

PSA 5.1.05 Release Notes

The PSA 5.1.05 Release Note is applicable to the PSA-3000 and PVA-3000 family of test instruments.

Highlights

The PSA 5.1.05 Release includes important enhancements in the following areas:

4-Pair PSE Conformance Test Suite

Four new tests are added to the 4-Pair PSE Conformance Test Suite to complete the test suite. The 4-Pair PSE Conformance Test Suite is now versioned to **5.2.00**.

Test	Description
mps_dc_valid	This test evaluates PSE load current thresholds Ihold and Ihold_2p to assure that minimum steady state “valid” loads cause the PSE to maintain power. Further, the test assesses PSE response to low power DC MPS conditions to verify that PD’s that provide valid load currents for Tmps duration at ~2% duty cycles also stay powered. Each of these parameters and test conditions are applied across a variety of emulated PD classes that include Class 3, 5, 7, and dual Class 2.
mps_dc_pwrdn	This test evaluates disconnect shutdown response and timing (Tmpdo) utilizing Class 3, 5, 7, and Dual Class 2 emulations. It also reports on PSE response to single pairset disconnect given a dual signature PD.
pwrdn_time	This test analyzes disconnect shutdown timing (Toff) and as part of that analysis, it determines effective output capacitance (Cout) and output shunt resistance (Rp) of each PSE pairset. The test uses both passive decay and active discharge measurements to support a computation for Cout and Rp , then computes Toff using a virtual 320Kohm shunt resistance applied to each pairset.
pwrdn_v	This test evaluates error delay response (Ted) following an overload shutdown condition utilizing both single and dual signature PD emulations. The test is designed to work with PSE’s that initiate new detections either after or before Ted .

We anticipate that specialized testing for autotest will be added to the suite in the future under PSA 5.2.xx releases.

LLDP Protocol Traces for Dual Signature Emulations

The PSA 5.1.05 release adds a new spreadsheet report for dual signature LLDP traces. As with the prior PSA 5.1.04 release, these must be conducted from the PowerShell PSA command line ([trace_lldp_pwrup](#) and [trace_lldp_change](#)).

The next anticipated software release, PSA 5.2.00, will add a new LLDP tab menu to PSA Interactive to support both 802.3at and 802.3bt LLDP protocol traces and associated reporting.

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PSE Conformance Test Suite Tracking Service

When installing 5.1.05 software, customers who are licensed for the **2-Pair** (formerly 802.3at) PSE Conformance Test Suite and are active on Conformance Test Suite Tracking Service must enter the 2Pair CTS Key in order to retain the PSE Conformance Test Suite after the software update. Customers who are licensed for the **4-Pair** test suite must enter the 4Pair CTS Key to maintain that test suite.

Both Product Keys have been updated since the PSA 5.1.04 release and must be obtained by registering / logging into the Sifos website for product downloads. Customers who are active on Conformance Test Suite Tracking Service and have accounts at www.sifos.com may obtain product keys from the Product Download area.



PSA 5.1.05 Enhancements

Software Entity	Impact	Feature
PSA Interactive 5.0	Important	In the Conformance Test tab menu for the 4-pair suite, removed PD Loading options Type-3 and Type-4 because the test suite handles those PSE attributes automatically, requiring just one test sequence to cover all applicable parameters. Changed the PD Loading frame to be PD Emulation where with the 4-pair suite, options are Full Conformance or Exclude Dual Sig.
	Important	In the Conformance Test tab menu, changed the PD Loading frame to be PD Emulations where with the 4-pair suite, options are Full Conformance or Exclude Dual Sig . When Exclude Dual Sig is selected, some of the very long duration tests in the test suite will bypass testing dual signature emulation cases to save time or to support a PSE that is only ready for single signature PD powering.
4-Pair PSE Conformance Test Suite	Important	Added mps_dc_valid test for Ihold and Low Power MPS evaluation. The test is adapted to work with PSE's that might switch between 4-pair powering and 2-pair powering with class 1-4 PD's during low power consumption periods. See highlights above.
	Important	Added mps_dc_pwrnd test for Tmpdo evaluation. The test is adapted to work with PSE's that might switch between 4-pair powering and 2-pair powering with class 1-4 PD's during low power consumption periods. See highlights above.
	Important	Added pwrnd_time test for Toff and Cout evaluation. See highlights above.
	Important	Added pwrnd_v test for Error Delay evaluation. See highlights above.

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Software Entity	Impact	Feature
	Important	Completed the Notes 5.x.x tab of the standard test report to describe all parameters in all tests, including associations between test parameters and 802.3bt parameters, PSE/DLL PICS, and 802.3bt clauses. Documents 802.3bt PSE/DLL PICS coverage.
	Important	Added parameter weightings and computation of a Sifos Interop Index that is now included in the report header when 20 or more tests are run.
	Important	Added parameter weightings and computation of a Sifos Safety Index that is now included in the report header when 20 or more tests are run.
	Moderate	Added PSE attribute for Minimum 4-Pair Powered Class to standard reporting for use in limit processing.
One-Click Waveforms	Moderate	Modifications to Disconnect Shutdown waveform to support the needs of the mps_dc_pwrdrn and pwrdrn_time tests.
	Moderate	Modified many of the standard waveforms that perform PSE power-ups to allow up to 32 seconds for PSE's to apply power.
	Moderate	Modified the Error Delay waveform to work with Type-4 PSE's that don't immediately shutdown with Class 8 / Class 5D and 950mA per pairset
	Moderate	Modified the Error Delay waveform to always apply 950mA per pairset when PSE is known to be a Type-4 PSE. This assures rapid shutdown even if llim/lcut threshold is equivalent to all PD classes.
LLDP Emulation & Analysis	Moderate	Added support for running 802.3bt Dual Signature protocol traces under the PowerShell PSA utilities trace_lldp_pwrup and trace_lldp_change .
	Moderate	Modified LLDP traces to measure time from power-up until first LLDP frame to be insensitive as to whether that first PSE LLDP message is using 802.3at or 802.3bt TLV's.
	Moderate	Added new LLDP Trace Report for analyzing 802.3bt Dual Signature PoE LLDP protocols.

PSA 5.1.04 Bug Fixes

Software Entity	Impact	Feature
4-Pair PSE Conformance Test Suite		Corrected test limit for Mark_llim_A (and B) parameters
PowerShell PSA	Moderate	Fixed problem in Time Interval meter where configuration to an individual pairset in 4-Pair mode was defective and could result in trig1 or trig2 command sent to disconnected 4-pair port
	Minor	Resolved issue with PSE Attributes that may have been set to all uppercase values of TYPE-3_AC or TYPE-4_AC . This problem will self-resolve as any files with those settings are opened.

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Software Entity	Impact	Feature
LLDP Emulation & Analysis	Minor	Resolved possible issues related to running <code>trace_lldp_pwrup</code> and <code>trace_lldp_change</code> utilities on a disconnected 4-pair port.

PSA/PVA Firmware Versions

PSA 5.1 software requires certain minimum versions of PSA/PSL test port firmware. The following versions are the current versions for each product. Sifos recommends updating firmware to these.

PSA-3000 Controller: ver 3.18	PSA-3202, PSL-3202, PSA-3402:
PSA-3402 Controller: ver 3.18	Test Port ver 4.17 , ALC ver 16
PSA/PSL-3102 or PSA-3002	PVA-3102
Test Port ver 3.2B	Test Port ver 3.0B

Important! **PSA-3000 Controller** firmware **3.18** or later is required in order for PSA 5.1 software to speed up host-to-test-port communications. Without this firmware version, there will be no change in communications bandwidth.

Important! The **4-Pair** PSE Conformance Test Suite requires PSA-3202 firmware version **4.14** or later. This version implements a trace capture feature that enables better resolution of PSE classification timing. Version **4.17** is recommended.

Important! PSx-3202 firmware **4.17** or later and PSx-3102 firmware **3.2B** addresses an extremely subtle and rare problem that develops when running PSE conformance tests with **LLDP power-granting PSE's**. The problem can manifest as either an I/O timeout to the PSA instrument or as an LLDP LAN interface that fails to auto-negotiate with the PSE port under test. Only PSx-3202 and PSx-3102 **hardware versions 8 and 9** are impacted by this problem. These versions also address another rare problem that manifests in the `pwruptrace` meter used by the **2-Pair PSE Conformance Test Suite** where early portions of a voltage trace may have corrupted values.

PSA-3202/PSL-3202/PSA-3402 ALC Version 16 Update

NOTE! *The following information was included in earlier PSA 5.0.00 and PSA 5.1.00 Release Notes.*

The ALC firmware within a PSA-3202/PSL-3202/PSA-3402 is a vital element affecting the instrument's ability to reliably emulate all **802.3bt** PD's and to test **802.3bt** PSE's under a wide variety of conditions. The current version of ALC firmware is **version 16**. Any instruments that are used for 802.3bt PSE testing either now or in the future must be updated to this version.

To examine current ALC firmware version, simply open **PowerShell Tcl** or **Wish** and execute the command:

```
psa_config -alc
```

ALC Update Instructions

Updating any PSA/PSL test instrument to ALC version 16 is a very simple task. However, it should be performed when the instrument is not needed for a while as it may take from 3 to 10 minutes PER TEST

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PORT to complete. It is recommended to simply run this update overnight from a PC that is not busy performing other tasks.

To perform the ALC version 16 update to all PSA/PSL-3202 test ports:

Obtain the .zip file [ALCv16.zip](#) from the Sifos Installation CD Firmware directory or from the PSA/PSL-3000 download page at www.sifos.com. Unzip (install) the 3 files in [ALCv16.zip](#) to:

PC OS	PSA Software Release	Installation Directory
Windows 10, 8, 7, Vista	PSA 4.2	C:\Users\Public\Sifos\PSA1200\Contrib\
	PSA 5.0	C:\Users\Public\Sifos\PSA3000\Contrib\
Windows Xp	PSA 4.2	C:\Program Files\Sifos\PSA1200\Contrib\
	PSA 5.0	C:\Program Files\Sifos\PSA3000\Contrib\

Open PowerShell (Wish or Tcl), connect to instrument that will be updated, and execute:

alc_updater_16

When the update is completed, look for the indication:

alc_updater_16: UPDATES COMPLETED !!!!

Ports ** Updated Successfully!**