



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: 2317018

Sample Number: Unit # 1

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 67.5% Efficient @ 2% Loading condition.



Table of Contents & Results Summary

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Sample # 1 (S/N: 2317018)

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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)	2.580	2.928	0.056	0.563	31.214	46.402
I peak (A)	2.605	2.957	0.063	0.570	31.453	60.073
Peak +(V)	4.958	3.300	-12.101	4.966	12.012	11.978
Peak -(V)	4.939	3.290	-12.078	4.957	11.965	11.956
Power (W)	871.855	871.855	871.855	871.855	871.855	871.855
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)	2.577	2.926	0.056	0.563	31.194	46.502
I peak (A)	2.602	2.951	0.063	0.571	31.406	60.089
Peak +(V)	4.962	3.300	-12.159	4.953	12.064	12.054
Peak -(V)	4.915	3.263	-12.105	4.914	11.929	11.928
Power (W)	955.885	955.885	955.885	955.885	955.885	955.885
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)	2.578	2.926	0.057	0.563	31.195	45.975	
I peak (A)	2.602	2.954	0.063	0.570	31.389	60.054	
Peak +(V)	4.971	3.304	-12.134	4.963	12.049	12.039	
Peak -(V)	4.930	3.271	-12.092	4.928	12.002	11.954	
Power (W)	877.363	877.363	877.363	877.363	877.363	877.363	
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	31.196	46.507	
I peak (A)	2.603	2.957	0.062	0.572	31.430	60.097	
Peak +(V)	4.968	3.304	-12.142	4.963	12.077	12.076	
Peak -(V)	4.926	3.271	-12.096	4.928	11.951	11.949	
Power (W)	957.357	957.357	957.357	957.357	957.357	957.357	

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)	2.578	2.927	0.056	0.563	43.668	31.171
I peak (A)	2.603	2.955	0.061	0.571	84.056	31.278
Peak +(V)	4.962	3.299	-12.127	4.953	12.039	12.022
Peak -(V)	4.943	3.289	-12.105	4.944	11.993	11.998
Power (W)	1040.949	1040.949	1040.949	1040.949	1040.949	1040.949
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)	2.578	2.926	0.057	0.563	63.584	31.170
I peak (A)	2.602	2.955	0.063	0.571	84.100	31.280
Peak +(V)	4.960	3.298	-12.166	4.953	12.093	12.092
Peak -(V)	4.901	3.251	-12.105	4.905	11.859	11.858
Power (W)	1161.420	1161.420	1161.420	1161.420	1161.420	1161.420

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)	2.578	2.927	0.056	0.563	43.334	31.172



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I peak (A)	2.605	2.954	0.063	0.571	84.111	31.273
Peak +(V)	4.958	3.295	-12.129	4.954	12.026	12.018
Peak -(V)	4.940	3.285	-12.104	4.944	11.981	11.990
Power (W)	1040.363	1040.363	1040.363	1040.363	1040.363	1040.363
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)	2.578	2.927	0.056	0.563	63.585	31.172
I peak (A)	2.605	2.958	0.062	0.573	84.081	31.278
Peak +(V)	4.957	3.294	-12.169	4.953	12.086	12.079
Peak -(V)	4.898	3.248	-12.102	4.905	11.849	11.843
Power (W)	1160.787	1160.787	1160.787	1160.787	1160.787	1160.787

**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)	12.876	14.628	0.282	2.815	122.882	33.003
Voltage (V)	4.831	3.174	-12.212	4.787	11.864	11.789
Power (W)	62.213	46.437	3.447	13.475	1454.590	390.740
Total Power (W)				1970.902		
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)	12.876	14.628	0.282	2.815	112.569	43.303
Voltage (V)	4.823	3.170	-12.212	4.784	11.861	11.792
Power (W)	62.110	46.380	3.446	13.467	1326.930	512.620
Total Power (W)				1964.953		
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	14.628	0.282	2.815	122.876	33.005
Voltage (V)	4.821	3.170	-12.211	4.783	11.842	11.765
Power (W)	62.089	46.378	3.445	13.464	1452.260	390.040
Total Power (W)				1967.677		
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	112.575	43.307
Voltage (V)	4.818	3.168	-12.211	4.782	11.840	11.768
Power (W)	62.047	46.340	3.446	13.460	1324.910	511.670
Total Power (W)				1961.873		

2.3 12V2 Min Load 0A - Recommended

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)	0.204	0.103	0.001	0.000	0.044	0.014
Voltage (V)	5.021	3.363	-12.025	5.043	12.103	12.103
Power (W)	1.024	0.344	0.010	0.001	0.538	0.163
Total Power (W)				2.079		
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)	12.872	14.630	0.001	0.000	0.140	0.013
Voltage (V)	4.972	3.303	-12.076	5.020	12.081	12.080
Power (W)	64.009	48.331	0.009	0.001	1.672	0.162
Total Power (W)				114.184		
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)	0.204	0.102	0.001	0.000	0.044	0.014
Voltage (V)	5.023	3.363	-12.023	5.042	12.107	12.106
Power (W)	1.025	0.343	0.011	0.000	0.541	0.165
Total Power (W)				2.084		
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)	12.873	14.631	0.001	0.000	0.139	0.015
Voltage (V)	4.972	3.303	-12.077	5.020	12.084	12.084
Power (W)	64.012	48.333	0.010	0.000	1.676	0.161
Total Power (W)				114.192		

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)	10.303	11.704	0.001	0.563	112.656	33.173
I peak (A)	10.333	11.732	0.007	0.572	120.327	36.227
Peak + (V)	4.861	3.202	-12.208	4.881	11.890	11.823
Peak - (V)	4.828	3.180	-12.186	4.865	11.828	11.761
Power (W)	49.920	37.366	0.015	2.743	1333.440	392.800



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Total Power (W)				1816.285		
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)	10.302	11.703	0.001	0.563	113.214	35.708
I peak (A)	10.344	11.735	0.010	0.573	165.167	60.044
Peak + (V)	4.861	3.202	-12.257	4.883	11.893	11.820
Peak - (V)	4.790	3.140	-12.185	4.820	11.734	11.619
Power (W)	49.863	37.311	0.015	2.741	1339.340	415.860
Total Power (W)				1845.130		
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)	10.302	11.703	0.001	0.563	106.232	33.009
I peak (A)	10.341	11.734	0.011	0.569	153.498	60.076
Peak + (V)	4.863	3.204	-12.204	4.884	11.876	11.809
Peak - (V)	4.835	3.186	-12.186	4.872	11.841	11.773
Power (W)	49.829	37.275	0.016	2.740	1340.150	430.010
Total Power (W)				1860.020		
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	11.705	0.001	0.563	106.230	33.011
I peak (A)	10.341	11.735	0.009	0.574	106.452	33.108



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Peak + (V)	4.861	3.203	-12.205	4.884	11.867	11.800
Peak - (V)	4.833	3.184	-12.183	4.872	11.835	11.764
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)	10.304	11.704	0.000	0.563	112.655	33.174
I peak (A)	10.336	11.732	0.005	0.572	120.342	36.221
Peak + (V)	4.860	3.199	-12.241	4.878	11.870	11.784
Peak - (V)	4.826	3.174	-12.189	4.859	11.791	11.703
Power (W)	49.872	37.319	0.002	2.742	1329.540	391.740
Total Power (W)				1811.215		
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)	10.305	11.706	0.000	0.563	114.481	34.366
I peak (A)	10.339	11.735	0.005	0.572	165.166	60.068
Peak + (V)	4.858	3.200	-12.251	4.880	11.879	11.797
Peak - (V)	4.786	3.139	-12.190	4.816	11.705	11.571
Power (W)	49.845	37.290	0.002	2.740	1337.170	415.090
Total Power (W)				1842.137		
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)	10.304	11.705	0.000	0.563	106.236	33.013
I peak (A)	10.344	11.735	0.005	0.573	135.363	33.107
Peak + (V)	4.861	3.202	-12.209	4.882	11.866	11.796
Peak - (V)	4.834	3.184	-12.183	4.870	11.831	11.760
Power (W)	49.832	37.273	0.002	2.739	1338.950	429.580
Total Power (W)				1858.376		
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)	10.304	11.705	0.000	0.563	106.231	33.014
I peak (A)	10.339	11.735	0.005	0.572	106.423	33.115
Peak + (V)	4.862	3.204	-12.208	4.881	11.862	11.796
Peak - (V)	4.833	3.185	-12.185	4.869	11.829	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)	4.949	3.248	-12.143	4.920	11.986	11.946
Peak - (V)	4.931	3.238	-12.110	4.912	11.930	11.918
12VHPWR Resistance (Ohm)	79.130	GND	12VHPWR Voltage (V)		-0.079	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)	4.951	3.251	-12.145	4.919	11.986	11.946
Peak - (V)	4.932	3.241	-12.112	4.912	11.931	11.918
12VHPWR Resistance (Ohm)	79.153	GND	12VHPWR Voltage (V)		-0.080	GND



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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)	4.959	3.257	-12.135	4.928	12.004	11.973
Peak - (V)	4.942	3.247	-12.100	4.920	11.949	11.945
12VHPWR Resistance (Ohm)	68.338	GND	12VHPWR Voltage (V)		-0.069	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)	4.961	3.261	-12.135	4.928	12.004	11.974
Peak - (V)	4.943	3.251	-12.101	4.920	11.946	11.943
12VHPWR Resistance (Ohm)	68.714	GND	12VHPWR Voltage (V)		-0.069	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 (+)	4.998	3.337	-12.078	4.989	12.079	12.073
Voltage (-)	4.998	3.337	-12.075	4.989	12.079	12.073
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 (+)	4.939	3.280	-12.124	4.916	11.988	11.955
Voltage (-)	4.939	3.280	-12.124	4.916	11.988	11.956
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 (+)	4.939	3.277	-12.125	4.916	11.988	11.955
Voltage (-)	4.939	3.277	-12.124	4.916	11.989	11.955
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 (+)	4.938	3.277	-12.126	4.916	11.988	11.955
Voltage (-)	4.938	3.277	-12.124	4.916	11.989	11.954
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 (+)	4.938	3.277	-12.125	4.916	11.988	11.954
Voltage (-)	4.938	3.277	-12.124	4.916	11.988	11.954
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 (+)	4.938	3.276	-12.125	4.916	11.988	11.953
Voltage (-)	4.938	3.276	-12.124	4.916	11.988	11.953
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 (+)	4.937	3.276	-12.123	4.916	11.988	11.952
Voltage (-)	4.937	3.276	-12.124	4.916	11.988	11.953

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 (+)	5.000	3.339	-12.070	4.993	12.087	12.077
Voltage (-)	5.000	3.339	-12.071	4.993	12.087	12.078
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 (+)	4.982	3.326	-12.052	4.993	12.070	12.061
Voltage (-)	4.983	3.326	-12.052	4.993	12.070	12.060
Test Item	Line Regulation		115/60 Light Load - POST 115/60 3.3V OCP			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)	2.574	2.926	0.056	0.564	17.840	13.200
Test Reading						
Voltage (+)	4.975	3.318	-12.064	4.993	12.067	12.058
Voltage (-)	4.975	3.318	-12.063	4.993	12.067	12.058
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 (+)	4.983	3.325	-12.058	4.993	12.069	12.060
Voltage (-)	4.983	3.325	-12.056	4.993	12.069	12.060
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 (+)	4.994	3.333	-12.067	4.994	12.074	12.065
Voltage (-)	4.993	3.333	-12.067	4.994	12.074	12.065
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 (+)	4.981	3.325	-12.063	4.990	12.015	12.006
Voltage (-)	4.981	3.325	-12.063	4.990	12.015	12.006
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 (+)	4.986	3.326	-12.063	4.990	12.017	12.008
Voltage (-)	4.986	3.326	-12.063	4.990	12.017	12.008

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						



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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	5.030	3.368	-12.029	5.042	12.126	12.124
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	5.023	3.366	-12.038	5.040	12.124	12.122
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	5.013	3.363	-12.045	5.037	12.120	12.119
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	4.995	3.357	-12.057	5.032	12.111	12.110
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	5.001	3.343	-12.056	5.015	12.072	12.057
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	4.960	3.306	-12.097	4.975	11.999	11.963
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						



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Voltage	4.883	3.233	-12.183	4.902	11.873	11.796
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	5.029	3.368	-12.029	5.042	12.124	12.123
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	5.029	3.368	-12.029	5.042	12.124	12.123
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	5.021	3.357	-12.045	5.037	12.120	12.118
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	5.027	3.359	-12.025	5.039	12.122	12.120
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	5.022	3.343	-12.031	5.035	12.118	12.116
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	4.980	3.290	-12.088	4.982	12.066	12.055
Test Item	Load / Cross Regulation		115/60 Load 13			PASS



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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							
Voltage	4.993	3.332	-12.072	4.992	12.067	12.052	
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	4.935	3.274	-12.124	4.916	11.988	11.951	
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	4.838	3.177	-12.214	4.788	11.852	11.772	
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	5.029	3.368	-12.027	5.042	12.124	12.122	
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	5.029	3.367	-12.028	5.042	12.123	12.121	
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	5.022	3.365	-12.038	5.040	12.121	12.120	
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	



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Loading (A)	6.437	0.100	0.000	0.000	0.100	0.050
Test Reading						
Voltage	5.012	3.362	-12.046	5.037	12.117	12.116
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	4.994	3.356	-12.057	5.032	12.108	12.107
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	5.001	3.342	-12.057	5.015	12.070	12.054
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	4.959	3.305	-12.098	4.974	11.999	11.961
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	4.882	3.231	-12.184	4.902	11.871	11.791
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	5.028	3.367	-12.028	5.042	12.122	12.121
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	5.028	3.367	-12.028	5.042	12.122	12.121



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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	5.021	3.356	-12.044	5.037	12.117	12.116
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	5.026	3.358	-12.026	5.039	12.120	12.118
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	5.021	3.342	-12.031	5.036	12.115	12.114
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	4.979	3.289	-12.087	4.982	12.064	12.053
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	4.993	3.331	-12.069	4.992	12.065	12.049
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	4.935	3.274	-12.123	4.916	11.987	11.949
Test Item	Load / Cross Regulation		230/50 Load 15			PASS
AC Input (VAC)	230.000		Frequency (Hz)			50.000



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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	4.837	3.177	-12.213	4.788	11.851	11.774
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	5.028	3.367	-12.026	5.042	12.122	12.120

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%	90.580	70%	80%	82%	85%	87%	89%	90%	80 Plus & ENERGY STAR*
50%	93.252	72%	80%	85%	88%	90%	92%	94%	
20%	92.925	65%	80%	82%	85%	87%	90%	92%	
15%	91.116	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10%	87.204	N/A	N/A	80%	80%	80%	86%	90%	ENERGY STAR* only
5%	80.682	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2%	67.581	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	80.996		82.590	75% / 75%				
1.50 A		83.936	75%	83.912			75%		
1.00 A		85.852		83.902	75% / 75%				
0.55 A		83.405	75%	81.504			75%		75%
0.25 A		N/A*		N/A*					
100 mA		N/A*		N/A*					
90 mA		N/A*		63.484					
70 mA		N/A*		N/A*					
45 mA		N/A*		50.436		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%	0.595	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)	12.876	14.632	0.280	2.819	89.254	66.010
V Meas. (V)	4.815	3.163	-12.211	4.776	11.831	11.757
Pin (W)	2147.331	Pout (W)	1945.062	Eff (%)	90.580	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)	6.441	7.319	0.141	1.410	44.663	33.017
V Meas. (V)	4.920	3.264	-12.117	4.911	11.957	11.922
Pin (W)	1060.026	Pout (W)	988.494	Eff (%)	93.252	0
Test Item	Efficiency	115/60 Light (20%) Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.970
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	2.927	0.057	0.564	17.905	13.220
V Meas. (V)	4.982	3.323	-12.065	4.991	12.031	12.017
Pin (W)	430.215	Pout (W)	399.777	Eff (%)	92.925	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	2.195	0.043	0.423	13.444	9.919
V Meas. (V)	4.993	3.334	-12.057	5.004	12.046	12.036
Pin (W)	329.945	Pout (W)	300.634	Eff (%)	91.116	0
Test Item	Efficiency	115/60 10% Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.900
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	8.979	6.620



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V Meas. (V)	5.003	3.344	-12.045	5.017	12.062	12.055
Pin (W)	230.564	Pout (W)	201.062	Eff (%)	87.204	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	3.304
V Meas. (V)	5.013	3.353	-12.033	5.030	12.078	12.075
Pin (W)	125.189	Pout (W)	101.005	Eff (%)	80.682	0
Test Item	Efficiency	115/60 2% Load				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.595
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	1.791	1.322
V Meas. (V)	5.019	3.359	-12.028	5.037	12.090	12.089
Pin (W)	59.586	Pout (W)	40.262	Eff (%)	67.581	0

Test Item	Efficiency	115/60 5VSB Efficiency Nameplate				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.498
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)	0.003	0.003	-0.000	4.941	0.025	0.025
Pin (W)	18.294	Pout (W)	14.818	Eff (%)	80.996	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		0.374
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)	0.002	0.003	-0.000	4.992	0.027	0.026
Pin (W)	8.917	Pout (W)	7.485	Eff (%)	83.936	0
Test Item	Efficiency	115/60 5VSB Efficiency 1.0A				PASS
AC Input (VAC)	115.000	Frequency (Hz)	60.000	Power Factor		0.288



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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	0.002	-0.000	5.009	0.015	0.015
Pin (W)	5.833	Pout (W)	5.008	Eff (%)	85.852	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		0.185
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)	0.001	0.001	-0.000	5.024	0.010	0.010
Pin (W)	3.312	Pout (W)	2.762	Eff (%)	83.405	0
Test Item	Efficiency	230/50 5VSB Efficiency Nameplate				PASS
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.268
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)	0.003	0.009	-0.000	4.941	0.036	0.036
Pin (W)	17.942	Pout (W)	14.819	Eff (%)	82.590	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		0.152
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)	0.002	0.003	-0.000	4.992	0.026	0.025
Pin (W)	8.921	Pout (W)	7.485	Eff (%)	83.912	0
Test Item	Efficiency	230/50 5VSB Efficiency 1.0A				PASS
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.106
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	0.002	-0.000	5.009	0.015	0.015
Pin (W)	5.970	Pout (W)	5.009	Eff (%)	83.902	0



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Test Item	Efficiency	230/50 5VSB Efficiency 0.55A ALPM & ErP* Lot 3/6 2014				PASS
AC Input (VAC)	230.000	Frequency (Hz)	50.000	Power Factor		0.061
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)	0.001	0.001	-0.000	5.024	0.010	0.010
Pin (W)	3.391	Pout (W)	2.763	Eff (%)	81.504	0
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	5.040	0.007	0.007
Pin (W)	0.715	Pout (W)	0.453	Eff (%)	63.484	0
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	5.041	0.006	0.006
Pin (W)	0.450	Pout (W)	0.227	Eff (%)	50.436	0

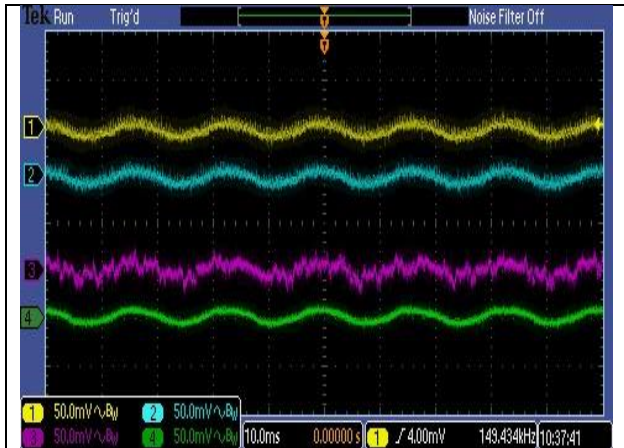


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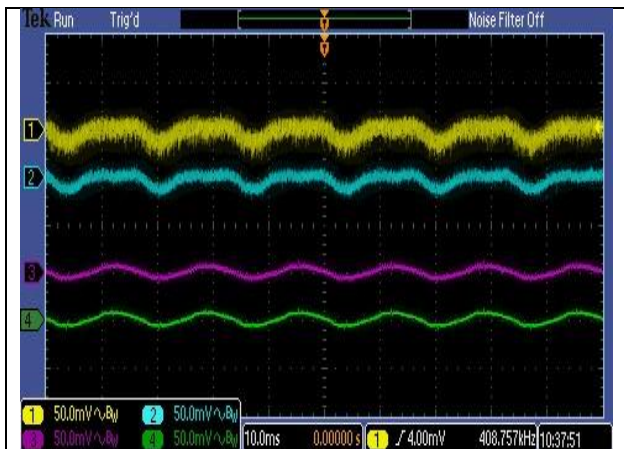
Intel Platform Testing Services

4.6 Ripple & Noise – Required

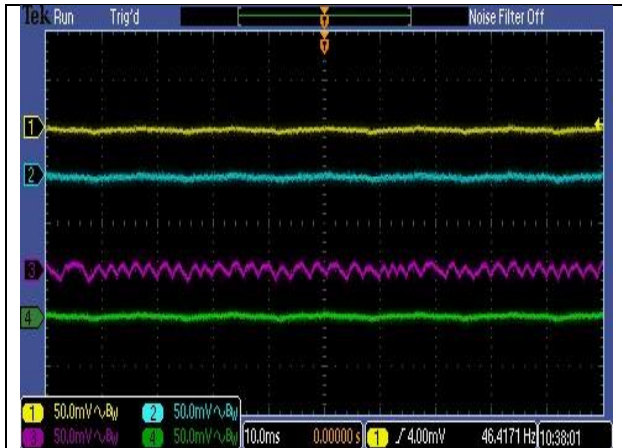
Test Item	Ripple & Noise			115/60 Ripple & Noise Full Load			PASS	
AC Input (VAC)	115.000			Frequency (Hz)			60.000	
Condition								
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK	PS_ON
Voltage (V)	4.830	3.175	-12.213	4.784	11.821	11.730	None	None
Load (A)	12.874	14.629	0.282	2.816	155.825	0.000		
Test Reading								
Noise	23.140	23.000	36.950	10.090	41.500	23.700	28.000	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)	4.988	3.328	-12.066	4.991	12.034	12.017	None	None
Load (A)	2.575	2.926	0.056	0.563	31.165	0.000		
Test Reading								
Noise	6.370	9.920	25.400	5.980	19.880	5.770	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)	4.984	3.328	-12.067	4.991	12.034	12.017	None	None
Load (A)	2.575	2.926	0.056	0.563	31.165	0.000		
Test Reading								
Noise	6.750	10.180	26.640	5.990	20.540	5.970	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)	4.825	3.174	-12.212	4.783	11.821	11.728	None	None
Load (A)	12.874	14.629	0.282	2.816	155.825	0.000		
Test Reading								
Noise	23.190	22.160	33.700	9.360	40.980	23.430	16.000	20.000
Max mVp-p	50.000	50.000	120.000	50.000	120.000	120.000	400.000	400.000



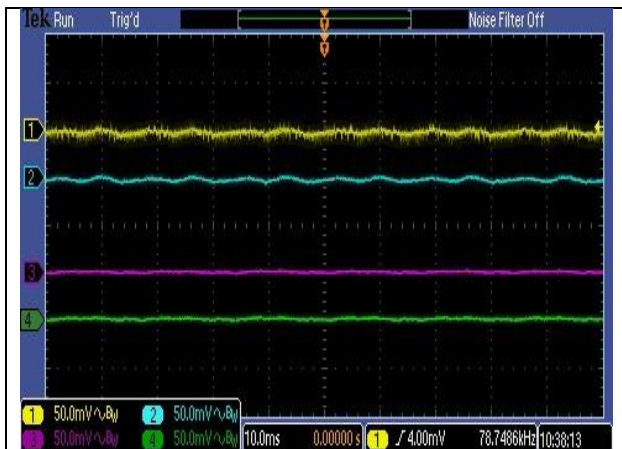
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- 115V/60 Full Load 5V, 3V, -12V, 5VSB
Var Name = Power OK Rise Time



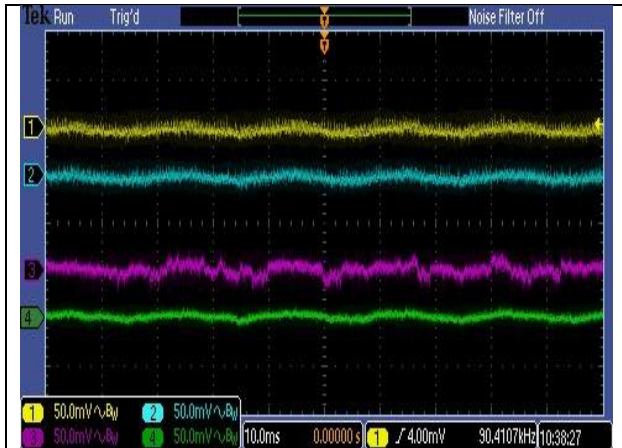
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- 115V/60 Full Load 12V1, 12V2, PWR_OK, PS_ON
Var Name = Power OK Rise Time



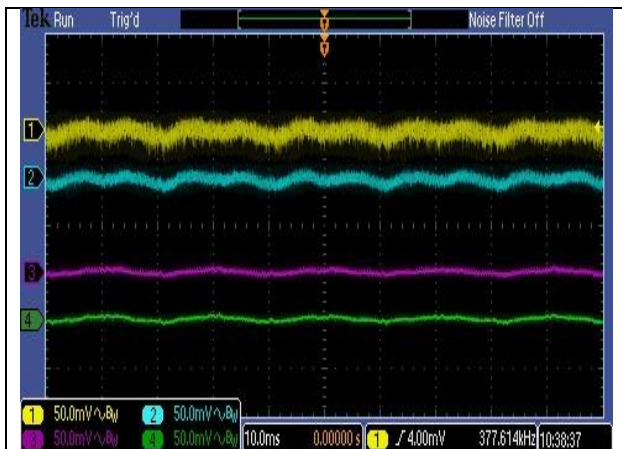
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- 115V/60 Light Load 5V, 3V, -12V, 5VSB
Var Name = Power OK Rise Time



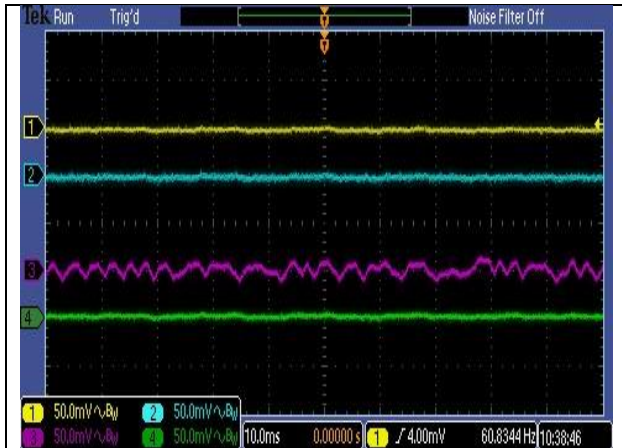
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- 115V/60 Light Load 12V1, 12V2, PWR OK, PS_ON
Var Name = Power OK Rise Time



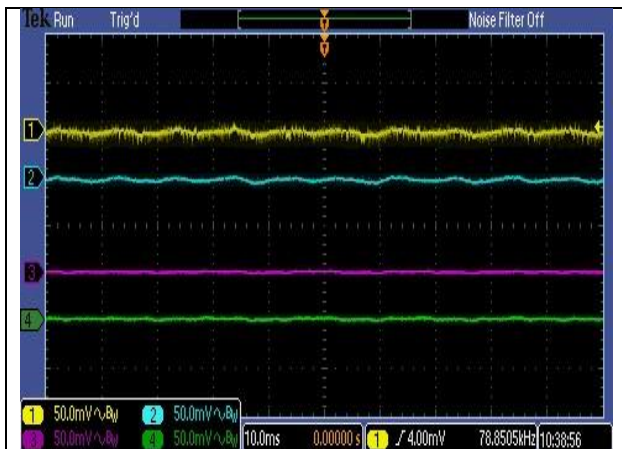
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- 230V/50 Full Load 5V, 3V, -12V, 5VSB
Var Name = Power OK Rise Time



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



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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)	4.958	3.295	-12.131	4.948	12.023	12.000	
Peak - (V)	4.937	3.280	-12.110	4.933	11.960	11.946	
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)	5.013	3.352	-12.105	5.024	12.371	12.364	
Peak - (V)	4.961	3.308	-12.049	4.974	11.995	11.996	
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)	4.981	3.323	-12.104	4.993	12.052	12.030	
Peak - (V)	4.955	3.309	-12.085	4.975	11.994	11.996	



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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)	4.958	3.295	-12.137	4.948	12.026	11.999
Peak - (V)	4.934	3.279	-12.110	4.933	11.956	11.942
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)	5.013	3.352	-12.106	5.024	12.114	12.369
Peak - (V)	4.956	3.308	-12.054	4.974	11.728	11.968
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)	4.983	3.322	-12.103	4.992	12.047	12.031
Peak - (V)	4.958	3.309	-12.085	4.976	11.999	11.995
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)	4.944	3.285	-12.153	4.937	11.981	11.973
Peak - (V)	4.920	3.266	-12.123	4.918	11.903	11.904
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)	5.012	3.352	-12.118	5.022	12.370	12.098
Peak - (V)	4.948	3.298	-12.056	4.963	11.694	11.694
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)	4.970	3.313	-12.113	4.983	12.013	11.999
Peak - (V)	4.946	3.299	-12.099	4.963	11.962	11.973
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)	4.943	3.281	-12.149	4.937	11.979	11.967



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Peak - (V)	4.918	3.263	-12.123	4.917	11.904	11.898
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)	5.010	3.349	-12.118	5.022	12.108	12.095
Peak - (V)	4.947	3.295	-12.053	4.961	11.689	11.689
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)	4.973	3.313	-12.116	4.985	12.022	12.012
Peak - (V)	4.938	3.293	-12.096	4.961	11.951	11.950
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)	4.911	3.253	-12.183	4.902	11.935	11.934
Peak - (V)	4.878	3.231	-12.157	4.883	11.876	11.876
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)	5.007	3.351	-12.154	5.021	12.308	12.306
Peak - (V)	4.910	3.263	-12.057	4.924	11.904	11.922
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)	4.937	3.280	-12.154	4.947	11.963	11.970
Peak - (V)	4.904	3.263	-12.136	4.923	11.916	11.911
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)	4.907	3.247	-12.185	4.901	11.926	11.923
Peak - (V)	4.878	3.228	-12.159	4.885	11.877	11.873
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)	5.008	3.346	-12.155	5.022	12.328	12.121
Peak - (V)	4.903	3.258	-12.055	4.923	11.714	11.707
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)	4.932	3.274	-12.152	4.946	11.954	11.954
Peak - (V)	4.902	3.260	-12.135	4.925	11.907	11.899
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)	4.949	3.316	-12.106	4.985	12.030	12.002
Peak - (V)	4.914	3.300	-12.071	4.970	11.974	11.960
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)	5.025	3.365	-12.046	5.050	12.160	12.157
Peak - (V)	4.991	3.349	-12.015	5.030	12.015	12.022
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)	4.948	3.312	-12.113	4.982	12.026	12.002
Peak - (V)	4.911	3.301	-12.079	4.970	11.983	11.976
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)	5.043	3.361	-12.044	5.045	12.094	12.086
Peak - (V)	4.962	3.348	-12.028	5.030	12.052	12.065
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)	4.974	3.280	-12.100	4.983	12.038	12.004
Peak - (V)	4.945	3.240	-12.076	4.966	11.986	11.964
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)	5.022	3.366	-12.052	5.048	12.171	12.167
Peak - (V)	4.995	3.329	-12.024	5.027	12.042	12.053
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)	4.964	3.264	-12.105	4.978	12.026	12.000
Peak - (V)	4.942	3.238	-12.076	4.967	11.984	11.977
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)	5.015	3.366	-12.053	5.041	12.086	12.081
Peak - (V)	4.990	3.305	-12.035	5.027	12.049	12.059
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)	4.989	3.328	-12.083	4.996	12.045	12.016
Peak - (V)	4.971	3.319	-12.013	4.987	12.005	11.999
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)	5.024	3.364	-12.148	5.050	12.102	12.094	
Peak - (V)	5.008	3.355	-11.983	5.035	12.061	12.076	
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)	4.989	3.329	-12.082	4.996	12.046	12.018	
Peak - (V)	4.971	3.320	-12.035	4.988	12.006	11.999	
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)	5.027	3.364	-12.032	5.050	12.104	12.094	
Peak - (V)	5.009	3.356	-12.005	5.035	12.066	12.076	
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)	4.989	3.327	-12.080	4.928	12.045	12.016
Peak - (V)	4.969	3.319	-12.054	4.900	12.005	11.997
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)	5.027	3.365	-12.026	5.051	12.104	12.097
Peak - (V)	5.009	3.356	-12.016	5.000	12.066	12.079
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)	4.989	3.328	-12.081	4.930	12.049	12.019
Peak - (V)	4.970	3.318	-12.056	4.900	12.007	11.999
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)	5.027	3.365	-12.026	5.043	12.106	12.096
Peak - (V)	5.009	3.356	-12.016	5.021	12.065	12.080
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)	4.931	3.274	-12.198	4.935	11.992	11.890
Peak - (V)	4.850	3.210	-12.117	4.866	11.816	11.663
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)	5.022	3.364	-12.097	5.048	12.244	12.095
Peak - (V)	4.949	3.301	-12.027	4.975	11.661	11.635
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)	4.880	3.232	-12.197	4.883	11.854	11.758
Peak - (V)	4.849	3.210	-12.172	4.867	11.809	11.717
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)	4.966	3.315	-12.095	4.995	12.007	11.966	
Peak - (V)	4.945	3.303	-12.083	4.977	11.964	11.936	
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)	5.029	3.367	-12.025	5.050	12.106	12.097	
Peak - (V)	5.011	3.358	-12.016	5.036	12.067	12.080	
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)	5.030	3.367	-12.026	5.050	12.108	12.099	
Peak - (V)	5.011	3.358	-12.016	5.036	12.066	12.082	
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)	5.028	3.367	-12.026	5.050	12.107	12.098	
Peak - (V)	5.011	3.359	-12.016	5.035	12.069	12.082	
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)	5.029	3.367	-12.026	5.050	12.110	12.099
Peak - (V)	5.011	3.359	-12.016	5.035	12.070	12.083
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)	4.976	3.315	-12.201	4.979	12.018	11.985
Peak - (V)	4.848	3.207	-12.072	4.866	11.744	11.644
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)	4.964	3.363	-12.145	5.047	12.100	12.094
Peak - (V)	4.895	3.260	-12.027	4.929	11.665	11.620
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)	4.880	3.231	-12.195	4.881	11.851	11.757
Peak - (V)	4.849	3.212	-12.175	4.868	11.814	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)	4.926	3.275	-12.140	4.949	11.929	11.865
Peak - (V)	4.900	3.262	-12.129	4.932	11.895	11.814
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)	4.988	3.327	-12.105	4.991	12.147	12.021
Peak - (V)	4.946	3.295	-12.060	4.958	11.997	11.863
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)	5.018	3.364	-12.064	5.048	12.158	12.373
Peak - (V)	4.978	3.333	-12.028	5.009	11.746	12.037



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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)	4.966	3.307	-12.108	4.968	12.028	11.995	
Peak - (V)	4.944	3.295	-12.083	4.958	11.983	11.971	
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)	5.000	3.344	-12.064	5.023	12.076	12.065	
Peak - (V)	4.979	3.334	-12.050	5.010	12.035	12.045	
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)	4.986	3.325	-12.116	4.990	12.129	12.110	
Peak - (V)	4.935	3.287	-12.063	4.948	11.962	11.959	
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)	5.009	3.352	-12.086	5.032	12.106	12.058	
Peak - (V)	4.958	3.313	-12.041	4.987	11.752	11.742	
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)	4.955	3.299	-12.115	4.959	12.016	11.987	
Peak - (V)	4.936	3.287	-12.094	4.949	11.970	11.962	
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)	4.977	3.324	-12.084	5.002	12.050	12.024	
Peak - (V)	4.959	3.313	-12.073	4.989	12.004	12.007	

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)	---	---	---	317.457	---	---	5.565
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)	116.367	118.215	---	---	111.895	111.285	5.565
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)	3.405	3.444	---	2.961	13.667	13.191	5.565
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)	126.298	124.500	---	214.451	130.677	131.299	5.565
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)	183.895	185.648	---	---	169.248	169.106	0.229
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)	16.261	16.261	16.261	16.261	16.261	16.261	---
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)	1.904	1.724	---	68.958	1.391	1.452	---
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)	---	---	---	286.912	---	---	5.353
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)	106.360	108.012	---	---	101.590	101.497	5.353
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)	3.183	3.176	---	2.202	13.762	13.707	5.353
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)	122.859	121.248	---	209.645	127.635	127.717	5.353
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)	190.818	192.422	---	---	175.492	175.450	0.216
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)	81.654	81.654	81.653	81.654	81.653	81.654	---
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)	4.209	4.054	---	8.478	1.724	1.743	---
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)	---	---	---	175.757	---	---	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)	---	---	---	174.638	---	---	5.545
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)	106.410	108.228	---	---	101.919	101.294	5.545
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)	3.401	3.441	---	2.970	13.686	13.198	5.545
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)	126.654	124.888	---	214.707	131.037	131.677	5.545
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)	180.724	182.464	---	---	166.068	165.926	0.226



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Intel Platform Testing Services

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)	17.895	17.895	17.895	17.895	17.895	17.895	---
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)	1.895	1.720	---	76.109	1.386	1.443	---
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)	---	---	---	237.468	---	---	5.411
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)	103.616	105.261	---	---	98.867	98.774	5.411
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)	3.175	3.167	---	2.232	13.741	13.693	5.411
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)	123.215	121.607	---	209.867	127.961	128.049	5.411
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)	188.260	189.859	---	---	172.964	172.924	0.226
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)	81.558	81.558	81.557	81.559	81.557	81.559	---
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)	3.928	4.059	---	10.547	1.720	1.741	---
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)	95.185	96.930	---	---	90.826	90.192	0.015
Min	*	*	*	*	*	*	*
Max	150.000	150.000	*	*	150.000	150.000	*



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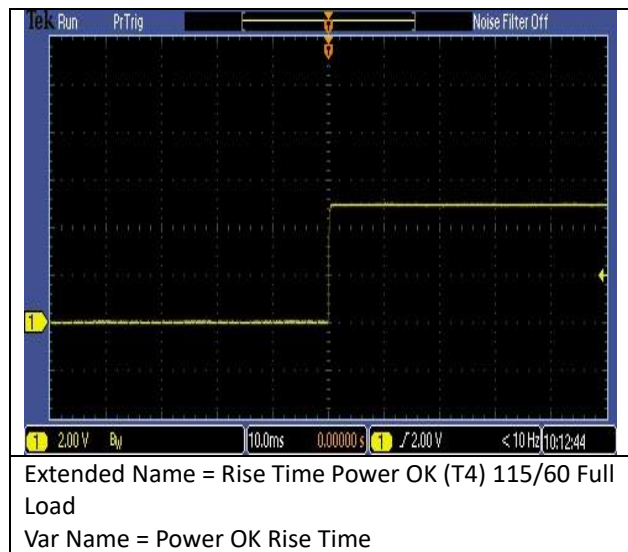
Test Item	Power Timing			115/60 Full Load T3 - Rec for ALPM			PASS
AC Input (VAC)	115.000			Frequency (Hz)			60.000
Condition							
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2	Power OK
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000	None
Test Reading							
Time (ms)	122.015	120.257	---	209.767	126.344	126.983	0.088
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)	94.979	96.576	---	---	90.281	90.188	0.088
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)	123.668	122.077	---	209.936	128.410	128.494	0.203
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)	95.313	97.080	---	---	91.000	90.360	0.203
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)	122.081	120.333	---	209.794	126.388	127.019	0.015
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	150.000	*	*	*	*	*



Power Supply Unit Test Report

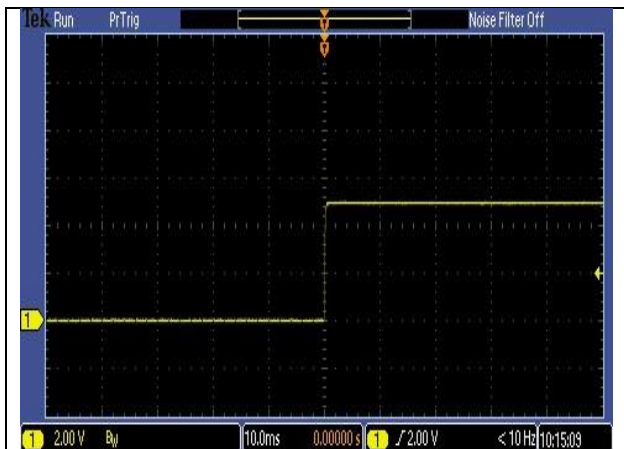
Intel Platform Testing Services

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)	94.927	96.520	---	---	90.259	90.167	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)	123.665	122.084	---	210.003	128.387	128.477	0.376
Min	0.000	1.000	*	*	0.000	0.000	*
Max	*	150.000	*	*	*	*	*

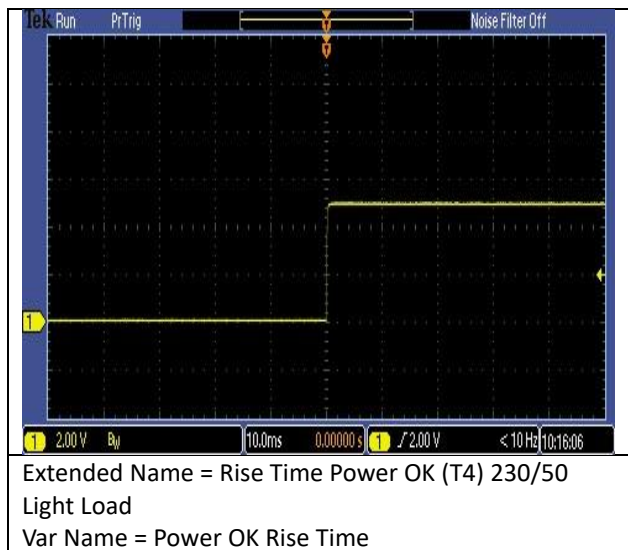




Extended Name = Rise Time Power OK (T4) 115/60
Light Load
Var Name = Power OK Rise Time



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

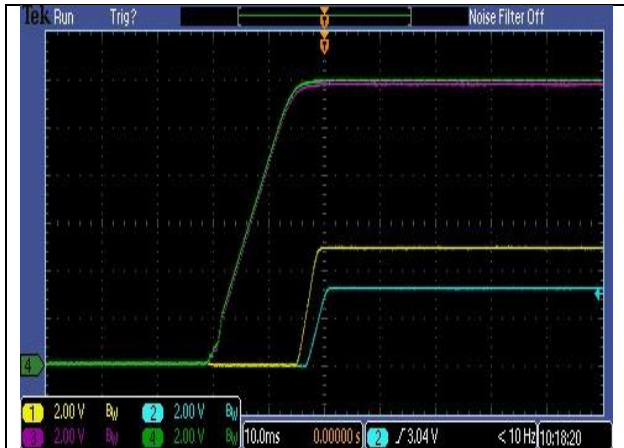
Test Item	12V 5V 3.3V Power Sequence			115/60 Full Load		PASS
AC Input (VAC)	115.000			Frequency (Hz)		60.000
Condition						
Voltage Rail	+5V	+3.3V	-12V	+5VSB	+12V1	+12V2
Loading (A)	12.874	14.629	0.282	2.816	155.825	0.000
Test Reading						
Time Difference (ms)	-1.765	0.000			-6.088	-6.687
Max (ms)	20.000	*			20.000	20.000
Voltage	4.837	3.177			11.835	11.734
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)	-1.634	0.000			-6.191	-6.428
Max (ms)	20.000	*			20.000	20.000
Voltage	4.935	3.274			11.969	11.922
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)	-1.601	0.000			-6.285	-6.342
Max (ms)	20.000	*			20.000	20.000
Voltage	4.994	3.332			12.048	12.030



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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)	-1.765	0.000			-6.088	-6.682
Max (ms)	20.000	*			20.000	20.000
Voltage	4.837	3.178			11.834	11.736
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)	-1.633	0.000			-6.202	-6.439
Max (ms)	20.000	*			20.000	20.000
Voltage	4.935	3.274			11.969	11.923
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)	-1.606	0.000			-6.284	-6.341
Max (ms)	20.000	*			20.000	20.000
Voltage	4.994	3.332			12.049	12.030



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)	18.110	17.709	---	83.503	17.659	17.670
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)	17.969	17.786	---	91.471	17.512	17.523
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)	5.035	3.376	-12.022	5.042	12.133	12.131
Test Item	Short Circuit Protection		115/60 3.3V Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	5.036	3.376	-12.022	5.042	12.132	12.131
Test Item	Short Circuit Protection		115/60 -12V Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	5.037	3.377	-12.021	5.042	12.132	12.131
Test Item	Short Circuit Protection		115/60 12V1 Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	5.037	3.376	-12.021	5.042	12.132	12.131
Test Item	Short Circuit Protection		115/60 12V2 Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	5.036	3.374	-12.022	5.042	12.132	12.131
Test Item	Short Circuit Protection		115/60 5VSB Short Circuit			PASS
AC Input (VAC)	115.000		Frequency (Hz)		60.000	
Recovery Voltage (V)	5.036	3.376	-12.021	5.042	12.132	12.131
Test Item	Short Circuit Protection		230/50 5V Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	5.034	3.372	-12.020	5.042	12.132	12.131
Test Item	Short Circuit Protection		230/50 3.3V Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	5.036	3.376	-12.021	5.042	12.132	12.131



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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)	5.036	3.376	-12.021	5.042	12.132	12.131
Test Item	Short Circuit Protection		230/50 12V Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	5.036	3.374	-12.021	5.042	12.132	12.131
Test Item	Short Circuit Protection		230/50 12V2 Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	5.036	3.376	-12.021	5.042	12.132	12.130
Test Item	Short Circuit Protection		230/50 5VSB Short Circuit			PASS
AC Input (VAC)	230.000		Frequency (Hz)		50.000	
Recovery Voltage (V)	5.036	3.374	-12.021	5.042	12.132	12.131

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)	1.003	0.101	0.001	0.000	0.121	0.060
DC Output Load #	1		Current Load Trip Value (A)			34.6
12V1-12V2 Current Load Trip Value (A)					0.180	
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)	0.203	3.242	0.001	0.000	0.121	0.058
DC Output Load #	2		Current Load Trip Value (A)			33.5
12V1-12V2 Current Load Trip Value (A)					0.178	
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)	0.204	0.103	1.697	0.000	0.123	0.060
DC Output Load #	3		Current Load Trip Value (A)			1.8
12V1-12V2 Current Load Trip Value (A)					0.183	
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)	0.204	0.102	0.001	7.824	0.123	0.060
DC Output Load #	4		Current Load Trip Value (A)			7.9
12V1-12V2 Current Load Trip Value (A)					0.183	
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)	12.877	14.631	0.280	2.819	92.946	66.012
DC Output Load #	5		Current Load Trip Value (A)			93.0
12V1-12V2 Current Load Trip Value (A)					158.958	

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