



PSA-CT PSE Conformance Test Suite

for the PSA-3000 PowerSync® Analyzer

Product Overview



Key Features

- Robust 802.3at (PoE+) PSE Compliance Testing
- Fully Automated Port Sequencing and Statistics
- Greater than 95% 802.3at PICS Coverage* from 23 Tests Producing more than 75 IEEE 802.3at Test Parameters per Port
- Fully Emulates All Type-1 (PD Class 0, 1, 2, or 3) and Type-2 (PD Class 4) PD's Including PoE LLDP-Capable PD's
- Adapts to All Prevalent PSE Signaling and Power Behaviors
- Adapts to Prevalent Composite 802.3at and Proprietary Detection Signaling Behaviors
- Configurable Waveform Trace Diagnostic Generation and Retention to 10 Waveforms per Test
- Colorful and Informative Spreadsheet Reporting with Compliance (Pass/Fail) Notations and Parameter Statistics
- Run & Sequence from PSA Interactive GUI or PowerShell PSA Command Line

Verification, Simplified.

IEEE 802.3 PSE's

Type-1/Type-2 End-Span
Type-1/Type-2 Mid-Span
PoE/PoE+ Connectors
Power Injectors

The Industry "Norm"

Unmatched 802.3at
Specification Coverage
Widely Used by PSE
Silicon Manufacturers

Fully Automated One-Button Testing

Automatic Adaptation to
PSE Probing Techniques
and Hybrid-Legacy
Probing

Flexibly Sequence Tests
and Test Ports
Pop-Up Spreadsheet
Reporting with Statistics
and Limit Evaluation

Always Up-To- Date

Constantly Enhanced
and Improved
Tracking Service Support
Agreement
Responsive Support

Overview

Power-over-Ethernet (PoE) challenges design and test engineers to evaluate multi-channel, "smart" DC power sources that are activated and deactivated through signaling protocols operating over several power delivery and polarity configurations. The application and management of DC power over multiple local area network connections must be completely transparent, safe, non-destructive, and non-disruptive to the traditional data transmission behaviors of those network connections and associated network equipment.

Higher Power with 802.3at

Under the IEEE 802.3at standard, power delivered to a single Powered Device is effectively doubled to 25.5 watts. PSE's will pack more electrical power and more processing power to manage that electrical power. Issues of safety and specification compliance are accentuated by the higher power delivery capabilities of each Ethernet Port.

Smarter PSE's and PD's

In the newer 802.3at realm, end-span PSE's such as data switches and routers can use Link Layer Discovery Protocol (LLDP) to communicate power needs and availability with a new generation of Powered Devices (PD's). This extended protocol is a core component of PSE power resource management with granularity to 0.1 watt per Ethernet port.

Fully Automated Testing with Very High Test Coverage

The PSE Conformance Test Suite for 802.3at produces between 75 and 112 IEEE 802.3at test parameters per PSE port depending upon PSE capabilities. These parameters are measured in 23 distinct tests that may be selected and sequenced across up to 24 PSE ports at a time. The test covers over 95% of the PSE PICS (conformance check list items) in the IEEE 802.3at specification*. The PSE Conformance Test Suite is widely used throughout the internetworking community as the industry "norm" for PSE specification compliance.

Flexible PD and LLDP Emulation

The 802.3at standard, unlike its 802.3af predecessor, allows for a variety of PSE and PD types including higher power PD's and LLDP-capable PSE's and PD's. As a result, PSE Conformance Testing now requires increased test "cases" to allow for the variety of powering configurations that can arise. The PSE Conformance Test Suite for 802.3at enables each of these test cases so as to assure full test coverage of all PSE types.

Robust Diagnostics and Reporting

The PSE Conformance Test Suite for 802.3at can automatically sequence to a pop-up spreadsheet report with full color notations of parameter pass/fail status per port and cross-port statistics for each parameter. This report automatically adapts test limits to the test case that is sequenced. Many of the PSE Conformance Tests capture and analyze various voltage and load current "scope" traces in order to evaluate measurement parameters. These traces can be automatically posted to the display, accumulated, and retained until the end of each test for diagnostic purposes. Each trace is individually notated with a description of the trace purpose or measurement parameter.

* For 802.3at PICS Coverage, see Sifos application note:
[802.3at PSE PICS Coverage.pdf](#)

Verification, Simplified.

PSE Conformance Tests & Parameters

Detection Probing and Functional Tests

det_v

Detection Pulse Waveform Parameters

Captures and analyzes PSE detection probe voltages with both valid and slightly non-valid detection signatures.

Voc	Peak open circuit (disconnected) detection voltage
Vvalid(Max)	Maximum Detection Step Level with Valid Signature
Vvalid(Min)	Minimum Detection Step Level with Valid Signature
ΔVtest	Detection Step Magnitude
Detection Slew	Detection step slew rate
Good_Sig_Det_Pulse	Number of Detection Signal transitions
Vbkoff	Minimum Voltage during detection (ALT B) backoff
Non802_Step_V	Level of any pre-detection signals
High_Sig_MaxV	Maximum detection voltage with high detection signature
Non802_Discr?	Dependence upon Non-802 detection for validity. PSE's that use non-802.3 detection measurements to resolve a valid signature band will report "1".
Detect Strategy	Reports PSE Detection as one of five known strategies including 802.3at standard, proprietary pre-detection, etc.

det_i

Detection Current Limiting

Measures maximum current sourcing capability from a PSE during detection.

Isc(Init)	Max detection current at minimum detection voltage
Isc(Det)	Max detection current during detection

det_range

Detection Passive Acceptance Range

Assesses the range of acceptable PD signatures and the reliability of valid detection given random connect timing and capacitive loading.

Rgood_Max	Maximum accepted detection resistance signature
Rgood_Min	Minimum accepted detection resistance signature
Rmid_det	MAX (or MIN) detection resistance given random connections
Cgood_Max	Maximum accepted detection capacitance signature
Rbad_Cbad_Stat	Power-Up status given a 35Kohm (marginally high) resistive signature with the lowest Capacitive signature rejected by the PSE.

det_time

Detection Timing

Measures detection backoff and detection probe timing parameters.

Tdbo	Detection back-off time (between failed detections)
Tdbo_eff	Effective back-off time for PSE's that ignore rather than disable detection measurements
Tdet	802.3at detection time duration
Tdet_tot	Total detection time including pre-detection measurements
Backoff_Type	Reports PSE Detection back-off as one of several known strategies including 802.3at standard, legacy, and 4-pair detection schemes

det_resource PSE Output Resistance during Detection

Measures effective source resistance of PSE port during detection.

Zout	PSE estimated output impedance during detection
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Classification Signaling and Functional Tests

class_v

Classification Voltages

Captures and analyzes PSE classification voltage levels, focusing on only the final classification performed prior to power-up.

Vclass	Class Pulse Average Voltage with 1 mA class signature
Vclass_min	Class Pulse Average Voltage with 45 mA class signature
Vmark	Mark Region Voltage with 4 mA mark signature load
Vmark_min	Minimum Port Voltage measured over both MARK regions until power-up

Classification Signaling and Functional Tests

class_time Classification Timing

Captures and analyzes PSE classification signal timing, focusing on only the final classification performed prior to power-up.

Event_Count	Count of class pulses
Tpdc	Duration of class pulse given Single-Event Classification
Tcle1	Duration of first class pulse given 2-Event Classification
Tcle2	Duration of second class pulse given 2-Event Classification
Tme1	Duration of first mark interval given 2-Event Classification
Tme2	Duration from end of second class pulse to power-up given 2-Event Classification

class_err Classification Current Limiting

Evaluates any current limiting applied to classification signals by PSE as well as PSE powering behaviors following overloaded or illegal classification signatures.

Class_lim	Maximum Class Current before PSE starts to limit Class Current
Vport_CL_lim	Power-Up response (as Port Voltage) following a current limited classification
Vport_CL_err_1	Power-Up response (as Port Voltage) following a 55mA (invalid) classification load
Mark_lim	Minimum Mark Current Supported during 2-event Mark Region - tested at 5.5 mA and 105 mA given 2-Event Classification
Vport_CL_err_2	Power-Up response (as Port Voltage) following up to 3 successive class signatures that changed from Event #1 to Event #2 (asymmetrical signature)
Treset	Duration of PSE IDLE state following asymmetrical class signature

class_lldp LLDP Protocol and Mutual Discovery Testing

Assesses PSE LLDP basic protocol fields, protocol timing, and power request processing for both Type-1 and Type-2 PD's.

PSE_Source_Priority	Bit Field for PSE Source, Priority, Reserved
PSE_MDI_Pwr_Sup	Bit Field from legacy TLV for Port Class, MDI Power Support, MDI Power State, Pair Selection, and Reserved
PSE_LLDP_Time_1	Time from Power-ON state until first PoE LLDP frame from PSE given Type-1 PD
PSE_LLDP_Type_1	PSE Type advertised by a PSE given Class 0-3 PD signature
PSE_Echo_Time_1	Time for PSE to echo back the PD Requested Power level
PSE_Alloc_Pwr_1	Allocated Power in response to 8.1 W PD Request from a Class 0-3 PD
PSE_Alloc_Time_1	Time to respond To 8.1 W PD Request with Power Allocated
PD_Power_Adjust_1	Allocated Power in response to a Change Request from 8.1W to 13W
PSE_Adjust_Time_1	Time to echo a PD 13 watt PD Change Request
PSE_LLDP_Time_2	Time from Power-ON state until first PoE LLDP frame from PSE given Type-2 PD
PSE_LLDP_Type_2	PSE Type advertised by PSE given Class 4 PD signature
PSE_Echo_Time_2	Time for PSE to echo back the PD Requested Power level
PSE_Alloc_Pwr_2	Allocated Power in response to 20.3W PD Request from a Class 4 PD
PSE_Alloc_Time_2	Time to respond To 20.3 W PD Request with Power Allocated
PD_Power_Adjust_2	Allocated Power in response to Change Request from 20.3W to 25.5W
PSE_Adjust_Time_2	Time to echo a PD 25.5 watt PD Change Request

Power-Up Processes

pwrup_time Power-Up Timing Parameters

Measures power-up rise time and time delay from completion of final detection until power applied.

Trise	Rise Time from 10% to 90% of Vport
Tpon	Time from end of detection until power-up, Tpon is measured from the final complete detection probe preceding a power-up

pwrup_inrush PSE Current Limiting Behaviors During Power-Up

Evaluates PSE current limiting and inrush overload tolerance parameters. Assures compliance to 802.3at figure 33-14, Inrush current and timing limits in the POWER_UP state.

Init_Inrush	Maximum output current immediately after 1 msec of a severe inrush overload
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Power-Up Processes

Max_Inrush_c0	Maximum output current in time interval from 1 to 75 msec given Class 0, 1, 2, or 3 PD
Max_Inrush_c4	Maximum output current in time interval from 1 to 75 msec given Class 4 PD
Min_Inrush	Minimum output current while current limiting in time interval from 1 to 50 msec given 30V or higher port voltage
Tinrush	Duration of current limiting until PSE removes power
Inrush_45m	Port voltage after 50msec following 45 msec current limiting inrush overload
Max_Init_Inrush	Maximum output current up to 1 msec given a severe inrush overload
Vinrush	Average Port Voltage - PSE current limiting, PSA foldback suppression applied
Inrush_Strategy	Indicator if PSE uses "legacy_powerup" exception and consequences thereof categorized into one of five possible outcomes

PSE Powered-On Performance and Processes

pwrn_v

Powered Port Voltage, Ripple, and Noise

Measures PSE port DC and AC voltages in response to minimum and maximum power loads.

Vport_min_N	Min Port voltage with 0.5 Watt and Pport_Max (PD Class) loading
Vport_max_N	Max Port voltage with 0.5 Watt and Pport_Max (PD Class) loading
Vpp_ripple_N	Peak AC Ripple with 0.5 Watt and Pport_Max (PD Class) loading
Vpp_noise_N	Peak AC Noise with 0.5 Watt and Pport_Max (PD Class) loading
Vtrans_max_N	Maximum Port Voltage measured during a 5msec load transient from 12mA to Pport_Max / Vport and back.
Vtrans_min_N	Minimum Port Voltage measured during a 5msec load transient from 12mA to Pport_Max / Vport and back.

pwrn_pwracap

PSE Port Power Capacity

Measures the maximum power delivery capability of a PSE port given various PD Classifications and LLDP power allocations.

Pcon_c0=	Maximum output power from PSE Port given Class 0 PD
Icon_%_c0=	Maximum static output current relative to 802.3at Icon(Pclass_0)
Pcon_c1=	Maximum output power from PSE Port given Class 1 PD
Icon_%_c1=	Maximum static output current relative to 802.3at Icon(Pclass_1)
Pcon_c2=	Maximum output power from PSE Port given Class 2 PD
Icon_%_c2=	Maximum static output current relative to 802.3at Icon(Pclass_2)
Pcon_c3=	Maximum output power from PSE Port given Class 3 PD
Icon_%_c3=	Maximum static output current relative to 802.3at Icon(Pclass_3)
Pcon_c4=	Maximum output power from PSE Port given Class 4 PD
Icon_%_c4=	Maximum static output current relative to 802.3at Icon(Pclass_4)
Type-2_Enable	Verifies > 450 mA continuously available at 80 msec following 2-event power-up for 2-event, Type-2 PSE's or verifies >450 mA is not available for LLDP capable Type-2 PSE's prior to negotiation
Pclass_LLDP_22.7	Indicator of PSE ability to deliver Pclass (Icon) given 22.7W power grant
Pclass_LLDP_24.5	Indicator of PSE ability to deliver Pclass (Icon) given 24.5W power grant

pwrn_maxi

PSE Response to Maximum Overloads

The pwrn_maxi test evaluates PSE characteristics with respect to the POWER_ON state PI operating current templates in Figure 33-15 of the 802.3at specification.

Ilim_Peak	Maximum output current tolerated by PSE in time frame of 8 to 75 msec
Ilim_Min_1	Minimum output current up to 50 msec with 402mA load pulse and foldback suppression applied to assure > 30VDC (Type-1 PD emulation)
Tlim_1	Time to port shutdown in response to 400 mA overload given Type-1 PD
Vlim_1	Average port voltage coincident with Tlim_1 measurement
Ilim_Max_1	Maximum output current from 1 to 75 msec given 700mA load pulse and foldback suppression active given a Type-1 PD
Ilim_Low_V_ToI_1	Measures time-to-port-foldback given a Type-1 PD with extreme overload
Ktran_lo_1	% excursion below 50V given 250usec (fast) overload transient (401 mA) given a Type-1 PD (Type-2 PSE's only)
Ilim_Min_2	Minimum output current up to 50 msec with 686mA load pulse and foldback suppression applied to assure > 30VDC given Type-2 PD emulation
Tlim_2	Time to port shutdown in response to 684 mA overload given Type-2 PD

PSE Powered-On Performance and Processes

Vlim_2	Average port voltage coincident with Tlim_2 measurement
Ilim_Max_2	Maximum output current from 1 to 75 msec given 860mA load pulse and foldback suppression active given a Type-1 PD
Ilim_Low_V_Tol_2	Essentially a measure of time-to-port-foldback given a Type-2 PD
Ktran_lo_2	% excursion below 50V given 250usec (fast) overload transient (686 mA) given a Type-2 PD

pwrn_overld

PSE Response to Maximum PD Power Transients

The pwrn_overld test assesses powered PSE port behaviors with respect to Ipeak, the maximum power overload allowed to a PD as defined in Equation 33-4 of the 802.3at standard.

%Ipeak_N	Percent of required Ipeak current that is supported over 50msec duration where Ipeak required is defined by Equation 33-4 given a Type-N PD – maximum level verified is 125%
Vport_Ipeak_N	Min Port Voltage at Ipeak transient pulse given a Type-N PD
Vport_5%DC_N	Min Port Voltage over 5 seconds with a quantity of 50 msec Ipeak pulse transients separated by 1 second (5% duty cycle) given a Type-N PD

MPS Processes for Power Removal on PD Disconnect

mps_ac_pwrn

Power Timing and Load Current Impact on AC MPS PSE's

Evaluates power removal timing and DC load tolerance on an AC MPS PSE.

Tmpdo	Disconnect power-down timing from disconnect event
I_hold_ac	Maximum DC Load Current tolerated with AC MPS Disconnect Shutdown

mps_ac_vf

AC MPS Signaling Characteristics

Measures AC MPS signaling characteristics during the Tmpdo interval.

V_open	Peak-Peak AC probing voltage following PD Disconnect
V_open_%Vport	Peak-Peak AC probing voltage expressed as a % Vport_pse
Fp	AC probing signal frequency following PD Disconnect
AC_MPS_SR	AC probing signal slew rate
Isac	Signal current sourced by AC MPS signal generation resource

mps_ac_voff

AC MPS Peak Voltage Characteristics

Measures voltage peaks following PD disconnect and power-down events given an AC MPS PSE.

V_open1	Peak port voltage found after AC MPS power removal event
Vopen_pk	Peak port voltage following PD disconnect over a period of one second

mps_dc_valid

DC MPS Valid Signature Timing Characteristics

Measures intermittent load tolerance thresholds of a DC MPS PSE.

Tmps	Minimum valid signature ACTIVE time required for DC MPS validity
Duty_Cycle_tol	PSE power response to valid / invalid load cycling of 16.7% duty cycle

mps_dc_pwrn

Power Timing and Threshold Assessment on DC MPS PSE's

Evaluates power removal timing and DC load requirements on a DC MPS PSE.

I_hold	Minimum current required to maintain power given DC MPS PSE
Tmpdo	Disconnect power-down timing from start of invalid signature
Vopen_pk	Peak port voltage following PD disconnect over a period of one second

PSE Power-Down Characteristics

pwrn_overld

PSE Response to Non-Current Limiting Overloads

Evaluates PSE handling of non-current limiting overloads in the PSE discretionary region of the PI operating current templates in Figure 33-15 of the 802.3at specification.

Icut_N	Smallest load current of duration equal to Tcut_Max, or 75 msec, that causes immediate or delayed power removal given a Type-N (1 or 2) PSE.
Tcut_N	Time from start of transient until power removal but not exceeding 75msec, the duration of the applied load transient.
Isoft_N	Smallest load current of duration equal to 2 seconds that causes immediate or delayed power removal given a Type-N (1 or 2) PSE.
Tsoft_N	Time from start of transient until power removal but not exceeding 2 seconds, the duration of the applied load transient.

The PSE Conformance Test Suite Standard Report

The standard spreadsheet test report for the PSE Conformance Test Suite provides efficient feedback by clearly notating any specification compliance violations both by test parameter and by test (PSE) port. The report also accumulates minimum, maximum, and average parameter values across PSE ports so that users can spot

individual port deviations and assess performance to design goals. Multiple cycles of testing can be specified to produce one report page per sequence cycle.

All test limit processing automatically adapts to the mode of PD Emulation, the type of PSE (e.g. Type-1 or Type-2), and other factors that are specified before the sequence begins. Test limit tables are found on the **Limits** page of the report.

The report includes a **Notes** page with detailed explanations of each parameter of each test and an **Interop** page that rates the "Interop" Risks of any particular combination of specification violations.

The report will automatically scaled to the number of tested PSE ports.

PSE Conformance Test Suite										Sifos Technologies										802.3at Conformance Report			
May 8 2015 5:13 AM										Test Mode: 30 Watt LLDP										version 4.1.0f			
Port Count: 8										Sifos Interop Index: 93%										report version 4.1.0f			
Loop Count: 1										Error Log: None													
PSE Testset: Sample Type-2 PSE with LLDP																							
Chassis ID: 192.168.221.103										PSA-3000 Ports													
Test Loop: 1																							
										1-1 1-2 2-1 2-2 3-1 3-2 4-1 4-2 UNITS										Min Max Average Low Limit PIF High Limit PIF			
Test: det v																							
Open_Circuit_Des_Volt										10.4 10.4 10.4 10.43 10.38 10.38 10.38 10.38 10.38 10.38										10.38 10.43 10.38 2.8 Pass 30 Pass			
Peak_Des_VValid										7.97 7.97 8 7.98 7.97 7.97 7.95 7.97 7.97 7.97										7.95 8 8 3.8 Pass 10 Pass			
Min_Des_VValid										3.97 4.01 4.03 4 4.02 4.02 4 3.98 4.03 4										3.97 4.03 4 2.8 Pass 9 Pass			
Des_Volt_Seg_dVRate										3.45 3.41 3.42 3.42 3.4 3.38 3.4 3.44 3.45 3.45										3.39 3.45 3.4 1 Pass 7.2 Pass			
Detection_Slow										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 9.1 Pass			
Good_Sig_Des_Rule										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 9 Pass			
Backoff_Voltage										0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5										0.5 0.6 0.6 0 Pass 9 Pass			
Non_502_Seg_V										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 0.1 Pass			
High_Sig_Max										10.05 10.07 10.07 10.08 10.07 10.08 10.05 10.08 10.05 10.05										10.05 10.08 10.1 3.8 Pass 11 Pass			
Non_502_Seg_V										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 0 Pass			
Detect_Message										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 2 Pass			
Test: det i																							
Init_Current_Ies										0.2 0.19 0.19 0.2 0.2 0.2 0.2 0.18 0.18 0.18										0.18 0.2 0.19 0 Pass 5 Pass			
Des_Current_Ies										0.14 0.15 0.14 0.15 0.15 0.14 0.13 0.12 0.12 0.12										0.12 0.15 0.14 0 Pass 5 Pass			
Test: det range																							
Rgood_Max										29 29 29 29 29 29 29 29 29 29										29 29 29 29 Pass 32 Pass			
Rgood_Min										17 17 17 17 17 17 17 17 17 17										17 17 17 16 Pass 19 Pass			
Rmid_des										29 29 29 29 29 29 29 29 29 29										29 29 29 29 Pass 33 Pass			
Rgood_Max										0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1										0.1 0.1 0.1 0 Pass 10 Pass			
Rbad_Cbad_Stat										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 0 Pass			
Test: det time																							
Backoff_Time_Tdb										168 172 168 168 172 168 168 168 168 168										168 172 168 -1 Pass 1500 Pass			
Eff_Backoff_Tdb_eff										1200 172 168 168 172 1300 158 168 168 168										168 1300 439.5 -1 Pass 1500 Pass			
Backoff_Type										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 0 Pass			
Detection_Time_Des										215 215 219 219 219 219 219 215 219 215										215 219 217.5 5 Pass 500 Pass			
Total_Des_Time										219 219 219 223 223 219 219 223 219 223										219 223 220.5 5 Pass 1000 Pass			
Test: det resource																							
Output_Impedance_Sout										450 450 368 409.4 410.0 435.4 401.7 401.7 401.7 401.7										368 450 415.9 45 Pass 2000 Pass			
Test: class v																							
Class_Voltage_Volts										17.7 17.7 17.6 17.2 17.5 17.6 17.6 17.6 17.6 17.6										17.2 17.7 17.6 15.5 Pass 20.5 Pass			
Vclass_Min										17.5 16.3 17.4 17.1 17.4 17.4 17.4 17.4 17.4 17.4										16.3 17.5 17.2 16.5 Pass 20.5 Pass			
Test: class time																							
Events_Count										1 1 1 1 1 1 1 1 1 1										1 1 1 1 Pass 1 Pass			
Class_Time_Tpds										11.7 13.7 13.7 13.7 11.7 13.6 11.7 11.7 11.7 11.7										11.7 13.7 12.7 6 Pass 75 Pass			
Test: class ext																							
Class_Lim										65 65 65 65 65 65 65 65 65 65										65 66 66 51 Pass 100 Pass			
Vport_CL_Lim										16.5 14.8 14.8 14.8 14.8 14.6 14.8 14.6 15 15										14.6 16.5 14.9 0 Pass 20.5 Pass			
Vport_CL_ext_Lim										17 17 16.9 17 16.9 17 16.9 17 17 17										16.9 17 17 0 Pass 20.5 Pass			
Test: class lldp																							
PSE_Source_Priority										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 0 Pass			
PSE_LLDP_Pwr_Sign										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 0 Pass			
PSE_LLDP_Time_2										3 3 3 3 3 3 3 3 3 3										3 3 3 3 Pass 10 Pass			
PSE_LLDP_Type_2										2 2 2 2 2 2 2 2 2 2										2 2 2 2 Pass 2 Pass			
PSE_Echo_Time_2										7 5.8 6.2 6.2 34.9 34 35.8 0.3 0.3 0.3										0.3 35.3 16.2 0 Pass 10 Fail			
PSE_Alloc_Pwr_2										20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3 20.3										20.3 20.3 20.3 20.3 Pass 25.5 Pass			
PSE_Alloc_Time_2										7 5.9 6.2 6.2 34.9 34 35.3 0.3 0.3 0.3										0.3 35.3 16.2 0 Pass 30 Info			
PD_Power_Adjust_2										25.5 25.5 25.5 25.5 25.5 25.5 25.5 25.5 25.5 25.5										25.5 25.5 25.5 25.5 Pass 25.5 Pass			
PSE_Adjust_Time_2										6.2 6.2 6.8 4.9 7 2 5.8 4.1 0.3 0.3										2 7 5.3 0 Pass 10 Pass			
Test: prsup time																							
Pwr-On_Rise_Time_Trise										27 31 50 46 31 27 57 64 64 64										27 67 44 15 Pass 50000 Pass			
Pwr-On_Time_Tpwn										93.8 62 11.7 11.7 11.7 11.7 11.7 11.7 11.7 11.7										11.7 93.8 31.2 0 Pass 400 Pass			
Test: prsup inrush																							
Init_Inrush										430 426 428 428 430 431 431 430 430 430										428 431 430 400 Pass 450 Pass			
Max_Inrush_c4										430 430 428 426 431 431 431 430 428 428										428 431 430 400 Pass 450 Pass			
Min_Inrush										429 426 427 427 430 426 428 428 428 428										427 430 426 400 Pass 450 Pass			
Inrush										49.2 49.2 49.2 49.2 49.2 49.2 49.2 49.2 49.2 49.2										49 49.2 49.2 50 Pass 75 Pass			
Inrush_t50										54.6 54.7 54.7 54.7 54.6 54.7 54.7 54.7 54.7 54.7										54.6 54.7 54.7 50 Pass 57 Pass			
Inrush_Voltage										31.8 31.7 31.7 31.7 31.7 31.8 35.7 35.4 35.4 35.4										31.7 35.4 32.7 30 Pass 57 Pass			
Max_Init_Inrush										503.8 503.5 503.3 504.3 503.8 503.5 714 715 714 714										502.3 715 566.5 0 Pass 2000 Pass			
Inrush_Strategy_c4										0 0 0 0 0 0 0 0 0 0										0 0 0 0 Pass 1 Pass			
Test: prsup v																							
Vport_min_2										53.6 53.7 53.8 53.8 53.7 53.8 53.8 53.8 53.8 53.8										53.6 53.8 53.8 50 Pass 57 Pass			
Vport_max_2										54.9 54.9 55 54.9 54.8 55 54.9 54.9 54.9 54.9										54.8 55 54.9 50 Pass 57 Pass			
Vport_ripple_2										180 180 183 183 181 180 202 191 180 202										180 202 180 0 Pass 500 Pass			
Vport_noise_2										175 179 172 184 172 172 165 152 162 162										152 184 169.8 0 Pass 200 Pass			

PSE Conformance Test Suite Standard Report (excerpt)

Ordering Information

- PSA-CT** PSE Conformance Test Suite for One PSA Controller (Up to 24 Test Ports)
- PSA-TS1** PSE Automated Test Suite Tracking Service for One Year for One PSA Controller
- PSA-TS2** PSE Automated Test Suite Tracking Service for Two Years for One PSA Controller
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