

Anex

Seasonic SSR-750TD

Lab ID#: 48
Receipt Date: -
Test Date: -

Report:

Report Date: Jan 22, 2018

DUT INFORMATION	
Brand	Seasonic
Manufacturer (OEM)	Seasonic
Series	Prime Titanium
Model Number	SSR-750TD
Serial Number	R1606TA106430003
DUT Notes	Retested on 4/7/17

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	3	0.3
	Watts	100		744	15	3.6
Total Max. Power (W)		750				

CABLES AND CONNECTORS			
Modular Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (620mm)	1	1	18-22AWG
4+4 pin EPS12V (650mm)	2	2	18AWG
6+2 pin PCIe (680mm+80mm)	4	4	18AWG
SATA (450mm+110mm+110mm+110mm)	2	8	18AWG
SATA (350mm+110mm)	1	2	18AWG
4 pin Molex (350mm+120mm)	1	2	18AWG
4 pin Molex (450mm+120mm+120mm)	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	92.387
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$) Load -115V	0.000
Average Efficiency 5VSB	79.430
Standby Power Consumption (W) -115V	0.0575952
Standby Power Consumption (W) -230V	0.0995988
Average PF	0.989
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	16.89
Efficiency Rating (ETA)	TITANIUM
Noise Rating (LAMBDA)	A+

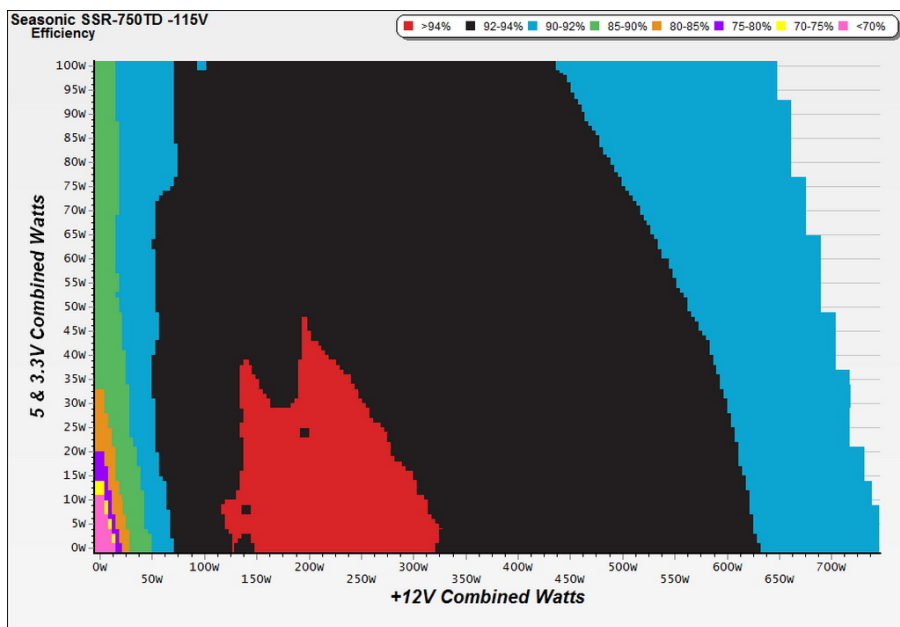
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley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

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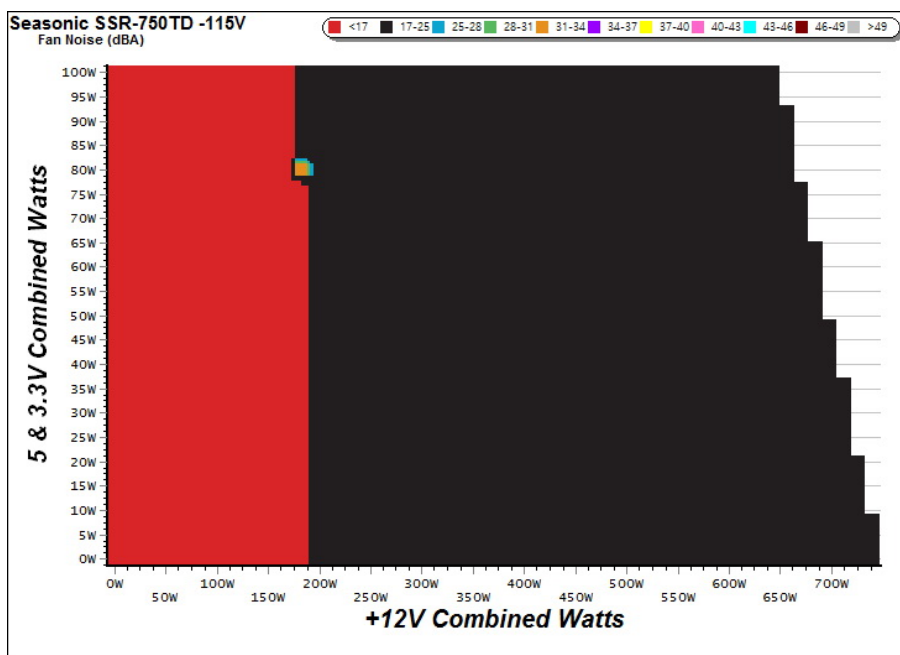
EFFICIENCY GRAPH



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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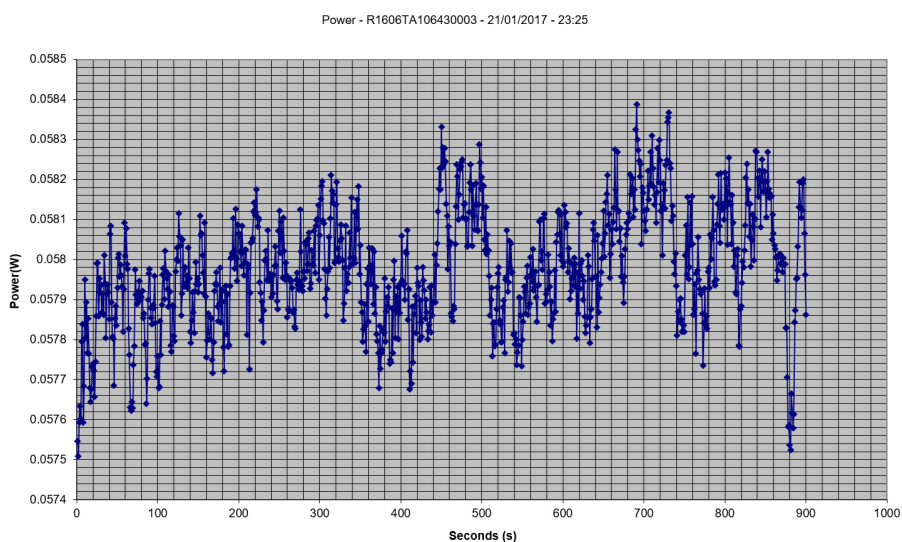
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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.047A	0.236	66.479%	0.040
	5.013V	0.355		115.10V
2	0.092A	0.461	72.828%	0.070
	5.011V	0.633		115.10V
3	0.552A	2.756	80.444%	0.273
	4.992V	3.426		115.09V
4	3.002A	14.680	79.039%	0.476
	4.890V	18.573		115.08V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.047A	0.236	58.706%	0.014
	5.013V	0.402		230.24V
2	0.092A	0.461	66.618%	0.024
	5.011V	0.692		230.23V
3	0.552A	2.754	77.819%	0.112
	4.990V	3.539		230.24V
4	3.002A	14.659	78.445%	0.335
	4.883V	18.687		230.24V

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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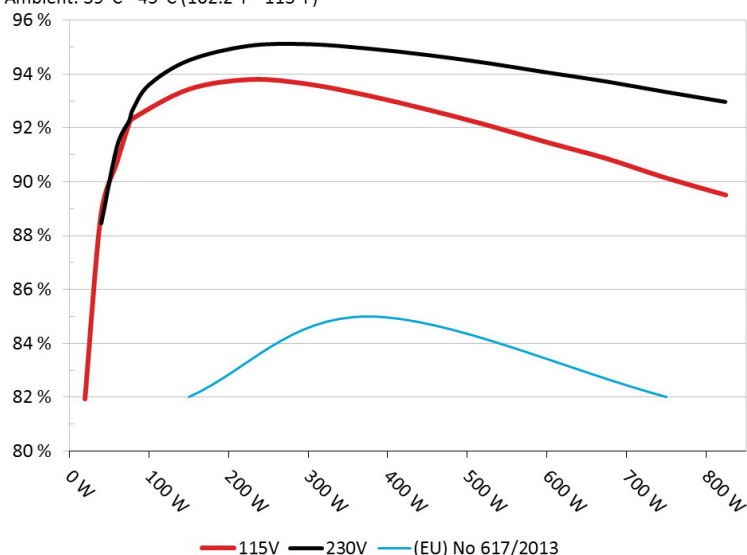
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Seasonic SSR-750TD

Ambient: 39°C - 45°C (102.2°F - 113°F)



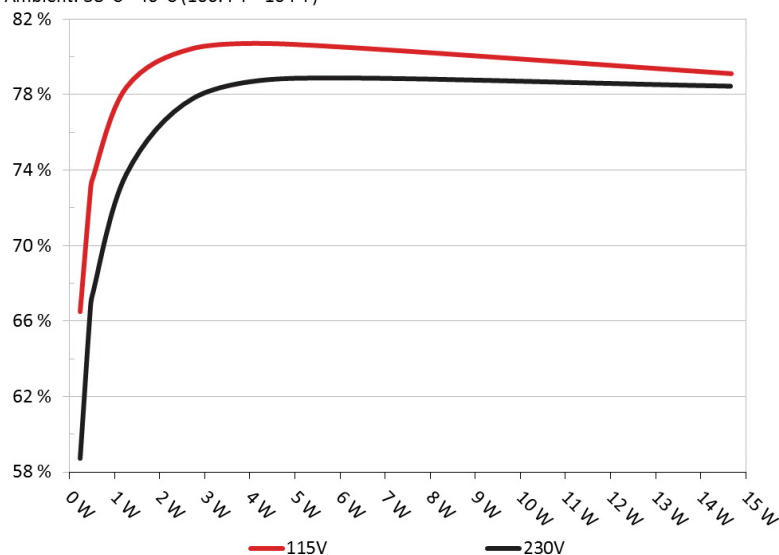
INFO

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-750TD

Ambient: 38°C - 40°C (100.4°F - 104°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	4.367A	1.973A	1.973A	0.991A	74.748	92.137%	0	0	43.08°C	0.966
	12.178V	5.057V	3.344V	5.036V	81.127				38.25°C	115.05V
2	9.771A	2.958A	2.963A	1.191A	149.760	93.441%	0	0	43.56°C	0.986
	12.171V	5.053V	3.340V	5.032V	160.272				38.57°C	115.05V
3	15.522A	3.466A	3.474A	1.390A	224.873	92.807%	490	17.8	37.91°C	0.992
	12.163V	5.050V	3.336V	5.026V	242.302				39.74°C	115.05V
4	21.271A	3.963A	3.957A	1.593A	299.735	93.636%	490	17.8	38.26°C	0.994
	12.155V	5.047V	3.333V	5.019V	320.107				40.43°C	115.04V
5	26.696A	4.959A	4.954A	1.794A	374.770	93.213%	490	17.8	39.65°C	0.992
	12.147V	5.043V	3.329V	5.013V	402.058				42.27°C	115.02V
6	32.116A	5.952A	5.953A	1.995A	449.660	92.690%	510	18.2	40.32°C	0.992
	12.140V	5.039V	3.324V	5.008V	485.122				43.22°C	115.03V
7	37.545A	6.953A	6.954A	2.197A	524.597	92.114%	400	16.6	41.34°C	0.993
	12.132V	5.036V	3.321V	5.003V	569.508				44.53°C	115.02V
8	42.986A	7.947A	7.958A	2.402A	599.604	91.475%	510	18.2	42.53°C	0.994
	12.125V	5.033V	3.317V	4.998V	655.484				46.21°C	115.04V
9	48.867A	8.456A	8.475A	2.401A	674.680	90.869%	570	20.6	44.21°C	0.995
	12.116V	5.029V	3.314V	4.996V	742.477				48.45°C	115.07V
10	54.494A	8.959A	8.968A	3.012A	749.538	90.146%	670	21.6	44.60°C	0.996
	12.108V	5.025V	3.312V	4.981V	831.469				49.15°C	115.08V
11	60.719A	8.965A	8.978A	3.011A	824.347	89.514%	780	24.8	44.85°C	0.996
	12.099V	5.021V	3.309V	4.977V	920.915				49.85°C	115.09V
CL1	0.099A	12.012A	12.006A	0.004A	101.893	88.630%	510	18.2	43.93°C	0.979
	12.190V	5.049V	3.333V	5.092V	114.964				47.87°C	115.10V
CL2	62.453A	1.003A	1.002A	1.002A	768.774	90.408%	700	22.7	44.76°C	0.996
	12.095V	5.034V	3.324V	5.015V	850.336				49.37°C	115.07V

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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	0.491A	0.477A	0.195A	19.683	81.934%	0	0	0.796
	12.179V	5.060V	3.348V	5.055V	24.023				115.03V
2	2.421A	0.978A	0.985A	0.396A	39.723	88.768%	0	0	0.910
	12.178V	5.058V	3.345V	5.049V	44.749				115.03V
3	3.647A	1.477A	1.494A	0.591A	59.861	90.734%	0	0	0.950
	12.178V	5.057V	3.345V	5.045V	65.974				115.04V
4	4.861A	1.974A	1.971A	0.791A	79.747	92.360%	0	0	0.966
	12.177V	5.055V	3.343V	5.041V	86.344				115.04V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.5 mV	3.7 mV	3.8 mV	3.5 mV	Pass
20% Load	9.5 mV	3.9 mV	4.1 mV	3.5 mV	Pass
30% Load	10.8 mV	4.4 mV	4.5 mV	3.8 mV	Pass
40% Load	11.2 mV	4.4 mV	5.1 mV	4.2 mV	Pass
50% Load	8.3 mV	4.9 mV	5.5 mV	4.6 mV	Pass
60% Load	7.9 mV	5.4 mV	6.2 mV	4.9 mV	Pass
70% Load	8.4 mV	5.3 mV	6.6 mV	5.5 mV	Pass
80% Load	9.1 mV	5.6 mV	6.0 mV	6.9 mV	Pass
90% Load	10.2 mV	5.7 mV	6.2 mV	7.4 mV	Pass
100% Load	11.0 mV	5.7 mV	6.6 mV	7.3 mV	Pass
113% Load	12.0 mV	6.1 mV	7.7 mV	8.0 mV	Pass
Crossload 1	8.2 mV	5.2 mV	5.4 mV	4.0 mV	Pass
Crossload 2	11.3 mV	4.3 mV	5.9 mV	6.5 mV	Pass

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

Hold-Up Time (ms)	33.4
AC Loss to PWR_OK Hold Up Time (ms)	32.2
PWR_OK Inactive to DC Loss Delay (ms)	1.2



Top side



Power specifications label

CERTIFICATIONS



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