



Corsair AX850

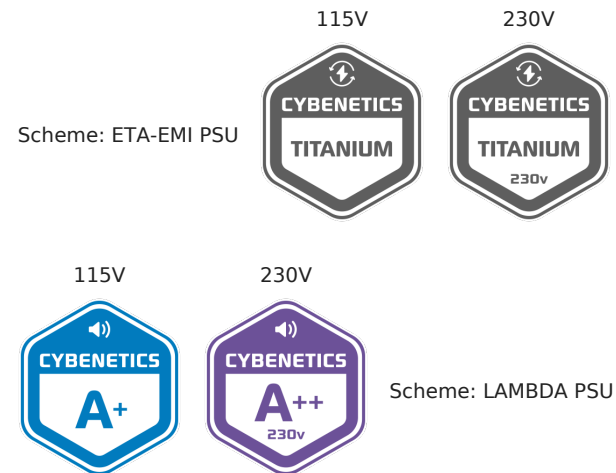
Serial Number 18437001000059540002

Lab ID 552

Certification ID 25552

Test Result Report ID:

Certificate Issue Date: Nov 28, 2018



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	Corsair
Model	AX850
OEM/ODM	Seasonic
Serial Number	18437001000059540002
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	11-5.5
Rated Frequency (Hz)	50-60

Rated Power (W)	850
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 (HA13525L12F-Z)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	552
Date of receipt	Nov 21, 2018
Testing Date	Nov 24, 2018
Report Issued Date	Nov 28, 2018
DUT Notes	CP-9020151
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	16-20AWG	Yes
4+4 pin EPS12V (650mm)	2	2	18AWG	Yes
6+2 pin PCIe (670mm+100mm)	4	8	16-18AWG	Yes
SATA (460mm+110mm+110mm+110mm)	4	16	18AWG	No
4 pin Molex (550mm+100mm+100mm)	2	6	18AWG	No
FDD Adapter (110mm)	1	1	22AWG	No
AC Power Cord (1400mm)	1	1	14AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70	3	0.3
	Watts	100		840	15	3.6
Total Max. Power (W)		850				

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)	92.543%
Average Noise Output (>1450 Load Combinations)	15.37dBA
Average PF (>1450 Load Combinations)	0.988
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.879%
Standby Power Consumption	0.0477W
Non-Accredited	
12V Ripple (Full Load)	10.79mV
5V Ripple (Full Load)	5.76mV
3.3V Ripple (Full Load)	11.80mV
5VSB Ripple (Full Load)	9.60mV
12V Load Regulation	0.25%
5V Load Regulation	0.42%
3.3V Load Regulation	0.38%

5VSB Load Regulation	1.17%
Inrush Current	44.445A

230V

Accredited		
Average Efficiency (>1450 load combinations)	94.077%	
Average Noise Output (>1450 Load Combinations)	14.66dBA	
Average PF (>1450 Load Combinations)	0.944	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.0795W	
Non-Accredited		
12V Ripple (Full Load)	10.85mV	
5V Ripple (Full Load)	5.93mV	
3.3V Ripple (Full Load)	11.52mV	
5VSB Ripple (Full Load)	10.64mV	
12V Load Regulation	0.23%	
5V Load Regulation	0.42%	
3.3V Load Regulation	0.36%	
5VSB Load Regulation	1.15%	
Inrush Current	63.621A	
Hold-Up Time & PWR_OK Signal	22.10ms	
AC Loss to PWR_OK Hold Up Time	20.40ms	
PWR_OK Inactive to DC Loss Delay	1.70ms	
OPP (0.00°C / 0.00°C)	-	-

Hold-Up Time & PWR_OK Signal

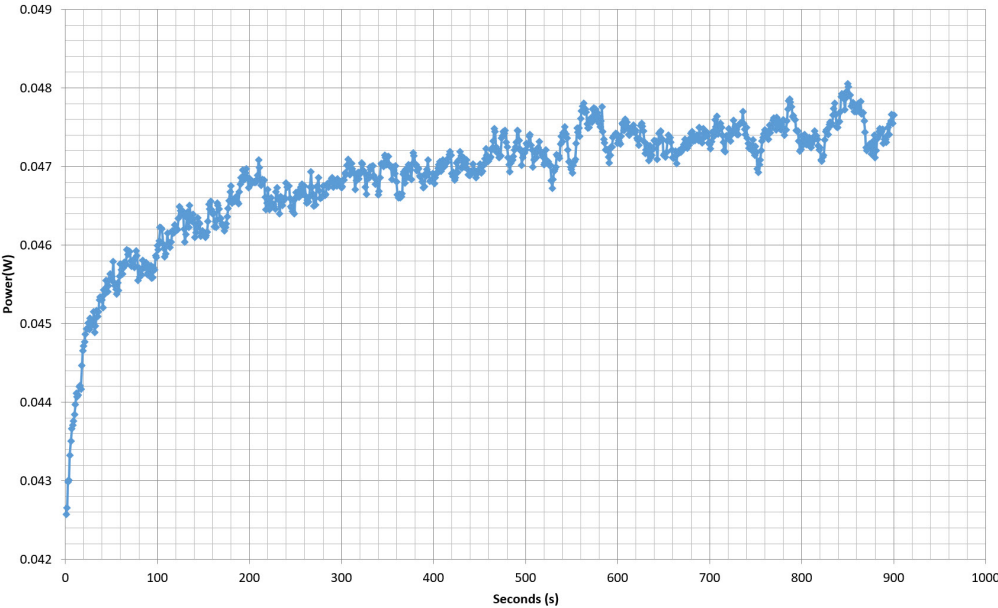
Hold-Up Time (ms)	22.1
AC Loss to PWR_OK Hold Up Time (ms)	20.4
PWR_OK Inactive to DC Loss Delay (ms)	1.7

Vampire Power

Graphs

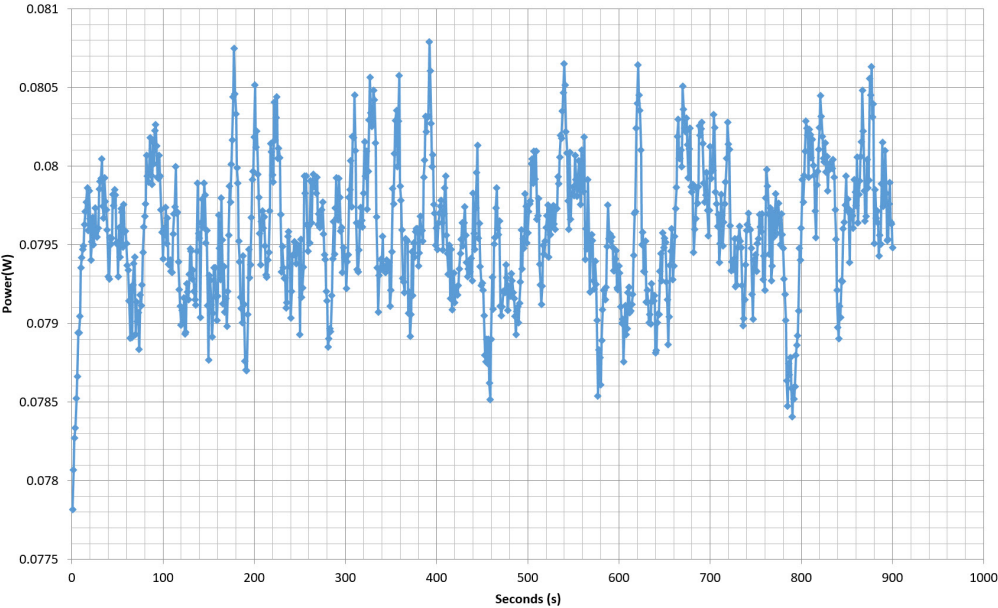
115V

Power - 18437001000059540002 - 27/11/2018 - 09:02



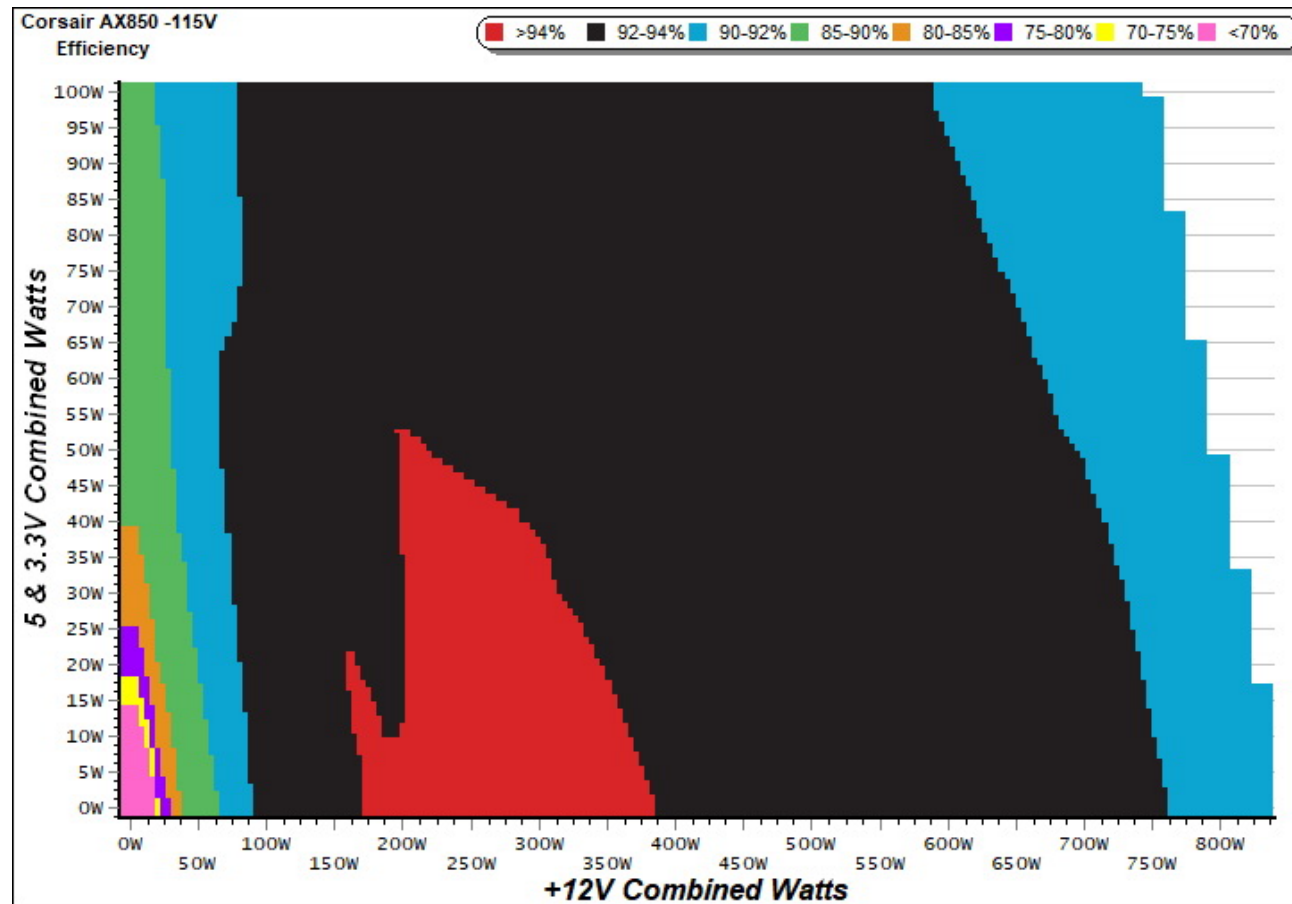
230V

Power - 18437001000059540002 - 27/11/2018 - 09:02



Efficiency Graph

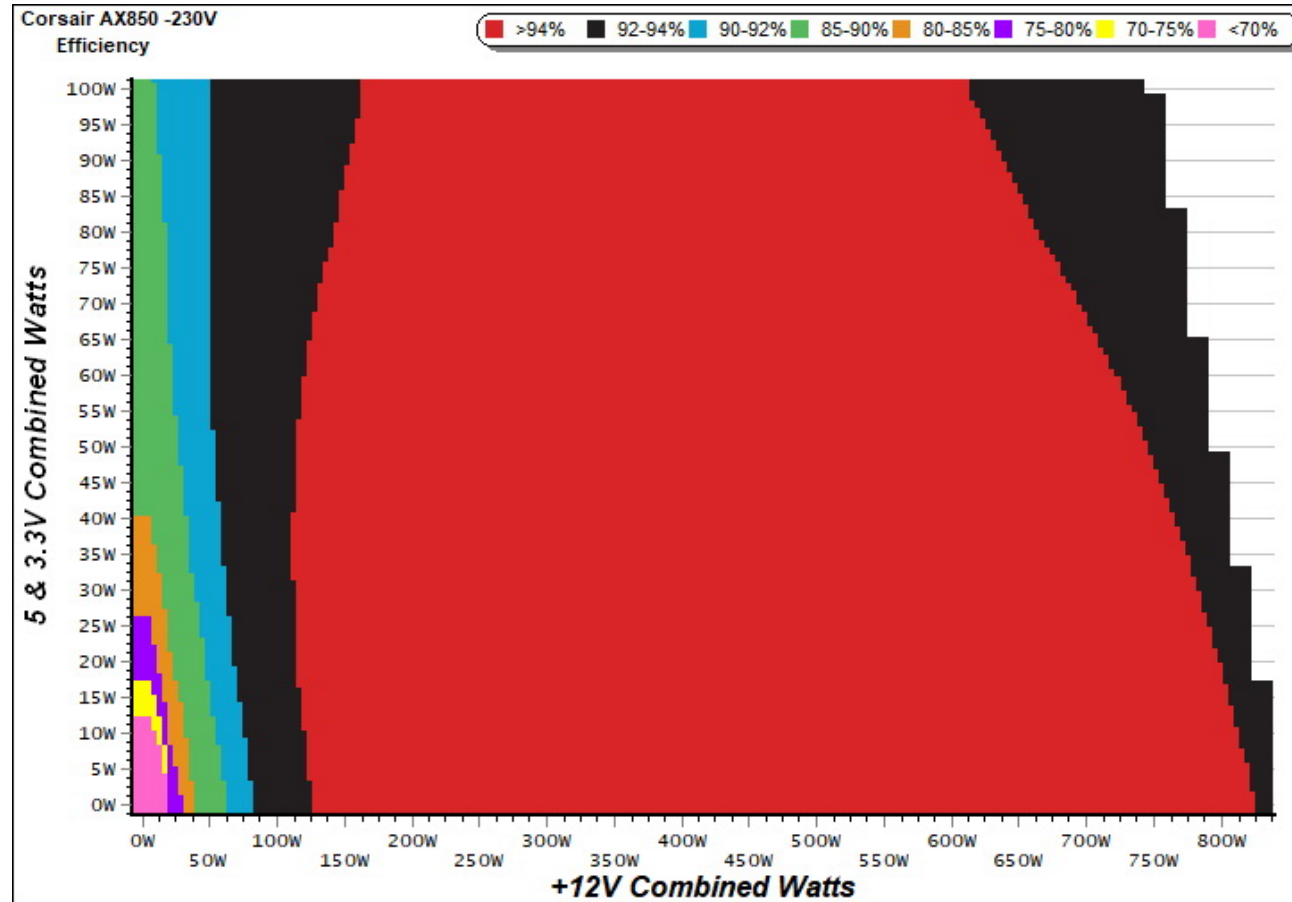
115V



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.

230V

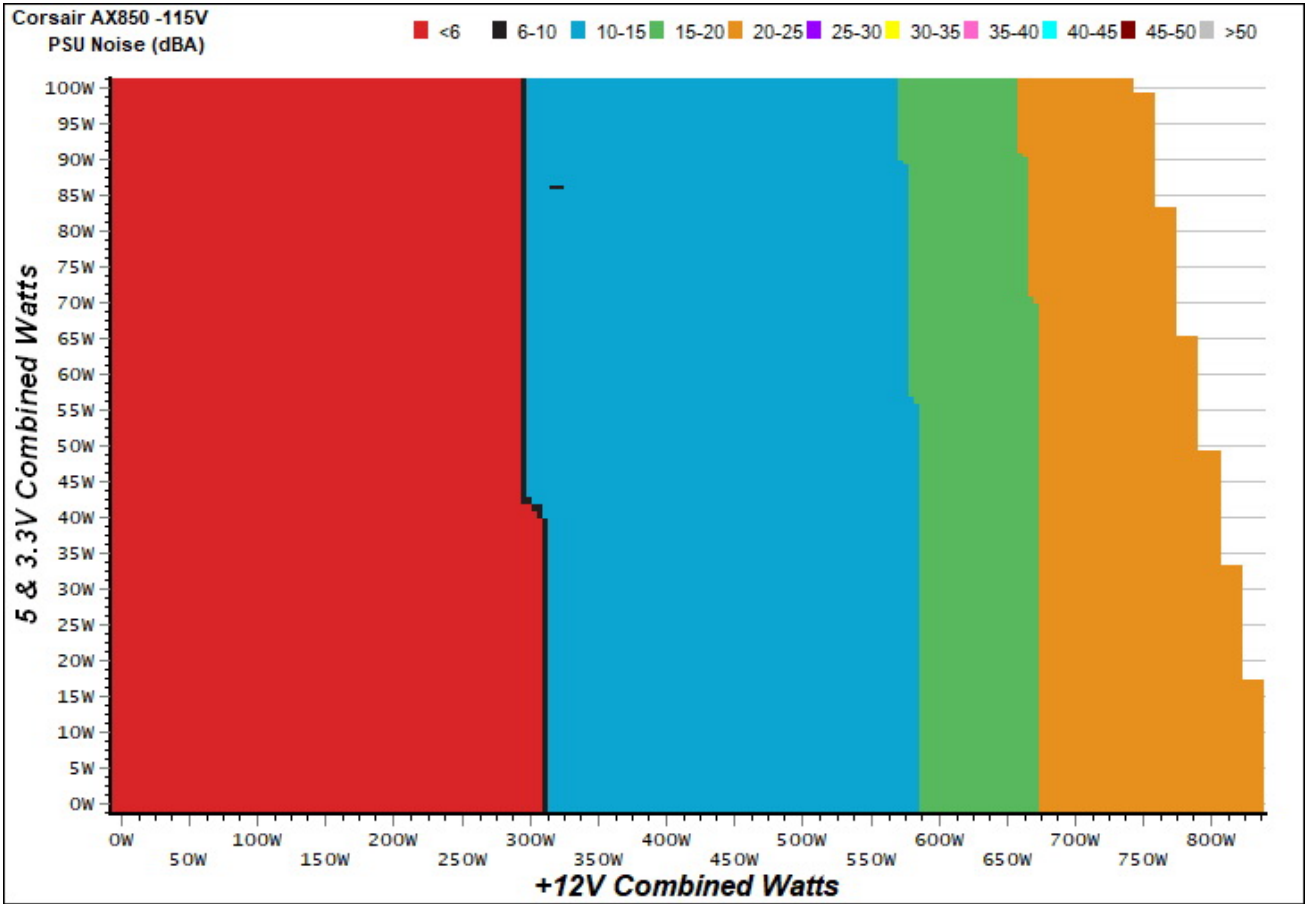


INFO

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

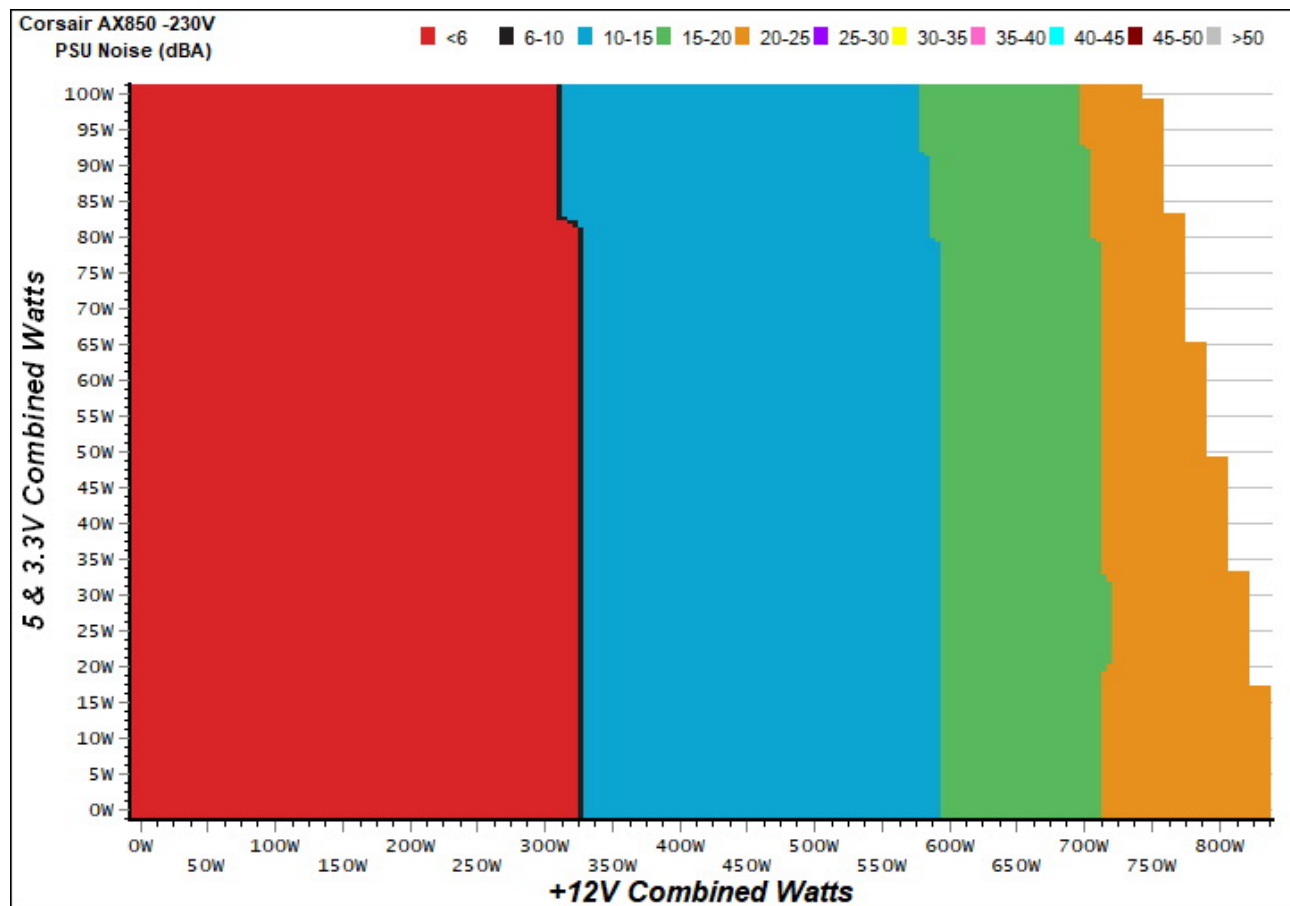
115V



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.

230V



INFO

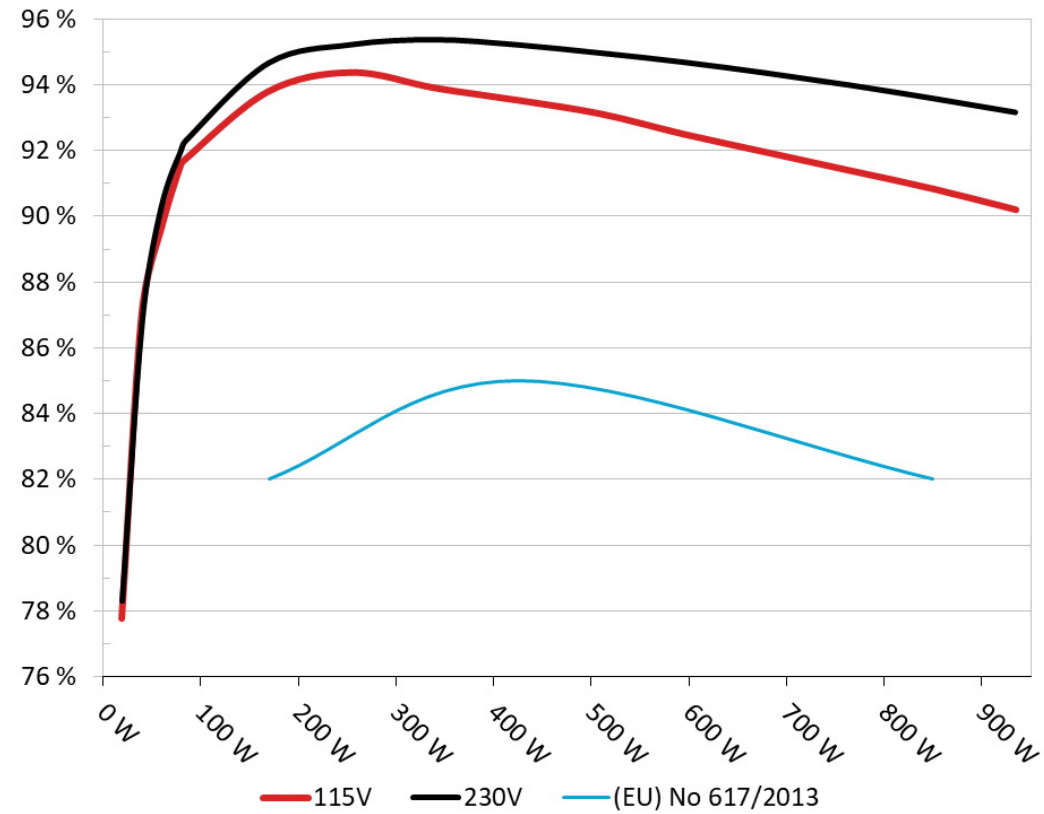
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Corsair AX850

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



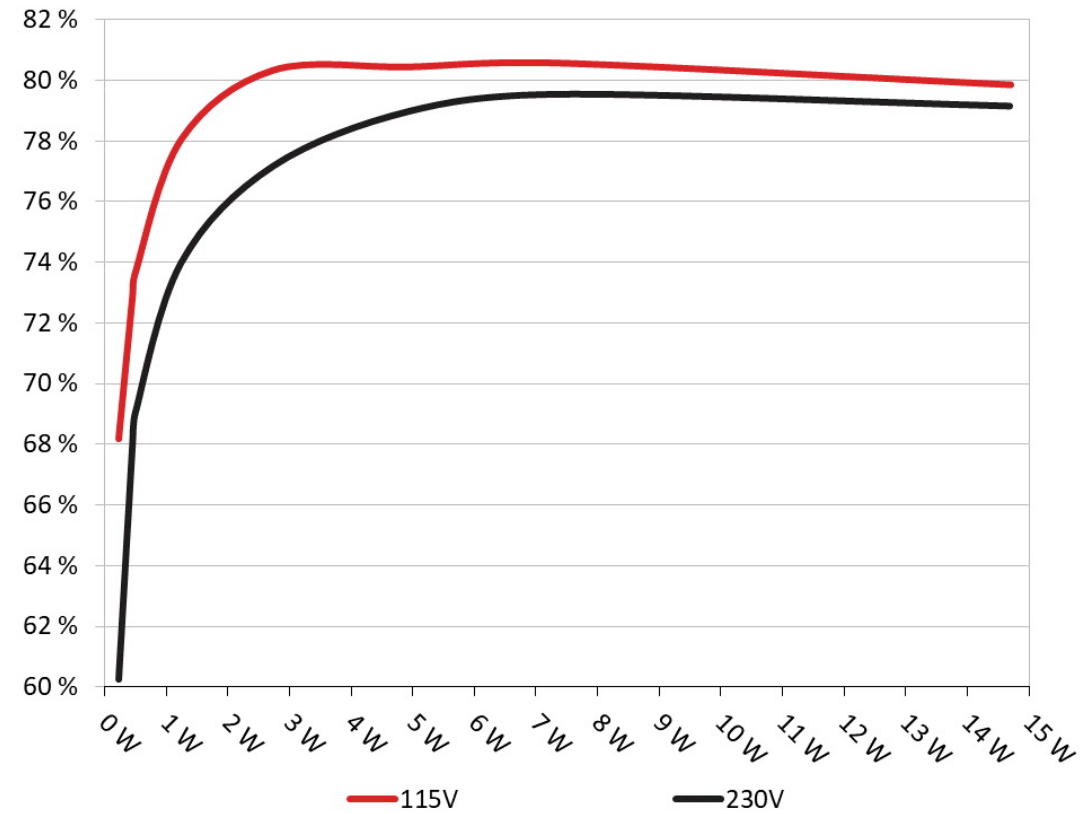
INFO

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: Corsair AX850

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	0.223	68.196%	0.000
	4.957V	0.327		115.08V
2	0.090A	0.446	72.876%	0.058
	4.956V	0.612		115.08V
3	0.550A	2.722	80.342%	0.250
	4.948V	3.388		115.13V
4	1.000A	4.940	80.456%	0.345
	4.939V	6.140		115.13V
5	1.500A	7.395	80.582%	0.401
	4.929V	9.177		115.13V
6	3.001A	14.703	79.869%	0.474
	4.900V	18.409		115.12V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.223	60.270%	0.011
	4.957V	0.370		230.22V
2	0.090A	0.446	67.988%	0.019
	4.956V	0.656		365.12V
3	0.550A	2.720	77.163%	0.097
	4.946V	3.525		230.22V
4	1.000A	4.938	78.983%	0.160
	4.937V	6.252		230.22V
5	1.500A	7.392	79.544%	0.217
	4.927V	9.293		230.22V
6	3.000A	14.690	79.153%	0.326
	4.896V	18.559		230.22V

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	5.158A	1.977A	1.953A	0.992A	84.759	91.742%	0	<6.0	46.67°C	0.957
	12.248V	5.056V	3.376V	5.044V	92.388				39.72°C	115.10V
2	11.302A	2.967A	2.932A	1.191A	169.272	93.792%	0	<6.0	47.61°C	0.983
	12.244V	5.054V	3.374V	5.040V	180.476				40.29°C	115.11V
3	17.840A	3.466A	3.407A	1.391A	254.382	94.374%	0	<6.0	49.13°C	0.992
	12.241V	5.051V	3.373V	5.035V	269.547				41.23°C	115.11V
4	24.390A	3.960A	3.912A	1.591A	339.654	93.904%	609	13.6	41.66°C	0.991
	12.237V	5.050V	3.372V	5.031V	361.704				50.10°C	115.11V
5	30.609A	4.955A	4.893A	1.791A	424.971	93.528%	617	14.0	42.11°C	0.993
	12.234V	5.047V	3.370V	5.027V	454.377				51.54°C	115.11V
6	36.766A	5.947A	5.877A	1.991A	509.488	93.116%	665	16.3	42.74°C	0.995
	12.231V	5.045V	3.369V	5.023V	547.157				52.67°C	115.12V
7	42.992A	6.941A	6.857A	2.192A	594.807	92.497%	718	18.9	43.20°C	0.996
	12.228V	5.043V	3.368V	5.020V	643.058				53.46°C	115.12V
8	49.224A	7.936A	7.841A	2.393A	680.174	91.940%	804	24.0	43.49°C	0.997
	12.225V	5.041V	3.367V	5.016V	739.806				54.50°C	115.12V
9	55.856A	8.436A	8.319A	2.393A	765.116	91.388%	865	25.9	44.59°C	0.997
	12.221V	5.039V	3.365V	5.014V	837.221				55.93°C	115.13V
10	62.220A	8.937A	8.827A	2.999A	849.915	90.836%	928	27.1	45.80°C	0.997
	12.218V	5.037V	3.364V	5.002V	935.657				57.55°C	115.13V
11	69.177A	8.939A	8.830A	3.001A	934.705	90.202%	1141	33.7	46.60°C	0.998
	12.215V	5.035V	3.363V	5.000V	1036.237				58.75°C	115.13V
CL1	0.147A	11.999A	12.000A	0.000A	102.847	89.010%	776	22.4	42.73°C	0.969
	12.245V	5.052V	3.369V	5.076V	115.545				51.65°C	115.14V

CL2	70.013A	1.003A	0.998A	1.000A	868.794	91.108%	905	26.7	45.44°C	0.998
	12.217V	5.040V	3.369V	5.028V	953.588				57.46°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
1	5.167A	1.978A	1.954A	0.992A	84.872	92.300%	0	<6.0	46.14°C	0.779
	12.245V	5.056V	3.376V	5.044V	91.952				39.33°C	230.32V
2	11.307A	2.968A	2.933A	1.191A	169.319	94.647%	0	<6.0	47.58°C	0.899
	12.242V	5.054V	3.374V	5.040V	178.895				40.15°C	230.32V
3	17.844A	3.464A	3.406A	1.390A	254.380	95.211%	0	<6.0	48.66°C	0.940
	12.239V	5.052V	3.373V	5.035V	267.174				40.87°C	230.31V
4	24.384A	3.959A	3.912A	1.590A	339.546	95.360%	0	<6.0	49.46°C	0.960
	12.236V	5.050V	3.372V	5.031V	356.068				41.42°C	230.29V
5	30.602A	4.951A	4.892A	1.790A	424.837	95.203%	618	14.0	41.83°C	0.970
	12.233V	5.048V	3.371V	5.027V	446.244				50.37°C	230.28V
6	36.761A	5.944A	5.872A	1.991A	509.366	94.955%	631	14.7	42.63°C	0.976
	12.230V	5.046V	3.369V	5.024V	536.430				51.62°C	230.28V
7	42.986A	6.938A	6.858A	2.191A	594.639	94.676%	695	17.5	42.80°C	0.981
	12.226V	5.044V	3.368V	5.020V	628.077				52.45°C	230.29V
8	49.216A	7.934A	7.837A	2.393A	680.003	94.343%	777	22.4	43.36°C	0.985
	12.224V	5.041V	3.367V	5.016V	720.775				53.47°C	230.28V
9	55.849A	8.433A	8.319A	2.393A	764.972	93.979%	852	25.1	44.52°C	0.986
	12.220V	5.039V	3.366V	5.015V	813.982				55.05°C	230.29V
10	62.217A	8.935A	8.825A	2.999A	849.811	93.578%	921	27.0	45.55°C	0.988
	12.217V	5.037V	3.365V	5.003V	908.135				56.56°C	230.29V
11	69.174A	8.937A	8.828A	3.000A	934.589	93.152%	1172	34.5	46.61°C	0.990
	12.214V	5.035V	3.364V	5.001V	1003.300				57.87°C	230.30V
CL1	0.140A	11.997A	11.998A	0.000A	102.756	89.822%	729	19.8	42.15°C	0.829
	12.243V	5.053V	3.369V	5.076V	114.399				50.88°C	230.29V

CL2	70.004A	1.000A	0.997A	1.000A	868.596	93.849%	891	26.1	45.29°C	0.989
	12.216V	5.040V	3.369V	5.029V	925.522				56.39°C	230.30V

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	1.170A	0.493A	0.471A	0.198A	19.421	77.771%	0	<6.0	0.778
	12.249V	5.062V	3.380V	5.061V	24.972				115.09V
2	2.416A	0.988A	0.974A	0.396A	39.881	87.016%	0	<6.0	0.901
	12.249V	5.058V	3.377V	5.054V	45.832				115.10V
3	3.588A	1.480A	1.449A	0.594A	59.328	89.580%	0	<6.0	0.936
	12.249V	5.057V	3.377V	5.051V	66.229				115.10V
4	4.828A	1.977A	1.952A	0.793A	79.721	91.555%	0	<6.0	0.954
	12.248V	5.056V	3.376V	5.048V	87.074				115.10V

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])	PF/AC Volts
1	1.178A	0.491A	0.472A	0.198A	19.510	78.303%	0	<6.0	0.439
	12.247V	5.062V	3.380V	5.061V	24.916				230.30V
2	2.422A	0.990A	0.976A	0.396A	39.965	86.780%	0	<6.0	0.612
	12.246V	5.058V	3.377V	5.054V	46.053				230.30V
3	3.595A	1.483A	1.448A	0.594A	59.413	90.252%	0	<6.0	0.705
	12.245V	5.058V	3.377V	5.051V	65.830				230.31V
4	4.838A	1.978A	1.952A	0.793A	79.837	92.007%	0	<6.0	0.766
	12.245V	5.057V	3.376V	5.048V	86.773				230.30V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.7 mV	4.3 mV	8.6 mV	6.8 mV	Pass
20% Load	8.3 mV	4.6 mV	9.0 mV	7.1 mV	Pass
30% Load	9.2 mV	5.2 mV	9.6 mV	7.2 mV	Pass
40% Load	5.7 mV	5.8 mV	9.9 mV	8.0 mV	Pass
50% Load	5.6 mV	4.7 mV	9.7 mV	8.0 mV	Pass
60% Load	6.0 mV	5.1 mV	9.7 mV	8.5 mV	Pass
70% Load	6.7 mV	5.0 mV	10.3 mV	8.3 mV	Pass
80% Load	6.9 mV	5.1 mV	10.6 mV	8.9 mV	Pass
90% Load	6.8 mV	5.1 mV	10.4 mV	8.1 mV	Pass
100% Load	10.8 mV	5.8 mV	11.8 mV	9.6 mV	Pass
110% Load	10.9 mV	5.7 mV	12.5 mV	10.1 mV	Pass
Crossload 1	8.9 mV	5.1 mV	12.0 mV	7.8 mV	Pass
Crossload 2	10.9 mV	5.5 mV	10.7 mV	9.6 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.10mV	4.80mV	8.80mV	7.10mV	Pass
20% Load	8.80mV	4.70mV	8.90mV	7.00mV	Pass
30% Load	10.00mV	4.90mV	8.90mV	7.40mV	Pass
40% Load	5.70mV	5.70mV	10.40mV	8.40mV	Pass
50% Load	5.40mV	5.20mV	9.50mV	7.90mV	Pass
60% Load	6.20mV	5.00mV	10.40mV	9.50mV	Pass
70% Load	6.70mV	5.30mV	10.00mV	8.90mV	Pass
80% Load	7.10mV	5.00mV	10.80mV	9.20mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	7.30mV	5.30mV	10.30mV	9.60mV	Pass
100% Load	10.90mV	5.90mV	11.50mV	10.60mV	Pass
110% Load	11.50mV	5.80mV	11.40mV	11.70mV	Pass
Crossload1	10.10mV	4.70mV	11.50mV	8.30mV	Pass
Crossload2	10.80mV	5.90mV	10.30mV	10.20mV	Pass

The results above are not used in the certification process

Corsair AX850



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

CORSAIR

MODEL / MODELO / 型号 / 型號 / 모델: RPS0113
POWER SUPPLY / FUENTE DE ALIMENTACIÓN / 전원 공급 장치

PART NUMBER: CP-9020151 / 75-003205

交流输入 交流輸入	AC INPUT AC 입력 Entrada de CA	100 - 240V • 11A - 5.5A • 50Hz - 60Hz (200-240V • 5.5A • 50-60Hz 适用于中国地区使用)				
直流输出 直流輸出	DC OUTPUT DC 출력 Salida de CC	+3.3V	+5V	+12V	-12V	+5Vsb
最大电流 最大電流	MAX LOAD 최대 부하 Carga Máximo	20A	20A	70A	0.3A	3A
最大瓦特数 最大瓦特數	MAX POWER 최대 결합 와트 Wataje Combinado Máximo	100W		840W	3.6W	15W
		TOTAL POWER: 850W PODER TOTAL / 总功率 / 總功率 / 총출력				

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