Corsair AX1500i

16509500001009610055

Lab ID 102

Certification ID 25102

Test Result Report ID:

Certificate Issue Date: Feb 5, 2018

115V

Scheme: ETA-EMI PSU



115V



Scheme: LAMBDA PSU



Aristeidis Bitziopoulos, Certification Body General Manager

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Corsair
Model	AX1500i
OEM/ODM	Flextronics
Serial Number	16509500001009610055
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	15-8
□□□□ (Hz)	50-60

□□□□ (W)	1500
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	140mm Fluid Dynamic Bearing Fan (NR140P)
□□□□□	✓ (selectable)
Cybenetics Testing Information	
Lab ID	102
Date of receipt	Jan 25, 2018
Testing Date	Feb 3, 2018
Report Issued Date	Feb 5, 2018
□□□□□	CP-9020057
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□			
□□	□□□□	□□□□□□	Gauge
ATX □□ (700mm)	20+4 pin	1	16-22AWG
4+4 pin EPS 12V □□ (800mm) / (650mm)	1 / 1	1 / 1	18AWG
6+2pin PCIe□□ (700mm+155mm) / (650mm) / (800mm)	2 / 4 / 2	4 / 4 / 2	18AWG
SATA□□ (500mm+90mm+90mm+90mm)	3	12	18AWG
SATA□□ (550mm+90mm+90mm+90mm)	2	8	18AWG
□ 4pin Molex□□ (450mm+100mm+100mm+100mm)	3	12	18AWG
□ 4pin □□ (+105mm)	2	2	22AWG

C-Link USB Cable (800mm) / C-Link I2C Cable (800mm)	1 / 1	1 / 1	24-28 / 29AWG

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	30	30	125	3.5	0.8
	□	180		1500	17.5	9.6
□□□□□ (W)		1500				

Parts Description

Primary Side	
Transient Filter	6x Y caps, 5x X caps, 3x CM chokes, 1x MOV, 2x TVS diodes
Inrush Protection	NTC Thermistor & Relay
Rectifiers	2x Toshiba TK62J60W (600V, 61.8A @ 150°C, 33 mOhm)
APFC MOSFETS	4x Infineon IPA60R099 (650V, 24A @ 100°C, 99 mOhm)
APFC Boost Diode	4x CREE C3D06060A (600V, 6A @ 154°C)
Hold-up Cap(s)	2x Nippon Chemi-Con (420V, 470uF & 680uF or 1150uF combined, 2000h @ 105°C, KMR)
Main Switchers	4x Infineon IPA60R099 (650V, 24A @ 100°C, 0.099 Ohm)
Topology	Primary side: Bridgeless Design, Two Phase Interleaved PFC, Full-Bridge & LLC Resonant Converter Secondary side: Synchronous Rectification & DC-DC converters
Digital Controllers	
Main Controller	Freescale MC56F8236
MCUs	Silicon Lab C8051F310 & C8051F380
Secondary Side	
+12V	16x fets
5V & 3.3V	2x DC-DC Converters
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (105°C, KY, KZE), Rubycon (105°C, ZLH) Polymers: Nippon Chemi-Con, CapXon
Fan Model	NR135P (12V, 0.22A, Fluid Dynamic Bearing)
-12V Circuit	
Rectifier	IPA60R950C6 (650V, 2.8A @ 100°C, 0.95 Ohm)

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓

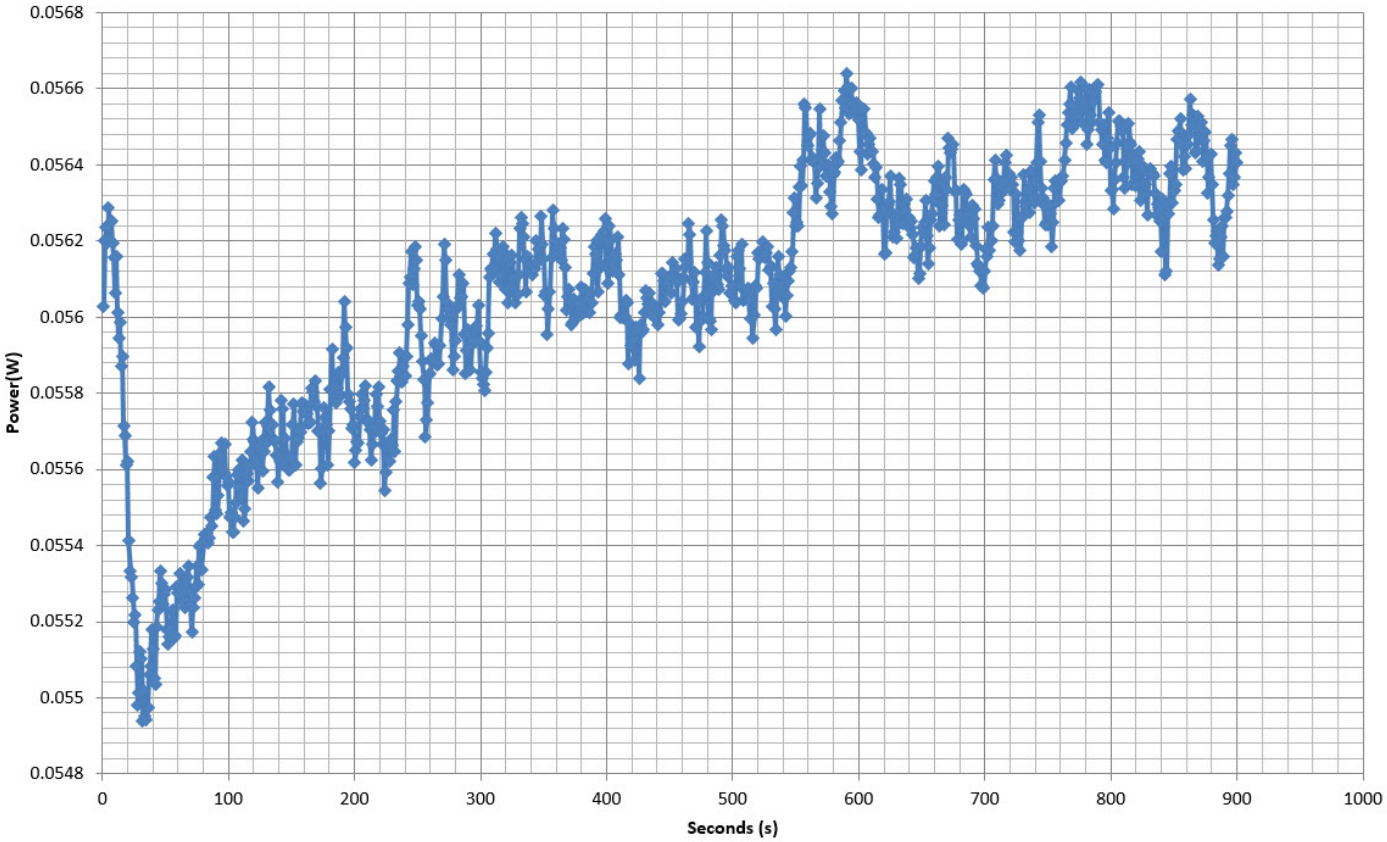
Performance Summary 115V

Accredited	
□□□□ (>1450 load combinations)	91.264%
Average Noise Output (>1450 Load Combinations)	27.55dBA
PF□□□ (>1450 Load Combinations)	0.993
Efficiency With 10W (≤500W) or 2% (>500W) Load	65.602%
□□□□□□	0.0564W
Non-Accredited	
12V Ripple (Full Load)	12.66mV
5V Ripple (Full Load)	7.08mV
3.3V Ripple (Full Load)	5.79mV
5VSB Ripple (Full Load)	7.09mV
12V Load Regulation	0.13%
5V Load Regulation	0.26%
3.3V Load Regulation	0.36%
5VSB Load Regulation	1.63%
Inrush Current	28.812A

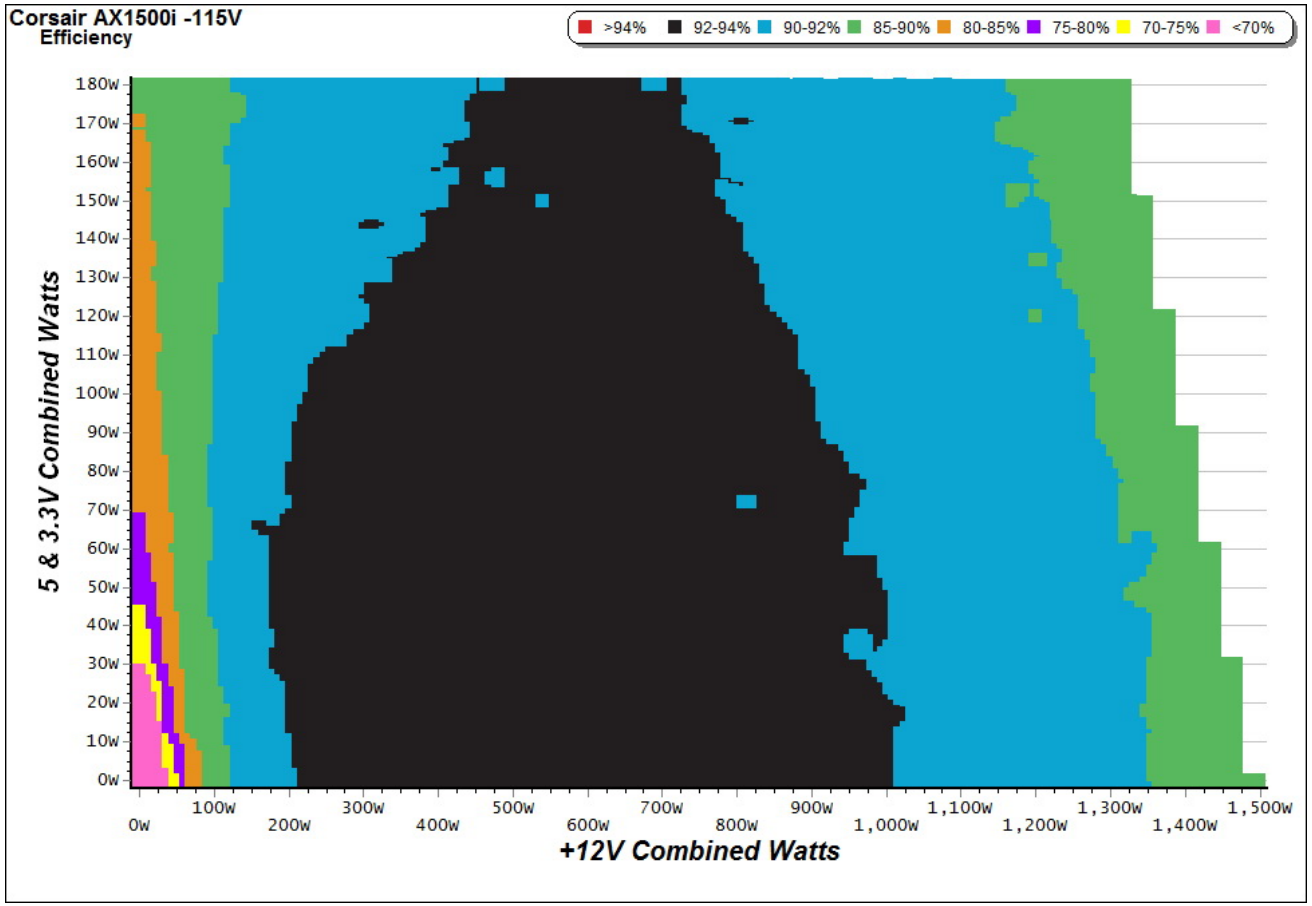
□□□□ & PG□□

Hold-Up Time (ms)	24.0
AC Loss to PWR_OK Hold Up Time (ms)	21.3
PWR_OK Inactive to DC Loss Delay (ms)	2.7

Graphs 115V


Power - 16509500001009610055 - 29/04/2017 - 13:11
Power(W)
0.0568
0.0566
0.0564
0.0562
0.056
0.0558
0.0556
0.0554
0.0552
0.055
0.0548
0
100
200
300
400
500
600
700
800
900
1000
Seconds (s)

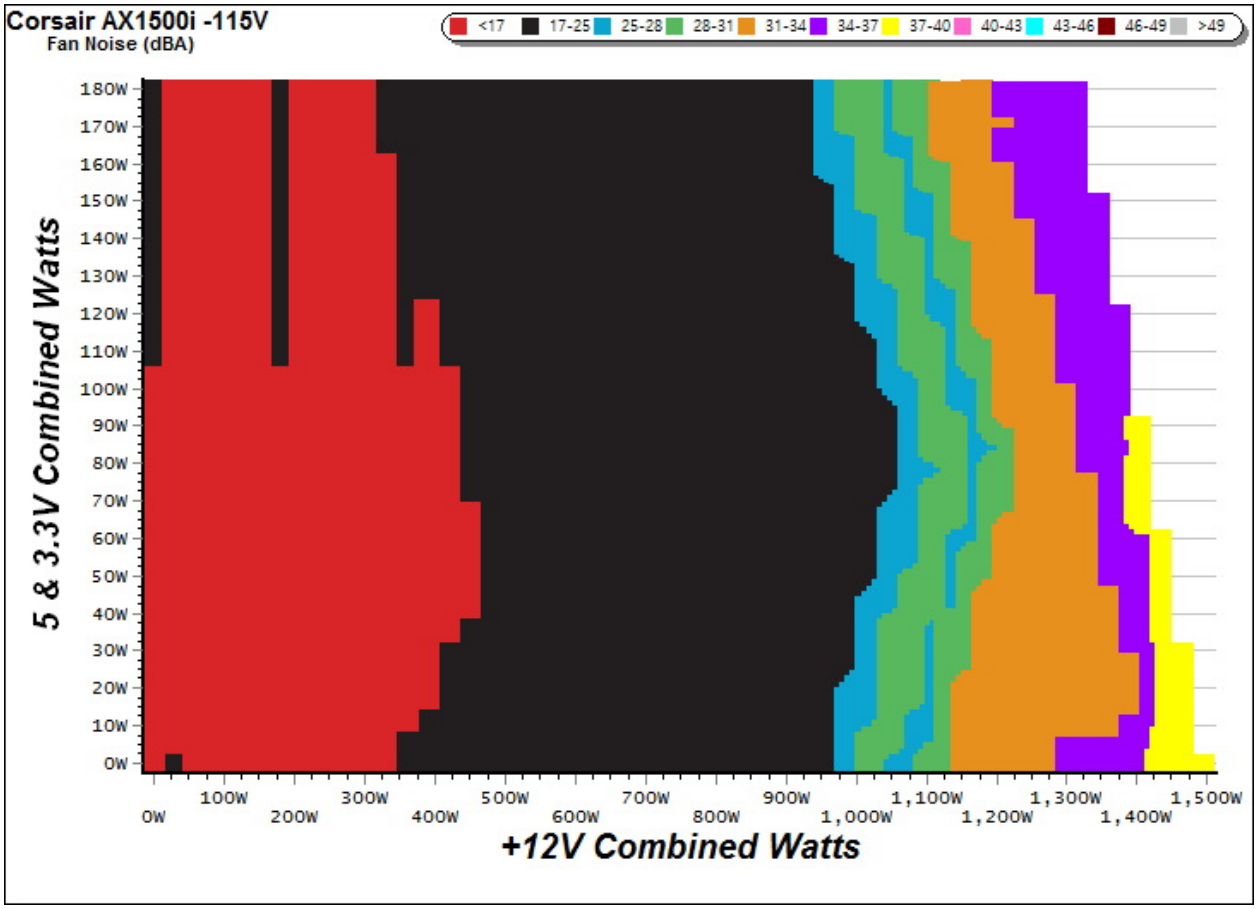
115V



□□

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations.

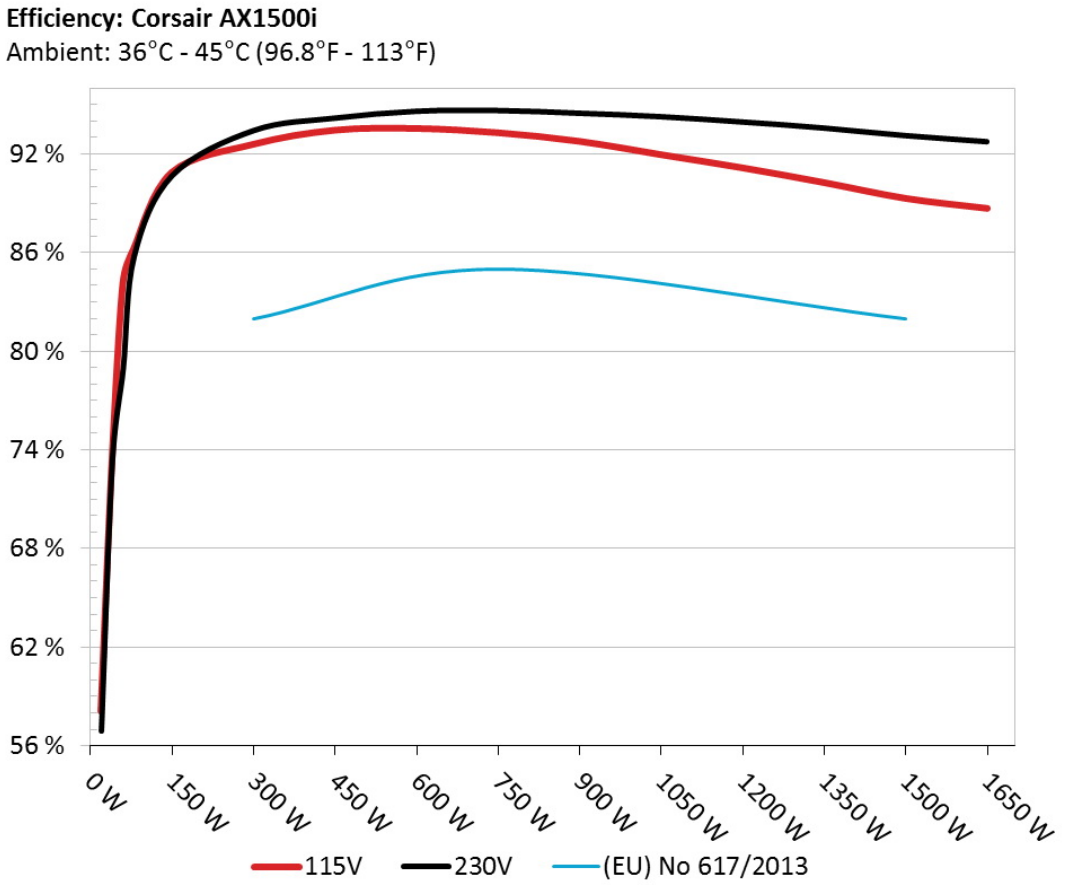
115V



□□

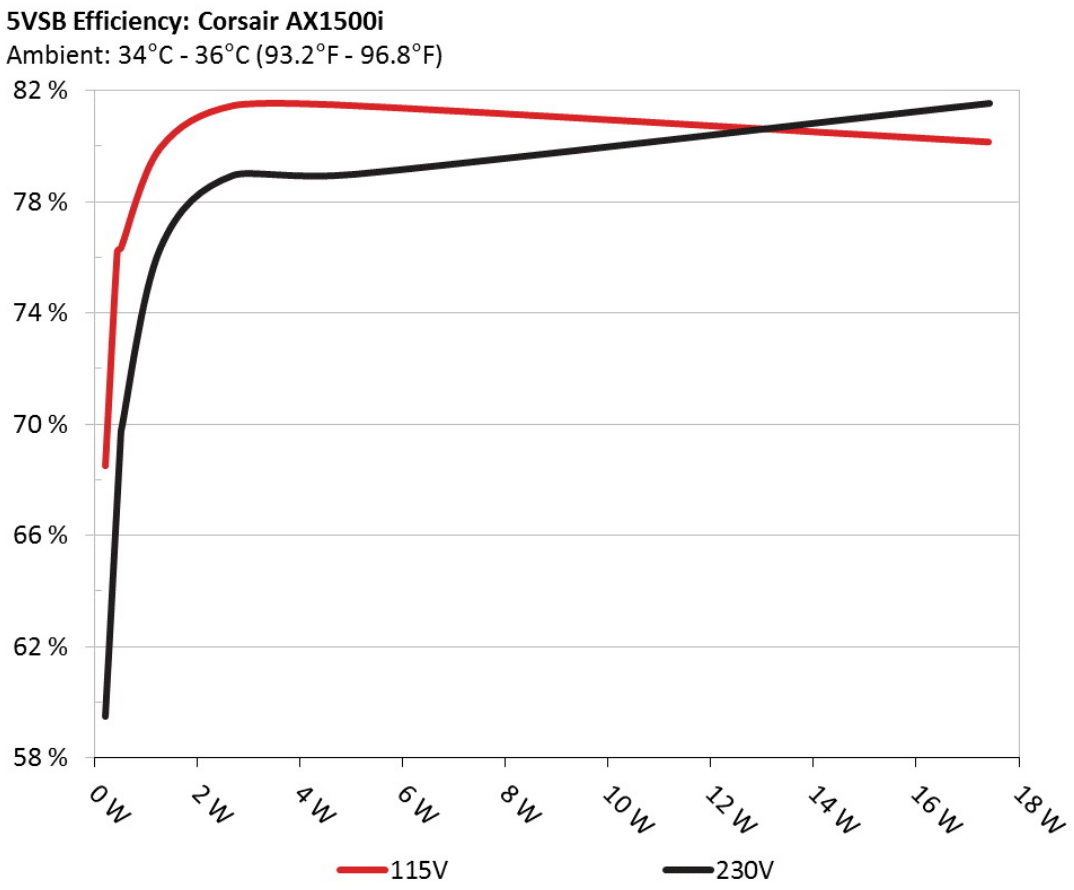
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance



The PSU`s efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used.

5Vsb□□□□



□□

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input.

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC) 115V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.042A	0.213	68.489%	0.016
	5.084V	0.311		115.12V

2	0.088A	0.445	76.199%	0.029
	5.083V	0.584		115.13V
3	0.532A	2.697	79.534%	0.158
	5.069V	3.391		115.12V
4	3.502A	17.415	80.150%	0.502
	4.973V	21.728		115.11V

Supplementary Tests (For Reference)

10-110%□□□□ 115V

Load Regulation & □□ □□ s
Nidus 500 PG-5001-BR -115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	10.693A	2.006A	1.999A	1.006A	149.780	90.853%	0000	<6.0	46.44°C	0.986
	11.992V	4.984V	3.296V	4.961V	164.859				38.49°C	115.11V
2	22.435A	3.012A	3.004A	1.211A	299.751	92.568%	0000	<6.0	47.01°C	0.986
	11.986V	4.977V	3.293V	4.951V	323.817				38.94°C	115.12V
3	34.491A	3.515A	3.521A	1.415A	449.757	93.426%	0000	<6.0	47.12°C	0.992
	11.995V	4.973V	3.291V	4.944V	481.402				39.64°C	115.13V
4	46.544A	4.027A	4.011A	1.618A	599.596	93.529%	0000	<6.0	40.40°C	0.994
	11.999V	4.971V	3.289V	4.938V	641.079				44.38°C	115.12V
5	58.260A	5.014A	5.010A	1.818A	749.457	93.271%	0000	<6.0	40.74°C	0.995
	11.999V	4.981V	3.292V	4.945V	803.526				44.58°C	115.13V
6	70.003A	6.030A	6.023A	2.023A	899.392	92.747%	0000	<6.0	41.47°C	0.996
	11.994V	4.977V	3.287V	4.938V	969.727				45.16°C	115.12V
7	81.775A	7.040A	7.031A	2.230A	1049.260	91.937%	0000	<6.0	42.62°C	0.997
	11.987V	4.971V	3.284V	4.930V	1141.285				46.36°C	115.12V
8	93.533A	8.034A	8.023A	2.431A	1199.262	91.136%	0000	<6.0	43.65°C	0.998
	11.984V	4.981V	3.289V	4.936V	1315.910				47.33°C	115.12V
9	105.692A	8.545A	8.547A	2.431A	1349.343	90.239%	0000	<6.0	45.02°C	0.998
	11.987V	4.976V	3.287V	4.933V	1495.303				48.81°C	115.13V

10	117.413A	9.055A	9.042A	3.569A	1499.188	89.278%	0000	<6.0	46.02°C	0.998
	11.984V	4.975V	3.285V	4.901V	1679.245				49.61°C	115.12V
11	129.906A	9.056A	9.043A	3.569A	1649.181	88.672%	0000	<6.0	45.07°C	0.998
	11.985V	4.973V	3.284V	4.901V	1859.873				49.57°C	115.12V
CL1	0.099A	22.030A	19.998A	0.004A	176.532	84.649%	0000	<6.0	44.42°C	0.982
	11.991V	4.971V	3.290V	5.010V	208.547				48.05°C	115.13V
CL2	124.927A	1.003A	1.003A	1.002A	1508.590	89.275%	0000	<6.0	46.28°C	0.998
	11.970V	4.984V	3.295V	4.965V	1689.825				49.69°C	115.13V

The results above are not used in the certification process

20-80□□□□ 115V

□□ at Low Loads Nidus 500 PG-5001-BR -115V									
□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	PF/AC □□
1	1.217A	0.502A	0.483A	0.202A	19.709	58.103%	0000	<6.0	0.896
	12.003V	4.988V	3.294V	4.982V	33.921				115.12V
2	2.460A	1.001A	1.000A	0.400A	39.791	73.101%	0000	<6.0	0.953
	11.999V	4.984V	3.294V	4.974V	54.433				115.12V
3	3.702A	1.497A	1.514A	4.967A	59.840	84.034%	0000	<6.0	0.967
	11.996V	4.980V	3.293V	4.967V	71.209				115.12V
4	4.940A	2.009A	2.003A	0.805A	79.835	86.211%	0000	<6.0	0.978
	11.994V	4.977V	3.291V	4.960V	92.604				115.11V

The results above are not used in the certification process

□□□□ 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.6 mV	5.6 mV	4.0 mV	3.1 mV	Pass
20% Load	8.3 mV	8.2 mV	4.6 mV	7.6 mV	Pass
30% Load	9.3 mV	5.0 mV	4.2 mV	3.8 mV	Pass
40% Load	9.7 mV	4.6 mV	4.3 mV	4.2 mV	Pass





Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	10.0 mV	4.9 mV	4.2 mV	4.8 mV	Pass
60% Load	9.4 mV	12.4 mV	5.8 mV	12.1 mV	Pass
70% Load	9.7 mV	8.8 mV	4.7 mV	8.0 mV	Pass
80% Load	9.8 mV	6.2 mV	4.6 mV	5.3 mV	Pass
90% Load	10.9 mV	6.9 mV	5.1 mV	6.7 mV	Pass
100% Load	12.7 mV	7.1 mV	5.8 mV	7.1 mV	Pass
110% Load	13.3 mV	7.2 mV	6.2 mV	7.4 mV	Pass
Crossload 1	19.5 mV	10.9 mV	7.4 mV	6.2 mV	Pass
Crossload 2	12.5 mV	5.3 mV	5.1 mV	7.6 mV	Pass

The results above are not used in the certification process

Corsair AX1500i

Top side

Power specifications label

本测试报告中包含的所有数据和图表均可在以下条件下由任何人使用：使用过程需提及测试结果由 Cybenetics提供。
在任何情况下都应提供原始测试结果文档的网站链接

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