broadband forum

TECHNICAL REPORT

TR-105
ADSL2/ADSL2plus Functionality Test Plan

Issue: 2 Amendment 2
Issue Date: June 2015

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Issue History

Issue Number	Approval Date	Publication Date	Issue Editor	Changes
1	February 2010	February 2010	Aleksandra Kozarev Lantiq	Original
2	November 2011	November 2011	Aleksandra Kozarev Lantiq	Next revision
2 Amendment 1	28 May 2013	1 June 2013	Aleksandra Kozarev Lantiq	Amendment 1
2 Amendment 2	1 June 2015	10 June 2015	Aleksandra Kozarev Lantiq	Amendment 2

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Table of Contents

Executive Summary

See *Executive Summary/TR-105 Issue 2*.

The following test is modified in TR-105:

- Table 5-12 Functional SRA test - Upstream

1 Purpose and Scope

1.1 Purpose

See *Section 1.1/TR-105 Issue 2*.

1.2 Scope

See *Section 1.2/TR-105 Issue 2*.

2 References and Terminology

2.1 Conventions

In this Technical Report, several words are used to signify the requirements of the specification. These words are always capitalized. More information can be found be in RFC 2119 [2].

SHALL	This word, or the term "REQUIRED", means that the definition is an absolute requirement of the specification.
SHALL NOT	This phrase means that the definition is an absolute prohibition of the specification.
SHOULD	This word, or the term "RECOMMENDED", means that there could exist valid reasons in particular circumstances to ignore this item, but the full implications need to be understood and carefully weighed before choosing a different course.
SHOULD NOT	This phrase, or the phrase "NOT RECOMMENDED" means that there could exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications need to be understood and the case carefully weighed before implementing any behavior described with this label.
MAY	This word, or the term "OPTIONAL", means that this item is one of an allowed set of alternatives. An implementation that does not include this option SHALL be prepared to inter-operate with another implementation that does include the option.

2.2 References

The following references are of relevance to this Technical Report. At the time of publication, the editions indicated were valid. All references are subject to revision; users of this Technical Report are therefore encouraged to investigate the possibility of applying the most recent edition of the references listed below.

A list of currently valid Broadband Forum Technical Reports is published at www.broadband-forum.org.

See *Section 2.2/TR-100 Issue 3*.

Document		Title	Source	Year
[1]	TR-105 Issue 2	*ADSL2/ADSL2plus Functionality Test Plan Issue 2*	BBF	2011
[2]	RFC 2119	*Key words for use in RFCs to Indicate Requirement Levels*	IETF	1997

2.3 Definitions

The following terminology is used throughout this Technical Report.

See *Section 2.3/TR-105 Issue 2*.

2.4 Abbreviations

This Technical Report uses the following abbreviations:

See *Section 2.4/TR-105 Issue 2*.

2.5 G.997.1 Parameters

This Technical Report uses the following G.997.1 Parameters:

See *Section 2.5/TR-105 Issue 2*.

3 Technical Report Impact

3.1 Energy Efficiency

TR-105 has no impact on energy efficiency.

3.2 IPv6

TR-105 Issue 2 Amendment 2 has no impact on IPv6.

3.3 Security

TR-105 Issue 2 Amendment 2 has no impact on security.

3.4 Privacy

Any issues regarding privacy are not affected by TR-105 Issue 2 Amendment 2.

4 Changes relative to TR-105 Issue 2

Update Table 5-12 Functional SRA test - Upstream as follows:

Table 5-12 Functional SRA test - Upstream

Test Configuration	(1) See Section 4.1 for the test configuration. (2) Configure the SUT with the Annex relevant test profile. A2P_SRA_F_30000k or B2P_SRA_F_30000k, and SRA parameter set 1 from Table 5-10. (3) Connect ATU-C and ATU-R to 5 kft 26AWG or 1500m PE04 for Annex A or 1500m PE04 for Annex B. (4) Set the noise generator to -120dBm/Hz AWGN at the ATU-R side and to ~~-100~~ -95dBm/Hz at the ATU-C side.
Method of Procedure	(1) Force a new initialization and wait for modems to sync. (2) Wait for 1 minute for bitswaps to settle. (3) Check the reported margin. Document US net data rate as rate_us. ***Downshift functionality sub-test*** (4) Increase the noise power level by 1 dB at ATU-C side only. (5) Wait for 1 minute, then check reported margin. (6) Repeat step (4) and (5) until: RA-DSNRM < reported margin at the side under test ≤ RA-DSNRM + 1.5dB. (7) Increase the noise power level by 3 dB at ATU-C side only. (8) Wait for (RA-DTIME + 15) s for SRA to settle. (9) Check reported US margin, and document as SRA_reported_margin _downshift_us. Document US net data rate as SRA_downshift_rate_us. (10) Execute a BER test for 7 minutes. Record the CRC and SES counts at the start and the end of the BER test. Actual number of CRCs and SESs is the difference between these two counts. Document the estimated BER. ***Upshift functionality sub-test*** (11) Decrease the noise power level by 1 dB at ATU-C side only. (12) Wait for 1 minute, then check reported margin. (13) Repeat step (11) and (12) until: RA-USNRM - 1.5dB ≤ reported margin at the side under test < RA-USNRM. (14) Decrease the noise power level by 3 dB at ATU-C side only. (15) Wait for (RA-UTIME + 15) s for SRA to settle. (16) Check reported US margin, and document as SRA_reported_margin _upshift_us. Document US net data rate as SRA_upshift_rate_us.

	(17) Execute a BER test for 7 minutes. Record the CRC and SES counts at the start and the end of the BER test. Actual number of CRCs and SESs is the difference between these two counts. Document the estimated BER. (18) Repeat the test steps (1) to (17) for SRA parameter set 2.
Expected Result	(1) No retrain SHALL occur during the test. (2) SRA_reported_margin_downshift_us ≥ RA-DSNRM. SRA_reported_margin_upshift_us ≤ RA-USNRM. (3) SRA_downshift_rate_us < rate_us. SRA_upshift_rate_us > SRA_downshift_rate_us. (4) Estimated BER SHALL NOT exceed 1e-7, and no SES SHALL be reported.

End of Broadband Forum Technical Report TR-105 Issue 2 Amendment 2