EVGA SuperNOVA 550 G3

1703470515899011

Lab ID 224

Certification ID 25224

Test Result Report ID:

Certificate Issue Date: Nov 24, 2018

Scheme: ETA-EMI PSU

115V: CYBENETICS PLATINUM

230V: CYBENETICS SILVER 230v

Scheme: LAMBDA PSU

115V: CYBENETICS A-

230V: CYBENETICS A- 230v



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 550 G3
OEM/ODM	Super Flower
Serial Number	1703470515899011
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	10
□□□□ (Hz)	50-60

□□□□ (W)	550
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	130mm Hydraulic Dynamic Bearing Fan (H1282412L)
□□□□□	✓ (selectable)
Cybenetics Testing Information	
Lab ID	224
Date of receipt	Nov 11, 2018
Testing Date	Nov 20, 2018
Report Issued Date	Nov 24, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□				
□□	□□□□	□□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (600mm)	1	1	18-22AWG	□
4+4 pin EPS 12V □□ (700mm)	1	1	18-22AWG	□
6+2pin PCIe□□ (700mm)	1	1	18-22AWG	□
6+2pin PCIe□□ (600mm+150mm)	1	2	18-22AWG	□
SATA□□ (500mm+100mm+100mm)	2	6	18-20AWG	□
□ 4pin Molex□□ (500mm+100mm+100mm+100mm)	1	4	18AWG	□
□ 4pin □□ (+100mm)	1	1	20AWG	□
AC Power Cord (1370mm) - C13 coupler	1	1	18AWG	□

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	22	22	45.8	3	0.5
	□	110		549.6	15	6
□□□□□ (W)		550				

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	89.362%
Average Noise Output (>1450 Load Combinations)	26.53dBA
PF□□□ (>1450 Load Combinations)	0.982
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
□□□□□□	0.0697W
Non-Accredited	
12V Ripple (Full Load)	9.96mV
5V Ripple (Full Load)	11.51mV
3.3V Ripple (Full Load)	9.90mV
5VSB Ripple (Full Load)	22.69mV
12V Load Regulation	0.29%
5V Load Regulation	0.12%
3.3V Load Regulation	0.24%

5VSB Load Regulation	1.82%
Inrush Current	36.281A

230V

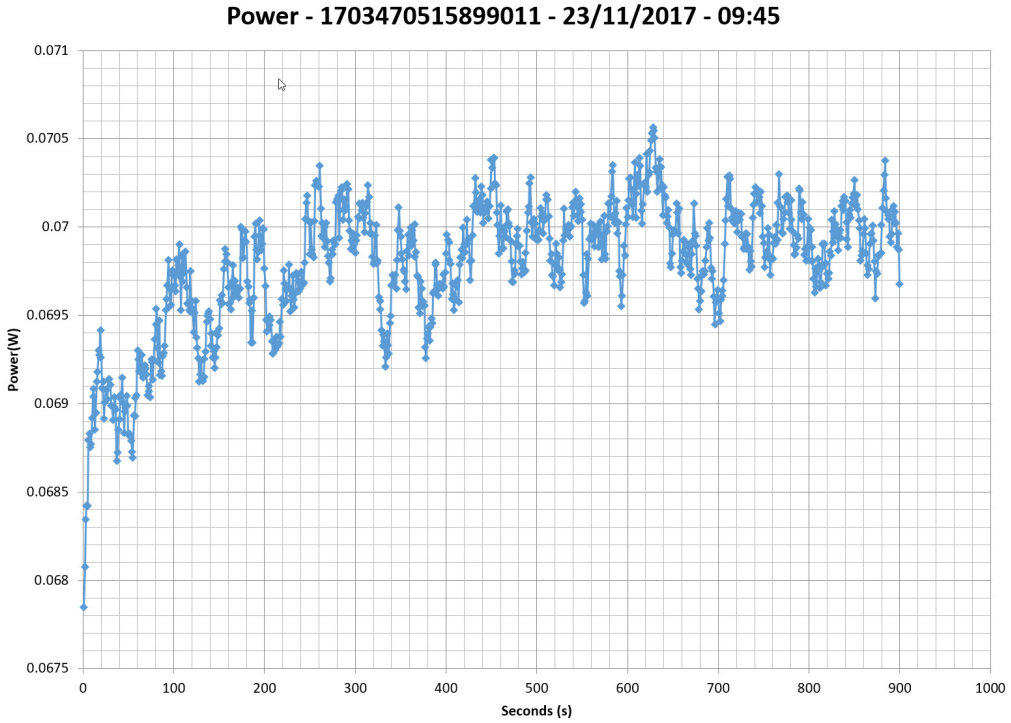
Accredited	
□□□□ (>1450 load combinations)	91.214%
Average Noise Output (>1450 Load Combinations)	26.41dBA
PF□□□ (>1450 Load Combinations)	0.926
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
□□□□□□	0.1473W
Non-Accredited	
12V Ripple (Full Load)	10.27mV
5V Ripple (Full Load)	13.31mV
3.3V Ripple (Full Load)	10.13mV
5VSB Ripple (Full Load)	19.70mV
12V Load Regulation	0.41%
5V Load Regulation	0.22%
3.3V Load Regulation	0.30%
5VSB Load Regulation	1.73%
Inrush Current	44.106A
□□□□ & PG□□	18.26ms
AC Loss to PWR_OK Hold Up Time	15.70ms
PWR_OK Inactive to DC Loss Delay	2.56ms
OPP (0.00°C / 0.00°C)	- -

□□□□ & PG□□

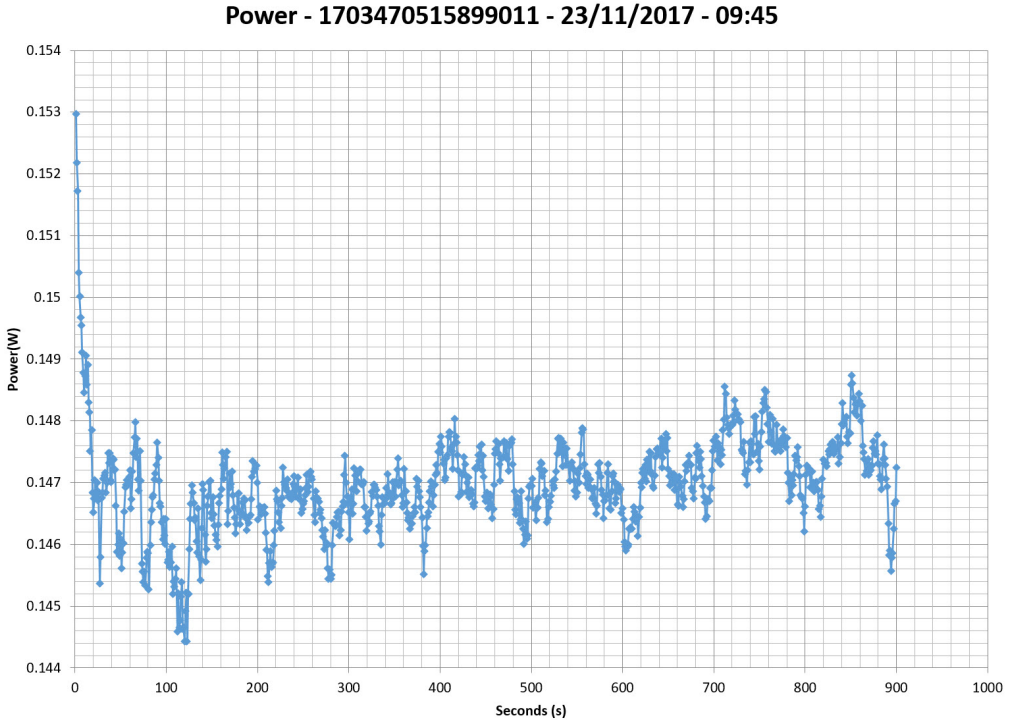
Hold-Up Time (ms)	18.26
AC Loss to PWR_OK Hold Up Time (ms)	15.70
PWR_OK Inactive to DC Loss Delay (ms)	2.56

Graphs

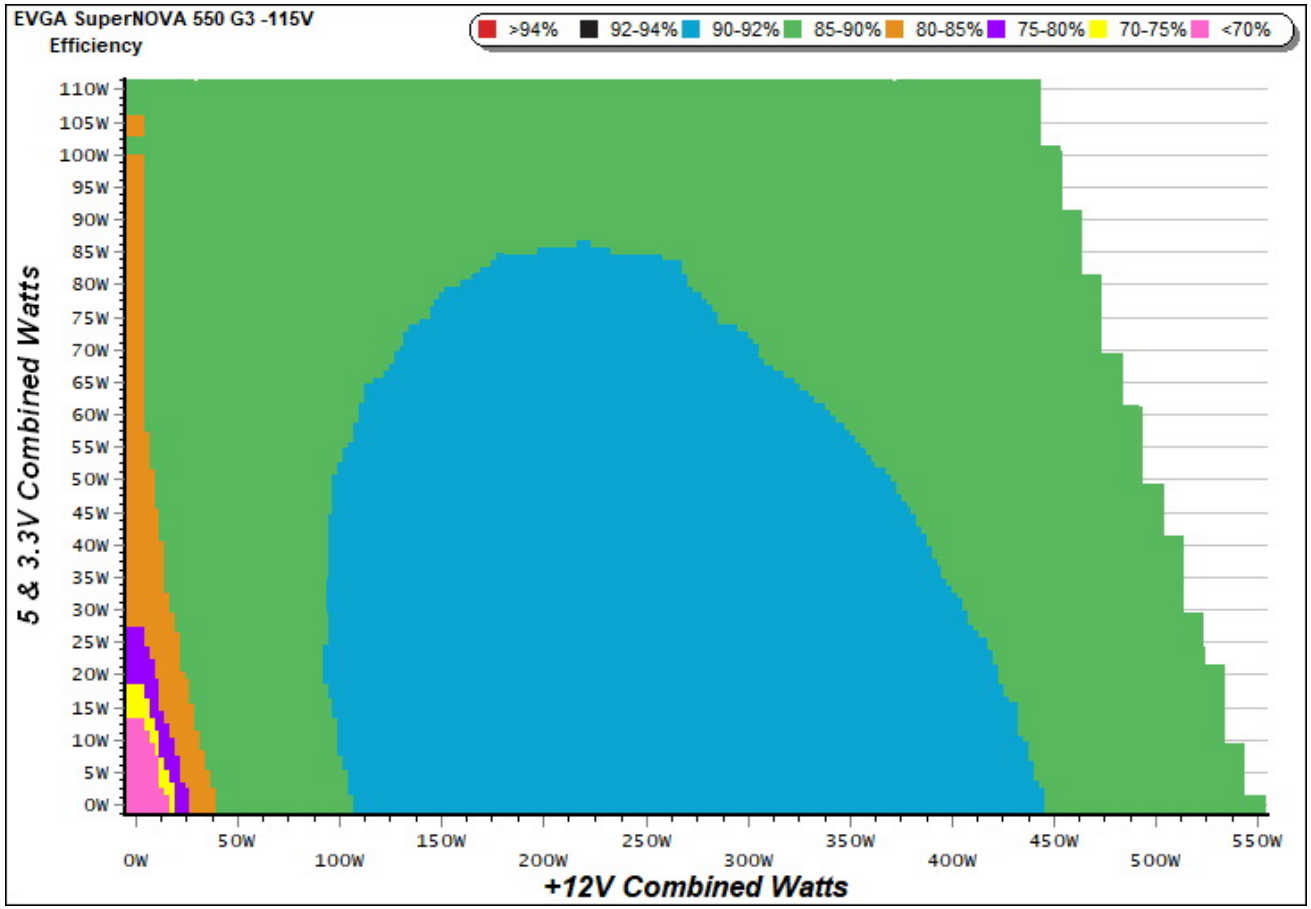
115V



230V



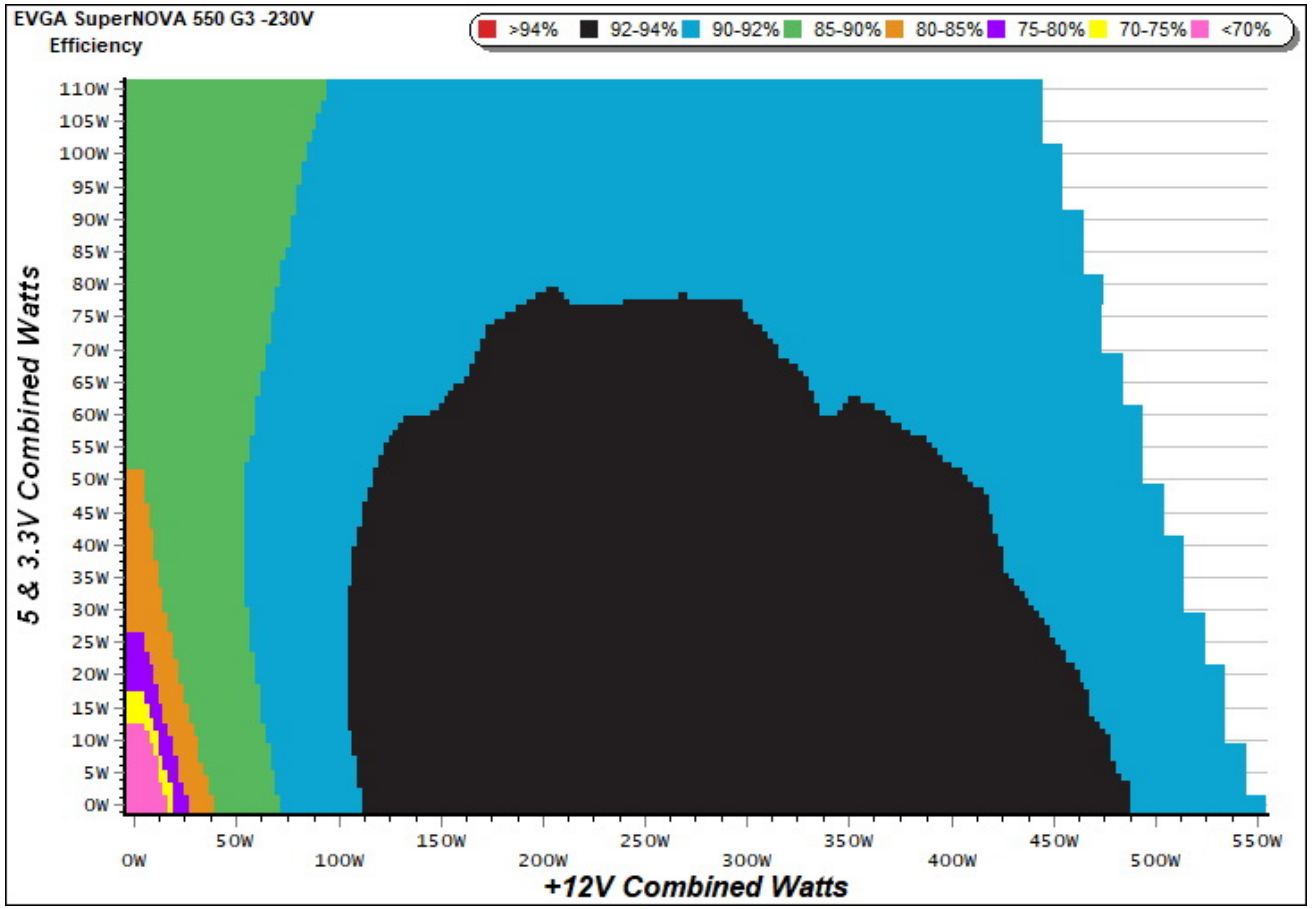
115V



□□

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.

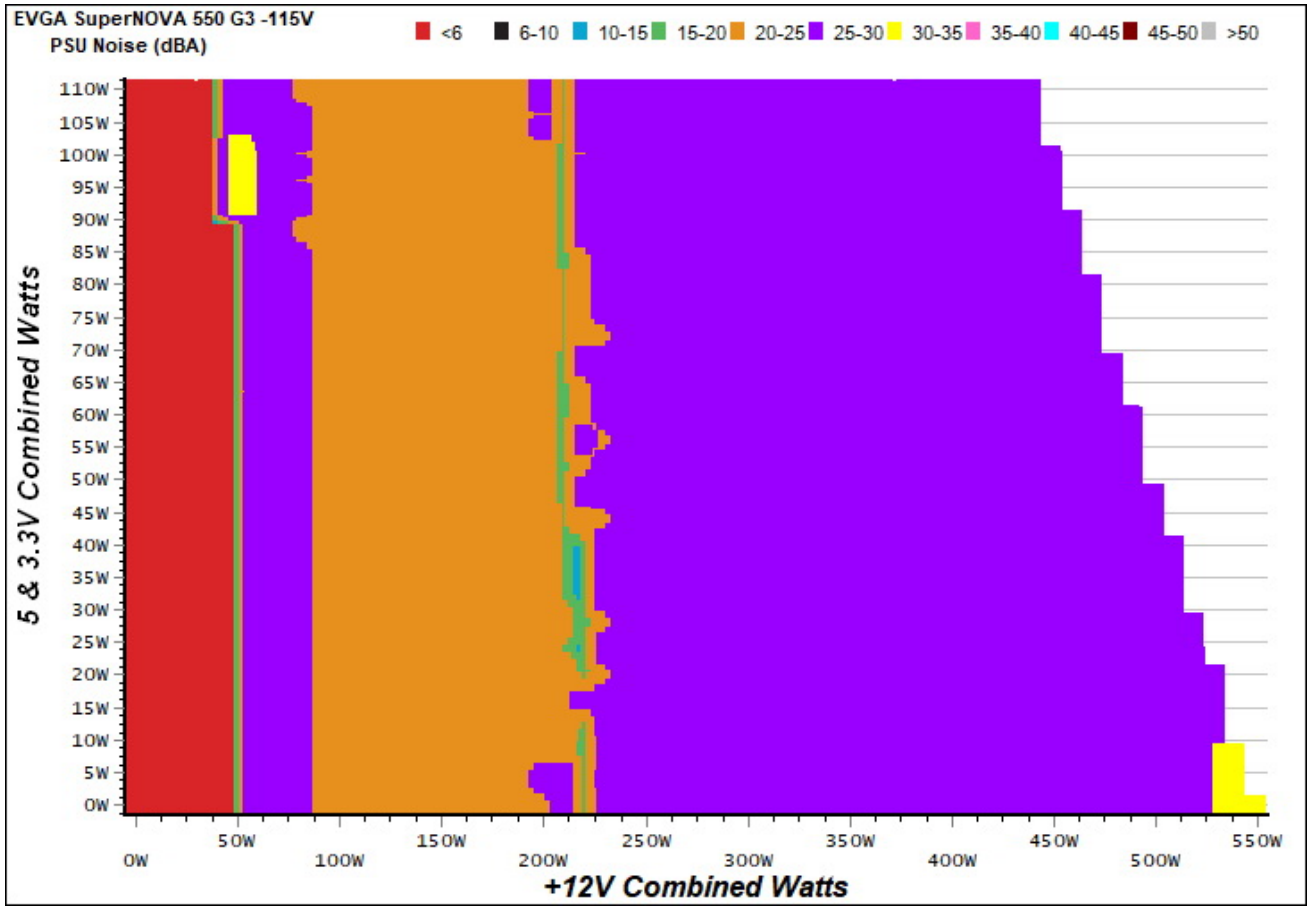
230V



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.

□□□□□

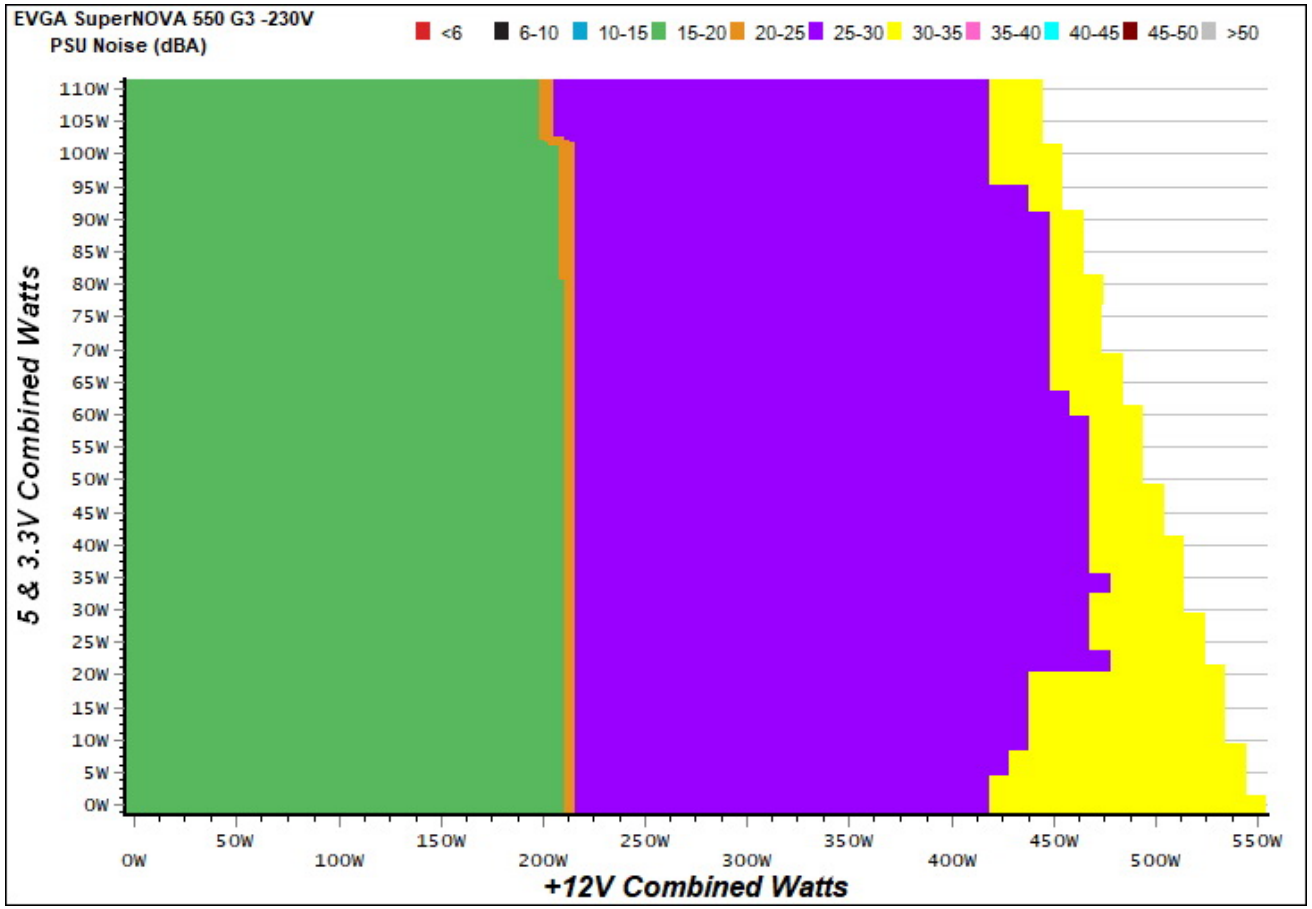
115V



□□

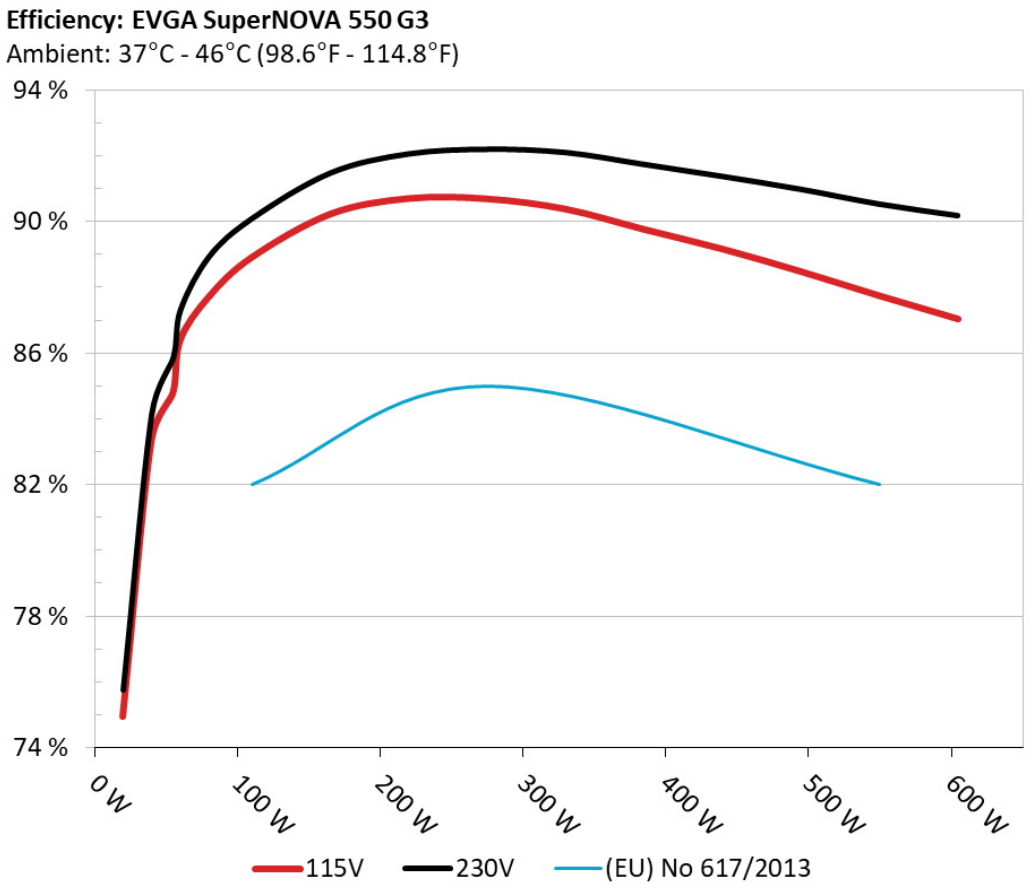
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

230V



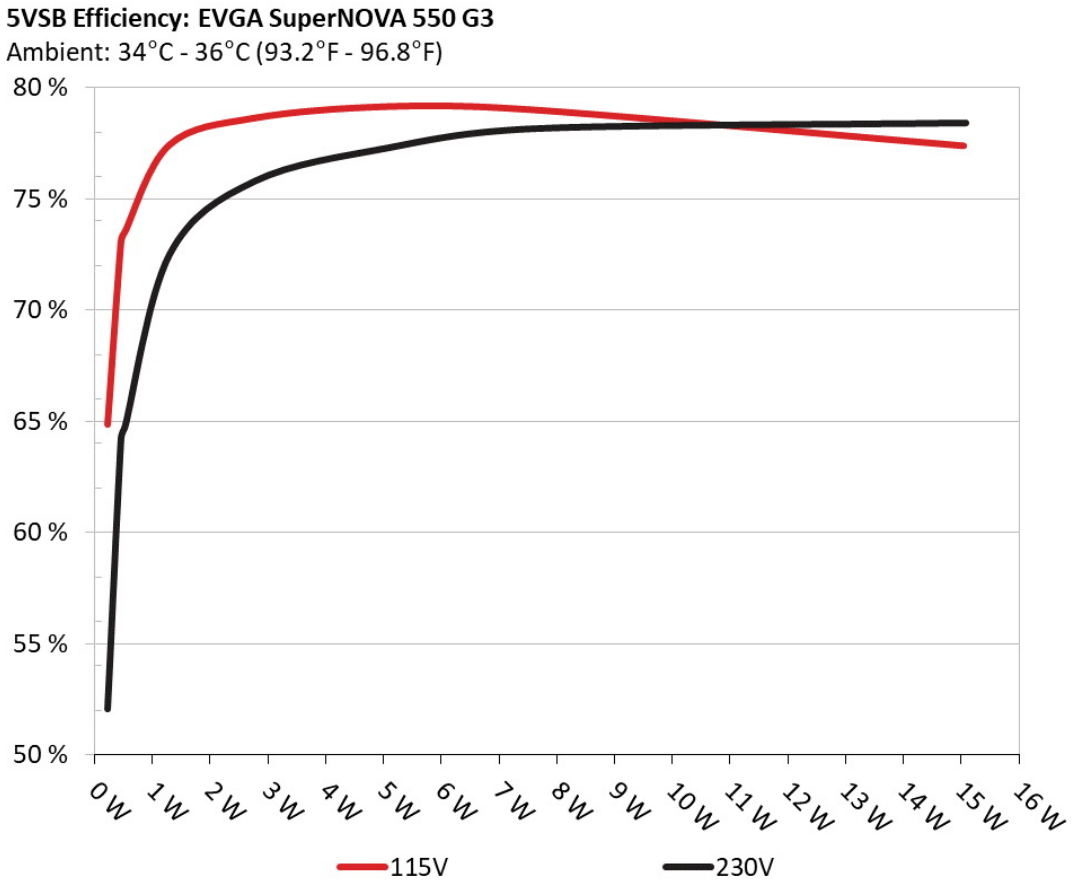
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance



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□□□□



□□

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input.

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC)

115V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.042A	0.216	64.865%	0.031
	5.102V	0.333		115.00V
2	0.088A	0.448	73.083%	0.057
	5.100V	0.613		115.00V
3	0.543A	2.762	78.645%	0.254
	5.089V	3.512		114.99V
4	1.003A	5.091	79.163%	0.352
	5.077V	6.431		114.99V
5	1.502A	7.608	79.011%	0.406
	5.065V	9.629		114.99V
6	3.002A	15.050	77.394%	0.476
	5.013V	19.446		114.99V

230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.042A	0.216	52.048%	0.012
	5.102V	0.415		230.10V
2	0.088A	0.448	64.183%	0.020
	5.100V	0.698		230.11V
3	0.543A	2.761	75.768%	0.098
	5.089V	3.644		230.08V
4	1.003A	5.091	77.277%	0.164
	5.078V	6.588		230.09V
5	1.502A	7.607	78.133%	0.219
	5.065V	9.736		230.09V
6	3.002A	15.087	78.390%	0.321
	5.026V	19.246		230.09V

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	2.713A	1.975A	1.992A	0.985A	54.789	84.773%	1233	31.7	38.00°C	0.934
	12.235V	5.065V	3.310V	5.075V	64.630				39.93°C	115.09V
2	6.453A	2.960A	2.987A	1.181A	109.812	88.891%	1263	32.1	38.43°C	0.966
	12.232V	5.068V	3.312V	5.068V	123.535				40.73°C	115.09V
3	10.533A	3.457A	3.500A	1.381A	164.897	90.211%	1279	32.2	38.68°C	0.979
	12.229V	5.066V	3.311V	5.060V	182.790				41.51°C	115.09V
4	14.609A	3.943A	3.984A	1.581A	219.781	90.686%	1300	32.4	39.01°C	0.986
	12.227V	5.066V	3.311V	5.054V	242.354				42.29°C	115.09V
5	18.350A	4.939A	4.977A	1.781A	274.795	90.675%	1340	33.1	39.31°C	0.989
	12.223V	5.068V	3.312V	5.047V	303.056				43.25°C	115.09V
6	22.094A	5.917A	5.974A	1.982A	329.746	90.364%	1380	34.1	40.55°C	0.991
	12.219V	5.069V	3.314V	5.039V	364.908				44.73°C	115.09V
7	25.844A	6.908A	6.965A	2.185A	384.785	89.746%	1443	36.8	41.45°C	0.993
	12.215V	5.069V	3.315V	5.032V	428.748				46.55°C	115.10V
8	29.589A	7.892A	7.958A	2.386A	439.702	89.150%	1505	37.9	42.21°C	0.993
	12.211V	5.070V	3.316V	5.025V	493.218				48.26°C	115.10V
9	33.774A	8.388A	8.471A	2.386A	494.812	88.462%	1572	37.6	43.73°C	0.994
	12.205V	5.070V	3.316V	5.022V	559.349				50.38°C	115.10V
10	37.699A	8.877A	8.954A	2.996A	549.655	87.729%	1641	39.0	44.96°C	0.995
	12.201V	5.070V	3.316V	5.004V	626.536				52.23°C	115.10V
11	42.220A	8.883A	8.957A	2.997A	604.615	87.025%	1728	39.9	46.35°C	0.995
	12.196V	5.068V	3.315V	5.001V	694.759				54.53°C	115.10V
CL1	0.100A	13.020A	13.004A	0.005A	111.096	84.363%	1505	37.9	42.26°C	0.969
	12.219V	5.097V	3.344V	5.097V	131.688				46.13°C	115.12V

CL2	45.789A	1.002A	1.003A	1.002A	572.195	88.280%	1593	38.3	44.28°C	0.995
	12.203V	5.048V	3.293V	5.060V	648.157				51.95°C	115.10V

The results above are not used in the certification process

230V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	2.689A	1.974A	1.992A	0.985A	54.483	86.741%	1233	31.7	40.11°C	0.662
	12.229V	5.067V	3.312V	5.076V	62.811				43.63°C	231.02V
2	6.420A	2.961A	2.988A	1.184A	109.391	90.573%	1233	31.7	40.97°C	0.834
	12.224V	5.069V	3.313V	5.070V	120.777				44.80°C	230.98V
3	10.548A	3.454A	3.470A	1.383A	164.902	91.397%	1368	33.9	41.13°C	0.903
	12.220V	5.069V	3.313V	5.063V	180.424				45.59°C	230.96V
4	14.615A	3.946A	3.984A	1.583A	219.726	91.961%	1406	34.4	41.81°C	0.941
	12.215V	5.069V	3.313V	5.056V	238.934				46.60°C	230.91V
5	18.352A	4.932A	4.978A	1.783A	274.631	92.129%	1380	34.1	42.17°C	0.954
	12.212V	5.071V	3.315V	5.050V	298.093				47.66°C	230.86V
6	22.098A	5.916A	5.971A	1.984A	329.516	92.006%	1462	37.8	42.75°C	0.963
	12.205V	5.072V	3.316V	5.042V	358.147				48.54°C	230.83V
7	25.872A	6.900A	6.962A	2.185A	384.824	91.624%	1485	37.8	43.09°C	0.969
	12.203V	5.074V	3.317V	5.036V	420.003				49.16°C	230.79V
8	29.661A	7.883A	7.954A	2.387A	440.126	91.250%	1527	37.0	43.72°C	0.973
	12.195V	5.075V	3.319V	5.029V	482.330				50.95°C	230.75V
9	33.808A	8.377A	8.437A	2.388A	494.639	90.861%	1560	37.3	44.12°C	0.978
	12.190V	5.075V	3.319V	5.027V	544.393				51.74°C	230.70V
10	37.772A	8.868A	8.949A	2.995A	549.851	90.391%	1625	38.7	45.52°C	0.980
	12.182V	5.075V	3.319V	5.010V	608.305				53.63°C	230.66V
11	42.321A	8.871A	8.951A	2.996A	605.048	90.029%	1716	39.6	46.14°C	0.983
	12.177V	5.074V	3.317V	5.008V	672.061				54.60°C	230.62V
CL1	0.139A	13.003A	13.000A	0.000A	111.448	85.496%	1485	37.8	43.34°C	0.853
	12.219V	5.097V	3.344V	5.098V	130.354				49.02°C	230.97V

CL2	45.835A	1.001A	1.000A	1.000A	571.872	91.136%	1527	37.0	45.93°C	0.982
	12.184V	5.054V	3.295V	5.064V	627.490				53.32°C	230.65V

The results above are not used in the certification process

20-80□□□□□

115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	PF/AC □□
1	1.196A	0.491A	0.480A	0.196A	19.712	74.948%	1165	29.1	0.770
	12.240V	5.063V	3.307V	5.097V	26.301				115.08V
2	2.412A	0.979A	0.996A	0.391A	39.760	83.339%	1186	29.5	0.893
	12.237V	5.064V	3.308V	5.092V	47.709				115.08V
3	3.632A	1.473A	1.509A	0.586A	59.874	86.380%	1197	29.9	0.949
	12.236V	5.064V	3.308V	5.086V	69.315				115.08V
4	4.841A	1.974A	1.992A	0.786A	79.808	87.691%	1220	30.9	0.954
	12.234V	5.065V	3.310V	5.079V	91.010				115.08V

The results above are not used in the certification process

230V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	PF/AC □□
1	1.187A	0.494A	0.483A	0.196A	19.620	77.409%	1220	30.9	0.409
	12.234V	5.064V	3.309V	5.099V	25.346				231.03V
2	2.427A	0.988A	0.995A	0.393A	39.983	85.317%	1233	31.7	0.574
	12.231V	5.065V	3.309V	5.093V	46.864				231.04V
3	3.606A	1.481A	1.480A	0.590A	59.512	88.059%	1233	31.7	0.683
	12.232V	5.066V	3.310V	5.087V	67.582				231.03V
4	4.844A	1.974A	1.994A	0.787A	79.838	88.813%	1233	31.7	0.760
	12.229V	5.066V	3.311V	5.081V	89.895				231.01V

The results above are not used in the certification process

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	4.6 mV	3.9 mV	4.7 mV	6.4 mV	Pass
20% Load	5.7 mV	4.7 mV	4.9 mV	7.6 mV	Pass
30% Load	7.7 mV	5.4 mV	5.4 mV	8.7 mV	Pass
40% Load	8.1 mV	6.1 mV	6.1 mV	9.8 mV	Pass
50% Load	8.3 mV	6.8 mV	6.5 mV	11.3 mV	Pass
60% Load	8.9 mV	7.6 mV	6.8 mV	12.7 mV	Pass
70% Load	8.9 mV	8.8 mV	7.7 mV	17.2 mV	Pass
80% Load	9.3 mV	9.9 mV	8.6 mV	19.1 mV	Pass
90% Load	9.5 mV	10.5 mV	8.8 mV	19.1 mV	Pass
100% Load	10.0 mV	11.5 mV	9.9 mV	22.7 mV	Pass
110% Load	10.5 mV	12.5 mV	10.6 mV	26.3 mV	Pass
Crossload 1	6.3 mV	6.2 mV	6.9 mV	21.0 mV	Pass
Crossload 2	9.8 mV	11.3 mV	8.9 mV	18.0 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	3.7 mV	4.3 mV	3.7 mV	5.9 mV	Pass
20% Load	4.9 mV	5.2 mV	4.4 mV	7.1 mV	Pass
30% Load	6.4 mV	5.9 mV	4.7 mV	8.0 mV	Pass
40% Load	7.5 mV	6.5 mV	5.4 mV	9.1 mV	Pass
50% Load	8.3 mV	8.1 mV	5.8 mV	10.4 mV	Pass
60% Load	8.9 mV	8.9 mV	6.8 mV	12.0 mV	Pass
70% Load	9.0 mV	10.0 mV	7.5 mV	14.0 mV	Pass
80% Load	9.0 mV	11.4 mV	8.6 mV	15.6 mV	Pass





Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	9.4 mV	12.0 mV	9.2 mV	17.2 mV	Pass
100% Load	10.3 mV	13.3 mV	10.1 mV	19.7 mV	Pass
110% Load	10.9 mV	14.1 mV	10.8 mV	20.8 mV	Pass
Crossload 1	4.6 mV	8.4 mV	8.6 mV	21.2 mV	Pass
Crossload 2	11.1 mV	11.8 mV	6.8 mV	16.0 mV	Pass

The results above are not used in the certification process

EVGA SuperNOVA 550 G3

Top side

Power specifications label

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