

# TR-138 Accuracy Tests for Test Parameters

Issue: 1 Corrigendum 1 Issue Date: April 2010

© The Broadband Forum. All rights reserved.

#### Notice

The Broadband Forum is a non-profit corporation organized to create guidelines for broadband network system development and deployment. This Broadband Forum Technical Report has been approved by members of the Forum. This Broadband Forum Technical Report is not binding on the Broadband Forum, any of its members, or any developer or service provider. This Broadband Forum Technical Report is subject to change, but only with approval of members of the Forum. This Technical Report is copyrighted by the Broadband Forum, and all rights are reserved. Portions of this Technical Report may be copyrighted by Broadband Forum members.

This Broadband Forum Technical Report is provided AS IS, WITH ALL FAULTS. ANY PERSON HOLDING A COPYRIGHT IN THIS BROADBAND FORUM TECHNICAL REPORT, OR ANY PORTION THEREOF, DISCLAIMS TO THE FULLEST EXTENT PERMITTED BY LAW ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY:

- (A) OF ACCURACY, COMPLETENESS, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR TITLE;
- (B) THAT THE CONTENTS OF THIS BROADBAND FORUM TECHNICAL REPORT ARE SUITABLE FOR ANY PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO THE COPYRIGHT HOLDER;
- (C) THAT THE IMPLEMENTATION OF THE CONTENTS OF THE TECHNICAL REPORT WILL NOT INFRINGE ANY THIRD PARTY PATENTS, COPYRIGHTS, TRADEMARKS OR OTHER RIGHTS.

By using this Broadband Forum Technical Report, users acknowledge that implementation may require licenses to patents. The Broadband Forum encourages but does not require its members to identify such patents. For a list of declarations made by Broadband Forum member companies, please see <a href="http://www.broadband-forum.org">http://www.broadband-forum.org</a>. No assurance is given that licenses to patents necessary to implement this Technical Report will be available for license at all or on reasonable and non-discriminatory terms.

ANY PERSON HOLDING A COPYRIGHT IN THIS BROADBAND FORUM TECHNICAL REPORT, OR ANY PORTION THEREOF, DISCLAIMS TO THE FULLEST EXTENT PERMITTED BY LAW (A) ANY LIABILITY (INCLUDING DIRECT, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES UNDER ANY LEGAL THEORY) ARISING FROM OR RELATED TO THE USE OF OR RELIANCE UPON THIS TECHNICAL REPORT; AND (B) ANY OBLIGATION TO UPDATE OR CORRECT THIS TECHNICAL REPORT.

Broadband Forum Technical Reports may be copied, downloaded, stored on a server or otherwise redistributed in their entirety only, and may not be modified without the advance written permission of the Broadband Forum.

The text of this notice must be included in all copies of this Broadband Forum Technical Report.

## **Issue History**

Issue Number	Issue Date	Issue Editor	Changes
1 Corrigendum 1	April 2010	Frank Van der Putten,	Corrigenda items for TR-138
		Alcatel-Lucent	Issue 1

Comments or questions about this Broadband Forum Technical Report should be directed to info@broadband-forum.org.

Editor	Frank Van der Putten	Alcatel-Lucent
T&I WG Chair	Les Brown	Lantiq
Vice Chairs	Lincoln Lavoie	UNH-IOL
	Massimo Sorbara	Ikanos
<b>Chief Editor</b>	Michael Hanrahan	Huawei Technologies

Table of Contents				
EXECUTIVE SUMMARY	.5			
1 PURPOSE	.6			
1.1 PURPOSE	.6			
2 CORRECTION TO TABLE 6-9/TR-138, SNR METHOD OF PROCEDURE FOR AND G.992.5				

#### **Executive Summary**

The document contains corrections to TR-138 Issue 1.

## 1 Purpose

#### 1.1 Purpose

The corrections specified in the following sections apply to TR-138 Issue 1.

# 2 Correction to Table 6-9/TR-138, SNR Method of Procedure for G.992.3 and G.992.5

Update the Expected Result row in Table 6.9/TR-138 as follows

Expected Result	<ul> <li>For at least 95% of the downstream sub-carriers where the SNRpsds accuracy requirements apply, i.e.:</li> <li>subcarrier is at least 50 kHz away from the lower and higher passband edges;</li> <li>BITSpsds_T1 &gt; 0 and BITSpsds_T2 &gt; 0;</li> <li>Noise_PSDps_UR2_T1 and Noise_PSDps_UR2_T2 &gt; -120 dBm/Hz;</li> <li>(SNRpsds_T1-GAINSpsds_T12) and (SNRpsds_T24-GAINSpsds_T2) &lt; 40 dB,</li> </ul>		
	and where: (GAINSpsds_T1=GAINSpsds_T1') and (GAINSpsds_T2=GAINSpsds_T2'),		
	<ul> <li>the following requirements SHALL apply:</li> <li>1. If the line does not reinitialize over a time period T1 to T2:  (SNRpsds_T2–GAINSpsds_T2) – (SNRpsds_T1–GAINSpsds_T1) – ΔSNRps_reference_ds  ≤ 1.3 dB (see NOTE 1);</li> <li>2. Statistical sample variance of (SNRpsds-GAINSpsds) (all samples taken over a 10-minute time interval, without line re-initialization in this time interval, and under the same loop, noise, temperature and configuration settings) SHALL be ≤ 0.5 (see NOTE 2).</li> </ul>		
	<ul> <li>For at least 95% of the upstream sub-carriers where the SNRpsus accuracy requirements apply, i.e.:</li> <li>subcarrier is at least 50 kHz away from the lower and higher passband edges;</li> <li>BITSpsus_T1 &gt; 0 and BITSpsus_T2 &gt; 0;</li> <li>Noise_PSDps_UC2_T1 and Noise_PSDps_UC2_T2 &gt; -100 dBm/Hz;</li> <li>(SNRpsus_T1-GAINSpsus_T1) and (SNRpsus_T2-GAINSpsus_T2) &lt; 40 dB;</li> </ul>		
	<pre>and where:     (GAINSpsus_T1=GAINSpsus_T1') and     (GAINSpsus_T2=GAINSpsus_T2'),</pre>		
	<ul> <li>the following requirements SHALL apply:</li> <li>1. If the line does not reinitialize over a time period T1 to T2:  (SNRpsus_T2–GAINSpsus_T2) – (SNRpsus_T1–GAINSpsus_T1) – ΔSNRps_reference_us  ≤ 1.3 dB (see NOTE 1);</li> <li>2. Statistical sample variance of (SNRpsus-GAINSpsus) (all samples taken over a 10-minute time interval, without line re-initialization in this time interval, and under the same loop, noise, temperature and configuration settings) SHALL be ≤ 0.5 (see NOTE 2).</li> </ul>		
	NOTE 1 – Includes 0.5 dB to accommodate for test equipment tolerance. NOTE 2 – For each sample of (SNRps-GAINSps), the GAINSps SHALL be recorded		

before and after the recording of the SNRps. Only if these GAINSps values are equal,
the SNRps-GAINSps value SHALL be included in the sample variance calculation.

# End of Broadband Forum Technical Report TR-138