



## **SELT Test Procedure**

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## Revision History

<i>Revision</i>	<i>Date</i>	<i>Change Description</i>
CPE-AN1900-R	12/09/14	Initial release

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## About This Document

### Purpose and Audience

This document details the procedure for running the Single Ended Loop Test (SELT) on the BCM963138 and the BCM963148GW platforms. The document is meant for engineers testing the BCM631XX chips and reference boards.

### Acronyms and Abbreviations

In most cases, acronyms and abbreviations are defined on first use.

For a comprehensive list of acronyms and other terms used in Broadcom documents, go to:  
<http://www.broadcom.com/press/glossary.php>.

### Document Conventions

The following conventions may be used in this document:

Convention	Description
<b>Bold</b>	User input and actions: for example, type <b>exit</b> , click <b>OK</b> , press <b>Alt+C</b>
Monospace	Code: <code>#include &lt;iostream&gt;</code> HTML: <code>&lt;td rowspan = 3&gt;</code> Command line commands and parameters: <code>w1 [-1] &lt;command&gt;</code>
<code>&lt; &gt;</code>	Placeholders for <i>required</i> elements: enter your <code>&lt;username&gt;</code> or <code>w1 &lt;command&gt;</code>
<code>[ ]</code>	Indicates <i>optional</i> command-line parameters: <code>w1 [-1]</code> Indicates bit and byte ranges (inclusive): <code>[0:3]</code> or <code>[7:0]</code>

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## Technical Support

Broadcom provides customer access to a wide range of information, including technical documentation, schematic diagrams, product bill of materials, PCB layout information, and software updates through its customer support portal (<https://support.broadcom.com>). For a CSP account, contact your Sales or Engineering support representative.

In addition, Broadcom provides other product support through its Downloads and Support site (<http://www.broadcom.com/support/>).

## Introduction

Starting from the 4.16L.01A release, the CPE-side Linux SELT operation is supported on the BCM963138 platform. Starting from the 4.16L.02 release, it is also supported on the BCM963148GW platform.

A CPE SELT test can be invoked locally via the WebUI and remotely via TR69. The test result is postprocessed in the CPE, and stored in the file system, which persists after reboot.

## Driver and PHY Requirements

BCM963138:

- The DSL driver should be A2x025b or later.
- The PHY version should be A2pvbH040a1 or later.

BCM963148:

- The driver must be A2x025f or later.
- The PHY version must be 40f or later.

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CPE SELT must be enabled in the build profile, as it is not enabled by default. In a platform that uses NOR Flash, the auxiliary file system must also be enabled.

To build the CPE SELT, the follow these steps:

- [illegible]

- [illegible]

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## Invoking The SELT

### WebUI

Authentication is required to access the following pages.

- To view configuration from LAN only:  
<http://192.168.1.1/selctfg.html>
- To run test from LAN only:  
<http://192.168.1.1/selctfgc.html>, enter the required parameters, and then click **invoke**.
- To view test result from LAN only:  
<http://192.168.1.1/selresult.cmd>



**Note:** Customers can modify the source code so as to not require authentication per CPE SELT Trial Vendor Requirements v0.1, July 8, 2013. These files need modification: `httpd.c` and `cgi_selt.c`. Code encapsulated in `#ifdef UNAUTHENTICATED_SELT` can be used as a reference.

### TR69

ACS invokes the CPE SELT test by setting the `SeltState` parameter under `InternetGateWayDevice.X_BROADCOM_COM_SELCT_TEST` to `Requested`. When the test is completed, CPE sends a `Diagnostic Complete` event back to the ACS.

The requirement for the data model of result object has not been finalized. The result files can be seen by either dumping the SELT result via WebUI or dumping the result file on the console by `cat /data/selt/result/resultFile`.

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