

PSA 5.1.03 Release Notes

The PSA 5.1.03 Release Note is applicable to the PSA-3000 and PVA-3000 family of test instruments.

Highlights

The PSA 5.1.03 Release includes important enhancements in the following areas:

4-Pair PSE Conformance Test Suite

Three new tests are added to the 4-Pair PSE Conformance Test Suite.

Test	Description
class_lldp	This test evaluates 802.3bt LLDP Protocols and Negotiations in PSE's that utilize LLDP either for initial power allocation (LLDP) or for refined power allocation following multi-event power-ups (PHY+LLDP). It emulates Single Signature PD's. (Dual Signature testing will be included in a class_lldp2 test that is still under development.)
pwron_pwracap	<p>This test evaluates power capacity (Pclass/Icon/Icon_2p) of a PSE port as it powers all of the possible PD classifications under 802.3bt. It reports power capacity as sustained current load % of required Icon and Icon_2p.</p> <p>This is a very complex and grueling test that must be conducted at all possible PD classifications and must allow for PSE's that may be slow to remove power. <i>Because of these requirements, the pwron_pwracap test takes over 11 minutes per PSE port to execute. It will undoubtedly be the longest running test in the 4-pair test suite.</i></p> <p>It is also a very important test for all 802.3bt 4-Pair PSE's in terms of assuring interoperability with compliant 802.3at and 802.3bt PD's.</p>
pwron_unbal	<p>This test assesses PSE tolerance of worst-case pair-to-pair unbalance that may arise when powering with 4-pairs (Icon_2p_unb). Class 1-4 powering must allow for 100% of the load current up to Icon to run on a single pairset. Class 5-8 powering includes specifications for worst case pairset load current. Both the Alt-A and Alt-B pairsets are tested with the worst case high current load.</p> <p>This test is also an important test for all 802.3bt 4-Pair PSE's in terms of assuring interoperability with compliant 802.3at and 802.3bt PD's.</p>

PSA Interactive Conformance Test Menu

PSA 5.1.01 and 5.1.02 releases encountered a couple of issues assuring that the proper test suite, 4-Pair or 2-Pair, was loaded and available to the PSE Conf Test tab menu. These issues were mostly related to PSA-3000 instruments that have a mix of PSA-3202 and PSA-3102 test blades.

PSA 5.1.03 should resolve those issues so that the proper test suite is available given most recent PSE attributes description.

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PSE Conformance Test Suite Tracking Service

When installing 5.1.03 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 are identical to those used with the PSA 5.1.01 release and the PSA 5.1.02 release. 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.



New PSA 5.0.00 Installer Dialog

PSA 5.0.03 Enhancements

Software Entity	Impact	Feature
PSA Interactive 5.0	Moderate	Corrected some limitations affecting the selection of the PSE Conformance Test Suite (2-Pair vs 4-Pair) when working with PSA-3000 instruments that mix PSA-3102 and PSA-3202 test blades. The test suite loaded for the Conf Test tab menu should now reflect the presently specified PSE attributes (2-Pair vs 4-Pair).
	Moderate	Added new pwrn_unbal test to the Conf Test tab menu and disable the pwrn_overld test in the 4-Pair suite.
	Moderate	Improved connection verification check available from the Conf Test tab menu – see psa_connection_check below.
PowerShell PSA	Moderate	Modified psa_connection_check and psa_connection_check_4p so that they should no longer get tricked by a PSE that is inadvertently plugged into the THRU _n (or OUT _n) port of a PSA-3202 or PSA-3102 test port. Previously, depending upon PSE signaling characteristics, psa_connection_check would produce a false positive indication in these cases.
	Moderate	Adapted psa_connection_check_4p to work with a 4-Pair PSE that might only signal on one pairset before PD connection.
	Moderate	Adapted psa_auto_port to work with a 4-Pair PSE that might only signal on one pairset prior to PD connection. Other logic changes to enhance robustness of the psa_auto_port discovery utility.

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Software Entity	Impact	Feature
One-Click Waveforms	Minor	Adapted <code>psa_detect_wfm</code> capacitive signature case to work with a PSE that only signals on a secondary pairset after a valid detection signature is discovered on a primary pairset. Improved pre-connection synchronization logic in <code>psa_detect_wfm</code> .
	Minor	Extended <code>psa_shtckt_wfm</code> to scan to higher currents allowing for PSE's that don't limit current until 2.7A, or 1.35A per pairset.
	Minor	Enabled <code>psa_discx_wfm</code> to combine voltage traces onto a single trace graph.
4-Pair PSE Conformance Test Suite	Important	Added <code>class_lddp</code> , <code>pwrn_pwrcap</code> , and <code>pwrn_unbal</code> tests. See descriptions above.
	Moderate	Implemented new utility to automatically discover minimum 4-pair powering class of a PSE port supporting tests that need to have that PSE attribute when it has not otherwise been described from a PSE attribute file.
	Moderate	Assure that <code>cc_response</code> and <code>pwrup_time</code> tests obtain the correct minimum 4-pair class for the PSE under test.
	Moderate	Adapted several tests to better synchronize PD connections when the 4-Pair PSE port may be signaling just a single pairset.
	Moderate	Implemented new utility to automatically discover maximum class grant capability (or assigned class) of PSE port. This information is also vital to several conformance tests.
	Moderate	Revised the 4-Pair Conformance Test Report to accept and process data and test limits from the 3 new tests (see above). Added parameter descriptions to Notes tab.
	Minor	Adjusted waveform processing logic for detection and connection check recovery and analysis.
PHY Performance Test Suite	Minor	Modified 1000Base-T receiver test to work with a port-under-test that has a fixed polarity (MDI vs MDI-X) in either MASTER or SLAVE mode.

PSA 5.0.03 Bug Fixes

Software Entity	Impact	Feature
PhyView Analyzer Meters	Minor	Corrected a faulty measurement in the <code>pva_partner</code> meter with <code>NLP_Link</code> assessment that assess port-under-test ability to link to a port that does not perform auto-negotiation. The indication previously did not assure auto-negotiation was disabled during this assessment.

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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 4.15 , ALC ver 16
PSA/PSL-3102 or PSA-3002	PVA-3102
Test Port ver 3.2A	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.

Important! PSx-**3202** firmware **4.14** or later and PSx-**3102** firmware **3.2A** 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.

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

NOTE! *The following information was included in earlier PSA 5.0.00 and PSA 5.0.01 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 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:

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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!**