

Lab ID#: 230
Receipt Date: Apr 4, 2018
Test Date: Apr 8, 2018

Report:

Report Date: Apr 12, 2018

DUT INFORMATION

Brand	SeaSonic
Manufacturer (OEM)	Seasonic
Series	Prime Titanium Ultra
Model Number	SSR-850TR Ultra
Serial Number	R1709AA181110127
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	11-5.5
Rated Frequency (Hz)	50-60
Rated Power (W)	850
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525L12F-Z)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70	3	0.3
	Watts	100		840	15	3.6
Total Max. Power (W)		850				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-22AWG	No
4+4 pin EPS12V (660mm)	2	2	18AWG	No
6+2 pin PCIe (760mm)	6	6	18AWG	No
SATA (350mm+150mm+150mm+150mm)	1	4	18AWG	No
SATA (410mm+110mm+110mm+110mm)	1	4	18AWG	No
SATA (300mm+150mm)	1	2	18AWG	No
4 pin Molex (450mm+120mm+120mm)	1	3	18AWG	No
4 pin Molex (350mm+120mm)	1	2	18AWG	No
4 pin Molex Adapter / SATA (150mm+150mm)	1	2	18AWG	No
FDD Adapter (+100mm)	1	1	22AWG	No
AC Power Cord (1370mm) - 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	92.223%
Efficiency With 10W (≤500W) or 2% (>500W)	0.000
Average Efficiency 5VSB	79.516%
Standby Power Consumption (W)	0.0560108
Average PF	0.989
Avg Noise Output	10.68 dB(A)
Efficiency Rating (ETA)	TITANIUM
Noise Rating (LAMBDA)	A++

TEST EQUIPMENT

Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

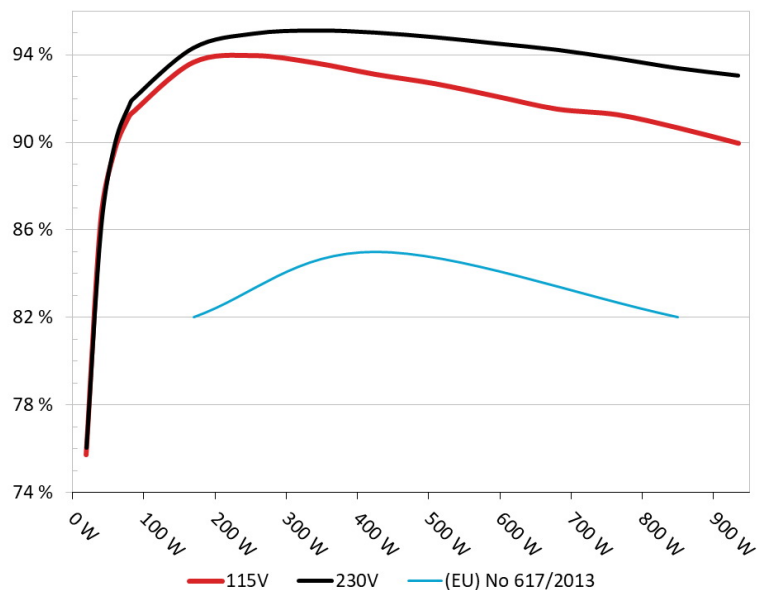
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Seasonic Ultra SSR-850TR
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

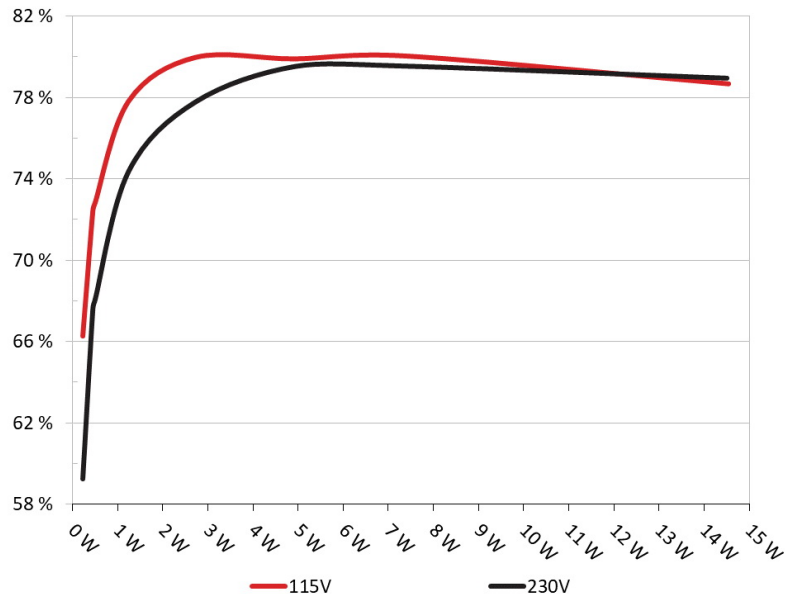


INFO

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 Ultra SSR-850TR
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

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.224	66.272%	0.029
	4.973V	0.338		115.27V
2	0.090A	0.447	72.447%	0.052
	4.971V	0.617		115.28V
3	0.550A	2.723	79.994%	0.237
	4.951V	3.404		115.26V
4	1.000A	4.931	79.919%	0.341
	4.932V	6.170		115.26V
5	1.500A	7.366	80.065%	0.405
	4.911V	9.200		115.26V
6	2.999A	14.543	78.692%	0.490
	4.849V	18.481		115.24V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.224	59.259%	0.011
	4.973V	0.378		230.72V
2	0.090A	0.447	67.625%	0.018
	4.971V	0.661		230.72V
3	0.550A	2.722	77.794%	0.093
	4.949V	3.499		230.72V
4	1.000A	4.930	79.542%	0.155
	4.930V	6.198		230.72V
5	1.500A	7.360	79.559%	0.213
	4.907V	9.251		230.71V
6	3.000A	14.510	78.966%	0.324
	4.837V	18.375		230.71V

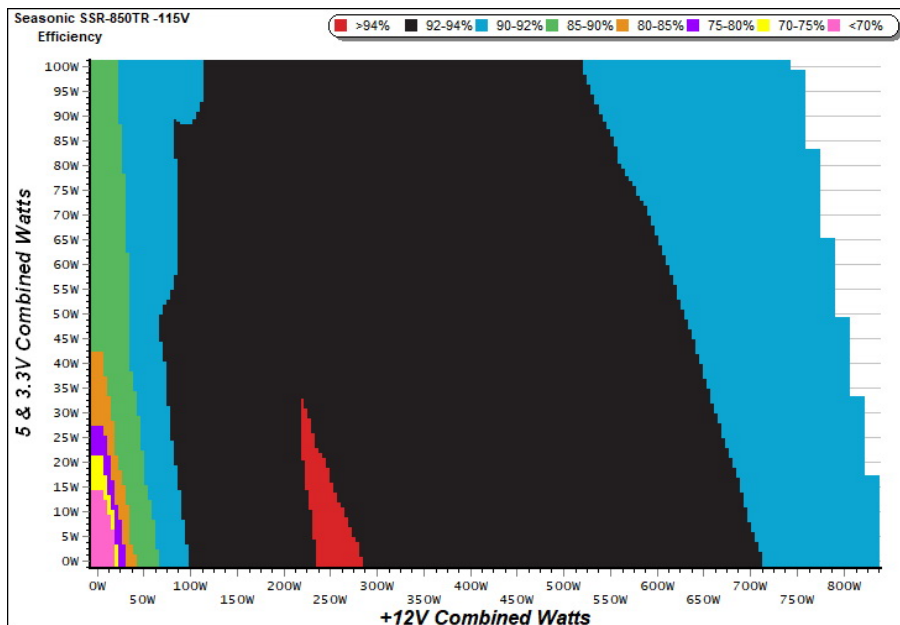
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115V

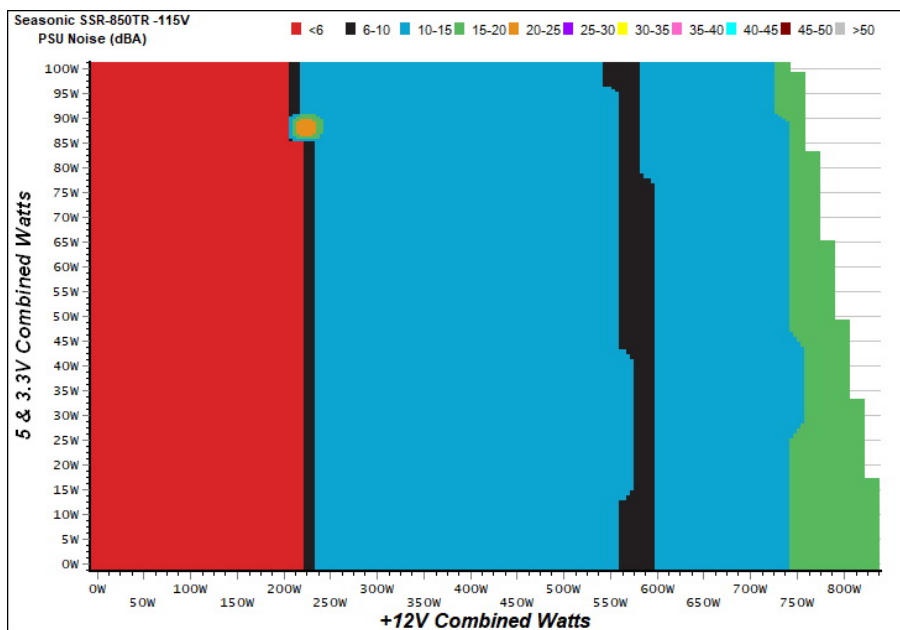
EFFICIENCY GRAPH 115V



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



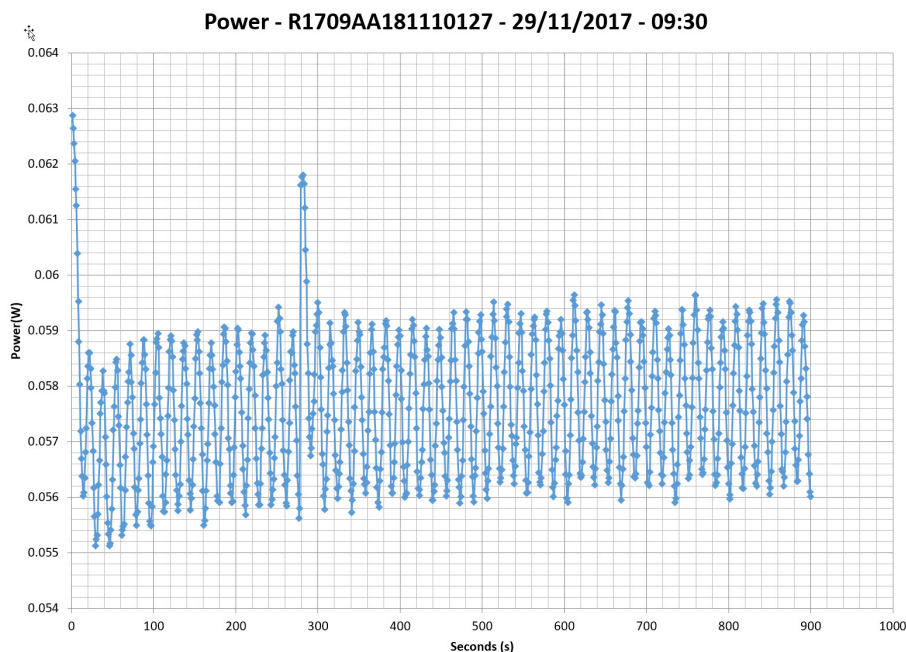
INFO

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

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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

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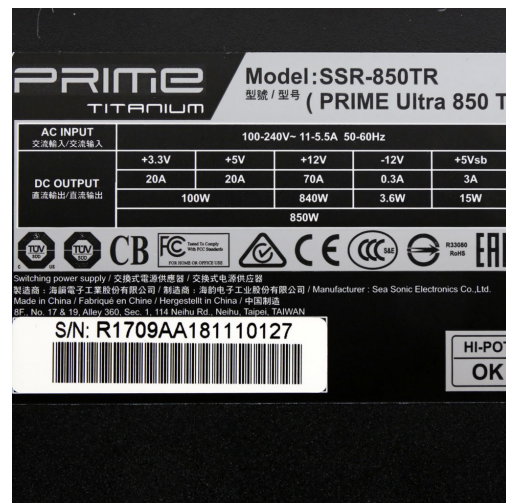
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EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

SeaSonic Prime Titanium Ultra 850W

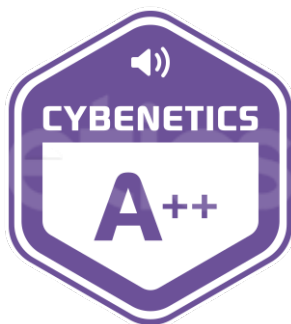


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Power specifications label

CERTIFICATIONS 115V




Aris Mpitsiopoulos
Lab Director

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