



Seasonic Prime Platinum 850W

Serial Number R1701TA101430009

Lab ID 196

Certification ID 25196

Test Result Report ID:

Certificate Issue Date: Oct 16, 2018

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

A handwritten signature in blue ink, consisting of several loops and strokes, positioned above the name of the Certification Body General Manager.

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 Platinum 850W
OEM/ODM	Seasonic
Serial Number	R1701TA101430009
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	11-5.5
Rated Frequency (Hz)	50-60

Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12F-Z)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	196
Date of receipt	Oct 7, 2018
Testing Date	Oct 13, 2018
Report Issued Date	Oct 16, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (610mm)	1	1	18-22AWG
4+4 pin EPS12V (650mm)	2	2	18AWG
6+2 pin PCIe (680mm+80mm)	3	6	18AWG
SATA (460mm+110mm+110mm+110mm)	2	8	18AWG
SATA (360mm+110mm)	1	2	18AWG
4 pin Molex (460mm+130mm+130mm)	1	3	18AWG
4 pin Molex (360mm+130mm)	1	2	18AWG
FDD Adapter (+110mm)	1	1	22AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70	2.5	0.3
	Watts	100		840	12.5	3.6
Total Max. Power (W)		850				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

Performance Summary 115V

Accredited	
Average Efficiency (>1450 load combinations)	90.665%
Average Noise Output (>1450 Load Combinations)	37.54dBA
Average PF (>1450 Load Combinations)	0.988
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0566W
Non-Accredited	
12V Ripple (Full Load)	17.24mV
5V Ripple (Full Load)	5.77mV
3.3V Ripple (Full Load)	7.87mV
5VSB Ripple (Full Load)	17.81mV
12V Load Regulation	0.05%
5V Load Regulation	0.30%
3.3V Load Regulation	0.39%
5VSB Load Regulation	3.69%
Inrush Current	38.949A

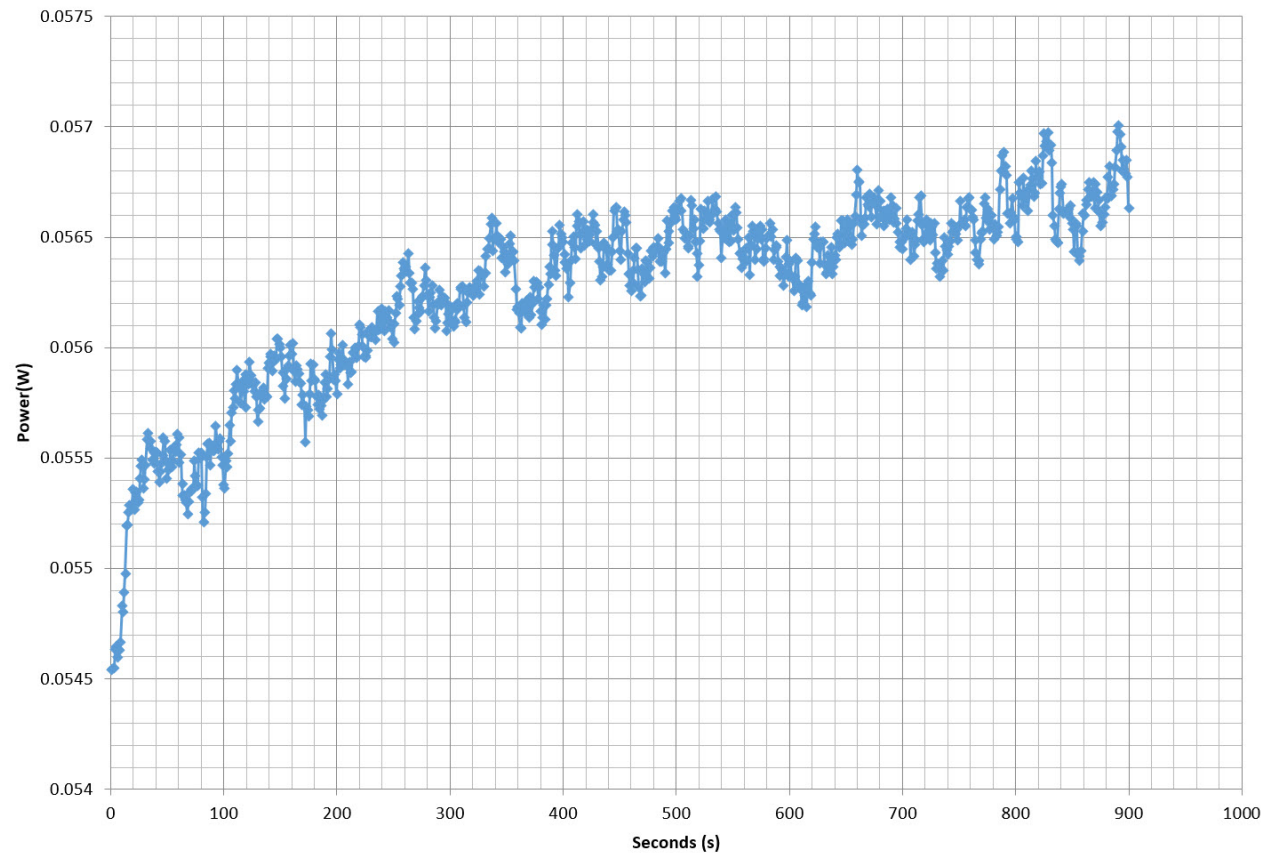
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	25.9
AC Loss to PWR_OK Hold Up Time (ms)	21.8
PWR_OK Inactive to DC Loss Delay (ms)	4.1

Vampire Power

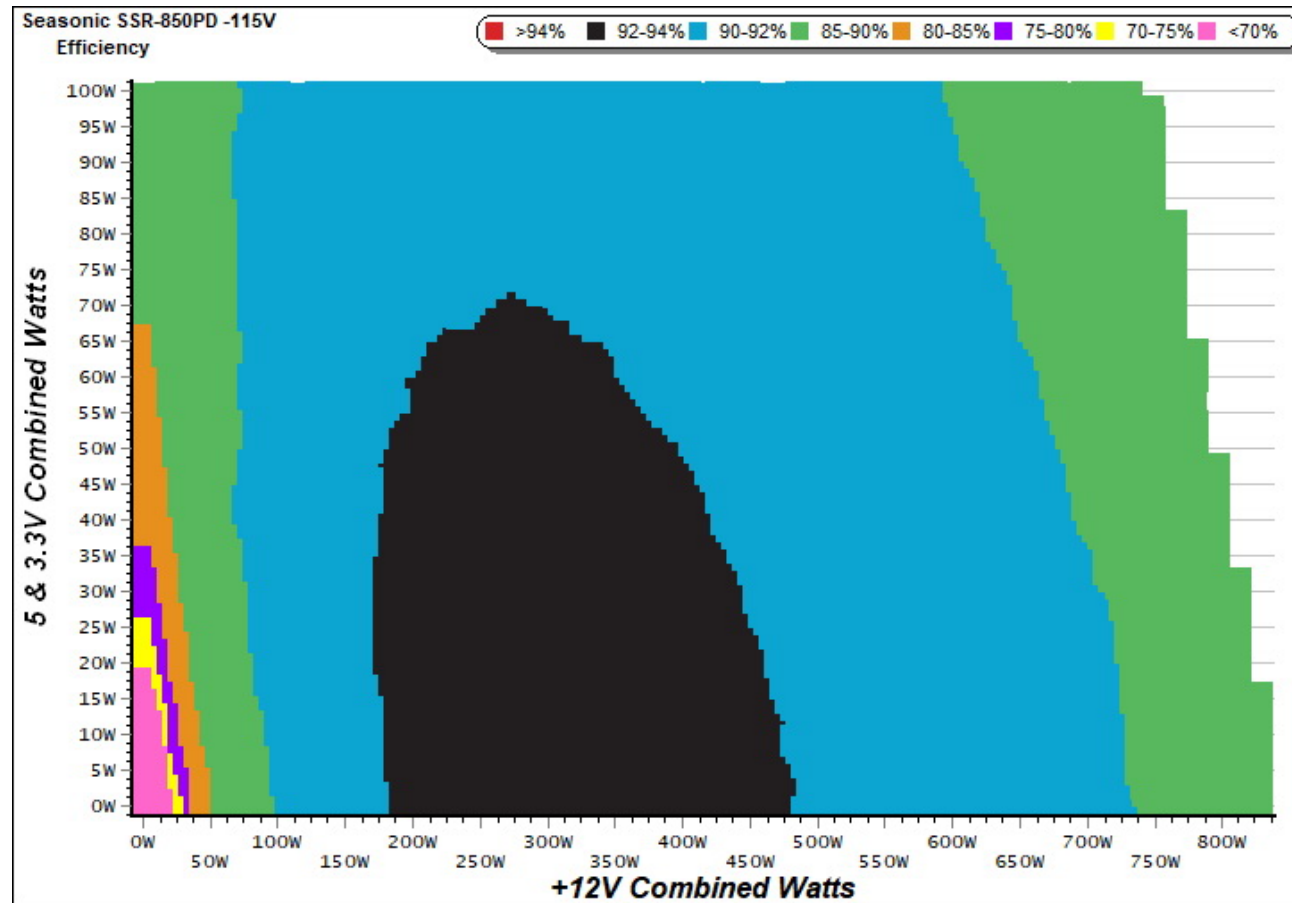
Graphs 115V

Power - R1701TA101430009 - 13/10/2017 - 16:41



Efficiency Graph

115V

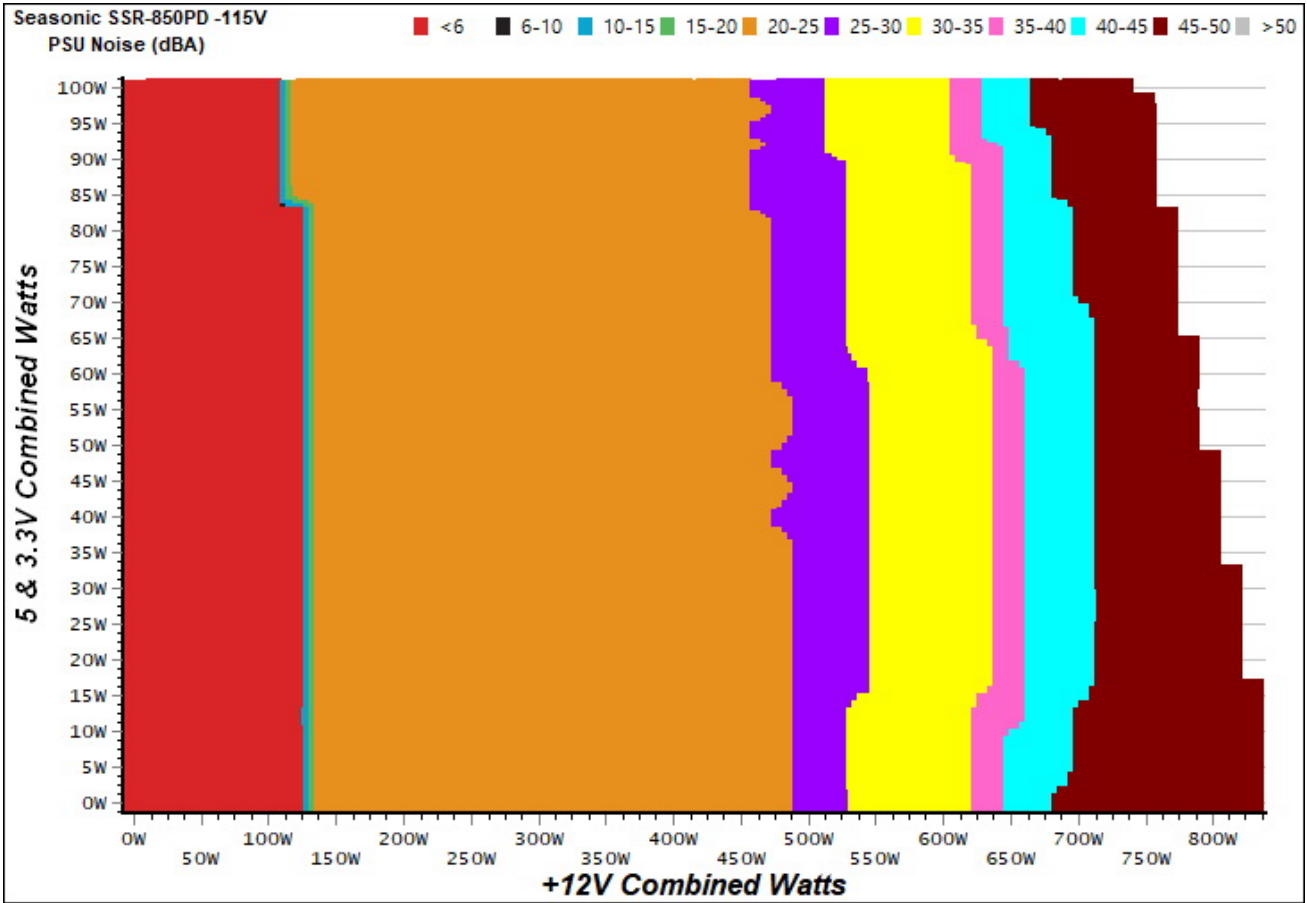


INFO

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.

Noise Graph

115V



INFO

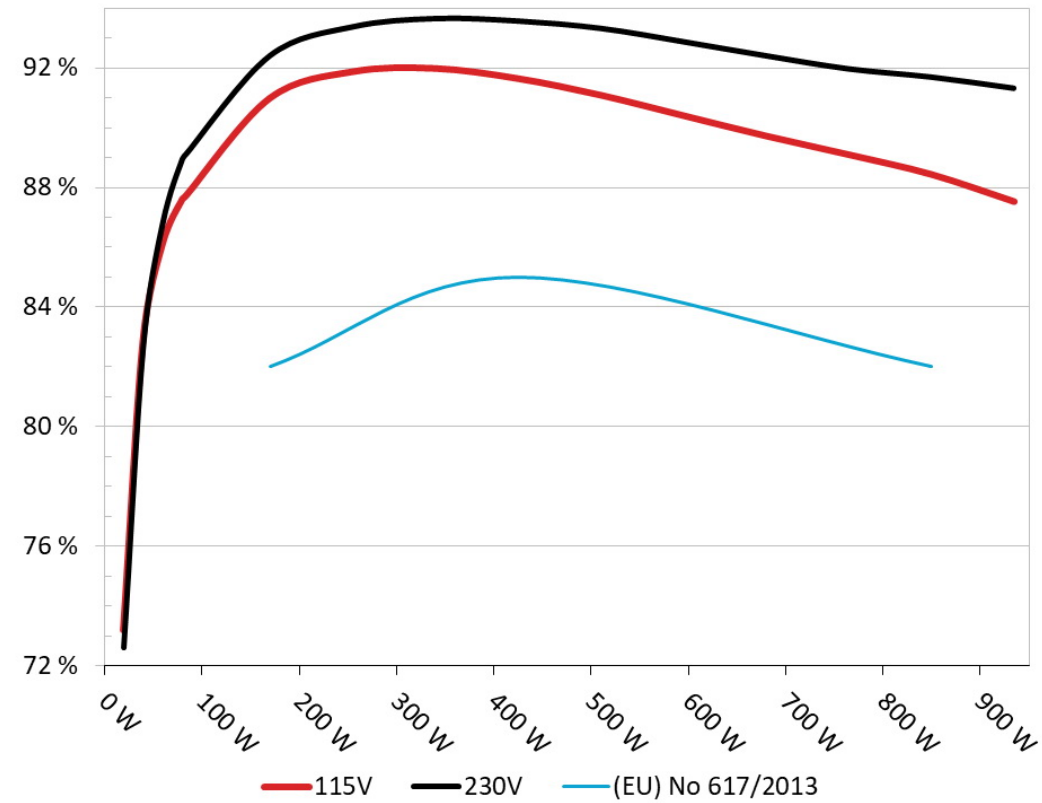
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Seasonic SSR-850PD

Ambient: 37°C - 46°C (98.6°F - 114.8°F)



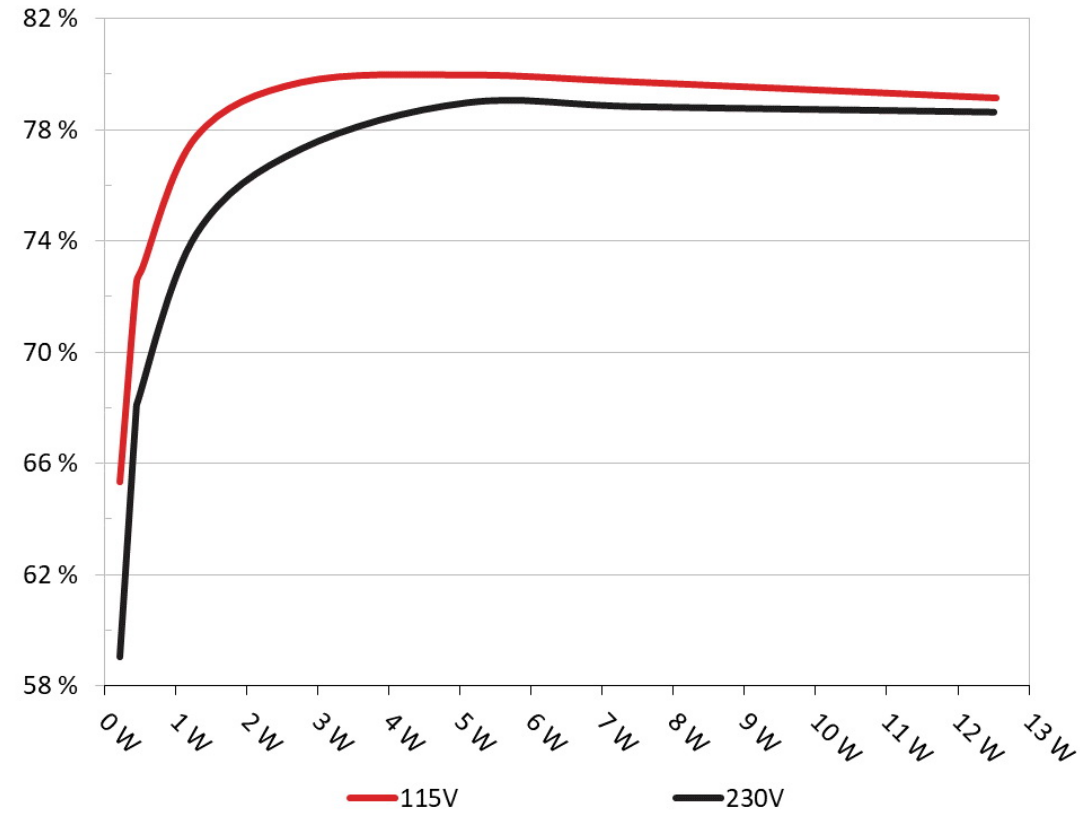
INFO

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 Efficiency

5VSB Efficiency: Seasonic SSR-850PD

Ambient: 34°C - 36°C (93.2°F - 96.8°F)



INFO

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

5VSB Efficiency (ERP LOT 3/6 & CEC) 115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.215	65.350%	0.036
	5.128V	0.329		115.14V

2	0.087A	0.448	72.492%	0.067
	5.125V	0.618		115.14V
3	0.542A	2.768	79.701%	0.280
	5.104V	3.473		115.14V
4	1.002A	5.093	79.965%	0.376
	5.082V	6.369		115.14V
5	1.502A	7.596	79.698%	0.428
	5.058V	9.531		115.13V
6	2.502A	12.543	79.141%	0.476
	5.014V	15.849		115.13V

Supplementary Tests (For Reference)

Typical Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	5.201A	1.996A	1.973A	0.986A	84.826	87.759%	660	23.8	38.11°C	0.967
	12.155V	5.020V	3.339V	5.071V	96.658				41.95°C	115.12V
2	11.420A	2.982A	2.962A	1.186A	169.657	90.983%	660	23.8	38.34°C	0.992
	12.155V	5.018V	3.338V	5.055V	186.471				43.00°C	115.12V
3	17.997A	3.489A	3.475A	1.385A	254.826	91.880%	660	23.8	38.86°C	0.985
	12.155V	5.017V	3.336V	5.037V	277.346				43.88°C	115.10V
4	24.562A	3.988A	3.954A	1.591A	339.723	91.991%	823	28.1	39.07°C	0.987
	12.155V	5.015V	3.335V	5.019V	369.302				44.25°C	115.09V
5	30.786A	4.980A	4.948A	1.800A	424.663	91.651%	1172	34.8	39.87°C	0.990
	12.155V	5.013V	3.334V	4.999V	463.347				45.36°C	115.09V
6	37.013A	5.985A	5.939A	2.005A	509.663	91.096%	1673	45.6	40.52°C	0.992
	12.155V	5.011V	3.332V	4.983V	559.482				46.41°C	115.09V
7	43.233A	6.991A	6.930A	2.213A	594.550	90.412%	1975	48.5	41.37°C	0.994
	12.154V	5.009V	3.332V	4.965V	657.603				47.53°C	115.09V
8	49.461A	7.990A	7.924A	2.426A	679.547	89.729%	2123	51.2	42.39°C	0.995
	12.154V	5.008V	3.330V	4.945V	757.329				49.38°C	115.09V

9	56.105A	8.490A	8.437A	2.429A	764.547	89.102%	2123	51.2	43.64°C	0.996
	12.155V	5.007V	3.329V	4.938V	858.055				51.91°C	115.10V
10	62.680A	8.999A	8.926A	2.535A	849.416	88.441%	2123	51.2	45.01°C	0.996
	12.160V	5.005V	3.327V	4.927V	960.433				55.05°C	115.10V
11	69.662A	9.002A	8.931A	2.538A	934.307	87.531%	2123	51.2	46.48°C	0.996
	12.160V	5.004V	3.324V	4.919V	1067.402				58.83°C	115.10V
CL1	0.099A	12.014A	12.004A	0.005A	101.657	84.646%	2115	50.7	43.42°C	0.985
	12.164V	5.018V	3.344V	5.112V	120.096				47.40°C	115.12V
CL2	69.952A	1.003A	1.003A	1.002A	863.926	88.634%	2123	51.2	45.61°C	0.996
	12.159V	5.005V	3.325V	5.014V	974.712				55.19°C	115.10V

The results above are not used in the certification process

Light Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.202A	0.489A	0.478A	0.196A	19.665	73.180%	0	<6.0	0.826
	12.152V	5.026V	3.343V	5.116V	26.872				115.12V
2	2.428A	0.988A	0.986A	0.391A	39.758	82.852%	0	<6.0	0.922
	12.154V	5.020V	3.340V	5.103V	47.987				115.12V
3	3.655A	1.485A	1.494A	0.586A	59.863	86.113%	660	23.8	0.958
	12.157V	5.020V	3.340V	5.093V	69.517				115.12V
4	4.871A	1.996A	1.976A	0.786A	79.813	87.590%	660	23.8	0.965
	12.154V	5.020V	3.339V	5.081V	91.121				115.12V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.0 mV	2.9 mV	3.9 mV	6.2 mV	Pass
20% Load	12.1 mV	3.9 mV	5.0 mV	6.9 mV	Pass
30% Load	14.8 mV	4.1 mV	5.1 mV	7.4 mV	Pass
40% Load	9.3 mV	3.4 mV	5.0 mV	8.8 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	9.9 mV	4.0 mV	5.2 mV	9.8 mV	Pass
60% Load	12.5 mV	3.9 mV	5.6 mV	10.6 mV	Pass
70% Load	14.1 mV	4.5 mV	5.9 mV	13.7 mV	Pass
80% Load	15.2 mV	5.0 mV	6.8 mV	16.3 mV	Pass
90% Load	16.5 mV	5.1 mV	7.1 mV	17.7 mV	Pass
100% Load	17.2 mV	5.8 mV	7.9 mV	17.8 mV	Pass
110% Load	17.7 mV	6.1 mV	9.2 mV	19.7 mV	Pass
Crossload 1	10.7 mV	4.3 mV	5.4 mV	5.7 mV	Pass
Crossload 2	17.0 mV	5.2 mV	7.9 mV	14.0 mV	Pass

The results above are not used in the certification process

Seasonic Prime Platinum 850W

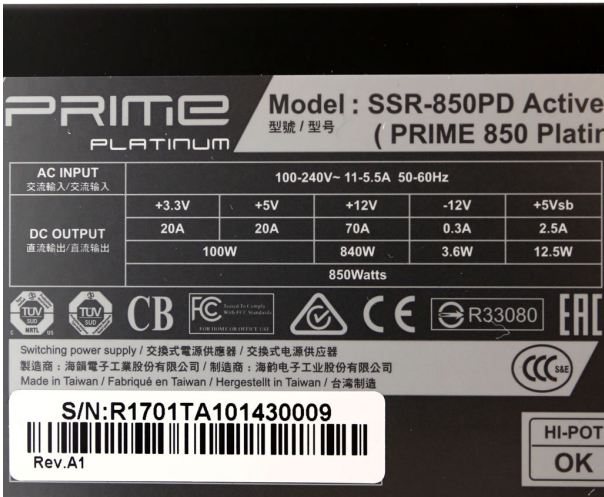


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All data and graphs included in this test report can be used by any individual on the following conditions:

- › It should be mentioned that the test results are provided by Cybenetics
- › The link to the original test results document should be provided in any case

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus



Power specifications label

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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