



Seasonic Prime Platinum 1000W (#2)

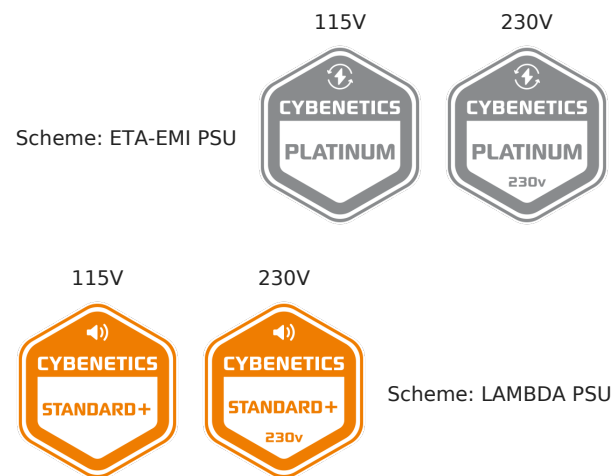
Serial Number R1709AA183740034

Lab ID SS10001649

Certification ID 251649

Test Result Report ID: 20PS1649A

Certificate Issue Date: Jun 16, 2020



A handwritten signature in blue ink, appearing to read 'A. Bitziopoulos', is written over a faint circular stamp.

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 1000W (#2)
OEM/ODM	Seasonic
Serial Number	R1709AA183740034
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6.5
Rated Frequency (Hz)	50-60

Rated Power (W)	1000
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	SS10001649
Date of receipt	Dec 5, 2018
Testing Date	Apr 30, 2020
Report Issued Date	Jun 16, 2020
DUT Notes	retested 27-04-2020
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	In Cable Capacitors
ATX connector 20+4 pin (610mm)	1	1	18-22AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
6+2 pin PCIe (680mm+80mm)	4	8	18AWG	No
SATA (450mm+110mm+110mm+110mm)	3	12	18AWG	No
4 pin Molex (450mm+120mm+120mm)	1	3	18AWG	No
4 pin Molex (350mm+120mm)	1	2	18AWG	No
4 pin Molex to SATA 3.3V Adapter (140mm+140mm)	1	1	18AWG	No

AC Power Cord (1360mm) - C13 coupler	1	1	18AWG	-
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Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	83	3	0.3
	Watts	125		996	15	3.6
Total Max. Power (W)		1000				

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)	90.616%
Average Noise Output (>1450 Load Combinations)	36.91dBA
Average PF (>1450 Load Combinations)	0.990
Efficiency With 10W (≤500W) or 2% (>500W) Load	74.141%
Standby Power Consumption	0.0535W
Non-Accredited	
12V Ripple (Full Load)	16.89mV
5V Ripple (Full Load)	8.24mV
3.3V Ripple (Full Load)	18.16mV
5VSB Ripple (Full Load)	8.24mV
12V Load Regulation	0.23%

5V Load Regulation	0.54%
3.3V Load Regulation	0.72%
5VSB Load Regulation	1.53%
Inrush Current	26.940A

230V

Accredited		
Average Efficiency (>1450 load combinations)	92.655%	
Average Noise Output (>1450 Load Combinations)	37.54dBA	
Average PF (>1450 Load Combinations)	0.956	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.0833W	
Non-Accredited		
12V Ripple (Full Load)	16.61mV	
5V Ripple (Full Load)	7.77mV	
3.3V Ripple (Full Load)	29.14mV	
5VSB Ripple (Full Load)	7.86mV	
12V Load Regulation	0.24%	
5V Load Regulation	0.52%	
3.3V Load Regulation	0.75%	
5VSB Load Regulation	1.51%	
Inrush Current	55.040A	
Hold-Up Time & PWR_OK Signal	30.80ms	
AC Loss to PWR_OK Hold Up Time	28.20ms	
PWR_OK Inactive to DC Loss Delay	2.60ms	
PSU Timings: T1 (20% / 100%)	110.0ms	110.0ms
PSU Timings: T3 (20% / 100%)	324.0ms	326.0ms
OPP (0.00°C / 0.00°C)	136.24%	-

Hold-Up Time & PWR_OK Signal

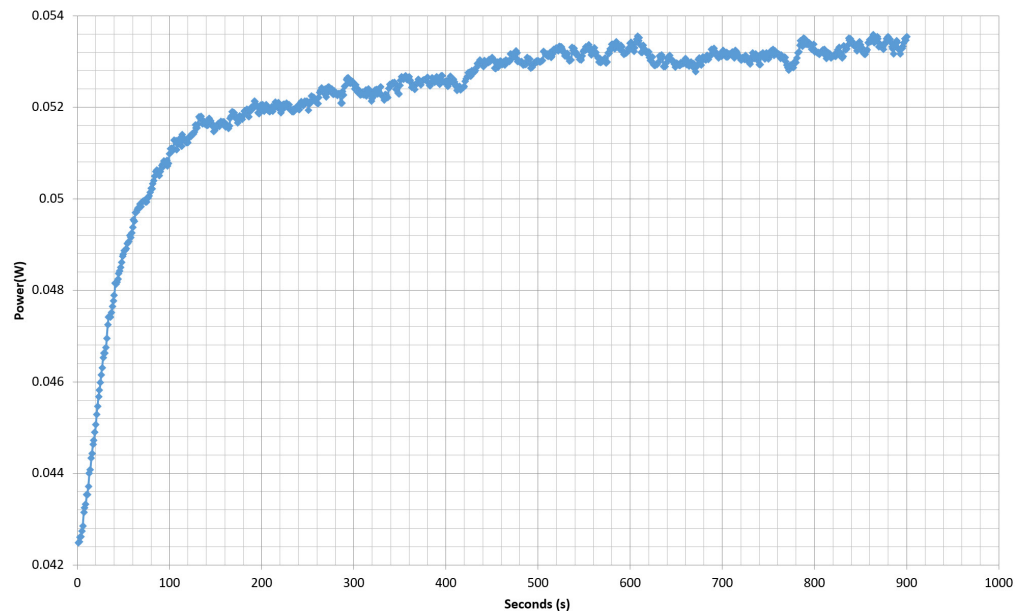
Hold-Up Time (ms)	30.8
AC Loss to PWR_OK Hold Up Time (ms)	28.2
PWR_OK Inactive to DC Loss Delay (ms)	2.6

Vampire Power

Graphs

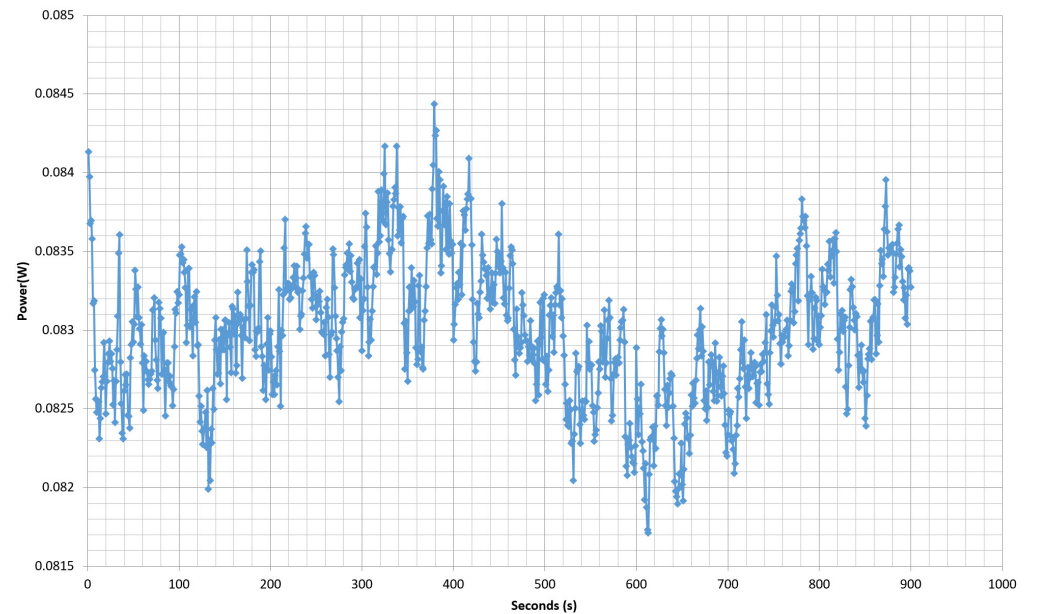
115V

Power - R1709AA183740034 - 27/04/2020 - 11:41



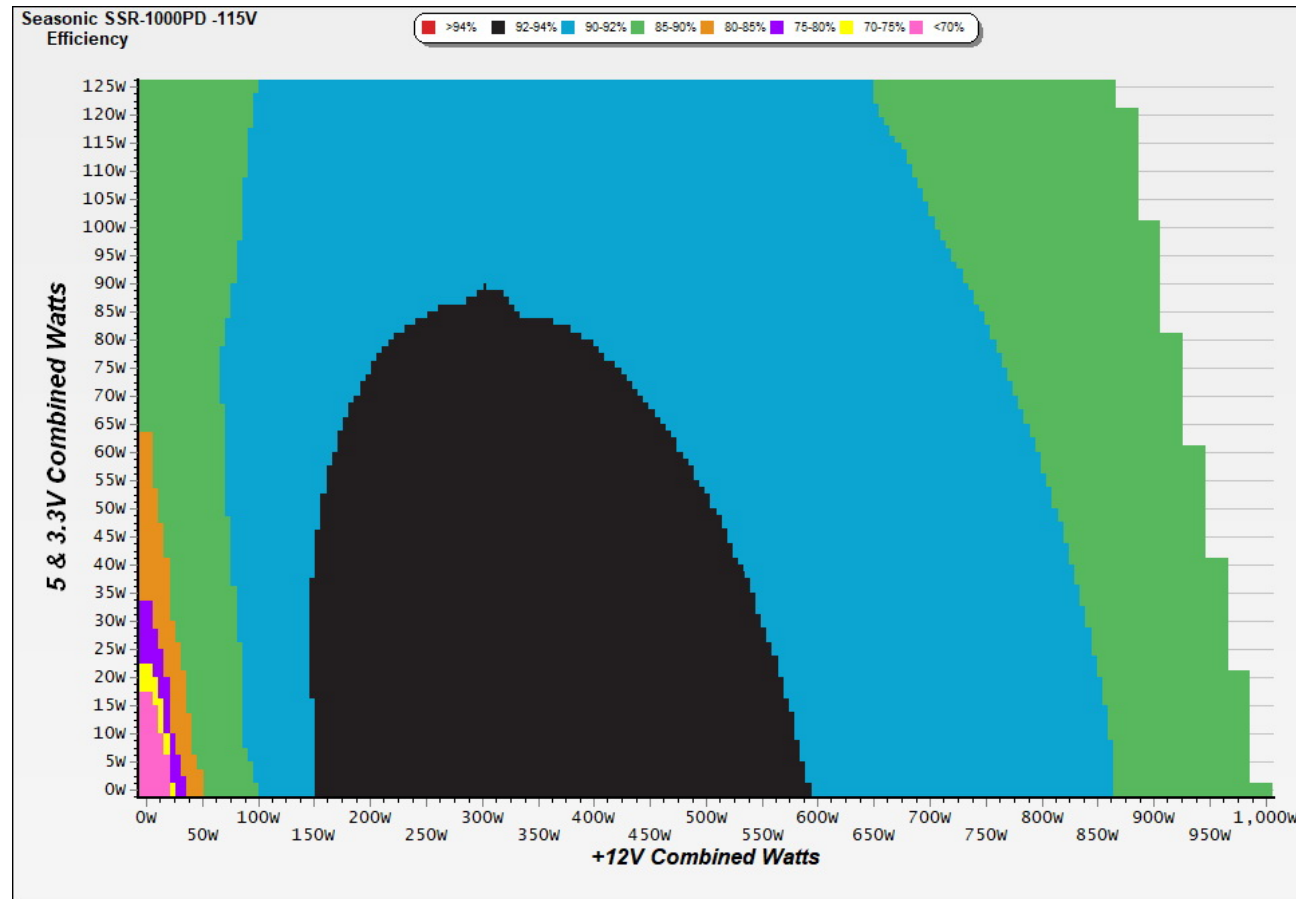
230V

Power - R1709AA183740034 - 27/04/2020 - 11:41



Efficiency Graph

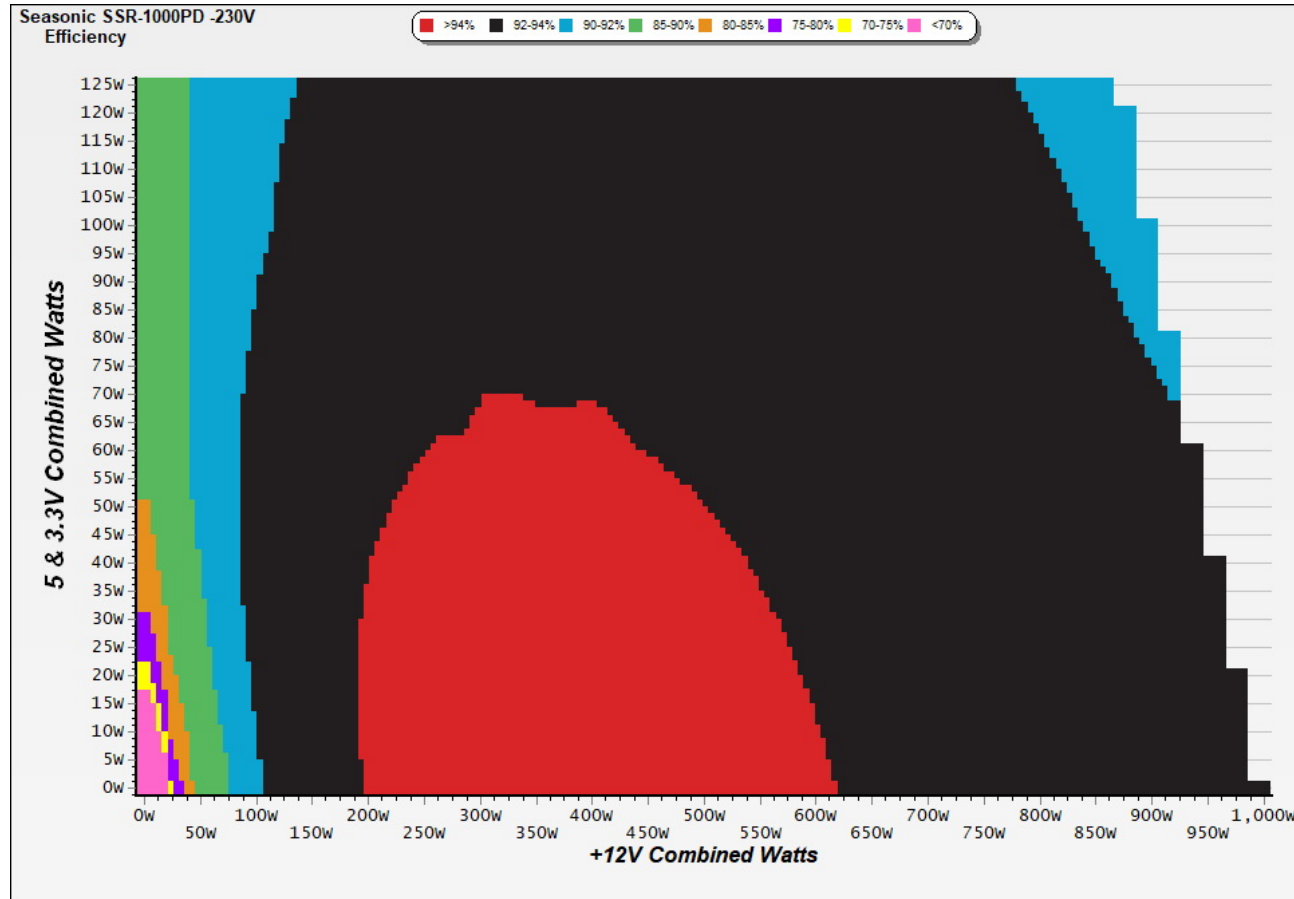
115V



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

230V

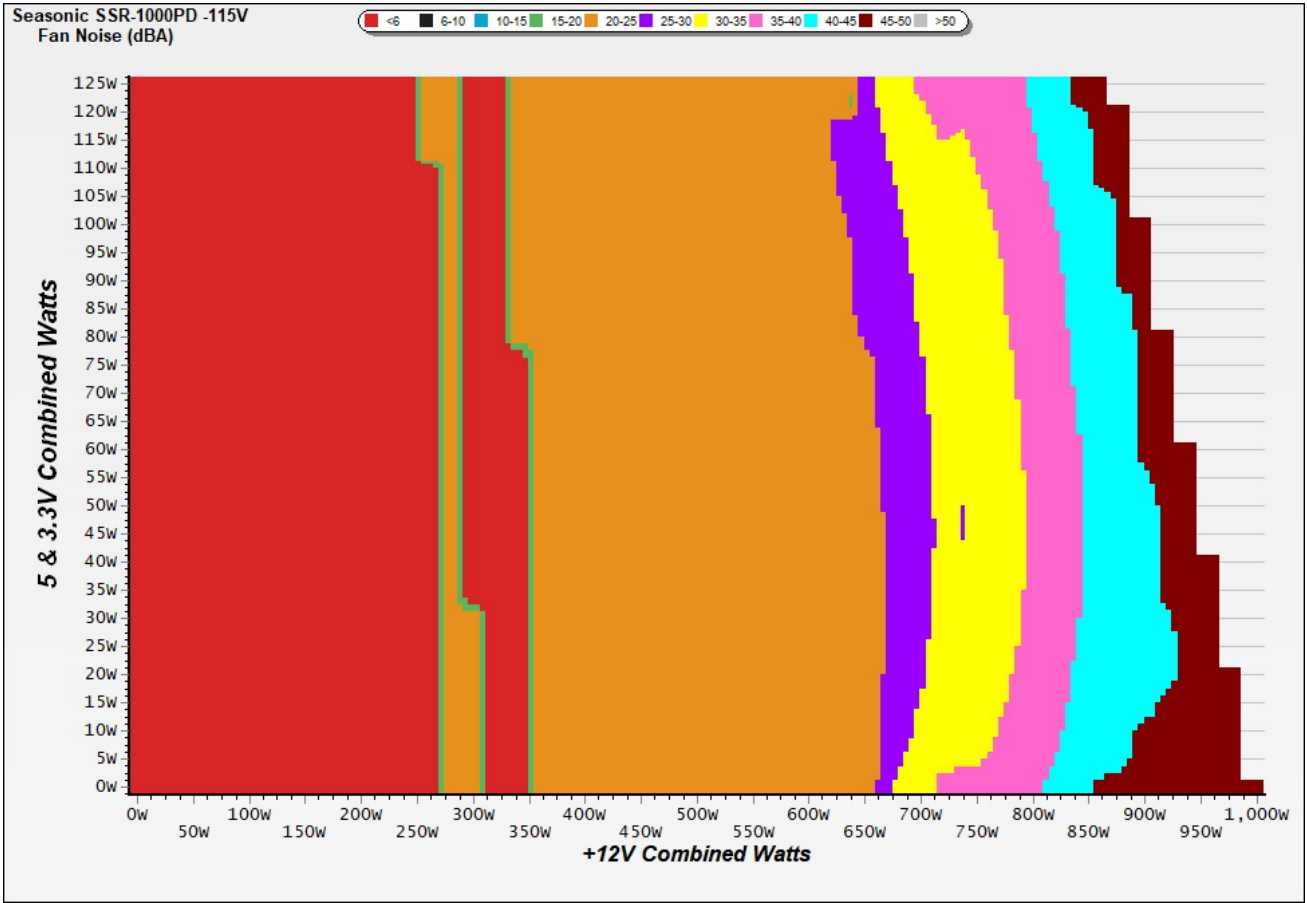


INFO

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

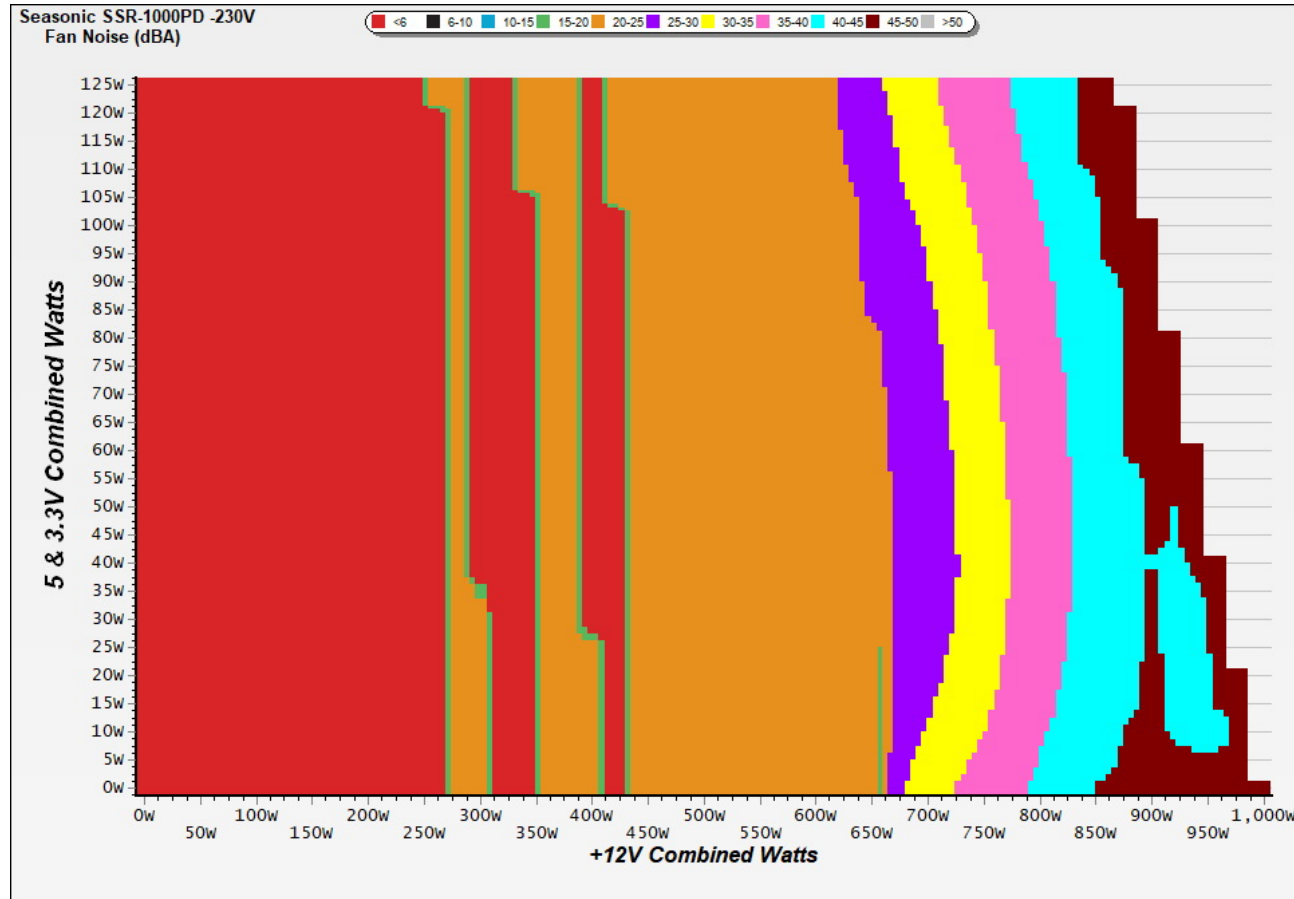
115V



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

230V



INFO

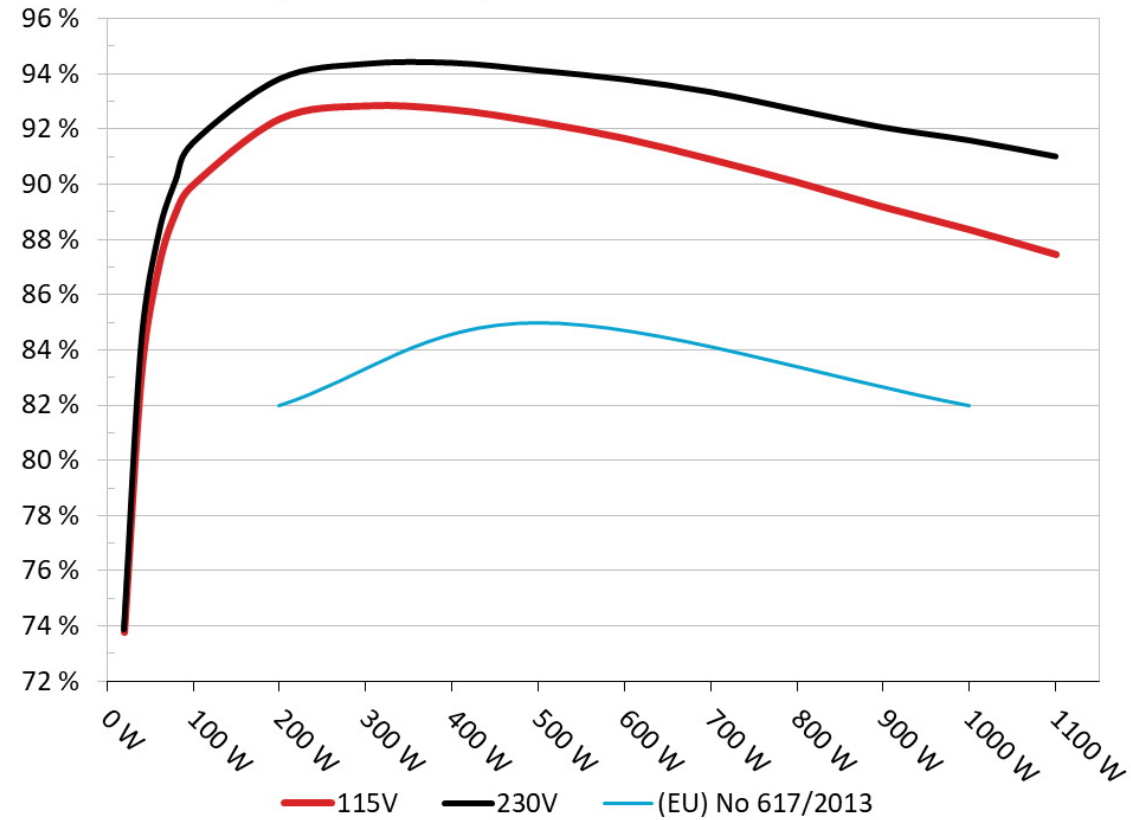
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Seasonic SSR-1000PD

Ambient: 37°C - 47°C (98.6°F - 116.6°F)



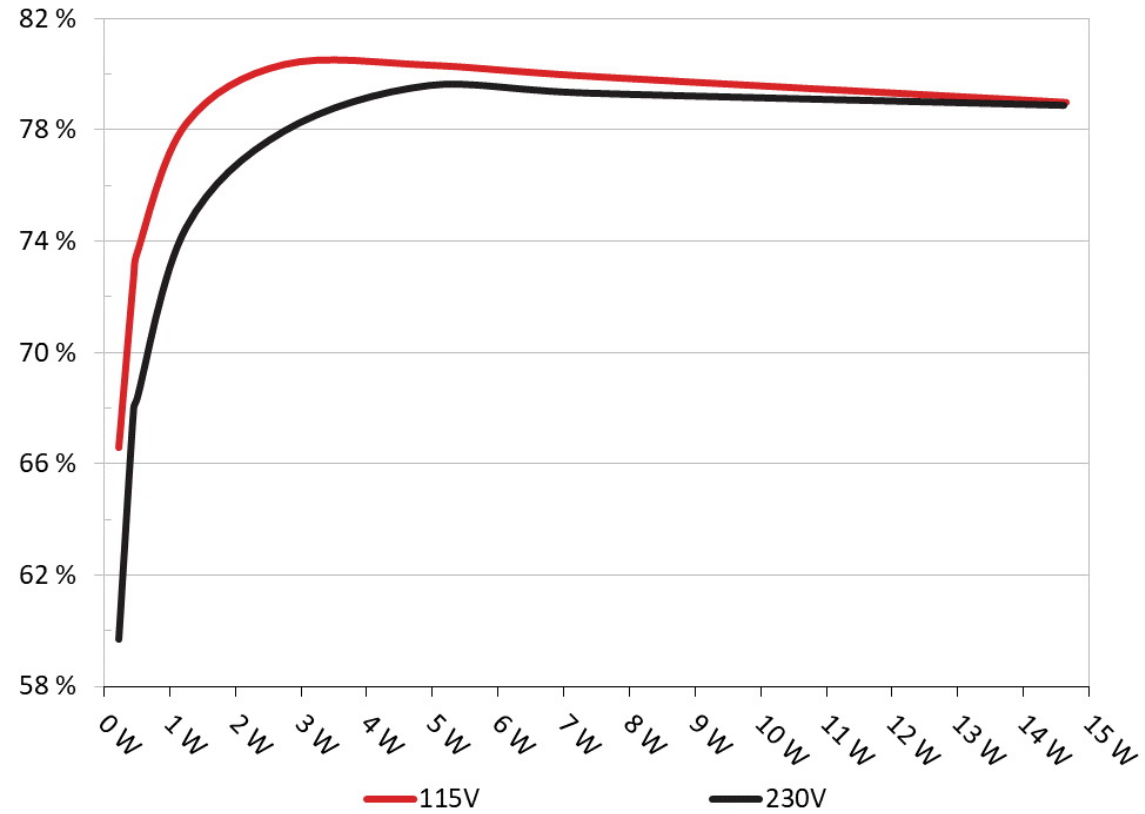
INFO

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-1000PD

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	0.045A	0.225	66.568%	0.036
	5.001V	0.338		115.13V
2	0.090A	0.450	72.698%	0.065
	4.999V	0.619		115.13V
3	0.550A	2.740	80.328%	0.271
	4.980V	3.411		115.13V
4	1.000A	4.962	80.304%	0.367
	4.961V	6.179		115.12V
5	1.500A	7.410	79.901%	0.422
	4.939V	9.274		115.13V
6	3.000A	14.647	78.968%	0.494
	4.882V	18.548		115.13V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.225	59.682%	0.012
	5.001V	0.377		230.27V
2	0.090A	0.450	67.976%	0.021
	4.998V	0.662		230.27V
3	0.550A	2.739	77.945%	0.105
	4.978V	3.514		230.27V
4	1.000A	4.961	79.592%	0.172
	4.960V	6.233		230.27V
5	1.500A	7.407	79.313%	0.232
	4.937V	9.339		230.27V
6	3.000A	14.615	78.876%	0.339
	4.871V	18.529		230.27V

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	6.397A	1.990A	1.977A	0.999A	100.008	89.985%	0	<6.0	43.96°C	0.976
	12.257V	5.025V	3.338V	5.006V	111.139				40.01°C	115.12V
2	13.802A	2.986A	2.970A	1.200A	200.045	92.369%	0	<6.0	44.71°C	0.985
	12.255V	5.022V	3.335V	5.001V	216.571				40.40°C	115.12V
3	21.545A	3.487A	3.465A	1.402A	300.023	92.841%	0	<6.0	46.08°C	0.986
	12.252V	5.019V	3.333V	4.995V	323.157				41.18°C	115.12V
4	29.268A	3.988A	3.963A	1.604A	399.742	92.705%	0	<6.0	46.83°C	0.991
	12.250V	5.017V	3.331V	4.988V	431.200				41.53°C	115.11V
5	36.694A	4.988A	4.957A	1.806A	499.868	92.251%	608	24.6	42.20°C	0.994
	12.246V	5.014V	3.329V	4.984V	541.857				48.45°C	115.12V
6	44.125A	5.989A	5.953A	2.000A	599.990	91.662%	701	27.1	42.73°C	0.995
	12.243V	5.011V	3.326V	4.978V	654.565				49.84°C	115.11V
7	51.528A	6.991A	6.954A	2.213A	699.775	90.902%	1202	41.4	43.66°C	0.996
	12.239V	5.008V	3.323V	4.973V	769.814				51.89°C	115.11V
8	59.000A	7.997A	7.953A	2.417A	800.302	90.070%	1748	50.6	43.86°C	0.997
	12.235V	5.005V	3.320V	4.968V	888.538				52.53°C	115.11V
9	66.796A	8.500A	8.441A	2.417A	899.578	89.178%	2016	52.6	44.33°C	0.997
	12.232V	5.003V	3.317V	4.967V	1008.749				53.48°C	115.10V
10	74.437A	9.003A	8.961A	3.031A	1000.014	88.350%	2010	52.6	45.31°C	0.998
	12.229V	5.000V	3.315V	4.950V	1131.883				55.71°C	115.10V
11	82.628A	9.007A	8.966A	3.033A	1100.027	87.454%	2006	52.6	47.14°C	0.998
	12.227V	4.999V	3.313V	4.947V	1257.837				57.87°C	115.10V
CL1	0.102A	15.005A	15.000A	0.000A	126.330	86.572%	859	31.2	41.87°C	0.988
	12.258V	5.007V	3.330V	5.060V	145.924				48.14°C	115.14V

CL2	83.020A	0.999A	1.000A	1.000A	1028.400	88.415%	2008	52.6	45.76°C	0.998
	12.227V	5.013V	3.321V	4.985V	1163.155				55.64°C	115.11V

The results above are not used in the certification process

230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	6.398A	1.990A	1.976A	0.999A	100.005	91.508%	0	<6.0	44.45°C	0.834
	12.255V	5.025V	3.338V	5.006V	109.286				40.15°C	230.24V
2	13.804A	2.987A	2.968A	1.200A	200.038	93.818%	0	<6.0	45.83°C	0.926
	12.253V	5.021V	3.335V	5.001V	213.219				40.76°C	230.25V
3	21.546A	3.488A	3.465A	1.402A	300.018	94.365%	0	<6.0	46.89°C	0.956
	12.251V	5.019V	3.333V	4.995V	317.932				41.11°C	230.24V
4	29.268A	3.988A	3.963A	1.604A	399.715	94.403%	0	<6.0	48.34°C	0.970
	12.249V	5.017V	3.331V	4.989V	423.415				41.60°C	230.25V
5	36.692A	4.988A	4.960A	1.806A	499.848	94.127%	610	25.1	42.38°C	0.978
	12.246V	5.014V	3.328V	4.984V	531.033				49.56°C	230.25V
6	44.122A	5.988A	5.955A	2.000A	599.963	93.802%	622	23.3	42.79°C	0.983
	12.243V	5.012V	3.326V	4.980V	639.609				50.61°C	230.25V
7	51.521A	6.991A	6.954A	2.212A	699.738	93.346%	1072	38.6	43.61°C	0.987
	12.240V	5.008V	3.323V	4.974V	749.615				52.06°C	230.26V
8	58.996A	7.996A	7.954A	2.416A	800.307	92.696%	1703	51.0	44.15°C	0.988
	12.236V	5.005V	3.320V	4.969V	863.366				53.26°C	230.26V
9	66.791A	8.498A	8.439A	2.417A	899.578	92.068%	2017	52.7	44.71°C	0.988
	12.233V	5.003V	3.318V	4.968V	977.078				54.31°C	230.26V
10	74.427A	9.002A	8.963A	3.031A	999.980	91.595%	2011	52.6	45.75°C	0.989
	12.230V	5.001V	3.315V	4.951V	1091.744				56.18°C	230.26V
11	82.629A	9.006A	8.966A	3.032A	1100.035	91.013%	2002	52.6	46.61°C	0.990
	12.227V	4.999V	3.313V	4.949V	1208.651				57.47°C	230.26V
CL1	0.102A	15.005A	15.001A	0.000A	126.319	88.027%	695	26.5	42.90°C	0.878
	12.259V	5.006V	3.330V	5.062V	143.501				49.55°C	230.27V

CL2	83.015A	1.001A	1.000A	1.000A	1028.430	91.730%	2002	52.6	45.51°C	0.989
	12.228V	5.013V	3.321V	4.985V	1121.148				56.26°C	230.27V

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	1.211A	0.497A	0.493A	0.199A	19.990	73.753%	0	<6.0	0.821
	12.255V	5.031V	3.342V	5.027V	27.104				115.11V
2	2.422A	0.995A	0.986A	0.399A	39.981	83.162%	0	<6.0	0.915
	12.256V	5.027V	3.339V	5.020V	48.076				115.11V
3	3.636A	1.491A	1.483A	0.598A	60.012	87.037%	0	<6.0	0.949
	12.257V	5.026V	3.339V	5.016V	68.950				115.12V
4	4.844A	1.990A	1.975A	0.798A	79.964	89.009%	0	<6.0	0.970
	12.257V	5.025V	3.338V	5.011V	89.838				115.11V

The results above are not used in the certification process

230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.211A	0.497A	0.494A	0.199A	19.989	73.880%	0	<6.0	0.488
	12.253V	5.031V	3.342V	5.027V	27.056				230.23V
2	2.422A	0.995A	0.987A	0.399A	39.979	84.257%	0	<6.0	0.647
	12.254V	5.027V	3.339V	5.019V	47.449				230.23V
3	3.636A	1.492A	1.484A	0.598A	60.010	88.173%	0	<6.0	0.737
	12.254V	5.026V	3.339V	5.016V	68.059				230.24V
4	4.844A	1.990A	1.977A	0.798A	79.962	90.155%	0	<6.0	0.792
	12.255V	5.025V	3.338V	5.011V	88.694				230.24V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.30mV	6.10mV	24.50mV	3.70mV	Pass
20% Load	7.80mV	7.00mV	24.50mV	4.80mV	Pass
30% Load	8.70mV	6.70mV	25.20mV	4.70mV	Pass
40% Load	8.00mV	6.30mV	23.60mV	4.80mV	Pass
50% Load	8.50mV	6.60mV	24.60mV	5.00mV	Pass
60% Load	8.60mV	7.00mV	25.70mV	5.70mV	Pass
70% Load	9.70mV	6.80mV	26.00mV	6.00mV	Pass
80% Load	10.20mV	6.70mV	24.20mV	7.30mV	Pass
90% Load	10.90mV	7.20mV	25.60mV	7.10mV	Pass
100% Load	16.90mV	8.20mV	18.20mV	8.20mV	Pass
110% Load	16.70mV	8.80mV	16.40mV	9.20mV	Pass
Crossload1	10.10mV	7.60mV	16.50mV	4.40mV	Pass
Crossload2	16.30mV	7.50mV	16.50mV	7.90mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.30mV	6.10mV	22.50mV	3.80mV	Pass
20% Load	8.20mV	6.80mV	17.10mV	4.50mV	Pass
30% Load	10.40mV	7.20mV	24.10mV	4.50mV	Pass
40% Load	8.40mV	6.20mV	23.80mV	4.20mV	Pass
50% Load	7.60mV	6.70mV	23.40mV	4.60mV	Pass
60% Load	8.40mV	6.70mV	25.70mV	5.60mV	Pass
70% Load	9.40mV	6.60mV	24.20mV	6.00mV	Pass
80% Load	10.00mV	6.50mV	15.00mV	6.60mV	Pass

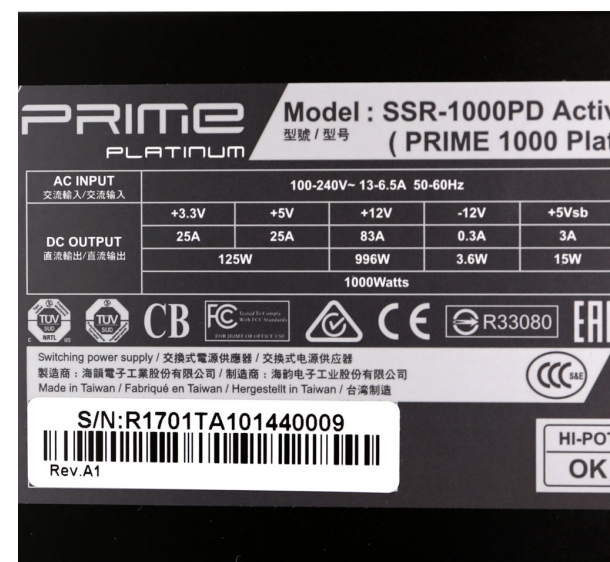
Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	10.50mV	6.90mV	16.40mV	6.70mV	Pass
100% Load	16.60mV	7.80mV	29.10mV	7.90mV	Pass
110% Load	17.70mV	7.70mV	28.50mV	8.30mV	Pass
Crossload1	10.90mV	8.10mV	26.50mV	4.80mV	Pass
Crossload2	16.10mV	6.80mV	15.80mV	7.50mV	Pass

The results above are not used in the certification process

Seasonic Prime Platinum 1000W (#2)



Top side



Power specifications label

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

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

www.cybenetics.com - info@cybenetics.com