EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

SeaSonic Prime Platinum 1000W (#2)

Lab ID#: SS10001649
Receipt Date: Dec 5, 2018
Test Date: Apr 30, 2020

Report: 20PS1649A
Report Date: Jun 16, 2020

DUT INFORMATION

Brand	SeaSonic
Manufacturer (OEM)	Seasonic
Series	Prime Platinum
Model Number	SSR-1000PD
Serial Number	R1709AA183740034
DUT Notes	retested 27-04-2020

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6.5
Rated Frequency (Hz)	50-60
Rated Power (W)	1000
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12F-Z)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

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				

CABLES AND CONNECTORS

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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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

115V

Average Efficiency	90.616%
Efficiency With 10W (≤500W) or 2% (>500W)	74.141
Average Efficiency 5VSB	79.689%
Standby Power Consumption (W)	0.0535423
Average PF	0.990
Avg Noise Output	36.91 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	S+

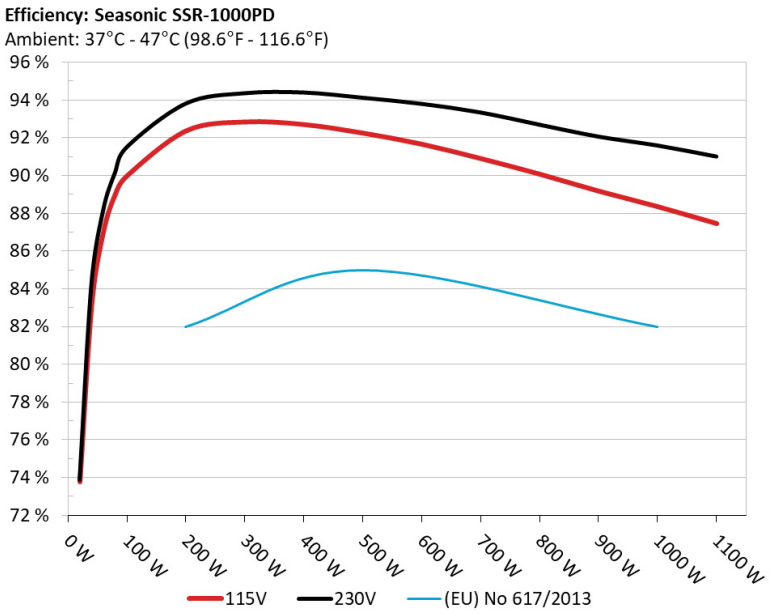
230V

Average Efficiency	92.655%
Average Efficiency 5VSB	78.853%
Standby Power Consumption (W)	0.0832728
Average PF	0.956
Avg Noise Output	37.54 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	S+

TEST EQUIPMENT

Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

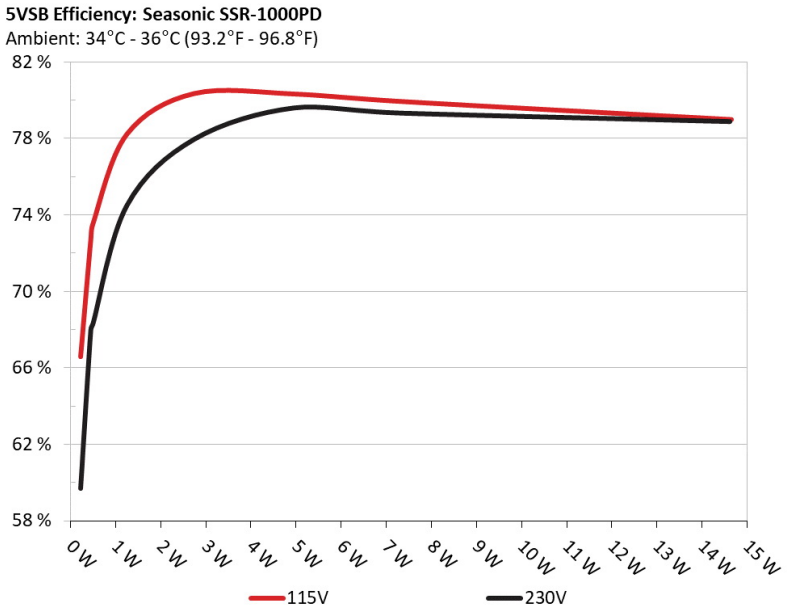
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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



INFO

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

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

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

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

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

115V

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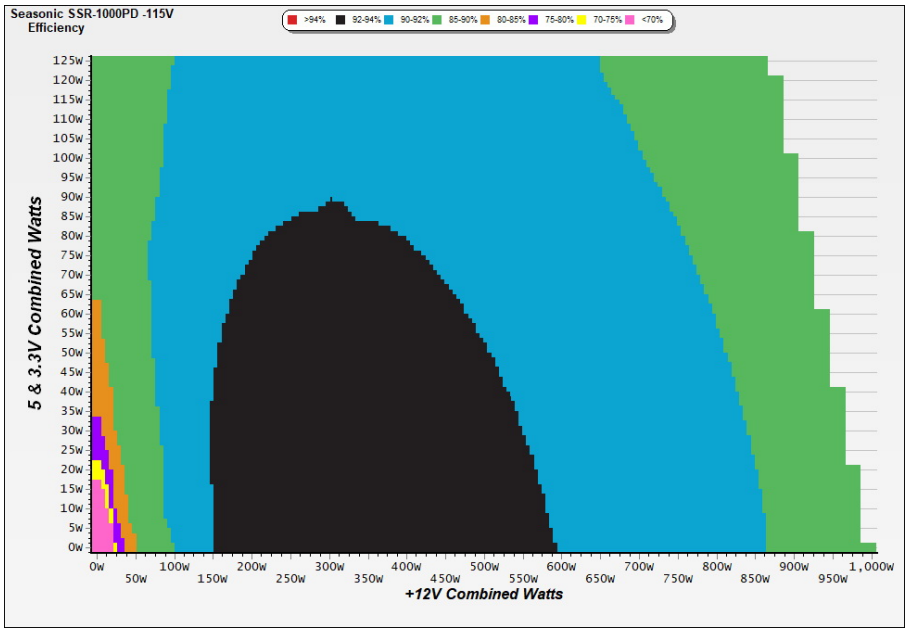
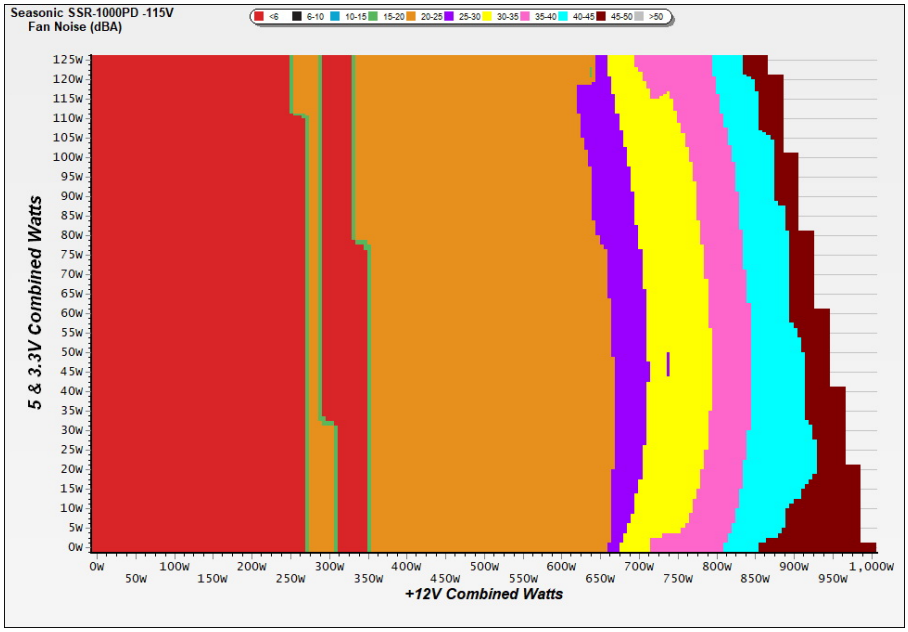
EFFICIENCY GRAPH 115V



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

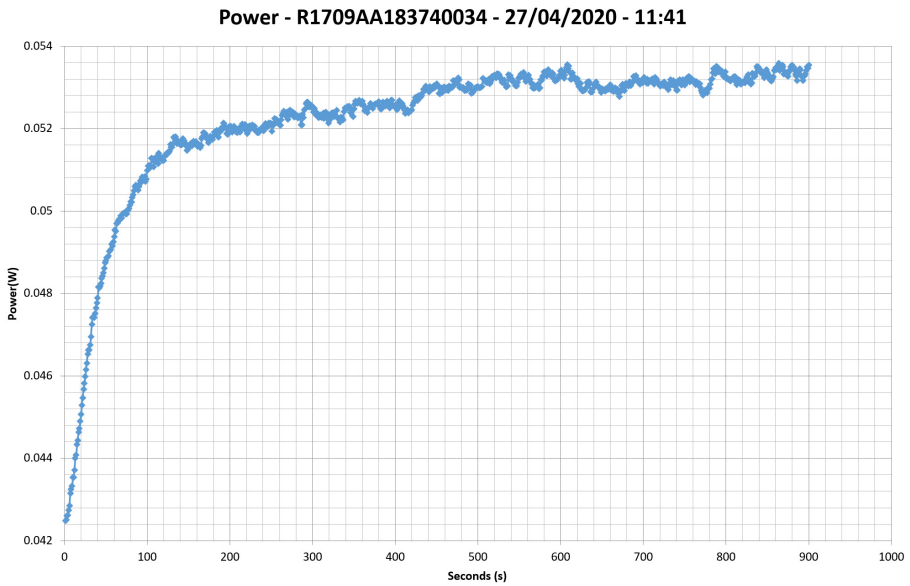
NOISE GRAPH 115V



INFO

The PSU's noise in its entire operational range and under 30-32 °C (+-2 °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

VAMPIRE POWER -115V



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 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
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
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

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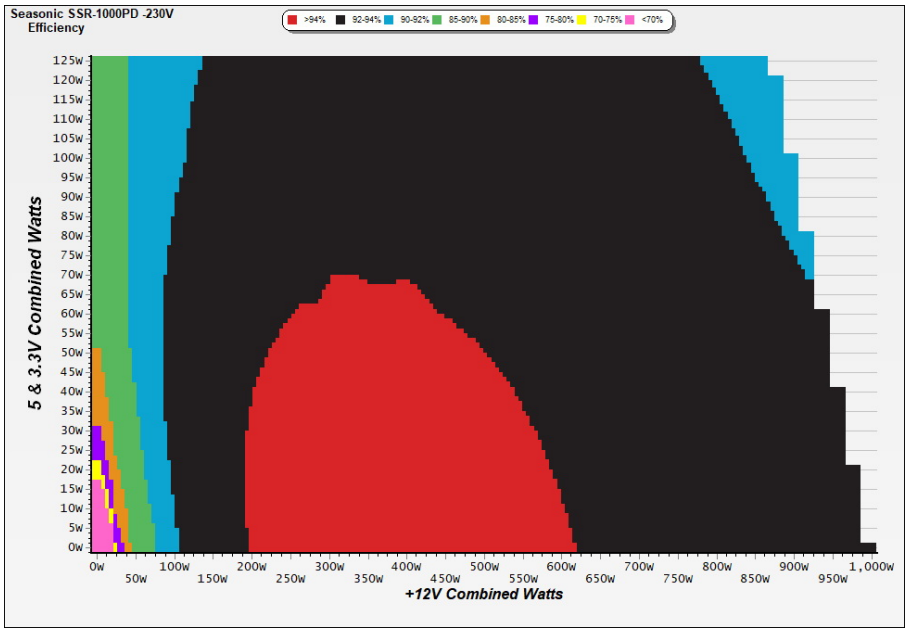
EFFICIENCY GRAPH 230V



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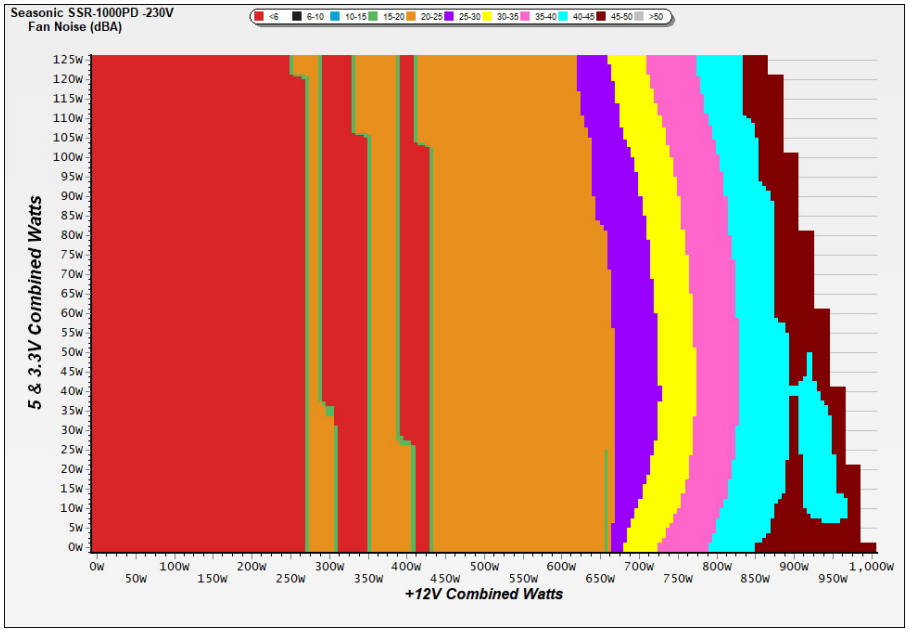
NOISE GRAPH 230V



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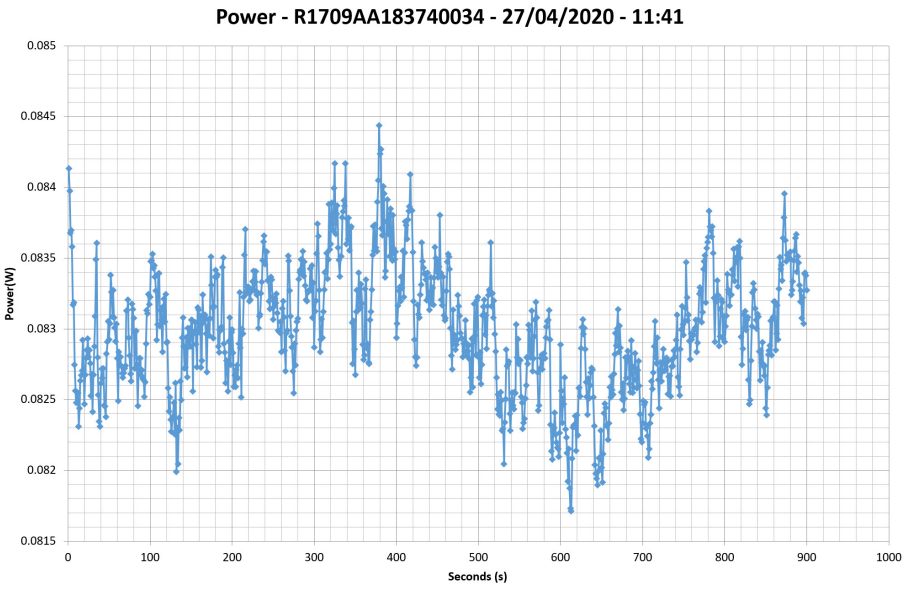
VAMPIRE POWER -230V



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COMMISSION REGULATION (EU) NO 617/2013 TESTING 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
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
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

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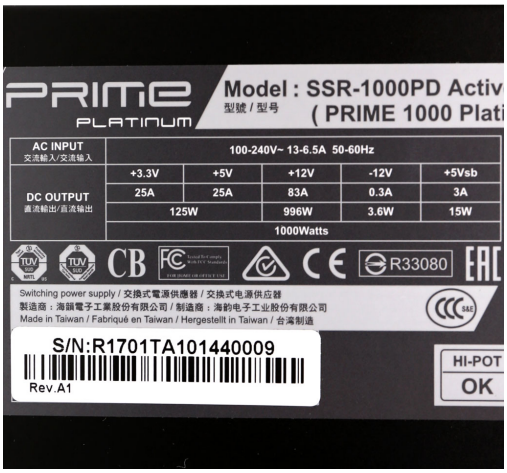
Top side



Power specifications label

CERTIFICATIONS 115V

CYBENETICS PLATINUM

CYBENETICS STANDARD+

CERTIFICATIONS 230V

CYBENETICS PLATINUM 230v

CYBENETICS STANDARD+ 230v

Aris Mpitsiopoulos
Lab Director