



Corsair CX850M

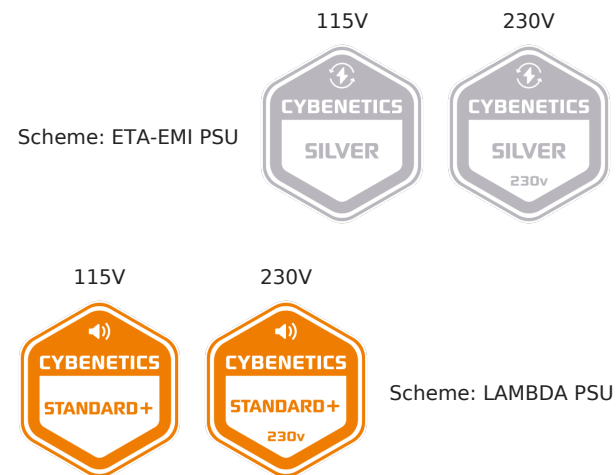
Serial Number 17247194000010120184

Lab ID 170

Certification ID 25170

Test Result Report ID: 20PS170A

Certificate Issue Date: Jan 9, 2018



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	CX850M
OEM/ODM	Channel Well Technology
Serial Number	17247194000010120184
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	47-63

Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Semi Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Sleeve Bearing Fan (D14SH-12)
Semi-Passive Operation	<i>x</i>
Cybenetics Testing Information	
Lab ID	170
Date of receipt	Dec 28, 2017
Testing Date	Jan 6, 2018
Report Issued Date	Jan 9, 2018
DUT Notes	CP-9020099
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	16-22AWG
4+4 pin EPS12V (660mm)	1	1	18AWG
Modular Cables			
6+2 pin PCIe (600mm+150mm)	2	4	16-18AWG
SATA (450mm+115mm+115mm+115mm)	2	8	18AWG
4 pin Molex (450mm+100mm+100mm)+FDD (+100mm)	2	6 / 2	18-22AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	70,8	3	0.8
	Watts	130		850	15	9.6
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)	85.710%
Average Noise Output (>1450 Load Combinations)	39.16dBA
Average PF (>1450 Load Combinations)	0.990
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0513W
Non-Accredited	
12V Ripple (Full Load)	30.88mV
5V Ripple (Full Load)	25.80mV
3.3V Ripple (Full Load)	20.64mV
5VSB Ripple (Full Load)	15.64mV
12V Load Regulation	1.71%
5V Load Regulation	2.39%
3.3V Load Regulation	2.52%

5VSB Load Regulation	4.22%
Inrush Current	49.264A

230V

Accredited		
Average Efficiency (>1450 load combinations)	88.415%	
Average Noise Output (>1450 Load Combinations)	38.77dBA	
Average PF (>1450 Load Combinations)	0.959	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.0695W	
Non-Accredited		
12V Ripple (Full Load)	29.93mV	
5V Ripple (Full Load)	35.66mV	
3.3V Ripple (Full Load)	24.46mV	
5VSB Ripple (Full Load)	15.26mV	
12V Load Regulation	1.87%	
5V Load Regulation	2.41%	
3.3V Load Regulation	2.79%	
5VSB Load Regulation	4.40%	
Inrush Current	57.706A	
Hold-Up Time & PWR_OK Signal	9.00ms	
AC Loss to PWR_OK Hold Up Time	6.30ms	
PWR_OK Inactive to DC Loss Delay	2.70ms	
OPP (0.00°C / 0.00°C)	-	-

Hold-Up Time & PWR_OK Signal

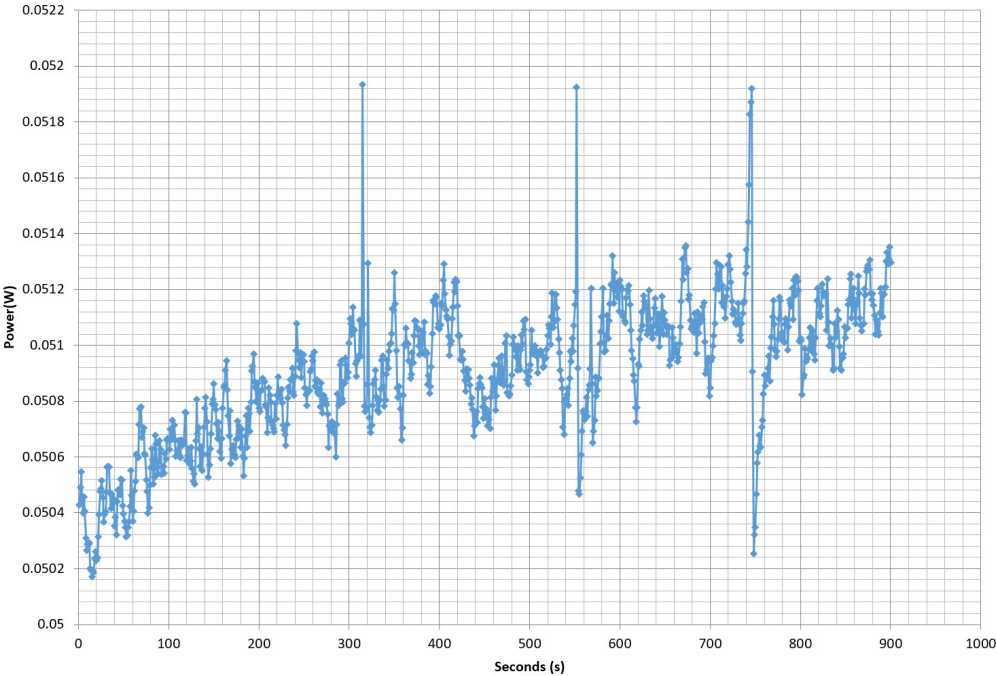
Hold-Up Time (ms)	9
AC Loss to PWR_OK Hold Up Time (ms)	6.3
PWR_OK Inactive to DC Loss Delay (ms)	2.7

Vampire Power

Graphs

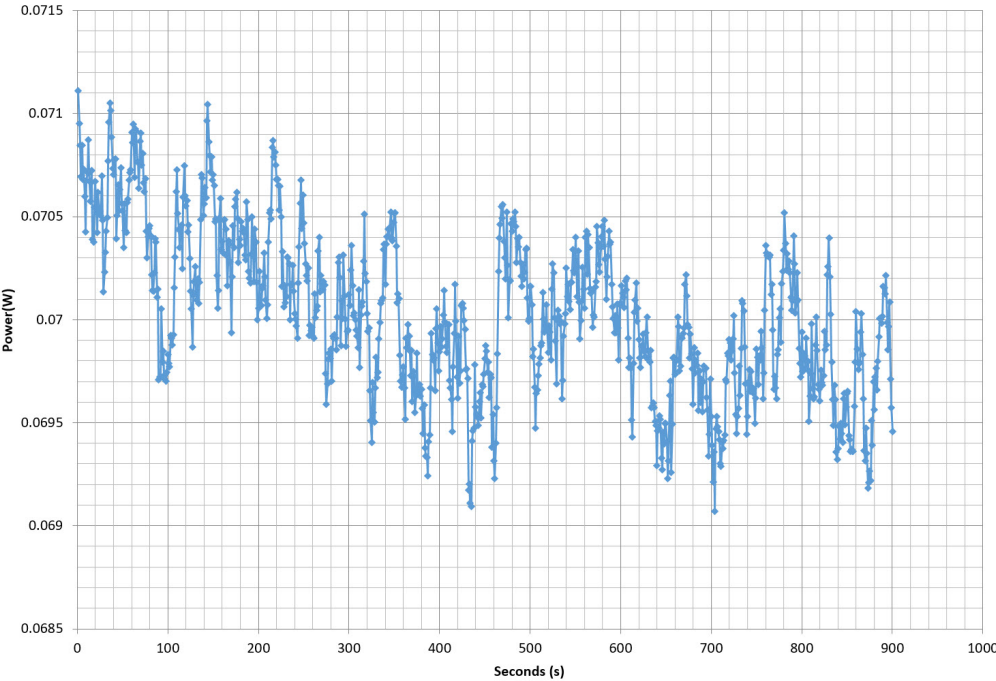
115V

Power - CP-9020157-NA - 01/09/2017 - 10:33



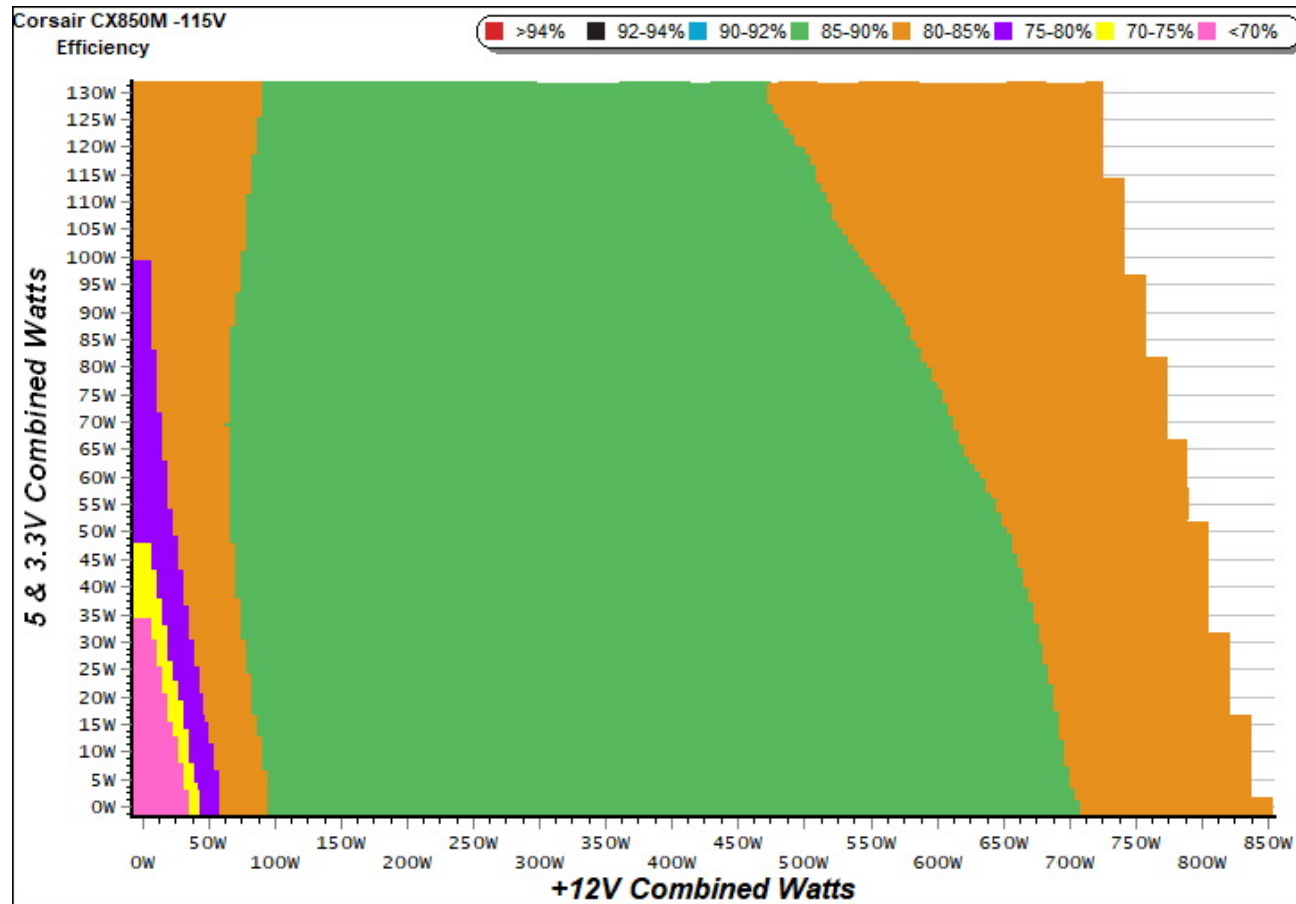
230V

Power - CP-9020157-NA - 01/09/2017 - 10:33



Efficiency Graph

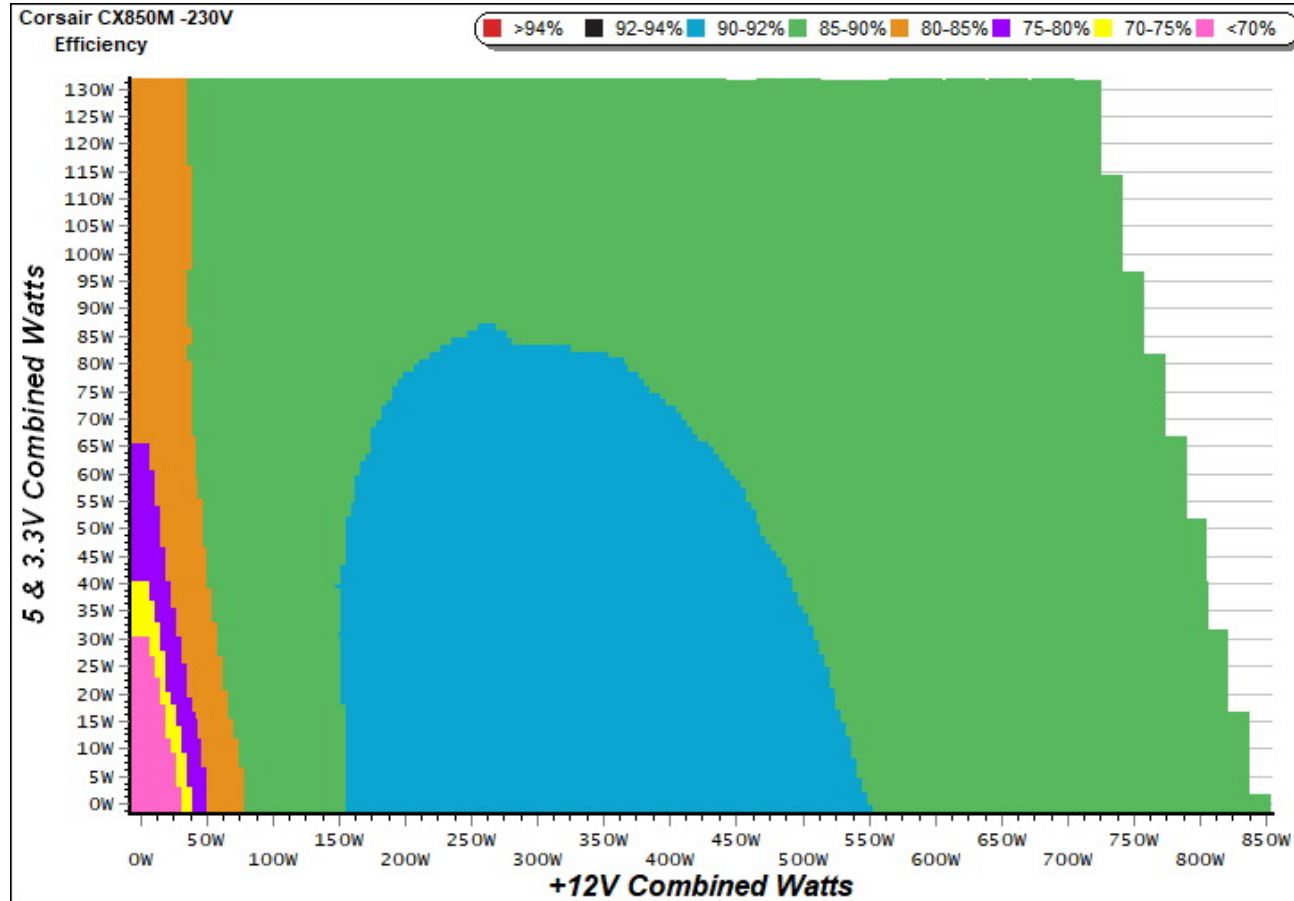
115V



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

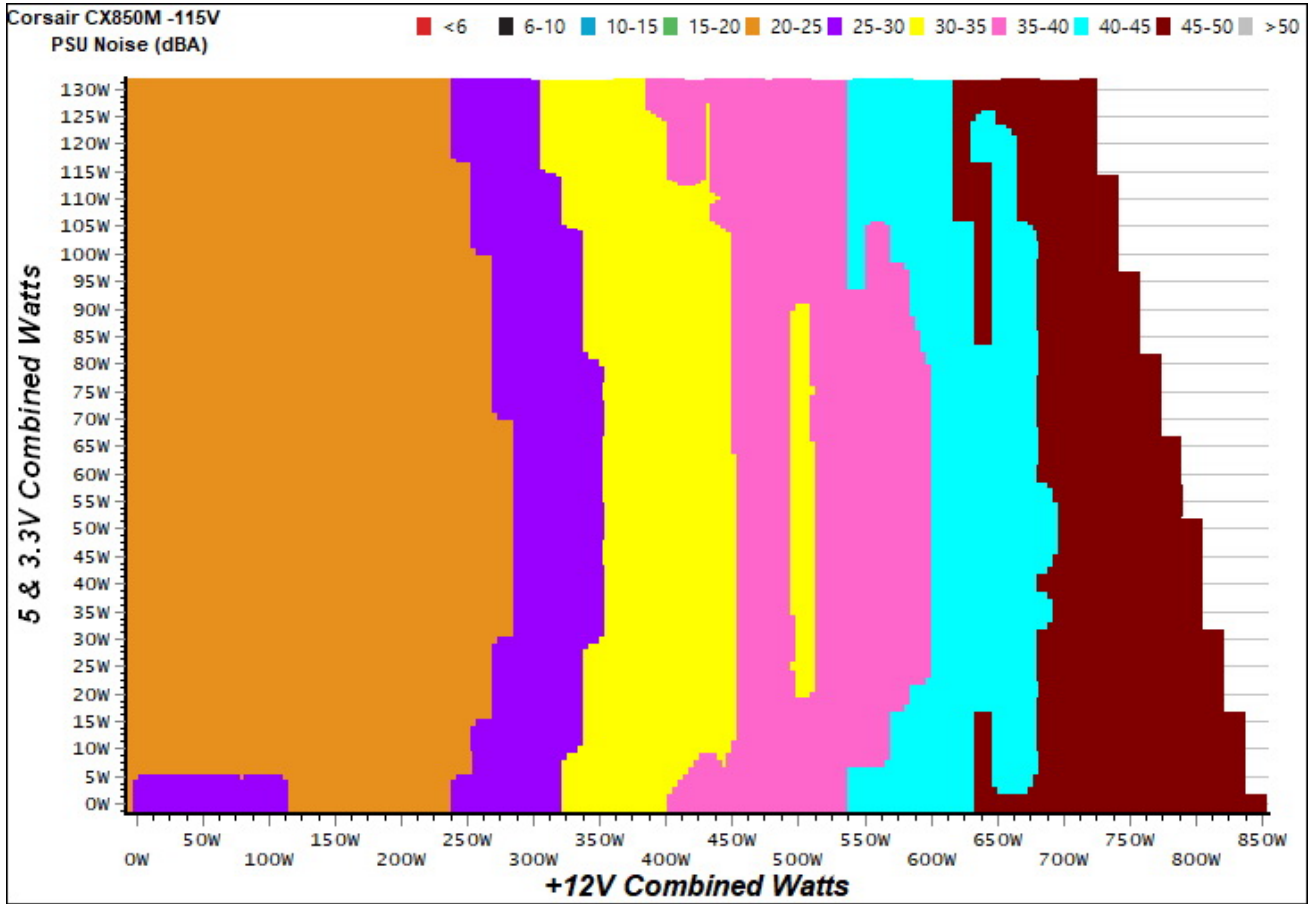


INFO

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

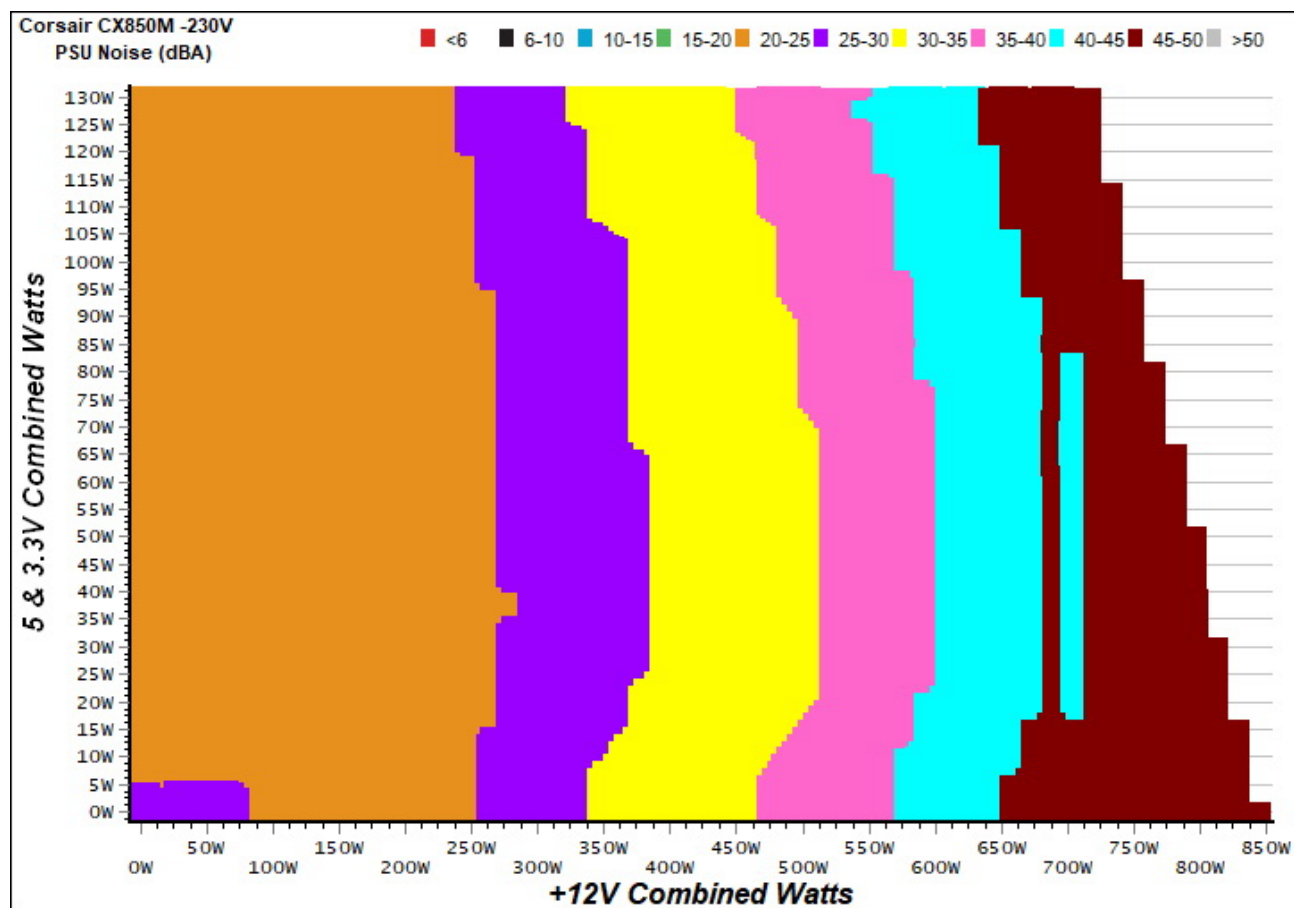
115V



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

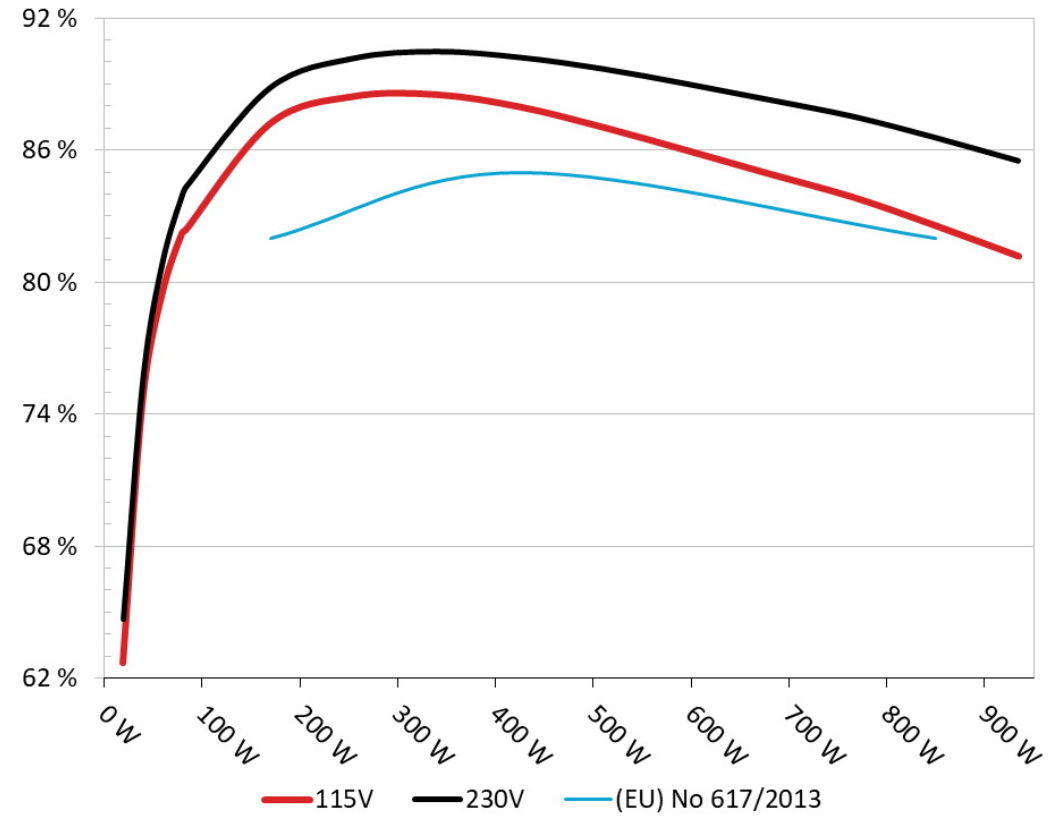
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Corsair CX850M

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



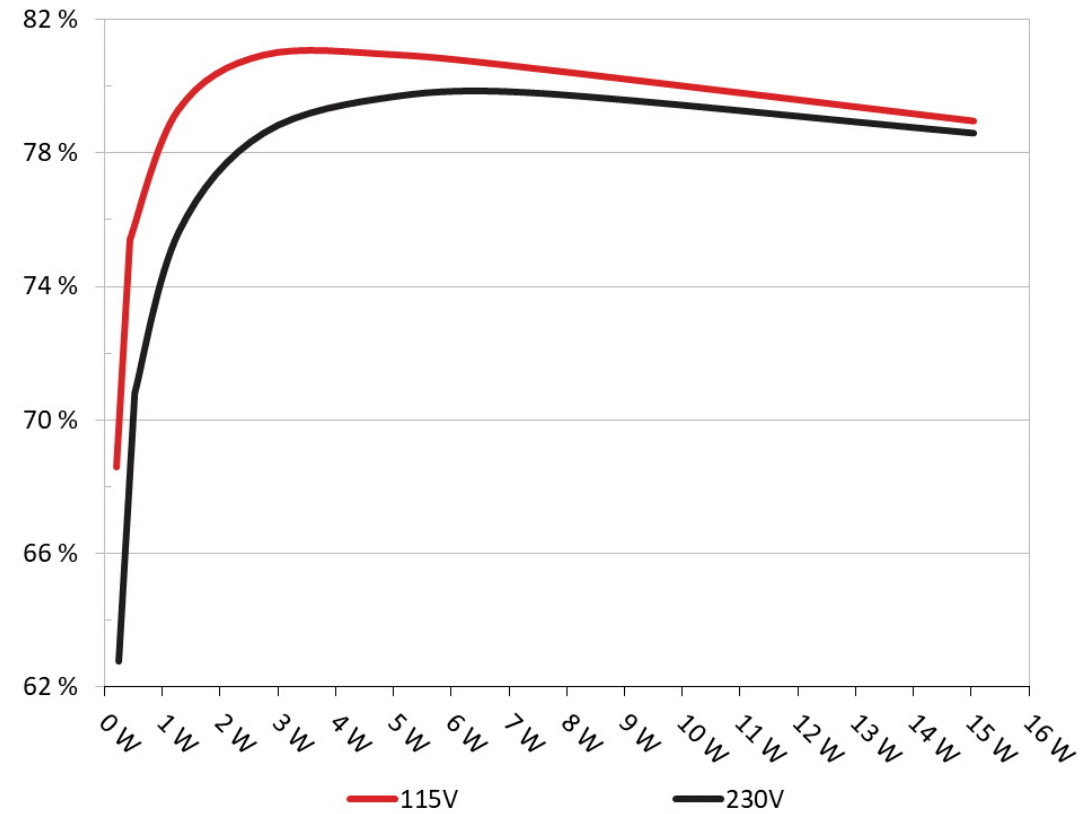
INFO

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 CX850M

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	68.590%	0.031
	5.087V	0.312		115.13V
2	0.088A	0.446	75.338%	0.058
	5.086V	0.592		115.13V
3	0.542A	2.753	80.923%	0.246
	5.075V	3.402		115.12V
4	1.002A	5.076	80.931%	0.329
	5.064V	6.272		115.12V
5	1.502A	7.586	80.497%	0.373
	5.051V	9.424		115.12V
6	3.002A	15.048	78.951%	0.433
	5.013V	19.060		115.12V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.214	62.757%	0.010
	5.086V	0.341		230.34V
2	0.088A	0.446	70.794%	0.019
	5.086V	0.630		230.34V
3	0.543A	2.753	78.590%	0.099
	5.074V	3.503		230.33V
4	1.002A	5.075	79.695%	0.164
	5.063V	6.368		230.33V
5	1.502A	7.584	79.773%	0.218
	5.050V	9.507		230.33V
6	3.001A	15.039	78.586%	0.310
	5.011V	19.137		230.33V

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	5.188A	1.985A	2.003A	0.991A	84.809	82.421%	995	27.1	38.25°C	0.963
	12.184V	5.042V	3.290V	5.046V	102.897				44.03°C	115.15V
2	11.413A	2.981A	3.015A	1.191A	169.705	87.187%	1168	30.6	38.77°C	0.980
	12.164V	5.030V	3.282V	5.028V	194.644				44.79°C	115.15V
3	18.017A	3.488A	3.537A	1.396A	254.883	88.424%	1353	34.2	39.26°C	0.989
	12.144V	5.020V	3.275V	5.008V	288.252				45.86°C	115.14V
4	24.624A	3.996A	4.036A	1.601A	339.762	88.508%	1520	38.2	39.84°C	0.992
	12.125V	5.010V	3.268V	4.989V	383.879				47.20°C	115.15V
5	30.917A	5.000A	5.063A	1.810A	424.660	87.954%	1749	42.2	40.45°C	0.994
	12.103V	4.996V	3.258V	4.970V	482.822				48.98°C	115.14V
6	37.244A	6.025A	6.089A	2.018A	509.657	87.030%	1939	45.4	41.38°C	0.996
	12.079V	4.982V	3.249V	4.949V	585.612				51.01°C	115.14V
7	43.591A	7.041A	7.128A	2.230A	594.606	85.987%	2030	45.8	42.83°C	0.996
	12.056V	4.968V	3.240V	4.932V	691.506				54.40°C	115.17V
8	49.941A	8.080A	8.172A	2.442A	679.590	84.912%	2030	45.8	44.39°C	0.997
	12.038V	4.953V	3.230V	4.908V	800.347				58.10°C	115.14V
9	56.789A	8.600A	8.721A	2.450A	764.621	83.857%	2030	45.8	44.87°C	0.997
	12.010V	4.943V	3.221V	4.892V	911.817				60.42°C	115.14V
10	63.377A	9.128A	9.243A	3.081A	849.397	82.561%	2030	45.8	45.88°C	0.998
	11.987V	4.932V	3.213V	4.862V	1028.812				62.97°C	115.15V
11	70.609A	9.139A	9.258A	3.091A	934.386	81.169%	2030	45.8	46.86°C	0.998
	11.963V	4.926V	3.207V	4.847V	1151.168				66.32°C	115.14V
CL1	0.100A	16.028A	16.002A	0.004A	132.005	79.629%	1775	42.5	45.10°C	0.975
	12.159V	4.928V	3.236V	5.044V	165.775				54.26°C	115.16V

CL2	70.786A	1.004A	1.002A	1.002A	861.427	82.802%	2030	45.8	47.11°C	0.998
	11.983V	4.994V	3.244V	4.925V	1040.340				64.39°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
1	5.197A	1.984A	2.004A	0.991A	84.826	84.238%	995	27.1	40.20°C	0.870
	12.167V	5.042V	3.290V	5.044V	100.698				42.53°C	230.27V
2	11.431A	2.980A	3.015A	1.191A	169.688	88.925%	1180	30.7	40.85°C	0.931
	12.145V	5.029V	3.279V	5.026V	190.822				43.42°C	230.27V
3	18.051A	3.488A	3.544A	1.396A	254.895	90.201%	1353	34.2	41.05°C	0.952
	12.122V	5.019V	3.270V	5.004V	282.584				43.84°C	230.27V
4	24.677A	3.995A	4.043A	1.603A	339.785	90.445%	1550	38.5	41.88°C	0.965
	12.100V	5.009V	3.263V	4.984V	375.681				45.20°C	230.26V
5	30.988A	5.003A	5.071A	1.810A	424.669	90.150%	1775	42.5	42.19°C	0.971
	12.076V	4.994V	3.251V	4.965V	471.067				45.88°C	230.29V
6	37.323A	6.027A	6.106A	2.020A	509.691	89.697%	1920	45.0	42.81°C	0.976
	12.054V	4.980V	3.242V	4.945V	568.239				47.03°C	230.28V
7	43.689A	7.044A	7.147A	2.231A	594.593	89.019%	2030	45.8	43.21°C	0.980
	12.029V	4.966V	3.231V	4.924V	667.936				47.79°C	230.31V
8	50.087A	8.079A	8.196A	2.446A	679.594	88.276%	2030	45.8	43.95°C	0.983
	12.003V	4.953V	3.221V	4.900V	769.852				48.93°C	230.29V
9	56.946A	8.602A	8.750A	2.455A	764.640	87.468%	2030	45.8	44.81°C	0.986
	11.977V	4.942V	3.211V	4.884V	874.195				50.50°C	230.28V
10	63.577A	9.131A	9.273A	3.091A	849.445	86.353%	2030	45.8	45.26°C	0.987
	11.950V	4.930V	3.202V	4.850V	983.689				51.22°C	230.53V
11	70.856A	9.147A	9.295A	3.101A	934.382	85.274%	2030	45.8	46.25°C	0.989
	11.921V	4.922V	3.195V	4.833V	1095.736				52.66°C	230.35V
CL1	0.100A	16.029A	16.004A	0.005A	132.308	80.983%	1460	36.9	41.63°C	0.924
	12.150V	4.942V	3.240V	5.046V	163.377				45.83°C	230.43V

CL2	70.791A	1.004A	1.002A	1.002A	859.262	86.934%	2030	45.8	45.74°C	0.987
	11.952V	4.986V	3.231V	4.914V	988.404				51.82°C	230.29V

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	1.195A	0.493A	0.479A	0.196A	19.653	62.713%	960	26.2	0.915
	12.202V	5.062V	3.302V	5.076V	31.338				115.15V
2	2.418A	0.981A	1.000A	0.391A	39.724	74.644%	960	26.2	0.968
	12.196V	5.053V	3.296V	5.068V	53.218				115.15V
3	3.645A	1.478A	1.514A	0.591A	59.876	79.508%	960	26.2	0.966
	12.191V	5.049V	3.294V	5.060V	75.308				115.15V
4	4.861A	1.986A	2.002A	0.791A	79.832	82.209%	960	26.2	0.963
	12.185V	5.043V	3.291V	5.052V	97.108				115.15V

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	1.201A	0.490A	0.482A	0.196A	19.702	65.047%	960	26.2	0.621
	12.186V	5.061V	3.302V	5.076V	30.289				230.27V
2	2.423A	0.980A	0.998A	0.391A	39.731	76.132%	960	26.2	0.772
	12.179V	5.053V	3.295V	5.068V	52.187				230.26V
3	3.651A	1.476A	1.514A	0.591A	59.874	81.409%	960	26.2	0.829
	12.174V	5.048V	3.293V	5.059V	73.547				230.26V
4	4.865A	1.985A	2.005A	0.791A	79.803	84.312%	960	26.2	0.861
	12.169V	5.043V	3.290V	5.050V	94.652				230.26V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.1 mV	22.2 mV	14.5 mV	9.4 mV	Pass
20% Load	14.5 mV	27.1 mV	14.9 mV	10.1 mV	Pass
30% Load	13.8 mV	27.8 mV	15.6 mV	10.1 mV	Pass
40% Load	14.7 mV	28.5 mV	16.3 mV	12.0 mV	Pass
50% Load	17.8 mV	22.8 mV	18.1 mV	10.9 mV	Pass
60% Load	21.1 mV	23.0 mV	16.3 mV	11.9 mV	Pass
70% Load	20.5 mV	24.2 mV	17.8 mV	13.8 mV	Pass
80% Load	21.4 mV	25.0 mV	18.7 mV	13.3 mV	Pass
90% Load	25.7 mV	22.5 mV	17.8 mV	13.3 mV	Pass
100% Load	30.9 mV	25.8 mV	20.6 mV	15.6 mV	Pass
110% Load	35.3 mV	28.0 mV	20.9 mV	15.6 mV	Pass
Crossload 1	22.2 mV	27.3 mV	17.9 mV	13.0 mV	Pass
Crossload 2	28.9 mV	26.3 mV	16.8 mV	14.1 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.6 mV	17.5 mV	12.6 mV	7.4 mV	Pass
20% Load	12.5 mV	17.9 mV	13.6 mV	7.8 mV	Pass
30% Load	10.1 mV	20.6 mV	14.2 mV	8.2 mV	Pass
40% Load	14.4 mV	23.1 mV	14.7 mV	12.6 mV	Pass
50% Load	19.4 mV	21.8 mV	14.4 mV	8.9 mV	Pass
60% Load	20.4 mV	24.4 mV	16.1 mV	10.0 mV	Pass
70% Load	20.3 mV	26.8 mV	17.3 mV	11.1 mV	Pass
80% Load	20.6 mV	29.3 mV	18.8 mV	12.3 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	25.1 mV	31.7 mV	21.1 mV	14.2 mV	Pass
100% Load	29.9 mV	35.7 mV	24.5 mV	15.3 mV	Pass
110% Load	34.8 mV	37.4 mV	24.6 mV	17.7 mV	Pass
Crossload 1	23.0 mV	28.8 mV	20.8 mV	13.1 mV	Pass
Crossload 2	27.5 mV	32.0 mV	19.7 mV	14.6 mV	Pass

The results above are not used in the certification process

Corsair CX850M



Top side

 CORSAIR						
MODEL / 型号 / 型號 / 모델 : 75-011012 POWER SUPPLY / 전원 공급 장치						
PART NUMBER: CP-9020157/75-011012						
交流 輸入	AC INPUT AC 입력	100V - 240V • 12A - 6A • 47Hz - 63Hz				
直流 輸出	DC OUTPUT DC 출력	+3.3V	+5V	+12V	-12V	+5Vsb
最大 電流	MAX LOAD 최대 부하	25A	25A	70.8A	0.8A	3A
最大 瓦特數	MAXIMUM COMBINED WATTAGE 최대 결합 와트	130W		850W	9.6W	15W
		總功率 總功率 총 전력		TOTAL POWER: 850W		

Power specifications label

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

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