



Dolphin PXH832 Adapter Firmware Release Note

17th March 2022

Version 1.6

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1 Introduction

This release note covers the Transparent PXH832 PCIe Gen3 x16 Adapter card firmware. The firmware consists of PLX EEPROM configuration data and Management processor firmware (BMC / STM config). This release note contains a summary of the changes made. Please contact Dolphin for details.

1.1 Firmware versions

The Firmware version is covering the PXH832 STM firmware changes. Firmware version 8.14 is current and recommended.

Firmware version	Release date	Note
8.4 - 8.8		Pre-development. Not recommended for use, please upgrade the latest available firmware.
8.9	September 23 rd 2019	Known problems: <ul style="list-style-type: none">• STM stability during Host reboot.• Temperature sensor may give false values.• Incompliance issues related to the CMI specification. Impact: This version is not recommended as devices may not be detected after a reboot. 3 rd party devices supporting the CMI protocol may not be reset. The link may not be properly trained to x16 Please upgrade to the latest firmware.
8.10	October 31 st 2019	Fixes: <ul style="list-style-type: none">• Fixes noncompliance issues related to the CMI specification.• Improve stability during Host reboot. With some servers, transparent IO devices may be undetected.• Fixed issue reading onboard temperature sensor. Incorrect values may be reported. Known problems: <ul style="list-style-type: none">• Target cards connected with a single CMI cable may not be reset. Impact: A reboot may be required to detect all devices when using a single CMI cable.
8.11	February 20 th 2020	Fixes: Improved CMI reset handling with one cable
8.12	June 2 nd 2020	Fixes: <ul style="list-style-type: none">• Fixed reboot problem that could cause host lookup using x8/x16 CMI cables• Fixed BMC stability issue that could cause target device not being detected during boot. Bundled with eXpressWare 5.18
8.13		Not released for PXH83x cards
8.14	March 8 th 2022	Fixes: <ul style="list-style-type: none">• Fixed issue to support AOC on some systems.• Fixes wrong CMI addressing issue. Current shipping version.

1.2 EEPROM Versions

The EEPROM version is tracking the PXH832 PLX EEPROM configuration changes. The firmware can be upgraded using the upgrade_eeprom utility bundled with eXpressWare. EEPROM version 12 is current and recommended.

EEPROM version	Release date	Note
10	March 29 th 2019	Added improved SerDes tuning for dual x8 links
11	April 10 th 2019	Fixes: Improved the Cable TX SerDes tuning for long cables
12	May 14 th 2019	No changes for PXH832 Bundled with eXpressWare 5.18
13	June 11th, 2020	Added LnkCap register to control surprise down error handling. Current shipping version

2 Appendix

2.1 How to check Firmware and EEPROM version

The version of the firmware components can be retrieved using the **dis_diag** tool. This tool is available by installing eXpressWare Board Management available at <http://www.dolphinics.com/px> This software is available for both Windows and Linux.

2.1.1 Linux platforms

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

2.1.2 Windows platforms

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

2.1.3 Example output

```
# dis_diag
=====
Dolphin diagnostic tool -- dis_diag version 5.18.0 (Mon Mar 19 16:44:17 CET 2021)
=====

dis_diag compiled in 64 bit mode
Driver : Dolphin IRM (GX) 5.18.0 Jan 24th 2021 (rev 33fff3a)
Date   : Thu Mar 22 12:59:28 CET 2021
System : Linux somenode 3.10.0-514.21.1.el7.x86_64 #1 SMP Thu Jan 25 17:04:51 UTC 2021
x86_64 x86_64 x86_64 GNU/Linux

Number of configured local adapters found: 1

Adapter 0 > Type           : PXH832
           Mode           : NTB
           NodeId         : 8
           Serial number  : PXH832-CF-021467
           PXH chip family : PLX_DRACO_2
           PXH chip vendorId : 0x10b5
           PXH chip device  : 0x8733
           PXH chip revision : 0xCA
           > EEPROM version : 12
           EEPROM vendor info : 0x0000
           > Firmware version : 8.12
           > Card revision : CG
```

2.2 How to upgrade the firmware

The firmware can be upgraded using the `upgrade_eeprom` utility bundled with eXpressWare Board Management Software.

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 PX\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 after the firmware upgrade.
Please verify the firmware upgrade was successful after system is powered on again following the steps found in section **Error! Reference source not found. Error! Reference source not found.** above.

2.3 How to contact Dolphin Support

Please contact Dolphin support at pci-support@dolphinics.com if you have any questions or issue.