



Dolphin PXH830 Adapter Firmware Release Note

29th March 2023

Version 1.7

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1 Introduction

This release note covers the PXH830 PCIe Gen3 x16 NTB Adapter card firmware. The firmware consists of PLX EEPROM configuration data and Management processor firmware (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 PXH830 STM firmware changes.

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">• Minor STM stability issue during Host reboot may cause card to be undetected in some systems. Impact: Low
8.10	October 31 st 2019	Known problem: <ul style="list-style-type: none">• Not possible to adjust PCIe Prefetch Space size Fixes: <ul style="list-style-type: none">• Improve stability during Host reboot.• Fixed issue reading onboard temperature sensor. Impact: Low, upgrade to 8.11 or newer if the PCIe Prefetch Space must be adjusted.
8.11	February 20 th 2020	Fixes: <ul style="list-style-type: none">• Enables field adjustments of PCIe Prefetch size.
8.12	June 2 nd 2020	PXH8xx companion release. No fixes for PXH83x
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 (link did not initialize after power on). 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	Release date	Note
10	March 29 th 2019	Fixes: <ul style="list-style-type: none">• Added improved SerDes tuning for dual x8 links• Move upstream DMA channel 1 to an unused port to reduce system load and fix potential system crash.
11	April 10th, 2019	Fixes: <ul style="list-style-type: none">• Improved the Cable TX SerDes tuning for long cables

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 available from Dolphin. Please see options using **-h** option. 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 5.6.0 (Mon Mar 19 16:44:17 CET 2018)
=====

dis_diag compiled in 64 bit mode
Driver : Dolphin IRM (GX) 5.6.0 Jan 24th 2018 (rev 33fff3a)
Date   : Thu Mar 22 12:59:28 CET 2018
System : Linux somenode 3.10.0-514.21.1.el7.x86_64 #1 SMP Thu May 25 17:04:51 UTC 2017
x86_64 x86_64 x86_64 GNU/Linux

Number of configured local adapters found: 1

Adapter 0 > Type           : PXH830
           Mode           : NTB
           NodeId         : 8
           Serial number   : PXH830-CF-021467
           PXH chip family  : PLX_DRACO_2
           PXH chip vendorId : 0x10b5
           PXH chip device  : 0x8733
           PXH chip revision : 0xCA
           > EEPROM version : 11
           EEPROM vendor info : 0x0000
           > Firmware version : 8.14
           > Card revision : CF
```

2.1.4 Old firmware warning

If **dis_diag** detects an outdated firmware, it will display something like this (depending on the version of the firmware and version of eXpressWare used):

```
***** TEST OF ADAPTER 0 *****
PROBLEM: EEPROM version 7 is too old. EEPROM version 10 or higher is required. Please upgrade adapter 0.
Run 'upgrade_eeprom' to upgrade
Possible explanation(s):
- Old EEPROM version.
[NOTE] Adapter 0: Current EEPROM version is 7, but a newer EEPROM version 11 exists
[NOTE] Run 'upgrade_eeprom' command to upgrade the EEPROM
OK: PXH chip alive in adapter 0.
```

NOTE: If you are using a card with custom firmware loaded – DO NOT run **upgrade_eeprom** to install the firmware bundled with eXpressWare unless you intend to migrate to the using firmware.

2.2 How to upgrade the firmware

If you intend to upgrade the firmware, the firmware can be upgraded using the upgrade_eeprom utility bundled with eXpressWare.

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 via

<https://www.dolphinics.com/sdp>

if you have any questions or issue.