

Release Notes for VDSL CPE PHY Release: A2pv6F039x3

Introduction:

These release notes describe new enhancements and fixed caveats for the VDSL CPE PHY using firmware release A2pv6F039x3 for NIM-VAB-A and NIM-VAB-M on ISR4200, ISR4300 and ISR4400 series router.

Summary of changes:

This release has PHY firmware A2pv6F039x3 for Annex A and DSL driver version 26d. **This firmware package is released to meet the requirement of a specific Cisco customer and is not claimed to be a general availability. Other Cisco customers can download and upgrade to this firmware package but Cisco recommends customer to do their own qualification before installing it in production network.**

Packages Released:

- `isr4200-firmware_nim_xdsl.16.6_39x3.SSA.pkg`
- `isr4300-firmware_nim_xdsl.xe3.16_39x3.SSA.pkg`
- `isr4300-firmware_nim_xdsl.16.6_39x3.SSA.pkg`
- `isr4400-firmware_nim_xdsl.xe3.16_39x3.SSA.pkg`
- `isr4400-firmware_nim_xdsl.16.6_39x3.SSA.pkg`

Firmware Package Compatibility Matrix:

Firmware package	Supported Platform	Supported IOS	Recommended ROMMON
<code>isr4200-firmware_nim_xdsl.16.6_39x3.SSA.pkg</code>	ISR4221	16.6.1 rebuilds	16.4(3r)S
<code>isr4300-firmware_nim_xdsl.16.6_39x3.SSA.pkg</code>	ISR4321, ISR4331, ISR4351	16.6.1 rebuilds	16.4(3r)S
<code>isr4400-firmware_nim_xdsl.16.6_39x3.SSA.pkg</code>	ISR4431, ISR4451	16.6.1 rebuilds	16.4(3r)S
<code>isr4300-firmware_nim_xdsl.xe3.16_39x3.SSA.pkg</code>	ISR4321, ISR4331, ISR4351	15.5(3)S rebuilds	15.4(3r)S
<code>isr4400-firmware_nim_xdsl.xe3.16_39x3.SSA.pkg</code>	ISR4431, ISR4451	15.5(3)S rebuilds	15.4(3r)S

Note: It is recommended to install the firmware package on supported platforms running supported IOS version only.

New and Changes information:

This section contains changes introduced by Broadcom in Firmware release A2pv6F039x3.

Improvements in A2pv6F039x3 since last release (A2pv6F039x1)

- Fix no-connect against Intel CO with FW version 12.3.8 in G993.2

Improvements in A2pv6F039x1 since last release (A2pv6F039x)

- Improve kl0 estimate in G.992.[35]
- Fix ATTNR reporting in G.993.2 (2012) Amend 1
- Implement CPE workaround for IKNS CO5 IOP in G.993.2

Improvements in A2pv6F039x since last release (A2pv6F039w1)

- Fix G.993.2 Showtime drop issue for certain G.INP configuration
- Improve G.993.2 stability in the presence of ADSL xtalk
- Improve G.993.5 performance in long loop
- Improve power saving in DSL PHY by powering down unused line. This feature requires new xDSL driver A2x026n

Improvements in A2pv6F039w1 since last release (A2pv6F039w)

- Fix G.993.5 Showtime stability issue

Improvements in A2pv6F039w since last release (A2pv6F039v)

- Fix US CRC's against Calix C7 ADSL2-24A in G.992.[35]
- Improve G.993.2 DS/US performance for 63168+6303
- Improve Hlog computation on external line of 63168+6306
- Improve G.993.5 reach beyond 4kft
- Fix kl0 computation in G.993.2 for different AELEM modes
- Fix DS errors in G.993.2 on external line with 6306
- Fix DSL driver interface to prevent initialization on wrong AFEID
- Fix long training time in G.992.1 against AD72 DSLAM
- Support extended Bmax value of 13 in G.993.5
- Improve G.HS signal demodulation in low SNR cases
- Improve G.993.2 DS rates for cases with maxDelay of 0
- Improve G.993.2 Showtime stability when monitored tones are created
- Improve receiver characteristics to filter out of band xtalk in G.993.

Improvements in A2pv6F039v since last release (A2pv6F039u)

- Fix false detection of O-P Channel Discovery V1 in G.993.5
- Fix DS Errors in G.993.2 VDSL 8b profile on short loops with 63168+6306
- Fix Tx gain issue on 63168+6306 in G.993.2
- Fix G.993.2 IOP issues against CO4 when using 63168+6306
- Enable data aided error sample generation in G.993.5

Improvements in A2pv6F039u since last release (A2pv6F039t)

- Fix G.993.2 DELT training issue against Lantiq CO
- Support cost optimized AFE A.12.3.35 for G.993.2 17a. The 30MHz profile is not recommended for this AFEID 0x10808300

Related documents:

<https://www.cisco.com/c/en/us/products/collateral/routers/4000-series-integrated-services-routers-isr/datasheet-c78-733645.html>

<https://www.cisco.com/c/en/us/td/docs/routers/access/interfaces/NIM/software/configuration/guide/vdsl2-and-adsl2-nim.html>