



EVGA 750 BQ

Serial Number 17035600715800546

Lab ID 163

Certification ID 25163

Test Result Report ID:

Certificate Issue Date: Aug 21, 2018

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

A handwritten signature in blue ink, appearing to be 'Aristeidis Bitziopoulos'.

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	EVGA
Model	750 BQ
OEM/ODM	HEC
Serial Number	17035600715800546
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10
Rated Frequency (Hz)	50-60

Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Semi Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Teflon Nano-Steel Fan (RL4Z T1352512HH)
Semi-Passive Operation	X
Cybenetics Testing Information	
Lab ID	163
Date of receipt	Aug 6, 2018
Testing Date	Aug 18, 2018
Report Issued Date	Aug 21, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Captive Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (570mm)	1	1	18-22AWG
4+4 pin EPS12V (620mm)	1	1	18AWG
6+2 pin PCIe (580mm+150mm)	1	2	18AWG
Modular Cables			
4+4 pin EPS12V (600mm)	1	1	18AWG
6+2 pin PCIe (550mm+150mm)	2	4	18AWG
SATA (510mm+150mm+150mm)	3	9	18AWG
4 pin Molex (550mm+150mm)	1	2	18AWG

4 pin Molex (550mm+150mm+150mm)+FDD (+150mm)	1	2 / 1	18-20AWG
--	---	-------	----------

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	20	62	3	0.3
	Watts	150		744	15	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)	84.666%
Average Noise Output (>1450 Load Combinations)	43.06dBA
Average PF (>1450 Load Combinations)	0.985
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0519W
Non-Accredited	
12V Ripple (Full Load)	28.40mV
5V Ripple (Full Load)	31.39mV
3.3V Ripple (Full Load)	46.33mV
5VSB Ripple (Full Load)	29.34mV
12V Load Regulation	1.59%
5V Load Regulation	2.69%
3.3V Load Regulation	2.13%

5VSB Load Regulation	3.26%
Inrush Current	65.270A

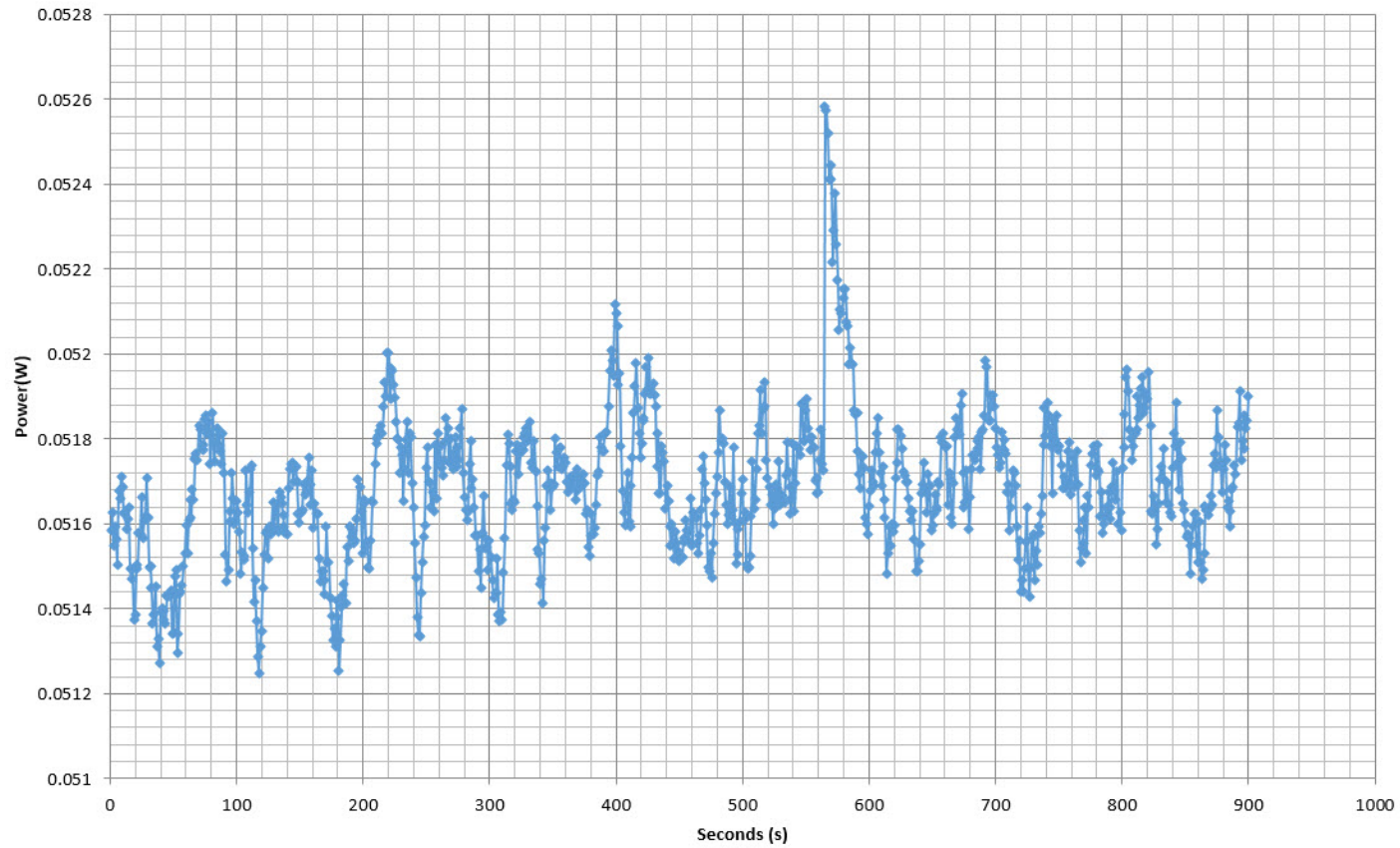
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	15.40
AC Loss to PWR_OK Hold Up Time (ms)	13.36
PWR_OK Inactive to DC Loss Delay (ms)	2.04

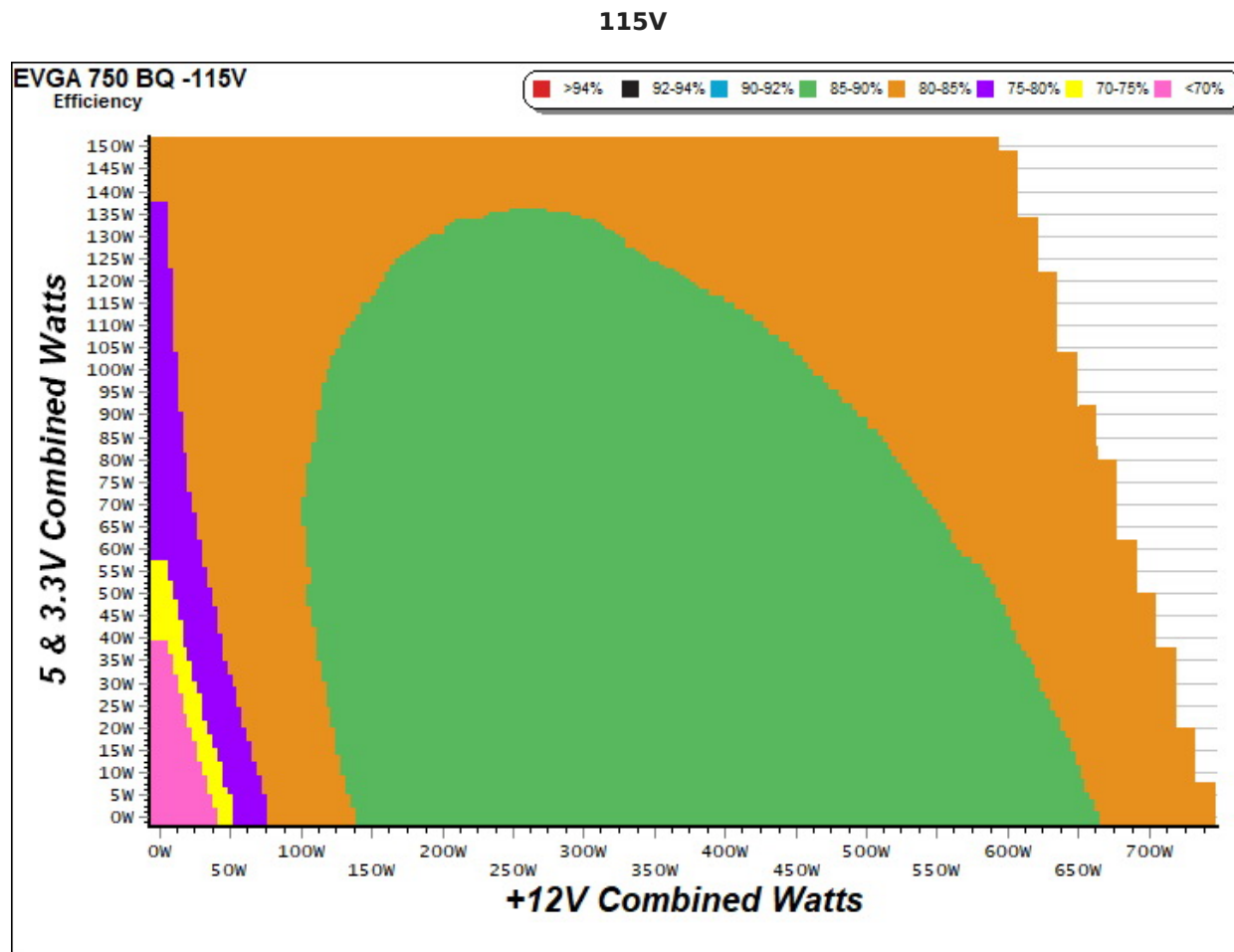
Vampire Power

Graphs 115V

Power - 1703560715800546 - 19/08/2017 - 10:12



Efficiency Graph

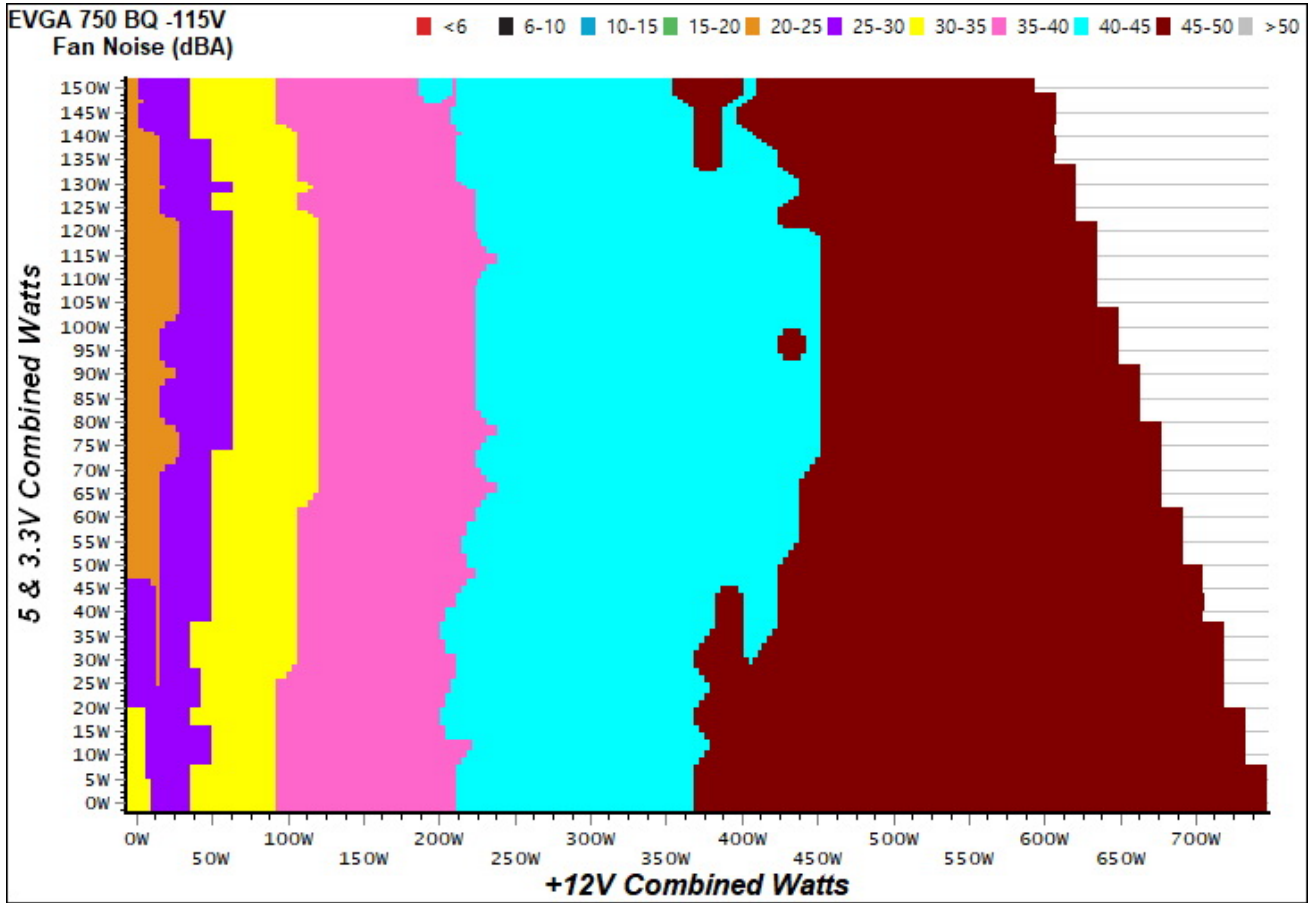


INFO

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

115V



INFO

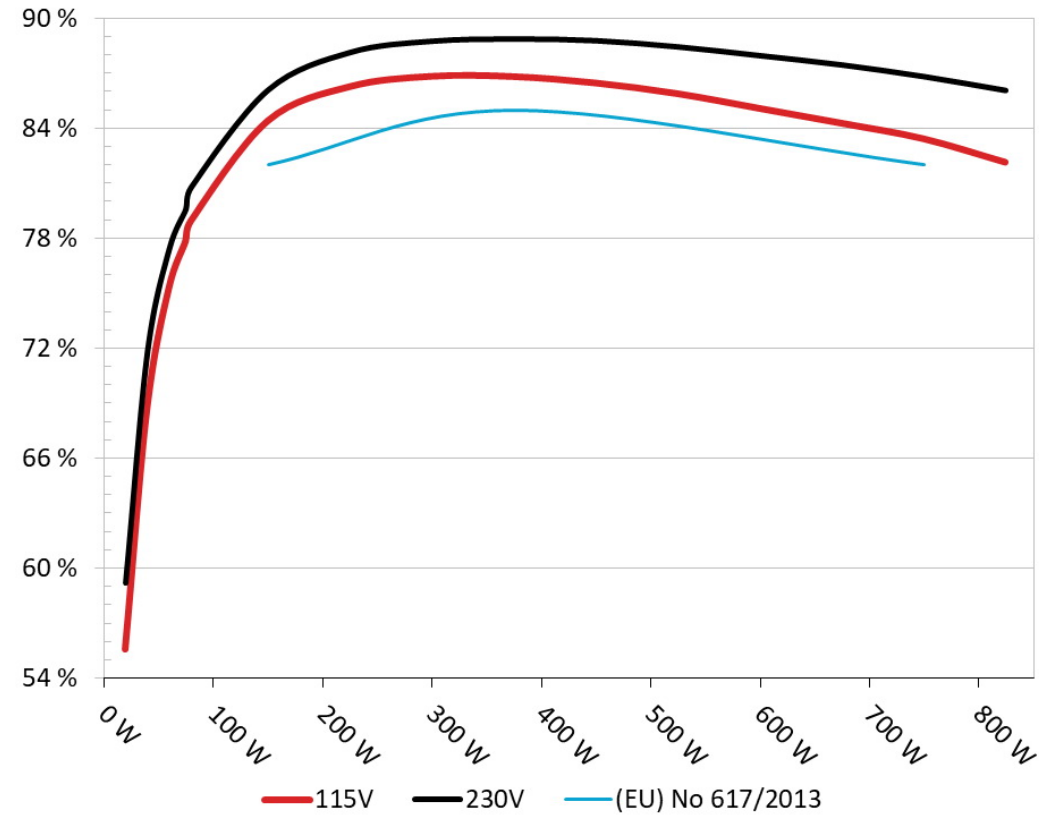
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: EVGA 750 BQ

Ambient: 37°C - 47°C (98.6°F - 116.6°F)



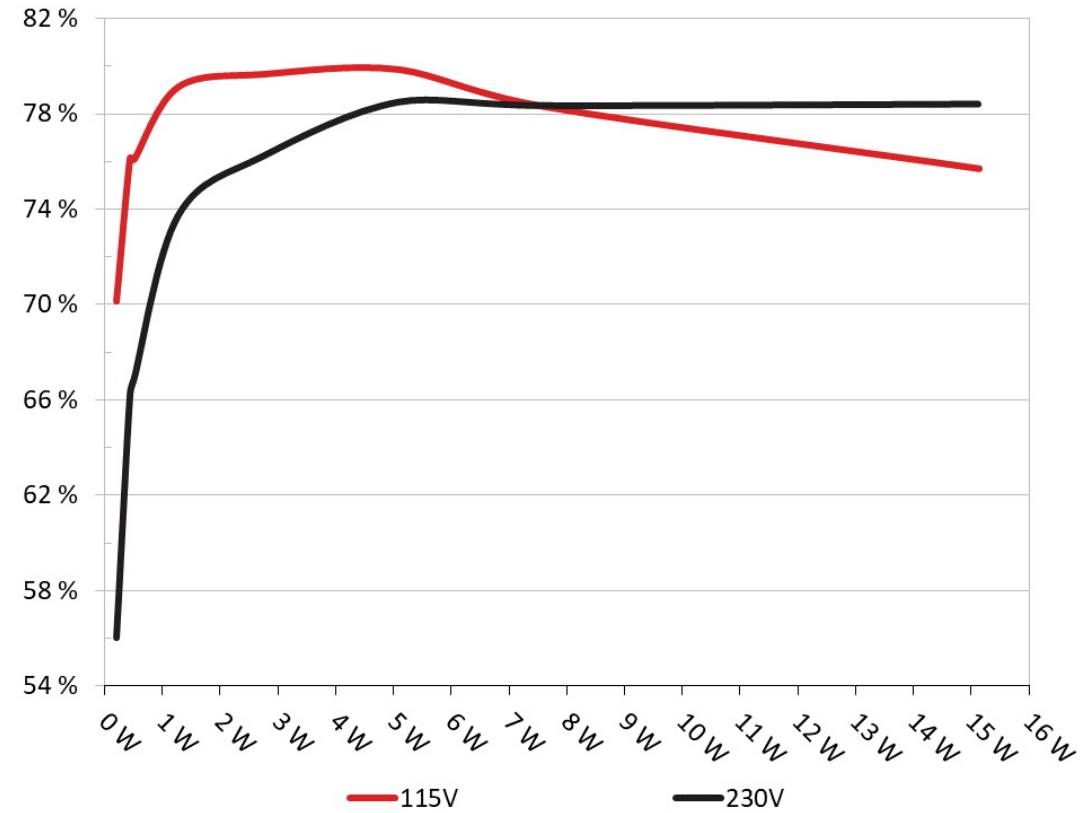
INFO

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: EVGA 750 BQ

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	0.214	70.164%	0.043
	5.105V	0.305		115.14V

2	0.088A	0.447	76.150%	0.081
	5.104V	0.587		115.14V
3	0.542A	2.763	79.671%	0.290
	5.094V	3.468		115.13V
4	1.002A	5.097	79.865%	0.352
	5.085V	6.382		115.14V
5	1.502A	7.619	78.312%	0.385
	5.074V	9.729		115.14V
6	3.001A	15.136	75.714%	0.432
	5.043V	19.991		115.13V

Supplementary Tests (For Reference)

Typical Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	4.361A	1.984A	1.947A	0.986A	74.789	77.842%	1505	41.1	38.02°C	0.966
	12.199V	5.039V	3.385V	5.072V	96.078				41.52°C	115.17V
2	9.761A	2.981A	2.929A	1.186A	149.750	84.404%	1616	43.2	38.31°C	0.980
	12.179V	5.024V	3.379V	5.057V	177.421				42.28°C	115.20V
3	15.523A	3.497A	3.438A	1.385A	224.896	86.285%	1664	43.8	38.80°C	0.979
	12.162V	5.013V	3.371V	5.043V	260.642				43.24°C	115.18V
4	21.293A	3.998A	3.922A	1.591A	299.748	86.850%	1744	45.4	39.13°C	0.977
	12.143V	5.002V	3.363V	5.028V	345.132				44.26°C	115.19V
5	26.748A	5.012A	4.914A	1.790A	374.699	86.836%	1758	45.8	39.78°C	0.983
	12.122V	4.986V	3.356V	5.016V	431.500				45.97°C	115.21V
6	32.213A	6.039A	5.906A	2.000A	449.631	86.486%	1765	45.8	40.72°C	0.987
	12.102V	4.970V	3.349V	4.998V	519.891				48.37°C	115.44V
7	37.706A	7.063A	6.908A	2.205A	524.552	85.904%	1765	45.8	41.66°C	0.992
	12.080V	4.955V	3.341V	4.983V	610.628				50.60°C	115.35V
8	43.224A	8.101A	7.914A	2.415A	599.552	85.099%	1765	45.8	43.07°C	0.995
	12.057V	4.940V	3.334V	4.967V	704.535				53.83°C	115.18V

9	49.186A	8.630A	8.445A	2.420A	674.611	84.288%	1765	45.8	44.28°C	0.996
	12.036V	4.928V	3.326V	4.955V	800.360				57.16°C	115.16V
10	54.908A	9.162A	8.952A	3.040A	749.414	83.444%	1765	45.8	45.09°C	0.996
	12.015V	4.914V	3.316V	4.930V	898.101				59.85°C	115.16V
11	61.251A	9.178A	8.978A	3.048A	824.287	82.159%	1765	45.8	46.62°C	0.997
	11.993V	4.905V	3.308V	4.917V	1003.283				63.02°C	115.18V
CL1	0.096A	18.031A	18.000A	0.004A	150.055	78.870%	1765	45.8	43.77°C	0.980
	12.153V	4.922V	3.340V	5.048V	190.255				53.94°C	115.17V
CL2	61.936A	1.004A	1.001A	1.002A	758.140	83.566%	1768	45.8	45.64°C	0.996
	12.026V	4.966V	3.306V	4.993V	907.240				59.08°C	115.18V

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)	PSU Noise (dB[A])	PF/AC Volts
1	1.193A	0.492A	0.469A	0.196A	19.652	55.556%	13.65	39.0	0.942
	12.217V	5.057V	3.390V	5.096V	35.373				115.17V
2	2.415A	0.985A	0.970A	0.391A	39.735	68.779%	1392	39.1	0.954
	12.209V	5.050V	3.388V	5.090V	57.772				115.17V
3	3.640A	1.478A	1.474A	0.590A	59.866	75.360%	1465	40.4	0.965
	12.203V	5.045V	3.387V	5.082V	79.440				115.17V
4	4.852A	1.985A	1.948A	0.786A	79.769	78.957%	1475	40.6	0.968
	12.198V	5.039V	3.385V	5.073V	101.028				115.18V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	11.0 mV	56.0 mV	37.2 mV	10.6 mV	Fail
20% Load	10.6 mV	49.4 mV	30.4 mV	9.9 mV	Pass
30% Load	11.0 mV	52.2 mV	34.6 mV	11.2 mV	Fail
40% Load	14.0 mV	50.1 mV	27.4 mV	14.9 mV	Fail

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	12.2 mV	13.2 mV	25.1 mV	16.2 mV	Pass
60% Load	14.4 mV	32.7 mV	29.6 mV	19.2 mV	Pass
70% Load	16.7 mV	25.9 mV	32.7 mV	19.5 mV	Pass
80% Load	19.1 mV	27.7 mV	42.4 mV	20.8 mV	Pass
90% Load	23.2 mV	27.9 mV	47.6 mV	24.1 mV	Pass
100% Load	28.4 mV	31.4 mV	46.3 mV	29.3 mV	Pass
110% Load	31.9 mV	30.7 mV	56.2 mV	28.8 mV	Fail
Crossload 1	16.0 mV	21.9 mV	56.7 mV	16.8 mV	Fail
Crossload 2	26.9 mV	44.1 mV	38.2 mV	20.9 mV	Pass

The results above are not used in the certification process

EVGA 750 BQ



Top side

All data and graphs included in this test report can be used by any individual on the following conditions:

- › It should be mentioned that the test results are provided by Cybenetics
- › The link to the original test results document should be provided in any case

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

	+40°C ambient @ full load				
AC Input	100-240 VAC, 10A, 60/50 Hz				
DC Output	+5V	+3.3V	+12V	-12V	+5Vsb
Max Output, A	20A	24A	62A	0.3A	3A
Combined, W	150W		744W	3.6W	15W
Output Power, P _{cont}	750W @ +40°C				

Power specifications label

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

www.cybenetics.com - info@cybenetics.com