

Advantech Product FAQ

PCIE-2230 NVM upgrade from V6.01 to V7.1

Applicable model list	PCIE-2230 series
Model name version	N/A
NVM Version	V7.1 (0x80007b33)

Attention please:

1. The `nvmupdate` utility only supports NMC's NVM upgraded, it doesn't support NVM downgraded.
2. This FAQ and `nvmupgarde` utility are only for Advantech PCIE-2230 (former name: PCIE-2202E), please don't use this utility to flash NMC-4005/4006/4007 NVM,
3. When PCIE-2230 NVM is NVM 4.42. please refer following link to upgrade NVM from V4.42 to V6.01, please don't direct this utility to flash V4.42 to V7.1

<https://advantech-ncg.zendesk.com/hc/en-us/articles/360016613591-PCIE-2230-former-name-PCIE-2202E-NVM-upgrade-from-V4-42-to-V6-01>

Flashing step:

1. Please decompress PCIE-2230.zip in USB, insert this USB in system and power on system.
2. We recommend customer to execute PCIE-2230 NVM upgrading in BIOS UEFI shell, please login BIOS and choose "UEFI: Built-in EFI Shell" in Save & Exit

```
Aptio Setup Utility - Copyright (C) 2019 American Megatrends, Inc.
Main Platform Hardware Server Mgmt Post & Boot Security Save & Exit

|-----|
| Save Changes and Exit |
| Discard Changes and Exit |
| Save Changes and Reset |
| Discard Changes and Reset |
|
| Save Options |
| Save Changes |
| Discard Changes |
| Restore Defaults |
| Save as User Defaults |
| Restore User Defaults |
|
| Boot Override |
| UEFI: Built-in EFI Shell |
| UEFI: UFD 3.0 Silicon-Power16G1.00, Partition 1 |
| UFD 3.0 Silicon-Power16G1.00 |
|-----|
|>: Select Screen |
|^v: Select Item |
|Enter: Select |
|+/-: Change Opt. |
|F1: General Help |
|F2: Previous Values |
|F3: Optimized Defaults |
|F4: Save & Exit |
|ESC: Exit |
|-----|

Version 2.20.1275. Copyright (C) 2019 American Megatrends, Inc.
```

Following picture is BIOS UEFI shell.

```
UEFI Interactive Shell v2.2
EDK II
UEFI v2.70 (American Megatrends, 0x0005000E)
Mapping table
  FS0: Alias(s):HD0g0b:;BLK1:
        PciRoot(0x0)/Pci(0x14,0x0)/USB(0x6,0x0)/HD(1,MBR,0x028B5E23,0x3F,0x1CE
7FC1)
  BLK0: Alias(s):
        PciRoot(0x0)/Pci(0x14,0x0)/USB(0x6,0x0)
Press ESC in 5 seconds to skip startup.nsh or any other key to continue.
Shell>
```

3. Please key-in following command to check PCIE-2230 NVM version,

Attention: "PCIE-2230.zip" only supports V6.01 (0x800035d5) to V7.1 (0x80007b33), if showing NVM version is not V6.01 (0x800035d5), please don't execute this utility.

```
# ethtool -i <PCIE-2230BP network device name>
```

Ex:

```
# ethtool -i b3bp0
```

```
driver: i40e
```

```
version: 2.7.29
```

```
firmware-version: 6.01 0x800035d5 0.0.0
```

```
expansion-rom-version:
```

```
bus-info: 0000:3b:00.0 <- network card BUS ID
```

```
supports-statistics: yes
```

```
supports-test: yes
```

```
supports-eeprom-access: yes
```

```
supports-register-dump: yes
```

```
supports-priv-flags: yes
```

4. Please refer following commands to check PCIE-2230BP NVM files in BIOS UEFI shell, and we suggest system only insert a USB flash and PCIE-2230BO network card,

```
Shell> fs0:
```

```
FS0:\> cd PCIE-2230
```

```
FS0:\PCIE-2230> ls
```

```
Directory of: FS0:\PCIE-2230\
```

```
03/23/2020 20:34 <DIR>          4,096 .
```

```
03/23/2020 20:34 <DIR>           0 ..
```

```
02/14/2020 06:49          4,194,304 1420049000_xl710v7p10p01.bin
```

```
10/25/2019 00:39           282 FVL_Adapter_VPD_MAP.txt
```

```
03/23/2020 10:59           301 nvupdate.cfg
```

```

01/23/2020  07:37          4,078,984  nvupdate64e
10/29/2019  00:57          5,411,520  nvupdate64e.efi
03/23/2020  16:24            1,190  PF_Alloc.txt
        6 File(s)  13,686,581 bytes
        2 Dir(s)

```

5. Please refer following command instruction to execute nvupdate utility in BIOS UEFI shell.

```
FS0:\PCIE-2230\> nvupdate64e.efi -l PCIE-2230.log
```

```

Intel(R) Ethernet NVM Update Tool
NVMUpdate version 1.34.17.7
Copyright (C) 2013 - 2019 Intel Corporation.

```

WARNING: To avoid damage to your device, do not stop the update or reboot or power off the system during this update.

Inventory in progress. Please wait [****-.....]

Num	Description	Ver. (hex)	DevId	S:B	Status
01)	Intel(R) I210 Gigabit Network Connection	3.37(3.25)	1533	00:001	Update not available
02)	Intel(R) I210 Gigabit Network Connection	3.37(3.25)	1533	00:002	Update not available
03)	Intel(R) I210 Gigabit Network Connection	3.37(3.25)	1533	00:005	Update not available
04)	Intel(R) Ethernet Connection X722 for 10GbE SFP+	3.51(3.33)	37D3	00:028	Update not available
05)	Intel(R) Ethernet Converged Network Adapter X710	6.01(6.01)	1572	00:059	Update available

Options: Adapter Index List (comma-separated), [A]ll, e[X]it

Enter selection: **05** ←choose PCIE-2230 device (X710)

Would you like to back up the NVM images? [Y]es/[N]o: **Y** ←please key-in “Y” to backup older NVM

Update in progress. This operation may take several minutes.

[....+*****]

Num	Description	Ver. (hex)	DevId	S:B	Status
-----	-------------	------------	-------	-----	--------

```

=====
01) Intel(R) I210 Gigabit Network      3.37(3.25) 1533 00:001 Update not
    Connection                               available
02) Intel(R) I210 Gigabit Network      3.37(3.25) 1533 00:002 Update not
    Connection                               available
03) Intel(R) I210 Gigabit Network      3.37(3.25) 1533 00:005 Update not
    Connection                               available
04) Intel(R) Ethernet Connection X722  3.51(3.33) 37D3 00:028 Update not
    for 10GbE SFP+                           available
05) Intel(R) Ethernet Converged        7.16(7.10) 1572 00:059 Update
    Network Adapter X710                       successful

```

Power Cycle is required to complete the update process.

Tool execution completed with the following status: All operations completed successfully.

Press any key to exit.

6. When utility reports “**All operations completed successfully**”, it means successful to upgrade NVM, please press any key to exit, and power off system.
7. If it reports error message during NVM flashing, please send “PCIE-2230.log” to Advantech NCG TSE team (support@advantech-ncg.zendesk.com).
8. Please power on system and login Linux, key-in following command to check PCIE-2230BP NVM version again, the NVM version will show V7.1 (0x80007b33) after upgrade NVM

```

# ethtool -i <PCIE-2230 network device name>
Ex:
# ethtool -i b3bp0
driver: i40e
version: 2.7.29
firmware-version: 7.10 0x80007b33 0.0.0
expansion-rom-version:
bus-info: 0000:3b:00.0 <- network card BUS ID
supports-statistics: yes
supports-test: yes
supports-EEPROM-access: yes
supports-register-dump: yes
supports-priv-flags: yes

```

Your may key-in following command to check NVM info from Advantech network card

```
# ethtool -s <PCIE-2230 network device BUS ID > -vvv | grep -i "Vendor specific"
```

Ex:

```
# lspci -s 03b:00 -vvv | grep -i "Vendor specific"
[V0] Vendor specific: N440
[V1] Vendor specific: V7.10
[V2] Vendor specific: V7.10.01
[V0] Vendor specific: N440
[V1] Vendor specific: V7.10
[V2] Vendor specific: V7.10.01
[V0] Vendor specific: N440
[V1] Vendor specific: V7.10
[V2] Vendor specific: V7.10.01
[V0] Vendor specific: N440
[V1] Vendor specific: V7.10
[V2] Vendor specific: V7.10.01
```