

Anex

Seasonic SSR-1000GD

Lab ID#: 74
Receipt Date: -
Test Date: -

Report:

Report Date: Jan 4, 2018

DUT INFORMATION		DUT SPECIFICATIONS	
Brand	Seasonic	Rated Voltage (Vrms)	100-240
Manufacturer (OEM)	Sea Sonic Electronics Co., Ltd.	Rated Current (Arms)	13-6.5
Series	Prime Gold	Rated Frequency (Hz)	50-60
Model Number	SSR-1000GD	Rated Power (W)	1000
Serial Number	R1701TA101490010	Type	ATX12V
DUT Notes		Cooling	135mm Fluid Dynamic Bearing Fan (HA13525M12F-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
ATX connector 20+4 pin (610mm)	1	1	18-22AWG
4+4 pin EPS12V (650mm)	2	2	18AWG
6+2 pin PCIe (680mm+80mm)	4	8	18AWG
SATA (450mm+110mm+110mm+110mm)	3	12	18AWG
4 pin Molex (450mm+120mm+120mm)	1	3	18AWG
4 pin Molex (350mm+120mm)	1	2	18AWG
FDD Adapter (+110mm)	1	1	22AWG

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	90.238
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$) Load -115V	0.000
Average Efficiency 5VSB	79.889
Standby Power Consumption (W) -115V	0.0577071
Standby Power Consumption (W) -230V	0.0878985
Average PF	0.990
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	43.91
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard

TEST EQUIPMENT

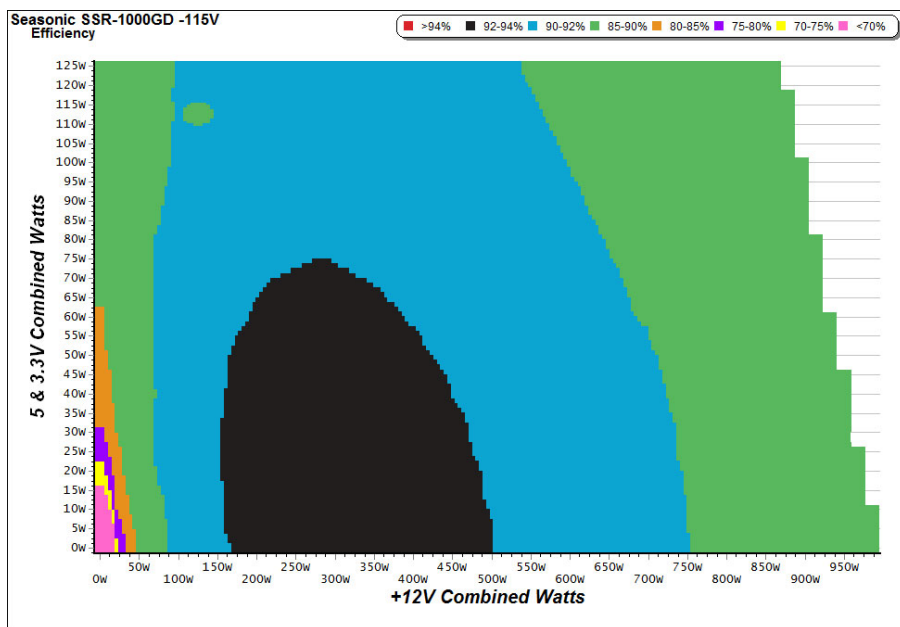
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5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

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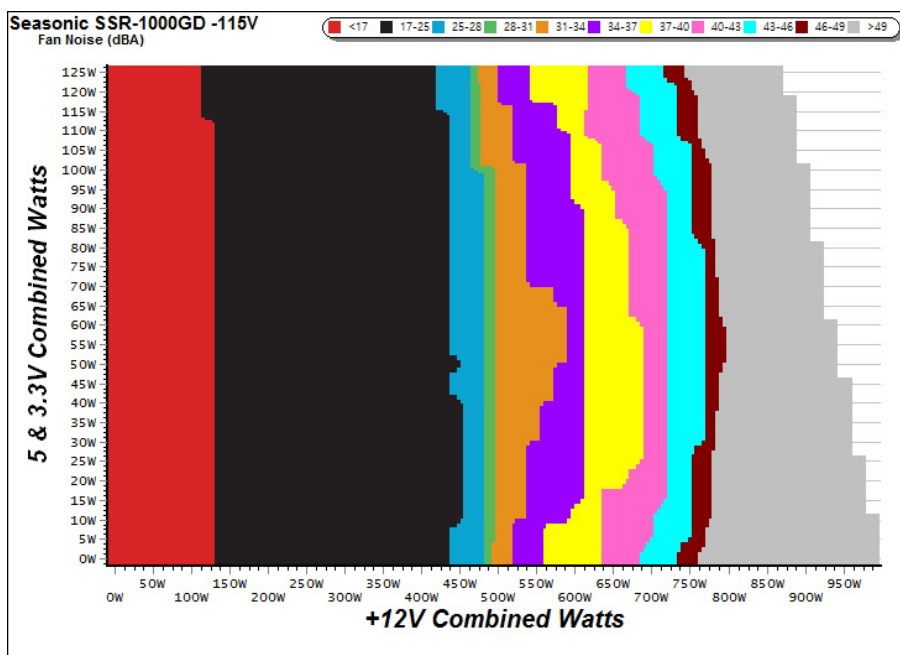
EFFICIENCY GRAPH



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



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

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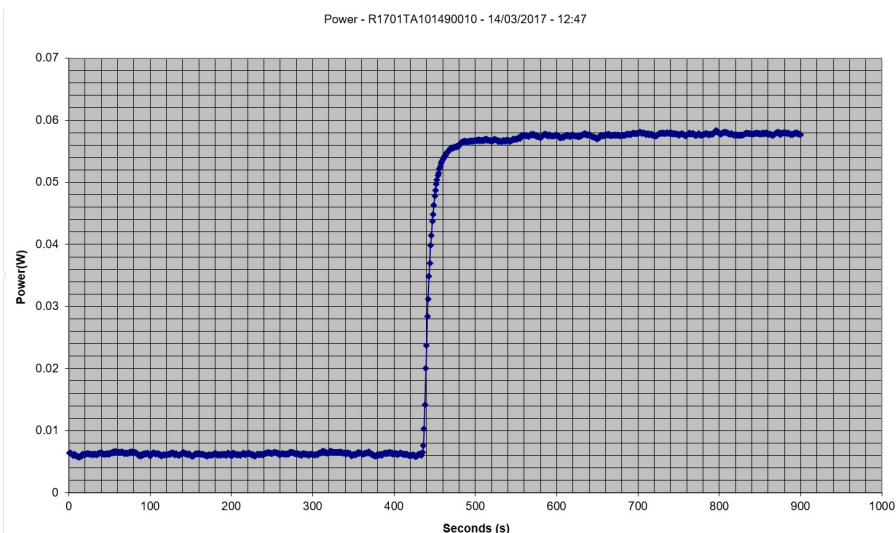
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Seasonic SSR-1000GD

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.041A	0.212	65.231%	0.036
	5.128V	0.325		115.09V
2	0.087A	0.446	73.115%	0.067
	5.126V	0.610		115.09V
3	0.532A	2.716	80.785%	0.271
	5.106V	3.362		115.09V
4	3.001A	14.997	79.148%	0.477
	4.997V	18.948		115.09V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.213	58.356%	0.012
	5.128V	0.365		230.24V
2	0.087A	0.447	68.453%	0.022
	5.126V	0.653		230.24V
3	0.532A	2.715	78.355%	0.109
	5.104V	3.465		230.23V
4	3.001A	14.955	78.993%	0.340
	4.983V	18.932		230.23V

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

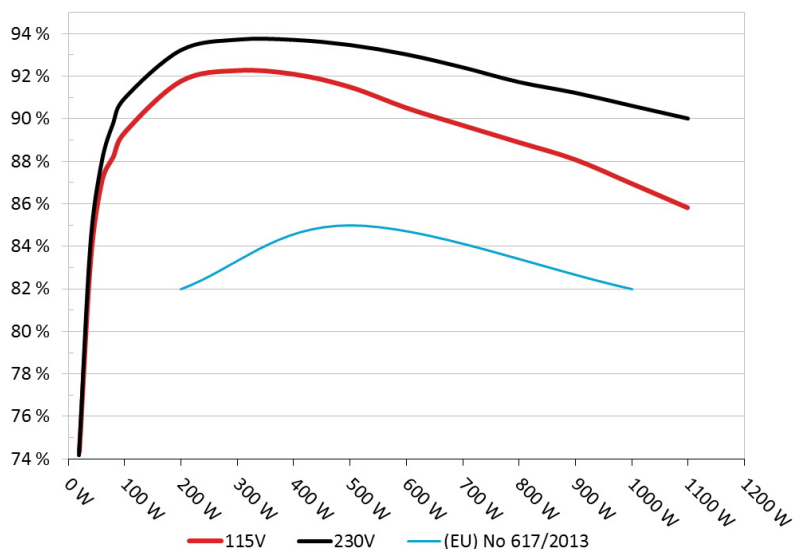
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Seasonic SSR-1000GD
Ambient: 36°C - 46°C (96.8°F - 114.8°F)

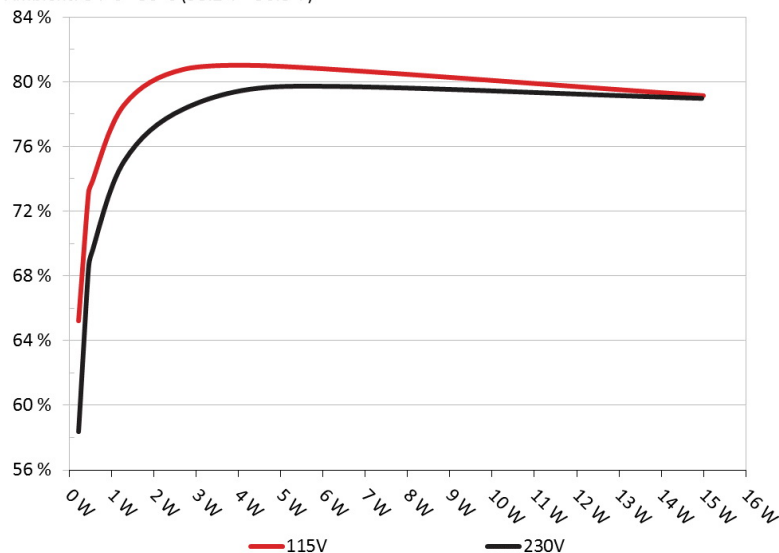


INFO

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-1000GD
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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10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	6.476A	1.984A	1.990A	0.986A	99.815	89.341%	698	24.1	36.97°C	0.979
	12.082V	5.028V	3.316V	5.069V	111.723				40.99°C	115.05V
2	13.984A	2.979A	2.984A	1.186A	199.688	91.758%	698	24.1	37.49°C	0.986
	12.073V	5.028V	3.314V	5.052V	217.625				42.29°C	115.04V
3	21.867A	3.486A	3.499A	1.390A	299.928	92.261%	732	24.3	38.07°C	0.986
	12.065V	5.025V	3.312V	5.033V	325.086				43.73°C	115.03V
4	29.743A	3.980A	3.983A	1.596A	399.736	92.094%	882	31.7	38.86°C	0.990
	12.055V	5.024V	3.311V	5.013V	434.051				44.62°C	115.03V
5	37.290A	4.974A	4.986A	1.802A	499.676	91.492%	1339	42	39.10°C	0.993
	12.046V	5.024V	3.308V	4.993V	546.140				45.14°C	115.04V
6	44.848A	5.972A	5.987A	2.010A	599.634	90.512%	1870	50.1	40.32°C	0.995
	12.037V	5.025V	3.306V	4.973V	662.492				46.70°C	115.04V
7	52.418A	6.970A	6.992A	2.217A	699.533	89.691%	2043	52.0	40.95°C	0.996
	12.027V	5.024V	3.304V	4.954V	779.940				47.50°C	115.05V
8	59.996A	7.965A	7.998A	2.430A	799.447	88.891%	2043	52.0	42.32°C	0.996
	12.018V	5.024V	3.302V	4.934V	899.360				49.23°C	115.06V
9	68.019A	8.467A	8.516A	2.435A	899.453	88.082%	2043	52.0	43.81°C	0.997
	12.009V	5.023V	3.299V	4.924V	1021.154				51.22°C	115.07V
10	75.797A	8.970A	9.005A	3.070A	999.281	86.961%	2043	52.0	45.16°C	0.997
	12.000V	5.020V	3.298V	4.882V	1149.115				53.18°C	115.08V
11	84.190A	8.974A	9.010A	3.076A	1099.153	85.822%	2043	52.0	45.94°C	0.997
	11.990V	5.018V	3.296V	4.872V	1280.743				55.79°C	115.09V
CL1	0.099A	15.020A	15.004A	0.004A	126.643	84.306%	1989	51.8	42.67°C	0.988
	12.099V	5.045V	3.309V	5.096V	150.218				47.16°C	115.11V
CL2	82.934A	1.003A	1.004A	1.002A	1007.567	87.409%	2043	52.0	43.45°C	0.997
	11.988V	5.013V	3.309V	4.995V	1152.704				51.11°C	115.10V

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20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	PF/AC Volts
1	1.209A	0.491A	0.482A	0.195A	19.684	74.363%	0	0	0.821
	12.087V	5.034V	3.323V	5.115V	26.470				115.04V
2	2.445A	0.989A	0.992A	0.390A	39.812	83.374%	0	0	0.918
	12.087V	5.031V	3.321V	5.101V	47.751				115.04V
3	3.678A	1.486A	1.505A	0.586A	59.903	87.087%	0	0	0.953
	12.086V	5.029V	3.318V	5.092V	68.785				115.04V
4	4.903A	1.983A	1.989A	0.786A	79.808	88.204%	698	24.1	0.970
	12.084V	5.028V	3.317V	5.080V	90.481				115.04V

RIPPLE MEASUREMENTS

Test	12V	5V	.3V	5VSB	Pass/Fail
10% Load	10.8 mV	5.1 mV	5.6 mV	7.0 mV	Pass
20% Load	13.7 mV	5.4 mV	5.7 mV	8.1 mV	Pass
30% Load	15.3 mV	5.8 mV	6.6 mV	9.5 mV	Pass
40% Load	13.1 mV	5.6 mV	7.2 mV	11.2 mV	Pass
50% Load	11.3 mV	5.5 mV	8.9 mV	13.4 mV	Pass
60% Load	10.8 mV	6.0 mV	10.2 mV	15.6 mV	Pass
70% Load	12.1 mV	6.7 mV	10.7 mV	17.1 mV	Pass
80% Load	13.5 mV	7.0 mV	11.6 mV	19.7 mV	Pass
90% Load	14.6 mV	7.2 mV	12.8 mV	22.5 mV	Pass
100% Load	15.3 mV	7.5 mV	14.0 mV	22.4 mV	Pass
110% Load	22.9 mV	8.7 mV	14.3 mV	25.0 mV	Pass
Crossload 1	10.3 mV	6.6 mV	6.9 mV	7.1 mV	Pass
Crossload 2	15.4 mV	7.1 mV	13.8 mV	20.7 mV	Pass

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HOLD-UP TIME & POWER OK SIGNAL (230V)

Hold-Up Time (ms)	25.84
AC Loss to PWR_OK Hold Up Time (ms)	21.56
PWR_OK Inactive to DC Loss Delay (ms)	4.58



Top side



Power specifications label

CERTIFICATIONS



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