2008-01-24

Danube & Amazon SE

Release Notes for ADSL Annex A Firmware

Firmware 2.2.1.12.0.1 & 3.2.1.12.0.1

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1 General notes

This document describes the features and known issues of the firmware release for ADSL Annex A functionality for the following platforms:

- Danube 2.2.1.12.0.1
- Amazon SE 3.2.1.12.0.1

High level ADSL feature overview

- ADSL, ADSL2 and ADSL2+ framing
- Support for T1.413 & G.lite
- L2 and L3[1)] power mode
- EOC support
- DELT support
- Annex M
- Annex I
- Enhanced framing allowing INP values that are not a power of 2
- Auto SRA in DS and SRA in US[2)] direction
- DEC adaptation during showtime
- Erasure decoding[3)]

1) Currently no software support
2) Controlled by the CO
3) Only supported by the Danube chip

1.1 New features/changes[1)]

Features

- Erasure decoding in the receive direction (DS) is always on.[2)] The error correction gain through erasure decoding is used for increased robustness of the link.
- Support of 24kbyte interleaver memory in DS direction as standardized.
- Support US enhanced framing (D up to 64)[3)].
- FT specific TX filter to pass FT POTS PSD tests implemented. This filter can be enabled via a FW API message.
- Improved DS LATN estimation.
- Common code base between Danube and Amazon-SE.

Performance related

- Optimized TDQ training in ADSL2/2+ to improve DS performance.
- PLL improvement for impulsive noise robustness.

Interoperability related

- DS bitswap now enabled with all DSLAMs in ADSL mode[4)].
- Improved DS rates with TI based DSLAMs in ADSL.
- Significantly improved US rates with TI4000C based DSLAMs.
- Improved DS rates with TI AC7 based DSLAMs in ADSL2/2+.
- Improved US rates and margins with TI AC7 based DSLAMs in ADSL2/2+.
- Improved DS rates with CNXT based DSLAMs in ADSL2/2+.
- Improved US rates and margins with CNXT based DSLAMs in ADSL2/2+.
- Improved US and DS rates with IFX Geminax MAX based DSLAMs in ADSL1.
- Workaround for an extended framing limitation of TI AC7 based DSLAMs.
- Workaround for a bit allocation bug in CNXT based DSLAMs.
- Workaround for several CNXT bugs which resulted in FECs & CRCs on short loops.

Bug fixes

- Modification in DEC adaptation algorithm so that long term stability is improved.
- Improved stability when a high numbers of L2->L0 transitions occur.
- Send correct IFFT-size during G.HS in NPAR3.

1) With respect to Danube FW version 2.1.3.6.0.1 and Amazon SE FW version 3.1.0.8.0.1
2) Only supported by the Danube chip
3) End-to-end feature and only supported together with Infineon Geminax MAX based DSLAMs
4) In ADSL2/2+ it was always enabled for all DSLAMs

Further changes

- no further changes with respect to Danube FW version 2.1.3.6.0.1 and Amazon SE FW version 3.1.0.8.0.1.

1.2 Not implemented or known issues

- When Auto SRA is performed INP and latency constraints are not respected. Minimum/Maximum rates and MSGmin constraints are respected, which means that an Auto SRA will not be requested if it would cause these constraints to be violated.
- To meet a MAXNOMATPds constraint issued by the CO, CPE will reduce NOMATP by a maximum of only 2.5dB (ADSL2/2+ only).
- ACTATPus reported to CO in HDLC response is not updated during showtime.
- ATTNDR calculation doesn't reflect up-to-date formula in standard (minor difference).
- Rx HDLC message segmentation is not supported.
- MAXNOMATPds requested by the CO is exceeded by up to 0,05dBm in rare cases.
- Data on pilot tone option of ADSL2 and ADSL2+ is not supported.

2 Add-on information

2.1 Version numbering

Table 1 Version information

Field	Contents
VER_Major	2 (for Danube); 3 (for Amazon SE)
VER_Minor	2
VER_Build	1.12
REL	0
VER_Applic	1 (Annex A)