



Intel Platform Testing Services PSU Enabling Test Report

Tested against Intel ATX Version 3.0 Multi Rail
Desktop Power Supply Design Guide

PSU Vendor: Abee *

Model Number: AP-PLA-2000W

Serial Number: 2317023

Sample Number: Unit # 2

Tested By: Laurin Johnson

Reviewed By: Terry Chang

Report Date: August 31, 2023

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Introduction

Testing is done to check compliance with Intel ATX Version 3.0 Multi Rail Power Desktop Power Supply Design Guide, Revision 2.0.

Intel has published the Intel ATX Version 3.0 Multi Rail Power Supply Design Guide on RDC (Document #572908) in February 2022. Along with this, Intel has published the ATX12V and ATX12VO PSU Design Guide Addendum on RDC (Document #621485) in May 2022.

Testing is performed based on the Intel Desktop Platforms Power Supply Test Plan Revision 2.0 on RDC (Document #595284) in June 2022. Contact your Intel representative to access a copy.

The purpose of this testing is to have the power supply unit listed on the Intel PSU tested websites.

<https://www-ssl.intel.com/content/www/us/en/resellers/psu-selector.html>
<https://compatibleproducts.intel.com/FeaturedLinks/PSU/>

Intel carried out the testing in the lab facility located at:

Intel Corporation, 1900 Prairie City Road, Folsom, CA. 95630 SMG Lab FM7-211



Comments

According to Test Section #2.1 – 12V2 Peak Loading Test: This PSU was tested based on the ATX12V and ATX12VO PSU Design Guide Addendum. If the Peak Current rating listed below passes, then all other capabilities for the 12th & 13th generation Intel® Core™ Processor Families would be supported by the PSU based on the chart below.

Desktop

PSU 12V2 Capability Recommendations – ALD-S / RPL-S				
Processor TDP	VR Design	Continuous Current	Peak Current	Test Result
150W	Extreme	33 A	60 A	PASS
125W	Performance	26 A	39 A	PASS
65W	Performance	23 A	34 A	PASS
35W	Performance	11 A	19 A	PASS

Workstation

PSU 12V2 Capability Recommendations – Sapphire Rapids CPU				
Core SKU	Processor TDP	Continuous Current	Peak Current	Test Result
SPR-112L	350W	43.3 A	83.8 A	PASS
	330W	40.9 A	83.8 A	PASS
	300W	37.2 A	77.6 A	PASS
	270W	33.5 A	68.4 A	PASS
SPR-64L	250W	31.0 A	59.2 A	PASS
	225W	27.9 A	50.4 A	PASS
	200W	24.8 A	42.8 A	PASS
	175W	21.7 A	37.3 A	PASS
	130W	16.1 A	26.8 A	PASS



1. Loading values are based on the Desktop Platform ATX Power Supply Test Plan, which is based on the derating calculation from the Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies Revision 6.7. This PSU uses loading values are based on the **PSU Sticker Label**. Efficiency loading splits the 12V rail evenly between available connectors, if applicable.
2. Peak Power Excursions was tested to 200% of power.
3. PSU Efficiency meets 80 Plus Platinum level for 115V.
4. Low Load Efficiency is 70.8% Efficient @ 2% Loading condition.



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Sample # 2 (S/N: 2317023)

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3 PCIe Add-in Card Excursions Tests 3.1 Peak Power and Excursions - Required 3.3 12VHPWR Side Band Signals - Required	PASS ² 600W/600W
4 Electrical Tests 4.1 AC Line Regulation – Required 4.1 AC Line Regulation - Recommended 4.2 Load/Cross Regulation – Required 4.2 Load/Cross Regulation - Recommended 4.3 Efficiency - Main Rails On 4.3 Efficiency Low Load – 10W/2% - Required 4.4 Efficiency 5VSB ALPM - Recommended 4.4 Efficiency 5VSB ERP - Recommended 4.5 Power Factor - Recommended 4.6 Ripple & Noise – Required 4.7 Dynamic - Required 4.7 Dynamic - Recommended 4.7 CPU Desktop Dynamic – Required 4.7 CPU Workstation Dynamic – Required 4.7 PCIe AIC Dynamic (w/o 12VHPWR) – Required 4.7 PCIe AIC Dynamic (w/ 12VHPWR) – Required	PASS PASS PASS Not Tested PASS ³ PASS ⁴ PASS PASS PASS PASS PASS PASS PASS PASS N/A PASS



5 – Timing Tests 5.1 Timing T0-T4 - Required 5.1 Timing T1 & T3 for ALPM - Recommended 5.1 Timing T5-T6 - Recommended 5.2 +12V/+5V/+3.3V Power Seq. Test - Required 5.3 Hold Up Time - Required	PASS PASS PASS PASS PASS
7 – Output Protection Tests 7.1 Short Circuit (SCP) - Required 7.2 Over Current Protection (OCP) - Required 7.3 Energy Hazard Safety Criteria - Optional	PASS PASS Not Tested

PICTURES

Complete Unit Picture:



Label Picture:



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NAMEPLATE CALCULATIONS

PSU Nameplate and Loading Conditions						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
PSU Label (A)	22.000	25.000	0.300	3.000	166.000	0.000
Efficiency Current Load (A)	12.870	14.630	0.280	2.820	89.200	66.000
Min Load (A)	0.200	0.100	0.000	0.000	0.100	0.050
Efficiency (Full Load) -100% (A)	12.870	14.630	0.280	2.820	89.200	66.000
Efficiency - 90% (A)	11.583	13.167	0.252	2.538	80.280	59.400
Efficiency - 80% (A)	10.296	11.704	0.224	2.256	71.360	52.800
Efficiency - 75% (A)	9.653	10.972	0.210	2.115	66.900	49.500
Efficiency - 70% (A)	9.009	10.241	0.196	1.974	62.440	46.200
Efficiency - 60% (A)	7.722	8.778	0.168	1.692	53.520	39.600
Efficiency (Typical) - 50% (A)	6.435	7.315	0.140	1.410	44.600	33.000
Efficiency - 40% (A)	5.148	5.852	0.112	1.128	35.680	26.400
Efficiency - 30% (A)	3.861	4.389	0.084	0.846	26.760	19.800
Efficiency - 25% (A)	3.217	3.658	0.070	0.705	22.300	16.500
Efficiency (Light) - 20% (A)	2.574	2.926	0.056	0.564	17.840	13.200
Efficiency - 15% (A)	1.931	2.195	0.042	0.423	13.380	9.900
Efficiency - 10% (A)	1.287	1.463	0.028	0.282	8.920	6.600
Efficiency - 5% (A)	0.644	0.732	0.014	0.141	4.460	3.300
Efficiency - 2% (A)	0.257	0.293	0.006	0.056	1.784	1.320
2.1 Peak Load Test 1 (Desktop)	2.575	2.926	0.056	0.563	31.165	33.000
2.1 Peak Load Test 2 (Desktop)	2.575	2.926	0.056	0.563	31.165	60.000
2.1 Peak Load Test 1 (Workstation)	2.575	2.926	0.056	0.563	43.300	31.165
2.1 Peak Load Test 2 (Workstation)	2.575	2.926	0.056	0.563	83.800	31.165
2.2 Cont. Load (Desktop)	12.874	14.629	0.282	2.816	122.826	33.000
2.2 Cont. Load (Workstation)	12.874	14.629	0.282	2.816	112.525	43.300
100 uS Cont. Current	10.299	11.703	0.000	0.563	112.200	33.000
100 uS Peak Current	10.299	11.703	0.000	0.563	165.000	60.000
1 mS Cont. Current	10.299	11.703	0.000	0.563	108.812	33.000
1 mS Peak Current	10.299	11.703	0.000	0.563	165.000	60.000
10 mS Cont. Current	10.299	11.703	0.000	0.563	106.182	33.000
10 mS Peak Current	10.299	11.703	0.000	0.563	165.000	60.000
100 mS Cont. Current	10.299	11.703	0.000	0.563	113.216	33.000
100 mS Peak Current	10.299	11.703	0.000	0.563	132.256	60.000
12V1 High Dynamic Load 1 - 40%	2.575	2.926	0.056	0.563	99.600	0.000
12V1 High Dynamic Load 2 - 40%	2.575	2.926	0.056	0.563	165.000	0.000
12V1 Low Dynamic Load 1 - 40%	2.575	0.100	0.000	0.000	0.100	0.050
12V1 Low Dynamic Load 2 - 40%	2.575	0.100	0.000	0.000	66.400	0.050
12V1 High Dynamic Load 1 - 70%	2.575	2.926	0.056	0.563	49.800	0.000
12V1 High Dynamic Load 2 - 70%	2.575	2.926	0.056	0.563	165.000	0.000
12V1 Low Dynamic Load 1 - 70%	2.575	0.100	0.000	0.000	0.100	0.050
12V1 Low Dynamic Load 2 - 70%	2.575	0.100	0.000	0.000	116.200	0.050
5V High Dynamic Load 1	15.400	2.926	0.056	0.563	31.165	0.000
5V High Dynamic Load 2	22.000	2.926	0.056	0.563	31.165	0.000
5V Low Dynamic Load 1	0.200	0.100	0.000	0.000	0.100	0.050
5V Low Dynamic Load 2	6.600	0.100	0.000	0.000	0.100	0.050
-12V High Dynamic Load 1	2.575	2.926	0.200	0.563	31.165	0.000
-12V High Dynamic Load 2	2.575	2.926	0.300	0.563	31.165	0.000



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-12V Low Dynamic Load 1	0.200	0.100	0.000	0.000	0.100	0.050
-12V Low Dynamic Load 2	0.200	0.100	0.100	0.000	0.100	0.050
5VSB High Dynamic Load 1	2.575	2.926	0.056	2.500	31.165	0.000
5VSB High Dynamic Load 2	2.575	2.926	0.056	3.000	31.165	0.000
5VSB Low Dynamic Load 1	0.200	0.100	0.000	0.000	0.100	0.050
5VSB Low Dynamic Load 2	0.200	0.100	0.000	0.500	0.100	0.050
3.3V High Dynamic Load 1	2.575	17.500	0.056	0.563	31.165	0.000
3.3V High Dynamic Load 2	2.575	25.000	0.056	0.563	31.165	0.000
3.3V Low Dynamic Load 1	2.575	0.100	0.000	0.000	0.100	0.050
3.3V Low Dynamic Load 2	2.575	7.500	0.000	0.000	0.100	0.050
CPU DT Low Load 1	2.575	0.100	0.000	0.000	0.100	0.050
CPU DT Low Load 2	2.575	0.100	0.000	0.000	0.100	28.050
CPU DT High Load 1	2.575	2.926	0.056	0.563	31.165	4.950
CPU DT High Load 2	2.575	2.926	0.056	0.563	31.165	33.000
CPU WS Low Load 1	2.575	0.100	0.000	0.000	15.582	0.050
CPU WS Low Load 2	2.575	0.100	0.000	0.000	15.582	36.805
CPU WS High Load 1	2.575	2.926	0.056	0.563	31.165	6.495
CPU WS High Load 2	2.575	2.926	0.056	0.563	31.165	43.300
PCIe AIC w/ 12VHPWR Low Load 1	2.575	0.100	0.000	0.000	10.000	15.582
PCIe AIC w/ 12VHPWR Low Load 2	2.575	0.100	0.000	0.000	100.000	15.582
PCIe AIC w/ 12VHPWR High Load 1	2.575	2.926	0.056	0.563	100.000	31.165
PCIe AIC w/ 12VHPWR High Load 2	2.575	2.926	0.056	0.563	165.000	31.165
Cable 1 - Low Load 1	2.575	0.100	0.000	0.000	5.000	15.582
Cable 1 - Low Load 2	2.575	0.100	0.000	0.000	50.000	15.582
Cable 1 - High Load 1	2.575	2.926	0.056	0.563	50.000	31.165
Cable 1 - High Load 2	2.575	2.926	0.056	0.563	150.000	31.165
Cable 2 - Low Load 1	2.575	0.100	0.000	0.000	5.000	15.582
Cable 2 - Low Load 2	2.575	0.100	0.000	0.000	50.000	15.582
Cable 2 - High Load 1	2.575	2.926	0.056	0.563	50.000	31.165
Cable 2 - High Load 2	2.575	2.926	0.056	0.563	150.000	31.165
Test Plan Table / Label Full Load (A)	8.250	8.250	0.230	1.900	2.700	15.500
Max Load (if using TP Table) (A)	0.000	0.000	0.000	0.000	0.000	0.000
Rail Grouping	120.000				1992.000	
All 5V, 3.3V, & 12V Grouping					0.000	
Total Power (W)			2000.000			

Testing Connections

12 Volt Connections	12V1	12V2
24 or 10 pin Main Power Connections	1	
2x2 CPU power Connections		4
2x4 CPU Power Connections		
2x3 GPU Power Connections	6	
12VHPWR Power Connections	2	
SATA Power Connections	3	



RESULTS

2 – Processor Specific Tests

2.1 12V2 Desktop CPU Peak Loading Test – Recommended

Test Item	Peak Loading Test			115/60 12V2 Peak Load (25% Duty Cycle) (Desktop)		PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	33.000
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	60.000
Time 1 (ms)	30.000	30.000	30.000	30.000	30.000	30.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	2.579	2.927	0.057	0.563	31.183	33.005
I peak (A)	2.606	2.953	0.062	0.572	31.391	60.071
Peak +(V)	4.933	3.299	-12.173	4.972	11.994	11.974
Peak -(V)	4.893	3.268	-12.138	4.938	11.940	11.886
Power (W)	872.595	872.595	872.595	872.595	872.595	872.595
Test Item	Peak Loading Test			115/60 12V2 Peak Load (50% Duty Cycle) (Desktop)		PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	33.000
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	60.000
Time 1 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	2.579	2.927	0.056	0.563	31.186	46.504
I peak (A)	2.606	2.954	0.062	0.571	31.424	60.118
Peak +(V)	4.931	3.297	-12.171	4.971	12.040	12.018
Peak -(V)	4.889	3.266	-12.137	4.938	11.894	11.889
Power (W)	952.199	952.199	952.199	952.199	952.199	952.199
Test Item	Peak Loading Test			230/50 12V2 Peak Load (25%		PASS



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					Duty Cycle) (Desktop)		
AC Input (VAC)		230.000			Frequency (Hz)		50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	33.000	
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	60.000	
Time 1 (ms)	30.000	30.000	30.000	30.000	30.000	30.000	
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000	
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000	
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
I dyn. meas. (A)	2.581	2.929	0.057	0.563	31.207	35.619	
I peak (A)	2.609	2.957	0.063	0.571	31.452	60.113	
Peak +(V)	4.931	3.300	-12.142	4.984	12.005	11.987	
Peak -(V)	4.895	3.274	-12.111	4.957	11.894	11.893	
Power (W)	869.563	869.563	869.563	869.563	869.563	869.563	
Test Item	Peak Loading Test			230/50 12V2 Peak Load (50% Duty Cycle) (Desktop)		PASS	
AC Input (VAC)		230.000			Frequency (Hz)		50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	33.000	
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	60.000	
Time 1 (ms)	10.000	10.000	10.000	10.000	10.000	10.000	
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000	
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000	
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
I dyn. meas. (A)	2.578	2.927	0.056	0.563	31.189	46.505	
I peak (A)	2.603	2.954	0.062	0.571	31.419	60.088	
Peak +(V)	4.931	3.299	-12.163	4.976	12.027	12.018	
Peak -(V)	4.892	3.269	-12.129	4.945	11.881	11.891	
Power (W)	953.094	953.094	953.094	953.094	953.094	953.094	

2.1 12V2 Workstation CPU Peak Loading Test – Recommended

Test Item	Peak Loading Test			115/60 12V2 Peak Load (25% Duty Cycle) (Workstation)**		PASS	
AC Input (VAC)		115.000			Frequency (Hz)		60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	2.926	0.056	0.563	43.300	31.165	
Load 2 (A)	2.575	2.926	0.056	0.563	83.800	31.165	



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Time 1 (ms)	30.000	30.000	30.000	30.000	30.000	30.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	2.579	2.927	0.057	0.563	43.316	31.172
I peak (A)	2.606	2.957	0.062	0.570	84.067	31.271
Peak +(V)	4.925	3.293	-12.183	4.969	11.980	11.960
Peak -(V)	4.880	3.254	-12.139	4.928	11.919	11.776
Power (W)	1035.612	1035.612	1035.612	1035.612	1035.612	1035.612
Test Item	Peak Loading Test			115/60 12V2 Peak Load (50% Duty Cycle) (Workstation)**		PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	43.300	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	83.800	31.165
Time 1 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	2.579	2.927	0.056	0.563	63.564	31.172
I peak (A)	2.609	2.955	0.062	0.571	84.099	31.279
Peak +(V)	4.926	3.291	-12.183	4.968	12.030	12.022
Peak -(V)	4.874	3.252	-12.139	4.925	11.794	11.782
Power (W)	1155.324	1155.324	1155.324	1155.324	1155.324	1155.324

Test Item	Peak Loading Test			230/50 12V2 Peak Load (25% Duty Cycle) (Workstation)**		PASS
AC Input (VAC)	230.000			Frequency (Hz)		50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	43.300	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	83.800	31.165
Time 1 (ms)	30.000	30.000	30.000	30.000	30.000	30.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	2.579	2.928	0.056	0.563	43.319	31.175



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I peak (A)	2.603	2.955	0.063	0.571	84.076	31.272
Peak +(V)	4.925	3.290	-12.150	4.968	11.973	11.953
Peak -(V)	4.906	3.281	-12.138	4.958	11.915	11.921
Power (W)	1035.162	1035.162	1035.162	1035.162	1035.162	1035.162
Test Item	Peak Loading Test			230/50 12V2 Peak Load (50% Duty Cycle) (Workstation)**		PASS
AC Input (VAC)	230.000			Frequency (Hz)		50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	43.300	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	83.800	31.165
Time 1 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	2.579	2.927	0.056	0.563	63.563	31.172
I peak (A)	2.605	2.954	0.064	0.572	84.111	31.277
Peak +(V)	4.924	3.290	-12.184	4.968	12.034	12.013
Peak -(V)	4.872	3.250	-12.138	4.925	11.783	11.773
Power (W)	1154.856	1154.856	1154.856	1154.856	1154.856	1154.856

**Connections are reversed between 12V1 & 12V2 due to equipment loading capability.

2.2 12V2 Desktop CPU Continuous Load – Recommended

2.2 12V2 Workstation CPU Continuous Load – Recommended

Test Item	12V2		115/60 12V2 Load Continuous (Desktop)			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	12.874	14.629	0.282	2.816	122.826	33.000
Test Reading						
I meas. (A)	12.878	14.629	0.282	2.815	122.830	33.005
Voltage (V)	4.819	3.176	-12.213	4.830	11.831	11.779
Power (W)	62.069	46.466	3.443	13.595	1450.840	390.770
Total Power (W)				1967.183		
Test Item	12V2		115/60 12V2 Load Continuous (Workstation)			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	12.874	14.629	0.282	2.816	112.525	43.300



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Test Reading						
I meas. (A)	12.877	14.629	0.282	2.815	112.529	43.303
Voltage (V)	4.815	3.171	-12.211	4.828	11.830	11.780
Power (W)	62.013	46.390	3.443	13.591	1324.060	512.450
Total Power (W)				1961.947		
Test Item	12V2		230/50 12V2 Load Continuous (Desktop)		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	12.874	14.629	0.282	2.816	122.826	33.000
Test Reading						
I meas. (A)	12.877	14.629	0.282	2.815	122.832	33.007
Voltage (V)	4.813	3.170	-12.211	4.827	11.816	11.761
Power (W)	61.992	46.379	3.444	13.588	1448.870	390.150
Total Power (W)				1964.422		
Test Item	12V2		230/50 12V2 Load Continuous (Workstation)		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	12.874	14.629	0.282	2.816	112.525	43.300
Test Reading						
I meas. (A)	12.877	14.629	0.282	2.815	112.530	43.307
Voltage (V)	4.810	3.168	-12.208	4.826	11.814	11.763
Power (W)	61.952	46.353	3.443	13.585	1322.290	511.750
Total Power (W)				1959.373		

2.3 12V2 Min Load 0A - Recommended

Test Reading						
Test Item	12V2		115/60 12V Rails 0A, 5V & 3.3V Min Load		PASS	
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	0.200	0.100	0.000	0.000	0.000	0.000
Test Reading						
I meas. (A)	0.205	0.103	0.001	0.000	0.045	0.015
Voltage (V)	4.980	3.353	-12.055	5.046	12.038	12.039
Power (W)	1.022	0.345	0.010	0.001	0.543	0.190
Total Power (W)				2.111		
Test Item	12V2		115/60 12V2 0A Min Load		PASS	
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	12.870	14.630	0.000	0.000	0.100	0.000



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Test Reading						
I meas. (A)	12.874	14.630	0.001	0.000	0.146	0.015
Voltage (V)	4.934	3.274	-12.110	5.029	12.022	12.022
Power (W)	63.520	47.902	0.011	0.000	1.741	0.179
Total Power (W)				113.354		
Test Item	12V2		230/50 12V Rails 0A, 5V & 3.3V Min Load		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	0.200	0.100	0.000	0.000	0.000	0.000
Test Reading						
I meas. (A)	0.205	0.102	0.001	0.000	0.045	0.014
Voltage (V)	4.979	3.352	-12.055	5.046	12.042	12.044
Power (W)	1.022	0.345	0.010	0.001	0.551	0.187
Total Power (W)				2.117		
Test Item	12V2		230/50 12V2 0A Min Load		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	12.870	14.630	0.000	0.000	0.100	0.000
Test Reading						
I meas. (A)	12.874	14.630	0.001	0.000	0.142	0.015
Voltage (V)	4.934	3.275	-12.110	5.029	12.026	12.027
Power (W)	63.523	47.915	0.010	0.001	1.700	0.187
Total Power (W)				113.337		

3 – PCIe Add-in Card Excursions Tests

3.1 Peak Power and Excursions – Required

Test Item	Peak Power Excursions		115/60 100 uS Peak Test			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	112.200	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	165.000	60.000
Time 1 (ms)	1.900	1.900	1.900	1.900	1.900	1.900
Time 2 (ms)	0.100	0.100	0.100	0.100	0.100	0.100
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	10.304	11.704	0.001	0.563	112.604	33.173
I peak (A)	10.336	11.734	0.008	0.571	120.297	36.226
Peak + (V)	4.851	3.207	-12.211	4.918	11.868	11.810
Peak - (V)	4.820	3.189	-12.197	4.903	11.786	11.751
Power (W)	49.813	37.436	0.016	2.765	1329.640	392.670



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Total Power (W)				1812.340		
Test Item	Peak Power Excursions		115/60 1 mS Peak Test			PASS
AC Input (VAC)		115.000		Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	108.812	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	165.000	60.000
Time 1 (ms)	11.500	11.500	11.500	11.500	11.500	11.500
Time 2 (ms)	1.000	1.000	1.000	1.000	1.000	1.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	10.305	11.705	0.001	0.563	114.423	34.364
I peak (A)	10.341	11.735	0.013	0.572	165.141	60.053
Peak + (V)	4.846	3.207	-12.245	4.919	11.866	11.819
Peak - (V)	4.783	3.154	-12.196	4.870	11.714	11.638
Power (W)	49.765	37.385	0.016	2.763	1335.670	415.930
Total Power (W)				1841.530		
Test Item	Peak Power Excursions		115/60 10 mS Peak Test			PASS
AC Input (VAC)		115.000		Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	106.182	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	165.000	60.000
Time 1 (ms)	70.000	70.000	70.000	70.000	70.000	70.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	10.304	11.704	0.001	0.563	106.179	33.011
I peak (A)	10.341	11.735	0.012	0.572	129.914	33.106
Peak + (V)	4.850	3.206	-12.205	4.921	11.848	11.802
Peak - (V)	4.820	3.189	-12.193	4.910	11.809	11.762
Power (W)	49.738	37.360	0.016	2.763	1336.720	430.000
Total Power (W)				1856.597		
Test Item	Peak Power Excursions		115/60 100 mS Peak Test			PASS
AC Input (VAC)		115.000		Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	113.216	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	132.256	60.000
Time 1 (ms)	300.000	300.000	300.000	300.000	300.000	300.000
Time 2 (ms)	100.000	100.000	100.000	100.000	100.000	100.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	10.303	11.704	0.001	0.563	106.179	33.011
I peak (A)	10.340	11.736	0.011	0.571	106.421	33.099



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Peak + (V)	4.848	3.205	-12.207	4.919	11.844	11.796
Peak - (V)	4.820	3.188	-12.190	4.909	11.804	11.759
Power (W)	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
Total Power (W)				-6.000		
Test Item	Peak Power Excursions		230/50 100 uS Peak Test			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	112.200	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	165.000	60.000
Time 1 (ms)	1.900	1.900	1.900	1.900	1.900	1.900
Time 2 (ms)	0.100	0.100	0.100	0.100	0.100	0.100
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	10.305	11.705	0.000	0.563	112.603	33.175
I peak (A)	10.335	11.734	0.005	0.571	120.289	36.223
Peak + (V)	4.847	3.204	-12.213	4.916	11.845	11.803
Peak - (V)	4.801	3.170	-12.197	4.884	11.775	11.714
Power (W)	49.781	37.405	0.002	2.764	1326.550	392.100
Total Power (W)				1808.602		
Test Item	Peak Power Excursions		230/50 1 mS Peak Test			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	108.812	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	165.000	60.000
Time 1 (ms)	11.500	11.500	11.500	11.500	11.500	11.500
Time 2 (ms)	1.000	1.000	1.000	1.000	1.000	1.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	10.306	11.706	0.000	0.563	114.428	34.366
I peak (A)	10.341	11.732	0.005	0.571	165.134	60.060
Peak + (V)	4.846	3.205	-12.246	4.918	11.854	11.807
Peak - (V)	4.785	3.156	-12.195	4.868	11.706	11.634
Power (W)	49.757	37.381	0.002	2.763	1334.210	415.530
Total Power (W)				1839.643		
Test Item	Peak Power Excursions		230/50 10 mS Peak Test			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	106.182	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	165.000	60.000
Time 1 (ms)	70.000	70.000	70.000	70.000	70.000	70.000
Time 2 (ms)	10.000	10.000	10.000	10.000	10.000	10.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000



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Test Reading						
I dyn. meas. (A)	10.305	11.705	0.000	0.563	106.184	33.015
I peak (A)	10.337	11.735	0.005	0.571	129.935	33.112
Peak + (V)	4.848	3.207	-12.208	4.919	11.836	11.798
Peak - (V)	4.823	3.190	-12.193	4.908	11.804	11.757
Power (W)	49.752	37.377	0.002	2.762	1336.100	429.870
Total Power (W)				1855.864		
Test Item	Peak Power Excursions		230/50 100 mS Peak Test			PASS
AC Input (VAC)		230.000		Frequency (Hz)		50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	10.299	11.703	0.000	0.563	113.216	33.000
Load 2 (A)	10.299	11.703	0.000	0.563	132.256	60.000
Time 1 (ms)	300.000	300.000	300.000	300.000	300.000	300.000
Time 2 (ms)	100.000	100.000	100.000	100.000	100.000	100.000
Rise Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Fall Slew (uA/s)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
I dyn. meas. (A)	10.305	11.705	0.000	0.563	106.181	33.014
I peak (A)	10.343	11.732	0.005	0.571	106.395	33.101
Peak + (V)	4.850	3.208	-12.209	4.920	11.837	11.796
Peak - (V)	4.822	3.191	-12.194	4.908	11.805	11.760
Power (W)	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000
Total Power (W)				-6.000		

3.3 12VHPWR Side Band Signals – Required

Test Item	12VHPWR Side Band			Sense0 = S3 - Cable 1 600W		PASS
AC Input	0.000		Frequency		60.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.435	7.315	0.140	1.410	44.600	33.000
Test Reading						
Peak + (V)	4.918	3.282	-12.166	4.937	11.984	11.940
Peak - (V)	4.900	3.272	-12.147	4.929	11.927	11.915
12VHPWR Resistance (Ohm)	68.111	GND	12VHPWR Voltage (V)		-0.069	GND
Test Item	12VHPWR Side Band			Sense1 = S4 - Cable 1 600W		PASS
AC Input	0.000		Frequency		60.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.435	7.315	0.140	1.410	44.600	33.000
Test Reading						
Peak + (V)	4.921	3.284	-12.166	4.937	11.981	11.940
Peak - (V)	4.903	3.273	-12.148	4.929	11.924	11.912
12VHPWR Resistance	67.795	GND	12VHPWR Voltage (V)		-0.068	GND



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(Ohm)						
Test Item	12VHPWR Side Band			Sense0 = S3 - Cable 2 600W		PASS
AC Input	0.000		Frequency		60.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.435	7.315	0.140	1.410	44.600	33.000
Test Reading						
Peak + (V)	4.921	3.284	-12.165	4.939	11.985	11.951
Peak - (V)	4.902	3.274	-12.145	4.930	11.931	11.924
12VHPWR Resistance (Ohm)	65.500	GND	12VHPWR Voltage (V)		-0.066	GND
Test Item	12VHPWR Side Band			Sense1 = S4 - Cable 2 600W		PASS
AC Input	0.000		Frequency		60.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.435	7.315	0.140	1.410	44.600	33.000
Test Reading						
Peak + (V)	4.923	3.286	-12.165	4.939	11.986	11.950
Peak - (V)	4.903	3.276	-12.145	4.930	11.929	11.925
12VHPWR Resistance (Ohm)	65.537	GND	12VHPWR Voltage (V)		-0.066	GND

Sense0	Sense1	Support Power at System Power Up	Maximum Sustain Power Supported after Software Configuration
GND	GND	375W	600W
GND	GND	375W	600W

Pass Criteria:

Required: Based on power level supported by the power supplies' 12VHPWR connector the voltage levels will be as follows:

- Ground < 5 ohms
- Open – Infinite impedance or > 1 M ohms

Optional Voltage Check:

- Ground <= 0.3 Volts
- Open > 3.0 Volts, should be 3.3V



Table 3-6: PCI Express* 12VHPWR Connector Power Limits

Sense0	Sense1	Initial Permitted Power at System Power Up	Maximum Sustain Power after Software Configuration
Gnd	Gnd	375 W	600 W
Open	Gnd	225 W	450 W
Gnd	Open	150 W	300 W
Open	Open	100 W	150 W

4 – Electrical Tests

4.1 AC Line Regulation – Required

4.1 AC Line Regulation – Recommended

Test Item	Line Regulation		115/60 -Light Load - Beginning of Test			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.959	3.330	-12.111	5.001	12.024	12.012
Voltage (-)	4.959	3.330	-12.111	5.001	12.024	12.012
Test Item	Line Regulation		90/60 135/60 - Typical Load - Required			PASS
AC Input (VAC)	90.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Voltage (+)	4.908	3.270	-12.145	4.939	11.927	11.902
Voltage (-)	4.908	3.270	-12.145	4.939	11.926	11.902
Test Item	Line Regulation		180/50 265/50 - Typical Load - Required			PASS
AC Input (VAC)	180.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Voltage (+)	4.908	3.270	-12.144	4.939	11.926	11.902
Voltage (-)	4.908	3.270	-12.144	4.939	11.926	11.902
Test Item	Line Regulation		90/47 90/63 - Typical Load - Recommended			PASS
AC Input (VAC)	90.000		Frequency (Hz)			47.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						



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Voltage (+)	4.908	3.270	-12.144	4.939	11.926	11.901
Voltage (-)	4.908	3.270	-12.144	4.939	11.926	11.901
Test Item	Line Regulation		135/47 135/63 - Typical Load - Recommended			PASS
AC Input (VAC)	135.000		Frequency (Hz)			47.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Voltage (+)	4.907	3.270	-12.144	4.939	11.926	11.900
Voltage (-)	4.907	3.270	-12.144	4.939	11.926	11.900
Test Item	Line Regulation		180/47 180/63 - Typical Load - Recommended			PASS
AC Input (VAC)	180.000		Frequency (Hz)			47.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Voltage (+)	4.907	3.270	-12.144	4.939	11.925	11.899
Voltage (-)	4.907	3.269	-12.144	4.939	11.925	11.899
Test Item	Line Regulation		265/47 265/63 - Typical Load - Recommended			PASS
AC Input (VAC)	265.000		Frequency (Hz)			47.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Voltage (+)	4.906	3.269	-12.144	4.939	11.925	11.898
Voltage (-)	4.906	3.269	-12.144	4.939	11.925	11.898
Test Item	Line Regulation		115/60 Light Load - END OF SCP TESTING			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.959	3.330	-12.103	5.004	12.021	12.015
Voltage (-)	4.959	3.330	-12.103	5.004	12.021	12.015
Test Item	Line Regulation		115/60 Light Load - POST 115/60 5V OCP			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.949	3.319	-12.085	5.003	12.019	12.012
Voltage (-)	4.949	3.319	-12.086	5.003	12.018	12.012
Test Item	Line Regulation		115/60 Light Load - POST 115/60 3.3V OCP			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						



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Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.940	3.312	-12.096	5.003	12.014	12.007
Voltage (-)	4.939	3.312	-12.096	5.004	12.014	12.007
Test Item	Line Regulation		115/60 Light Load - POST 115/60 -12V OCP			PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.947	3.318	-12.088	5.003	12.015	12.008
Voltage (-)	4.947	3.318	-12.087	5.003	12.015	12.009
Test Item	Line Regulation		115/60 Light Load - POST 115/60 5VSB OCP			PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.954	3.324	-12.100	5.004	12.018	12.011
Voltage (-)	4.954	3.324	-12.100	5.004	12.018	12.012
Test Item	Line Regulation		115/60 Light Load - POST 115/60 12V All OCP			PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.953	3.324	-12.100	5.004	12.018	12.011
Voltage (-)	4.954	3.324	-12.100	5.004	12.018	12.011
Test Item	Line Regulation		115/60 Light Load - END OF TESTING			PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.955	3.326	-12.102	5.003	12.009	12.001
Voltage (-)	4.955	3.326	-12.102	5.003	12.009	12.001

4.2 Load/Cross Regulation – Required

4.2 Load/Cross Regulation - Recommended

Test Item	Load / Cross Regulation		115/60 Load 0			PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2



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Loading (A)	0.200	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.983	3.356	-12.059	5.046	12.053	12.054
Test Item	Load / Cross Regulation		115/60 Load 1			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.977	3.355	-12.077	5.045	12.052	12.053
Test Item	Load / Cross Regulation		115/60 Load 2			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.966	3.352	-12.083	5.042	12.049	12.050
Test Item	Load / Cross Regulation		115/60 Load 3			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.949	3.347	-12.094	5.038	12.040	12.041
Test Item	Load / Cross Regulation		115/60 Load 4			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	31.165	0.050
Test Reading						
Voltage	4.961	3.337	-12.081	5.025	12.003	11.992
Test Item	Load / Cross Regulation		115/60 Load 5			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	77.912	0.050
Test Reading						
Voltage	4.929	3.309	-12.122	4.994	11.934	11.905
Test Item	Load / Cross Regulation		115/60 Load 6			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.000	0.000	155.825	0.050
Test Reading						
Voltage	4.867	3.247	-12.191	4.937	11.814	11.759



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Test Item	Load / Cross Regulation		115/60 Load 7			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	0.100	0.000
Test Reading						
Voltage	4.983	3.356	-12.059	5.046	12.053	12.054
Test Item	Load / Cross Regulation		115/60 Load 8			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	0.100	0.000
Test Reading						
Voltage	4.983	3.356	-12.059	5.046	12.053	12.054
Test Item	Load / Cross Regulation		115/60 Load 9			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.000	0.000	0.100	0.000
Test Reading						
Voltage	4.976	3.342	-12.083	5.043	12.049	12.050
Test Item	Load / Cross Regulation		115/60 Load 10			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	2.926	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.982	3.343	-12.065	5.044	12.051	12.052
Test Item	Load / Cross Regulation		115/60 Load 11			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	7.315	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.978	3.321	-12.070	5.041	12.048	12.048
Test Item	Load / Cross Regulation		115/60 Load 12			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	14.629	0.056	0.564	17.840	13.200
Test Reading						
Voltage	4.943	3.263	-12.117	4.996	12.003	11.995
Test Item	Load / Cross Regulation		115/60 Load 13			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000



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Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000
Test Reading						
Voltage	4.954	3.323	-12.103	5.004	11.999	11.990
Test Item	Load / Cross Regulation		115/60 Load 14			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Voltage	4.905	3.268	-12.144	4.939	11.926	11.900
Test Item	Load / Cross Regulation		115/60 Load 15			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000
Test Reading						
Voltage	4.824	3.176	-12.215	4.831	11.799	11.742
Test Item	Load / Cross Regulation		115/60 Load 16			PASS
AC Input (VAC)	115.000		Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	0.000	0.000	0.000
Test Reading						
Voltage	4.983	3.356	-12.058	5.046	12.053	12.054
Test Item	Load / Cross Regulation		230/50 Load 0			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.983	3.356	-12.059	5.046	12.052	12.053
Test Item	Load / Cross Regulation		230/50 Load 1			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.977	3.355	-12.076	5.045	12.051	12.051
Test Item	Load / Cross Regulation		230/50 Load 2			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	0.100	0.000	0.000	0.100	0.050



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Test Reading						
Voltage	4.966	3.351	-12.083	5.042	12.048	12.048
Test Item	Load / Cross Regulation		230/50 Load 3		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.948	3.347	-12.094	5.038	12.039	12.040
Test Item	Load / Cross Regulation		230/50 Load 4		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	31.165	0.050
Test Reading						
Voltage	4.961	3.337	-12.081	5.025	12.002	11.992
Test Item	Load / Cross Regulation		230/50 Load 5		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	77.912	0.050
Test Reading						
Voltage	4.928	3.308	-12.122	4.994	11.935	11.908
Test Item	Load / Cross Regulation		230/50 Load 6		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.000	0.000	155.825	0.050
Test Reading						
Voltage	4.866	3.246	-12.191	4.937	11.815	11.758
Test Item	Load / Cross Regulation		230/50 Load 7		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	0.100	0.000
Test Reading						
Voltage	4.983	3.356	-12.059	5.046	12.052	12.053
Test Item	Load / Cross Regulation		230/50 Load 8		PASS	
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	0.100	0.000	0.000	0.100	0.000
Test Reading						
Voltage	4.982	3.356	-12.059	5.046	12.052	12.053



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Test Item	Load / Cross Regulation		230/50 Load 9			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.000	0.000	0.100	0.000
Test Reading						
Voltage	4.976	3.342	-12.083	5.043	12.049	12.049
Test Item	Load / Cross Regulation		230/50 Load 10			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	2.926	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.982	3.343	-12.065	5.044	12.050	12.051
Test Item	Load / Cross Regulation		230/50 Load 11			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.200	7.315	0.000	0.000	0.100	0.050
Test Reading						
Voltage	4.977	3.321	-12.070	5.041	12.047	12.047
Test Item	Load / Cross Regulation		230/50 Load 12			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	14.629	0.056	0.564	17.840	13.200
Test Reading						
Voltage	4.942	3.263	-12.117	4.996	12.002	11.994
Test Item	Load / Cross Regulation		230/50 Load 13			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000
Test Reading						
Voltage	4.953	3.322	-12.102	5.003	11.999	11.989
Test Item	Load / Cross Regulation		230/50 Load 14			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Voltage	4.905	3.268	-12.143	4.939	11.927	11.898
Test Item	Load / Cross Regulation		230/50 Load 15			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						



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Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000
Test Reading						
Voltage	4.823	3.176	-12.215	4.831	11.800	11.743
Test Item	Load / Cross Regulation		230/50 Load 16			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	0.000	0.000	0.000
Test Reading						
Voltage	4.983	3.356	-12.058	5.046	12.052	12.053

No longer testing Load Cross FL1 & FL2 for 115V and 230V unless specifically requested.

4.3 Efficiency - Main Rails On

Load	115V Efficiency	Intel Min							Applicable Specification
			80 Plus	80 Plus Bronze	80 Plus Silver	80 Plus Gold	80 Plus Platinum	80 Plus Titanium	
				ENERGY STAR* Required ≤ 500W		ENERGY STAR* Required > 500W	ENERGY STAR* Adder possible	ENERGY STAR* Adder possible	
100%	91.167	70%	80%	82%	85%	87%	89%	90%	80 Plus & ENERGY STAR*
50%	93.541	72%	80%	85%	88%	90%	92%	94%	
20%	92.969	65%	80%	82%	85%	87%	90%	92%	
15%	90.873	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10%	87.353	N/A	N/A	80%	80%	80%	86%	90%	ENERGY STAR* only
5%	80.510	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2%	70.894	60% Req.	N/A	N/A	N/A	N/A	N/A	N/A	
		70% Rec.	N/A	N/A	N/A	N/A	N/A	N/A	

PSU's ≤ 500W use 10W load. PSU's above 500W use 2%.

Note: Official efficiency testing values are pulled from an 80+ test report. Not doing 15 min Burn-In or 230V efficiency testing, and all test times reduced to 2 min, unless specifically requested.



4.4 Efficiency 5VSB - Recommended

Efficiency for ALPM & ErP Requirements Summary

115V data is for ALPM, 230V Readings applies to ERP

5VSB Load Goal	5VSB Actual Load	115V Efficiency	ALPM 115V	230V Efficiency	Intel recommendation (115V / 230V)	ErP Lot 3 2013	ErP Lot 3 2014	ErP Lot 6 2013	ErP Lot 6 2014
Max / Label	3.0A	83.191		83.010	75% / 75%				
1.50 A		84.634	75%	84.597			75%		
1.00 A		84.988		84.996	75% / 75%				
0.55 A		82.789	75%	82.789			75%		75%
0.25 A		N/A*		N/A*					
100 mA		N/A*		N/A*					
90 mA		N/A*		63.276					
70 mA		N/A*		N/A*					
45 mA		N/A*		49.824		45%		45%	
20 mA		N/A*		N/A*					

N/A* - Testing specifically for recommended or required values. Not doing 15 min Burn-In unless specifically requested. All test times reduced to 2 min.

4.5 Power Factor – Recommended

Load	PFC 115V	80 Plus Required	ENERGY STAR* Required	CEC Recommended
100%	0.995	0.9 – 80 Plus only	N/A	N/A
50%	0.992	0.9 = Bronze and higher	0.9	0.9 (600W and 80 Plus Gold or higher)
2%	0.566	N/A	N/A	Value is reported

PSU's ≤ 500W use 10W load. PSU's above 500W use 2%.



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Test Item	Efficiency	115/60 Full (100%) Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.995
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.870	14.630	0.280	2.820	89.200	66.000
Test Reading						
I Meas. (A)	12.878	14.633	0.280	2.819	89.214	66.013
V Meas. (V)	4.810	3.171	-12.209	4.823	11.816	11.774
Pin (W)	2133.837	Pout (W)	1945.355	Eff (%)	91.167	0
Test Item	Efficiency	115/60 Typical (50%) Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.992
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.435	7.315	0.140	1.410	44.600	33.000
Test Reading						
I Meas. (A)	6.443	7.320	0.141	1.410	44.643	33.020
V Meas. (V)	4.898	3.265	-12.137	4.936	11.920	11.901
Pin (W)	1054.220	Pout (W)	986.128	Eff (%)	93.541	0
Test Item	Efficiency	115/60 Light (20%) Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.969
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
I Meas. (A)	2.576	2.928	0.057	0.564	17.897	13.224
V Meas. (V)	4.949	3.319	-12.097	5.002	11.980	11.974
Pin (W)	428.346	Pout (W)	398.230	Eff (%)	92.969	0
Test Item	Efficiency	115/60 15% Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.947
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	1.931	2.195	0.042	0.423	13.380	9.900
Test Reading						
I Meas. (A)	1.932	2.196	0.043	0.423	13.436	9.920
V Meas. (V)	4.957	3.328	-12.090	5.014	11.992	11.988
Pin (W)	329.424	Pout (W)	299.359	Eff (%)	90.873	0
Test Item	Efficiency	115/60 10% Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.899
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	1.287	1.463	0.028	0.282	8.920	6.600
Test Reading						
I Meas. (A)	1.288	1.464	0.029	0.282	8.974	6.621



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V Meas. (V)	4.966	3.337	-12.081	5.024	12.005	12.004
Pin (W)	229.138	Pout (W)	200.158	Eff (%)	87.353	0
Test Item	Efficiency	115/60 5% Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.805
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.644	0.732	0.014	0.141	4.460	3.300
Test Reading						
I Meas. (A)	0.644	0.732	0.015	0.141	4.518	3.305
V Meas. (V)	4.973	3.346	-12.071	5.035	12.018	12.019
Pin (W)	124.883	Pout (W)	100.543	Eff (%)	80.510	0
Test Item	Efficiency	115/60 2% Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.566
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.257	0.293	0.006	0.056	1.784	1.320
Test Reading						
I Meas. (A)	0.258	0.293	0.006	0.056	1.790	1.323
V Meas. (V)	4.979	3.352	-12.066	5.042	12.030	12.033
Pin (W)	56.516	Pout (W)	40.066	Eff (%)	70.894	0
Test Item	Efficiency	115/60 5VSB Efficiency Nameplate				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.262
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	3.000	0.000	0.000
Test Reading						
I Meas. (A)	0.000	0.000	0.000	2.999	0.001	0.000
V Meas. (V)	0.000	0.011	-0.000	4.949	0.036	0.035
Pin (W)	17.839	Pout (W)	14.840	Eff (%)	83.191	0
Test Item	Efficiency	115/60 5VSB Efficiency 1.5A ALPM & ErP* Lot 3 2014				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.150
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	1.500	0.000	0.000
Test Reading						
I Meas. (A)	0.000	0.000	0.000	1.499	0.001	0.000
V Meas. (V)	0.001	0.002	-0.000	4.998	0.011	0.011
Pin (W)	8.855	Pout (W)	7.494	Eff (%)	84.634	0
Test Item	Efficiency	115/60 5VSB Efficiency 1.0A				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.104
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2



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Loading (A)	0.000	0.000	0.000	1.000	0.000	0.000
Test Reading						
I Meas. (A)	0.000	0.000	0.000	1.000	0.001	0.000
V Meas. (V)	0.001	0.002	-0.000	5.014	0.007	0.007
Pin (W)	5.900	Pout (W)	5.014	Eff (%)	84.988	0
Test Item	Efficiency	115/60 5VSB Efficiency 0.55A ALPM & ErP* Lot 3/6 2014				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.060
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	0.550	0.000	0.000
Test Reading						
I Meas. (A)	0.000	0.000	0.000	0.550	0.001	0.000
V Meas. (V)	0.000	0.001	-0.000	5.029	0.005	0.005
Pin (W)	3.342	Pout (W)	2.766	Eff (%)	82.789	0
Test Item	Efficiency	230/50 5VSB Efficiency Nameplate				PASS
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.264
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	3.000	0.000	0.000
Test Reading						
I Meas. (A)	0.000	0.000	0.000	2.999	0.001	0.000
V Meas. (V)	0.002	0.006	-0.000	4.949	0.033	0.032
Pin (W)	17.879	Pout (W)	14.842	Eff (%)	83.010	0
Test Item	Efficiency	230/50 5VSB Efficiency 1.5A ALPM & ErP* Lot 3 2014				PASS
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.150
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	1.500	0.000	0.000
Test Reading						
I Meas. (A)	0.000	0.000	0.000	1.499	0.001	0.000
V Meas. (V)	0.001	0.002	-0.000	4.998	0.015	0.014
Pin (W)	8.859	Pout (W)	7.494	Eff (%)	84.597	0
Test Item	Efficiency	230/50 5VSB Efficiency 1.0A				PASS
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.104
Test Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	0.000	0.000	0.000	1.000	0.000	0.000
Test Reading						
I Meas. (A)	0.000	0.000	0.000	1.000	0.001	0.000
V Meas. (V)	0.001	0.001	-0.000	5.014	0.008	0.008
Pin (W)	5.899	Pout (W)	5.014	Eff (%)	84.996	0
Test Item	Efficiency	230/50 5VSB Efficiency 0.55A ALPM & ErP* Lot 3/6 2014				PASS
AC Input (VAC)	230.000	Frequency	50.000	Power Factor		0.060



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		(Hz)					
Test Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Loading (A)	0.000	0.000	0.000	0.550	0.000	0.000	
Test Reading							
I Meas. (A)	0.000	0.000	0.000	0.550	0.001	0.000	
V Meas. (V)	0.000	0.001	-0.000	5.029	0.006	0.006	
Pin (W)	3.342	Pout (W)	2.766	Eff (%)	82.789	0	
Test Item							
Test Item	Efficiency	230/50 5VSB Efficiency 90mA				PASS	
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.013	
Test Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Loading (A)	0.000	0.000	0.000	0.090	0.000	0.000	
Test Reading							
I Meas. (A)	0.000	0.000	0.000	0.090	0.001	0.000	
V Meas. (V)	0.000	0.001	-0.000	5.044	0.005	0.005	
Pin (W)	0.719	Pout (W)	0.455	Eff (%)	63.276	0	
Test Item							
Test Item	Efficiency	230/50 5VSB Efficiency 45mA ErP* Lot 3/6 2013				PASS	
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.008	
Test Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Loading (A)	0.000	0.000	0.000	0.045	0.000	0.000	
Test Reading							
I Meas. (A)	0.000	0.000	0.000	0.045	0.001	0.000	
V Meas. (V)	0.000	0.001	-0.000	5.045	0.004	0.004	
Pin (W)	0.458	Pout (W)	0.228	Eff (%)	49.824	0	

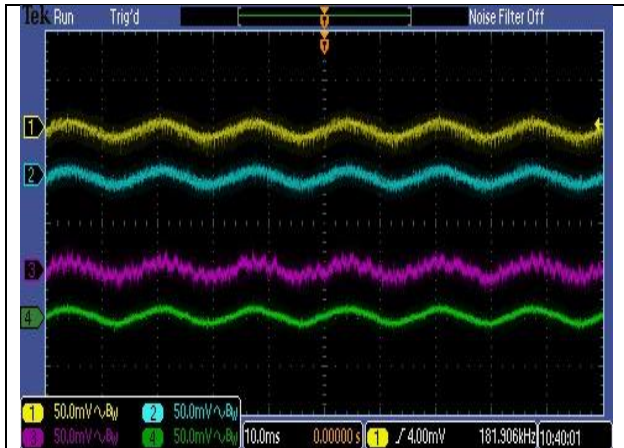


Power Supply Unit Test Report

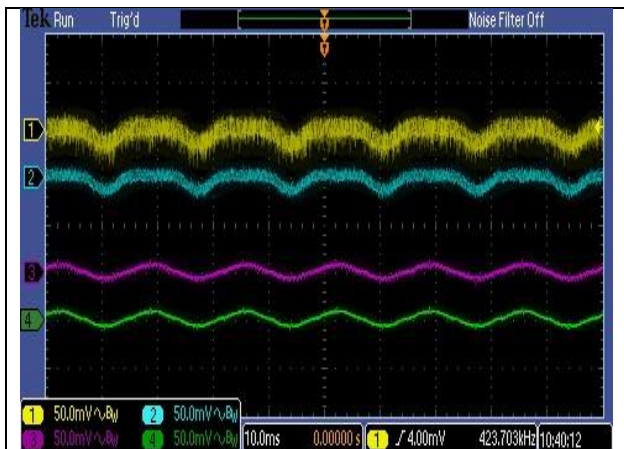
Intel Platform Testing Services

4.6 Ripple & Noise – Required

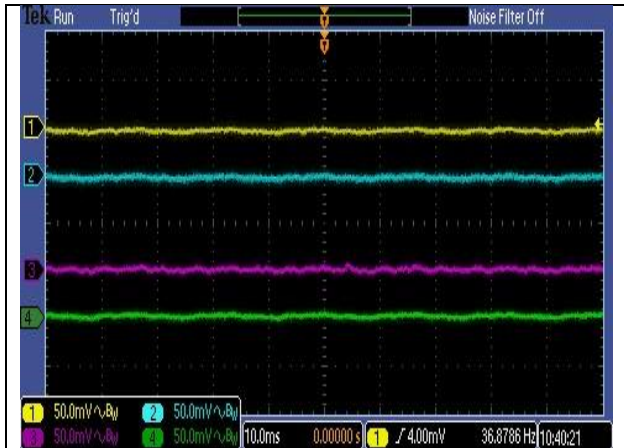
Test Item	Ripple & Noise			115/60 Ripple & Noise Full Load			PASS	
AC Input (VAC)	115.000			Frequency (Hz)			60.000	
Condition								
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK	PS_ON
Voltage (V)	4.818	3.177	-12.213	4.827	11.795	11.732	None	None
Load (A)	12.874	14.629	0.282	2.816	155.825	0.000		
Test Reading								
Noise	21.710	21.460	28.920	11.540	46.510	23.770	24.000	28.000
Max mVp-p	50.000	50.000	120.000	50.000	120.000	120.000	400.000	400.000
Test Item	Ripple & Noise			115/60 Ripple & Noise Light Load			PASS	
AC Input (VAC)	115.000			Frequency (Hz)			60.000	
Condition								
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK	PS_ON
Voltage (V)	4.950	3.320	-12.098	5.003	11.979	11.968	None	None
Load (A)	2.575	2.926	0.056	0.563	31.165	0.000		
Test Reading								
Noise	6.890	9.940	9.950	5.660	22.030	5.650	12.000	12.000
Max mVp-p	50.000	50.000	120.000	50.000	120.000	120.000	400.000	400.000
Test Item	Ripple & Noise			230/50 Ripple & Noise Light Load			PASS	
AC Input (VAC)	230.000			Frequency (Hz)			50.000	
Condition								
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK	PS_ON
Voltage (V)	4.950	3.320	-12.098	5.003	11.979	11.968	None	None
Load (A)	2.575	2.926	0.056	0.563	31.165	0.000		
Test Reading								
Noise	7.020	10.000	10.660	5.980	22.140	5.820	12.000	12.000
Max mVp-p	50.000	50.000	120.000	50.000	120.000	120.000	400.000	400.000
Test Item	Ripple & Noise			230/50 Ripple & Noise Full Load			PASS	
AC Input (VAC)	230.000			Frequency (Hz)			50.000	
Condition								
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK	PS_ON
Voltage (V)	4.817	3.176	-12.212	4.827	11.795	11.732	None	None
Load (A)	12.874	14.629	0.282	2.816	155.825	0.000		
Test Reading								
Noise	22.090	20.850	27.450	9.750	46.090	23.000	16.000	20.000
Max mVp-p	50.000	50.000	120.000	50.000	120.000	120.000	400.000	400.000



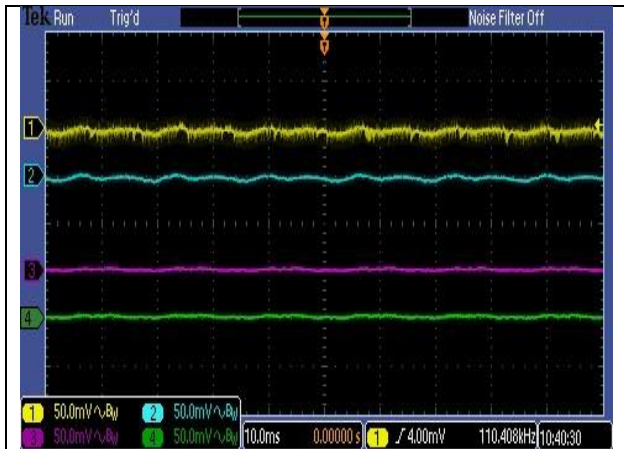
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- 115V/60 Full Load 5V, 3V, -12V, 5VSB
Var Name = Power OK Rise Time



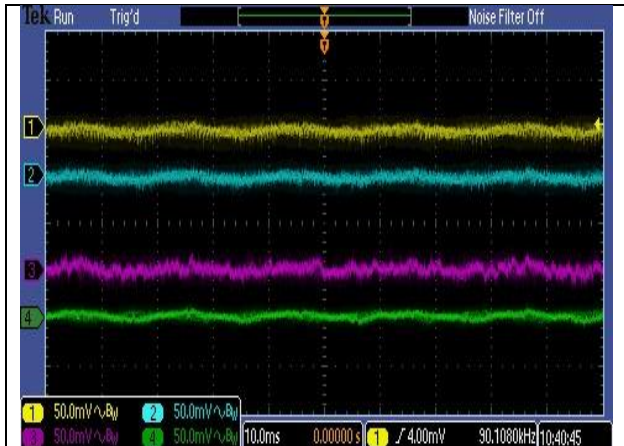
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- 115V/60 Full Load 12V1, 12V2, PWR_OK, PS_ON
Var Name = Power OK Rise Time



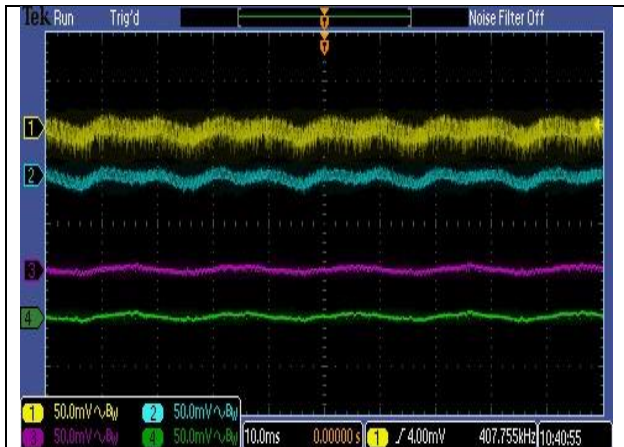
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- 115V/60 Light Load 5V, 3V, -12V, 5VSB
Var Name = Power OK Rise Time



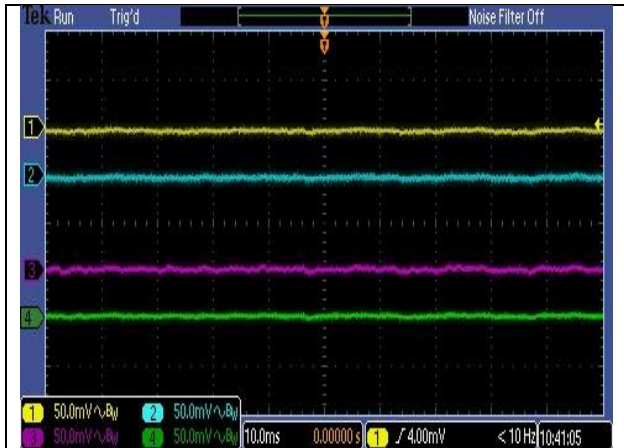
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- 115V/60 Light Load 12V1, 12V2, PWR OK, PS_ON
Var Name = Power OK Rise Time



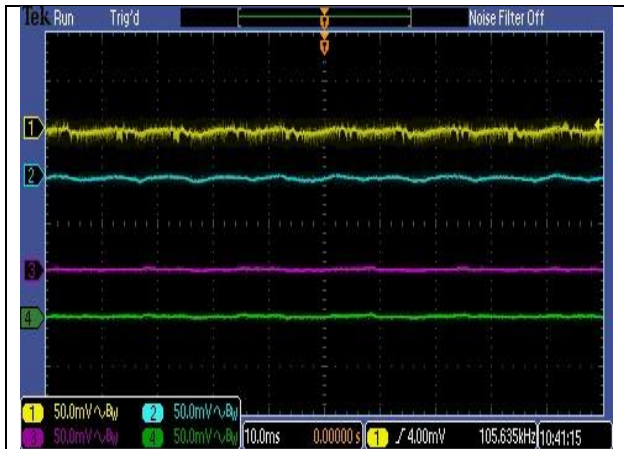
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- 230V/50 Full Load 5V, 3V, -12V, 5VSB
Var Name = Power OK Rise Time



Extended Name = Ripple & Noise - DSO Image Capture
- 230V/50 Full Load 12V1, 12V2, PWR_OK, PS_ON
Var Name = Power OK Rise Time



Extended Name = Ripple & Noise - DSO Image Capture
- 230V/50 Light Load 5V, 3V, -12V, 5VSB
Var Name = Power OK Rise Time



Extended Name = Ripple & Noise - DSO Image Capture
- 230V/50 Light Load 12V1, 12V2, PWR OK, PS_ON
Var Name = Power OK Rise Time



Power Supply Unit Test Report

Intel Platform Testing Services

4.7 Dynamic – Required

4.7 Dynamic – Recommended

4.7 CPU Desktop Dynamic – Required

4.7 CPU Workstation Dynamic – Required

4.7 PCIe Add-In Card Dynamic (with 12VHPWR) – Required

Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR H Dynamic Load @ 5% Duty** - Cable 1				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	50.000	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	150.000	31.165
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.920	3.287	-12.165	4.959	11.963	11.943
Peak - (V)	4.899	3.276	-12.151	4.946	11.894	11.891
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR L Dynamic Load @ 50Hz** - Cable 1				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.972	3.346	-12.142	5.032	12.061	12.045
Peak - (V)	4.912	3.303	-12.095	4.981	11.664	11.654
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR L Dynamic Load @ 10Hz** - Cable 1				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.938	3.316	-12.139	5.003	11.995	11.975
Peak - (V)	4.918	3.303	-12.127	4.981	11.922	11.923



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Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR H Dynamic Load @ 5% Duty** - Cable 1				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	50.000	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	150.000	31.165
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.918	3.286	-12.163	4.959	11.967	11.941
Peak - (V)	4.897	3.273	-12.149	4.946	11.888	11.888
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR L Dynamic Load @ 50Hz** - Cable 1				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.956	3.345	-12.143	5.032	12.064	12.048
Peak - (V)	4.915	3.302	-12.093	4.980	11.917	11.927
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR L Dynamic Load @ 10Hz** - Cable 1				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.938	3.315	-12.139	5.000	11.986	11.968
Peak - (V)	4.916	3.303	-12.127	4.983	11.928	11.924
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR H Dynamic Load @ 5% Duty** - Cable 2				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	50.000	31.165



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Load 2 (A)	2.575	2.926	0.056	0.563	150.000	31.165
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.914	3.283	-12.167	4.957	11.953	11.936
Peak - (V)	4.892	3.269	-12.150	4.942	11.878	11.877
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR L Dynamic Load @ 50Hz** - Cable 2				PASS
AC Input (VAC)	115.000	Frequency (Hz)				60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.971	3.344	-12.131	5.032	12.323	12.322
Peak - (V)	4.912	3.303	-12.105	4.979	11.923	11.647
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR L Dynamic Load @ 10Hz** - Cable 2				PASS
AC Input (VAC)	115.000	Frequency (Hz)				60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.933	3.311	-12.139	4.998	11.975	11.958
Peak - (V)	4.915	3.301	-12.129	4.983	11.928	11.929
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR H Dynamic Load @ 5% Duty** - Cable 2				PASS
AC Input (VAC)	230.000	Frequency (Hz)				50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	50.000	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	150.000	31.165
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.914	3.282	-12.164	4.957	11.957	11.936



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Peak - (V)	4.893	3.269	-12.151	4.942	11.886	11.876
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR L Dynamic Load @ 50Hz** - Cable 2				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.943	3.343	-12.142	5.032	12.318	12.042
Peak - (V)	4.911	3.299	-12.092	4.979	11.915	11.922
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR L Dynamic Load @ 10Hz** - Cable 2				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	5.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	50.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.934	3.312	-12.141	5.000	11.983	11.965
Peak - (V)	4.914	3.300	-12.129	4.980	11.922	11.923
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR H Dynamic Load @ 5% Duty** - Cable 1 & 2				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	100.000	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	165.000	31.165
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.881	3.254	-12.201	4.923	11.864	11.848
Peak - (V)	4.859	3.236	-12.186	4.907	11.802	11.788
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR L Dynamic Load @ 50Hz** - Cable 1 & 2				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2



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Load 1 (A)	2.575	0.100	0.000	0.000	10.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	100.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.965	3.341	-12.179	5.030	12.275	12.035
Peak - (V)	4.873	3.265	-12.097	4.941	11.646	11.643
Test Item	Dynamic Load	115/60 PCIe AIC w/ 12VHPWR L Dynamic Load @ 10Hz** - Cable 1 & 2				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	10.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	100.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.898	3.278	-12.175	4.963	11.886	11.869
Peak - (V)	4.878	3.268	-12.165	4.943	11.844	11.836
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR H Dynamic Load @ 5% Duty** - Cable 1 & 2				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	100.000	31.165
Load 2 (A)	2.575	2.926	0.056	0.563	165.000	31.165
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.878	3.251	-12.201	4.922	11.859	11.843
Peak - (V)	4.855	3.233	-12.186	4.907	11.804	11.790
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR L Dynamic Load @ 50Hz** - Cable 1 & 2				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	10.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	100.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						



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Peak + (V)	4.967	3.340	-12.178	5.030	12.044	12.259
Peak - (V)	4.873	3.263	-12.094	4.942	11.829	11.822
Test Item	Dynamic Load	230/50 PCIe AIC w/ 12VHPWR L Dynamic Load @ 10Hz** - Cable 1 & 2				PASS
AC Input (VAC)		230.000	Frequency (Hz)			50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	10.000	15.582
Load 2 (A)	2.575	0.100	0.000	0.000	100.000	15.582
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.897	3.278	-12.174	4.965	11.889	11.875
Peak - (V)	4.875	3.264	-12.162	4.942	11.831	11.817
Test Item	Dynamic Load	115/60 5V H Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	15.400	2.926	0.056	0.563	31.165	0.000
Load 2 (A)	22.000	2.926	0.056	0.563	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.915	3.312	-12.133	4.999	11.983	11.980
Peak - (V)	4.880	3.297	-12.106	4.986	11.909	11.936
Test Item	Dynamic Load	115/60 5V L Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	0.200	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	6.600	0.100	0.000	0.000	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.985	3.355	-12.074	5.054	12.046	12.042
Peak - (V)	4.948	3.341	-12.048	5.034	11.952	11.966
Test Item	Dynamic Load	115/60 5V H Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						



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Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	15.400	2.926	0.056	0.563	31.165	0.000
Load 2 (A)	22.000	2.926	0.056	0.563	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.914	3.309	-12.133	4.996	11.983	11.961
Peak - (V)	4.878	3.295	-12.110	4.986	11.928	11.934
Test Item	Dynamic Load	115/60 5V L Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	0.200	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	6.600	0.100	0.000	0.000	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	5.003	3.353	-12.079	5.050	12.040	12.032
Peak - (V)	4.921	3.339	-12.065	5.034	11.986	12.007
Test Item	Dynamic Load	115/60 3.3V H Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	17.500	0.056	0.563	31.165	0.000
Load 2 (A)	2.575	25.000	0.056	0.563	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.942	3.252	-12.127	4.997	11.988	11.959
Peak - (V)	4.915	3.200	-12.105	4.983	11.930	11.923
Test Item	Dynamic Load	115/60 3.3V L Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	2.575	7.500	0.000	0.000	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000



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Test Reading						
Peak + (V)	4.979	3.352	-12.085	5.053	12.045	12.038
Peak - (V)	4.953	3.309	-12.064	5.031	11.940	11.950
Test Item	Dynamic Load	115/60 3.3V H Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	17.500	0.056	0.563	31.165	0.000
Load 2 (A)	2.575	25.000	0.056	0.563	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.938	3.227	-12.132	4.994	11.985	11.958
Peak - (V)	4.914	3.198	-12.106	4.983	11.931	11.936
Test Item	Dynamic Load	115/60 3.3V L Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	2.575	7.500	0.000	0.000	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.974	3.340	-12.086	5.048	12.038	12.026
Peak - (V)	4.954	3.293	-12.073	5.032	11.982	12.005
Test Item	Dynamic Load	115/60 -12V H Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.200	0.563	31.165	0.000
Load 2 (A)	2.575	2.926	0.300	0.563	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.955	3.320	-12.121	5.007	11.995	11.971
Peak - (V)	4.938	3.311	-12.077	4.999	11.946	11.949
Test Item	Dynamic Load	115/60 -12V L Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000



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Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	0.200	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	0.200	0.100	0.100	0.000	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.986	3.353	-12.177	5.054	12.047	12.036
Peak - (V)	4.969	3.345	-11.933	5.039	11.993	12.016
Test Item	Dynamic Load	115/60 -12V H Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.200	0.563	31.165	0.000
Load 2 (A)	2.575	2.926	0.300	0.563	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.958	3.322	-12.108	5.007	11.996	11.972
Peak - (V)	4.938	3.312	-12.070	4.999	11.947	11.952
Test Item	Dynamic Load	115/60 -12V L Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	0.200	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	0.200	0.100	0.100	0.000	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.986	3.354	-12.061	5.055	12.047	12.037
Peak - (V)	4.969	3.345	-12.039	5.038	11.995	12.016
Test Item	Dynamic Load	115/60 5VSB H Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	2.500	31.165	0.000
Load 2 (A)	2.575	2.926	0.056	3.000	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate	1.000	1.000	0.100	0.100	5.000	5.000



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Fall (A/uS)						
Test Reading						
Peak + (V)	4.955	3.320	-12.104	4.946	11.994	11.972
Peak - (V)	4.938	3.311	-12.091	4.919	11.944	11.950
Test Item	Dynamic Load	115/60 5VSB L Dynamic Load @ 50Hz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	0.200	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	0.200	0.100	0.000	0.500	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.987	3.355	-12.056	5.056	12.048	12.039
Peak - (V)	4.968	3.346	-12.048	5.011	11.996	12.018
Test Item	Dynamic Load	115/60 5VSB H Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	2.500	31.165	0.000
Load 2 (A)	2.575	2.926	0.056	3.000	31.165	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.955	3.321	-12.105	4.943	11.998	11.973
Peak - (V)	4.937	3.311	-12.090	4.917	11.945	11.950
Test Item	Dynamic Load	115/60 5VSB L Dynamic Load @ 10KHz				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	0.200	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	0.200	0.100	0.000	0.500	0.100	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.987	3.355	-12.058	5.051	12.051	12.039
Peak - (V)	4.970	3.345	-12.049	5.022	11.997	12.019
Test Item	Dynamic Load	115/60 12V1 H Dynamic Load @ 50Hz - 40% Required				PASS



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AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	99.600	0.000
Load 2 (A)	2.575	2.926	0.056	0.563	165.000	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.910	3.279	-12.198	4.960	11.961	11.927
Peak - (V)	4.842	3.227	-12.139	4.904	11.778	11.710
Test Item	Dynamic Load	115/60 12V1 L Dynamic Load @ 50Hz - 40% Required				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	2.575	0.100	0.000	0.000	66.400	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.980	3.354	-12.121	5.053	12.146	12.072
Peak - (V)	4.915	3.304	-12.065	4.990	11.612	11.593
Test Item	Dynamic Load	115/60 12V1 H Dynamic Load @ 10KHz - 40% Required				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	99.600	0.000
Load 2 (A)	2.575	2.926	0.056	0.563	165.000	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.870	3.245	-12.197	4.919	11.826	11.771
Peak - (V)	4.841	3.226	-12.183	4.905	11.777	11.705
Test Item	Dynamic Load	115/60 12V1 L Dynamic Load @ 10KHz - 40% Required				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	2.575	0.100	0.000	0.000	66.400	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000



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Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.937	3.315	-12.119	5.010	11.956	11.930	
Peak - (V)	4.917	3.305	-12.111	4.994	11.914	11.896	
Test Item	Dynamic Load	115/60 12V2 H Dynamic Load @ 50Hz				PASS	
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	0.000	0.000	0.000	0.000	0.000	0.000	
Load 2 (A)	0.000	0.000	0.000	0.000	0.000	0.000	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.989	3.356	-12.058	5.054	12.052	12.040	
Peak - (V)	4.971	3.347	-12.050	5.038	12.000	12.021	
Test Item	Dynamic Load	115/60 12V2 L Dynamic Load @ 50Hz				PASS	
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	0.000	0.000	0.000	0.000	0.000	0.000	
Load 2 (A)	0.000	0.000	0.000	0.000	0.000	0.000	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.988	3.357	-12.057	5.055	12.051	12.041	
Peak - (V)	4.971	3.348	-12.049	5.038	11.999	12.021	
Test Item	Dynamic Load	115/60 12V2 H Dynamic Load @ 10KHz				PASS	
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	0.000	0.000	0.000	0.000	0.000	0.000	
Load 2 (A)	0.000	0.000	0.000	0.000	0.000	0.000	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.988	3.356	-12.058	5.054	12.053	12.040	
Peak - (V)	4.971	3.348	-12.049	5.039	11.999	12.021	
Test Item	Dynamic	115/60 12V2 L Dynamic Load @ 10KHz				PASS	



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	Load					
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	0.000	0.000	0.000	0.000	0.000	0.000
Load 2 (A)	0.000	0.000	0.000	0.000	0.000	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.988	3.356	-12.058	5.055	12.054	12.042
Peak - (V)	4.971	3.348	-12.049	5.038	12.000	12.021
Test Item	Dynamic Load	115/60 12V1 H Dynamic Load @ 50Hz - 70% Recommended				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	49.800	0.000
Load 2 (A)	2.575	2.926	0.056	0.563	165.000	0.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.945	3.311	-12.201	4.994	11.967	11.948
Peak - (V)	4.838	3.226	-12.106	4.904	11.716	11.646
Test Item	Dynamic Load	115/60 12V1 L Dynamic Load @ 50Hz - 70% Recommended				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	2.575	0.100	0.000	0.000	116.200	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.979	3.353	-12.159	5.051	12.380	12.390
Peak - (V)	4.880	3.271	-12.069	4.955	11.740	11.779
Test Item	Dynamic Load	115/60 12V1 H Dynamic Load @ 10KHz - 70% Recommended				PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	49.800	0.000
Load 2 (A)	2.575	2.926	0.056	0.563	165.000	0.000
Slew Rate	1.000	1.000	0.100	0.100	5.000	5.000



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Rise (A/uS)						
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.868	3.245	-12.197	4.919	11.830	11.768
Peak - (V)	4.841	3.228	-12.184	4.905	11.780	11.713
Test Item	Dynamic Load	115/60 12V1 L Dynamic Load @ 10KHz - 70% Recommended				PASS
AC Input (VAC)	115.000	Frequency (Hz)				60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	2.575	0.100	0.000	0.000	116.200	0.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.903	3.285	-12.157	4.977	11.893	11.848
Peak - (V)	4.882	3.274	-12.146	4.957	11.854	11.804
Test Item	Dynamic Load	115/60 CPU DT H Dynamic Load @50Hz				PASS
AC Input (VAC)	115.000	Frequency (Hz)				60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	4.950
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	33.000
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.955	3.320	-12.128	5.003	12.088	12.073
Peak - (V)	4.921	3.293	-12.095	4.976	11.930	11.931
Test Item	Dynamic Load	115/60 CPU DT L Dynamic Load @50Hz				PASS
AC Input (VAC)	115.000	Frequency (Hz)				60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050
Load 2 (A)	2.575	0.100	0.000	0.000	0.100	28.050
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000
Test Reading						
Peak + (V)	4.981	3.354	-12.096	5.053	12.315	12.315
Peak - (V)	4.945	3.328	-12.070	5.018	11.964	11.976



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Test Item	Dynamic Load	115/60 CPU DT H Dynamic Load @10Hz					PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	4.950	
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	33.000	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.938	3.305	-12.126	4.986	11.983	11.955	
Peak - (V)	4.917	3.294	-12.114	4.976	11.927	11.929	
Test Item	Dynamic Load	115/60 CPU DT L Dynamic Load @10Hz					PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	0.100	0.000	0.000	0.100	0.050	
Load 2 (A)	2.575	0.100	0.000	0.000	0.100	28.050	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.963	3.339	-12.094	5.034	12.027	12.013	
Peak - (V)	4.945	3.329	-12.085	5.019	11.968	11.988	
Test Item	Dynamic Load	115/60 CPU WS H Dynamic Load @50Hz					PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	6.495	
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	43.300	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.946	3.319	-12.134	5.003	11.997	11.975	
Peak - (V)	4.906	3.287	-12.098	4.969	11.834	11.920	
Test Item	Dynamic Load	115/60 CPU WS L Dynamic Load @50Hz					PASS
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	0.100	0.000	0.000	15.582	0.050	
Load 2 (A)	2.575	0.100	0.000	0.000	15.582	36.805	



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Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.967	3.344	-12.113	5.028	12.019	12.051	
Peak - (V)	4.926	3.313	-12.087	5.001	11.685	11.692	
Test Item	Dynamic Load	115/60 CPU WS H Dynamic Load @10Hz				PASS	
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	2.926	0.056	0.563	31.165	6.495	
Load 2 (A)	2.575	2.926	0.056	0.563	31.165	43.300	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.929	3.299	-12.135	4.978	11.978	11.947	
Peak - (V)	4.910	3.287	-12.122	4.969	11.919	11.922	
Test Item	Dynamic Load	115/60 CPU WS L Dynamic Load @10Hz				PASS	
AC Input (VAC)		115.000	Frequency (Hz)			60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	
Load 1 (A)	2.575	0.100	0.000	0.000	15.582	0.050	
Load 2 (A)	2.575	0.100	0.000	0.000	15.582	36.805	
Slew Rate Rise (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Slew Rate Fall (A/uS)	1.000	1.000	0.100	0.100	5.000	5.000	
Test Reading							
Peak + (V)	4.946	3.324	-12.112	5.017	12.004	11.979	
Peak - (V)	4.927	3.313	-12.103	5.002	11.944	11.958	

Not testing Dynamic for 230V unless specifically requested.



5 – Timing Tests

5.1 Timing T0-T6 – Required

5.1 Timing T1 & T3 for ALPM – Recommended

5.1 Timing T5-T6 - Recommended

Test Item	Power Timing			115/60 Full Load T0			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	---	---	---	321.302	---	---	5.718
Min	*	*	*	*	*	*	*
Max	*	*	*	2000.000	*	*	*
Test Item	Power Timing			115/60 Full Load T1 - Required			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	116.772	118.535	---	---	112.487	111.876	5.718
Min	*	*	*	*	*	*	*
Max	200.000	200.000	*	*	200.000	200.000	*
Test Item	Power Timing			115/60 Full Load T2			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	3.378	3.364	---	2.867	13.710	13.238	5.718
Min	0.200	0.200	*	*	0.200	0.200	*
Max	20.000	20.000	*	*	20.000	20.000	*
Test Item	Power Timing			115/60 Full Load T3 - Required			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	124.866	123.130	---	215.466	129.090	129.703	5.718
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	250.000	*	*	*	*	*
Test Item	Power Timing			115/60 Full Load T4 - Power_OK			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK



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Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	---	---	---	---	---	---	0.228
Min	*	*	*	*	*	*	*
Max	*	*	*	*	*	*	10.000
Test Item	Power Timing			115/60 Full Load T5			PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	16.333	16.333	16.333	16.333	16.333	16.333	---
Min	16.000	16.000	*	*	16.000	16.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			115/60 Full Load T6			PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	1.893	1.754	---	66.552	1.438	1.448	---
Min	1.000	1.000	*	*	1.000	1.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			115/60 Light Load T0			PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	---	---	---	297.824	---	---	5.411
Min	*	*	*	*	*	*	*
Max	*	*	*	2000.000	*	*	*
Test Item	Power Timing			115/60 Light Load T1 - Required			PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	105.788	107.372	---	---	101.158	101.085	5.411
Min	*	*	*	*	*	*	*
Max	200.000	200.000	*	*	200.000	200.000	*
Test Item	Power Timing			115/60 Light Load T2			PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000	
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None



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Test Reading							
Time (ms)	3.173	3.137	---	2.176	13.552	13.507	5.411
Min	0.200	0.200	*	*	0.200	0.200	*
Max	20.000	20.000	*	*	20.000	20.000	*
Test Item	Power Timing			115/60 Light Load T3 - Required			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	126.790	125.245	---	215.770	131.358	131.441	5.411
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	250.000	*	*	*	*	*
Test Item	Power Timing			115/60 Light Load T4 - Power_OK			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	---	---	---	---	---	---	0.247
Min	*	*	*	*	*	*	*
Max	*	*	*	*	*	*	10.000
Test Item	Power Timing			115/60 Light Load T5			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	77.355	77.355	77.355	77.355	77.355	77.356	---
Min	16.000	16.000	*	*	16.000	16.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			115/60 Light Load T6			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	4.137	4.020	---	8.813	1.702	1.720	---
Min	1.000	1.000	*	*	1.000	1.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			230/50 Full Load T0			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							



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Time (ms)	---	---	---	180.905	---	---	5.603
Min	*	*	*	*	*	*	*
Max	*	*	*	2000.000	*	*	*
Test Item	Power Timing			230/50 Full Load T0			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	---	---	---	172.093	---	---	5.718
Min	*	*	*	*	*	*	*
Max	*	*	*	2000.000	*	*	*
Test Item	Power Timing			230/50 Full Load T1 - Required			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	103.414	105.159	---	---	99.042	98.449	5.718
Min	*	*	*	*	*	*	*
Max	200.000	200.000	*	*	200.000	200.000	*
Test Item	Power Timing			230/50 Full Load T2			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	3.373	3.384	---	2.883	13.699	13.223	5.718
Min	0.200	0.200	*	*	0.200	0.200	*
Max	20.000	20.000	*	*	20.000	20.000	*
Test Item	Power Timing			230/50 Full Load T3 - Required			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	125.068	123.338	---	215.630	129.313	129.915	5.718
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	250.000	*	*	*	*	*
Test Item	Power Timing			230/50 Full Load T4 - Power_OK			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	---	---	---	---	---	---	0.230



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Min	*	*	*	*	*	*	*
Max	*	*	*	*	*	*	10.000
Test Item	Power Timing			230/50 Full Load T5			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	17.106	17.107	17.106	17.107	17.106	17.107	---
Min	16.000	16.000	*	*	16.000	16.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			230/50 Full Load T6			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	1.885	1.751	---	68.830	1.427	1.437	---
Min	1.000	1.000	*	*	1.000	1.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			230/50 Light Load T0			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	---	---	---	242.727	---	---	5.449
Min	*	*	*	*	*	*	*
Max	*	*	*	2000.000	*	*	*
Test Item	Power Timing			230/50 Light Load T1 - Required			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	106.495	108.066	---	---	101.882	101.804	5.449
Min	*	*	*	*	*	*	*
Max	200.000	200.000	*	*	200.000	200.000	*
Test Item	Power Timing			230/50 Light Load T2			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	3.169	3.122	---	2.183	13.524	13.477	5.449
Min	0.200	0.200	*	*	0.200	0.200	*



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Max	20.000	20.000	*	*	20.000	20.000	*
Test Item	Power Timing			230/50 Light Load T3 - Required			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	127.042	125.504	---	215.924	131.594	131.680	5.449
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	250.000	*	*	*	*	*
Test Item	Power Timing			230/50 Light Load T4 - Power_OK			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	---	---	---	---	---	---	0.227
Min	*	*	*	*	*	*	*
Max	*	*	*	*	*	*	10.000
Test Item	Power Timing			230/50 Light Load T5			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	77.714	77.714	77.714	77.715	77.713	77.715	---
Min	16.000	16.000	*	*	16.000	16.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			230/50 Light Load T6			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	4.138	4.019	---	5.973	1.697	1.715	---
Min	1.000	1.000	*	*	1.000	1.000	*
Max	*	*	*	*	*	*	*
Test Item	Power Timing			115/60 Full Load T1 - Rec for ALPM			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	96.071	97.775	---	---	91.843	91.250	3.141
Min	*	*	*	*	*	*	*
Max	150.000	150.000	*	*	150.000	150.000	*



Power Supply Unit Test Report

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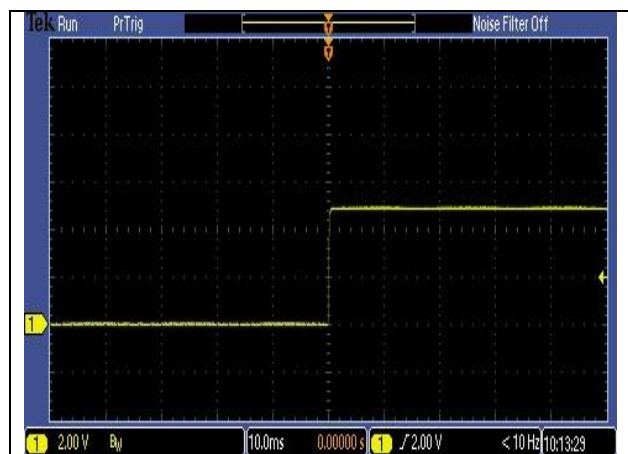
Test Item	Power Timing			115/60 Full Load T3 - Rec for ALPM			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	125.614	123.908	---	215.768	129.824	130.415	0.015
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	150.000	*	*	*	*	*
Test Item	Power Timing			115/60 Light Load T1 - Rec for ALPM			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	95.955	97.493	---	---	91.399	91.309	0.015
Min	*	*	*	*	*	*	*
Max	150.000	150.000	*	*	150.000	150.000	*
Test Item	Power Timing			115/60 Light Load T3 - Rec for ALPM			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	127.278	125.750	---	216.014	131.818	131.893	0.015
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	150.000	*	*	*	*	*
Test Item	Power Timing			230/50 Full Load T1 - Rec for ALPM			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	96.144	97.849	---	---	91.945	91.345	0.015
Min	*	*	*	*	*	*	*
Max	150.000	150.000	*	*	150.000	150.000	*
Test Item	Power Timing			230/50 Full Load T3 - Rec for ALPM			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	125.708	124.021	---	215.770	129.885	130.479	0.015
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	150.000	*	*	*	*	*



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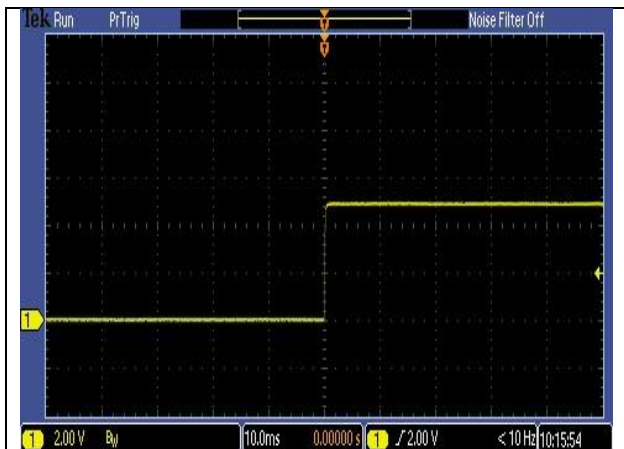
Test Item	Power Timing			230/50 Light Load T1 - Rec for ALPM			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	95.908	97.434	---	---	91.377	91.293	0.015
Min	*	*	*	*	*	*	*
Max	150.000	150.000	*	*	150.000	150.000	*
Test Item	Power Timing			230/50 Light Load T3 - Rec for ALPM			PASS
AC Input (VAC)	230.000			Frequency (Hz)			50.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000	None
Test Reading							
Time (ms)	127.498	125.978	---	215.995	132.016	132.097	0.015
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	150.000	*	*	*	*	*



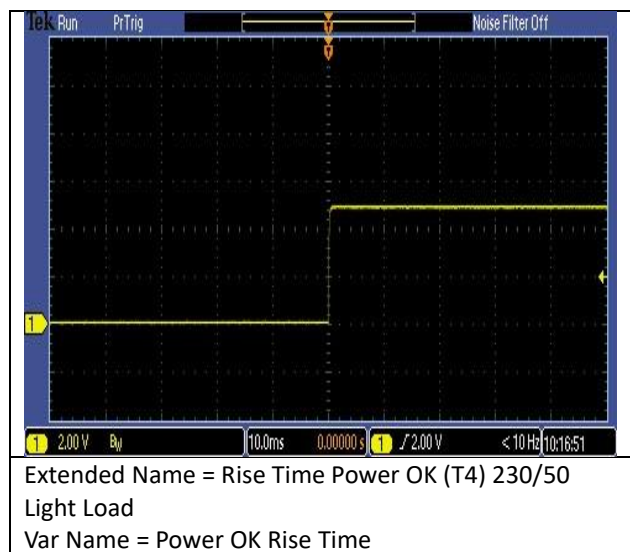
Extended Name = Rise Time Power OK (T4) 115/60 Full Load
 Var Name = Power OK Rise Time



Extended Name = Rise Time Power OK (T4) 115/60
Light Load
Var Name = Power OK Rise Time



Extended Name = Rise Time Power OK (T4) 230/50 Full Load
Full Load
Var Name = Power OK Rise Time



5.2 +12VDC/+5VDC/+3.3VDC Power Sequencing Test - Required

Test Item	12V 5V 3.3V Power Sequence			115/60 Full Load		PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000
Test Reading						
Time Difference (ms)	-1.706	0.000			-5.887	-6.457
Max (ms)	20.000	*			20.000	20.000
Voltage	4.825	3.179			11.799	11.738
Test Item	12V 5V 3.3V Power Sequence			115/60 Typical Load		PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Time Difference (ms)	-1.572	0.000			-5.983	-6.203
Max (ms)	20.000	*			20.000	20.000
Voltage	4.907	3.270			11.919	11.889
Test Item	12V 5V 3.3V Power Sequence			115/60 Light Load		PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000
Test Reading						
Time Difference (ms)	-1.533	0.000			-6.038	-6.094
Max (ms)	20.000	*			20.000	20.000
Voltage	4.956	3.324			11.989	11.978



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Test Item	12V 5V 3.3V Power Sequence			230/50 Full Load		PASS
AC Input (VAC)	230.000			Frequency (Hz)		50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000
Test Reading						
Time Difference (ms)	-1.695	0.000			-5.908	-6.459
Max (ms)	20.000	*			20.000	20.000
Voltage	4.825	3.179			11.799	11.738
Test Item	12V 5V 3.3V Power Sequence			230/50 Typical Load		PASS
AC Input (VAC)	230.000			Frequency (Hz)		50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	6.437	7.315	0.141	1.408	77.912	0.000
Test Reading						
Time Difference (ms)	-1.578	0.000			-5.997	-6.212
Max (ms)	20.000	*			20.000	20.000
Voltage	4.907	3.270			11.919	11.889
Test Item	12V 5V 3.3V Power Sequence			230/50 Light Load		PASS
AC Input (VAC)	230.000			Frequency (Hz)		50.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	2.575	2.926	0.056	0.563	31.165	0.000
Test Reading						
Time Difference (ms)	-1.533	0.000			-6.045	-6.099
Max (ms)	20.000	*			20.000	20.000
Voltage	4.956	3.324			11.988	11.977



Extended Name = 12V 5V 3.3V Power Sequence - DSO
Image Capture - 115/60V Full Load (100%)
Var Name = Power OK Rise Time



Extended Name = 12V 5V 3.3V Power Sequence - DSO
Image Capture - 115/60V Typical Load (50%)
Var Name = Power OK Rise Time



Extended Name = 12V 5V 3.3V Power Sequence - DSO
Image Capture - 115/60V Light Load (20%)
Var Name = Power OK Rise Time



Extended Name = 12V 5V 3.3V Power Sequence - DSO
Image Capture - 230/50V Full Load (100%)
Var Name = Power OK Rise Time



Extended Name = 12V 5V 3.3V Power Sequence - DSO
 Image Capture - 230/50V Typical Load (50%)
 Var Name = Power OK Rise Time



Extended Name = 12V 5V 3.3V Power Sequence - DSO
 Image Capture - 230/50V Light Load (20%)
 Var Name = Power OK Rise Time

5.3 Hold Up Time - Required

Test Item	Hold Up Time			115/47 Full Load		PASS
AC Input (VAC)	115.000			Frequency (Hz)		47.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000
Test Reading						
Time (ms)	19.202	19.048	---	85.741	18.748	18.759
Min (ms)	17.000	17.000	*	*	17.000	17.000
Test Item	Hold Up Time			230/47 Full Load		PASS
AC Input (VAC)	230.000			Frequency (Hz)		47.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2



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Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000
Test Reading						
Time (ms)	17.750	17.600	---	80.477	17.298	17.307
Min (ms)	17.000	17.000	*	*	17.000	17.000

7 – Output Protection Tests

7.1 Short Circuit (SCP) - Required

Test Item	Short Circuit Protection		115/60 5V Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	4.989	3.362	-12.060	5.046	12.061	12.062
Test Item	Short Circuit Protection		115/60 3.3V Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	4.991	3.363	-12.060	5.046	12.061	12.063
Test Item	Short Circuit Protection		115/60 -12V Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	4.991	3.363	-12.061	5.047	12.061	12.063
Test Item	Short Circuit Protection		115/60 12V1 Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	4.990	3.363	-12.061	5.046	12.061	12.063
Test Item	Short Circuit Protection		115/60 12V2 Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	4.990	3.363	-12.061	5.046	12.061	12.063
Test Item	Short Circuit Protection		115/60 5VSB Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	4.990	3.363	-12.060	5.046	12.061	12.063
Test Item	Short Circuit Protection		230/50 5V Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	4.988	3.361	-12.060	5.046	12.061	12.063
Test Item	Short Circuit Protection		230/50 3.3V Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	4.990	3.362	-12.061	5.046	12.061	12.063



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Test Item	Short Circuit Protection		230/50 -12V Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	4.990	3.363	-12.061	5.046	12.062	12.063
Test Item	Short Circuit Protection		230/50 12V Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	4.990	3.363	-12.061	5.046	12.062	12.063
Test Item	Short Circuit Protection		230/50 12V2 Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	4.990	3.363	-12.061	5.046	12.062	12.064
Test Item	Short Circuit Protection		230/50 5VSB Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	4.990	3.363	-12.061	5.046	12.062	12.064

7.2 Over Current Protection (OCP) - Required

Test Item	Over Current Protection		115/60 5V OCP			PASS
AC Input (VAC)	115.0		Frequency (Hz)		60.000	
Starting Test Load Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	0.200	0.100	0.000	0.000	0.100	0.050
Test Reading - Current Trip Point						
Current Load Trip Value (A)	0.034	0.102	0.001	0.000	0.113	0.061
DC Output Load #	1		Current Load Trip Value (A)			34.6
12V1-12V2 Current Load Trip Value (A)					0.174	
Test Item	Over Current Protection		115/60 3.3V OCP			PASS
AC Input (VAC)	115.0		Frequency (Hz)		60.000	
Starting Test Load Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	0.200	0.100	0.000	0.000	0.100	0.050
Test Reading - Current Trip Point						
Current Load Trip Value (A)	0.205	3.948	0.001	0.000	0.121	0.060
DC Output Load #	2		Current Load Trip Value (A)			33.6
12V1-12V2 Current Load Trip Value (A)					0.180	
Test Item	Over Current Protection		115/60 -12V OCP			PASS
AC Input (VAC)	115.0		Frequency (Hz)		60.000	
Starting Test Load Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	0.200	0.100	0.000	0.000	0.100	0.050
Test Reading - Current Trip Point						



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Current Load Trip Value (A)	0.206	0.103	1.795	0.000	0.123	0.061
DC Output Load #	3		Current Load Trip Value (A)			1.9
12V1-12V2 Current Load Trip Value (A)					0.184	
Test Item	Over Current Protection		115/60 5VSB OCP			PASS
AC Input (VAC)	115.0		Frequency (Hz)		60.000	
Starting Test Load Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	0.200	0.100	0.000	0.000	0.100	0.050
Test Reading - Current Trip Point						
Current Load Trip Value (A)	0.205	0.103	0.001	8.196	0.123	0.061
DC Output Load #	4		Current Load Trip Value (A)			8.3
12V1-12V2 Current Load Trip Value (A)					0.184	
Test Item	Over Current Protection		115/60 12V All OCP			PASS
AC Input (VAC)	115.0		Frequency (Hz)		60.000	
Starting Test Load Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Load (A)	12.870	14.630	0.280	2.820	89.200	66.000
Test Reading - Current Trip Point						
Current Load Trip Value (A)	12.873	14.630	0.280	2.819	93.704	66.004
DC Output Load #	5		Current Load Trip Value (A)			93.8
12V1-12V2 Current Load Trip Value (A)					159.708	

Not testing OCP for 230V unless specifically requested.

7.3 Energy Hazard Safety (240VA) - Optional

Not Tested



TEST EQUIPMENT

Manufacturer	Model #	Qty	Description
Chroma*	CSS8000-252B	1	Complete Rack
Chroma*	66202	1	AC Digital Power Meter
Chroma*	6530	1	Programmable AC Source
Chroma*	63600-5	2	DC Load Mainframe
Chroma*	63640-80-80	9	High Speed DC Loads – used for 12V1 & 12V2 rails 400W max (2 qty.), 9 qty. supports 12V3-5, 3.3V & 5V
Chroma*	63630-80-20	1	High Speed DC Loads – used for 5VSB & -12V rails (100W max each side)
Chroma*	12061	1	Digital Multi Meter
Chroma*	80612	1	Short Circuit-OVP Tester
Chroma*	80611	1	Timing and Noise Analyzer
Chroma*	80611N	10	Noise Card
Chroma*	62006P-600-8	1	Programmable DC Power Supply
Tektronix*	DPO 2024B	1	Oscilloscope