Seasonic Prime Gold 850W

R1701TA101480009

Lab ID 73

Certification ID 2573

Test Result Report ID: 20PS73A

Certificate Issue Date: Jan 14, 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	Seasonic
Model	Prime Gold 850W
OEM/ODM	Sea Sonic Electronics Co., Ltd.
Serial Number	R1701TA101480009
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	11-5.5
□□□□ (Hz)	50-60

□□□□ (W)	850
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	135mm Fluid Dynamic Bearing Fan (HA13525M12F-Z)
□□□□□	✓ (selectable)
Cybenetics Testing Information	
Lab ID	73
Date of receipt	Jan 4, 2018
Testing Date	Jan 10, 2018
Report Issued Date	Jan 14, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□ (Non-accredited measurements)

□□□□			
□□	□□□	□□□□□	Gauge
ATX □□ 20+4 pin (610mm)	1	1	18-22AWG
4+4 pin EPS 12V □□ (650mm)	2	2	18AWG
6+2pin PCIe□□ (680mm+80mm)	3	6	18AWG
SATA□□ (460mm+120mm+120mm+120mm)	2	8	18AWG
SATA□□ (360mm+120mm)	1	2	18AWG
□ 4pin Molex□□ (460mm+130mm+130mm)	1	3	18AWG
□ 4pin Molex□□ (360mm+130mm)	1	2	18AWG
□ 4pin □□ (+110mm)	1	1	22AWG

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	20	20	70	2.5	0.3
	□	100		850	12.5	3.6
□□□□□ (W)		850				

Test Results

Temperature & Compliance Info

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

Performance Summary 115V

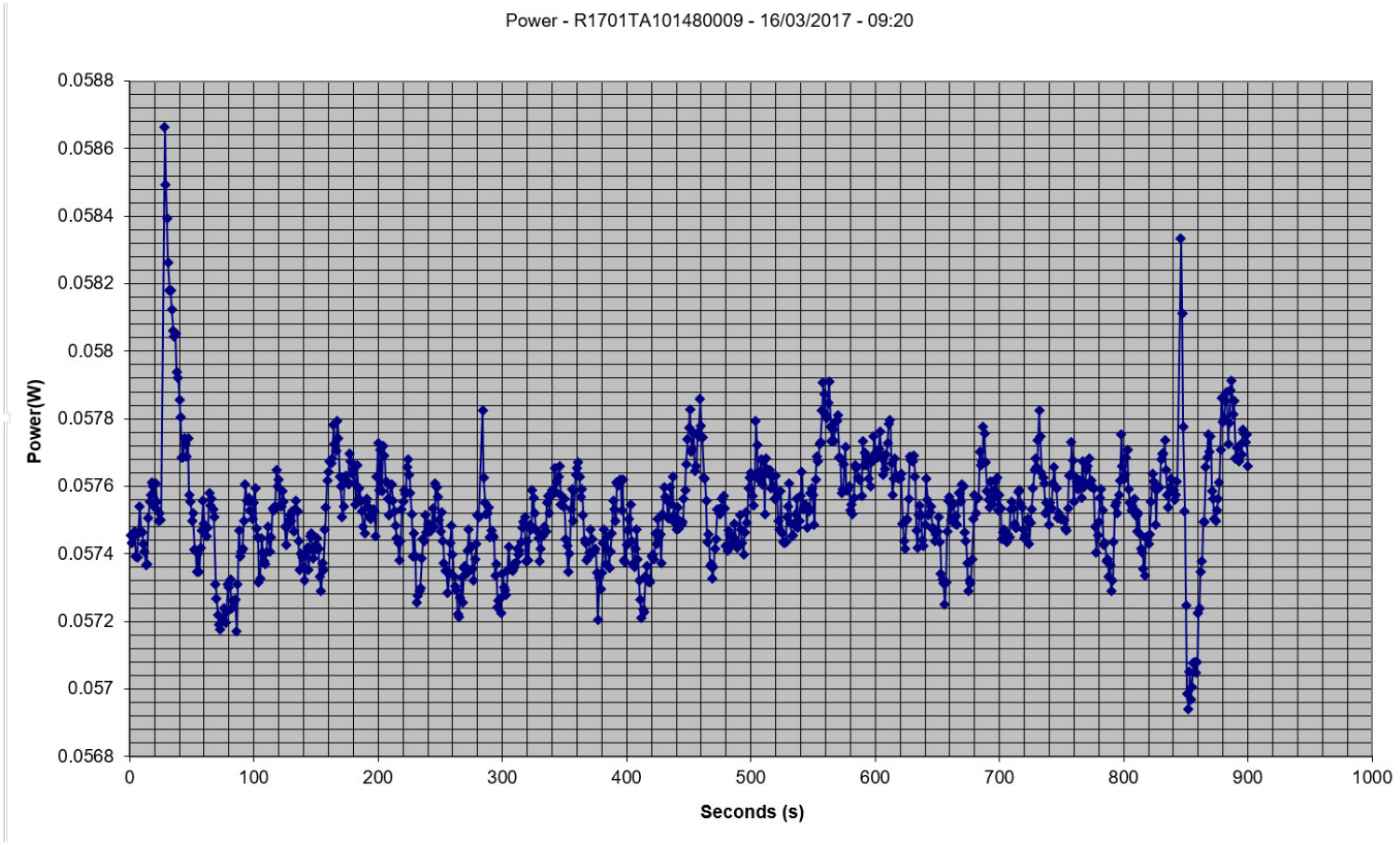
Accredited	
□□□□ (>1450 load combinations)	89.650%
Average Noise Output (>1450 Load Combinations)	43.25dBA
PF□□□ (>1450 Load Combinations)	0.989
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
□□□□□□	0.0577W
Non-Accredited	
12V Ripple (Full Load)	22.93mV
5V Ripple (Full Load)	8.44mV
3.3V Ripple (Full Load)	15.25mV
5VSB Ripple (Full Load)	19.39mV
12V Load Regulation	0.66%
5V Load Regulation	0.10%
3.3V Load Regulation	0.66%
5VSB Load Regulation	4.02%
Inrush Current	27.211A

□□□□ & PG□□

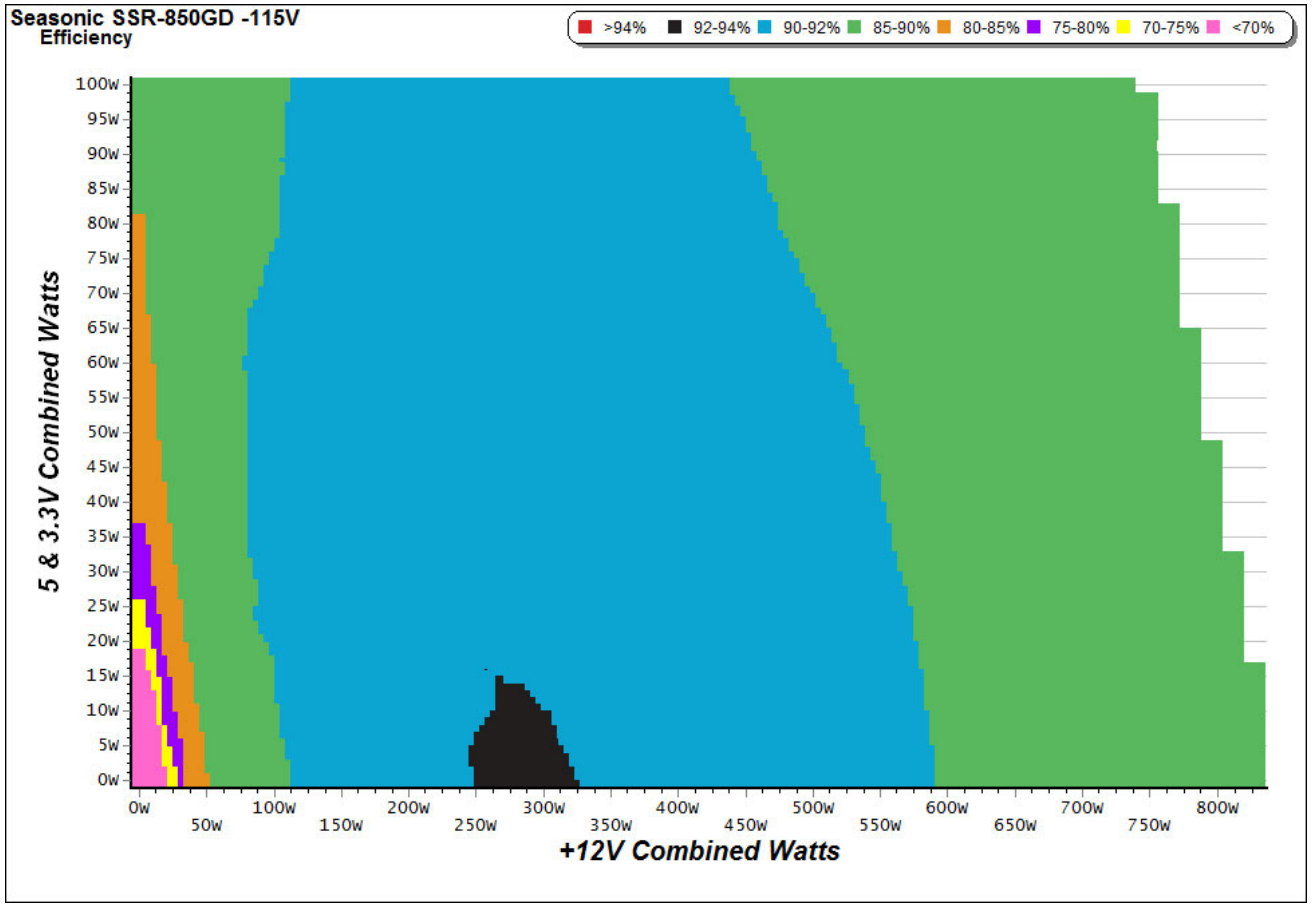
Hold-Up Time (ms)	24.4
AC Loss to PWR_OK Hold Up Time (ms)	20
PWR_OK Inactive to DC Loss Delay (ms)	4.4

□□□□

Graphs 115V



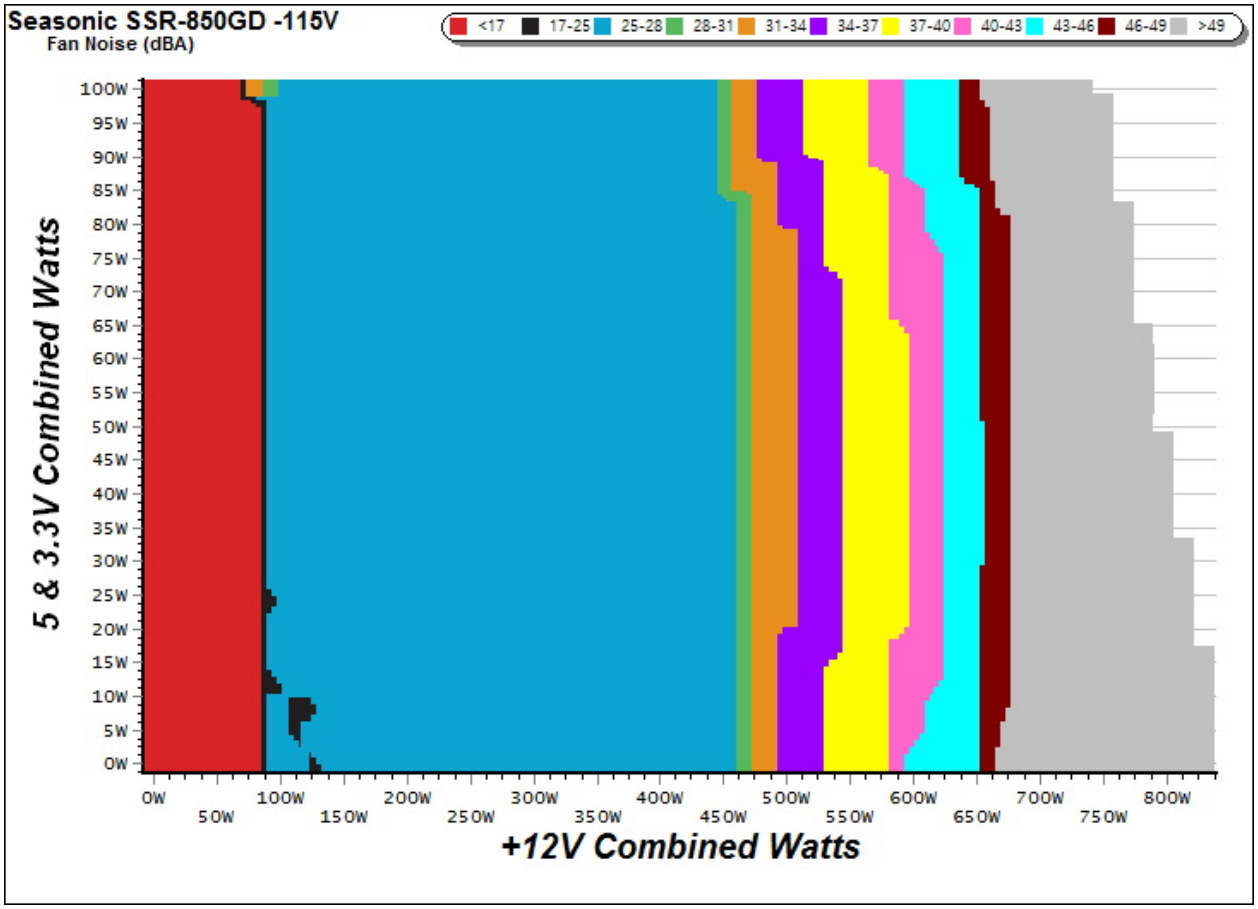
115V



□□

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.

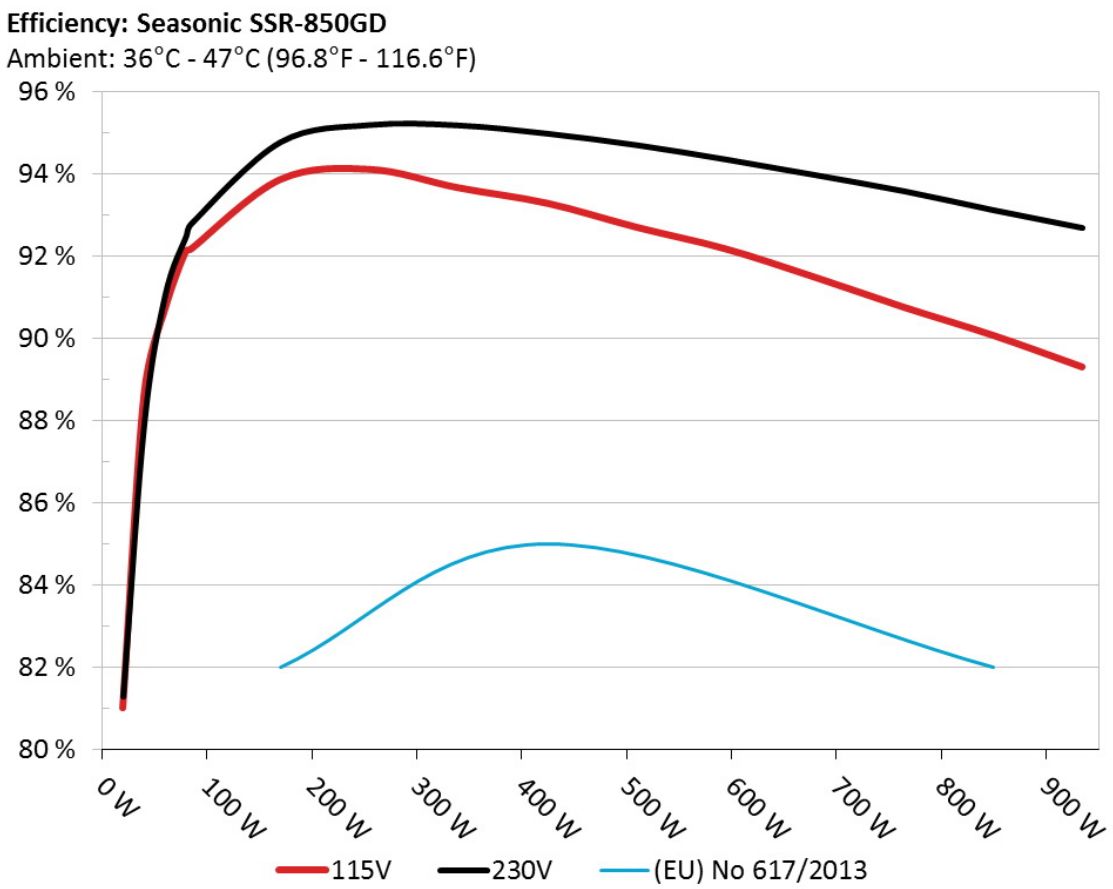
115V



□□

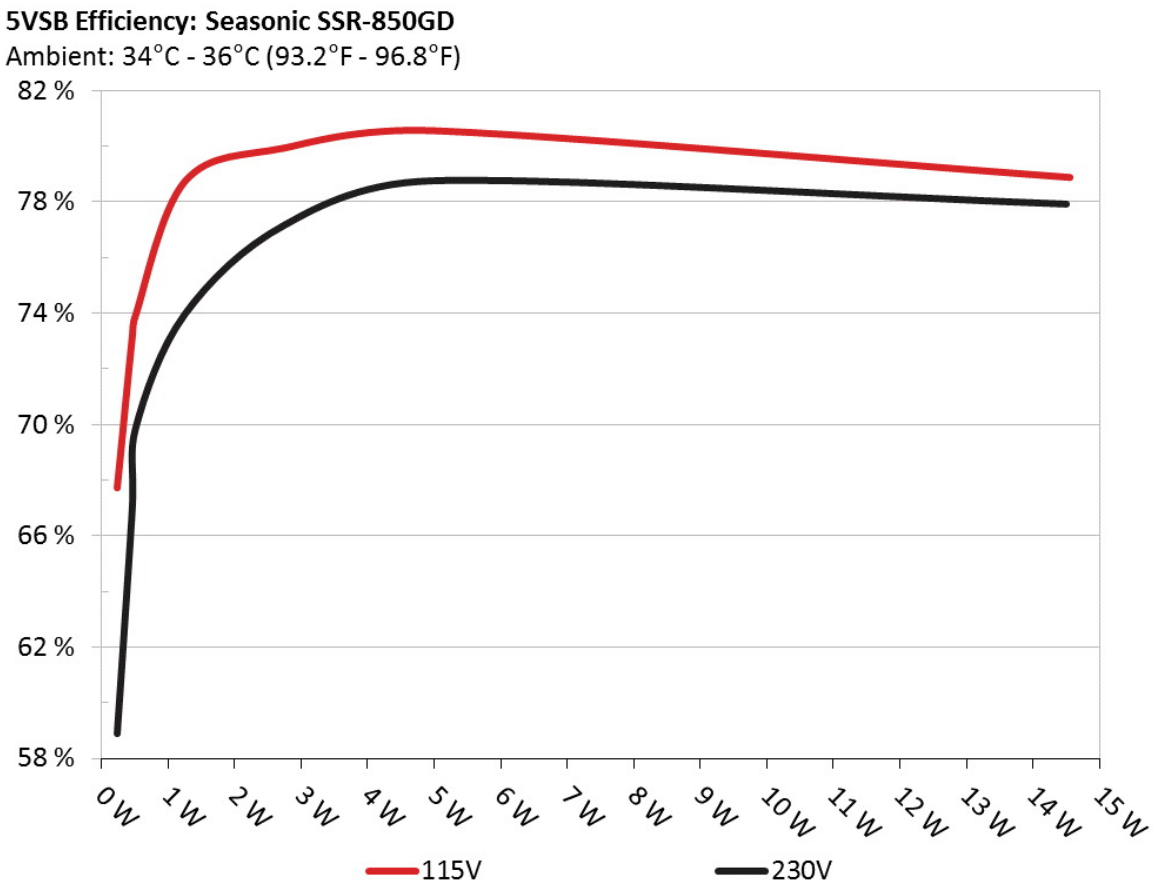
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

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	0.041A	0.212	64.634%	0.036
	5.111V	0.328		115.08V

2	0.087A	0.444	71.729%	0.067
	5.109V	0.619		115.08V
3	0.532A	2.705	79.653%	0.278
	5.088V	3.396		115.09V
4	2.501A	12.496	78.919%	0.481
	4.996V	15.834		115.08V

Supplementary Tests (For Reference)

10-110%□□□□ 115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	5.169A	1.985A	1.983A	0.986A	84.798	87.211%	750	25.1	38.21°C	0.968
	12.235V	5.040V	3.324V	5.054V	97.233				41.84°C	115.12V
2	11.352A	2.970A	2.976A	1.190A	169.643	90.569%	750	25.1	38.81°C	0.990
	12.227V	5.040V	3.323V	5.035V	187.309				43.44°C	115.11V
3	17.907A	3.477A	3.489A	1.395A	254.921	91.390%	785	27.4	39.72°C	0.985
	12.219V	5.039V	3.321V	5.016V	278.938				45.03°C	115.10V
4	24.452A	3.970A	3.974A	1.601A	339.720	91.269%	1111	39.0	40.05°C	0.988
	12.210V	5.038V	3.319V	4.996V	372.218				45.53°C	115.10V
5	30.667A	4.968A	4.972A	1.805A	424.656	90.702%	1584	44.3	41.01°C	0.991
	12.202V	5.037V	3.317V	4.978V	468.186				46.10°C	115.10V
6	36.897A	5.954A	5.971A	2.015A	509.621	90.008%	1842	49.8	41.41°C	0.993
	12.192V	5.037V	3.315V	4.960V	566.196				46.73°C	115.10V
7	43.133A	6.950A	6.972A	2.225A	594.584	89.209%	2061	52.4	42.11°C	0.995
	12.184V	5.036V	3.313V	4.939V	666.505				47.84°C	115.10V
8	49.375A	7.943A	7.974A	2.437A	679.539	88.503%	2061	52.4	43.06°C	0.996
	12.174V	5.036V	3.310V	4.920V	767.816				49.59°C	115.10V
9	56.052A	8.445A	8.489A	2.441A	764.528	87.641%	2061	52.4	44.27°C	0.996
	12.166V	5.036V	3.310V	4.910V	872.345				51.87°C	115.11V
10	62.683A	8.941A	8.979A	2.551A	849.283	86.672%	2061	52.4	45.99°C	0.995
	12.157V	5.036V	3.307V	4.892V	979.886				55.03°C	115.10V

11	69.725A	8.940A	8.984A	2.555A	934.095	85.576%	2061	52.4	46.53°C	0.993
	12.147V	5.035V	3.305V	4.885V	1091.540				56.84°C	115.08V
CL1	0.098A	12.012A	12.005A	0.004A	101.816	83.508%	2061	52.4	43.43°C	0.983
	12.248V	5.057V	3.317V	5.084V	121.923				48.43°C	115.14V
CL2	69.948A	1.003A	1.003A	1.002A	862.778	87.012%	2061	52.4	44.20°C	0.996
	12.142V	5.026V	3.315V	4.985V	991.563				52.59°C	115.11V

The results above are not used in the certification process

20-80□□□□ 115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□ (dB[A])	PF/AC □□
1	1.193A	0.493A	0.480A	0.195A	19.672	69.878%	750	25.1	0.833
	12.240V	5.043V	3.331V	5.097V	28.152				115.12V
2	2.411A	0.991A	0.989A	0.391A	39.762	80.778%	750	25.1	0.924
	12.238V	5.041V	3.329V	5.086V	49.224				115.12V
3	3.628A	1.477A	1.500A	0.590A	59.803	84.782%	750	25.1	0.956
	12.236V	5.040V	3.327V	5.074V	70.537				115.12V
4	4.841A	1.985A	1.983A	0.787A	79.793	86.887%	750	25.1	0.965
	12.235V	5.041V	3.325V	5.064V	91.835				115.12V

The results above are not used in the certification process

□□□□ 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.6 mV	6.3 mV	7.0 mV	7.3 mV	Pass
20% Load	12.9 mV	5.4 mV	9.6 mV	8.2 mV	Pass
30% Load	15.7 mV	6.6 mV	12.4 mV	9.7 mV	Pass
40% Load	17.8 mV	7.9 mV	14.1 mV	10.7 mV	Pass
50% Load	15.1 mV	8.0 mV	14.6 mV	11.6 mV	Pass
60% Load	12.4 mV	7.6 mV	14.5 mV	13.5 mV	Pass
70% Load	13.8 mV	7.8 mV	14.5 mV	15.6 mV	Pass
80% Load	14.6 mV	7.8 mV	14.0 mV	16.8 mV	Pass





Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	18.2 mV	8.1 mV	14.1 mV	18.6 mV	Pass
100% Load	22.9 mV	8.4 mV	15.3 mV	19.4 mV	Pass
110% Load	26.7 mV	9.3 mV	19.2 mV	21.2 mV	Pass
Crossload 1	9.2 mV	5.9 mV	8.9 mV	7.3 mV	Pass
Crossload 2	22.5 mV	8.5 mV	13.5 mV	18.1 mV	Pass

The results above are not used in the certification process

Seasonic Prime Gold 850W

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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CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

www.cybenetics.com - info@cybenetics.com