



Dolphin MXP909 PXIe Peripheral module Firmware Release Note

February 27th, 2026

Version 1.5

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1 Introduction

This release note covers the MXP909 PXIe Peripheral module firmware. The firmware consists of Microchip PFX runtime executables, configuration data, and Board Management Controller firmware (BMC config). This release note summarizes the changes made. Please contact Dolphin for details.

1.1 Supported topologies

The latest released firmware supports the following transparent configurations

Cable Configuration:

- Single x4 / x8 / Downstream using cable ports 1 and 2
- Dual x4 Downstream cable ports 1 and 2
- PCIe 1.0 - 4.0 speed, autonegotiation

Backplane Configuration:

- Single x4 / x8 Backplane
- PCIe 1.0 – 3.0 x4 speed, autonegotiation

1.2 BMC Firmware versions

The Board Management Controller (BMC) handles resets, CMI communication, monitoring, and recovery. The table below details the BMC versions that have been released for the MXP909.

Firmware version	Release date	Note
1	September 24 th , 2020	Initial firmware release.
1.4	February 25 th , 2021	<ul style="list-style-type: none">• Adds Board Firmware Recovery support.• Adds firmware version reporting.• Add support for SFF-8644 AOC temperature reporting.
1.5	March 9 th , 2021	<ul style="list-style-type: none">• BMC stability improvement
2.0	June 24 th , 2021	<ul style="list-style-type: none">• Added support for PCI-SIG CMI sideband support, including reset and wake Signals.• Added longer delay before releasing PFX from reset after power on in order to allow clocks to stabilize.• Fixed link status issues with MR2 PFX firmware.• Added MXP909-BB base board
2.1	October 11 th , 2021	<ul style="list-style-type: none">• Added safety mechanism to trigger board shutdown on overtemperature.• New and improved PCIe 3.0 LED blinking pattern.• Added support for MXP909-CC
2.8	April 24 th , 2022	<ul style="list-style-type: none">• Added support for extended serial number format Bundled with eXpressWare 5.20.0 and newer
3.6	January 28 th , 2026	<ul style="list-style-type: none">• Fixed bug where SFF-86xx temperature could be wrong in dis_diag• Adds support for AOC voltage readout• Improved BMC stability Bundled with eXpressWare 5.25.0 and newer

1.3 PFX FLASH Versions

The PFX FLASH version changelog. Please note that the Dolphin software tools report the PFX FLASH version as the EEPROM version.

FLASH version	Release date	Note
1	January 18 th , 2021	Initial firmware version.
2	February 11 th , 2021	<ul style="list-style-type: none">• Updated to Microchip firmware release MR4 3.90.0.5b• ChipLink File Format 01.68.00

		<ul style="list-style-type: none"> • Disabled prefetch for management BAR0 • Updated patch tables • Updated port assignment.
3	April 26 th , 2022	<ul style="list-style-type: none"> • Fixed reset handling Bundled with eXpressWare 5.20.1 and newer
4	January 27 th , 2025	<ul style="list-style-type: none"> • Updated to Microchip firmware Release MR6 • Added config #8 (HOST_1x8) and #9 (HOST_2x4) without hot-plug capability * • Will no longer link down when the link de-trains • Link will now reach the correct speed quicker ** Bundled with eXpressWare 5.23.0 and newer
5	January 27 th , 2026	<ul style="list-style-type: none"> • Companion release for NXP 3.6 Bundled with eXpressWare 5.25 and newer

* The host machine allocates resources to support hot plug. Using these configs will result in fewer resources being allocated, especially when several daisy-chained chassis are involved.

** Adjusted “hold of” time to make link training more responsive

2 Appendix

2.1 How to determine the Firmware versions

The firmware component versions can be retrieved using the **dis_diag** tool. Please see the options using the **-h** option. This tool is available by installing eXpressWare Board Management Software 5.20.1 or newer. The software is available for both Windows and Linux and can be downloaded from www.dolphinics.com/mx.

2.1.1 Linux platforms

```
# cd /opt/DIS/sbin
# ./dis_diag
```

2.1.2 Windows platforms

```
> cd %ProgramFiles%\Dolphin Express MX\Util
> .\dis_diag
```

2.1.3 Example output

```
# dis_diag
```

```
=====
Dolphin diagnostic tool -- dis_diag version 5.20.1 (Mon Oct 12 16:44:17 CET 2021)
=====

Adapter 1 > Type                : MXP909
           Mode                 : TRANSPARENT
           NodeId               : 4
           Serial number        : MXP909-CD-000048
           MXH chip family      : MICROCHIP - PFX PCIe 4.0
           MXH chip vendorId    : 0x11f8
           MXH chip device      : 0x4028
           MXH chip revision    : ZB
           EEPROM version       : 05
           EEPROM vendor info   : 0x0000
           Firmware version    : 3.6
           Card revision        : CD
           Topology type        : Not determined
           Topology Autodetect  : No
           Number of enabled links : 2
           Max payload size (MPS) : 128
           Multicast group size  : 2 MB
           Multicast groups     : 4
           Clock mode slot      : Port
           Clock mode link      : Global
           BDF                  : 03:00.0
           PCIe slot hwport     : P 8
           PCIe slot state      : x4, PCIe 4.0 (16 GT/s)
           PCIe slot capabilities : x4, PCIe 3.0 (8 GT/s)
```

2.2 How to upgrade the firmware

The firmware can be upgraded using the upgrade_eeprom utility bundled with eXpressWare version 5.18 or newer.

2.2.1 Linux platforms

```
# cd /opt/DIS/sbin
# ./upgrade_eeprom.sh --upgrade
```

2.2.2 Windows platforms

Start PowerShell with administrative capabilities (Press Windows+X, select Windows PowerShell (Admin))

```
PS > cd "${env:ProgramFiles}\Dolphin Express MX\Util"
PS > Set-ExecutionPolicy AllSigned -Scope Process
PS > .\upgrade_eeprom.ps1 --upgrade
```

Please carefully review the output from the upgrade utility.

A complete power cycle of the system (including removal of AuxPower) is required. Please verify the firmware upgrade was successful after the system is powered on again, following the steps found in the section 2.1 How to determine the Firmware version above.

2.3 How to contact Dolphin Support

For general support questions, please contact Dolphin via the Jira Service Management portal:
www.dolphinics.com/csp.