



EVGA SuperNOVA NEX750B

Serial Number 1703160715800144

Lab ID 169

Certification ID 25169

Test Result Report ID:

Certificate Issue Date: Aug 31, 2018

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

A handwritten signature in blue ink, appearing to read "A. Bitziopoulos", written over a faint circular stamp.

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	SuperNOVA NEX750B
OEM/ODM	FSP
Serial Number	1703160715800144
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-5.5
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 Double Ball-Bearing Fan (Yate Loon D14BH-12)
Semi-Passive Operation	X
Cybenetics Testing Information	
Lab ID	169
Date of receipt	Aug 19, 2018
Testing Date	Aug 28, 2018
Report Issued Date	Aug 31, 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 (620mm)	1	1	18-24AWG
6+2 pin PCIe (640mm+150mm)	1	2	18-20AWG
6+2 pin PCIe (640mm)	1	2	18AWG
Modular Cables			
4+4 pin EPS12V (600mm)	1	1	18AWG
6+2 pin PCIe (600mm)	2	2	18AWG
SATA (550mm+100mm+100mm)	3	9	20AWG
4 pin Molex (550mm+100mm+100mm)	1	3	20AWG

4 pin Molex (550mm+100mm)+FDD (+100mm)	1	2 / 1	20-22AWG
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Power Specifications

Rail		3.3V	5V	12V1	12V2	12V3	12V4	5VSB	-12V
Max. Power	Amps	25	25	20	20	20	20	3	0.8
	Watts	150		732				15	9.6
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)	83.896%
Average Noise Output (>1450 Load Combinations)	36.76dBA
Average PF (>1450 Load Combinations)	0.994
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.1025W
Non-Accredited	
12V Ripple (Full Load)	60.15mV
5V Ripple (Full Load)	38.10mV
3.3V Ripple (Full Load)	57.33mV
5VSB Ripple (Full Load)	32.14mV
12V Load Regulation	2.08%
5V Load Regulation	1.50%
3.3V Load Regulation	2.61%

5VSB Load Regulation	5.10%
Inrush Current	69.717A

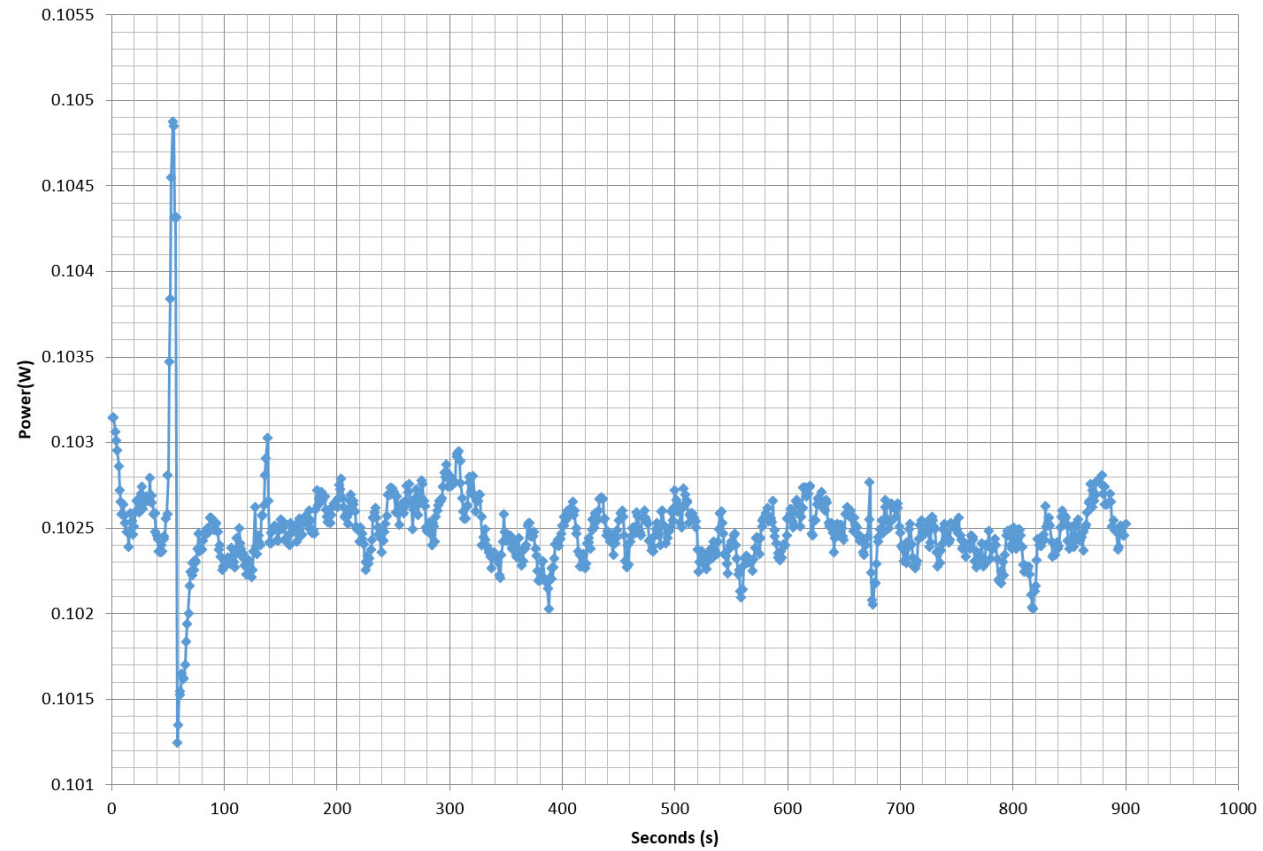
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	13.44
AC Loss to PWR_OK Hold Up Time (ms)	6.00
PWR_OK Inactive to DC Loss Delay (ms)	7.44

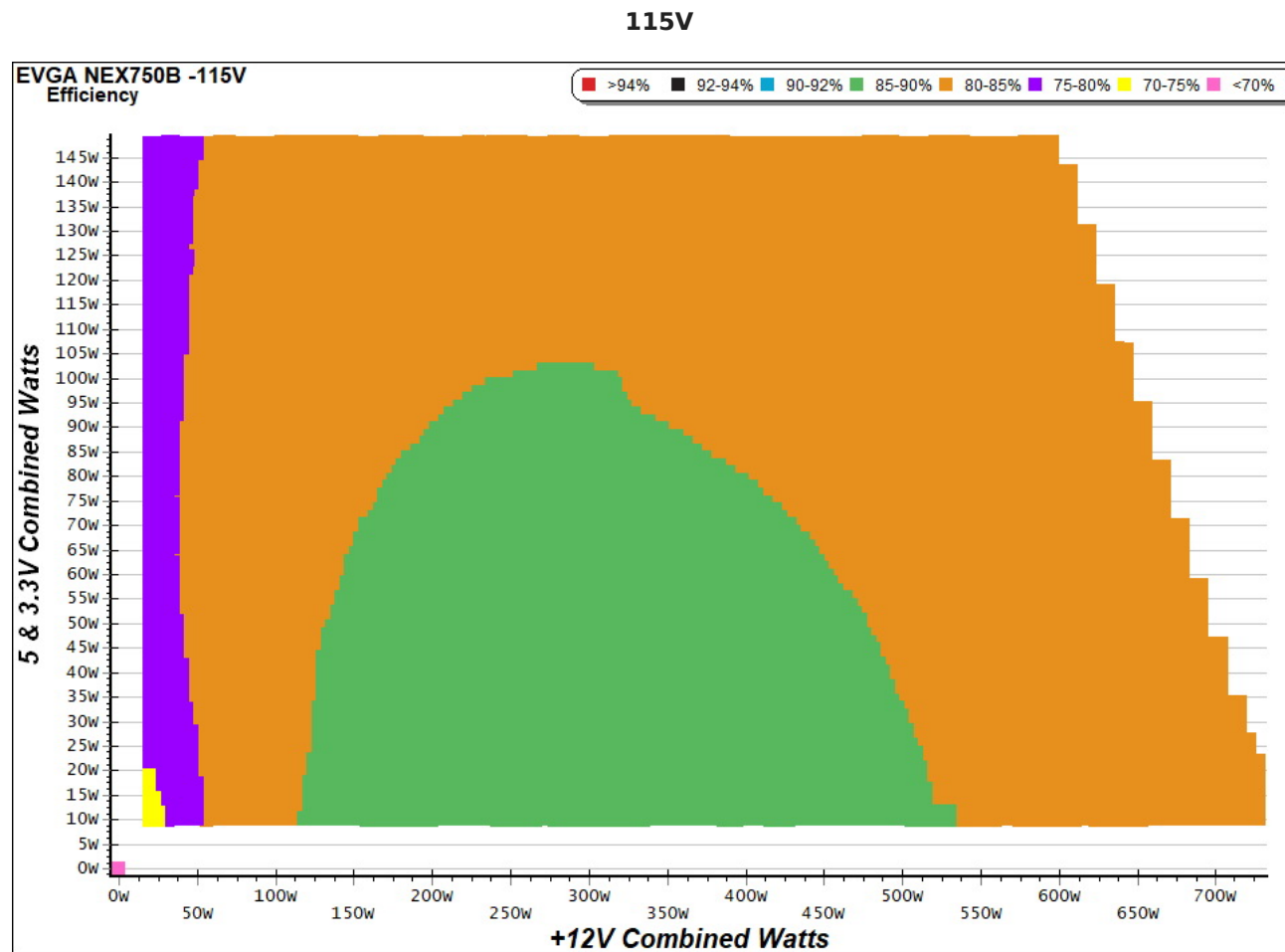
Vampire Power

Graphs 115V

Power - 1703160715800144 - 31/08/2017 - 10:27



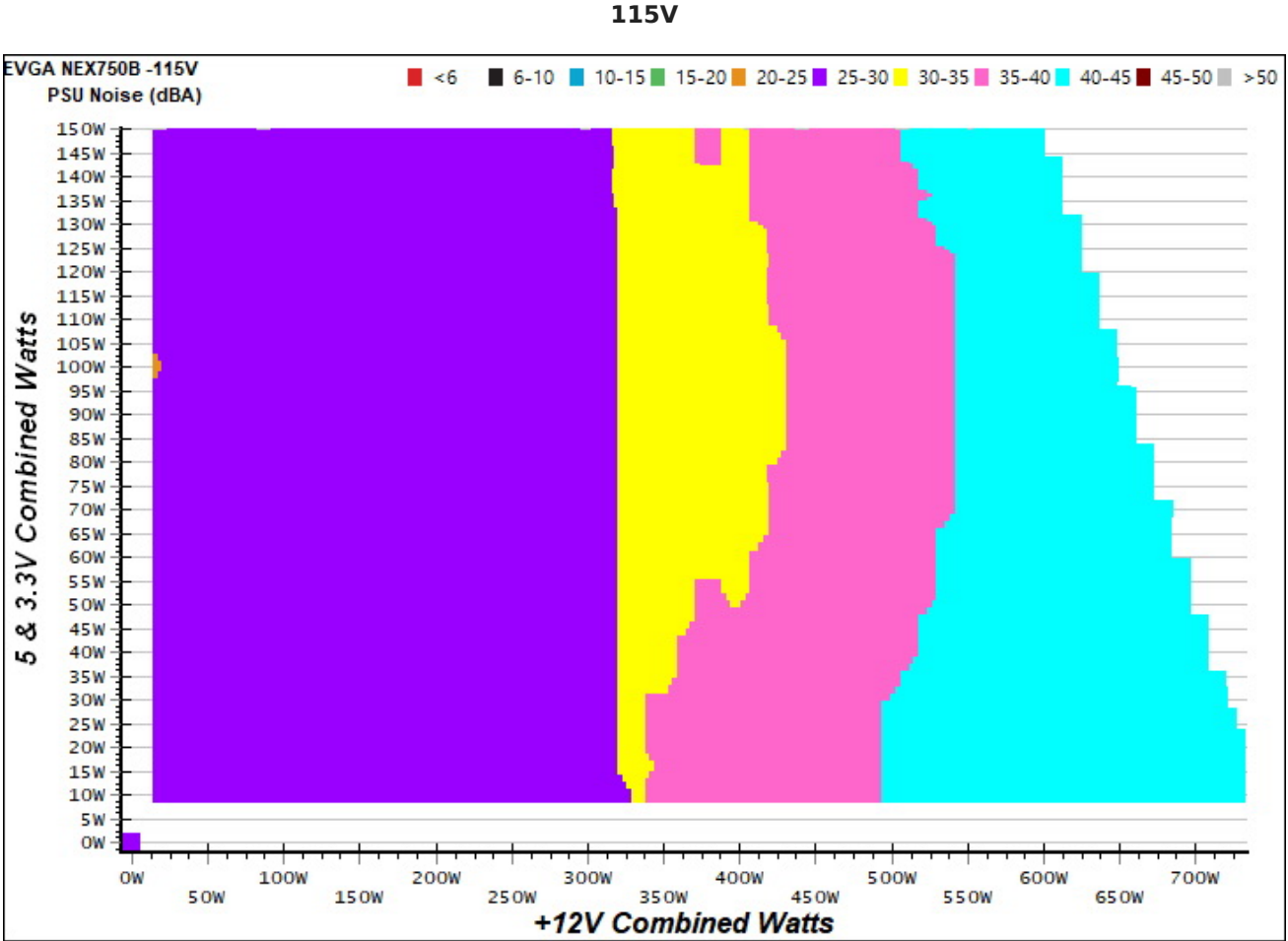
Efficiency Graph



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

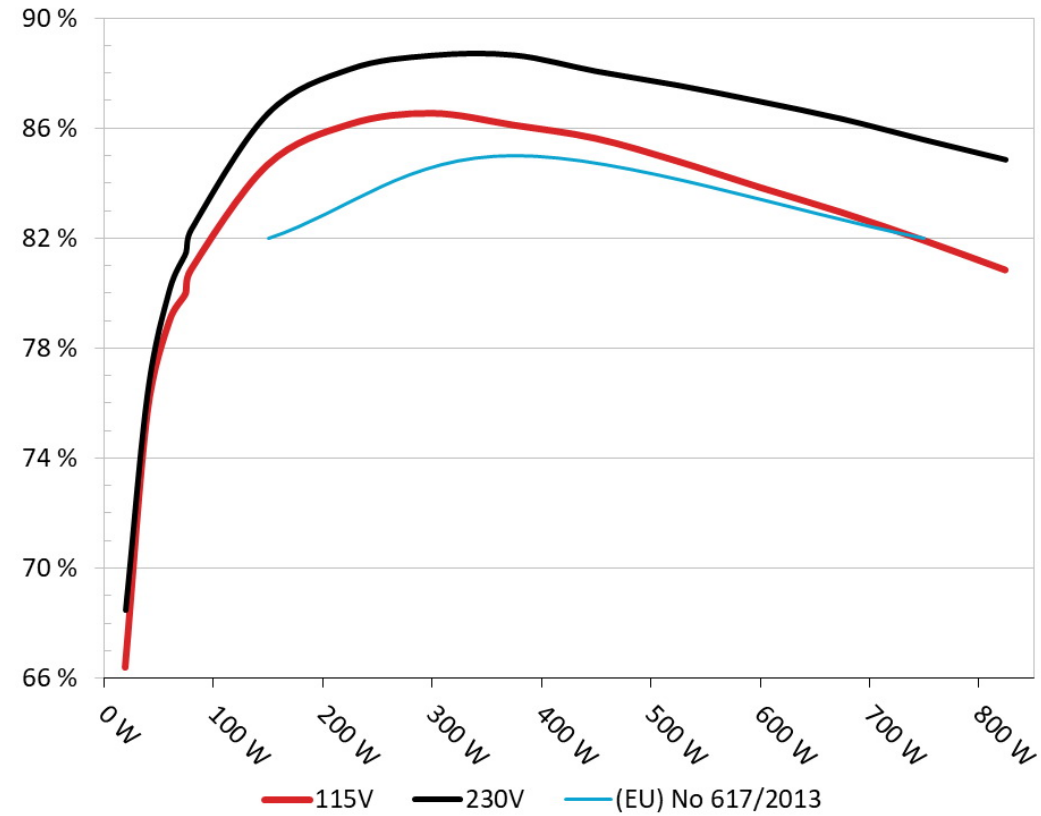
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: EVGA NEX750B

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



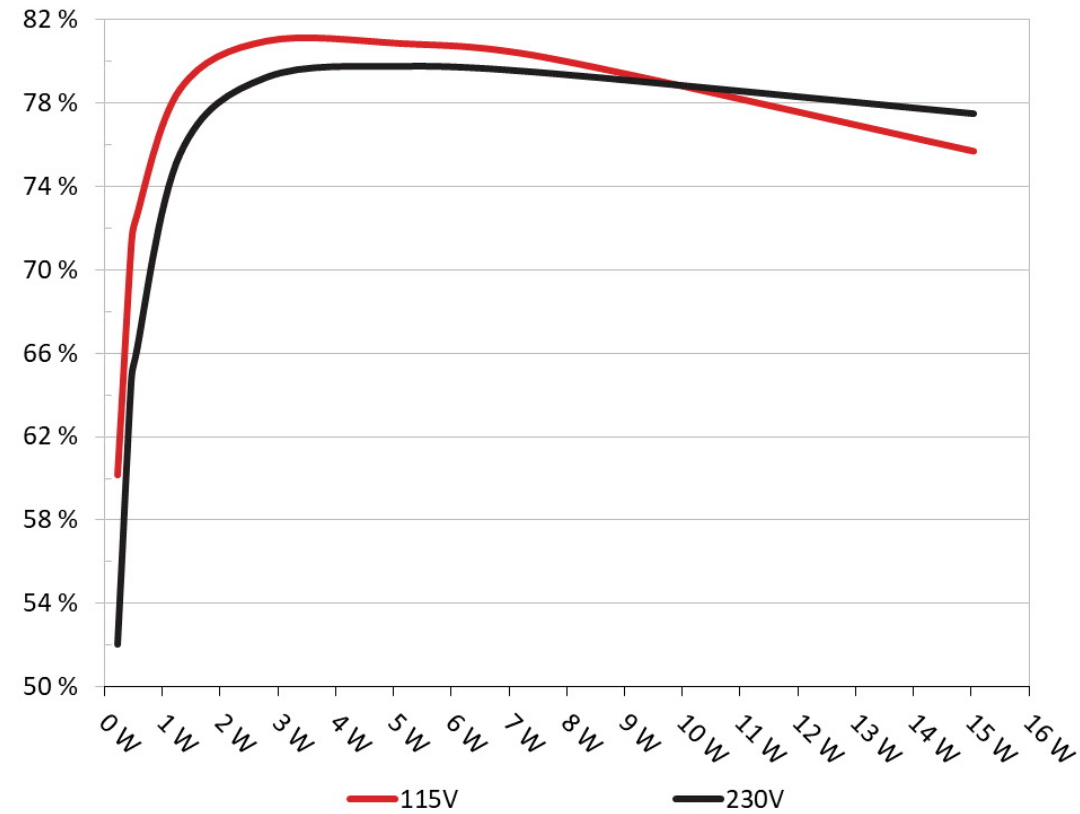
INFO

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 NEX750B

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	0.216	60.167%	0.062
	5.170V	0.359		115.16V

2	0.087A	0.451	71.136%	0.106
	5.167V	0.634		115.17V
3	0.542A	2.789	80.981%	0.335
	5.144V	3.444		115.14V
4	1.002A	5.131	80.867%	0.401
	5.121V	6.345		115.14V
5	1.502A	7.649	80.187%	0.435
	5.094V	9.539		115.15V
6	3.002A	15.050	75.700%	0.486
	5.014V	19.881		115.17V

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	4.384A	1.955A	1.939A	0.976A	74.763	79.980%	1070	29.5	38.21°C	0.952
	12.130V	5.117V	3.400V	5.110V	93.477				44.17°C	115.24V
2	9.820A	2.927A	2.918A	1.175A	149.708	84.651%	1070	29.5	38.87°C	0.984
	12.107V	5.105V	3.391V	5.089V	176.854				46.16°C	115.20V
3	15.636A	3.434A	3.428A	1.380A	224.891	86.128%	1070	29.5	39.48°C	0.991
	12.074V	5.101V	3.381V	5.069V	261.114				48.36°C	115.19V
4	21.469A	3.923A	3.909A	1.580A	299.739	86.525%	1095	30.0	40.11°C	0.995
	12.044V	5.098V	3.374V	5.049V	346.419				51.01°C	115.20V
5	26.974A	4.917A	4.905A	1.788A	374.748	86.097%	1290	35.1	40.96°C	0.996
	12.020V	5.090V	3.365V	5.027V	435.262				54.15°C	115.22V
6	32.483A	5.910A	5.897A	1.995A	449.613	85.615%	1485	38.2	41.87°C	0.997
	12.002V	5.074V	3.355V	5.003V	525.159				55.91°C	115.25V
7	38.034A	6.917A	6.904A	2.205A	524.641	84.786%	1620	40.5	42.08°C	0.997
	11.977V	5.065V	3.345V	4.979V	618.782				56.80°C	115.17V
8	43.600A	7.915A	7.909A	2.420A	599.572	83.840%	1785	42.5	42.98°C	0.998
	11.954V	5.054V	3.336V	4.955V	715.137				58.99°C	115.17V

9	49.672A	8.420A	8.442A	2.425A	674.662	82.927%	1950	45.5	44.29°C	0.998
	11.919V	5.051V	3.329V	4.944V	813.560				61.69°C	115.17V
10	55.524A	8.921A	8.948A	3.064A	749.556	81.918%	2080	46.5	45.15°C	0.998
	11.884V	5.047V	3.318V	4.894V	915.009				63.99°C	115.17V
11	62.078A	8.910A	8.969A	3.069A	824.404	80.837%	2080	46.5	46.98°C	0.998
	11.835V	5.053V	3.311V	4.885V	1019.830				68.37°C	115.17V
CL1	0.098A	18.029A	17.999A	0.004A	141.720	76.149%	970	27.0	43.14°C	0.984
	13.259V	4.437V	3.356V	5.113V	186.109				56.42°C	115.18V
CL2	60.949A	1.003A	1.002A	1.002A	720.661	82.352%	2050	46.0	46.36°C	0.998
	11.600V	5.245V	3.342V	5.033V	875.103				65.74°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	1.199A	0.482A	0.467A	0.191A	19.614	66.405%	1095	30.0	0.840
	12.147V	5.127V	3.410V	5.157V	29.537				115.21V
2	2.428A	0.969A	0.966A	0.386A	39.711	75.633%	1095	30.0	0.886
	12.137V	5.124V	3.407V	5.145V	52.505				115.18V
3	3.663A	1.461A	1.465A	0.581A	59.880	78.972%	1095	30.0	0.949
	12.128V	5.123V	3.404V	5.133V	75.824				115.20V
4	4.883A	1.955A	1.939A	0.781A	79.799	80.849%	1095	30.0	0.959
	12.125V	5.117V	3.399V	5.120V	98.701				115.25V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	25.0 mV	15.1 mV	22.8 mV	13.5 mV	Pass
20% Load	24.0 mV	17.8 mV	25.9 mV	16.2 mV	Pass
30% Load	27.7 mV	21.1 mV	32.3 mV	18.7 mV	Pass
40% Load	30.0 mV	23.3 mV	38.4 mV	21.0 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	32.1 mV	28.4 mV	40.8 mV	22.7 mV	Pass
60% Load	36.3 mV	34.0 mV	49.1 mV	26.7 mV	Pass
70% Load	39.2 mV	33.1 mV	45.3 mV	27.4 mV	Pass
80% Load	43.5 mV	38.6 mV	52.3 mV	29.9 mV	Fail
90% Load	51.2 mV	37.1 mV	54.2 mV	29.2 mV	Fail
100% Load	60.2 mV	38.1 mV	57.3 mV	32.1 mV	Fail
110% Load	73.1 mV	44.1 mV	57.4 mV	33.7 mV	Fail
Crossload 1	33.1 mV	42.9 mV	35.3 mV	29.2 mV	Pass
Crossload 2	73.8 mV	44.7 mV	51.7 mV	26.8 mV	Fail

The results above are not used in the certification process

EVGA SuperNOVA NEX750B



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

	+50°C ambient @ full load							
AC Input	100-240 VAC~, 12-5.5A, 50-60 Hz C-14 input connector							
DC Output	+5V	+3.3V	+12V1	+12V2	+12V3	+12V4	-12V	+5Vsb
Max Output, A	25	25	20	20	20	20	0.8	3
Combined, W	150		61A/732W				9.6	15
Output power, P _{cont}	750W @ +50°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

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