



EVGA SuperNOVA 750 G6

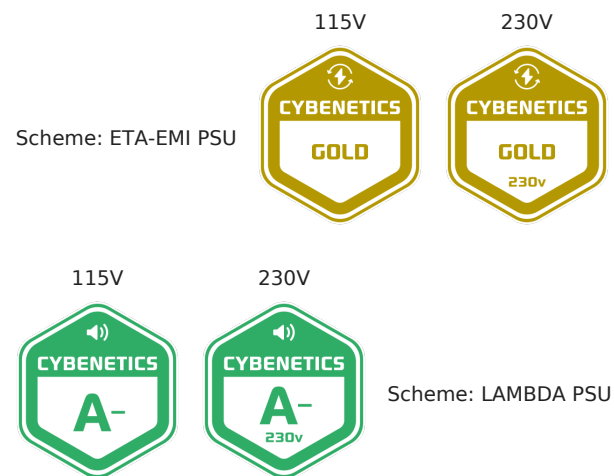
Serial Number 2104040700830182

Lab ID EV75001870

Certification ID 251870

Test Result Report ID: 21PS1870A

Certificate Issue Date: Jul 19, 2021



A handwritten signature in blue ink, appearing to read 'A. Bitziopoulos', is written over a faint, circular, light-blue 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 750 G6
OEM/ODM	Seasonic
Serial Number	2104040700830182
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
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	EV75001870
Date of receipt	Jul 10, 2021
Testing Date	Jul 14, 2021
Report Issued Date	Jul 19, 2021
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	In Cable Capacitors
ATX connector 20+4 pin (610mm)	1	1	18-22AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (700mm+125mm)	2	4	18AWG	No
6+2 pin PCIe (700mm)	2	2	18AWG	No
SATA (560mm+100mm+100mm)	3	9	18AWG	No
4-pin Molex (560mm+100mm+100mm+100mm)	1	4	18AWG	No
FDD Adapter (105mm)	1	1	22AWG	No
AC Power Cord (1380mm) - C13 coupler	1	1	18AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	24	62.5	3	0.5
	Watts	120		750	15	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	✓
ALPM (Alternative Low Power Mode) compatible	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	88.764%
Average Noise Output (>1450 Load Combinations)	27.10dBA
Average PF (>1450 Load Combinations)	0.977
Efficiency With 10W (≤500W) or 2% (>500W) Load	69.653%
Standby Power Consumption	0.0625W
Non-Accredited	
12V Ripple (Full Load)	11.11mV
5V Ripple (Full Load)	8.09mV
3.3V Ripple (Full Load)	13.00mV
5VSB Ripple (Full Load)	15.37mV
12V Load Regulation	0.75%
5V Load Regulation	0.48%

3.3V Load Regulation	0.72%
5VSB Load Regulation	2.53%
Inrush Current	26.850A

230V

Accredited		
Average Efficiency (>1450 load combinations)	90.898%	
Average Noise Output (>1450 Load Combinations)	27.49dBA	
Average PF (>1450 Load Combinations)	0.933	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.1209W	
Non-Accredited		
12V Ripple (Full Load)	11.81mV	
5V Ripple (Full Load)	8.03mV	
3.3V Ripple (Full Load)	13.35mV	
5VSB Ripple (Full Load)	14.97mV	
12V Load Regulation	0.77%	
5V Load Regulation	0.48%	
3.3V Load Regulation	0.72%	
5VSB Load Regulation	2.51%	
Inrush Current	55.710A	
Hold-Up Time & PWR_OK Signal	24.20ms	
AC Loss to PWR_OK Hold Up Time	19.80ms	
PWR_OK Inactive to DC Loss Delay	4.40ms	
PSU Timings: T1 (20% / 100%)	88.0ms	88.0ms
PSU Timings: T3 (20% / 100%)	132.0ms	132.0ms
OPP (23.69°C / 44.97°C)	132.75%	126.62%

Hold-Up Time & PWR_OK Signal

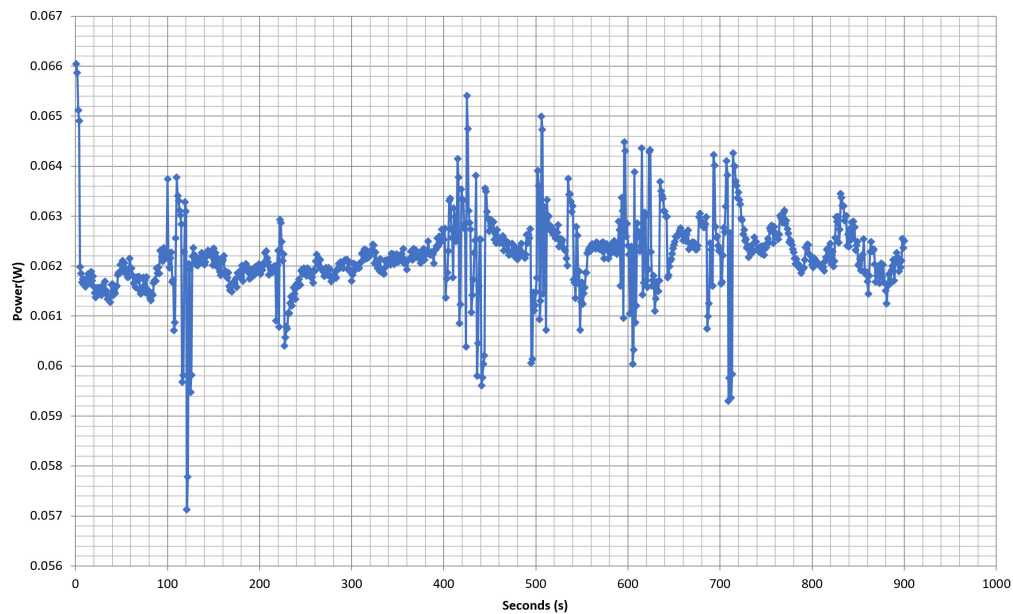
Hold-Up Time (ms)	24.2
AC Loss to PWR_OK Hold Up Time (ms)	19.8
PWR_OK Inactive to DC Loss Delay (ms)	4.4

Vampire Power

Graphs

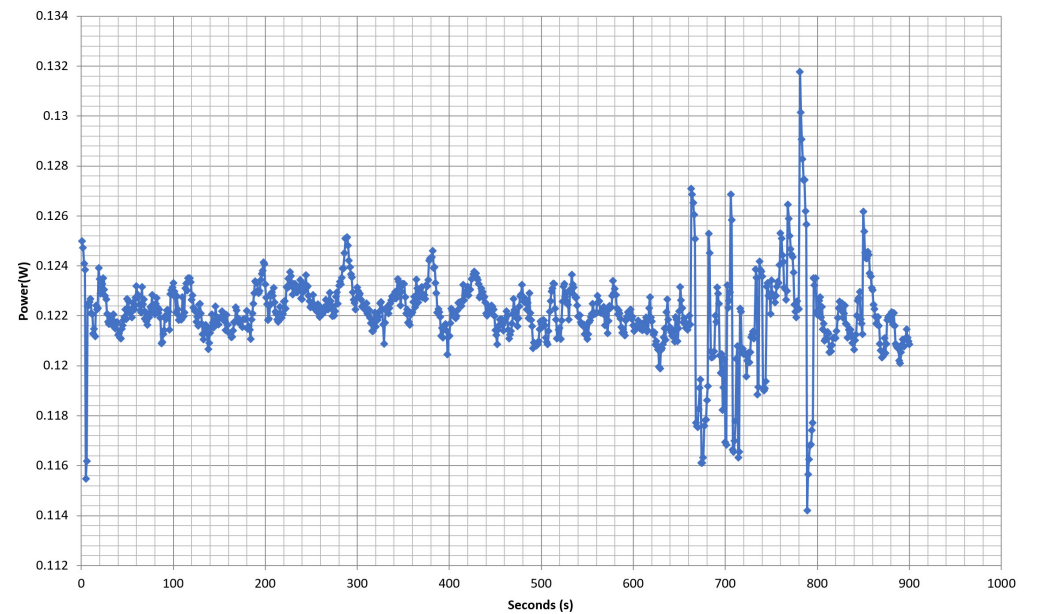
115V

Power - 2104040700830182 - 07/07/2021 - 13:23



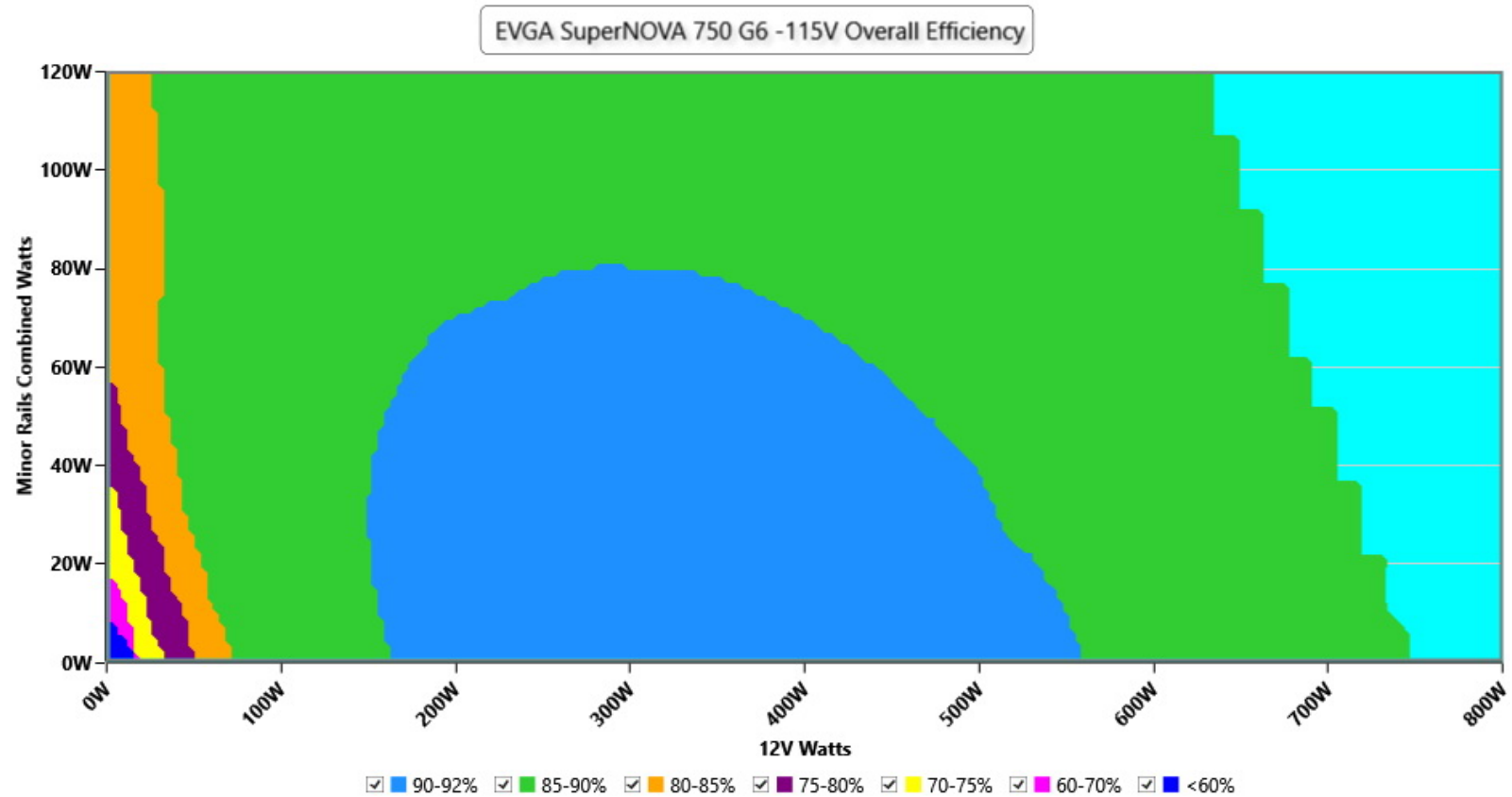
230V

Power - 2104040700830182 - 07/07/2021 - 13:23



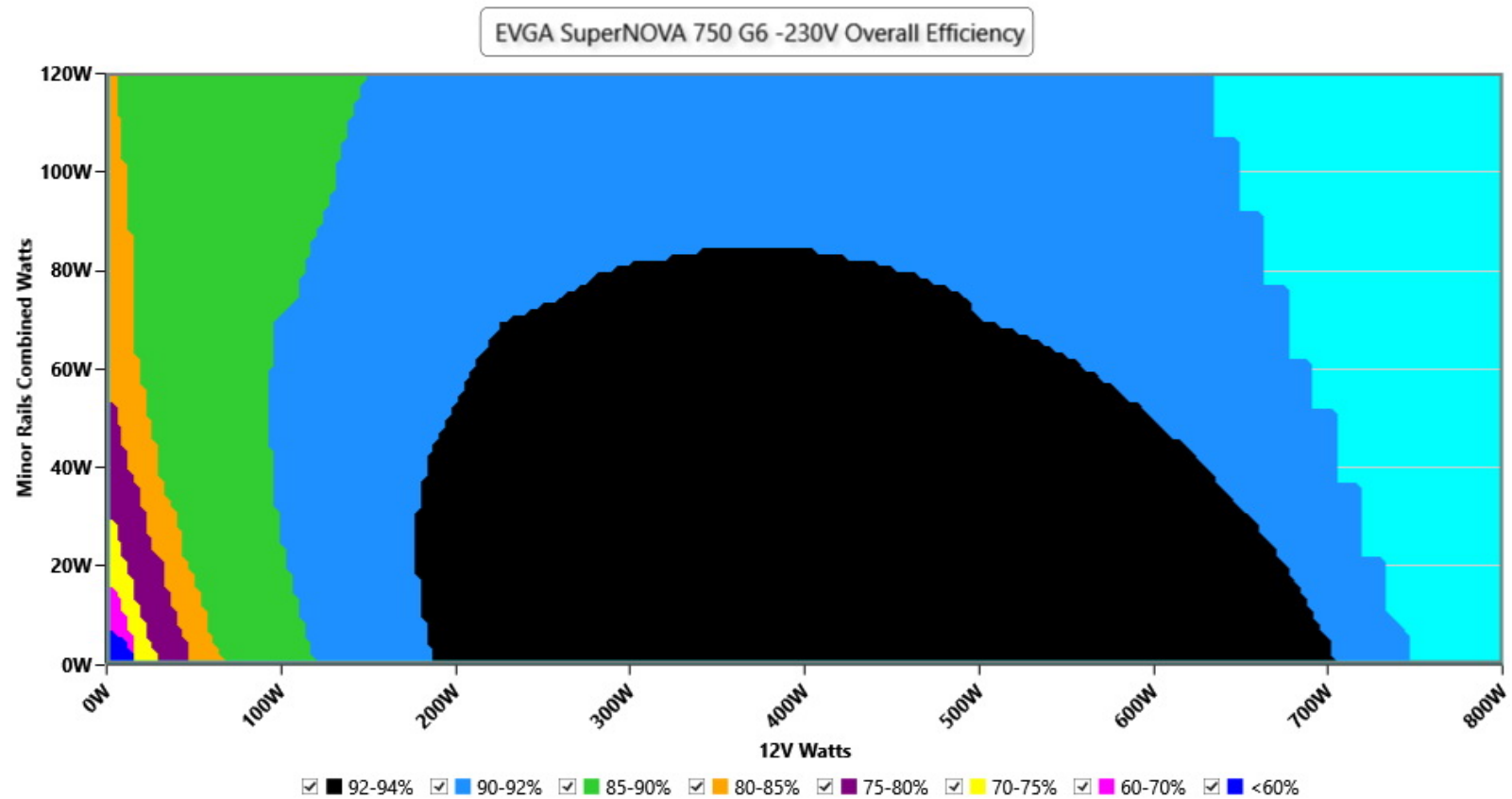
Efficiency Graph

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

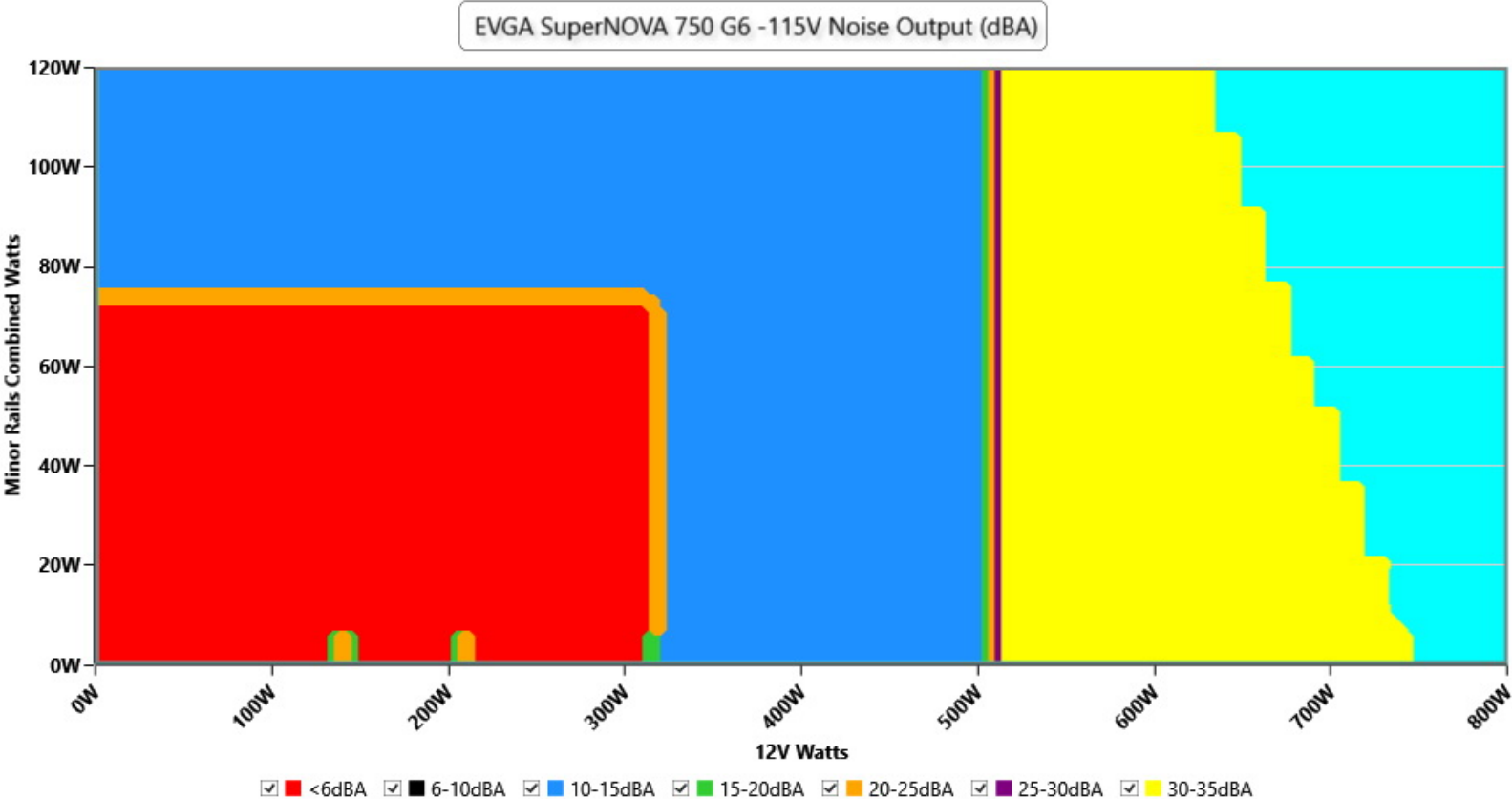


INFO

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

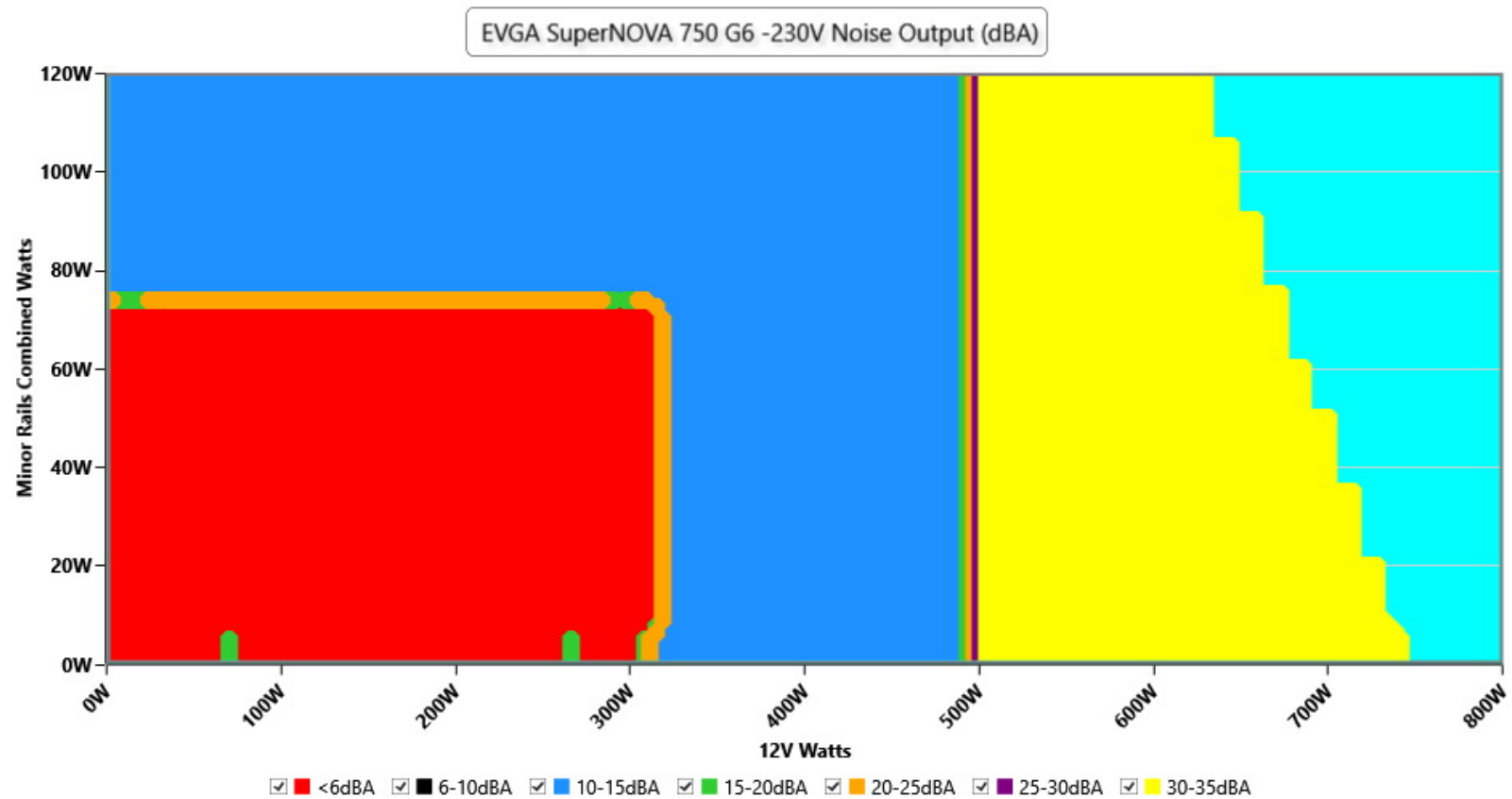
Noise Graph

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



INFO

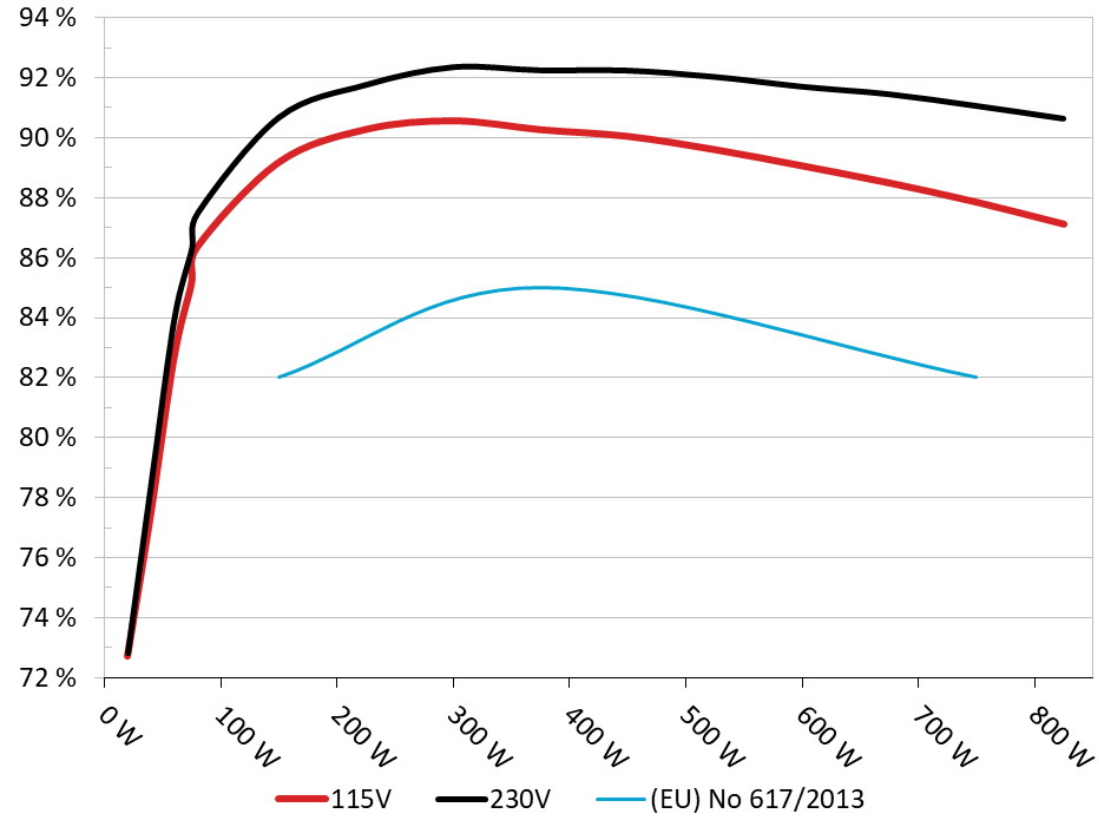
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: EVGA SuperNOVA 750 G6

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



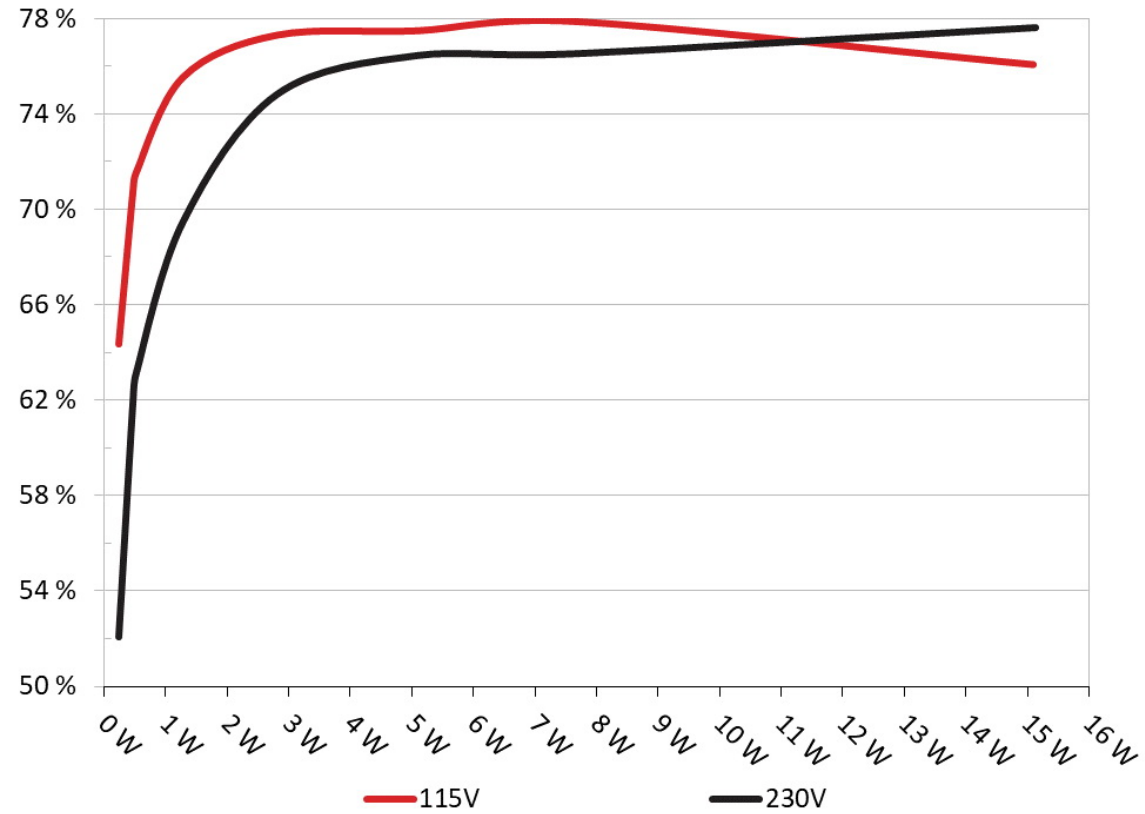
INFO

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 SuperNOVA 750 G6

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	0.045A	0.23W	64.367%	0.033
	5.108V	0.357W		115.16V
2	0.09A	0.46W	70.754%	0.059
	5.107V	0.65W		115.15V
3	0.55A	2.803W	77.28%	0.261
	5.097V	3.627W		115.15V
4	1A	5.087W	77.464%	0.358
	5.088V	6.567W		115.15V
5	1.5A	7.616W	77.857%	0.413
	5.077V	9.782W		115.15V
6	2.999A	15.093W	76.05%	0.479
	5.032V	19.846W		115.15V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	52.089%	0.013
	5.108V	0.442W		230.3V
2	0.09A	0.46W	61.956%	0.021
	5.107V	0.742W		230.31V
3	0.55A	2.803W	74.837%	0.102
	5.097V	3.745W		230.32V
4	1A	5.087W	76.461%	0.168
	5.087V	6.653W		230.32V
5	1.5A	7.613W	76.533%	0.227
	5.076V	9.947W		230.32V
6	2.999A	15.126W	77.629%	0.329
	5.043V	19.485W		230.32V

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
10%	4.385A	1.99A	1.979A	0.984A	74.995	85.151%	0	<6.0	44.84°C	0.957
	12.176V	5.025V	3.335V	5.079V	88.073				40.35°C	115.14V
20%	9.785A	2.986A	2.971A	1.184A	149.914	89.181%	0	<6.0	45.77°C	0.967
	12.163V	5.024V	3.332V	5.068V	168.1				40.84°C	115.14V
30%	15.527A	3.485A	3.468A	1.384A	224.906	90.279%	595	12.0	41.66°C	0.97
	12.163V	5.022V	3.33V	5.057V	249.123				47.14°C	115.14V
40%	21.276A	3.985A	3.967A	1.585A	299.982	90.566%	594	12.0	42.23°C	0.975
	12.163V	5.019V	3.328V	5.046V	331.231				48.28°C	115.13V
50%	26.643A	4.985A	4.964A	1.788A	374.345	90.272%	1402	39.7	42.29°C	0.979
	12.155V	5.015V	3.324V	5.034V	414.684				48.74°C	115.13V
60%	32.035A	5.985A	5.96A	1.99A	449.333	90.05%	1406	40.0	43.15°C	0.982
	12.159V	5.013V	3.322V	5.024V	498.984				49.97°C	115.13V
70%	37.425A	6.986A	6.958A	2.194A	524.245	89.608%	1408	40.0	43.92°C	0.984
	12.161V	5.011V	3.32V	5.011V	585.041				51.29°C	115.12V
80%	42.909A	7.989A	7.957A	2.297A	599.379	89.067%	1789	46.1	44.05°C	0.985
	12.153V	5.008V	3.317V	5.004V	672.953				52.25°C	115.12V
90%	48.671A	8.487A	8.443A	2.401A	674.428	88.498%	1794	46.2	44.7°C	0.987
	12.162V	5.007V	3.316V	4.995V	762.079				53.81°C	115.12V
100%	54.226A	8.99A	8.96A	3.014A	749.685	87.854%	1793	46.1	45.1°C	0.988
	12.171V	5.005V	3.314V	4.975V	853.334				54.88°C	115.11V
110%	59.669A	9.992A	10.053A	3.018A	824.721	87.123%	1797	46.2	47.03°C	0.989
	12.174V	5.004V	3.311V	4.968V	946.622				57.8°C	115.11V
CL1	0.113A	14.377A	14.341A	0A	121.283	83.439%	1421	40.0	42.11°C	0.971
	12.177V	5.022V	3.326V	5.083V	145.355				48.82°C	115.16V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.113A	23.888A	0A	0A	121.39	81.529%	1779	46.0	42.87°C	0.97
	12.167V	5.024V	3.325V	5.089V	148.892				49.91°C	115.16V
CL3	0.113A	0A	23.778A	0A	80.575	76.031%	1776	46.0	43.73°C	0.973
	12.161V	5.023V	3.331V	5.086V	105.977				51.27°C	115.17V
CL4	61.633A	0A	0A	0.001A	749.527	88.744%	1792	46.1	44.2°C	0.987
	12.161V	5.012V	3.322V	5.05V	844.597				53.09°C	115.13V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	4.384A	1.99A	1.979A	0.984A	74.996	86.288%	0	<6.0	44.85°C	0.779
	12.178V	5.025V	3.334V	5.079V	86.914				40.58°C	230.35V
20%	9.784A	2.986A	2.971A	1.184A	149.927	90.666%	0	<6.0	45.88°C	0.892
	12.166V	5.023V	3.332V	5.068V	165.361				41.05°C	230.34V
30%	15.527A	3.486A	3.469A	1.384A	224.921	91.75%	596	12.1	41.14°C	0.925
	12.164V	5.021V	3.329V	5.057V	245.146				46.46°C	230.34V
40%	21.277A	3.986A	3.968A	1.585A	299.999	92.339%	596	12.1	41.72°C	0.943
	12.163V	5.019V	3.327V	5.046V	324.887				47.64°C	230.33V
50%	26.634A	4.985A	4.963A	1.788A	374.394	92.233%	1409	40.0	42.36°C	0.951
	12.161V	5.016V	3.324V	5.034V	405.921				48.97°C	230.33V
60%	32.038A	5.985A	5.96A	1.99A	449.224	92.225%	1404	39.9	42.48°C	0.956
	12.155V	5.013V	3.322V	5.024V	487.094				49.63°C	230.28V
70%	37.428A	6.986A	6.958A	2.194A	524.156	92.016%	1405	39.9	43.47°C	0.962
	12.158V	5.011V	3.32V	5.012V	569.638				51.15°C	230.28V
80%	42.885A	7.988A	7.956A	2.297A	599.4	91.69%	1788	46.1	43.73°C	0.966
	12.161V	5.008V	3.317V	5.004V	653.722				52.08°C	230.28V
90%	48.659A	8.487A	8.443A	2.401A	674.407	91.438%	1791	46.1	44.75°C	0.969
	12.165V	5.007V	3.315V	4.995V	737.558				53.74°C	230.28V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	54.233A	8.989A	8.961A	3.014A	749.627	91.048%	1794	46.2	45.44°C	0.971
	12.169V	5.005V	3.314V	4.976V	823.327				54.99°C	230.28V
110%	59.672A	9.991A	10.053A	3.018A	824.66	90.624%	1795	46.2	46.67°C	0.973
	12.173V	5.004V	3.311V	4.968V	909.98				57.53°C	230.28V
CL1	0.113A	14.376A	14.342A	0A	121.277	84.781%	1419	40.1	42.68°C	0.871
	12.172V	5.022V	3.325V	5.083V	143.048				50.23°C	230.29V
CL2	0.113A	23.887A	0A	0A	121.388	82.835%	1779	46.0	43.42°C	0.875
	12.165V	5.024V	3.325V	5.089V	146.542				51.68°C	230.29V
CL3	0.113A	0A	23.776A	0A	80.573	77.169%	1778	46.0	44.1°C	0.817
	12.161V	5.024V	3.331V	5.086V	104.411				52.98°C	230.28V
CL4	61.606A	0A	0A	0.001A	749.512	91.833%	1791	46.1	44.83°C	0.97
	12.166V	5.012V	3.322V	5.051V	816.165				54.3°C	230.27V

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])	Temps (In/Out)	PF/AC Volts
20W	1.228A	0.497A	0.494A	0.196A	19.99	72.726%	0	<6.0	39.25°C	0.822
	12.086V	5.029V	3.337V	5.102V	27.487				36.97°C	115.14V
40W	2.705A	0.696A	0.692A	0.294A	39.992	77.47%	0	<6.0	40.39°C	0.927
	12.081V	5.028V	3.337V	5.098V	51.622				37.6°C	115.14V
60W	4.167A	0.895A	0.89A	0.392A	59.992	82.677%	0	<6.0	41.28°C	0.949
	12.125V	5.027V	3.336V	5.094V	72.561				37.91°C	115.14V
80W	5.613A	1.094A	1.088A	0.491A	79.929	86.362%	0	<6.0	43.63°C	0.963
	12.167V	5.026V	3.335V	5.091V	92.551				39.66°C	115.14V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.228A	0.497A	0.494A	0.196A	19.994	72.813%	0	<6.0	39.29°C	0.463
	12.091V	5.029V	3.338V	5.101V	27.46				36.94°C	230.36V
40W	2.704A	0.696A	0.692A	0.294A	39.994	78.474%	0	<6.0	40.44°C	0.642
	12.086V	5.029V	3.337V	5.097V	50.965				37.4°C	230.36V
60W	4.166A	0.895A	0.89A	0.393A	59.993	83.97%	0	<6.0	41.89°C	0.732
	12.126V	5.027V	3.336V	5.094V	71.446				38.57°C	230.36V
80W	5.613A	1.094A	1.088A	0.491A	79.943	87.475%	0	<6.0	42.97°C	0.789
	12.169V	5.025V	3.335V	5.09V	91.39				39.11°C	230.36V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	11.07mV	3.91mV	6.06mV	6.17mV	Pass
20% Load	9.39mV	4.07mV	6.57mV	6.68mV	Pass
30% Load	9.14mV	8.18mV	9.35mV	7.49mV	Pass
40% Load	5.97mV	5.34mV	8.29mV	10.27mV	Pass
50% Load	6.13mV	6.00mV	8.49mV	9.46mV	Pass
60% Load	5.67mV	6.30mV	8.69mV	9.31mV	Pass
70% Load	6.68mV	7.01mV	9.50mV	13.31mV	Pass
80% Load	7.19mV	7.52mV	11.37mV	14.83mV	Pass
90% Load	7.70mV	7.88mV	11.83mV	12.85mV	Pass
100% Load	11.11mV	8.09mV	13.00mV	15.37mV	Pass
110% Load	11.27mV	9.20mV	15.04mV	16.41mV	Pass
Crossload1	12.93mV	6.30mV	12.33mV	8.41mV	Pass
Crossload2	13.56mV	6.18mV	7.28mV	7.75mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	15.28mV	5.01mV	13.74mV	7.62mV	Pass
Crossload4	11.03mV	6.91mV	10.62mV	14.70mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.08mV	3.86mV	6.52mV	6.78mV	Pass
20% Load	10.36mV	4.27mV	6.52mV	6.83mV	Pass
30% Load	9.40mV	9.15mV	8.75mV	7.29mV	Pass
40% Load	6.16mV	4.73mV	7.54mV	9.26mV	Pass
50% Load	6.63mV	6.05mV	8.14mV	9.71mV	Pass
60% Load	6.33mV	6.60mV	8.54mV	10.27mV	Pass
70% Load	6.33mV	7.27mV	9.35mV	13.05mV	Pass
80% Load	6.63mV	7.21mV	10.82mV	15.18mV	Pass
90% Load	6.94mV	7.42mV	11.53mV	12.15mV	Pass
100% Load	11.81mV	8.03mV	13.35mV	14.97mV	Pass
110% Load	12.19mV	9.05mV	14.19mV	15.40mV	Pass
Crossload1	13.69mV	6.17mV	11.63mV	7.49mV	Pass
Crossload2	13.87mV	6.37mV	8.00mV	7.22mV	Pass
Crossload3	16.72mV	5.13mV	13.68mV	7.41mV	Pass
Crossload4	11.75mV	6.93mV	10.17mV	14.76mV	Pass

The results above are not used in the certification process

EVGA SuperNOVA 750 G6

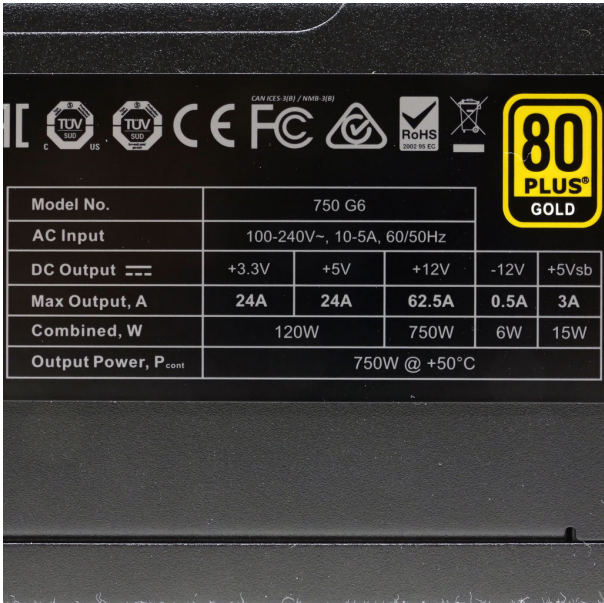


Top side

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



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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