



Corsair TX850M

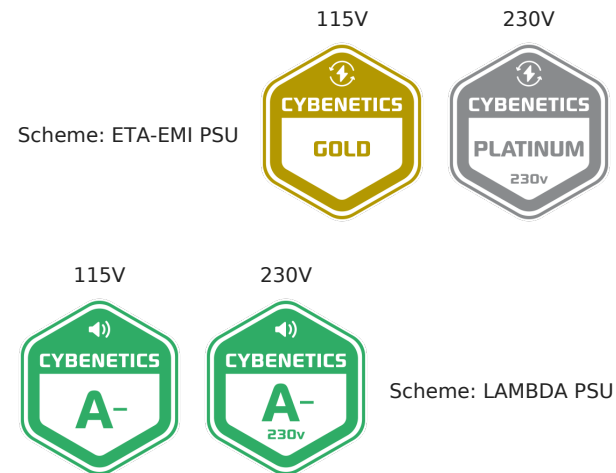
Serial Number 17084854000040960743

Lab ID 88

Certification ID 2588

Test Result Report ID:

Certificate Issue Date: Nov 4, 2018



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

Aristeidis Bitziopoulos, Certification Body General Manager

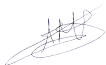
General Information

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	TX850M
OEM/ODM	Great Wall
Serial Number	17084854000040960743
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	120mm Rifle Bearing Fan (NR120L)
Semi-Passive Operation	X
Cybenetics Testing Information	
Lab ID	88
Date of receipt	Oct 22, 2018
Testing Date	Oct 31, 2018
Report Issued Date	Nov 4, 2018
DUT Notes	CP-9020130 - Retested on 9/28/17
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Native Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (600mm)	1	1	16-20AWG
4+4 pin EPS12V (650mm)	1	1	18AWG
Modular Cables			
6+2 pin PCIe (600mm+150mm)	2	4	18AWG
SATA (500mm+90mm+90mm+90mm)	2	8	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG
FDD (+100mm)	2	2	20AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	70.8	3	0.8
	Watts	130		849.6	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)	88.736%
Average Noise Output (>1450 Load Combinations)	27.95dBA
Average PF (>1450 Load Combinations)	0.987
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0389W
Non-Accredited	
12V Ripple (Full Load)	51.12mV
5V Ripple (Full Load)	13.69mV
3.3V Ripple (Full Load)	18.81mV
5VSB Ripple (Full Load)	21.94mV
12V Load Regulation	1.22%
5V Load Regulation	1.03%
3.3V Load Regulation	2.10%

5VSB Load Regulation	2.29%
Inrush Current	24.187A

230V

Accredited		
Average Efficiency (>1450 load combinations)	91.253%	
Average Noise Output (>1450 Load Combinations)	29.01dBA	
Average PF (>1450 Load Combinations)	0.951	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.0584W	
Non-Accredited		
12V Ripple (Full Load)	41.15mV	
5V Ripple (Full Load)	14.49mV	
3.3V Ripple (Full Load)	32.24mV	
5VSB Ripple (Full Load)	21.01mV	
12V Load Regulation	0.51%	
5V Load Regulation	0.26%	
3.3V Load Regulation	0.60%	
5VSB Load Regulation	1.01%	
Inrush Current	46.952A	
Hold-Up Time & PWR_OK Signal	17.68ms	
AC Loss to PWR_OK Hold Up Time	13.90ms	
PWR_OK Inactive to DC Loss Delay	3.78ms	
OPP (0.00°C / 0.00°C)	-	-

Hold-Up Time & PWR_OK Signal

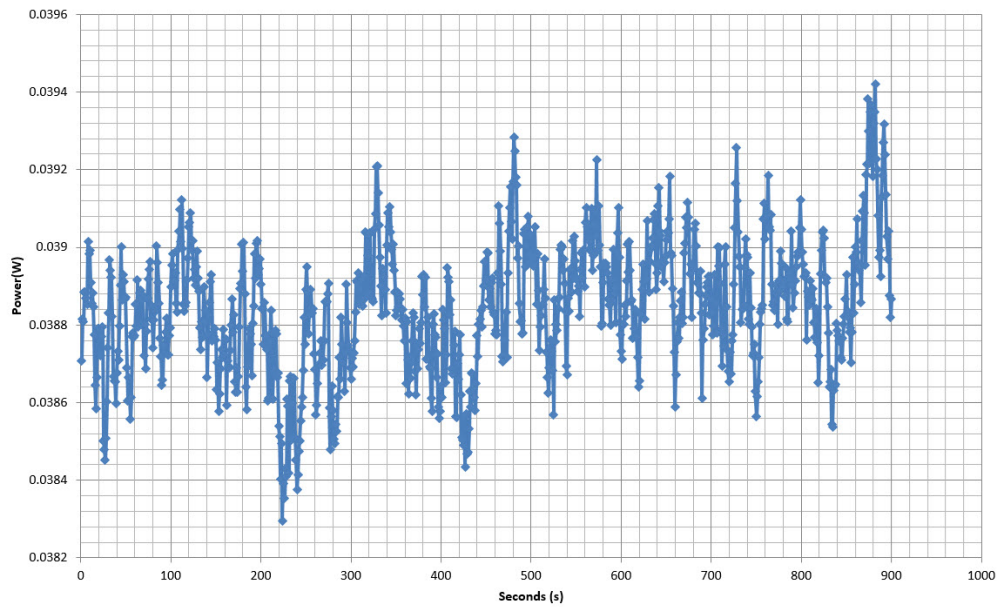
Hold-Up Time (ms)	17.68
AC Loss to PWR_OK Hold Up Time (ms)	13.9
PWR_OK Inactive to DC Loss Delay (ms)	3.78

Vampire Power

Graphs

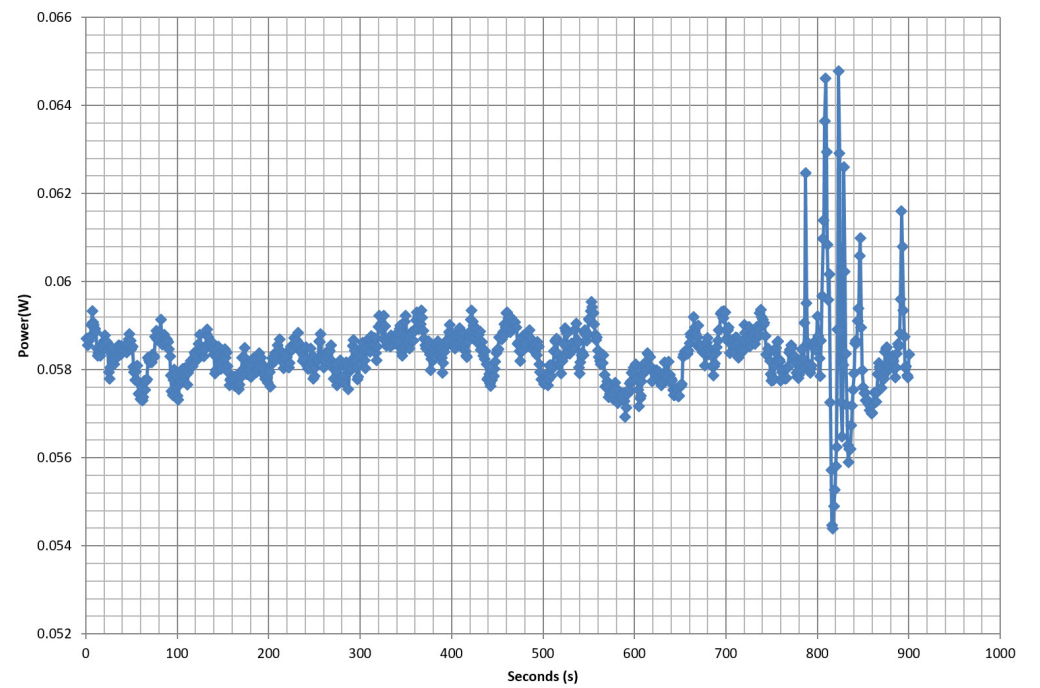
115V

Power - 171002476 - 07/04/2017 - 09:39



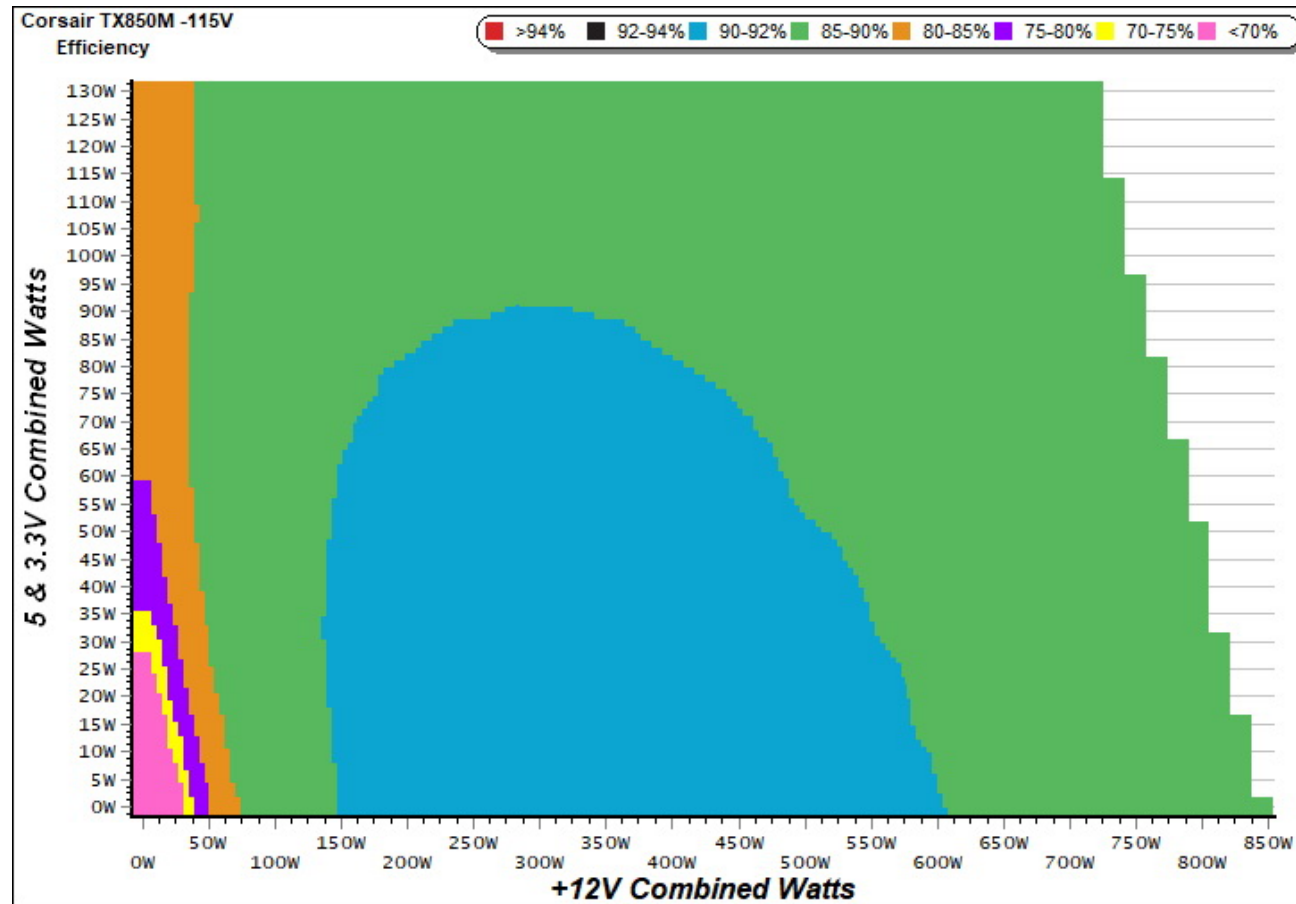
230V

Power - 171002476 - 07/04/2017 - 09:39



Efficiency Graph

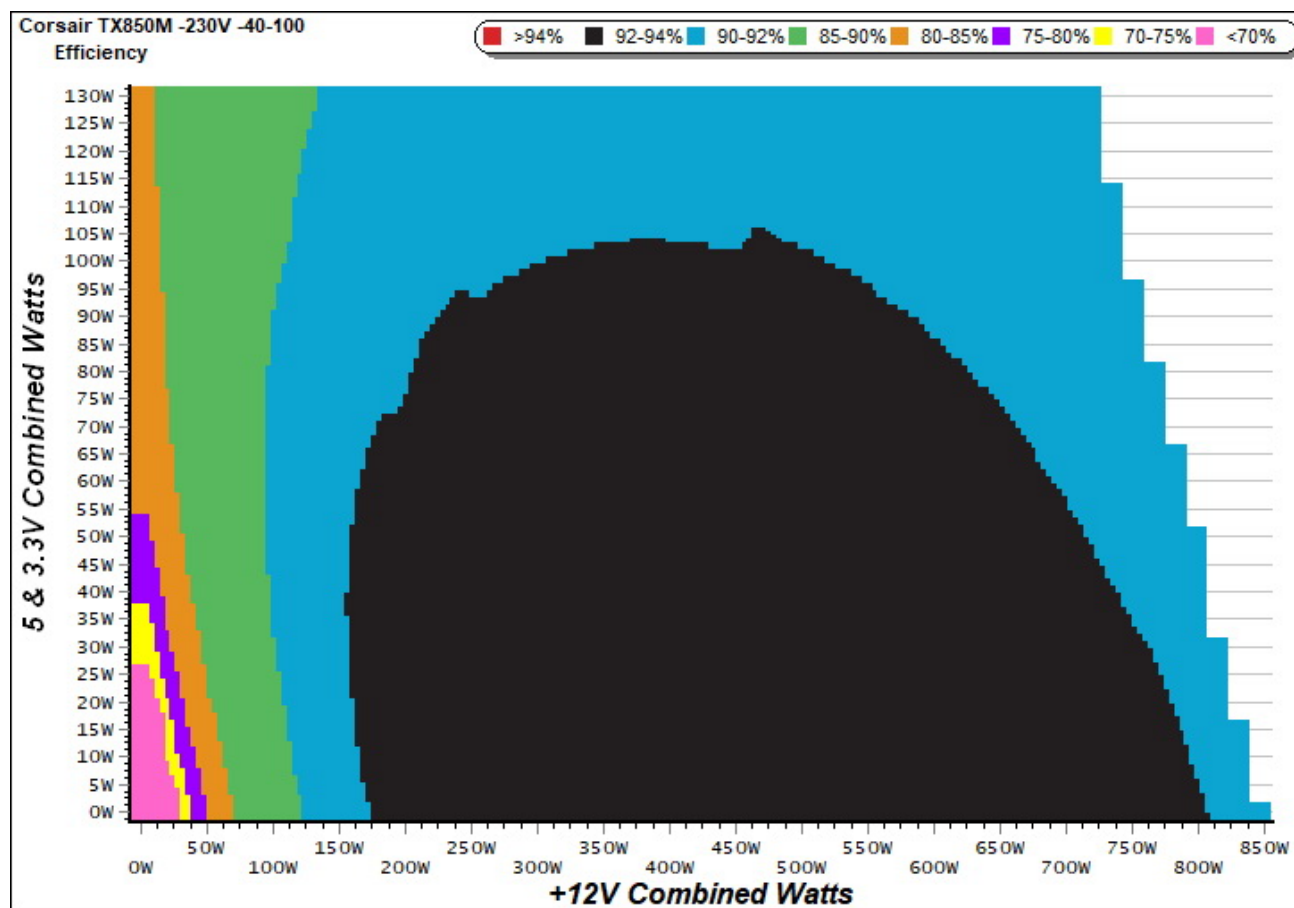
115V



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

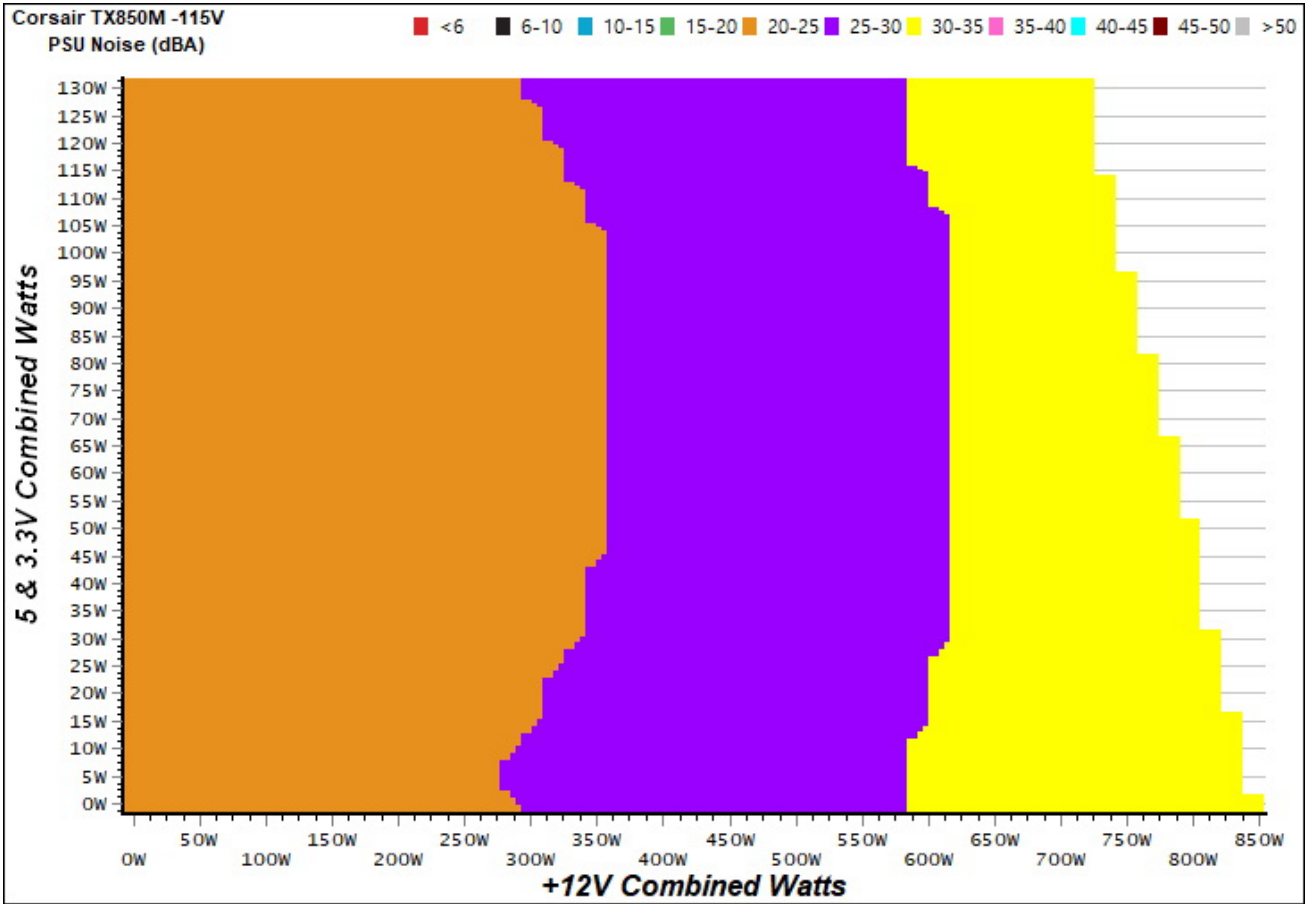


INFO

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

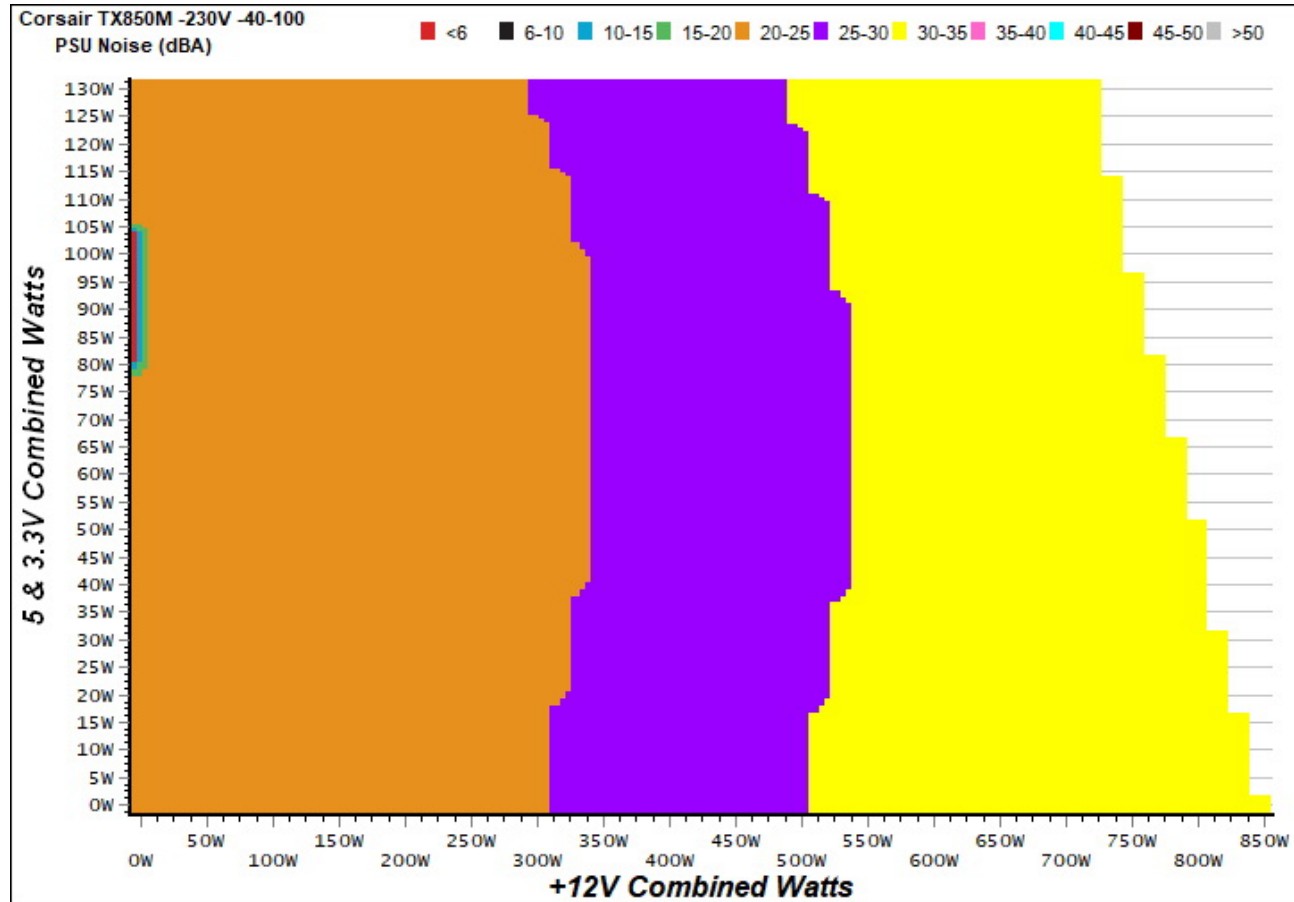
115V



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

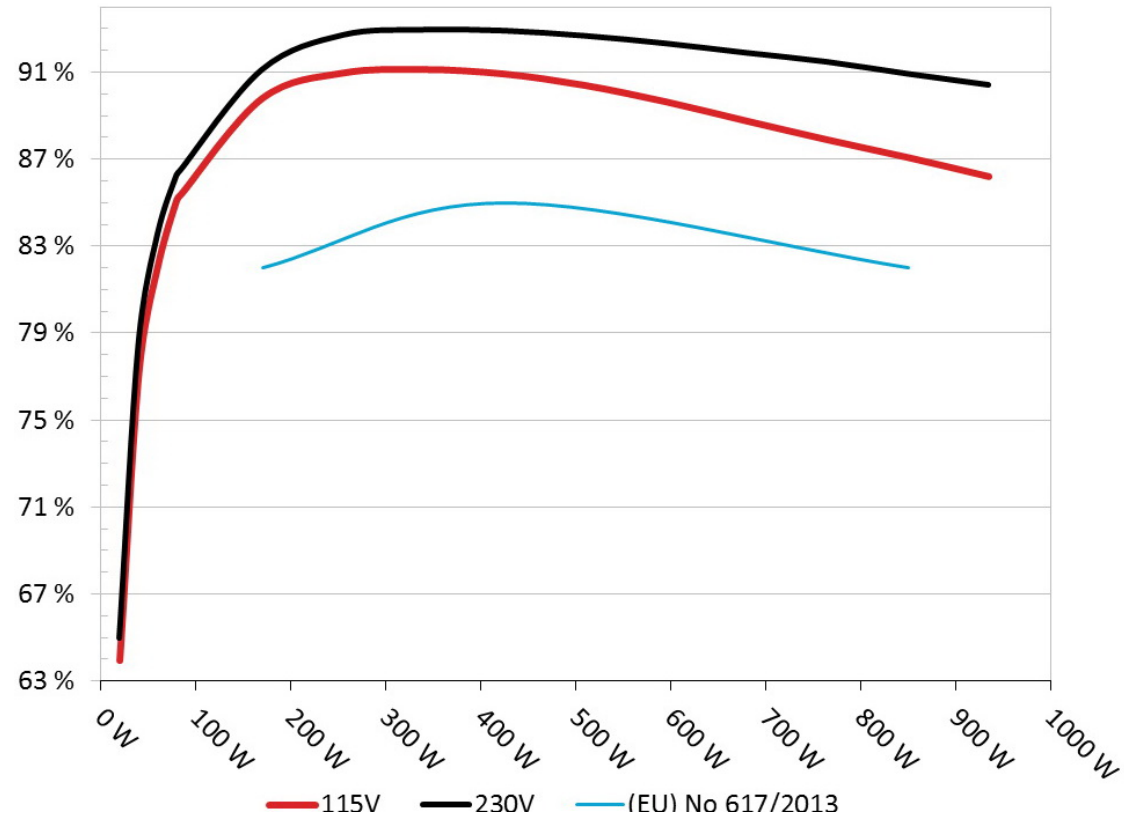
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Corsair TX850M

Ambient: 38°C - 46°C (100.4°F - 114.8°F)

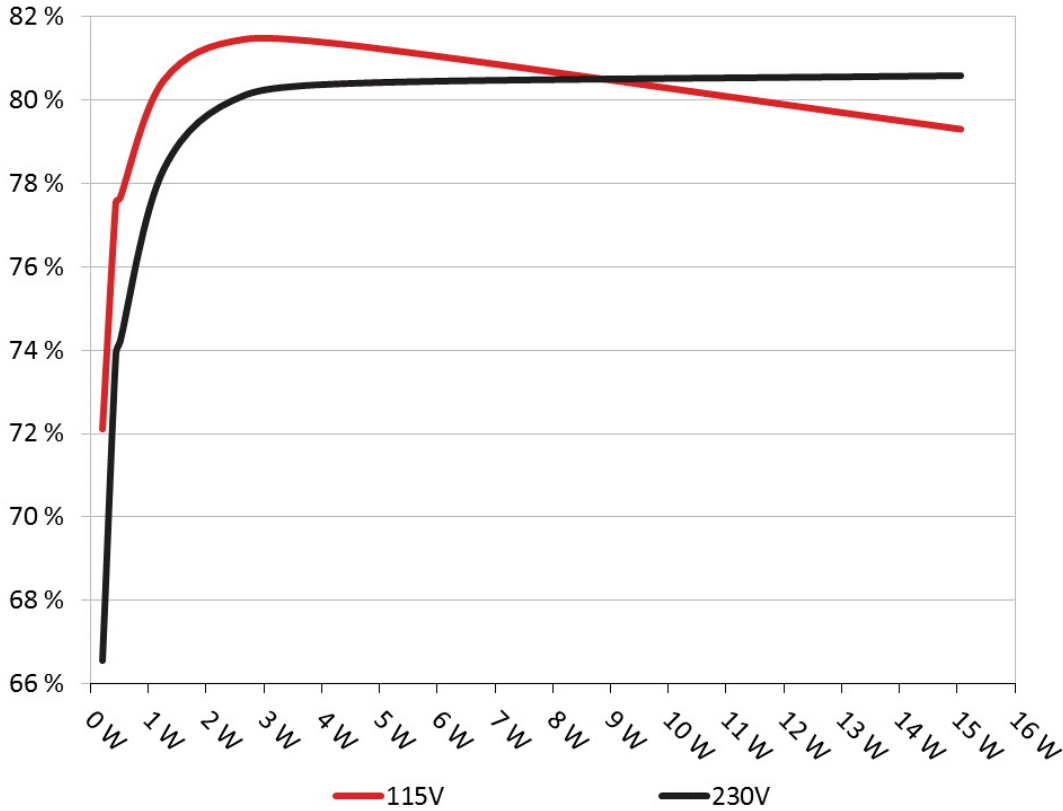


INFO

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 TX850M
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	0.212	72.109%	0.030
	5.064V	0.294		115.52V
2	0.087A	0.442	77.544%	0.056
	5.064V	0.570		115.05V
3	0.532A	2.690	81.466%	0.244
	5.057V	3.302		115.06V
4	3.001A	15.067	79.304%	0.444
	5.020V	18.999		115.04V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	65.043%	0.009
	5.044V	0.349		230.92V
2	0.090A	0.454	72.408%	0.016
	5.044V	0.627		230.93V
3	0.550A	2.771	80.179%	0.086
	5.037V	3.456		230.93V
4	1.000A	5.032	80.512%	0.146
	5.031V	6.250		230.93V
5	1.500A	7.537	81.104%	0.199
	5.024V	9.293		230.92V
6	2.500A	12.526	81.180%	0.275
	5.010V	15.430		230.92V

Supplementary Tests (For Reference)

Typical Load Tests

115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	5.159A	1.985A	1.976A	0.990A	84.765	85.431%	1298	30.5	39.27°C	0.979
	12.249V	5.033V	3.336V	5.041V	99.220				40.04°C	115.12V
2	11.345A	2.980A	2.970A	1.190A	169.643	89.813%	1394	31.2	39.77°C	0.976
	12.233V	5.028V	3.330V	5.031V	188.884				40.74°C	115.11V
3	17.911A	3.488A	3.487A	1.391A	254.886	90.981%	1454	32.4	40.15°C	0.983
	12.216V	5.021V	3.323V	5.022V	280.154				41.16°C	115.10V
4	24.468A	3.985A	3.978A	1.595A	339.731	91.141%	1524	33.8	40.67°C	0.988
	12.202V	5.016V	3.316V	5.012V	372.754				41.89°C	115.10V
5	30.696A	4.984A	4.982A	1.798A	424.573	90.936%	1596	35.4	41.33°C	0.991
	12.188V	5.012V	3.308V	5.000V	466.891				42.58°C	115.09V
6	36.953A	5.993A	5.996A	2.001A	509.606	90.408%	1704	37.3	41.98°C	0.992
	12.173V	5.007V	3.300V	4.989V	563.674				43.43°C	115.09V
7	43.241A	7.002A	7.013A	2.203A	594.551	89.656%	1829	37.3	43.02°C	0.994
	12.152V	5.002V	3.293V	4.979V	663.146				44.96°C	115.09V
8	49.532A	8.006A	8.034A	2.416A	679.523	88.774%	1847	39.9	43.67°C	0.995
	12.136V	4.996V	3.286V	4.969V	765.450				46.04°C	115.09V
9	56.261A	8.516A	8.567A	2.417A	764.510	87.908%	1847	39.9	44.79°C	0.995
	12.121V	4.989V	3.279V	4.962V	869.674				47.62°C	115.08V
10	62.765A	9.036A	9.075A	3.031A	849.400	87.092%	1847	39.9	45.60°C	0.996
	12.104V	4.983V	3.271V	4.943V	975.295				48.64°C	115.08V
11	69.864A	9.053A	9.096A	3.037A	934.380	86.220%	1847	39.9	46.33°C	0.996
	12.090V	4.975V	3.265V	4.935V	1083.710				49.95°C	115.08V
CL1	0.099A	16.025A	16.004A	0.004A	135.115	83.083%	1659	35.9	43.65°C	0.975
	12.239V	5.047V	3.312V	5.032V	162.627				45.58°C	115.10V

CL2	54.126A	1.003A	1.003A	1.003A	670.582	89.484%	1847	39.9	44.41°C	0.994
	12.143V	4.990V	3.300V	5.000V	749.385				46.69°C	115.11V

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	5.181A	1.992A	1.989A	0.994A	84.862	85.989%	1265	30.0	38.32°C	0.806
	12.211V	5.022V	3.314V	5.031V	98.689				41.23°C	230.90V
2	11.350A	2.989A	2.989A	1.194A	169.364	90.893%	1330	30.7	38.77°C	0.916
	12.199V	5.020V	3.312V	5.026V	186.333				41.87°C	230.83V
3	17.920A	3.489A	3.475A	1.394A	254.454	92.348%	1445	32.1	39.35°C	0.950
	12.190V	5.019V	3.309V	5.021V	275.539				42.75°C	230.77V
4	24.498A	3.988A	3.992A	1.595A	339.671	92.792%	1512	33.7	40.18°C	0.965
	12.183V	5.017V	3.307V	5.017V	366.058				43.88°C	230.71V
5	30.753A	4.986A	4.992A	1.796A	424.990	92.775%	1596	35.4	41.05°C	0.970
	12.177V	5.016V	3.305V	5.012V	458.086				45.13°C	230.67V
6	36.947A	5.985A	5.995A	1.998A	509.495	92.598%	1728	37.4	41.69°C	0.975
	12.171V	5.014V	3.303V	5.007V	550.224				46.52°C	230.59V
7	43.214A	6.982A	6.998A	2.200A	594.804	92.277%	1838	39.8	42.82°C	0.978
	12.165V	5.013V	3.301V	5.002V	644.588				47.97°C	230.63V
8	49.488A	7.986A	8.003A	2.402A	680.155	91.843%	1847	39.9	44.01°C	0.982
	12.159V	5.012V	3.299V	4.997V	740.559				49.92°C	230.56V
9	56.168A	8.486A	8.494A	2.403A	765.068	91.439%	1847	39.9	45.19°C	0.984
	12.152V	5.010V	3.296V	4.995V	836.697				51.69°C	230.50V
10	62.769A	8.987A	9.014A	2.505A	849.800	90.908%	1847	39.9	46.11°C	0.987
	12.149V	5.009V	3.295V	4.991V	934.791				53.24°C	230.42V
11	69.775A	8.988A	9.020A	2.506A	934.562	90.426%	1847	39.9	47.40°C	0.988
	12.144V	5.008V	3.293V	4.988V	1033.515				56.16°C	230.46V
CL1	0.140A	16.005A	15.999A	0.000A	135.075	84.051%	1679	36.2	43.58°C	0.903
	12.207V	5.022V	3.312V	5.039V	160.706				47.71°C	230.93V

CL2	70.848A	1.002A	1.002A	1.000A	873.927	91.349%	1847	39.9	45.45°C	0.987
	12.147V	5.010V	3.296V	5.014V	956.694				53.01°C	230.43V

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)	Fan Noise (dB[A])	PF/AC Volts
1	1.191A	0.491A	0.477A	0.194A	19.644	63.958%	1195	28.5	0.891
	12.255V	5.036V	3.343V	5.059V	30.714				115.11V
2	2.411A	0.990A	0.985A	0.397A	39.822	77.206%	1205	28.7	0.962
	12.252V	5.035V	3.341V	5.055V	51.579				115.10V
3	3.623A	1.480A	1.495A	0.590A	59.815	82.121%	1242	29.6	0.977
	12.253V	5.034V	3.339V	5.050V	72.838				115.10V
4	4.833A	1.985A	1.974A	0.792A	79.775	85.158%	1255	29.8	0.981
	12.249V	5.033V	3.338V	5.045V	93.679				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	1.184A	0.498A	0.481A	0.198A	19.558	65.074%	1160	27.1	0.433
	12.215V	5.023V	3.316V	5.044V	30.055				230.92V
2	2.432A	0.996A	0.993A	0.397A	39.985	76.418%	1210	28.2	0.605
	12.208V	5.023V	3.315V	5.041V	52.324				230.91V
3	3.610A	1.494A	1.477A	0.596A	59.462	82.490%	1225	28.8	0.712
	12.205V	5.022V	3.315V	5.037V	72.084				230.90V
4	4.851A	1.991A	1.992A	0.795A	79.838	85.621%	1242	29.6	0.790
	12.211V	5.022V	3.314V	5.034V	93.246				230.89V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	22.3 mV	5.1 mV	7.7 mV	4.5 mV	Pass
20% Load	20.5 mV	6.3 mV	9.1 mV	5.7 mV	Pass
30% Load	21.7 mV	6.6 mV	10.6 mV	7.2 mV	Pass
40% Load	23.7 mV	6.8 mV	11.5 mV	8.4 mV	Pass
50% Load	27.0 mV	8.3 mV	11.9 mV	13.8 mV	Pass
60% Load	29.7 mV	9.2 mV	12.6 mV	12.6 mV	Pass
70% Load	34.5 mV	9.5 mV	12.8 mV	14.9 mV	Pass
80% Load	39.1 mV	10.9 mV	13.6 mV	16.0 mV	Pass
90% Load	44.2 mV	11.9 mV	14.9 mV	17.9 mV	Pass
100% Load	51.1 mV	13.7 mV	18.8 mV	21.9 mV	Pass
110% Load	58.8 mV	15.2 mV	21.6 mV	24.6 mV	Pass
Crossload 1	23.2 mV	8.1 mV	9.5 mV	7.4 mV	Pass
Crossload 2	40.3 mV	9.8 mV	16.2 mV	16.8 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	18.7 mV	4.4 mV	6.9 mV	3.6 mV	Pass
20% Load	17.6 mV	5.6 mV	9.2 mV	5.0 mV	Pass
30% Load	19.0 mV	7.9 mV	17.2 mV	6.5 mV	Pass
40% Load	19.1 mV	6.5 mV	12.0 mV	7.9 mV	Pass
50% Load	23.3 mV	7.9 mV	15.2 mV	12.3 mV	Pass
60% Load	26.3 mV	9.7 mV	19.2 mV	12.3 mV	Pass
70% Load	30.5 mV	12.1 mV	26.2 mV	14.2 mV	Pass
80% Load	33.0 mV	14.8 mV	28.9 mV	16.3 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	37.4 mV	13.0 mV	30.1 mV	18.5 mV	Pass
100% Load	41.2 mV	14.5 mV	32.2 mV	21.0 mV	Pass
110% Load	47.7 mV	15.4 mV	34.0 mV	23.4 mV	Pass
Crossload 1	18.2 mV	9.5 mV	13.3 mV	8.4 mV	Pass
Crossload 2	42.2 mV	10.0 mV	21.0 mV	20.9 mV	Pass

The results above are not used in the certification process

Corsair TX850M



Top side



Power specifications table

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

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