



# **NVIDIA Switch-IB 2 Firmware v15.2007.0300 Release Notes**

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## Release Notes Update History

Revision	Date	Description
15.2007.0300	February 13, 2020	Initial release of this Release Notes version, This version introduces <a href="#">Changes and New Features</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.

## Firmware Download

Please visit <https://www.nvidia.com/en-us/networking/> → Support → Support → Firmware Download

## Document Revision History

A list of the changes made to this document are provided in [Changes and New Features History](#).

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# Firmware Compatible Products

These are the release notes for the Switch-IB™ 2 firmware. This firmware complements the Switch-IB™ 2 silicon architecture with a set of advanced features, allowing easy and remote management of the switch.

## Supported Systems

This firmware supports the devices and protocols listed in the table below.

Device Part Number	PSID	Description
MSB7890	MT_2640110032	Switch-IB™ 2 based EDR InfiniBand switch; 36 QSFP28 ports; externally managed

## Firmware Interoperability

This firmware version has been validated to work against platforms with the following software versions.

HCA/Switch	Firmware Version
Switch-IB™	11.2007.0300
SwitchX®-2	9.4.2000
ConnectX®-6	20.26.4012
ConnectX®-5 (Ex)	16.26.4012
ConnectX-4 Lx	14.26.4012
ConnectX-4	12.26.4012
Connect-IB®	10.16.6000
ConnectX-3 (Pro)	2.42.5000
MFT	4.13.3

## Supported Cables and Modules

For a list of the Mellanox supported cables please visit the LinkX™ Cables and Transceivers page of the Mellanox Website at:

<http://www.mellanox.com/products/interconnect/cables-configurator.php>.

### **Note**

When using Mellanox AOC cables longer than 50m use one VL to achieve full wire speed.

Please refer to the LinkX™ Cables and Transceivers webpage (<http://www.mellanox.com/products/interconnect/cables-configurator.php>) for the full list of supported cables and transceivers.

## Firmware Upgrade

Firmware upgrade may be performed directly from any previous version to this version. To upgrade firmware, please refer to the Mellanox Firmware Tools (MFT) package at: [http://www.mellanox.com/page/management\\_tools](http://www.mellanox.com/page/management_tools)

## PRM Revision Compatibility

This firmware version complies with the Mellanox Switches Programmer's Reference Manual (PRM), Rev 1.45 or later.

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# Changes and New Features

Category	Description
	15.2007.0300
Performance	Added support for link-negotiated credit size.

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# Bug Fixes in this Firmware Version

Firmware v15.2007.0300 does not include Bug Fixes. For a list of old Bug Fixes, please see [Bug Fixes History](#).

# Known Issues

The following sections describe known issues in firmware releases and possible workarounds.

Internal Ref.	Issue
955641	<b>Description:</b> VL_HIGH_LIMIT is not affecting the VL arbiter as expected.
	<b>Workaround:</b> Arbitration table should be set using only the low priority VL arbitration table
	<b>Keywords:</b> VL Arbitration
1249608	<b>Description:</b> Configuring weight “0” for VL, results in unexpected behavior.
	<b>Workaround:</b> Arbitration table should be configured with weights other than “0”.
	<b>Keywords:</b> VL Arbitration
982005	<b>Description:</b> When connecting 6 & 7 meters, link may raise DDR instead of QDR against GD4000/IS5000 switches.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> Link
-	<b>Description:</b> Congestion Control 1.3 supports congestion log only.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> QoS
-	<b>Description:</b> VL2VL mode is not supported from an aggregation port to an egress port.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> SHARP
-	<b>Description:</b> FDR link may rise with symbol errors on optic EDR cable longer than 30M.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> Link



Internal Ref.	Issue
-	<b>Description:</b> Port LEDs do not flash on system boot.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> LEDs
-	<b>Description:</b> Link width reduction is not supported in this release.
	<b>Workaround:</b> N/A
	<b>Keywords:</b> Power Management
-	<b>Description:</b> If QDR is not enabled for the switch's InfiniBand Port Speed while connected to ConnectX-3/Pro or Connect-IB® FDR adapters or to SwitchX® /SwitchX®-2 FDR switches, links will rise at SDR or DDR (even if FDR is enabled).
	<b>Workaround:</b> Enable QDR (in addition to FDR) when connecting to peer ports running at FDR
	<b>Keywords:</b> Interoperability

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# Changes and New Features History

## Note

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

Category	Description
15.2000.3276	
Power Supply	Added support for Delta 550m Power Supply.
15.2000.2626	
General	Added support for Error Injection with PTER register.
Speed Link	SDR link speed on InfiniBand systems is now available for all cables, including cables that do not advertise InfiniBand speed in their memory map.
15.2000.2046	
PSU's Temperature Thresholds	Now PSU's temperature thresholds (high and low) can be queried via the MTMP register.
15.2000.1600	
Bug Fixes	See <a href="#">Bug Fixes History</a> .
15.2000.1142	
Bug Fixes	See <a href="#">Bug Fixes History</a> .
15.2000.1000	

Category	Description
Chassis Management	Changed the PSU voltage read from “Vout” to “Vin”.
General	System stability improvements.
15.19100.0618	
General	Added support for PortStateTable standard SMP MAD.
Chassis Management	Added support for PSU utilization and consumption of output power.
Chassis Management	Added support for PSU temperature and 12V Vout monitoring.
15.1701.0010	
General	Added support for congestion control log 1.3 as described in IBTA IB specification release 1.3, Annex A10.
General	Added additional information (PDDR pages as described in the <i>Switches PRM</i> , section 8.15.50 PDDR - Port Diagnostics Database Register) to diagnostics data VS-MAD as described in Mellanox Vendor Specific MAD Specification 1.3 section 3.33 – DiagnosticData.
Chassis Management	Added ability to read part numbers and serial numbers for fans (by using MFNR register) and the power supply (by using MSPS register).
15.1610.0210	
SHARP	Added support for SHARP reproducibility configuration.
15.1610.0206	
General	Bug fixes
15.1610.0200	
Chassis Management	Added ability to read part numbers and serial numbers for fans (by using MFNR register) and the power supply (by using MSPS register).
15.1610.0196	
General	Added support for congestion control log 1.3 as described in IBTA IB specification release 1.3, Annex A10.
General	Added additional information (PDDR pages as described in the <i>Switches PRM</i> , section 8.15.50 PDDR - Port Diagnostics Database Register) to diagnostics data VS-MAD as described in Mellanox Vendor Specific MAD Specification 1.4 section 3.33 – DiagnosticData.

Category	Description
SHARP	Added support for group join optimization using root GID as described in Mellanox Vendor Specific MAD Specification 1.4 section 4.10 – Aggregation Group Join.

# Bug Fixes History

Internal Ref.	Issue
1786686	<b>Description:</b> Wrong behavior of ARGroupTableCopy MAD.
	<b>Keywords:</b> Adaptive Routing
	<b>Discovered in Release:</b> 15.2000.1142
	<b>Fixed in Release:</b> 15.2000.1600
1730194	<b>Description:</b> In rare cases, when connecting between Switch-IB/Switch-IB 2 and Quantum switch systems, traffic loss might occur.
	<b>Keywords:</b> Traffic, Switch-IB/Switch-IB 2, Quantum
	<b>Discovered in Release:</b> 15.2000.1000
	<b>Fixed in Release:</b> 15.2000.1142
1337469	<b>Description:</b> In rare cases, when a receiver's electrical eye is narrow, link might raise with BER higher (worse) than 10-12.
	<b>Keywords:</b> Link
	<b>Discovered in Release:</b> 15.1500.0034
	<b>Fixed in Release:</b> 15.1630.0206
1092005	<b>Description:</b> Enable SDR speed regardless of cable supported speeds
	<b>Keywords:</b> Link
	<b>Discovered in Release:</b> 15.1400.0102
	<b>Fixed in Release:</b> 15.1500.0106
1089528	<b>Description:</b> SHARP not functional in case of groups larger than 14 members
	<b>Keywords:</b> SHARP
	<b>Discovered in Release:</b> 15.1430.0160
	<b>Fixed in Release:</b> 15.1500.0106
964972	<b>Description:</b> In info block 29 (Thermal algorithm values): DELTA TEMP REPORTING > '4' will be considered '1'. DELTA TEMP REPORTING = 1,2,3

Internal Ref.	Issue
	returns no issues.
	<b>Keywords:</b> Thermal Management
	<b>Discovered in Release:</b> 15.1310.0138
	<b>Fixed in Release:</b> 15.1310.0150
-	<b>Description:</b> VL arbitration does not distribute traffic as expected in case of multiple VLs
	<b>Keywords:</b> General
	<b>Discovered in Release:</b> 15.1200.0102
	<b>Fixed in Release:</b> 15.1300.0100

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