOL [HVM] |
| FDR10 | N/A | 980-91144-00T020 | MC2206310-020 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 20m | EOL [HVM] |
| FDR10 | N/A | 980-91145-00T030 | MC2206310-030 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 30m | EOL [HVM] |
| FDR10 | N/A | 980-91147-00T050 | MC2206310-050 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 50m | EOL [HVM] |
| FDR10 | N/A | 980-91148-00T100 | MC2206310-100 | NVIDIA active fiber cable, IB QDR/FDR10, 40Gb/s, QSFP, 100m | EOL [HVM] |
| N/A | 40GE | 980-91666-00B004 | MC2210126-004 | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 4m | EOL [HVM] |
| N/A | 40GE | 980-91667-00B005 | MC2210126-005 | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 5m | EOL [HVM] |
| N/A | 40GE | 980-91668-00B003 | MC2210128-003 | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m | EOL [HVM] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|----------------------|--------------------|------------------------------------------------------------------------------|-----------------|
| N/A | 40GE | 980-9166A-0 0B001 | MC2210130 -001 | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m | EOL [HVM] |
| N/A | 40GE | 980-9166C-0 0B002 | MC2210130 -002 | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m | EOL [HVM] |
| N/A | 40GE | 980-9114D-0 0B003 | MC2210310 -003 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 3m | EOL [MP] |
| N/A | 40GE | 980-9114E-0 0B005 | MC2210310 -005 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 5m | EOL [MP] |
| N/A | 40GE | 980-9114F-0 0B010 | MC2210310 -010 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 10m | EOL [MP] |
| N/A | 40GE | 980-9114G-0 0B015 | MC2210310 -015 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 15m | EOL [MP] |
| N/A | 40GE | 980-9114H-0 0B020 | MC2210310 -020 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 20m | EOL [MP] |
| N/A | 40GE | 980-9114I-00 B030 | MC2210310 -030 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 30m | EOL [MP] |
| N/A | 40GE | 980-9114J-0 0B050 | MC2210310 -050 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 50m | EOL [MP] |
| N/A | 40GE | 980-9114K-0 0B100 | MC2210310 -100 | NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 100m | EOL [MP] |
| FDR10 | 40GE | 980-91170-0 0BM00 | MC2210411 -SR4E | NVIDIA optical module, 40Gb/s, QSFP, MPO, 850nm, up to 300m | EOL [HVM] |
| FDR10 | N/A | 980-91210-0 0TR00 | MC2210511 -LR4 | NVIDIA optical module, 40Gb/s, QSFP, LC-LC, 1310nm, LR4 up to 10km | EOL [MP] |
| N/A | 40GE | 980-9164V-0 0B005 | MC2609125 -005 | NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 5m | EOL [P-Rel] |
| N/A | 40GE | 980-9164W-0 0B001 | MC2609130 -001 | NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1m | EOL [HVM] |
| N/A | 40GE | 980-9164Y-0 0B003 | MC2609130 -003 | NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 3m | EOL [HVM] |
| N/A | 40GE | 980-9172J-0 0B005 | MC6709309 -005 | NVIDIA passive fiber hybrid cable, MPO to 8xLC, 5m | EOL [HVM] |
| N/A | 40GE | 980-9172K-0 0B010 | MC6709309 -010 | NVIDIA passive fiber hybrid cable, MPO to 8xLC, 10m | EOL [HVM] |
| N/A | 40GE | 980-9172L-0 0B020 | MC6709309 -020 | NVIDIA passive fiber hybrid cable, MPO to 8xLC, 20m | EOL [HVM] |
| N/A | 40GE | 980-9172M-0 0B030 | MC6709309 -030 | NVIDIA passive fiber hybrid cable, MPO to 8xLC, 30m | EOL [HVM] |
| N/A | 40GE | 980-9166U-0 0B001 | MCP1700- B001E | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m, Black Pulltab | EOL [HVM] |
| N/A | 40GE | 980-9166V-0 0B002 | MCP1700- B002E | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m, Black Pulltab | EOL [HVM] |
| N/A | 40GE | 980-9166W-0 0B003 | MCP1700- B003E | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m, Black Pulltab | EOL [HVM] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|------------------|---------------|---------------------------------------------------------------------------|-----------------|
| N/A | 40GE | 980-9166X-00B01A | MCP1700-B01AE | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1.5m, Black Pulltab | EOL [MP] |
| N/A | 40GE | 980-9166Y-00B02A | MCP1700-B02AE | NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2.5m, Black Pulltab | EOL [MP] |
| N/A | 40GE | 980-91426-00BM00 | MMA1B00-B150D | NVIDIA transceiver, 40GbE, QSFP+, MPO, 850nm, SR4, up to 150m, DDMI | EOL [HVM] |

8.1.6 25GbE Cables

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|------------------|------------------|-----------------------------------------------------------------------------------|-----------------|
| NA | 25GE | 980-91781-00A000 | MAM1Q00A-QSA28 | Mellanox cable module, ETH 25GbE, 100Gb/s to 25Gb/s, QSFP28 to SFP28 | LTB [HVM] |
| NA | 25GE | 980-9163L-00A001 | MCP2M00-A001E30N | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1m, Black, 30AWG, CA-N | EOL [HVM] |
| NA | 25GE | 980-9163O-00A002 | MCP2M00-A002E30N | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2m, Black, 30AWG, CA-N | EOL [HVM] |
| NA | 25GE | 980-9163R-00A003 | MCP2M00-A003E26N | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 3m, Black, 26AWG, CA-N | EOL [HVM] |
| NA | 25GE | 980-9163S-00A003 | MCP2M00-A003E30L | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 3m, Black, 30AWG, CA-L | EOL [HVM] |
| NA | 25GE | 980-9163T-00A004 | MCP2M00-A004E26L | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 4m, Black, 26AWG, CA-L | EOL [HVM] |
| NA | 25GE | 980-9163V-00A005 | MCP2M00-A005E26L | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 5m, Black, 26AWG, CA-L | EOL [HVM] |
| NA | 25GE | 980-9163X-00A00A | MCP2M00-A00AE30N | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 0.5m, Black, 30AWG, CA-N | EOL [HVM] |
| NA | 25GE | 980-9163Z-00A01A | MCP2M00-A01AE30N | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1.5m, Black, 30AWG, CA-N | EOL [HVM] |
| NA | 25GE | 980-91631-00A02A | MCP2M00-A02AE26N | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, Black, 26AWG, CA-N | EOL [HVM] |
| NA | 25GE | 980-91632-00A02A | MCP2M00-A02AE30L | Mellanox Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, Black, 30AWG, CA-L | EOL [HVM] |
| NA | 25GE | 980-91A1T-00A003 | MFA2P10-A003 | Mellanox active optical cable 25GbE, SFP28, 3m | EOL [HVM] |
| NA | 25GE | 980-9153W-00A005 | MFA2P10-A005 | Mellanox active optical cable 25GbE, SFP28, 5m | EOL [HVM] |
| NA | 25GE | 980-9153Z-00A007 | MFA2P10-A007 | Mellanox active optical cable 25GbE, SFP28, 7m | EOL [HVM] |
| NA | 25GE | 980-91532-00A010 | MFA2P10-A010 | Mellanox active optical cable 25GbE, SFP28, 10m | EOL [HVM] |
| NA | 25GE | 980-91535-00A015 | MFA2P10-A015 | Mellanox active optical cable 25GbE, SFP28, 15m | EOL [HVM] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|------------------|---------------|----------------------------------------------------------------------------------|-----------------|
| NA | 25GE | 980-91536-00A020 | MFA2P10-A020 | Mellanox active optical cable 25GbE, SFP28, 20m | EOL [HVM] |
| NA | 25GE | 980-91539-00A030 | MFA2P10-A030 | Mellanox active optical cable 25GbE, SFP28, 30m | EOL [HVM] |
| NA | 25GE | 980-9153A-00A050 | MFA2P10-A050 | Mellanox active optical cable 25GbE, SFP28, 50m | EOL [HVM] |
| NA | 25GE | 980-91094-00AR00 | MMA2L20-AR | Mellanox optical transceiver, 25GbE, 25Gb/s, SFP28, LC-LC, 1310nm, LR up to 10km | EOL [MP] |
| NA | 25GE | 980-91595-00AM00 | MMA2P00-AS | Mellanox transceiver, 25GbE, SFP28, LC-LC, 850nm, SR | HVM |
| NA | 25GE | 980-9134B-00AS00 | MMA2P00-AS-SP | Mellanox transceiver, 25GbE, SFP28, LC-LC, 850nm, SR, up to 100m, single package | EOL [HVM] |

8.1.7 10GbE Cables


| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|------------------|----------------|---------------------------------------------------------------------------|-----------------|
| NA | 10GE | 980-9171G-00J000 | MAM1Q00A-QSA | Mellanox cable module, ETH 10GbE, 40Gb/s to 10Gb/s, QSFP to SFP+ | LTB [HVM] |
| NA | 10GE | 980-9165P-00J005 | MC230912-4-005 | Mellanox passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 5m | EOL [P-Rel] |
| NA | 10GE | 980-9165Q-00J007 | MC230912-4-007 | Mellanox passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 7m | EOL [P-Rel] |
| NA | 10GE | 980-9165R-00J001 | MC230913-0-001 | Mellanox passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 1m | EOL [HVM] |
| NA | 10GE | 980-9165S-00J002 | MC230913-0-002 | Mellanox passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 2m | EOL [HVM] |
| NA | 10GE | 980-9165T-00J003 | MC230913-0-003 | Mellanox passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 3m | EOL [HVM] |
| NA | 10GE | 980-91682-00J004 | MC330912-4-004 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 4m | EOL [HVM] |
| NA | 10GE | 980-91683-00J005 | MC330912-4-005 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 5m | EOL [HVM] |
| NA | 10GE | 980-91684-00J006 | MC330912-4-006 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 6m | EOL [HVM] |
| NA | 10GE | 980-91685-00J007 | MC330912-4-007 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 7m | EOL [HVM] |
| NA | 10GE | 980-91686-00J001 | MC330913-0-001 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m | EOL [HVM] |
| NA | 10GE | 980-91688-00J002 | MC330913-0-002 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m | EOL [HVM] |

| IB Data Rate | Eth Data Rate | NVIDIA P/N | Legacy OPN | Description | LifeCycle Phase |
|--------------|---------------|------------------|----------------|----------------------------------------------------------------------------------------------|-----------------|
| NA | 10GE | 980-9I68B-00J003 | MC330913-0-003 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m | EOL [HVM] |
| NA | 10GE | 980-9I68F-00J00A | MC330913-0-00A | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 0.5m | EOL [HVM] |
| NA | 10GE | 980-9I68G-00J01A | MC330913-0-0A1 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1.5m | EOL [HVM] |
| NA | 10GE | 980-9I68H-00J02A | MC330913-0-0A2 | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m | EOL [HVM] |
| NA | 10GE | 980-9I68C-00J003 | MCP2100-X003B | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, Blue Pulltab, Connector Label | EOL [HVM] |
| NA | 10GE | 980-9I68F-00J002 | MCP2104-X002B | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m, Black Pulltab, Connector Label | EOL [HVM] |
| NA | 10GE | 980-9I68G-00J003 | MCP2104-X003B | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, Black Pulltab, Connector Label | EOL [HVM] |
| NA | 10GE | 980-9I68I-00J02A | MCP2104-X02AB | Mellanox passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m, Black Pulltab, Connector Label | EOL [HVM] |
| NA | 10GE | MFM1T02A-LR-F | MFM1T02-A-LR-F | Mellanox optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 1310nm, LR up to 10km | HVM |
| NA | 10GE | MFM1T02A-SR-F | MFM1T02-A-SR-F | Mellanox optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 850nm, SR up to 300m | HVM |
| NA | 10GE | MFM1T02A-SR-P | MFM1T02-A-SR-P | Mellanox optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 850nm, SR up to 300m | HVM |

8.1.8 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 |

8.1.9 Supported 3rd Party Cables and Modules

 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 P/N | Description |
|-----------|-------------------------|------------------------------------------------------------------------------------|
| 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 BREAKOUT AOC |
| 400GE | FCBN950QE1C05 | FINISAR 400G QSFP-DD TO 2X200G QSFP56 BREAKOUT AOC 5M |
| 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 |
| 400GE | AOC-Q56DD-4Q28 (0FXDJY) | ARISTA 4X100G QSFP28 AOC BREAKOUT |
| 400GE | P56DQ2312-SD-R | LUXSHARE 400G QSFP-DD TO 4X100G QSFP28 AOC |
| 400GE | P56DQ2312-SD-R | LUXSHARE 400G Q-DD TO 4X100G QSFP28 AOC |
| 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) |

| Data Rate | Cable P/N | Description |
|-----------|------------------|----------------------------------------------------------------------------------------------------|
| 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 |
| 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 |
| 200GE | C-FX4FNMxxx-N00 | INNOLIGHT 200G QSFP56 AOC |
| 100GE | FTLC1151RDPL | TRANSCEIVER 100GBE QSFP LR4 |
| 100GE | AFBR-89CDDZ | TRANSCEIVER 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 | TRANSCEIVER 100GBE QSFP LR4 |
| 100GE | QSFP-40/100-SRBD | TRANSCEIVER 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 |

| Data Rate | Cable P/N | Description |
|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| 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 |
| 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 |

| Data Rate | Cable P/N | Description |
|-----------|------------------|------------------------------------------------------------------------------------------------------------------------|
| 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 AOC 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 |
| 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 AOC 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 AOC 10M |
| 100GE | SPQCEERCDFLM | 100G ER QSFP28, UP TO 40KM SINGLE MODE TRANSCEIVER |
| 100GE | SPQCELRCDFB | 100G LR4 QSFP28, UP TO 10KM SINGLE MODE TRANSCEIVER |

| Data Rate | Cable P/N | Description |
|-----------|-------------------|---------------------------------------------------------------------------------------------------|
| 100GE | QSFP-SR4-AJ | |
| 100GE | EOLQ-131HG-O-026 | 100G FR1 |
| 100GE | SPTS3P3SLCDF | 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 | SPTS4P4LLCDF | QSFP28 100G LR4 |
| 100GE | JNP-QSFP-100G-LR | 100GBASE LR4 QSFP28 TRANSCEIVER, LC, 10KM 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 | SPTS4P4LLCDF | 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, 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 |

| Data Rate | Cable P/N | Description |
|-----------|------------------|--------------------------------------------------------------------------------------------------------------------|
| 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 |
| 100GE | FTLC9558REPM-H1 | COHERENT 100G SR4 MODULE |
| 100GE | FTLC9558REPM-OR | FINISAR 100M PARALLEL MMF 4X25G OR 100G QSFP28 OPTICAL TRANSCEIVER |
| 40GE | AFBR-7QER15Z-CS1 | CISCO 40GE 15M AOC |
| 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 |
| 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 P/N | Description |
|--------------|-------------------|-------------------------------------------------------------------------|
| 40GE | JNP-QSFP-40G-LR4 | 40GBASE-LR4 QSFP+ 1310NM 10KM LC OVER SMF, JNP-QSFP-40G-LR4-LU |
| 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 | TRANSCEIVER 40GBE QSFP BI DIRECTIONAL (BIDIR) |
| 25GE | SFP-H25G-CU2M | 15M (49FT) AVAGO AFBR-7QER15Z COMPATIBLE 40G QSFP+ ACTIVE OPTICAL CABLE |
| 10GE | FTLX8570D3BCL-C2 | TRANSCEIVER 10GBE SFP SR |
| 10GE | QSFP-4SFP10G-CU5M | QSFP-4SFP10G-CU5M |
| 10GE---100GE | FCBN425QE1C30-C1 | CISCO FINISAR CABLE ASSY QSFP28 M-M 30M |

8.2 Tested Switches

8.2.1 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 |

8.2.2 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 |

8.2.3 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 |

8.3 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.

9 Supported Non-Volatile Configurations

| Configuration | mlxconfig Parameter Name | Class | TLV ID |
|---------------------------|-----------------------------------------------|----------------------|--------|
| NV_MEMIC_CONF | MEMIC_BAR_SIZE | GLOBAL (0) | 0x6 |
| | MEMIC_SIZE_LIMIT | | |
| NV_HOST_CHAINING_CONF | HOST_CHAINING_MODE | | 0x8 |
| | HOST_CHAINING_DESCRIPTOR | | |
| | HOST_CHAINING_TOTAL_BUFFER_SIZE | | |
| NV_FLEX_PARS_CONF | FLEX_PARSER_PROFILE_ENABLE | | 0xe |
| | FLEX_IPV4_OVER_VXLAN_PORT | | |
| NV_ROCE_1_5_CONF | ROCE_NEXT_PROTOCOL | | 0x10 |
| NV_INTERNAL_RESOURCE_CONF | ESWITCH_HAIRPIN_DESCRIPTOR | | 0x13 |
| | ESWITCH_HAIRPIN_TOT_BUFFER_SIZE | | |
| NV_GLOBAL_PCI_CONF | NON_PREFETCHABLE_PF_BAR | 0x80 | |
| | 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 | 0x82 | |
| NV_POWER_CONF | SW_RECOVERY_ON_ERRORS | 0x88 | |
| | RESET_WITH_HOST_ON_ERRORS | | |
| | ADVANCED_POWER_SETTINGS | | |
| NV_GLOBAL_MASK | ece_disable_mask | 0x116 | |
| NV_SW_OFFLOAD_CONFIG | CQE_COMPRESSION | 0x10a | |
| | 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 | 0x190 | |
| | DCR_LIFO_SIZE | | |
| NV_VPI_LINK_TYPE | LINK_TYPE | PHYSICAL_PORT (2) | 0x12 |
| NV_ROCE_CC | ROCE_CC_PRIO_MASK | | 0x107 |

| Configuration | mlxconfig Parameter Name | Class | TLV ID |
|-----------------|-------------------------------|-------|--------|
| | ROCE_CC_ALGORITHM | | |
| NV_ROCE_CC_ECN | CLAMP_TGT_RATE_AFTER_TIME_INC | | 0x108 |
| | 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 | | |
| | 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 | | 0x10a |
| | LLDP_NB_RX_MODE | | |
| | LLDP_NB_TX_MODE | | |
| NV_LLDP_NB_DCBX | DCBX_IEEE | | 0x18e |
| | DCBX_CEE | | |
| | DCBX_WILLING | | |
| NV_KEEP_LINK_UP | KEEP_ETH_LINK_UP | | 0x190 |
| | KEEP_IB_LINK_UP | | |
| | KEEP_LINK_UP_ON_BOOT | | |
| | KEEP_LINK_UP_ON_STANDBY | | |
| NV_QOS_CONF | NUM_OF_VL | | 0x192 |
| | NUM_OF_TC | | |
| | NUM_OF_PFC | | |
| NV_MPFS_CONF | DUP_MAC_ACTION | | 0x196 |
| | SRIOV_IB_ROUTING_MODE | | |
| | IB_ROUTING_MODE | | |

| Configuration | mlxconfig Parameter Name | Class | TLV ID |
|-------------------------|--------------------------|----------------------|--------|
| NV_HCA_CONF | PCI_WR_ORDERING | HOST-FUNCTION (3) | 0x112 |
| | MULTI_PORT_VHCA_EN | | |
| NV_EXTERNAL_PORT_CTRL | PORT_OWNER | | 0x192 |
| | ALLOW_RD_COUNTERS | | |
| | RENEG_ON_CHANGE | | |
| | TRACER_ENABLE | | |
| NV_ROM_BOOT_CONF2 | IP_VER | | 0x195 |
| | BOOT_UNDI_NETWORK_WAIT | | |
| NV_ROM_UEFI_CONF | UEFI_HII_EN | | 0x196 |
| NV_ROM_UEFI_DEBUG_LEVEL | BOOT_DBG_LOG | | 0x206 |
| | UEFI_LOGS | | |
| NV_ROM_BOOT_CONF1 | BOOT_VLAN | | 0x221 |
| | LEGACY_BOOT_PROTOCOL | | |
| | BOOT_RETRY_CNT | | |
| | BOOT_LACP_DIS | | |
| | BOOT_VLAN_EN | | |
| NV_ROM_IB_BOOT_CONF | BOOT_PKEY | 0x222 | |
| NV_PCI_CONF | ADVANCED_PCI_SETTINGS | HOST (7) | 0x80 |
| SAFE_MODE_CONF | SAFE_MODE_THRESHOLD | | 0x82 |
| | SAFE_MODE_ENABLE | | |

10 Release Notes History

10.1 Changes and New Feature History



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

| Feature/Change | Description |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22.48.1000 | |
| PLDM PDR Repository Change Event Support | PLDM now supports the PDR Repository Change event type, enabling notification to the BMC when PDRs change. With this flow, the BMC can detect cable insertion/removal events. Refer to DSP0248 for details. |
| NVGRE VSID Modify-Header Support | Extended packet modify-header operations to support <code>set</code> and <code>copy</code> actions on the NVGRE VSID (Virtual Subnet Identifier). A new field, <code>TUNNEL_HDR_DW_2</code> (0x84), enables dynamic VSID modification, adding header rewrite support for NVGRE tunnel traffic in addition to existing filtering capabilities. |
| Bug Fixes | See <i>Bug Fixes in this Firmware Version</i> section. |

| Feature/Change | Description |
|-------------------|--------------------------------------------------------|
| 22.47.1088 | |
| Bug Fixes | See <i>Bug Fixes in this Firmware Version</i> section. |

| Feature/Change | Description |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 22.47.1026 | |
| Parallel Suspends of VFs | Added support for parallel suspend operations across multiple VFs. |
| ADP-RETX Timeout Profile | Firmware now allows the ADP-RETX timeout profile to be configured even when there are open QPs. |
| Passing Metadata Registers between the NIC Layer and the E-Switch (esw) Layer | This enhancement enables seamless metadata propagation across layers, allowing flow steering rules and packet processing logic to share contextual information such as flow identifiers, source context, or policy tags. It improves coordination between NIC and E-Switch pipelines, enabling more flexible traffic handling and advanced offload capabilities. |
| Enable/Disable ECN in Upstream | Added the ability to enable or disable ECN in the upstream by allowing the <code>MODIFY_CONG_STATUS</code> and <code>QUERY_CONG_STATUS</code> commands in <code>mlx5_fwctl</code> . |
| Bug Fixes | See <i>Bug Fixes in this Firmware Version</i> section. |

| 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. |

| 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 <code>l4_type_ext</code> 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 <code>payload_len</code> field in incoming NC-SI messages. Previously, invalid packets might have been accepted; now, such packets are silently dropped. |
| Bug Fixes | See <i>Bug Fixes in this Firmware Version</i> section. |

10.2 Bug Fixes History



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 |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4621747 / 4792742 / 4794290 | Description: Fixed an issue where parallel accesses to the MCIA register could return incorrect data. In some hosts running <code>ethtool -m <interface></code> repeatedly (e.g., once per second), this could intermittently report Identifier: 0x00 (unknown/no module), causing health checks to fail. |
| | Keywords: MCIA register |
| | Detected in version: 22.47.1026 |
| | Fixed in Release: 22.48.1000 |
| 4727303 / 4718947 | Description: Fixed an issue in the steering definers used for LAG with IPv6 traffic. |
| | Keywords: LAG, IPv6 traffic, steering |
| | Detected in version: 22.47.1026 |
| | Fixed in Release: 22.48.1000 |
| 4450570 / 4780432 / 4780433 | Description: Fixed an issue where the root complex sent MCTP-over-PCI messages before a BDF was assigned, causing responses to be sent with BDF 0. The fix ensures that MCTP messages routed by ID are ignored until a valid BDF is assigned. |
| | Keywords: MCTP-over-PCI, BDF, MCTP messages |
| | Detected in version: 22.47.1026 |
| | Fixed in Release: 22.48.1000 |

| Internal Ref. | Issue |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4575696 | Description: Fixed an issue where multiple long-running process registers could cause aborted access and timeouts, the internal state is now properly handled. |
| | Keywords: ibdiagnet2 |
| | Detected in version: 22.46.1006 |
| | Fixed in Release: 22.47.1026 |
| 4501554 | Description: Fixed an assertion failure that could occur with the E-Switch uplink in specific configurations where the e-switch was disabled and Path Migration was active or GVMIs were using SRQ loopback in SQs. The issue occurred because the firmware attempted to perform cleanup operations when the uplink configuration lacked sufficient capacity. Now, when the E-Switch is disabled and no actions are available in the uplink STE, the firmware connects to the uplink STE instead of copying it. |
| | Keywords: Path migration, steering |
| | Detected in version: 22.46.1006 |
| | Fixed in Release: 22.47.1026 |
| 4531675 | Description: Fixed an incorrect GPIO indication in the INI file that caused a false signal, preventing module initialization. |
| | Keywords: GPIO indication |
| | Detected in version: 22.45.1020 |
| | Fixed in Release: 22.47.1026 |
| 4529293 | Description: Fixed an issue where, during failover or restart, the SM sending a PortInfo MAD to the HCA firmware triggered reinitialization of port buffers, momentarily halting ingress traffic and causing packet drops. The firmware now avoids reconfiguring port buffers when the new configuration matches the current one. |
| | Keywords: OpenSM |
| | Detected in version: 22.45.1020 |
| | Fixed in Release: 22.47.1026 |

| 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 |
| | Discovered in Version: 22.45.1020 |
| | Fixed in Release: 22.46.1006 |

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| Product | Version | Legal Notices and 3rd Party Licenses |
|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Firmware | xx.49.1014 | <ul style="list-style-type: none">• License• 3rd Party Notice• 3rd Party Unify Notice• HCA Firmware EULA |
| DOCA-Host | 3.4.0 | <ul style="list-style-type: none">• License• 3rd Party Notice• 3rd Party Unify Notice |
| MFT FreeBSD | 4.36.0-147 | <ul style="list-style-type: none">• License• 3rd Party Notice• 3rd Party Unify Notice |
| MFT Linux | | <ul style="list-style-type: none">• License• 3rd Party Notice• 3rd Party Unify Notice |
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