

SIFOs 802.3at Conformance Report, v 5.4.09, DN-95359

1 Sifos Technologies

Sifos Technologies provides a one-box solution to facilitate complete testing and analysis of Power Sourcing Equipment (PSE) behaviors and overall compliance to the IEEE 802.3at specification. The PSE Conformance Test Suite serves as a virtual industry standard for PSE specification compliance. SIFOS test coverage exceeds 95% of 802.3at PSE PICS

2 Enhanced Test Conditions

In addition to just running the basic conformance testing on an individual port and to better recreate the system-level environment, ASSMANN individually tests all ports of its PSE controller devices while having the background ports running at various PoE-application conditions. ASSMANN further, repeats testing conditions over extended periods of time to ensure performance is consistent after multiple hours, days and/or continued operation.

PSE Conformance Test Suite

November 1 2024 9:15 AM

Port Count..... 1

Loop Count..... 1

PSE Tested: **Results Type-2 30W**



802.3at Conformance Report

version 5.4.09

Test Mode: **30 Watt PHY**

report ver. 5.4.03

Sifos Interop Index*: **100%**

S/N: 34020093A

Error Log: None

Chassis ID: 192.168.221.105

PSA-3402 Ports

TestLoop: 1

1-1

UNITS

Min

Max

Average

Low Limit

P/F

High Limit

P/F

Test: det_v

Open_Circuit_Det_Voc= **14.78** V 14.78 14.78 15 2.8 Pass 30 Pass

Peak_Det_Vvalid= **6.25** V 6.25 6.25 6 3.8 Pass 10 Pass

Min_Det_Vvalid= **4.18** V 4.18 4.18 4 2.8 Pass 9 Pass

Det_Volt_Step_dVtest= **2.07** V 2.07 2.07 2 1 Pass 7.2 Pass

Detection_Slew= 0 V/usec 0 0 0 0 Pass 0.1 Pass

Good_Sig_Det_Pulse= **1** edges 1 1 1 1 Pass 9 Pass

Backoff_Voltage= **0.9** V 0.9 0.9 1 0 Pass 2.8 Pass

Non_802_Discr_?= 0 **** 0 0 0 0 Pass 0 Pass

Detect_Strategy= **1** **** 1 1 1 0 Pass 2 Pass

Test: det_i

Init_Current_Isc= **0.15** mA 0.15 0.15 0 0 Pass 5 Pass

Det_Current_Isc= **0.14** mA 0.14 0.14 0 0 Pass 5 Pass

Test: det_range

Rgood_Max= **29** Kohm 29 29 29 26 Pass 32 Pass

Rgood_Min= **17** Kohm 17 17 17 16 Pass 19 Pass

Rmid_det= **29** Kohm 29 29 29 26 Pass 33 Pass

Cgood_Max= **0.1** uF 0.1 0.1 0 0 Pass 10 Pass

Rbad_Cbad_Stat= 0 **** 0 0 0 0 Pass 0 Pass

4Pair_Pwr_?= 0 **** 0 0 0 0 Pass 0 Pass

Test: det_time

Backoff_Time_Tdbo= **1035** msec 1035 1035 1035 -1 Pass 1500 Pass

Eff_Backoff_Tdbo_eff= **1035** msec 1035 1035 1035 -1 Pass 1500 Pass

Backoff_Type= 0 **** 0 0 0 0 Pass 0 Pass

Detection_Time_Tdet= **377** msec 377 377 377 5 Pass 500 Pass

Total_Det_Time= **379** msec 379 379 379 5 Pass 1000 Pass

Test: det_rsource

PSE_Detect_Source= **1** **** 1 1 1 0 Pass 1 Pass

Output_Impedance_Zout= **450** Kohm 450 450 450 45 Pass 2000 Pass

Test: class_v

Vclass_Max= **19.1** V 19.1 19.1 19 15.5 Pass 20.5 Pass

Vclass_Min= **18.1** V 18.1 18.1 18 15.5 Pass 20.5 Pass

Mark_Voltage_Vmark= **8.9** V 8.9 8.9 9 7 Pass 10 Pass

Mark_Voltage_Min= **8.9** V 8.9 8.9 9 7 Pass 10 Pass

Test: class_time

Class_0_Count= **1** **** 1 1 1 1 Pass 2 Pass

Class_Time_Tpdc= **12.7** msec 12.7 12.7 13 6 Pass 75 Pass

Class_4_Count= **2** **** 2 2 2 2 Pass 2 Pass

Event1_Tcle1= **11.7** msec 11.7 11.7 12 6 Pass 30 Pass

Event2_Tcle2= **11.7** msec 11.7 11.7 12 6 Pass 30 Pass

Mark_Tme1= **11.7** msec 11.7 11.7 12 6 Pass 12 Pass

Mark_Tme_Last= **255** msec 255 255 255 6 Pass 376 Pass

Enhanced Test Condition

Mark_Tme1_LowI=	9.7	msec	9.7	9.7	10	6	Pass	12	Pass
Test: class_err									
Class_lim=	67	mA	67	67	67	51	Pass	100	Pass
Pwr_Cl_lim=	0	****	0	0	0	0	Pass	0	Pass
Pwr_Cl_55=	0	****	0	0	0	0	Pass	0	Pass
Mark_lim=	6	mA	6	6	6	5	Pass	100	Pass
Pwr_Cl_Uneven=	0	****	0	0	0	0	Pass	0	Pass
Treset=	211	msec	211	211	211	15	Pass	10000	Pass
Test: pwrup_time									
Power-On_Trise_c0=	156	usec	156	156	156	15	Pass	50000	Pass
Power-On_Tpon_c0=	273.4	msec	273.4	273.4	273	0	Pass	400	Pass
Power-On_Trise_c4=	174	usec	174	174	174	15	Pass	50000	Pass
Power-On_Tpon_c4=	294.9	msec	294.9	294.9	295	0	Pass	400	Pass
Test: pwrup_inrush									
Init_Iinrush=	426.13	mA	426.13	426.13	426	400	Pass	450	Pass
Max_Iinrush_c0=	424.38	mA	424.38	424.38	424	400	Pass	450	Pass
Max_Iinrush_c4=	429.25	mA	429.25	429.25	429	400	Pass	450	Pass
Min_Iinrush=	413.63	mA	413.63	413.63	414	400	Pass	450	Pass
Tinrush=	60	msec	60	60	60	50	Pass	75	Pass
Inrush_45m=	52.8	V	52.8	52.8	53	50	Pass	57	Pass
Inrush_Voltage=	30.7	V	30.7	30.7	31	30	Pass	57	Pass
Inrush_Strategy_c0=	0	****	0	0	0	0	Pass	1	Pass
Inrush_Strategy_c4=	0	****	0	0	0	0	Pass	1	Pass
LowV_Inrush=	413.3	mA	413.3	413.3	413	60	Pass	450	Pass
Test: pwron_v									
Vport_min=	51.6	V	51.6	51.6	52	50	Pass	57	Pass
Vport_max=	52.9	V	52.9	52.9	53	50	Pass	57	Pass
Vport_ripple=	30	mVpp	30	30	30	0	Pass	500	Pass
Vport_noise=	44	mVpp	44	44	44	0	Pass	200	Pass
Vtrans_min=	51.4	V	51.4	51.4	51	50	Pass	57	Pass
Vtrans_max=	53	V	53	53	53	50	Pass	57	Pass
Test: pwron_pwrkap									
Pcon_c0=	18.5	W	18.5	18.5	19	14.2	Pass	22.7	Pass
Icon_%_c0=	133.7	%	133.7	133.7	134	100	Pass	9999	Pass
Pcon_c1=	4.6	W	4.6	4.6	5	3.9	Pass	22.7	Pass
Icon_%_c1=	116.9	%	116.9	116.9	117	100	Pass	9999	Pass
Pcon_c2=	8.2	W	8.2	8.2	8	6.8	Pass	22.7	Pass
Icon_%_c2=	121.9	%	121.9	121.9	122	100	Pass	9999	Pass
Pcon_c3=	18.5	W	18.5	18.5	19	14.2	Pass	22.7	Pass
Icon_%_c3=	133.6	%	133.6	133.6	134	100	Pass	9999	Pass
Pcon_c4=	32.6	W	32.6	32.6	33	28.7	Pass	38.9	Pass
Icon_%_c4=	110	%	110	110	110	100	Pass	9999	Pass
Type-2_Enable=	1	****	1	1	1	1	Pass	1	Pass
Test: pwron_maxi									
Ilim_Peak_1=	484.5	mA	484.5	484.5	485	0	Pass	1750	Pass
Ilim_Min_1=	401.1	mA	401.1	401.1	401	400	Pass	1750	Pass
Tlim_1=	62.9	msec	62.9	62.9	63	10	Pass	9999	Pass
Vlim_1=	52	V	52	52	52	50	Pass	57	Pass
Ilim_Max_1=	492.5	mA	492.5	492.5	493	400	Pass	1750	Pass
Ktran_lo_1=	103.9	%	103.9	103.9	104	92.4	Pass	115	Pass
Ilim_Peak_2=	846.3	mA	846.3	846.3	846	0	Pass	1750	Pass

Enhanced Test Condition

Ilim_Min_2=	684.5	mA	684.5	684.5	685	683	Pass	1750	Pass
Tlim_2=	62.9	msec	62.9	62.9	63	10	Pass	75	Pass
Vlim_2=	51.2	V	51.2	51.2	51	50	Pass	57	Pass
Ilim_Max_2=	840.8	mA	840.8	840.8	841	683	Pass	1750	Pass
Ktran_lo_2=	102.2	%	102.2	102.2	102	92.4	Pass	115	Pass
Test: pwrn_overld									
%Ipeak_1=	125	%	125	125	125	100	Pass	125	Pass
Vport_Ipeak_1=	52.1	V	52.1	52.1	52	50	Pass	57	Pass
Vport_5%DC_1=	52.2	V	52.2	52.2	52	50	Pass	57	Pass
%Ipeak_2=	125	%	125	125	125	100	Pass	125	Pass
Vport_Ipeak_2=	51.3	V	51.3	51.3	51	50	Pass	57	Pass
Vport_5%DC_2=	51.4	V	51.4	51.4	51	50	Pass	57	Pass
Test: mps_dc_valid									
Min_Valid_Time_Tmps=	10	msec	10	10	10	1	Pass	60	Pass
Duty_Cycle_tol=	1	****	1	1	1	1	Pass	1	Pass
Test: mps_dc_pwrn									
Min_Valid_I_hold=	7	mA	7	7	7	5	Pass	10	Pass
Time-to-Shutdown_Tmpdo=	367	msec	367	367	367	300	Pass	400	Pass
Test: pwrn_overld									
Icut_1=	386.5	mA	386.5	386.5	387	-1	Pass	1750	Pass
Tcut_1=	62.1	msec	62.1	62.1	62	50	Pass	9999	Pass
Isoft_1=	-1	mA	-1	-1	-1	-1	Pass	683	Pass
Tsoft_1=	-1	msec	-1	-1	-1	-1	Pass	2000	Pass
Icut_2=	651.8	mA	651.8	651.8	652	-1	Pass	1750	Pass
Tcut_2=	62.5	msec	62.5	62.5	63	10	Pass	9999	Pass
Isoft_2=	-1	mA	-1	-1	-1	-1	Pass	683	Pass
Tsoft_2=	-1	msec	-1	-1	-1	-1	Pass	2000	Pass
Test: pwrn_time									
Turn-Off_Time_Toff=	15.3	msec	15.3	15.3	15	0	Pass	500	Pass
Output_Cap_Cout=	0.0882	uF	0.0882	0.0882	0	-1	Pass	0.52	Pass
Output_Load_Rp=	75.7	Kohm	75.7	75.7	76	45	Pass	50000	Pass
Test: pwrn_v									
Avg_Idle_Voff=	0.8	V	0.8	0.8	1	0	Pass	2.8	Pass
Error_Delay_Ted=	1835.9	msec	1835.9	1835.9	1836	750	Pass	10000	Pass
Peak_Error_Delay_Ved=	0.9	V	0.9	0.9	1	0	Pass	20.5	Pass