

## Anex

Seasonic SSR-750GD

Lab ID#: 72  
Receipt Date: -  
Test Date: -

Report:

Report Date: Jan 4, 2018

DUT INFORMATION	
Brand	Seasonic
Manufacturer (OEM)	Sea Sonic Electronics Co., Ltd.
Series	Prime Gold
Model Number	SSR-750GD
Serial Number	R1701TA101470009
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	9.5-4.5
Rated Frequency (Hz)	50-60
Rated Power (W)	750
Type	ATX12V
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	20	20	62	2.5	0.3
	Watts	100		744	12.5	3.6
Total Max. Power (W)		750				

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)	2	4	18AWG
SATA (450mm+120mm+120mm+120mm)	2	8	18AWG
4 pin Molex (460mm+130mm+130mm)	1	3	18AWG
FDD Adapter (+110mm)	1	1	22AWG

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### RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	89.878
Efficiency With 10W ( $\leq 500W$ ) or 2% ( $> 500W$ ) Load -115V	0.000
Average Efficiency 5VSB	79.796
Standby Power Consumption (W) -115V	0.0565446
Standby Power Consumption (W) -230V	0.0867675
Average PF	0.987
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	33.64
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard++

### TEST EQUIPMENT

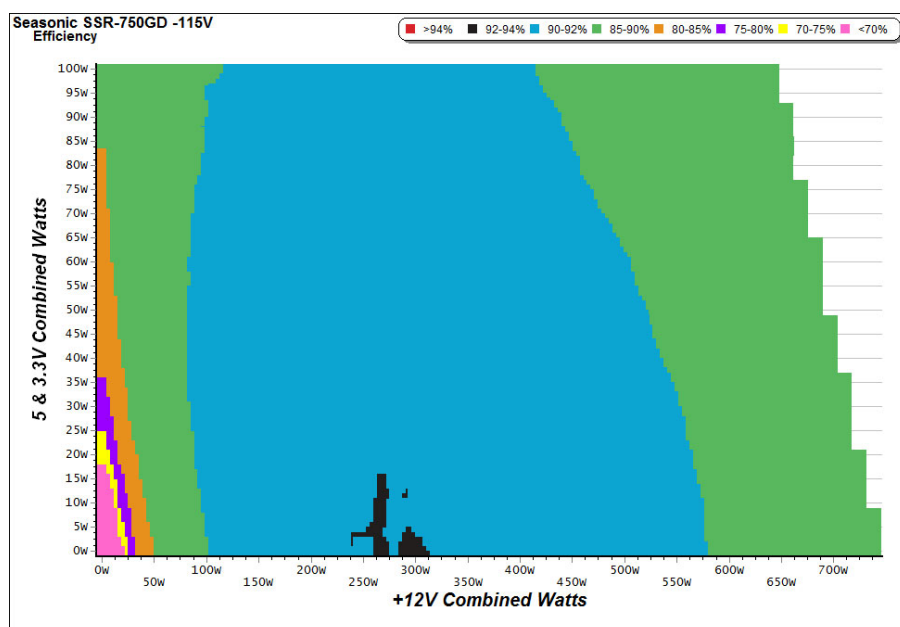
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 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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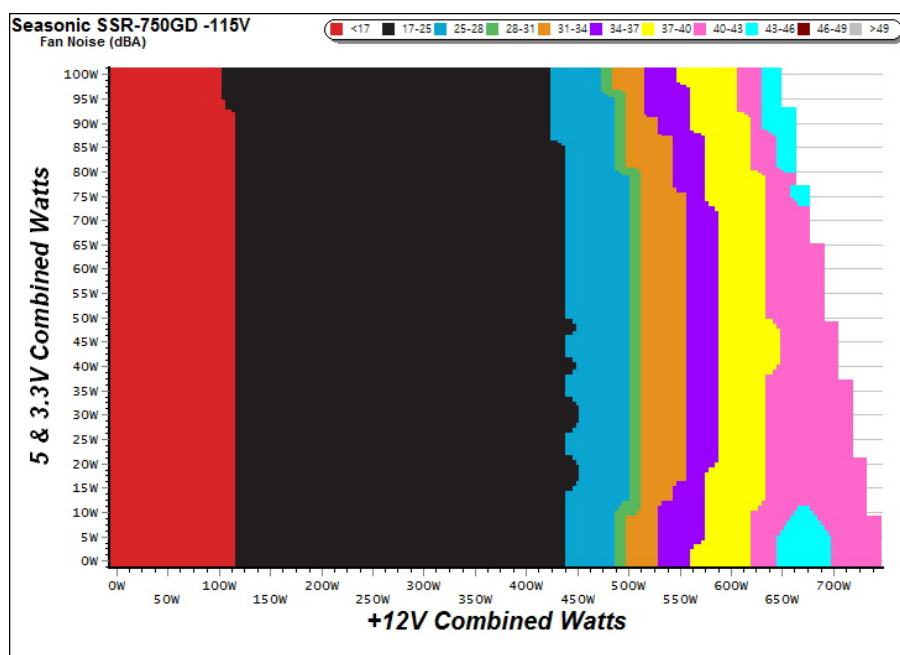
### EFFICIENCY GRAPH



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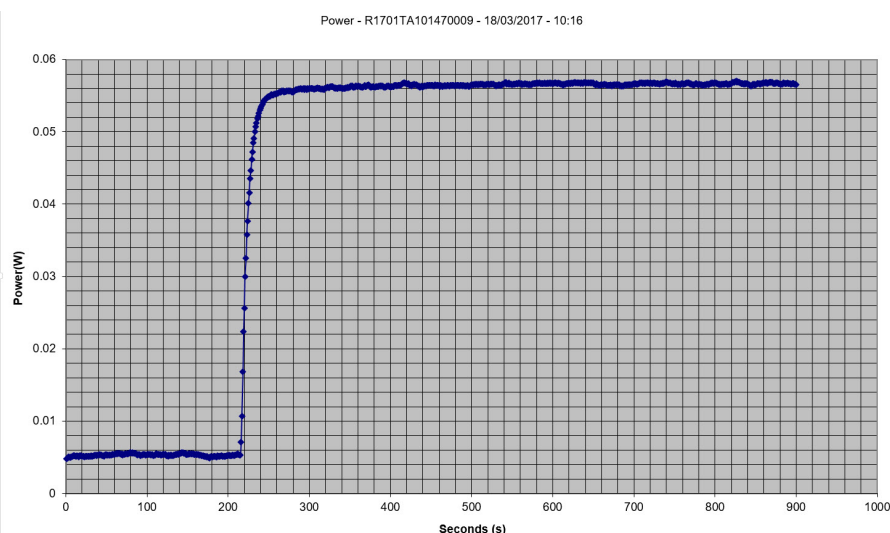
### 5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.215	66.154%	0.037
	5.107V	0.325		115.05V
2	0.088A	0.447	73.159%	0.068
	5.106V	0.611		115.05V
3	0.533A	2.707	80.136%	0.283
	5.085V	3.378		115.06V
4	2.502A	12.500	79.547%	0.481
	4.997V	15.714		115.05V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.043A	0.215	58.743%	0.012
	5.109V	0.366		230.22V
2	0.088A	0.447	68.349%	0.022
	5.106V	0.654		230.22V
3	0.532A	2.703	77.964%	0.110
	5.081V	3.467		230.22V
4	2.502A	12.427	79.968%	0.318
	4.967V	15.540		230.21V

### 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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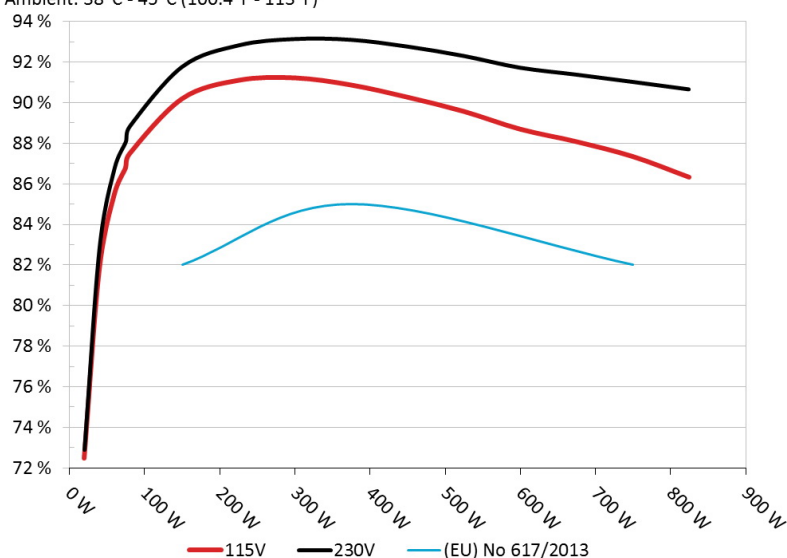
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### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

#### Efficiency: Seasonic SSR-750GD

Ambient: 38°C - 45°C (100.4°F - 113°F)



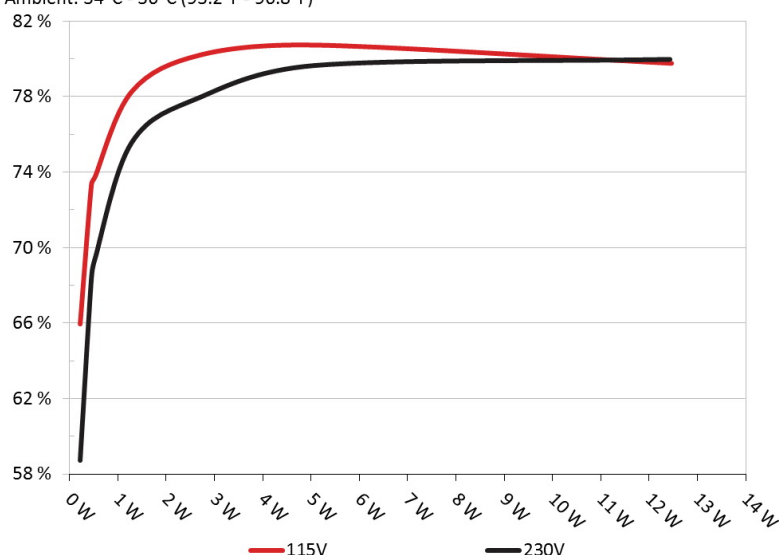
#### INFO

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-750GD

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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## Seasonic SSR-750GD

### 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	4.374A	1.996A	1.983A	0.991A	74.800	86.790%	732	24.3	38.43°C	0.971
	12.160V	5.021V	3.324V	5.044V	86.185				41.94°C	115.14V
2	9.783A	2.981A	2.978A	1.191A	149.742	90.182%	732	24.3	39.14°C	0.991
	12.153V	5.021V	3.323V	5.025V	166.045				42.80°C	115.12V
3	15.542A	3.489A	3.488A	1.397A	224.860	91.095%	770	27.4	39.25°C	0.986
	12.146V	5.020V	3.320V	5.005V	246.841				43.19°C	115.11V
4	21.300A	3.985A	3.975A	1.601A	299.738	91.215%	968	32.5	39.60°C	0.986
	12.139V	5.020V	3.319V	4.985V	328.605				43.78°C	115.10V
5	26.727A	4.980A	4.974A	1.812A	374.738	90.864%	1183	40.3	40.35°C	0.989
	12.132V	5.019V	3.316V	4.966V	412.417				44.82°C	115.10V
6	32.154A	5.977A	5.973A	2.020A	449.649	90.265%	1577	44.1	40.59°C	0.990
	12.125V	5.019V	3.314V	4.945V	498.142				45.35°C	115.09V
7	37.588A	6.981A	6.975A	2.232A	524.661	89.563%	1800	50.8	41.60°C	0.991
	12.119V	5.019V	3.312V	4.925V	585.804				46.83°C	115.09V
8	43.031A	7.972A	7.975A	2.447A	599.550	88.690%	2061	52.4	42.95°C	0.991
	12.111V	5.019V	3.310V	4.901V	676.003				48.73°C	115.08V
9	48.911A	8.474A	8.495A	2.451A	674.636	88.071%	2061	52.4	43.93°C	0.989
	12.104V	5.018V	3.308V	4.893V	766.016				50.24°C	115.06V
10	54.748A	8.975A	8.981A	2.559A	749.452	87.341%	2061	52.4	44.79°C	0.982
	12.096V	5.017V	3.307V	4.882V	858.076				51.60°C	115.05V
11	60.967A	8.979A	8.984A	2.560A	824.310	86.326%	2061	52.4	45.34°C	0.968
	12.090V	5.016V	3.306V	4.875V	954.876				52.71°C	115.02V
CL1	0.100A	12.012A	12.005A	0.004A	101.537	83.524%	2043	52.0	43.52°C	0.985
	12.169V	5.036V	3.316V	5.082V	121.566				47.92°C	115.11V
CL2	61.948A	1.004A	1.003A	1.002A	762.053	87.806%	2061	52.4	43.78°C	0.986
	12.086V	5.009V	3.317V	4.984V	867.883				49.87°C	115.06V

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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	1.200A	0.494A	0.480A	0.197A	19.681	72.487%	732	24.3	0.825
	12.164V	5.026V	3.331V	5.094V	27.151				115.14V
2	2.422A	0.991A	0.991A	0.392A	39.724	81.765%	732	24.3	0.914
	12.162V	5.023V	3.329V	5.080V	48.583				115.15V
3	3.653A	1.488A	1.502A	0.591A	59.876	85.492%	732	24.3	0.950
	12.160V	5.021V	3.325V	5.068V	70.037				115.15V
4	4.869A	1.996A	1.984A	0.791A	79.817	87.466%	732	24.3	0.973
	12.159V	5.021V	3.324V	5.055V	91.255				115.16V

### RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.5 mV	4.1 mV	5.6 mV	7.4 mV	Pass
20% Load	12.0 mV	4.3 mV	6.0 mV	7.9 mV	Pass
30% Load	15.8 mV	4.4 mV	7.2 mV	9.2 mV	Pass
40% Load	17.8 mV	5.1 mV	8.0 mV	11.1 mV	Pass
50% Load	10.9 mV	4.4 mV	8.2 mV	12.7 mV	Pass
60% Load	11.8 mV	4.5 mV	9.0 mV	14.7 mV	Pass
70% Load	12.6 mV	5.0 mV	8.5 mV	18.3 mV	Pass
80% Load	15.1 mV	5.1 mV	9.9 mV	19.9 mV	Pass
90% Load	17.3 mV	5.1 mV	11.0 mV	21.0 mV	Pass
100% Load	19.4 mV	5.8 mV	13.0 mV	26.7 mV	Pass
110% Load	23.6 mV	6.2 mV	13.4 mV	27.2 mV	Pass
Crossload 1	12.6 mV	4.8 mV	8.4 mV	6.9 mV	Pass
Crossload 2	18.9 mV	4.9 mV	11.2 mV	18.8 mV	Pass

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

Hold-Up Time (ms)	23.32
AC Loss to PWR_OK Hold Up Time (ms)	18.74
PWR_OK Inactive to DC Loss Delay (ms)	4.58



Top side



Power specifications label

## CERTIFICATIONS



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