



NVIDIA BlueField-2 DPU Firmware Release Notes v24.39.2048

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1 Release Notes Update History

Version	Date	Description
24.39.2048	December 12, 2023	Initial release of this Release Notes version, This version introduces Changes and New Features and Bug Fixes .

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.

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.

2.1 Firmware Download

Please visit [Firmware Downloads](#).

2.2 Document Revision History

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

3 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, 50GbE¹, 100GbE¹, 200GbE², 400GbE²
- 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.

3.1 Supported Devices

NVIDIA SKU	Legacy OPNs	PSID	Description
900-9D206-0083-ST3	MBF2H332A-AECOT	MT_0000000541	BlueField-2 P-Series DPU 25GbE Dual-Port SFP56; PCIe Gen4 x8; Crypto and Secure Boot Enabled; 16GB on-board DDR; 1GbE OOB management; FHHL
900-9D208-0086-ST4	MBF2M516C-EECOT	MT_0000000728	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
900-9D208-0076-ST3	MBF2H536C-CESOT	MT_0000000767	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	MBF2H536C-CECOT	MT_0000000768	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
900-9D208-0076-STA	MBF2H516C-CEUOT	MT_0000000973	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
900-9D219-0086-ST1	MBF2M516A-CECOT	MT_0000000375	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	MBF2M516A-EECOT	MT_0000000376	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
900-9D208-0086-SQ0	MBF2H516C-CECOT	MT_0000000729	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-ST6	MBF2M516C-EESOT	MT_0000000732	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
900-9D218-0083-ST2	MBF2H512C-AECOT	MT_0000000724	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
900-9D218-0073-ST4	MBF2H512C-AEUOT	MT_0000000972	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
699140280000	N/A	NVD0000000020	ZAM/NAS
900-9D250-0048-ST1	MBF2M345A-HECOT	MT_0000000716	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; HHHH
900-9D208-0076-ST1	MBF2H516C-CESOT	MT_0000000738	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	MBF2H532C-AECOT	MT_0000000765	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
900-9D208-0076-STB	MBF2H536C-CEUOT	MT_0000001008	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
P1004 / 699210040230	N/A	NVD0000000015	ROY BlueField-2 + GA100 PCIe Gen4 x8; two 100GbE/EDR QSFP28 ports; FHFL

NVIDIA SKU	Legacy OPNs	PSID	Description
900-9D250-0038-ST1	MBF2M345A-HESOT	MT_0000000715	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; HHHH
900-9D218-0073-ST1	MBF2H512C-AESOT	MT_0000000723	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
900-9D208-0076-ST5	MBF2M516C-CESOT	MT_0000000731	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
900-9D208-0086-ST3	MBF2M516C-CECOT	MT_0000000733	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
900-9D208-0076-ST2	MBF2H516C-EESOT	MT_0000000737	BlueField-2 P-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
900-9D218-0073-ST0	MBF2H532C-AESOT	MT_0000000766	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

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

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
NVIDIA BlueField-2 Firmware	24.39.2048 / 24.38.1002 / 24.37.1300
BlueField DPU OS Software	4.5.x
MLNX_OFED	23.10-1.1.9.0 / 23.10-0.5.5.0 / 23.07-0.5.1.2 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes.

	Supported Version
MLNX_EN (MLNX_OFED based code)	23.10-1.1.9.0 / 23.10-0.5.5.0 / 23.07-0.5.1.2 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes.
WinOF-2	23.10.50000 / 23.7.50000 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes.
MFT	4.26.1 / 4.26.0 / 4.25.0 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes.
mstflint	4.26.1 / 4.26.0 / 4.25.0 Note: For the list of the supported Operating Systems, please refer to the driver's Release Notes.
FlexBoot	3.7.300
UEFI	14.32.17
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

4 Changes and New Features

4.1 Changes and New Feature in this Firmware Version

Feature/Change	Description
32.39.2048	
NC-SI Channels	Added support for two passthrough channels on dual-port adapter cards.
Expansion ROM	Added a caching mechanism to improved expansion ROM performance and to avoid any slow boot occurrences when loading the expansion ROM driver.
Live Migration Support for Image Size above 4GB	Added support for image size above 4GB when performing a live migration by splitting the image to chunks.
Crypto Algorithms	Extended the role-based authentication to cover all crypto algorithms. Now the TLS, IPsec, MACsec, GCM, mem2mem, and NISP work when <code>nv_crypto_conf.crypto_policy = CRYPTO_POLICY_FIPS_LEVEL_2</code> , meaning all cryptographic engines can also work in wrapped mode and not only in plaintext mode.
DSCP (priority) of ACK Packets	Added the ability to configure the DSCP (priority) of ACK packets using the ROCE_ACCL access register.
Performance Improvements	Added support for large MTU for force loopback QPs to improve performance (using the <code>aes_xts_tweak_inc_64</code> parameter). This capability is enabled by <code>mlxconfig LARGE_MTU_TWEAK_64</code> parameter.
DDR Poison: DDR Uncorrectable Error	When there is DDR poison (uncorrectable ECC error), firmware reports the health syndrome <code>ICM_FETCH_PCI_DATA_POISONED_ERR (0x14)</code> , 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.
Live Firmware Patch	Added support for Live Firmware Patch.
Reserved mkey	Added new support for reserved mkey index range. When enabled, a range of mkey indexes is reserved for mkey by name use.
Admin Queue	Added support for admin queue in virtio device object.
Enhanced NIC Mode: GGA Modules	Enabled GGA modules for all working modes (except for RXP) when using Enhanced NIC Mode.
Bug Fixes	See <i>Bug Fixes in this Firmware Version</i> section.

5 Bug Fixes in this Firmware Version

Internal Ref.	Issue
3609404	Description: Redirected multicast traffic to loopback only on MNG PF port using PT Tx loopback CAM HW mechanism.
	Keywords: Multicast traffic, loopback, MNG PF
	Discovered in Version: 24.38.1002
	Fixed in Release: 24.39.2048
3629353	Description: Fixed the cr_space in port configuration to prevent wrong timestamp of cqes.
	Keywords: Hardware timestamp
	Discovered in Version: 24.38.1002
	Fixed in Release: 24.39.2048
3547022	Description: 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.
	Keywords: sync1 reset
	Discovered in Version: 24.38.1002
	Fixed in Release: 24.39.2048
3534774	Description: Fixed an issue that prevented the Power Controller Control bit in the Slot Control register from returning to default when forcing the Unplug sequence.
	Keywords: Power Controller Control
	Discovered in Version: 24.38.1002
	Fixed in Release: 24.39.2048
3602169	Description: 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. Note: This fix will not impact insertion rate for tables owned by SW steering.
	Keywords: Firmware steering
	Discovered in Version: 24.38.1002
	Fixed in Release: 24.39.2048
3612682	Description: Enabled live migration for virtio with mergeable buffer.
	Keywords: Virtio, Mergeable buffer, Live migration
	Discovered in Version: 24.38.1002
	Fixed in Release: 24.39.2048
3571251	Description: Fixed an issue that resulted in migration data corruption when running parallel <code>save_vhca_state/load_vhca_state</code> commands on the same PF.
	Keywords: VF live migration
	Discovered in Version: 24.38.1002
	Fixed in Release: 24.39.2048

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)

For known issues prior to version

24.33.1048

, please refer to the NVIDIA BlueField-2 DPU [documentation](#).

Internal Ref.	Issue
3605828 / 3629606	Description: Some pre-OS environments may fail when sensing a hot-plug operation during their boot stage.
	Workaround: N/A
	Keywords: Hot-plug operation
	Discovered in Version: 24.39.2048
3525865	Description: Unexpected system behavior might be observed if the driver is loaded while reset is in progress.
	Workaround: N/A
	Keywords: Sync 1 reset, firmware reset
	Discovered in Version: 24.39.2048
3547022	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.
	Workaround: N/A

Internal Ref.	Issue
	Keywords: PTP path delay Discovered in Version: 24.38.1002
3547022	Description: 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. Workaround: N/A Keywords: Sync1 reset Discovered in Version: 24.38.1002
3457472	Description: Disabling the Relaxed Ordered (RO) capability (relaxed_ordering_read_pci_enabled=0) using the vhca_resource_manager is currently not functional. Workaround: N/A Keywords: Relaxed Ordered Discovered in Version: 24.37.1300
3296463	Description: fwreset is currently supported on PCI Gen 4 devices only. Workaround: N/A Keywords: fwreset, PCI Gen4 Discovered in Version: 24.37.1300
2878841	Description: 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. Workaround: N/A Keywords: Signature retransmit flow Discovered in Version: 24.37.1300
3329109	Description: MFS1S50-H003E cable supports only HDR rate when used as a split cable. Workaround: N/A Keywords: HDR, split cable, MFS1S50-H003E Discovered in Version: 24.37.1300
3267506	Description: CRC is included in the traffic byte counters as a port byte counter. Workaround: N/A Keywords: Counters, CRC Discovered in Version: 24.35.2000
3141072	Description: The "max_shaper_rate" configuration query via QEEC mlxreg returns a value translated to hardware granularity. Workaround: N/A Keywords: RX Rate-Limiter, Multi-host Discovered in Version: 24.34.1002

Internal Ref.	Issue
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: 24.34.1002</p>
2899026 / 2853408	<p>Description: Some pre-OS environments may fail when sensing a hot plug operation during their boot stage.</p> <p>Workaround: N/A</p> <p>Keywords: BIOS; Hot plug; Virtio-net</p> <p>Discovered in Version: 24.33.1048</p>
2870213	<p>Description: Servers do not recover after configuring <code>PCI_SWITCH_EMULATION_NUM_PORT</code> to 32 followed by power cycle.</p> <p>Workaround: N/A</p> <p>Keywords: VirtIO-net; power cycle</p> <p>Discovered in Version: 24.33.1048</p>
2855592	<p>Description: When working with 3rd party device (e.g., Paragon) in 25GbE speed, the 25GbE speed must be configured in force mode.</p> <p>Workaround: N/A</p> <p>Keywords: Force mode, 3rd party devices, 25GbE</p> <p>Discovered in Version: 24.33.1048</p>
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: 24.33.1048</p>
2616755	<p>Description: Forward action for IPoB is not supported on RX RDMA Flow Table.</p> <p>Workaround: N/A</p> <p>Keywords: Steering, IPoB</p> <p>Discovered in Version: 24.33.1048</p>

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 Modules

8.1 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

8.2 NDR / 400GbE Cables

Speed	Part Number	Marketing Description
400GE	MCP1660-W001E30	NVIDIA Direct Attach Copper cable, 400GbE, 400Gb/s, QSFP-DD, 1m, 30AWG
400GE	MCP1660-W002E26	NVIDIA Direct Attach Copper cable, 400GbE, 400Gb/s, QSFP-DD, 2m, 26AWG
400GE	MCP1660-W003E26	NVIDIA Direct Attach Copper cable, 400GbE, 400Gb/s, QSFP-DD, 3m, 26AWG
400GE	MCP1660-W00AE30	NVIDIA Direct Attach Copper cable, 400GbE, 400Gb/s, QSFP-DD, 0.5m, 30AWG
400GE	MCP1660-W01AE30	NVIDIA Direct Attach Copper cable, 400GbE, 400Gb/s, QSFP-DD, 1.5m, 30AWG
400GE	MCP1660-W02AE26	NVIDIA Direct Attach Copper cable, 400GbE, 400Gb/s, QSFP-DD, 2.5m, 26AWG
400GE	MCP7F60-W001R30	NVIDIA DAC splitter cable, 400GbE, 400Gb/s to 4x100Gb/s, QSFP-DD to 4xQSFP56, 1m, 30AWG
400GE	MCP7F60-W002R26	NVIDIA DAC splitter cable, 400GbE, 400Gb/s to 4x100Gb/s, QSFP-DD to 4xQSFP56, 2m, 26AWG
400GE	MCP7F60-W02AR26	NVIDIA DAC splitter cable, 400GbE, 400Gb/s to 4x100Gb/s, QSFP-DD to 4xQSFP56, 2.5m, 26AWG
400GE	MCP7H60-W001R30	NVIDIA DAC splitter cable, 400GbE, 400Gb/s to 2x200Gb/s, QSFP-DD to 2xQSFP56, 1m, 30AWG
400GE	MCP7H60-W002R26	NVIDIA DAC splitter cable, 400GbE, 400Gb/s to 2x200Gb/s, QSFP-DD to 2xQSFP56, 2m, 26AWG
400GE	MCP7H60-W01AR30	NVIDIA DAC splitter cable, 400GbE, 400Gb/s to 2x200Gb/s, QSFP-DD to 2xQSFP56, 1.5m, 30AWG
400GE	MCP7H60-W02AR26	NVIDIA DAC splitter cable, 400GbE, 400Gb/s to 2x200Gb/s, QSFP-DD to 2xQSFP56, 2.5m, 26AWG

8.3 HDR / 200GbE Cables

Speed	Part Number	Marketing Description
200GE	MFS1S00-V003E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 3m
200GE	MFS1S00-V005E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 5m
200GE	MFS1S00-V010E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 10m
200GE	MFS1S00-V015E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 15m
200GE	MFS1S00-V020E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 20m
200GE	MFS1S00-V030E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 30m
200GE	MFS1S00-V050E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 50m
200GE	MFS1S00-V100E	NVIDIA active fiber cable, 200GbE, 200Gb/s, QSFP56, LSZH, black pulltab, 100m
200GE	MCP1650-V001E30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1m, black pulltab, 30AWG
200GE	MCP1650-V002E26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2m, black pulltab, 26AWG
200GE	MCP1650-V00AE30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 0.5m, black pulltab, 30AWG
200GE	MCP1650-V01AE30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1.5m, black pulltab, 30AWG
200GE	MCP1650-V02AE26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2.5m, black pulltab, 26AWG
200GE	MCP7H50-V001R30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 1m, 30AWG
200GE	MCP7H50-V002R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 2m, 26AWG
200GE	MCP7H50-V01AR30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 1.5m, 30AWG
200GE	MCP7H50-V02AR26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 2.5m, 26AWG
200GE	MMA1T00-VS	NVIDIA transceiver, 200GbE, up to 200Gb/s, QSFP56, MPO, 850nm, SR4, up to 100m
200GE	MCP1650-V001E30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1m, black pulltab, 30AWG
200GE	MCP1650-V002E26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2m, black pulltab, 26AWG
200GE	MCP1650-V003E26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 3m, black pulltab, 26AWG

Speed	Part Number	Marketing Description
200GE	MCP1650-V00AE30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 0.5m, black pulltab, 30AWG
200GE	MCP1650-V01AE30	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 1.5m, black pulltab, 30AWG
200GE	MCP1650-V02AE26	NVIDIA Passive Copper cable, 200GbE, 200Gb/s, QSFP56, LSZH, 2.5m, black pulltab, 26AWG
200GE	MCP7H50-V001R30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 1m, 30AWG
200GE	MCP7H50-V002R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 2m, 26AWG
200GE	MCP7H50-V003R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 3m, 26AWG
200GE	MCP7H50-V01AR30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 1.5m, 30AWG
200GE	MCP7H50-V02AR26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56, colored, 2.5m, 26AWG
200GE	MCP7H70-V001R30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 1m, 30AWG
200GE	MCP7H70-V002R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 2m, 26AWG
200GE	MCP7H70-V003R26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 3m, 26AWG
200GE	MCP7H70-V01AR30	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 1.5m, 30AWG
200GE	MCP7H70-V02AR26	NVIDIA passive copper hybrid cable, 200GbE 200Gb/s to 4x50Gb/s, QSFP56 to 4xSFP56, colored, 2.5m, 26AWG

8.4 EDR / 100GbE Cables

Speed	Part Number	Marketing Description
100GbE	MCP1600-C001	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 1m 30AWG
100GbE	MCP1600-C001E30N	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 1m, black, 30AWG, CA-N
100GbE	MCP1600-C001LZ	NVIDIA passive copper Cable, ETH 100GbE, 100Gb/s, QSFP, 1m, LSZH, 30AWG
100GbE	MCP1600-C002	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 2m 30AWG
100GbE	MCP1600-C002E30N	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 2m, black, 30AWG, CA-N
100GbE	MCP1600-C003	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 3m 28AWG
100GbE	MCP1600-C003E26N	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 3m, black, 26AWG, CA-N

Speed	Part Number	Marketing Description
100GbE	MCP1600-C003E30L	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 3m, black, 30AWG, CA-L
100GbE	MCP1600-C003LZ	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, 3m, LSZH, 26AWG
100GbE	MCP1600-C005AM	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, 5m, 26AWG
100GbE	MCP1600-C005E26L	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 5m, black, 26AWG, CA-L
100GbE	MCP1600-C00A	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 0.5m 30AWG
100GbE	MCP1600-C00AE30N	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 0.5m, black, 30AWG, CA-N
100GbE	MCP1600-C00BE30N	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 0.75m, black, 30AWG, CA-N
100GbE	MCP1600-C01A	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 1.5m 30AWG
100GbE	MCP1600-C01AE30N	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 1.5m, black, 30AWG, CA-N
100GbE	MCP1600-C02A	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 2.5m 30AWG
100GbE	MCP1600-C02AE26N	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 2.5m, black, 26AWG, CA-N
100GbE	MCP1600-C02AE30L	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP28, 2.5m, black, 30AWG, CA-L
100GbE	MCP1600-C03A	NVIDIA passive copper cable, ETH 100GbE, 100Gb/s, QSFP, PVC, 3.5m 26AWG
100GbE	MCP1600-E001	NVIDIA passive copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1m 30AWG
100GbE	MCP1600-E002	NVIDIA passive copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2m 28AWG
100GbE	MCP1600-E003	NVIDIA passive copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 3m 26AWG
100GbE	MCP1600-E01A	NVIDIA passive copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 1.5m 30AWG
100GbE	MCP1600-E02A	NVIDIA passive copper cable, IB EDR, up to 100Gb/s, QSFP, LSZH, 2.5m 26AWG
100GbE	MCP7F00-A001R	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, colored pull-tabs, 1m, 30AWG
100GbE	MCP7F00-A001R30N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 1m, colored, 30AWG, CA-N
100GbE	MCP7F00-A002R	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, colored pull-tabs, 2m, 30AWG

Speed	Part Number	Marketing Description
100GbE	MCP7F00-A002R30N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2m, colored, 30AWG, CA-N
100GbE	MCP7F00-A003R26N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m, colored, 26AWG, CA-N
100GbE	MCP7F00-A003R30L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m, colored, 30AWG, CA-L
100GbE	MCP7F00-A005R26L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 5m, colored, 26AWG, CA-L
100GbE	MCP7F00-A01AR	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, colored pull-tabs, 1.5m, 30AWG
100GbE	MCP7F00-A01AR30N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 1.5m, colored, 30AWG, CA-N
100GbE	MCP7F00-A02AR26N	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, colored, 26AWG, CA-N
100GbE	MCP7F00-A02AR30L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, colored, 30AWG, CA-L
100GbE	MCP7F00-A02ARLZ	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 2.5m, LSZH, colored, 28AWG
100GbE	MCP7F00-A03AR26L	NVIDIA passive copper hybrid cable, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3.5m, colored, 26AWG, CA-L
100GbE	MCP7H00-G001	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 1m, 30AWG
100GbE	MCP7H00-G001R	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, colored pull-tabs, 1m, 30AWG
100GbE	MCP7H00-G001R30N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 1m, colored, 30AWG, CA-N
100GbE	MCP7H00-G002R	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, colored pull-tabs, 2m, 30AWG
100GbE	MCP7H00-G002R30N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 2m, colored, 30AWG, CA-N
100GbE	MCP7H00-G003R	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, colored pull-tabs, 3m, 28AWG

Speed	Part Number	Marketing Description
100GbE	MCP7H00-G003R26N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 3m, colored, 26AWG, CA-N
100GbE	MCP7H00-G003R30L	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 3m, colored, 30AWG, CA-L
100GbE	MCP7H00-G004R26L	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 4m, colored, 26AWG, CA-L
100GbE	MCP7H00-G01AR	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, colored pull-tabs, 1.5m, 30AWG
100GbE	MCP7H00-G01AR30N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 1.5m, colored, 30AWG, CA-N
100GbE	MCP7H00-G02AR	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, colored pull-tabs, 2.5m, 30AWG
100GbE	MCP7H00-G02AR26N	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 2.5m, colored, 26AWG, CA-N
100GbE	MCP7H00-G02AR30L	NVIDIA passive copper hybrid cable, ETH 100Gb/s to 2x50Gb/s, QSFP28 to 2xQSFP28, 2.5m, colored, 30AWG, CA-L
100GbE	MFA1A00-C003	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 3m
100GbE	MFA1A00-C005	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 5m
100GbE	MFA1A00-C010	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 10m
100GbE	MFA1A00-C015	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 15m
100GbE	MFA1A00-C020	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 20m
100GbE	MFA1A00-C030	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 30m
100GbE	MFA1A00-C050	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 50m
100GbE	MFA1A00-C100	NVIDIA active fiber cable, ETH 100GbE, 100Gb/s, QSFP, LSZH, 100m
100GbE	MFA7A20-C003	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 3m
100GbE	MFA7A20-C005	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 5m
100GbE	MFA7A20-C010	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 10m

Speed	Part Number	Marketing Description
100GbE	MFA7A20-C020	NVIDIA active fiber hybrid solution, ETH 100GbE to 2x50GbE, QSFP28 to 2xQSFP28, 20m
100GbE	MFA7A50-C003	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 3m
100GbE	MFA7A50-C005	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 5m
100GbE	MFA7A50-C010	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 10m
100GbE	MFA7A50-C015	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 15m
100GbE	MFA7A50-C020	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 20m
100GbE	MFA7A50-C030	NVIDIA active fiber hybrid solution, ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 30m
100GbE	MMA1B00-C100D	NVIDIA transceiver, 100GbE, QSFP28, MPO, 850nm, SR4, up to 100m, DDMI
100GbE	MMA1B00-C100D_FF	NVIDIA transceiver, 100GbE, QSFP28, MPO, 850nm, SR4, up to 100m, DDMI
100GbE	MMA1L10-CR	NVIDIA optical transceiver, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, LR4 up to 10km
100GbE	MMA1L30-CM	NVIDIA optical module, 100GbE, 100Gb/s, QSFP28, LC-LC, 1310nm, CWDM4, up to 2km
100GbE	MMS1C10-CM	NVIDIA active optical module, 100Gb/s, QSFP, MPO, 1310nm, PSM4, up to 500m

8.5 FDR / 56GbE Cables

Speed	Part Number	Marketing Description
56GbE	MC2207126-004	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 4m
56GbE	MC2207128-003	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 3m
56GbE	MC2207128-0A2	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 2.5m
56GbE	MC2207130-001	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 1m
56GbE	MC2207130-002	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 2m
56GbE	MC2207130-00A	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 0.5m
56GbE	MC2207130-0A1	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 1.5m
56GbE	MC220731V-003	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 3m

Speed	Part Number	Marketing Description
56GbE	MC220731V-005	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 5m
56GbE	MC220731V-010	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 10m
56GbE	MC220731V-015	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 15m
56GbE	MC220731V-020	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 20m
56GbE	MC220731V-025	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 25m
56GbE	MC220731V-030	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 30m
56GbE	MC220731V-040	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 40m
56GbE	MC220731V-050	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 50m
56GbE	MC220731V-075	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 75m
56GbE	MC220731V-100	NVIDIA active fiber cable, VPI, up to 56Gb/s, QSFP, 100m
56GbE	MCP1700-F001C	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 1m, Red pull-tab
56GbE	MCP1700-F001D	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 1m, Yellow pull-tab
56GbE	MCP1700-F002C	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 2m, Red pull-tab
56GbE	MCP1700-F002D	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 2m, Yellow pull-tab
56GbE	MCP1700-F003C	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 3m, Red pull-tab
56GbE	MCP1700-F003D	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, 3m, Yellow pull-tab
56GbE	MCP170L-F001	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, LSZH, 1m
56GbE	MCP170L-F002	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, LSZH, 2m
56GbE	MCP170L-F003	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, LSZH, 3m
56GbE	MCP170L-F00A	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, LSZH, 0.5m
56GbE	MCP170L-F01A	NVIDIA passive copper cable, VPI, up to 56Gb/s, QSFP, LSZH, 1.5m

8.6 50GbE Cables

Speed	Part Number	Marketing Description
50GE	MAM1Q00A-QSA56	NVIDIA cable module, ETH 50GbE, 200Gb/s to 50Gb/s, QSFP56 to SFP56
50GE	MCP2M50-G001E30	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 1m, black pulltab, 30AWG
50GE	MCP2M50-G002E26	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 2m, black pulltab, 26AWG
50GE	MCP2M50-G003E26	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 3m, black pulltab, 26AWG
50GE	MCP2M50-G00AE30	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 0.5m, black pulltab, 30AWG
50GE	MCP2M50-G01AE30	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 1.5m, black pulltab, 30AWG
50GE	MCP2M50-G02AE26	NVIDIA Passive Copper cable, 50GbE, 50Gb/s, SFP56, LSZH, 2.5m, black pulltab, 26AWG

8.7 FDR10 / 40GbE Cables

Speed	Part Number	Marketing Description
40GbE	MC2206128-004	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 4m
40GbE	MC2206128-005	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 5m
40GbE	MC2206130-001	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 1m
40GbE	MC2206130-002	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 2m
40GbE	MC2206130-003	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 3m
40GbE	MC2206130-00A	NVIDIA passive copper cable, VPI, up to 40Gb/s, QSFP, 0.5m
40GbE	MC2210126-004	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 4m
40GbE	MC2210126-005	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 5m
40GbE	MC2210128-003	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m
40GbE	MC2210130-001	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m
40GbE	MC2210310-003	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 3m
40GbE	MC2210310-005	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 5m

Speed	Part Number	Marketing Description
40GbE	MC2210310-010	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 10m
40GbE	MC2210310-015	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 15m
40GbE	MC2210310-020	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 20m
40GbE	MC2210310-030	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 30m
40GbE	MC2210310-050	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 50m
40GbE	MC2210310-100	NVIDIA active fiber cable, ETH 40GbE, 40Gb/s, QSFP, 100m
40GbE	MC2210411-SR4E	NVIDIA optical module, 40Gb/s, QSFP, MPO, 850nm, up to 300m
40GbE	MC2609125-005	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 5m
40GbE	MC2609130-001	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1m
40GbE	MC2609130-003	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 3m
40GbE	MCP1700-B001E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1m, black pull-tab
40GbE	MCP1700-B002E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m, black pull-tab
40GbE	MCP1700-B003E	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 3m, black pull-tab
40GbE	MCP1700-B01AE	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 1.5m, black pull-tab
40GbE	MCP1700-B02AE	NVIDIA passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2.5m, black pull-tab
40GbE	MCP7900-X01AA	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1.5m, blue pull-tab, customized label
40GbE	MCP7904-X002A	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 2m, black pull-tab, customized label
40GbE	MCP7904-X003A	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 3m, black pull-tab, customized label
40GbE	MCP7904-X01AA	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 1.5m, black pull-tab, customized label
40GbE	MCP7904-X02AA	NVIDIA passive copper hybrid cable, ETH 40GbE to 4x10GbE, QSFP to 4xSFP+, 2.5m, black pull-tab, customized label

Speed	Part Number	Marketing Description
40GbE	MMA1B00-B150D	NVIDIA transceiver, 40GbE, QSFP+, MPO, 850nm, SR4, up to 150m, DDMI

8.8 25GbE Cables

Speed	Part Number	Marketing Description
25GbE	MAM1Q00A-QSA28	NVIDIA cable module, ETH 25GbE, 100Gb/s to 25Gb/s, QSFP28 to SFP28
25GbE	MCP2M00-A001	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 1m, 30AWG
25GbE	MCP2M00-A001E30N	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 1m, black, 30AWG, CA-N
25GbE	MCP2M00-A002	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 2m, 30AWG
25GbE	MCP2M00-A002E30N	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 2m, black, 30AWG, CA-N
25GbE	MCP2M00-A003E26N	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 3m, black, 26AWG, CA-N
25GbE	MCP2M00-A003E30L	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 3m, black, 30AWG, CA-L
25GbE	MCP2M00-A004E26L	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 4m, black, 26AWG, CA-L
25GbE	MCP2M00-A005E26L	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 5m, black, 26AWG, CA-L
25GbE	MCP2M00-A00A	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 0.5m, 30AWG
25GbE	MCP2M00-A00AE30N	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 0.5m, black, 30AWG, CA-N
25GbE	MCP2M00-A01AE30N	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 1.5m, black, 30AWG, CA-N
25GbE	MCP2M00-A02AE26N	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, black, 26AWG, CA-N
25GbE	MCP2M00-A02AE30L	NVIDIA passive copper cable, ETH, up to 25Gb/s, SFP28, 2.5m, black, 30AWG, CA-L
25GbE	MFA2P10-A003	NVIDIA active optical cable 25GbE, SFP28, 3m
25GbE	MFA2P10-A005	NVIDIA active optical cable 25GbE, SFP28, 5m
25GbE	MFA2P10-A007	NVIDIA active optical cable 25GbE, SFP28, 7m
25GbE	MFA2P10-A010	NVIDIA active optical cable 25GbE, SFP28, 10m
25GbE	MFA2P10-A015	NVIDIA active optical cable 25GbE, SFP28, 15m
25GbE	MFA2P10-A020	NVIDIA active optical cable 25GbE, SFP28, 20m
25GbE	MFA2P10-A030	NVIDIA active optical cable 25GbE, SFP28, 30m
25GbE	MFA2P10-A050	NVIDIA active optical cable 25GbE, SFP28, 50m

Speed	Part Number	Marketing Description
25GbE	MMA2P00-AS	NVIDIA transceiver, 25GbE, SFP28, LC-LC, 850nm, SR, up to 150m

8.9 10GbE Cables

Speed	Part Number	Marketing Description
10GbE	MAM1Q00A-QSA	NVIDIA cable module, ETH 10GbE, 40Gb/s to 10Gb/s, QSFP to SFP+
10GbE	MC2309124-005	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 5m
10GbE	MC2309124-007	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 7m
10GbE	MC2309130-001	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 1m
10GbE	MC2309130-002	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 2m
10GbE	MC2309130-003	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 3m
10GbE	MC2309130-00A	NVIDIA passive copper hybrid cable, ETH 10GbE, 10Gb/s, QSFP to SFP+, 0.5m
10GbE	MC3309124-004	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 4m
10GbE	MC3309124-005	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 5m
10GbE	MC3309124-006	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 6m
10GbE	MC3309124-007	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 7m
10GbE	MC3309130-001	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m
10GbE	MC3309130-002	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m
10GbE	MC3309130-003	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m
10GbE	MC3309130-00A	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 0.5m
10GbE	MC3309130-0A1	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1.5m
10GbE	MC3309130-0A2	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m
10GbE	MCP2100-X001B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m, blue pull-tab, connector label
10GbE	MCP2100-X002B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m, blue pull-tab, connector label

Speed	Part Number	Marketing Description
10GbE	MCP2100-X003B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, blue pull-tab, connector label
10GbE	MCP2101-X001B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m, Green pull-tab, connector label
10GbE	MCP2104-X001B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1m, black pull-tab, connector label
10GbE	MCP2104-X002B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m, black pull-tab, connector label
10GbE	MCP2104-X003B	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 3m, black pull-tab, connector label
10GbE	MCP2104-X01AB	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 1.5m, black pull-tab, connector label
10GbE	MCP2104-X02AB	NVIDIA passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2.5m, black pull-tab, connector label
N/A	MFM1T02A-LR	NVIDIA SFP+ optical module for 10GBASE-LR
N/A	MFM1T02A-SR	NVIDIA SFP+ optical module for 10GBASE-SR

8.10 1GbE Cables

Speed	Part Number	Marketing Description
1GbE	MC3208011-SX	NVIDIA optical module, ETH 1GbE, 1Gb/s, SFP, LC-LC, SX 850nm, up to 500m
1GbE	MC3208411-T	NVIDIA module, ETH 1GbE, 1Gb/s, SFP, Base-T, up to 100m

9 Release Notes History

9.1 Changes and New Feature History

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

Feature/Change	Description
24.37.1300	
Precision Time Protocol (PTP)	Added support for Precision Time Protocol (PTP), the protocol used to synchronize clocks throughout a computer network as part of 5T Technology.
Mergeable Buffer	Added mergeable buffer support (VIRTIO_NET_F_MRG_RXBUF in virtio spec) for VDMA 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. Note: For best performance, it is NOT recommended to enable the feature if the VDMA MTU is set to the default value (1500).
Monitoring Cloud Guest RoCE Statistics on Cloud Provider	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 GVMI.
NVME Device Emulation	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).
PCC Algorithms	Enables a smooth and statically switch between PCC algorithms. In addition, the user can now switch between PCC algorithms while running traffic.
Hardware Steering: Bulk Allocation	Added support for 32 actions in the header modify pattern using bulk allocation.
Bug Fixes	See <i>Bug Fixes in this Firmware Version</i> section.

Feature/Change	Description
24.35.2000	
PCC Algorithm	Enables the users to collect more information from NP to RP for PCC algorithm. To achieve this, the NP ingress bytes information was added to the RTT response packet sent from the NP side.
HPCC: Support per-IP and per-QP methods	Enables the user to configure the PCC algorithm shaper coalescing mode using nvconfig to select CC algorithm shaper coalescing for IB and ROCE. The new parameters are <code>IB_CC_SHAPER_COALESCE</code> and <code>ROCE_CC_SHAPER_COALESCE</code> .
Bug Fixes	See <i>Bug Fixes in this Firmware Version</i> section.

Feature/Change	Description
24.35.1012	
HPCC, Programmable Congestion Control	HPCC related configurations in is now supported via the mlxconfig utility.
UDP	Added support for copy modify header steering action to/from the UDP field.
Resource Dump	Added the following resource dump segments: <ul style="list-style-type: none"> • SEG_HW_STE_FULL that includes dump to STE and all its dependencies • SEG_FW_STE_FULL that include dump to FW_STE and to HW_STE_FULL in range
Striding WQE - Headroom and Tail-room	As the software requires additional space before and after a packet is scattered for its processing for stridden RQ, the hardware will allocate the required room while scattering packets to spare a copy.
Connections per Second (CPS)	Improved security offload's Connections per Second (CPS) rate using the general object DEK (PSP TLS etc).
VirtIO vDPA Performance Virtualization	Increased the VirtIO hardware offload message rate to 20/20 MPPS for 256 virtual devices by optimizing the datapath application code.
Open SNAPI: Communication Channel	Open SNAPI steering hop optimization: <ul style="list-style-type: none"> • Only packets with dmac/dlid 0 will enter the SNAPI steering channel. Meaning if the Open SNAPI communication channel exists, all other traffic will have only 1 steering hop penalty • SW must use dlid/dmac == 0 in address vector of a SNAPI QP • cross eSwitch, Open SNAPI is now allowed if LAG is enabled
SHA Calculations	Added support for SHA calculations via the MMO engine.
UPT Performance	Optimized latency for UPT traffic.
NONDNIC, LAG	Added LAG support on NODNIC interfaces to enable traffic functionality on other ports after the LAG is enabled.
QoS Priority Trust Default State	QoS priority trust default state can now be changed using the new nvconfig below: <ul style="list-style-type: none"> • QOS_TRUST_STATE_P1 • QOS_TRUST_STATE_P2 The values that can be used to set the default state are: <ul style="list-style-type: none"> • TRUST_PORT • TRUST_PCP • TRUST_DSCP • TRUST_DSCP_PCP
VirtIO Full Emulation	Implemented a transitional device which supports both drivers conforming to the spec 1.x and allows legacy drivers to support virtio legacy driver (virtio 0.95).
Bug Fixes	See <i>Bug Fixes in this Firmware Version</i> section.

9.2 Bug Fixes History

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

Internal Ref.	Issue
3365411	Description: Fixed a link failure that occurred due to a wrong 'is_inphi_cable' indication.
	Keywords: Link failure
	Discovered in Version: 24.37.1300
	Fixed in Release: 24.38.1002
3435583	Description: 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.
	Keywords: ICMC locking
	Discovered in Version: 24.37.1300
	Fixed in Release: 24.38.1002
3331179	Description: Improved token calculation.
	Keywords: Token calculation
	Discovered in Version: 24.37.1300
	Fixed in Release: 24.38.1002
3491841	Description: Fixed a firmware assert that occurred when tried to verify if the module supported "swap".
	Keywords: Firmware assert
	Discovered in Version: 24.37.1300
	Fixed in Release: 24.38.1002

Internal Ref.	Issue
3432548	Description: Closed the attached QP doorbell to avoid any impact from the software side or the db_recovery mechanism
	Keywords: QP doorbell
	Discovered in Version: 24.35.2000
	Fixed in Release: 24.37.1300
3385129	Description: 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.
	Keywords: PTP glitch, PTP constant offset
	Discovered in Version: 24.35.2000
	Fixed in Release: 24.37.1300
3233113	Description: Disabled some HW optimization to prevent a HW race that caused an SQ to get stuck.
	Keywords: HW race, SQ
	Discovered in Version: 24.33.1048
	Fixed in Release: 24.37.1300

Internal Ref.	Issue
3306318	Description: Fixed the issue that caused the virtio PXE boot to fail due to virtio BLK controller being stuck in continuous host warm reboot.
	Keywords: virtio full emulation, PXE boot, warm reboot
	Discovered in Version: 24.35.2000
	Fixed in Release: 24.37.1300
3327847	Description: CNP received, handled, and ignored counters in the hardware counters cannot work after moving to Programmable Congestion Control mode.
	Keywords: CNP, Programmable Congestion Control
	Discovered in Version: 24.35.2000
	Fixed in Release: 24.37.1300

Internal Ref.	Issue
3217896	Description: Fixed RDE PATCH operation status code reported in case the property is "read-only".
	Keywords: RDE
	Discovered in Version: 24.35.1012
	Fixed in Release: 24.35.2000
3241357	Description: Fixed an issue in MCTP-over-PCIe, where the VDM message with the type Route-to-Root Complex, the target ID was not set as 0x0.
	Keywords: MCTP-over-PCIe, VDM message
	Discovered in Version: 24.35.1012
	Fixed in Release: 24.35.2000
3250924	Description: Fixed an issue that resulted in NVMe driver not loading on a hotplug-able device when VIRTIO_EMULATION_HOTPLUG_TRANS was enabled by mlxconfig.
	Keywords: VIRTIO_EMULATION_HOTPLUG_TRANS, NVMe
	Discovered in Version: 24.35.1012
	Fixed in Release: 24.35.2000
3215393	Description: Fixed an issue that caused the virtual QoS mechanism to stop traffic from reaching the full line rate of 200GbE on each direction when LAG was enabled.
	Keywords: Virtual QoS mechanism, 200GbE, LAG
	Discovered in Version: 24.35.1012
	Fixed in Release: 24.35.2000

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