



**Release Notes**

# MT25204 InfiniHost III Lx Firmware

FW-25204 Rev 1.0.700

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## MT25204 InfiniHost III Lx Firmware Release Notes

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# 1 Overview

These are the release notes for the MT25204 InfiniHost III Lx firmware, FW-25204 Rev 1.0.700. This firmware supports the Mellanox HCA Adapter Cards listed in Table 1.

Note: After burning new firmware to an HCA board, reboot the machine so that the new firmware can take effect.

Table 1 - Supported HCA Adapter Cards

HCA Card OPN	Code Name	Description
MHES14-XT	Tiger SDR	InfiniHost III Lx PCI Express x4 MemFree HCA Adapter Card. Note: IB ports support operation at single data rate (SDR) only.
MHES18-XT (Tall Bracket) MHES18-XS (Short Bracket)	Cheetah SDR	InfiniHost III Lx PCI Express x8 MemFree HCA Adapter Card. Note: IB ports support operation at single data rate (SDR) only.
MHGS18-XT (Tall Bracket) MHGS18-XS (Short Bracket)	Cheetah DDR	InfiniHost III Lx PCI Express x8 MemFree HCA Adapter Card. Note: IB ports support operation at double data rate (DDR).

The document consists of the following sections:

- “Major New Features” (page 3)
- “Known Issues” (page 4)
- “Bug Fixes” (page 5)
- “Creating a Device Configuration (.ini) File” (page 6)

## 2 Major New Features

- A new firmware versioning method is now applied
- The IB link specification as it is defined in IBTA v1.2 is now supported also for Single Data Rate operation of the link

## 3 Known Issues

The following table describes known issues in this firmware release and possible workarounds.

Table 2 - Known Issues

Index	Issue	Description	Current Implemented Workaround in FW	Possible Workaround	Patch Release (fix)	Scheduled Release (fix)
1.	Possible wrong PCI Rev-ID returned for early versions of MHES14-XT and MHES18-XT HCA Cards	Early MHES14-XT (Tiger) Cards (Rev A1/B00) and early MHES18-XT (Cheetah) Cards (Rev A00/B00) may appear as IB DDR capable (PCI Rev-ID 0x20) though they are not. (ID: 33834)	NA	Treat the HCA Card as if its PCI RevID is 0xA0 (SDR) and not 0x20	NA	1.0.800
2.	IB performance counters	IB performance counters are not visible through GSI (ID: 28304)	NA	NA	NA	NA
3.	MSIx vectors	Writing to MsiX vectors (Address/Data/Mask) does not take immediate effect. There may be MsiX messages that leave the device according to the old vector.	NA	Commit a PCI configuration cycle after the MsiX modification	NA	NA
4.	QPC.Flight_LIM	QPC field – no HW limit, infinite WQEs on send.	NA	NA	NA	NA
5.	RTR2RTS_QPEE; SQD2RTS_QPEE: changing optional fields rra_max and ra_buf_index is not supported.	The optional fields rra_max and ra_buf_index are not supported in the RTR2RTS_QPEE and SQD2TRS_QPEE commands.	Change requests for these fields will not take effect, and no error indication is provided.	Mask these optional fields	NA	NA
6.	PCI 2.3 control and status for interrupts	InfiniHost III Lx does not support PCI2.3 control and status bits for interrupts.	NA	NA	NA	NA
7.	Change of memory bars on a disabled system	Changing size / addresses of memory bars between SYS_DIS and SYS_EN may cause the InfiniHost III Lx to hang (ID: 24206)	NA	NA	NA	NA
8.	BAR resizing on an enabled system	Changing bar sizes when a system is enabled may cause the InfiniHost III Lx to hang (ID: 24208).	NA	NA	NA	NA
9.	SW reset via configuration cycles	SW reset via configuration cycles may create double PCI Express completions for the configuration transaction.	NA	If InfiniHost III Lx boots in memory controller mode, perform power cycle / hot reset after restoring the flash	NA	NA

Table 2 - Known Issues (Continued)

Index	Issue	Description	Current Implemented Workaround in FW	Possible Workaround	Patch Release (fix)	Scheduled Release (fix)
10.	SW reset is performed during a configuration transaction	If SW reset is performed while a configuration transaction is outstanding, it may create double PCI Express completions for the configuration transaction.	NA	Do not perform SW reset during configuration cycles	NA	NA
11.	Flash CRC error	InfiniHost III Lx fails to report a Flash CRC error.	NA	NA	NA	NA

### 3.1 Unsupported InfiniHost III Programmer's Reference Manual Features

The following features of the *InfiniHost III Programmer's Reference Manual, Document no. 2248PM*, are not supported:

1. Flight lim value in QPC may show a value other than 0'1111 even when set for unlimited usage. (Note: this feature is *not* scheduled for support.)
2. Power Management per the *PCI Express Base Specification, Rev. 1.0a* is not implemented.

## 4 Bug Fixes

The following table describes known issues from previous releases of InfiniHost III Ex firmware which were fixed in this firmware release.

Table 3 - Bug Fixes

Issue	Description	Discovered in	Fixed in
MAD_IFC command does not check all bits of port number	The MAD_IFC command now checks all of the 8-bit port field in the command input-modifier(ID:33213)	1.0.1	1.0.700
Send WQ with size 1 causes wrong WQE address in CQE	Fixed (ID:33302)	1.0.1	1.0.700
ACK delay when sender is back-pressured	This causes a transport timeout to the remote peer	1.0.1	1.0.700
RNR timer is always set to 0x1F	RNR timer for a Sender retry is always configured to 0x1F regardless of the QP set value (ID:31959)	1.0.1	1.0.700
Unreliable-QP context corruption	Fixed (ID:31927)	1.0.1	1.0.700
Long PCI express delays during boot	Fixed (ID:30081, 31119)	1.0.1	1.0.700

# 5 Creating a Device Configuration (.ini) File

Mellanox firmware burning tools enable setting and/or changing configuration variables by the use of an optional configuration (.ini) file. This is needed in case the default values of some variables do not suit a user's specific system requirements. This section describes how to create this configuration file.

To begin with, the .ini file is a text file is composed of one or several configuration sections (see Section 5.1 for the format and/or an example). It is recommended to include, under the appropriate sections, only those variables that need to be changed.

A firmware release includes a reference file called fw-25204-defaults.ref. This file contains the list of all variables which can be configured by a configuration (.ini) file. For each variable the reference file includes a short explanation, the [<section>] it should be under, the range of possible values, and a line with the default setting of the variable which is assumed by the firmware release.

To create the .ini file, simply copy the lines with the variables you wish to set, paste them under their appropriate [<section>] headings, and change the setting values as desired.

## 5.1 Configuration (.ini) File Format

The .ini file is composed of one or more sections with variable settings. Each section in the file starts with its name between square brackets, e.g. [ADAPTER], [HCA], [IB], etc. The section name is followed by one or more lines of configuration settings and comments, as in the .ini file example shown below. Note that comment lines start with a semicolon.

### Excerpt from fw-25204-defaults.ref:

```
;;;; VPD support can be Disabled/Enabled

;;;; Under [ADAPTER] section

;;;; Boolean parameter. Possible values: true, false .

vpd_enable = true
```

### Example of a .ini file:

```
;Begin of .ini file

[ADAPTER]

vpd_enable = false

;This is a comment line

;End of .ini file
```