



Seasonic Prime Gold 750W

Serial Number R1701TA101470009

Lab ID 72

Certification ID 2572

Test Result Report ID:

Certificate Issue Date: Jan 14, 2018

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

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Aristeidis Bitziopoulos, Certification Body General Manager

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Seasonic
Model	Prime Gold 750W
OEM/ODM	Sea Sonic Electronics Co., Ltd.
Serial Number	R1701TA101470009
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	9.5-4.5
Rated Frequency (Hz)	50-60

Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525M12F-Z)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	72
Date of receipt	Jan 1, 2018
Testing Date	Jan 12, 2018
Report Issued Date	Jan 14, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

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

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				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

Performance Summary 115V

Accredited	
Average Efficiency (>1450 load combinations)	89.878%
Average Noise Output (>1450 Load Combinations)	33.64dBA
Average PF (>1450 Load Combinations)	0.987
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0565W
Non-Accredited	
12V Ripple (Full Load)	19.41mV
5V Ripple (Full Load)	5.77mV
3.3V Ripple (Full Load)	12.95mV
5VSB Ripple (Full Load)	26.71mV
12V Load Regulation	0.54%
5V Load Regulation	0.12%
3.3V Load Regulation	0.66%
5VSB Load Regulation	4.16%
Inrush Current	29.879A

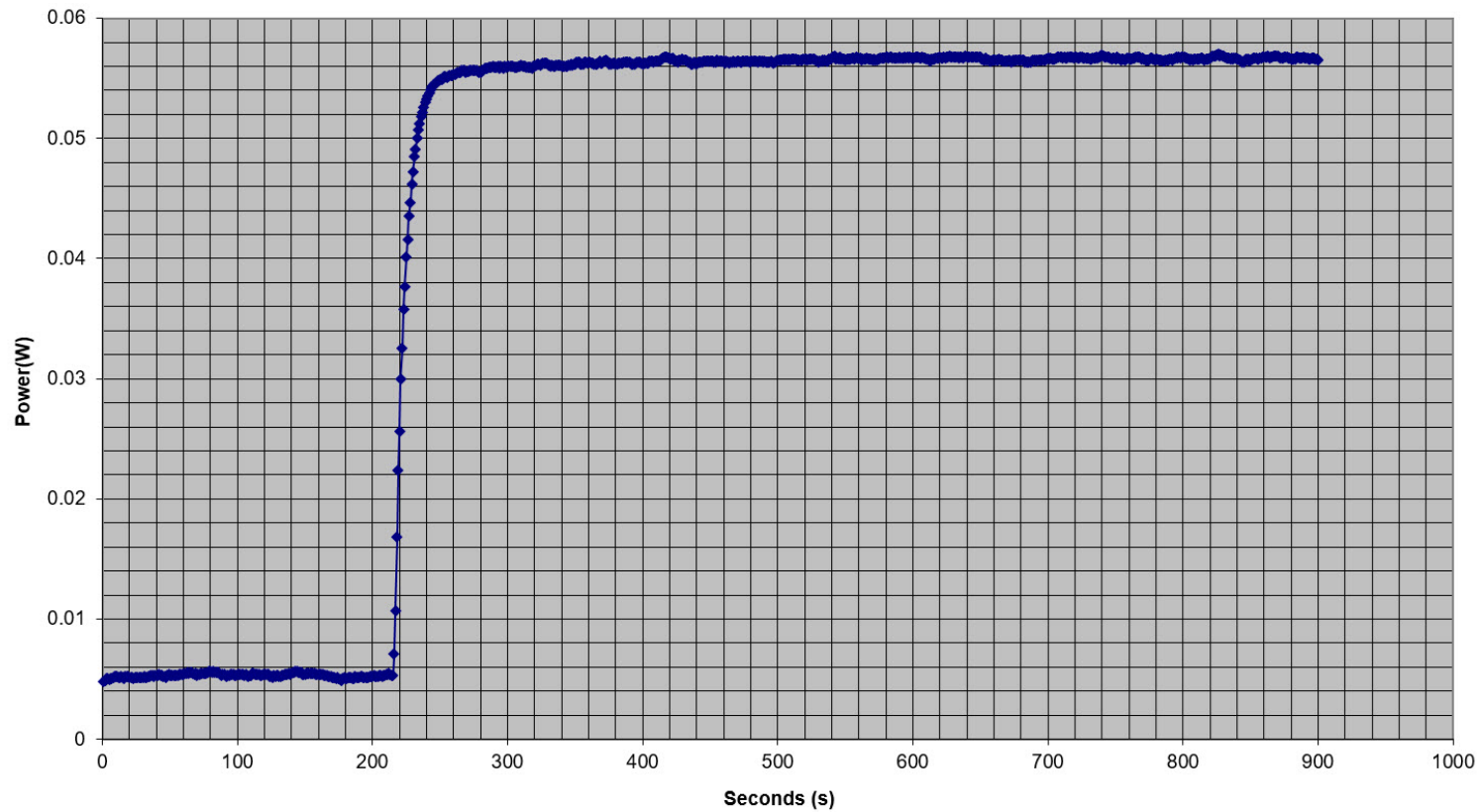
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	23.3
AC Loss to PWR_OK Hold Up Time (ms)	18.7
PWR_OK Inactive to DC Loss Delay (ms)	4.6



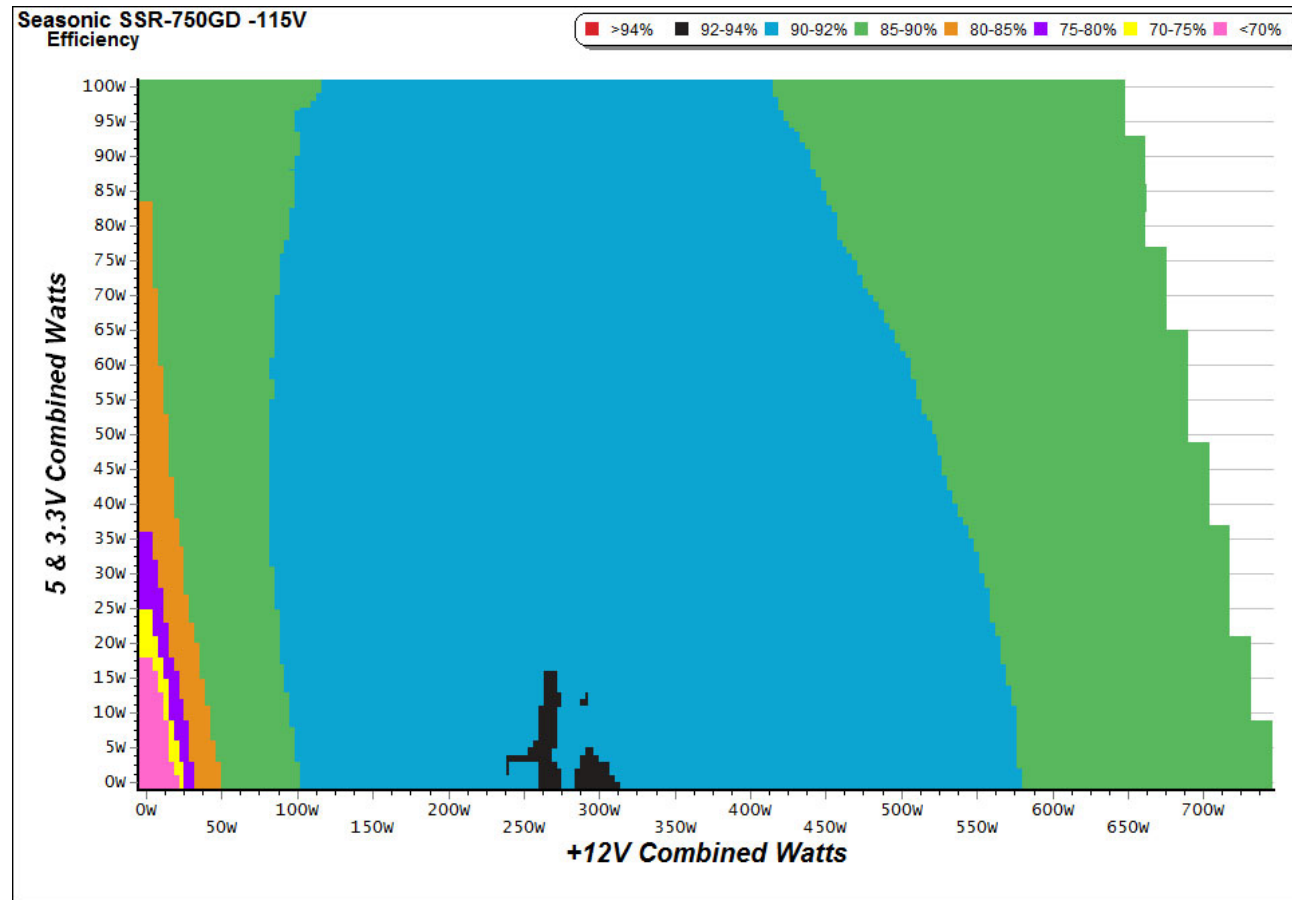
Graphs 115V

Power - R1701TA101470009 - 18/03/2017 - 10:16



Efficiency Graph

115V

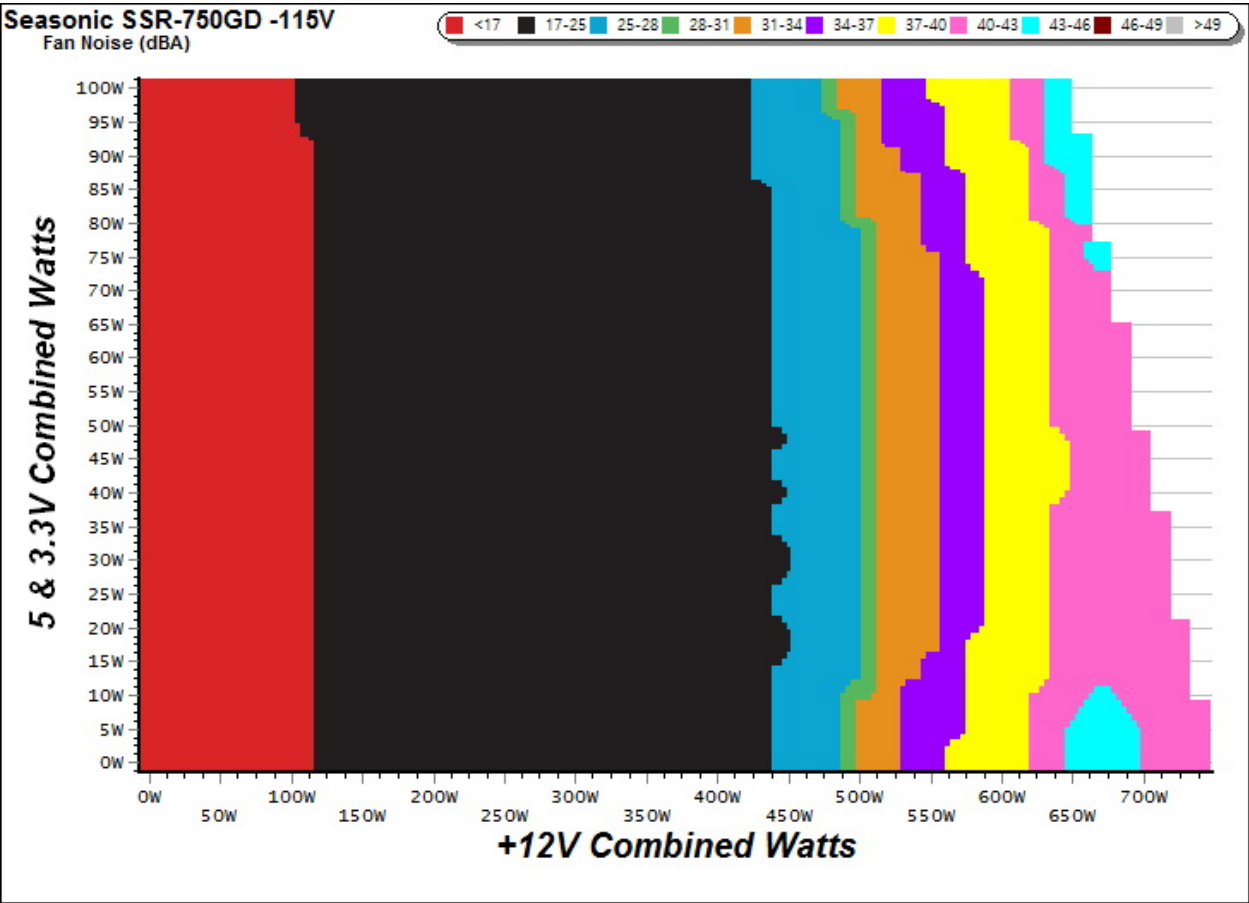


INFO

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

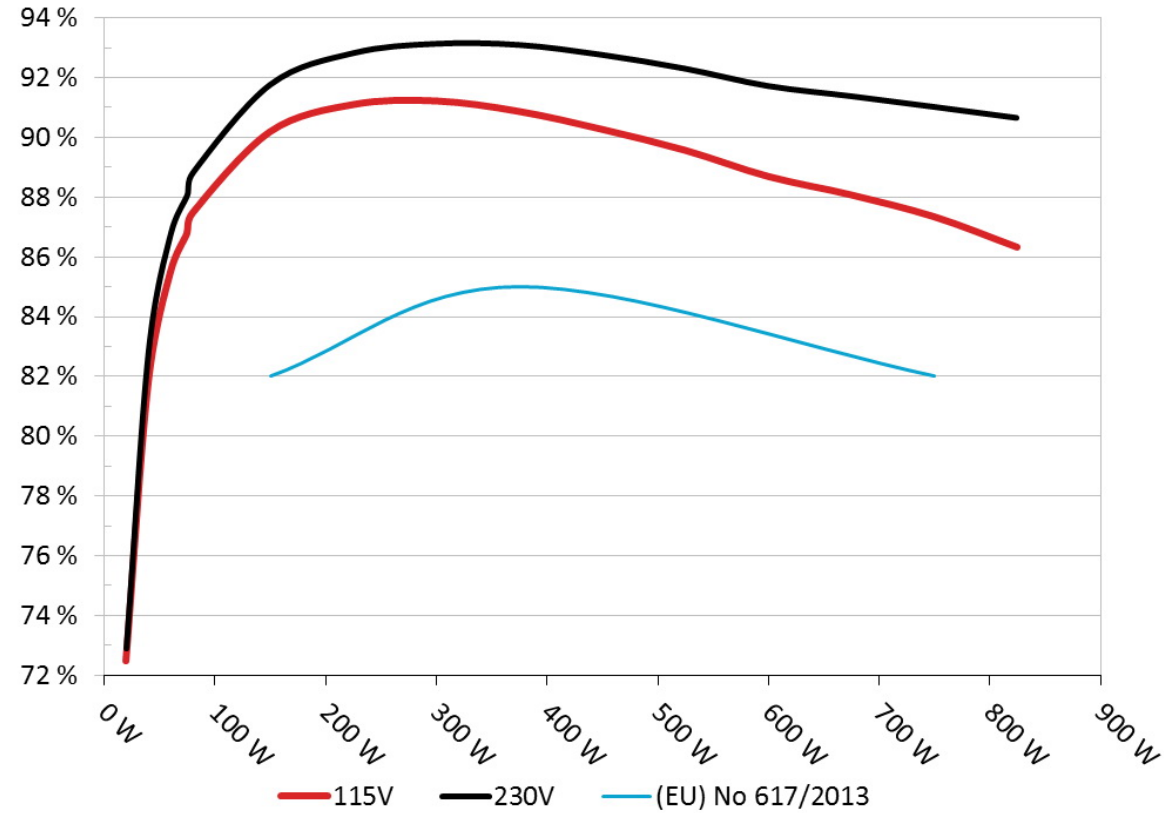
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Seasonic SSR-750GD

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



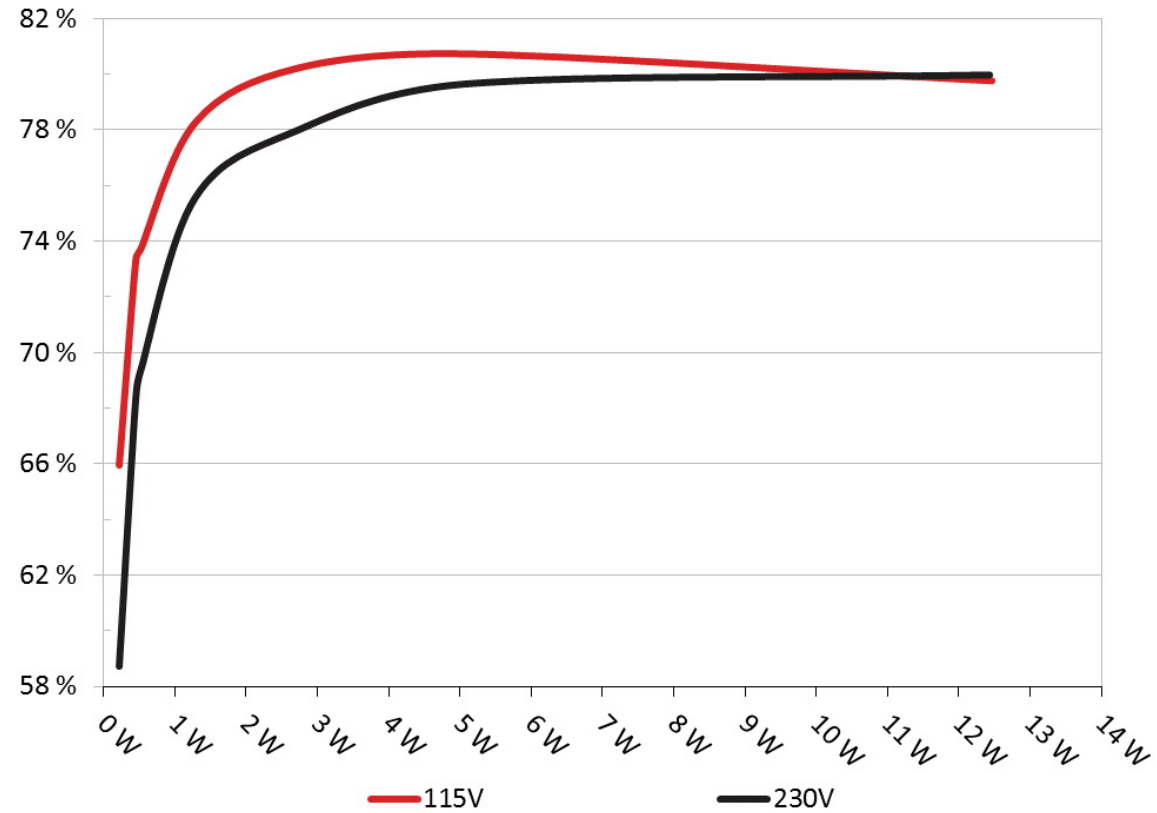
INFO

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.

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

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

Supplementary Tests (For Reference)

Typical Load Tests 115V

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

The results above are not used in the certification process

Light Load Tests 115V

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

The results above are not used in the certification process

Ripple Measurements 115V

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

Test	12V	5V	3.3V	5VSB	Pass/Fail
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

The results above are not used in the certification process

Seasonic Prime Gold 750W



Top side



Power specifications label

Cybenetics [REDACTED] ETA [REDACTED] LAMBDA [REDACTED] SAFE [REDACTED] DELTA [REDACTED] PHI [REDACTED]

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