

Lab ID#: SS19500001
Receipt Date: Feb 22, 2019
Test Date: Feb 22, 2019

Report:

Report Date: Feb 26, 2019

DUT INFORMATION

Brand	SeaSonic
Manufacturer (OEM)	Seasonic
Series	Focus Gold
Model Number	SSR-500SGX
Serial Number	R1901AA112430005
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	6-3
Rated Frequency (Hz)	50-60
Rated Power (W)	500
Type	SFX-L
Cooling	120mm Fluid Dynamic Bearing Fan (S1201512HB)
Semi-Passive Operation	✓
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	41	3	0.3
	Watts	100		492	15	3.6
Total Max. Power (W)		500				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (360mm)	1	1	18AWG	No
4+4 pin EPS12V (400mm)	1	1	18AWG	No
6+2 pin PCIe (400mm+100mm)	1	2	18AWG	No
SATA (300mm+200mm+100mm)	1	3	18AWG	No
4 pin Molex (300mm+200mm+200mm)	1	3	18AWG	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	88.907%
Efficiency With 10W (≤500W) or 2% (>500W)	60.452
Average Efficiency 5VSB	76.959%
Standby Power Consumption (W)	0.0444204
Average PF	0.981
Avg Noise Output	31.11 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	S++

230V

Average Efficiency	90.840%
Average Efficiency 5VSB	76.685%
Standby Power Consumption (W)	0.0677697
Average PF	0.927
Avg Noise Output	29.07 dB(A)
Efficiency Rating (ETA)	SILVER
Noise Rating (LAMBDA)	A-

TEST EQUIPMENT

Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, 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	

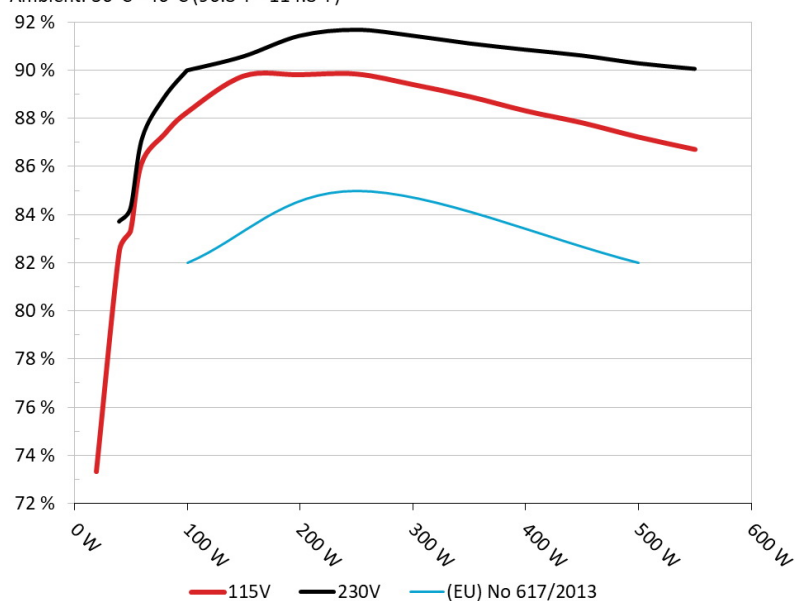
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Seasonic SSR-500SGX

Ambient: 36°C - 46°C (96.8°F - 114.8°F)



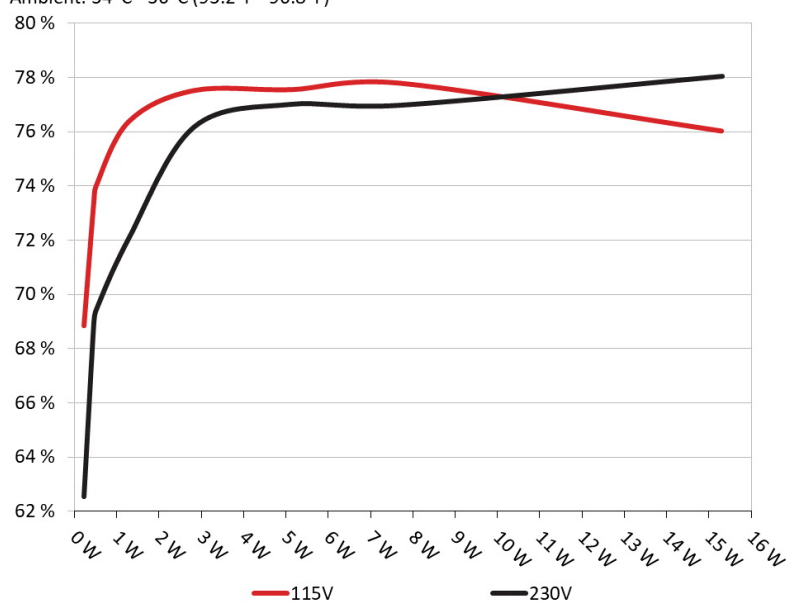
INFO

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-500SGX

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	0.232	68.843%	0.055
	5.152V	0.337		115.09V
2	0.090A	0.464	73.418%	0.100
	5.151V	0.632		115.09V
3	0.550A	2.829	77.528%	0.335
	5.143V	3.649		115.09V
4	1.000A	5.136	77.560%	0.403
	5.136V	6.622		115.09V
5	1.500A	7.692	77.799%	0.437
	5.127V	9.887		115.09V
6	3.000A	15.290	76.032%	0.481
	5.096V	20.110		115.08V

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

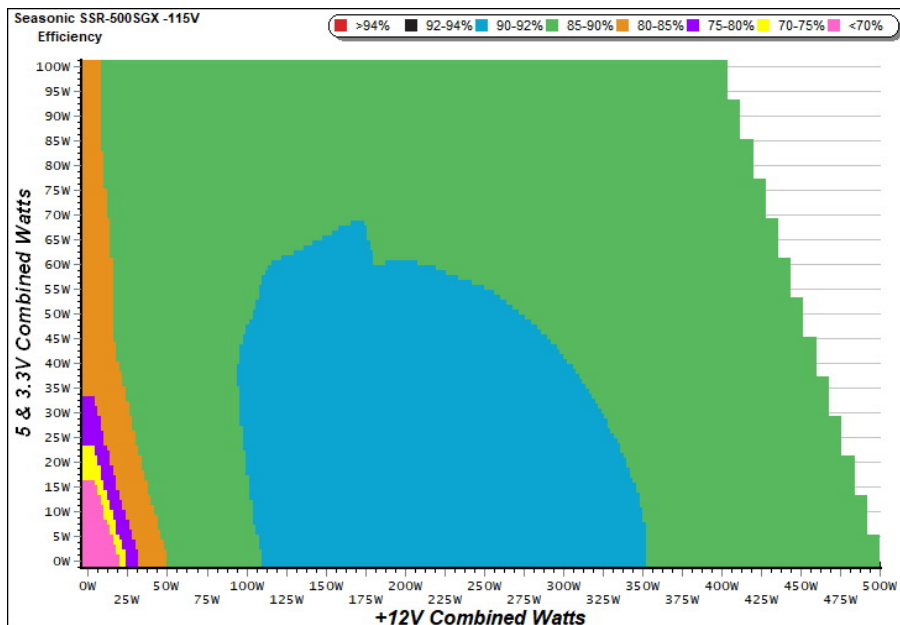
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.232	62.534%	0.018
	5.152V	0.371		230.26V
2	0.090A	0.464	68.945%	0.033
	5.151V	0.673		230.26V
3	0.550A	2.829	76.171%	0.161
	5.142V	3.714		230.24V
4	1.000A	5.136	77.013%	0.242
	5.135V	6.669		230.24V
5	1.500A	7.690	76.977%	0.297
	5.126V	9.990		230.25V
6	3.001A	15.306	78.044%	0.371
	5.101V	19.612		230.25V

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115V

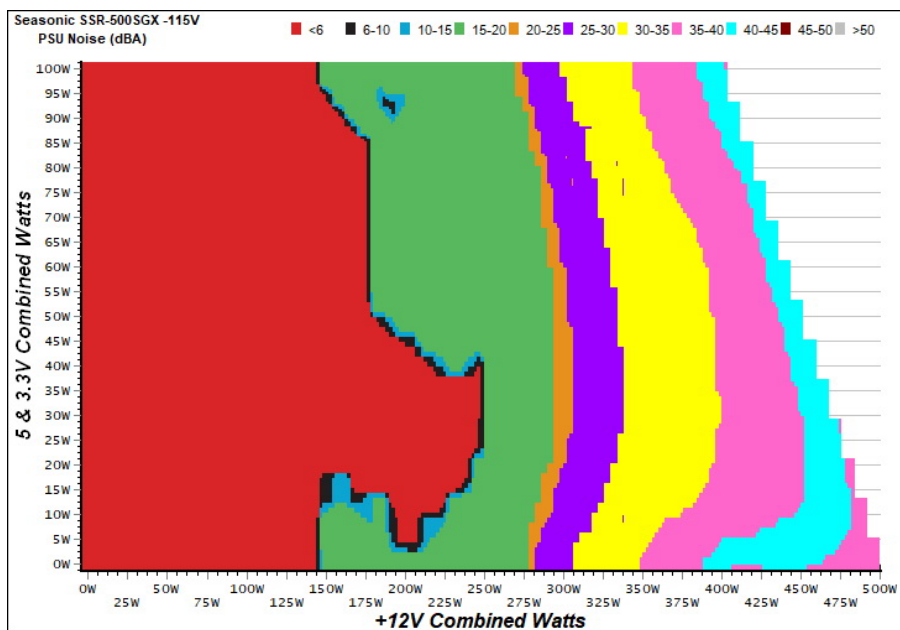
EFFICIENCY GRAPH 115V



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

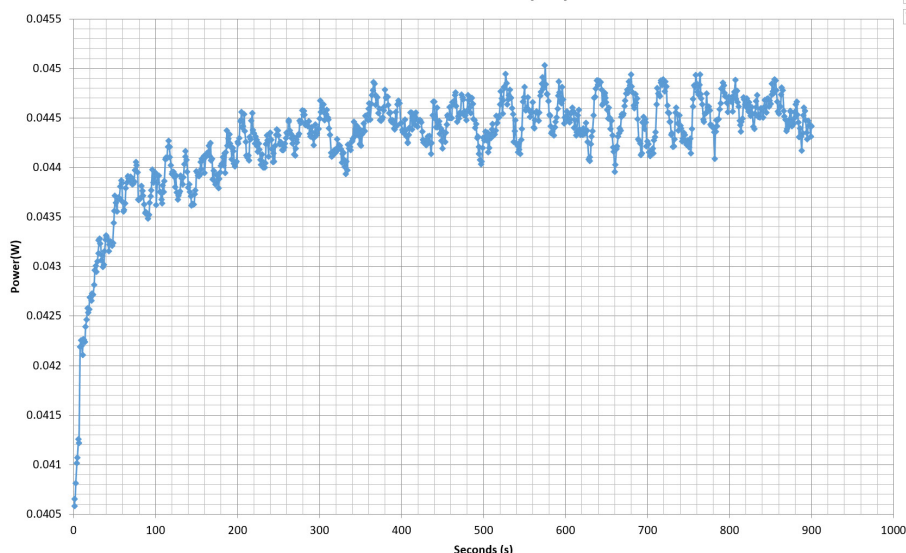
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - R1901AA112430005 - 20/02/2019 - 10:07



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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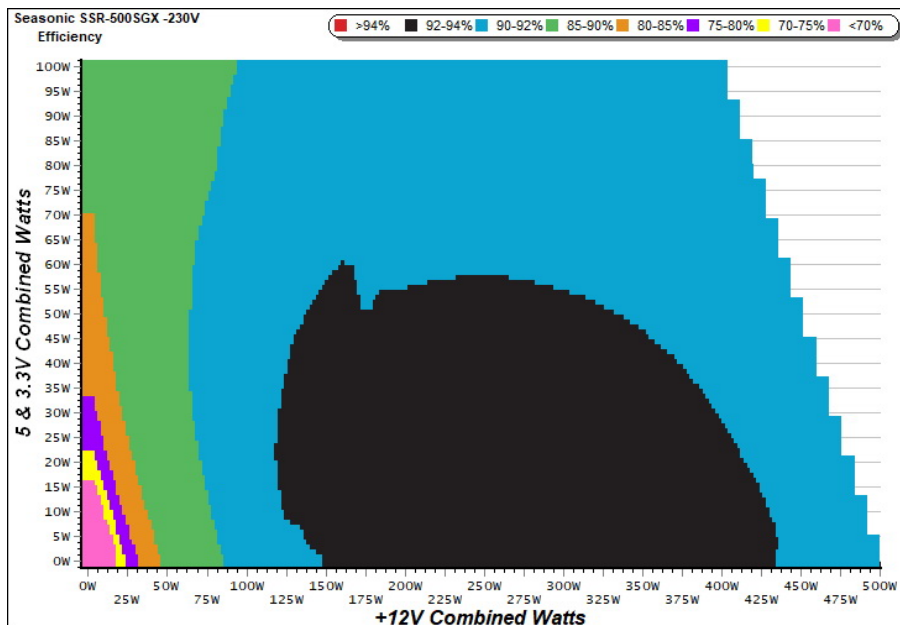
230V

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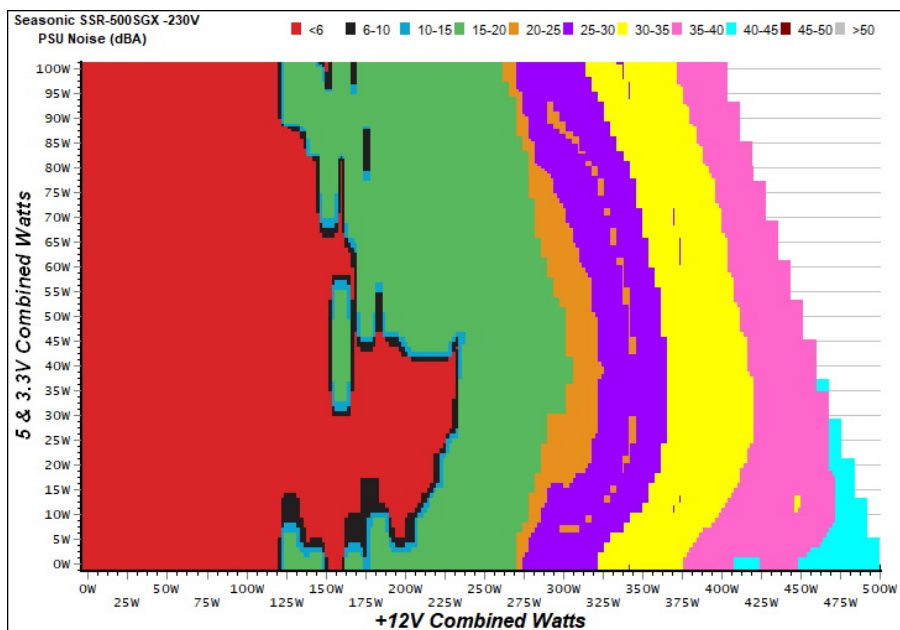
EFFICIENCY GRAPH 230V



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NOISE GRAPH 230V



INFO

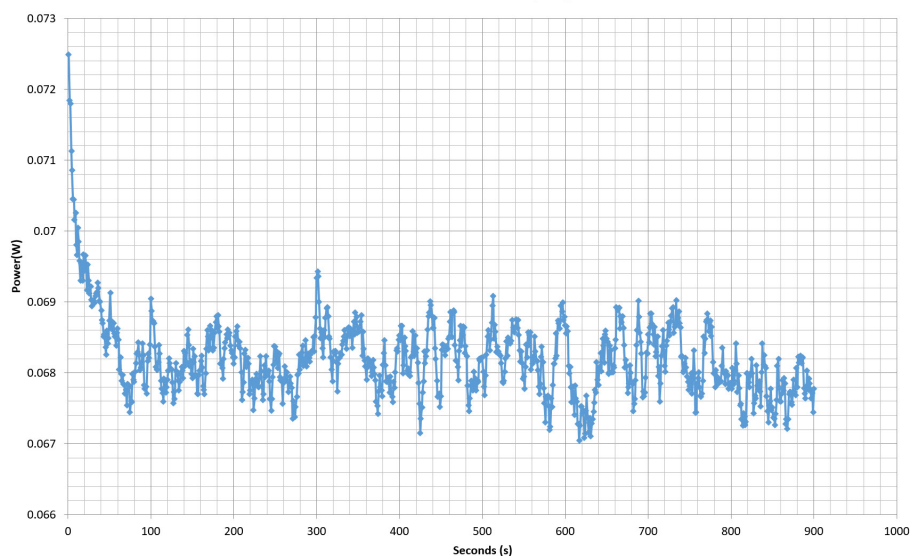
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VAMPIRE POWER -230V

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 230V

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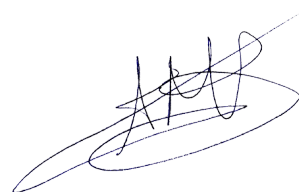


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Power specifications label

CERTIFICATIONS 115V

Aris Mpitsiopoulos
Lab Director

CERTIFICATIONS 230V



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