



# **NVIDIA BlueField-2 DPU Firmware Release Notes v24.42.1000**

# Table of contents

Firmware Compatible Products	3
Changes and New Features	10
Bug Fixes in this Firmware Version	11
Known Issues	13
PreBoot Drivers (FlexBoot/UEFI)	18
Validated and Supported Cables and Modules	19
Release Notes History	45
Changes and New Feature History	45
Bug Fixes History	48
Legal Notices and 3rd Party Licenses	56

# Release Notes Update History

Version	Date	Description
24.42.1000	August 14, 2024	Initial release of this Release Notes version, This version introduces <a href="#">Changes and New Features</a> and <a href="#">Bug Fixes</a> .

## 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.

NVIDIA BlueField-2 DPU provides innovative acceleration, security, and efficiency in every host. BlueField-2 data center infrastructure combines the power of the NVIDIA ConnectX®-6 Dx with programmable Arm® cores and hardware offloads for software-defined storage, networking, security, and management workloads.

NVIDIA BlueField-2 also delivers superior performance, security, and reduced TCO for cloud computing platforms, enabling organizations to efficiently build and operate virtualized, containerized, and bare-metal infrastructures at massive scale.

## Firmware Download

Please visit [Firmware Downloads](#).

## Document Revision History

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

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# Firmware Compatible Products

These are the release notes for the NVIDIA® BlueField-2 SmartNICs firmware. This firmware supports the following protocols:

- InfiniBand - QDR, FDR, EDR, HDR100, HDR
- Ethernet - 1GbE, 10GbE, 25GbE, 40GbE, 50GbE<sup>1</sup>, 100GbE<sup>1</sup>, 200GbE<sup>2</sup>, 400GbE<sup>2</sup>
- PCI Express 4.0, supporting backwards compatibility for v3.0, v2.0 and v1.1

<sup>1</sup>. Speed that supports both NRZ and PAM4 modes in Force mode and Auto-Negotiation mode.

<sup>2</sup>. Speed that supports PAM4 mode only.

## Note

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

## Supported Devices

NVIDIA SKU	Legacy OPNs	PSID	Description
900-9D219-0086-ST1	MBF2 M516A - CECOT	MT_0 00000 0375	BlueField-2 E-Series DPU 100GbE Dual-Port QSFP56; PCIe Gen4 x16; Crypto and Secure Boot Enabled; 16GB on-board DDR; 1GbE OOB management; FHHL

NVIDIA SKU	Legacy OPNs	PSID	Description
900-9D219-0086-ST0	MBF2 M516A -EECOT	MT_0 00000 0376	BlueField-2 E-Series DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; PCIe Gen4 x16; Crypto and Secure Boot Enabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D219-0056-ST1	MBF2 M516A -EENOT	MT_0 00000 0377	BlueField-2 E-Series DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; PCIe Gen4 x16; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D206-0063-ST4	MBF2 M322A -AEEOT	MT_0 00000 0490	BlueField-2 E-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto Enabled; 8GB on-board DDR; 1GbE OOB management; HHHL
900-9D206-0053-SQ0	MBF2H 332A-AENOT	MT_0 00000 0539	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; HHHL
900-9D206-0063-ST2	MBF2H 332A-AEEOT	MT_0 00000 0540	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; HHHL
900-9D206-0083-ST3	MBF2H 332A-AECOT	MT_0 00000 0541	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto and Secure Boot Enabled; 16GB on-board DDR; 1GbE OOB management; HHHL
900-9D206-0083-ST1	MBF2H 322A-AECOT	MT_0 00000 0542	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto and Secure Boot Enabled; 8GB on-board DDR; 1GbE OOB management; HHHL
900-9D206-0063-ST1	MBF2H 322A-AEEOT	MT_0 00000 0543	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto Enabled; 8GB on-board DDR; 1GbE OOB management; HHHL
900-9D206-	MBF2H 322A-	MT_0 00000	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto Disabled; 8GB on-board DDR; 1GbE OOB

NVIDIA SKU	Legacy OPNs	PSID	Description
0053-ST2	AENOT	0544	management; HHHL
900-9D219-0066-ST0	MBF2 M516A -EEEOT	MT_0 00000 0559	BlueField-2 E-Series DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; PCIe Gen4 x16; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D219-0056-SN1	MBF2 M516A -CENOT	MT_0 00000 0560	BlueField-2 E-Series DPU 100GbE Dual-Port QSFP56; PCIe Gen4 x16; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D219-0066-ST2	MBF2 M516A -CEEOT	MT_0 00000 0561	BlueField-2 E-Series DPU 100GbE Dual-Port QSFP56; PCIe Gen4 x16; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D219-0006-ST0	MBF2H 516A-CEEOT	MT_0 00000 0702	BlueField-2 DPU 100GbE Dual-Port QSFP56; PCIe Gen4 x16; Crypto; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D219-0056-ST2	MBF2H 516A-CENOT	MT_0 00000 0703	BlueField-2 DPU 100GbE Dual-Port QSFP56; PCIe Gen4 x16; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D219-0066-ST3	MBF2H 516A-EEEOT	MT_0 00000 0704	BlueField-2 DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; PCIe Gen4 x16; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D219-0056-SQ0	MBF2H 516A-EENOT	MT_0 00000 0705	BlueField-2 DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; PCIe Gen4 x16; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D250-0038-ST1	MBF2 M345A -HESOT	MT_0 00000 0715	BlueField-2 E-Series DPU; 200GbE/HDR single-port QSFP56; PCIe Gen4 x16; Secure Boot Enabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; HHHL

NVIDIA SKU	Legacy OPNs	PSID	Description
900-9D250-0048-ST1	MBF2 M345A - HECOT	MT_0 00000 0716	BlueField-2 E-Series DPU; 200GbE/HDR single-port QSFP56; PCIe Gen4 x16; Secure Boot Enabled; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; HHHL
900-9D218-0073-ST1	MBF2H 512C- AESOT	MT_0 00000 0723	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; integrated BMC; PCIe Gen4 x8; Secure Boot Enabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D218-0083-ST2	MBF2H 512C- AECOT	MT_0 00000 0724	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; integrated BMC; PCIe Gen4 x8; Secure Boot Enabled; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D208-0086-ST4	MBF2 M516C -EECOT	MT_0 00000 0728	BlueField-2 E-Series DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; Tall Bracket; FHHL
900-9D208-0086-SQ0	MBF2H 516C- CECOT	MT_0 00000 0729	BlueField-2 P-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; Tall Bracket; FHHL
900-9D208-0076-ST5	MBF2 M516C -CESOT	MT_0 00000 0731	BlueField-2 E-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; Tall Bracket; FHHL
900-9D208-0076-ST6	MBF2 M516C -EESOT	MT_0 00000 0732	BlueField-2 E-Series DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; Tall Bracket; FHHL
900-9D208-0086-ST3	MBF2 M516C - CECOT	MT_0 00000 0733	BlueField-2 E-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Enabled; 16GB on-board DDR; 1GbE OOB management; Tall Bracket; FHHL
900-9D208-	MBF2H 516C-	MT_0 00000	BlueField-2 P-Series DPU 100GbE/EDR/HDR100 VPI Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot

NVIDIA SKU	Legacy OPNs	PSID	Description
0076-ST2	EESOT	0737	Enabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; Tall Bracket; FHHL
900-9D208-0076-ST1	MBF2H 516C-CESOT	MT_0 00000 0738	BlueField-2 P-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management; Tall Bracket; FHHL
900-9D218-0083-ST4	MBF2H 532C-AECOT	MT_0 00000 0765	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; integrated BMC; PCIe Gen4 x8; Secure Boot Enabled; Crypto Enabled; 32GB on-board DDR; 1GbE OOB management; FHHL
900-9D218-0073-ST0	MBF2H 532C-AESOT	MT_0 00000 0766	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; integrated BMC; PCIe Gen4 x8; Secure Boot Enabled; Crypto Disabled; 32GB on-board DDR; 1GbE OOB management; FHHL
900-9D208-0076-ST3	MBF2H 536C-CESOT	MT_0 00000 0767	BlueField-2 P-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Disabled; 32GB on-board DDR; 1GbE OOB management; FHHL
900-9D208-0086-ST2	MBF2H 536C-CECOT	MT_0 00000 0768	BlueField-2 P-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled; Crypto Enabled; 32GB on-board DDR; 1GbE OOB management; FHHL
900-9D218-0073-ST4	MBF2H 512C-AEUOT	MT_0 00000 0972	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; integrated BMC; PCIe Gen4 x8; Secure Boot Enabled with UEFI disabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management
900-9D208-0076-STA	MBF2H 516C-CEUOT	MT_0 00000 0973	BlueField-2 P-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled with UEFI disabled; Crypto Disabled; 16GB on-board DDR; 1GbE OOB management
900-9D208-0076-STB	MBF2H 536C-CEUOT	MT_0 00000 1008	BlueField-2 P-Series DPU 100GbE Dual-Port QSFP56; integrated BMC; PCIe Gen4 x16; Secure Boot Enabled with UEFI Disabled; Crypto Disabled; 32GB on-board DDR; 1GbE OOB management; FHHL



NVIDIA SKU	Legacy OPNs	PSID	Description
P1004 / 699210 040230	N/A	NVD0 00000 0015	ROY BlueField-2 + GA100 PCIe Gen4 x8; two 100Gbe/EDR QSFP28 ports; FHFL
699140 280000	N/A	NVD0 00000 0020	ZAM/NAS

**Note**

Please be aware that not all firmware binaries contain FlexBoot or UEFI, support may vary between cards.

## 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
NVIDIA BlueField-2 Firmware	24.42.1000 / 24.41.1000 / 24.40.1000
BlueField DPU OS Software	4.8.0
MLNX_OFED / DOCA-HOST	24.07-0.6.1.0 / 24.04-0.6.6.0 / 24.01-0.3.3.1 <b>Note:</b> For the list of the supported Operating Systems, please refer to the driver's Release Notes.
MLNX_EN (MLNX_OFED based code)	24.07-0.6.1.0 / 24.04-0.6.6.0 / 24.01-0.3.3.1 <b>Note:</b> For the list of the supported Operating Systems, please refer to the driver's Release Notes.
WinOF-2	24.7.50000 / 24.4.50000 / 24.1.50000

	Supported Version
	<b>Note:</b> For the list of the supported Operating Systems, please refer to the driver's Release Notes.
MFT	4.29.0-131 / 4.28.0-92 / 4.27.0 <b>Note:</b> For the list of the supported Operating Systems, please refer to the driver's Release Notes.
mstflint	4.29.0-131 / 4.28.0-92 / 4.27.0 <b>Note:</b> For the list of the supported Operating Systems, please refer to the driver's Release Notes.
FlexBoot	3.7.500
UEFI	14.35.15
MLNX-OS	3.10.5002 onwards
Cumulus	5.4 onwards
NVIDIA Quantum-2 Firmware	31.2012.1024 onwards
NVIDIA Quantum Firmware	27.2012.1010 onwards

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# Changes and New Features

Feature/Change	Description
24.42.1000	
<b>Steering SF Traffic to a Specific PF MSI-X</b>	MSI-X on SF can be received now through the PF's MSI-X vector.
<b>Memory Slow Release</b>	Added a new command interface "Memory slow release" to enable/disable holding memory pages for a defined period of time. Once the timer expires, the firmware will return the pages to the driver.
<b>Hotplug Power Off for Virtio FS</b>	Added support for Hotplug Power Off for Virtio FS (hotplug_power_off).
<b>Kernel Lockdown</b>	Added support for MVTs register via a miscellaneous driver using the access_register PRM command.
<b>Bug Fixes</b>	See <i>Bug Fixes in this Firmware Version</i> section.

# Bug Fixes in this Firmware Version

Internal Ref.	Issue
398553 5	<b>Description:</b> Fixed an issue that caused RDE PortMetrics property Transceivers.SupplyVoltage to be reflected in incorrect units of 100uV instead of V.
	<b>Keywords:</b> RDE
	<b>Discovered in Version:</b> 24.41.1000
	<b>Fixed in Release:</b> 24.42.1000
393874 4	<b>Description:</b> Prevented HCA_CAP from allowing rogue drivers to create more EQs than the number allowed in the HCA_CAP.max_num_eqs.
	<b>Keywords:</b> HCA_CAP
	<b>Discovered in Version:</b> 24.41.1000
	<b>Fixed in Release:</b> 24.42.1000
388523 5	<b>Description:</b> Fixed an issue on the customized server with an independent power supply, that led to a non-functional virtio when power cycled the server during stressful traffic. The following error was provided: "DESTROY_GENERAL_OBJECT(0xa03) No done completion".
	<b>Keywords:</b> Virtio full emulation, independent power supply
	<b>Discovered in Version:</b> 24.41.1000
	<b>Fixed in Release:</b> 24.42.1000
397627 6	<b>Description:</b> Fixed an issue that prevented the SFF module from accessing the EEPROM data when removing the CMIS module and inserting the SFF module instead of it.

Internal Ref.	Issue
	<b>Keywords:</b> EEPROM, SFF, CMIS
	<b>Discovered in Version:</b> 24.41.1000
	<b>Fixed in Release:</b> 24.42.1000

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

For known issues prior to version 24.33.1048, please refer to the [NVIDIA BlueField-2 DPU documentation](#).

Internal Ref.	Issue
21699 50	<b>Description:</b> When decapsulation on a packet occurs, the FCS indication is not calculated correctly.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> FCS
	<b>Discovered in Version:</b> 24.42.1000
37549 13	<b>Description:</b> PHYless Reset is currently not supported.
	<b>Workaround:</b> N/A

Internal Ref.	Issue
	<p><b>Keywords:</b> PHYless Reset</p> <p><b>Discovered in Version:</b> 24.40.1000</p>
36058 28 / 36296 06	<p><b>Description:</b> Some pre-OS environments may fail when sensing a hot-plug operation during their boot stage.</p> <p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> Hot-plug operation</p> <p><b>Discovered in Version:</b> 24.39.2048</p>
35258 65	<p><b>Description:</b> Unexpected system behavior might be observed if the driver is loaded while reset is in progress.</p> <p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> Sync 1 reset, firmware reset</p> <p><b>Discovered in Version:</b> 24.39.2048</p>
35470 22	<p><b>Description:</b> When tx_port_ts is set to "true", due to a compensation mechanism in the Tx timestamp available in some hardware Rx timestamp errors, a symmetrical error and no clock offset occur when using the timestamps to synchronize the device clock. This might also cause an error while using timestamps for delay measurements (e.g., delay measurements reported by a PTP daemon) and even negative delay measurements in some cases.</p> <p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> PTP path delay</p> <p><b>Discovered in Version:</b> 24.38.1002</p>
35470 22	<p><b>Description:</b> When unloading the network drivers on an external host, sync1 reset may be still reported as 'supported' although it is not. Thus, initiating the reset flow may result in reset failure after a few minutes.</p> <p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> Sync1 reset</p> <p><b>Discovered in Version:</b> 24.38.1002</p>

Internal Ref.	Issue
34574 72	<b>Description:</b> Disabling the Relaxed Ordered (RO) capability (relaxed_ordering_read_pci_enabled=0) using the vhca_resource_manager is currently not functional.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> Relaxed Ordered
	<b>Discovered in Version:</b> 24.37.1300
32964 63	<b>Description:</b> fwreset is currently supported on PCI Gen 4 devices only.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> fwreset, PCI Gen4
	<b>Discovered in Version:</b> 24.37.1300
28788 41	<b>Description:</b> The 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.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> Signature retransmit flow
	<b>Discovered in Version:</b> 24.37.1300
33291 09	<b>Description:</b> MFS1S50-H003E cable supports only HDR rate when used as a split cable.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> HDR, split cable, MFS1S50-H003E
	<b>Discovered in Version:</b> 24.37.1300
32675 06	<b>Description:</b> CRC is included in the traffic byte counters as a port byte counter.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> Counters, CRC
	<b>Discovered in Version:</b> 24.35.2000
31410 72	<b>Description:</b> The "max_shaper_rate" configuration query via QEEC mlxreg returns a value translated to hardware granularity.



Internal Ref.	Issue
	<p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> RX Rate-Limiter, Multi-host</p> <p><b>Discovered in Version:</b> 24.34.1002</p>
2870970	<p><b>Description:</b> 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><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> GTP encapsulation</p> <p><b>Discovered in Version:</b> 24.34.1002</p>
2899026 / 2853408	<p><b>Description:</b> Some pre-OS environments may fail when sensing a hot plug operation during their boot stage.</p> <p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> BIOS; Hot plug; Virtio-net</p> <p><b>Discovered in Version:</b> 24.33.1048</p>
2870213	<p><b>Description:</b> Servers do not recover after configuring PCI_SWITCH_EMULATION_NUM_PORT to 32 followed by power cycle.</p> <p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> VirtIO-net; power cycle</p> <p><b>Discovered in Version:</b> 24.33.1048</p>
2855592	<p><b>Description:</b> When working with 3rd party device (e.g., Paragon) in 25GbE speed, the 25GbE speed must be configured in force mode.</p> <p><b>Workaround:</b> N/A</p> <p><b>Keywords:</b> Force mode, 3rd party devices, 25GbE</p> <p><b>Discovered in Version:</b> 24.33.1048</p>
285003	<p><b>Description:</b> Occasionally, when rising a logical link, the link recovery counter is increase by 1.</p> <p><b>Workaround:</b> N/A</p>

Internal Ref.	Issue
	<b>Keywords:</b> Link recovery counter
	<b>Discovered in Version:</b> 24.33.1048
26167 55	<b>Description:</b> Forward action for IPoIB is not supported on RX RDMA Flow Table.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> Steering, IPoIB
	<b>Discovered in Version:</b> 24.33.1048

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# PreBoot Drivers (FlexBoot/UEFI)

## FlexBoot Changes and New Features

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

## UEFI Changes and Major New Features

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

# Validated and Supported Cables and Modules

## Cables Lifecycle Legend

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

## NDR Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NDR	400GE	980-91068-00NM00	MMS1X00-NS400	NVIDIA single port transceiver, 400Gbps, NDR, QSFP112, MPO, 1310nm SMF, up to 500m, flat top	Early BOM
NDR	NA	980-9181B-00N004	MCA7J65-N004	NVIDIA Active copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xQSFP112, 4m	P-Rel
NDR	NA	980-9181C-00N005	MCA7J65-N005	NVIDIA Active copper splitter cable, IB twin port NDR 800Gb/s to 2x400Gb/s, OSFP to 2xQSFP112, 5m	P-Rel

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NDR	NA	980-9176G-00N004	MCA7J75-N004	NVIDIA Active copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xQSFP112, 4m	P-Rel
NDR	NA	980-9176H-00N005	MCA7J75-N005	NVIDIA Active copper splitter cable, IB twin port NDR 800Gb/s to 4x200Gb/s, OSFP to 4xQSFP112, 5m	P-Rel
NDR	NA	980-91928-00N001	MCP7Y10-N001	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 2x400Gbps, OSFP to 2xQSFP112,1m, fin to flat	P-Rel
NDR	NA	980-91929-00N002	MCP7Y10-N002	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 2x400Gbps, OSFP to 2xQSFP112,2m, fin to flat	P-Rel
NDR	NA	980-9180P-00N003	MCP7Y10-N003	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 2x400Gbps, OSFP to 2xQSFP112,3m, fin to flat	P-Rel
NDR	NA	980-9180A-00N01A	MCP7Y10-N01A	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 2x400Gbps, OSFP to 2xQSFP112,1.5m, fin to flat	P-Rel
NDR	NA	980-9180Q-00N02A	MCP7Y10-N02A	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 2x400Gbps, OSFP to 2xQSFP112,2.5m, fin to flat	P-Rel
NDR	NA	980-9180B-00N001	MCP7Y40-N001	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 4x200Gbps, OSFP to 4xQSFP112, 1m, fin to flat	P-Rel
NDR	NA	980-9180C-00N002	MCP7Y40-N002	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 4x200Gbps, OSFP to 4xQSFP112, 2m, fin to flat	P-Rel
NDR	NA	980-9175R-00N003	MCP7Y40-N003	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 4x200Gbps, OSFP to 4xQSFP112, 3m, fin to flat	P-Rel
NDR	NA	980-9175D-	MCP7Y40-	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 4x200Gbps, OSFP to	P-Rel

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00N01A	N01A	4xQSFP112, 1.5m, fin to flat	
NDR	NA	980-9175S-00N02A	MCP7Y40-N02A	NVIDIA passive copper splitter cable, 800(2x400)Gbps to 4x200Gbps, OSFP to 4xQSFP112, 2.5m, fin to flat	P-Rel
NDR	NA	980-9173U-000003	MFP7E10-N003	NVIDIA passive fiber cable, MMF , MPO12 APC to MPO12 APC, 3m	MP
NDR	NA	980-9173V-000005	MFP7E10-N005	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 5m	MP
NDR	NA	980-9157W-000007	MFP7E10-N007	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 7m	MP
NDR	NA	980-9157X-00N010	MFP7E10-N010	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 10m	MP
NDR	NA	980-9157Y-000015	MFP7E10-N015	NVIDIA passive fiber cable, MMF , MPO12 APC to MPO12 APC, 15m	MP
NDR	NA	980-9157Z-000020	MFP7E10-N020	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 20m	MP
NDR	NA	980-91573-00N025	MFP7E10-N025	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 25m	MP
NDR	NA	980-91570-00N030	MFP7E10-N030	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 30m	MP
NDR	NA	980-91570-00N035	MFP7E10-N035	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 35m	MP

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NDR	NA	980-91570-00N040	MFP7E10-N040	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 40m	MP
NDR	NA	980-9157Y-00N050	MFP7E10-N050	NVIDIA passive fiber cable, MMF, MPO12 APC to MPO12 APC, 50m	MP
NDR	NA	980-91571-00N003	MFP7E20-N003	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 3m	MP
NDR	NA	980-91572-00N005	MFP7E20-N005	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 5m	MP
NDR	NA	980-91573-00N007	MFP7E20-N007	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 7m	MP
NDR	NA	980-91554-00N010	MFP7E20-N010	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 10m	MP
NDR	NA	980-91555-00N015	MFP7E20-N015	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 15m	MP
NDR	NA	980-91556-00N020	MFP7E20-N020	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 20m	MP
NDR	NA	980-91557-00N030	MFP7E20-N030	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 30m	MP
NDR	NA	980-9155Z-00N050	MFP7E20-N050	NVIDIA passive fiber cable, MMF, MPO12 APC to 2xMPO12 APC, 50m	MP
NDR	NA	980-91559-	MFP7E30-N002	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 2m	LTB [MP]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00N002			
NDR	NA	980-9155A-00N003	MFP7E30-N003	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 3m	MP
NDR	NA	980-9155B-00N005	MFP7E30-N005	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 5m	MP
NDR	NA	980-9158C-00N007	MFP7E30-N007	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 7m	MP
NDR	NA	980-9158D-00N010	MFP7E30-N010	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 10m	MP
NDR	NA	980-9158E-00N015	MFP7E30-N015	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 15m	MP
NDR	NA	980-9158F-00N020	MFP7E30-N020	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 20m	MP
NDR	NA	980-9158G-00N030	MFP7E30-N030	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 30m	MP
NDR	NA	980-91580-00N030	MFP7E30-N040	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 40m	MP
NDR	NA	980-9158H-00N050	MFP7E30-N050	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 50m	MP
NDR	NA	980-91581-00N050	MFP7E30-N060	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 60m	MP



IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NDR	NA	980-91582-00N050	MFP7E30-N070	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 70m	MP
NDR	NA	980-91581-00N100	MFP7E30-N100	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 100m	MP
NDR	NA	980-9158J-00N150	MFP7E30-N150	NVIDIA passive fiber cable, SMF, MPO12 APC to MPO12 APC, 150m	MP
NDR	NA	980-9158K-00N003	MFP7E40-N003	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 3m	MP
NDR	NA	980-9158L-00N005	MFP7E40-N005	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 5m	MP
NDR	NA	980-9158M-00N007	MFP7E40-N007	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 7m	MP
NDR	NA	980-9158N-00N010	MFP7E40-N010	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 10m	MP
NDR	NA	980-9156O-00N015	MFP7E40-N015	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 15m	MP
NDR	NA	980-9156P-00N020	MFP7E40-N020	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 20m	MP
NDR	NA	980-9156Q-00N030	MFP7E40-N030	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 30m	MP
NDR	NA	980-9156R-	MFP7E40-N050	NVIDIA passive fiber cable, SMF, MPO12 APC to 2xMPO12 APC, 50m	MP

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		000050			
NDR	NA	980-91693-00NS00	MMA1Z00-NS400	NVIDIA single port transceiver, 400Gbps,NDR, QSFP112, MPO12 APC, 850nm MMF, up to 50m, flat top	P-Rel

## HDR / 200GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	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
HDR	200GE	980-9139E-00H001	MCP7H50-H001R30	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 1m	HVM
HDR	200GE	980-9199F-00H002	MCP7H50-H002R26	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 2m	HVM
HDR	200GE	980-9198G-00H01A	MCP7H50-H01AR30	Nvidia Passive copper splitter cable, 200Gbps to 2x100Gbps, QSFP56 to 2xQSFP56, 1.5m	HVM

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
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
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	NA	980-9I124-00H003	MFS1S00-H003E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 3m	EOL [HVM]
HDR	200GE	980-9I457-00H003	MFS1S00-H003V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 3m	MP
HDR	NA	980-9I45A-00H005	MFS1S00-H005E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 5m	EOL [HVM]
HDR	200GE	980-9I45D-00H005	MFS1S00-H005V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 5m	MP
HDR	NA	980-9I45G-	MFS1S00-H010E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 10m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00H010			
HDR	200GE	980-9I45J-00H010	MFS1S00-H010V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 10m	MP
HDR	NA	980-9I45M-00H015	MFS1S00-H015E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 15m	EOL [HVM]
HDR	200GE	980-9I45O-00H015	MFS1S00-H015V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 15m	MP
HDR	NA	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	NA	980-9I45Y-00H030	MFS1S00-H030E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 30m	EOL [HVM]
HDR	200GE	980-9I440-00H030	MFS1S00-H030V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 30m	MP
HDR	NA	980-9I455-00H050	MFS1S00-H050E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 50m	EOL [HVM]
HDR	200GE	980-9I447-00H050	MFS1S00-H050V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 50m	MP
HDR	NA	980-9I44G-00H100	MFS1S00-H100E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 100m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
HDR	200GE	980-9144H-00H100	MFS1S00-H100V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 100m	MP
HDR	NA	980-9144I-00H130	MFS1S00-H130E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 130m	EOL [HVM]
HDR	200GE	980-9144K-00H130	MFS1S00-H130V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 130m	MP
HDR	200GE	980-9144N-00H150	MFS1S00-H150V	Nvidia active optical cable, up to 200Gbps , QSFP56 to QSFP56, 150m	MP
HDR	NA	980-91452-00H003	MFS1S50-H003E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 3m	EOL [HVM]
HDR	200GE	980-91445-00H003	MFS1S50-H003V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 3m	HVM
HDR	NA	980-91956-00H005	MFS1S50-H005E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 5m	EOL [HVM]
HDR	200GE	980-91969-00H005	MFS1S50-H005V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 5m	HVM
HDR	NA	980-9195A-00H010	MFS1S50-H010E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 10m	EOL [HVM]
HDR	200GE	980-9196D-00H010	MFS1S50-H010V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 10m	HVM
HDR	NA	980-9195E-	MFS1S50-H015E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00H015		2xQSFP56 , LSZH, 15m	
HDR	200GE	980-9196H-00H015	MFS1S50-H015V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 15m	HVM
HDR	NA	980-9195I-00H020	MFS1S50-H020E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 20m	EOL [HVM]
HDR	200GE	980-9196L-00H020	MFS1S50-H020V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 20m	HVM
HDR	NA	980-9195M-00H030	MFS1S50-H030E	NVIDIA active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 30m	EOL [HVM]
HDR	200GE	980-9196P-00H030	MFS1S50-H030V	Nvidia active optical splitter cable, 200Gbps to 2x100Gbps , QSFP56 to 2x QSFP56, 30m	HVM
HDR	NA	980-91961-00H010	MFS1S90-H010E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 10m	EOL [HVM]
HDR	NA	980-91423-00H020	MFS1S90-H020E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 20m	EOL [HVM]
HDR	NA	980-91424-00H030	MFS1S90-H030E	NVIDIA active fiber splitter cable, IB HDR, 2x200Gb/s to 2x200Gb/s, 2xQSFP56 to 2xQSFP56 , LSZH, 30m	EOL [HVM]
HDR	NA	980-91175-00HS00	MMA1T00-HS	NVIDIA transceiver, HDR, QSFP56, MPO, 850nm, SR4, up to 100m	HVM
HDR	200GE	980-9145E-09H070	MFS1S00-H070V	NVIDIA active optical cable, up to 200Gb/s IB HDR, QSFP56, LSZH, 70m	MP

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
HDR	200GE	980-9I45L-00H150	MFS1S00-H150E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 150m	EOL [HVM]
HDR	200GE	980-9I45O-00H200	MFS1S00-H200E	NVIDIA active fiber cable, IB HDR, up to 200Gb/s, QSFP56, LSZH, black pulltab, 200m	EOL [EVT]

## EDR / 100GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	100GE	980-9I042-00C000	MMS1V70-CM	NVIDIA transceiver, 100GbE, QSFP28, LC-LC, 1310nm, DR1	P-Rel
EDR	100GE	980-9I62P-00C001	MCP1600-E001	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m 30AWG	EOL [HVM]
EDR	NA	980-9I62Q-00E001	MCP1600-E001E30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 1m, Black, 30AWG	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	NA	980-9I62T-00E002	MCP1600-E002E26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 2m, Black, 26AWG	Preliminary
EDR	NA	980-9I62U-00E002	MCP1600-E002E30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 2m, Black, 30AWG	HVM
EDR	100GE	980-9I62V-	MCP1600-E003	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00C003		26AWG	
EDR	NA	980-9I62W-00E003	MCP160 0-E003E26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 3m, Black, 26AWG	HVM
EDR	NA	980-9I62Y-00E004	MCP160 0-E004E26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 4m, Black, 26AWG	EOL [HVM]
EDR	NA	980-9I62Z-00E005	MCP160 0-E005E26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 5m, Black, 26AWG	HVM
EDR	NA	980-9I620-00E00A	MCP160 0-E00A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 0.5m 30AWG	EOL [HVM]
EDR	NA	980-9I621-00E00A	MCP160 0-E00AE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 0.5m, Black, 30AWG	EOL [HVM]
EDR	NA	980-9I622-00E00B	MCP160 0-E00BE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 0.75m, Black, 30AWG	EOL [HVM] [HIBERNATE]
EDR	100GE	980-9I623-00C01A	MCP160 0-E01A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1.5m 30AWG	EOL [HVM]
EDR	NA	980-9I624-00E01A	MCP160 0-E01AE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 1.5m, Black, 30AWG	HVM
EDR	NA	980-9I625-00E01C	MCP160 0-E01BE30	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 1.25m, Black, 30AWG	EOL [HVM] [HIBERNATE]
EDR	100GE	980-9I626-00C02A	MCP160 0-E02A	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2.5m 26AWG	EOL [HVM]



IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
EDR	NA	980-9I627-00E02A	MCP1600-E02AE26	NVIDIA Passive Copper cable, IB EDR, up to 100Gb/s, QSFP28, 2.5m, Black, 26AWG	LTB [HVM]
EDR	NA	980-9I13D-00E001	MFA1A00-E001	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m	EOL [HVM]
EDR	NA	980-9I13F-00E003	MFA1A00-E003	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m	EOL [HVM]
EDR	NA	980-9I13J-00E005	MFA1A00-E005	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 5m	HVM
EDR	NA	980-9I13M-00E007	MFA1A00-E007	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 7m	EOL [HVM]
EDR	NA	980-9I13O-00E010	MFA1A00-E010	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 10m	HVM
EDR	NA	980-9I13S-00E015	MFA1A00-E015	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 15m	EOL [HVM]
EDR	NA	980-9I13V-00E020	MFA1A00-E020	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 20m	HVM
EDR	NA	980-9I13Y-00E030	MFA1A00-E030	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 30m	HVM
EDR	NA	980-9I133-00E050	MFA1A00-E050	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 50m	EOL [HVM]
EDR	NA	980-9I135-	MFA1A00-E100	NVIDIA active fiber cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 100m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00E100			
EDR	NA	980-9I17L-00E000	MMA1B00-E100	NVIDIA transceiver, IB EDR, up to 100Gb/s, QSFP28, MPO, 850nm, SR4, up to 100m	HVM

## FDR / 56GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
FDR	56GE	980-9I679-00L004	MC2207126-004	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 4m	EOL [HVM]
FDR	56GE	980-9I67A-00L003	MC2207128-003	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 3m	EOL [HVM]
FDR	56GE	980-9I67C-00L02A	MC2207128-0A2	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 2.5m	EOL [MP]
FDR	56GE	980-9I67D-00L001	MC2207130-001	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 1m	EOL [HVM]
FDR	56GE	980-9I67E-00L002	MC2207130-002	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 2m	EOL [HVM]
FDR	56GE	980-9I67F-00L00A	MC2207130-00A	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 0.5m	EOL [HVM]
FDR	56GE	980-9I67G-00L01A	MC2207130-0A1	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 1.5m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
FDR	56GE	980-9I15U-00L003	MC22073 1V-003	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 3m	EOL [HVM]
FDR	56GE	980-9I15V-00L005	MC22073 1V-005	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 5m	EOL [HVM]
FDR	56GE	980-9I15W-00L010	MC22073 1V-010	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 10m	EOL [HVM]
FDR	56GE	980-9I15X-00L015	MC22073 1V-015	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 15m	EOL [HVM]
FDR	56GE	980-9I15Y-00L020	MC22073 1V-020	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 20m	EOL [HVM]
FDR	56GE	980-9I15Z-00L025	MC22073 1V-025	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 25m	EOL [HVM]
FDR	56GE	980-9I150-00L030	MC22073 1V-030	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 30m	EOL [HVM]
FDR	56GE	980-9I151-00L040	MC22073 1V-040	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 40m	EOL [HVM] [HIBERNATE ]
FDR	56GE	980-9I152-00L050	MC22073 1V-050	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 50m	EOL [HVM]
FDR	56GE	980-9I153-00L075	MC22073 1V-075	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 75m	EOL [HVM]
FDR	56GE	980-9I154-	MC22073 1V-100	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 100m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00L100			
FDR	56GE	980-9I676-00L002	MCP170L-F002	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, LSZH, 2m	EOS
FDR	56GE	980-9I677-00L003	MCP170L-F003	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, LSZH, 3m	EOS
FDR	NA	980-9I17M-00FS00	MMA1B00-F030D	NVIDIA transceiver, FDR, QSFP+, MPO, 850nm, SR4, up to 30m, DDMI	EOL [HVM]

## 50GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	50GE	980-9I44S-00G001	P16051-001	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 1m, black pulltab, 30AWG	Preliminary
NA	50GE	980-9I98T-00G02A	P16052-001	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 2.5m, black pulltab, 26AWG	Preliminary

## 40GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	40GE	980-9I666-00B004	MC2210126-004	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 4m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	40GE	980-91667-00B005	MC221 0126-005	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 5m	EOL [HVM]
NA	40GE	980-91668-00B003	MC221 0128-003	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m	EOL [HVM]
NA	40GE	980-9166A-00B001	MC221 0130-001	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m	EOL [HVM]
NA	40GE	980-9166C-00B002	MC221 0130-002	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m	EOL [HVM]
NA	40GE	980-9114D-00B003	MC221 0310-003	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 3m	EOL [MP]
NA	40GE	980-9114E-00B005	MC221 0310-005	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 5m	EOL [MP]
NA	40GE	980-9114F-00B010	MC221 0310-010	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 10m	EOL [MP]
NA	40GE	980-9114G-00B015	MC221 0310-015	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 15m	EOL [MP]
NA	40GE	980-9114H-00B020	MC221 0310-020	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 20m	EOL [MP]
NA	40GE	980-9114I-00B030	MC221 0310-030	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 30m	EOL [MP]
NA	40GE	980-9114J-	MC221 0310-	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 50m	EOL [MP]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00B050	050		
NA	40GE	980-9114K-00B100	MC2210310-100	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 100m	EOL [MP]
NA	40GE	980-9164V-00B005	MC2609125-005	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 5m	EOL [P-Rel]
NA	40GE	980-9164W-00B001	MC2609130-001	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1m	EOL [HVM]
NA	40GE	980-9164Y-00B003	MC2609130-003	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 3m	EOL [HVM]
NA	40GE	980-9172A-00B010	MCA7J60-C003	NVIDIA® passive fiber hybrid cable, MPO to 8xLC, 10m	Preliminary
NA	40GE	980-9172H-00B010	MCA7J70-C003	NVIDIA® passive fiber hybrid cable, MPO to 8xLC, 10m	Preliminary
NA	40GE	980-9166U-00B001	MCP1700-B001E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m, Black Pulltab	EOL [HVM]
NA	40GE	980-9166V-00B002	MCP1700-B002E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m, Black Pulltab	EOL [HVM]
NA	40GE	980-9166W-00B003	MCP1700-B003E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m, Black Pulltab	EOL [HVM]
NA	40GE	980-9166X-00B01A	MCP1700-B01AE	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1.5m, Black Pulltab	EOL [MP]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	40GE	980-9166Y-00B02A	MCP1700-B02AE	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2.5m, Black Pulltab	EOL [MP]
NA	40GE	980-9164X-00B01A	MCP7900-X01AA	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1.5m, Blue Pulltab, customized label	EOL [P-Rel] [HIBERNATE]
NA	40GE	980-91640-00B002	MCP7904-X002A	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 2m, Black Pulltab, customized label	EOL [HVM]
NA	40GE	980-91641-00B003	MCP7904-X003A	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 3m, Black Pulltab, customized label	EOL [HVM] [HIBERNATE]
NA	40GE	980-91642-00B01A	MCP7904-X01AA	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1.5m, Black Pulltab, customized label	EOL [HVM]
NA	40GE	980-91643-00B02A	MCP7904-X02AA	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 2.5m, Black Pulltab, customized label	EOL [P-Rel] [HIBERNATE]
NA	40GE	980-91426-00BM00	MMA1B00-B150D	NVIDIA transceiver, 40GbE, QSFP+, MPO, 850nm, SR4, up to 150m, DDMI	EOL [HVM]

## 25GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	25GE	980-9178I-00A000	MAM1Q00A-QSA28	NVIDIA cable module, ETH 25GbE, 100Gb/s to 25Gb/s, QSFP28 to SFP28	HVM
NA	25GE	980-9163J-00A001	MCP2M00-A001	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1m, 30AWG	EOL [HVM]
NA	25GE	980-9163L-00A001	MCP2M00-A001E30N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1m, Black, 30AWG, CA-N	EOL [HVM]
NA	25GE	980-9163N-00A002	MCP2M00-A002E26N	NVIDIA® Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2m, Black, 26AWG, CA-N	Preliminary
NA	25GE	980-9163O-00A002	MCP2M00-A002E30N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2m, Black, 30AWG, CA-N	EOL [HVM]
NA	25GE	980-9163R-00A003	MCP2M00-A003E26N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 3m, Black, 26AWG, CA-N	EOL [HVM]
NA	25GE	980-9163S-00A003	MCP2M00-A003E30L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 3m, Black, 30AWG, CA-L	EOL [HVM]
NA	25GE	980-9163T-00A004	MCP2M00-A004E26L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 4m, Black, 26AWG, CA-L	EOL [HVM]
NA	25GE	980-9163V-00A005	MCP2M00-A005E26L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 5m, Black, 26AWG, CA-L	EOL [HVM]
NA	25GE	980-9163W-00A00A	MCP2M00-A00A	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 0.5m, 30AWG	EOL [HVM]
NA	25GE	980-9163X-	MCP2M00-	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 0.5m, Black, 30AWG,	EOL [HVM]



IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00A00A	A00AE30N	CA-N	
NA	25GE	980-9I63Z-00A01A	MCP2M00-A01AE30N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 1.5m, Black, 30AWG, CA-N	EOL [HVM]
NA	25GE	980-9I631-00A02A	MCP2M00-A02AE26N	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, Black, 26AWG, CA-N	EOL [HVM]
NA	25GE	980-9I632-00A02A	MCP2M00-A02AE30L	NVIDIA Passive Copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, Black, 30AWG, CA-L	EOL [HVM]
NA	25GE	980-9IA1T-00A003	MFA2P10-A003	NVIDIA active optical cable 25GbE, SFP28, 3m	EOL [HVM]
NA	25GE	980-9I53W-00A005	MFA2P10-A005	NVIDIA active optical cable 25GbE, SFP28, 5m	EOL [HVM]
NA	25GE	980-9I53Z-00A007	MFA2P10-A007	NVIDIA active optical cable 25GbE, SFP28, 7m	EOL [HVM]
NA	25GE	980-9I532-00A010	MFA2P10-A010	NVIDIA active optical cable 25GbE, SFP28, 10m	EOL [HVM]
NA	25GE	980-9I535-00A015	MFA2P10-A015	NVIDIA active optical cable 25GbE, SFP28, 15m	EOL [HVM]
NA	25GE	980-9I536-00A020	MFA2P10-A020	NVIDIA active optical cable 25GbE, SFP28, 20m	EOL [HVM]

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

## 10GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	10GE	980-9171G-00J000	MAM1Q00A-QSA	NVIDIA cable module, ETH 10GbE, 40Gb/s to 10Gb/s, QSFP to SFP+	HVM
NA	10GE	980-9165P-00J005	MC2309124-005	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 5m	EOL [P-Rel]
NA	10GE	980-9165Q-00J007	MC2309124-007	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 7m	EOL [P-Rel]
NA	10GE	980-9165R-00J001	MC2309130-001	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 1m	EOL [HVM]
NA	10GE	980-9165S-	MC2309130-	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 2m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		00J002	002		
NA	10GE	980-9165T-00J003	MC230 9130-003	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 3m	EOL [HVM]
NA	10GE	980-9165U-00J00A	MC230 9130-00A	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 0.5m	EOL [HVM] [HIBERNATE]
NA	10GE	980-91682-00J004	MC330 9124-004	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 4m	EOL [HVM]
NA	10GE	980-91683-00J005	MC330 9124-005	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 5m	EOL [HVM]
NA	10GE	980-91684-00J006	MC330 9124-006	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 6m	EOL [HVM]
NA	10GE	980-91685-00J007	MC330 9124-007	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 7m	EOL [HVM]
NA	10GE	980-91686-00J001	MC330 9130-001	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m	EOL [HVM]
NA	10GE	980-91688-00J002	MC330 9130-002	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m	EOL [HVM]
NA	10GE	980-9168B-00J003	MC330 9130-003	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m	EOL [HVM]
NA	10GE	980-9168F-00J00A	MC330 9130-00A	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 0.5m	EOL [HVM]

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	10GE	980-9168G-00J01A	MC330 9130-0A1	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1.5m	EOL [HVM]
NA	10GE	980-9168H-00J02A	MC330 9130-0A2	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m	EOL [HVM]
NA	10GE	980-9168A-00J001	MCP21 00-X001B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m, Blue Pulltab, Connector Label	EOS
NA	10GE	980-9168B-00J002	MCP21 00-X002B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m, Blue Pulltab, Connector Label	EOL [HVM] [HIBERNATE]
NA	10GE	980-9168C-00J003	MCP21 00-X003B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, Blue Pulltab, Connector Label	EOL [HVM]
NA	10GE	980-9168E-00J001	MCP21 04-X001B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m, Black Pulltab, Connector Label	EOL [HVM] [HIBERNATE]
NA	10GE	980-9168F-00J002	MCP21 04-X002B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m, Black Pulltab, Connector Label	EOL [HVM]
NA	10GE	980-9168G-00J003	MCP21 04-X003B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, Black Pulltab, Connector Label	EOL [HVM]
NA	10GE	980-9168H-00J01A	MCP21 04-X01AB	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1.5m, Black Pulltab, Connector Label	EOL [HVM]
NA	10GE	980-9168I-00J02A	MCP21 04-X02AB	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m, Black Pulltab, Connector Label	EOL [HVM]
NA	10GE	930-90000-	MFM1T 02A-LR	NVIDIA SFP+ optical module for 10GBASE-LR	HVM

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
		0000-343			
NA	10GE	MFM1T02A-LR-F	MFM1T02A-LR-F	NVIDIA optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 1310nm, LR up to 10km	HVM
NA	10GE	930-90000-0000-409	MFM1T02A-SR	NVIDIA SFP+ optical module for 10GBASE-SR	HVM
NA	10GE	MFM1T02A-SR-F	MFM1T02A-SR-F	NVIDIA optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 850nm, SR up to 300m	HVM
NA	10GE	MFM1T02A-SR-P	MFM1T02A-SR-P	NVIDIA optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 850nm, SR up to 300m	HVM

## 1GbE Cables

IB Data Rate	Eth Data Rate	NVIDIA SKU	Legacy P/N	Description	LifeCycle Phase
NA	1GE	980-91270-001M00	MC3208011-SX	NVIDIA Optical module, ETH 1GbE, 1Gb/s, SFP, LC-LC, SX 850nm, up to 500m	EOL [P-Rel]
NA	1GE	980-91251-001S00	MC3208411-T	NVIDIA module, ETH 1GbE, 1Gb/s, SFP, Base-T, up to 100m	HVM

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# Release Notes History

## Changes and New Feature History

Feature/Change	Description
24.41.1000	
<b>TRNG FIPS Compliance</b>	Implemented Deterministic Random Bit Generator (DRBG) algorithm on top of firmware TRNG (the source for raw data input) in accordance with NIST SP800-90A.
<b>vDPA Live Migration</b>	Added support for vDPA virtual queue state change from suspend to ready, and discrete mkey for descriptor. vDPA Live Migration uses these two new capabilities to reduce downtime since vq can go back to ready state for traffic and descriptor-only-mkey can help reduce mkey mapping time.
<b>NVConfig</b>	Added a new NVConfig option to copy AR bit from the BTH header to the DHCP header.
<b>Steering</b>	Added the option provide field's offset and length in Steering add_action option.
<b>Flex Parser Merge Mechanism</b>	Extended Flex Parser merge mechanism to support hardware capabilities.
<b>Flex Parser</b>	Enabled the option to disable the native parser when the parse graph node is configured with the same conditions.
<b>Flex Parser</b>	Added support for father/son headers parsing.
<b>LRO</b>	Added support for tunnel_offload in LRO.
<b>Bug Fixes</b>	See <i>Bug Fixes in this Firmware Version</i> section.
32.39.2048	
Feature/Change	Description

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

Feature/Change	Description
24.39.2048	
<b>NC-SI Channels</b>	Added support for two passthrough channels on dual-port adapter cards.
<b>Expansion ROM</b>	Added a caching mechanism to improved expansion ROM performance and to avoid any slow boot occurrences when loading the expansion ROM driver.
<b>Live Migration Support for Image Size above 4GB</b>	Added support for image size above 4GB when performing a live migration by splitting the image to chunks.
<b>Crypto Algorithms</b>	Extended the role-based authentication to cover all crypto algorithms. Now the TLS, IPsec, MACsec, GCM, mem2mem, and NISP work when nv_crypto_conf.crypto_policy = CRYPTO_POLICY_FIPS_LEVEL_2, meaning all cryptographic engines can also work in wrapped mode and not only in plaintext mode.

Feature/Change	Description
<b>DSCP (priority) of ACK Packets</b>	Added the ability to configure the DSCP (priority) of ACK packets using the ROCE_ACCL access register.
<b>Performance Improvements</b>	Added support for large MTU for force loopback QPs to improve performance (using the aes_xts_tweak_inc_64 parameter). This capability is enabled by mlxconfig LARGE_MTU_TWEAK_64 parameter.
<b>DDR Poison: DDR Uncorrectable Error</b>	When there is DDR poison (uncorrectable ECC error), firmware reports the health syndrome ICM_FETCH_PCI_DATA_POISONED_ERR (0x14), and triggers the FLR on the the function causing this error. Due to this error, the DDR data is mostly corrupted therefore, the firmware blocks other operations on this function.
<b>Live Firmware Patch</b>	Added support for Live Firmware Patch.
<b>Reserved mkey</b>	Added new support for reserved mkey index range. When enabled, a range of mkey indexes is reserved for mkey by name use.
<b>Admin Queue</b>	Added support for admin queue in virtio device object.
<b>Enhanced NIC Mode: GGA Modules</b>	Enabled GGA modules for all working modes (except for RXP) when using Enhanced NIC Mode.
<b>Bug Fixes</b>	See <i>Bug Fixes in this Firmware Version</i> section.

Feature/Change	Description
24.38.1002	
<b>INT Packets</b>	Added support for forwarding INT packets to the user application for monitoring purposes by matching the BTH acknowledge request bit (bth_a).
<b>Bug Fixes</b>	See <i>Bug Fixes in this Firmware Version</i> section.

Feature/Change	Description
24.37.1300	



Feature/Change	Description
<b>Precision Time Protocol (PTP)</b>	Added support for Precision Time Protocol (PTP), the protocol used to synchronize clocks throughout a computer network as part of 5T Technology.
<b>Mergeable Buffer</b>	Added mergeable buffer support (VIRTIO_NET_F_MRG_RXBUF in virtio spec) for VDPA kernel mode to improve performance in case of large MTU such as 9K. The feature is disabled by default and must be manually enabled while creating or modifying the virtio device. <b>Note:</b> For best performance, it is <b>NOT</b> recommended to enable the feature if the VDPA MTU is set to the default value (1500).
<b>Monitoring Cloud Guest RoCE Statistics on Cloud Provider</b>	This new capability enables the VM to track and limit its Vport's activity. This is done using the new q_counters counter which enables aggregation of other Vport's from PF GVMl.
<b>NVME Device Emulation</b>	Enables the firmware to generate a Device Change Event upon any change in the NVME Device Emulation object (BAR change, HotPlug power state change, NVME Function reset, etc).
<b>PCC Algorithms</b>	Enables a smooth and statically switch between PCC algorithms. In addition, the user can now switch between PCC algorithms while running traffic.
<b>Hardware Steering: Bulk Allocation</b>	Added support for 32 actions in the header modify pattern using bulk allocation.
<b>Bug Fixes</b>	See <i>Bug Fixes in this Firmware Version</i> section.

## Bug Fixes History

Internal Ref.	Issue
3665350	<b>Description:</b> Fixed an issue on the customized server with an independent power supply, that led to an assert with ext_synd as 0x8ce5 during a power cycle process for virtio.

Internal Ref.	Issue
	<p><b>Keywords:</b> virtio emulation, independent power supply</p> <p><b>Discovered in Version:</b> 24.39.2048</p> <p><b>Fixed in Release:</b> 24.41.1000</p>
379873 3	<p><b>Description:</b> Fixed an issue that caused traffic not to function properly after performing Live Migration with ingress traffic for vDPA over VFE scenario.</p> <p><b>Keywords:</b> virtio, vDPA over VFE, Live Migration</p> <p><b>Discovered in Version:</b> 24.39.2048</p> <p><b>Fixed in Release:</b> 24.41.1000</p>
355583 2	<p><b>Description:</b> Fixed an issue that caused traffic failure when modifying the VIRTIO_NET_F_MRG_RXBUF bit for the VDPA device during traffic.</p> <p><b>Keywords:</b> VDPA, MRG_RXBUF</p> <p><b>Discovered in Version:</b> 24.39.2048</p> <p><b>Fixed in Release:</b> 24.41.1000</p>
377110 0	<p><b>Description:</b> Fixed an issue that resulted in the second mkey index returning even if it was not set in the creation of the virtio q when querying virtio q object.</p> <p><b>Keywords:</b> VDPA, virtio, query object</p> <p><b>Discovered in Version:</b> 24.39.2048</p> <p><b>Fixed in Release:</b> 24.41.1000</p>
378368 6	<p><b>Description:</b> Fixed an issue on the customized server with an independent power supply, that led to a non-functional virtio when power cycled the server during stressful traffic. The following error was provided: "DESTROY_GENERAL_OBJECT(0xa03) No done completion".</p> <p><b>Keywords:</b> virtio full emulation, independent power supply</p> <p><b>Discovered in Version:</b> 24.39.2048</p> <p><b>Fixed in Release:</b> 24.41.1000</p>
369177 4	<p><b>Description:</b> Fixed an issue that resulted in traffic loss after performing Live Migration with virtio vq "frozen-ready" feature.</p>

Internal Ref.	Issue
	<b>Note:</b> When the traffic load is high, and the vq frozen-ready cap is on, traffic loss might still be experienced after modifying the vq from suspend to ready mode.
	<b>Keywords:</b> VDPA, live migration, virtio, resume
	<b>Discovered in Version:</b> 24.39.2048
	<b>Fixed in Release:</b> 24.41.1000

Internal Ref.	Issue
3634184	<b>Description:</b> Changed HW ETS (QETCR RL) default to be per host-port instead of per physical port to avoid bandwidth degradation.
	<b>Keywords:</b> HW ETS
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.40.1000
3728130	<b>Description:</b> Fixed an issue that resulted in DESTROY_GENERAL_OBJECT(0xa03) and MODIFY_GENERAL_OBJECT(0xa01) getting timeout when performing a host power cycle with an independent-power-supplied BlueField-2 on which the virtio devices are hotplugged.
	<b>Keywords:</b> Virtio full emulation, Bluefield-2
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.40.1000
3708035	<b>Description:</b> Fixed an issue with Selective-Repeat configuration which occasionally caused retransmission to wait for timeout instead of out-of-sequence NACK.
	<b>Keywords:</b> RoCE, SR
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.40.1000
3695219	<b>Description:</b> Enabled the lowest minimum rate for SW DCQCN to enable congestion control to hold a larger amount of QPs without pauses or drops.

Internal Ref.	Issue
	<p><b>Keywords:</b> Congestion control, PCC, DCQCN</p> <p><b>Discovered in Version:</b> 24.38.1002</p> <p><b>Fixed in Release:</b> 24.40.1000</p>
3609404	<p><b>Description:</b> Redirected multicast traffic to loopback only on MNG PF port using PT Tx loopback CAM HW mechanism.</p> <p><b>Keywords:</b> Multicast traffic, loopback, MNG PF</p> <p><b>Discovered in Version:</b> 24.38.1002</p> <p><b>Fixed in Release:</b> 24.40.1000</p>
3629353	<p><b>Description:</b> Fixed the cr_space in port configuration to prevent wrong timestamp of cques.</p> <p><b>Keywords:</b> Hardware timestamp</p> <p><b>Discovered in Version:</b> 24.38.1002</p> <p><b>Fixed in Release:</b> 24.40.1000</p>
3547022	<p><b>Description:</b> Fixed an issue that resulted in reset failure when unloading network drivers on an external host and the sync1 reset is still reported as 'supported' although it is not.</p> <p><b>Keywords:</b> sync1 reset</p> <p><b>Discovered in Version:</b> 24.38.1002</p> <p><b>Fixed in Release:</b> 24.40.1000</p>
3534774	<p><b>Description:</b> Fixed an issue that prevented the Power Controller Control bit in the Slot Control register from returning to default when forcing the Unplug sequence.</p> <p><b>Keywords:</b> Power Controller Control</p> <p><b>Discovered in Version:</b> 24.38.1002</p> <p><b>Fixed in Release:</b> 24.40.1000</p>
3602169	<p><b>Description:</b> Added a locking mechanism to protect the firmware from a race condition between insertion and deletion of the same rule in parallel which</p>

Internal Ref.	Issue
	occasionally resulted in firmware accessing a memory that has already been released, thus causing IOMMU / translation error. <b>Note:</b> This fix will not impact insertion rate for tables owned by SW steering.
	<b>Keywords:</b> Firmware steering
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.40.1000
361268 2	<b>Description:</b> Enabled live migration for virtio with mergeable buffer.
	<b>Keywords:</b> Virtio, Mergeable buffer, Live migration
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.40.1000
357125 1	<b>Description:</b> Fixed an issue that resulted in migration data corruption when running parallel save_vhca_state/load_vhca_state commands on the same PF.
	<b>Keywords:</b> VF live migration
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.40.1000

Internal Ref.	Issue
360940 4	<b>Description:</b> Redirected multicast traffic to loopback only on MNG PF port using PT Tx loopback CAM HW mechanism.
	<b>Keywords:</b> Multicast traffic, loopback, MNG PF
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.39.2048
362935 3	<b>Description:</b> Fixed the cr_space in port configuration to prevent wrong timestamp of cqes.
	<b>Keywords:</b> Hardware timestamp
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.39.2048

Internal Ref.	Issue
354702 2	<b>Description:</b> Fixed an issue that resulted in reset failure when unloading network drivers on an external host and the sync1 reset is still reported as 'supported' although it is not.
	<b>Keywords:</b> sync1 reset
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.39.2048
353477 4	<b>Description:</b> Fixed an issue that prevented the Power Controller Control bit in the Slot Control register from returning to default when forcing the Unplug sequence.
	<b>Keywords:</b> Power Controller Control
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.39.2048
360216 9	<b>Description:</b> Added a locking mechanism to protect the firmware from a race condition between insertion and deletion of the same rule in parallel which occasionally resulted in firmware accessing a memory that has already been released, thus causing IOMMU / translation error.
	<b>Note:</b> This fix will not impact insertion rate for tables owned by SW steering.
	<b>Keywords:</b> Firmware steering
	<b>Discovered in Version:</b> 24.38.1002
<b>Fixed in Release:</b> 24.39.2048	
361268 2	<b>Description:</b> Enabled live migration for virtio with mergeable buffer.
	<b>Keywords:</b> Virtio, Mergeable buffer, Live migration
	<b>Discovered in Version:</b> 24.38.1002
	<b>Fixed in Release:</b> 24.39.2048
357125 1	<b>Description:</b> Fixed an issue that resulted in migration data corruption when running parallel save_vhca_state/load_vhca_state commands on the same PF.
	<b>Keywords:</b> VF live migration
	<b>Discovered in Version:</b> 24.38.1002

Internal Ref.	Issue
	<b>Fixed in Release:</b> 24.39.2048

Internal Ref.	Issue
336541 1	<b>Description:</b> Fixed a link failure that occurred due to a wrong 'is_inphi_cable' indication.
	<b>Keywords:</b> Link failure
	<b>Discovered in Version:</b> 24.37.1300
	<b>Fixed in Release:</b> 24.38.1002
343558 3	<b>Description:</b> Under certain configurations, during the loading of the PXE driver in Smart-NIC mode, the firmware attempts to lock the CMAS resources in ICMC sets that are full. This results in the failure of the locking and raises a health buffer indication. To prevent the above scenario, in this firmware version we improved the distribution of resource locking in ICMC.
	<b>Keywords:</b> ICMC locking
	<b>Discovered in Version:</b> 24.37.1300
	<b>Fixed in Release:</b> 24.38.1002
333117 9	<b>Description:</b> Improved token calculation.
	<b>Keywords:</b> Token calculation
	<b>Discovered in Version:</b> 24.37.1300
	<b>Fixed in Release:</b> 24.38.1002
349184 1	<b>Description:</b> Fixed a firmware assert that occurred when tried to verify if the module supported "swap".
	<b>Keywords:</b> Firmware assert
	<b>Discovered in Version:</b> 24.37.1300
	<b>Fixed in Release:</b> 24.38.1002

Internal Ref.	Issue
3432548	<b>Description:</b> Closed the attached QP doorbell to avoid any impact from the software side or the db_recovery mechanism
	<b>Keywords:</b> QP doorbell
	<b>Discovered in Version:</b> 24.35.2000
	<b>Fixed in Release:</b> 24.37.1300
3385129	<b>Description:</b> Fixed an issue that resulted in high PTP offset by changing the RST value to 200, and adjusting the PTP Tx offset in PTP4L configuration.
	<b>Keywords:</b> PTP glitch, PTP constant offset
	<b>Discovered in Version:</b> 24.35.2000
	<b>Fixed in Release:</b> 24.37.1300
3233113	<b>Description:</b> Disabled some HW optimization to prevent a HW race that caused an SQ to get stuck.
	<b>Keywords:</b> HW race, SQ
	<b>Discovered in Version:</b> 24.33.1048
	<b>Fixed in Release:</b> 24.37.1300
3306318	<b>Description:</b> Fixed the issue that caused the virtio PXE boot to fail due to virtio BLK controller being stuck in continuous host warm reboot.
	<b>Keywords:</b> virtio full emulation, PXE boot, warm reboot
	<b>Discovered in Version:</b> 24.35.2000
	<b>Fixed in Release:</b> 24.37.1300
3327847	<b>Description:</b> CNP received, handled, and ignored counters in the hardware counters cannot work after moving to Programmable Congestion Control mode.
	<b>Keywords:</b> CNP, Programmable Congestion Control
	<b>Discovered in Version:</b> 24.35.2000
	<b>Fixed in Release:</b> 24.37.1300



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