Corsair CX550

Serial Number 16527135000017690613

Lab ID 184

Certification ID 25184

Test Result Report ID:

Certificate Issue Date: Sep 29, 2018

Scheme: ETA-EMI PSU

115V



230V



Scheme: LAMBDA PSU

115V



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	Corsair
Model	CX550
OEM/ODM	Great Wall
Serial Number	16527135000017690613
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63

Rated Power (W)	550
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fixed cables
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Fluid Dynamic Bearing Fan (HA1225M12F-Z)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	184
Date of receipt	Sep 20, 2018
Testing Date	Sep 27, 2018
Report Issued Date	Sep 29, 2018
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 (600mm)	1	1	18-20AWG
4+4 pin EPS12V (650mm)	1	1	18AWG
6+2 pin PCIe (580mm)	2	2	18AWG
SATA (400mm+120mm+120mm)	1	3	18AWG
SATA (400mm+120mm)	1	2	18AWG
4 pin Molex (400mm+120mm+120mm+120mm)	1	4	18AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	20	45.8	3	0.8
	Watts	120		549.6	15	9.6
Total Max. Power (W)		550				

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)	85.720%
Average Noise Output (>1450 Load Combinations)	23.69dBA
Average PF (>1450 Load Combinations)	0.996
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0554W
Non-Accredited	
12V Ripple (Full Load)	32.34mV
5V Ripple (Full Load)	11.40mV
3.3V Ripple (Full Load)	11.53mV
5VSB Ripple (Full Load)	19.87mV
12V Load Regulation	0.54%
5V Load Regulation	0.36%
3.3V Load Regulation	0.45%

5VSB Load Regulation	1.98%
Inrush Current	34.858A

230V

Accredited		
Average Efficiency (>1450 load combinations)	88.024%	
Average Noise Output (>1450 Load Combinations)	25.42dBA	
Average PF (>1450 Load Combinations)	0.975	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.0703W	
Non-Accredited		
12V Ripple (Full Load)	33.03mV	
5V Ripple (Full Load)	18.05mV	
3.3V Ripple (Full Load)	13.11mV	
5VSB Ripple (Full Load)	17.23mV	
12V Load Regulation	0.45%	
5V Load Regulation	0.38%	
3.3V Load Regulation	0.66%	
5VSB Load Regulation	1.83%	
Inrush Current	40.550A	
Hold-Up Time & PWR_OK Signal	11.93ms	
AC Loss to PWR_OK Hold Up Time	9.90ms	
PWR_OK Inactive to DC Loss Delay	2.03ms	
OPP (0.00°C / 0.00°C)	-	-

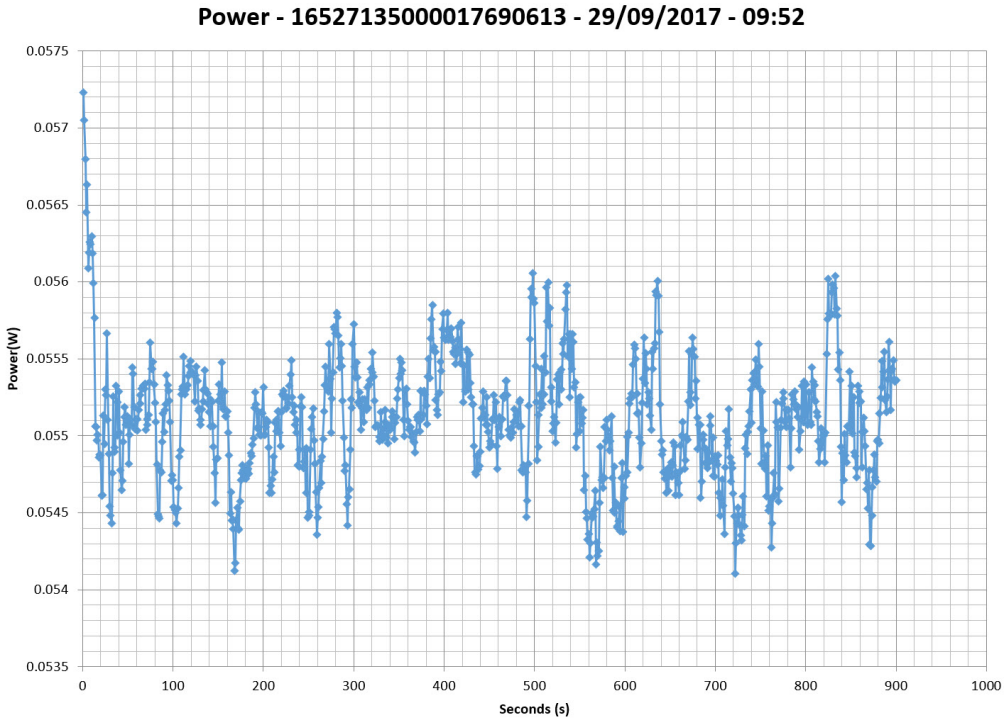
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	11.93
AC Loss to PWR_OK Hold Up Time (ms)	9.90
PWR_OK Inactive to DC Loss Delay (ms)	2.03

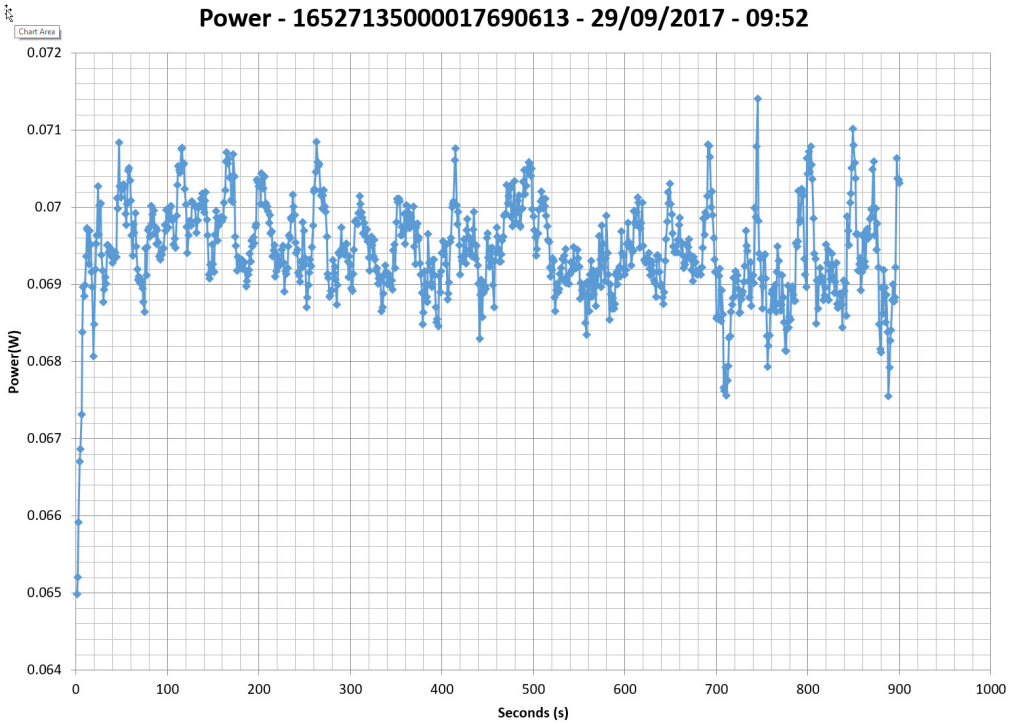
Stromverbrauch im Ruhezustand

Graphs

115V

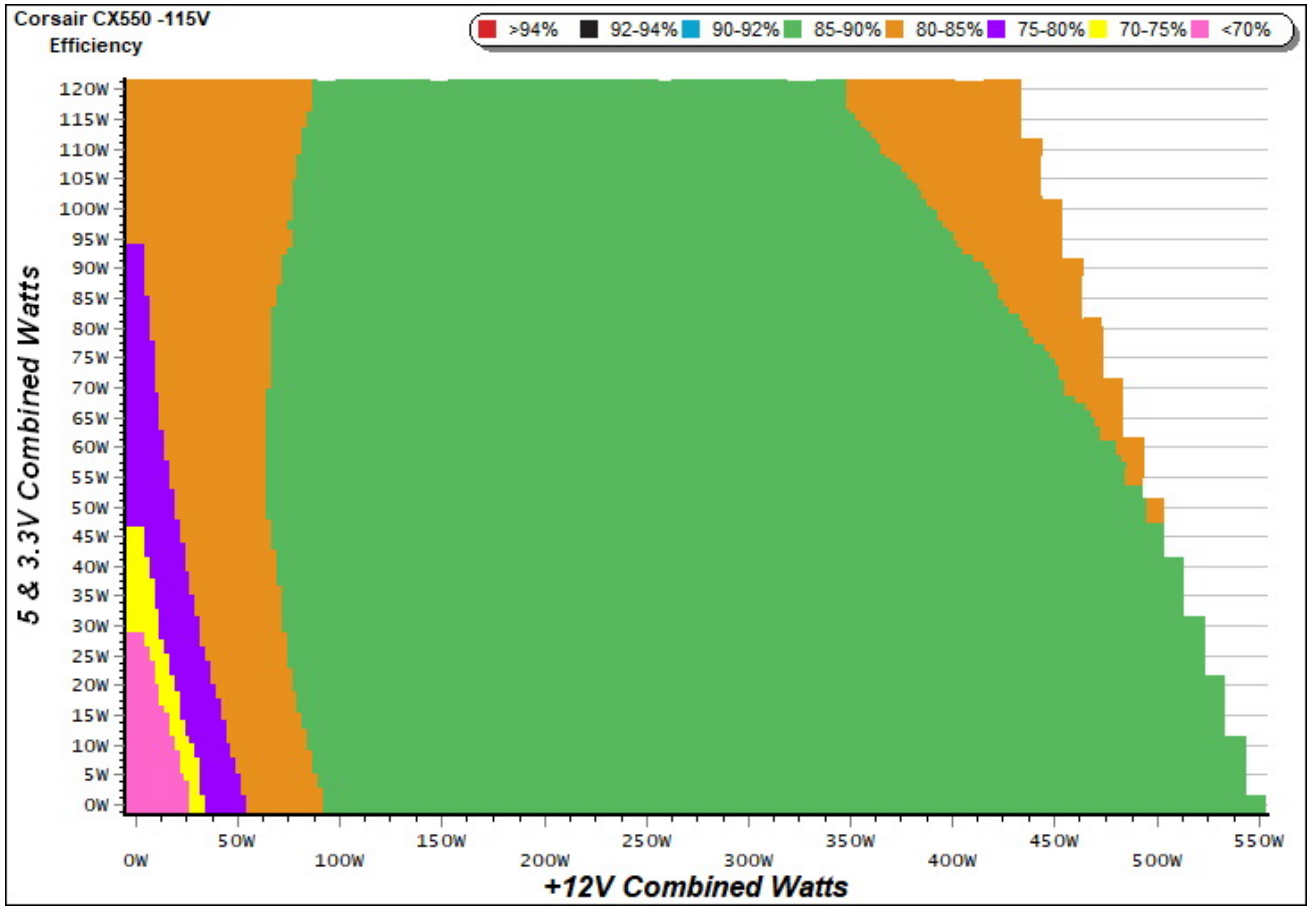


230V



Efficiency Graph

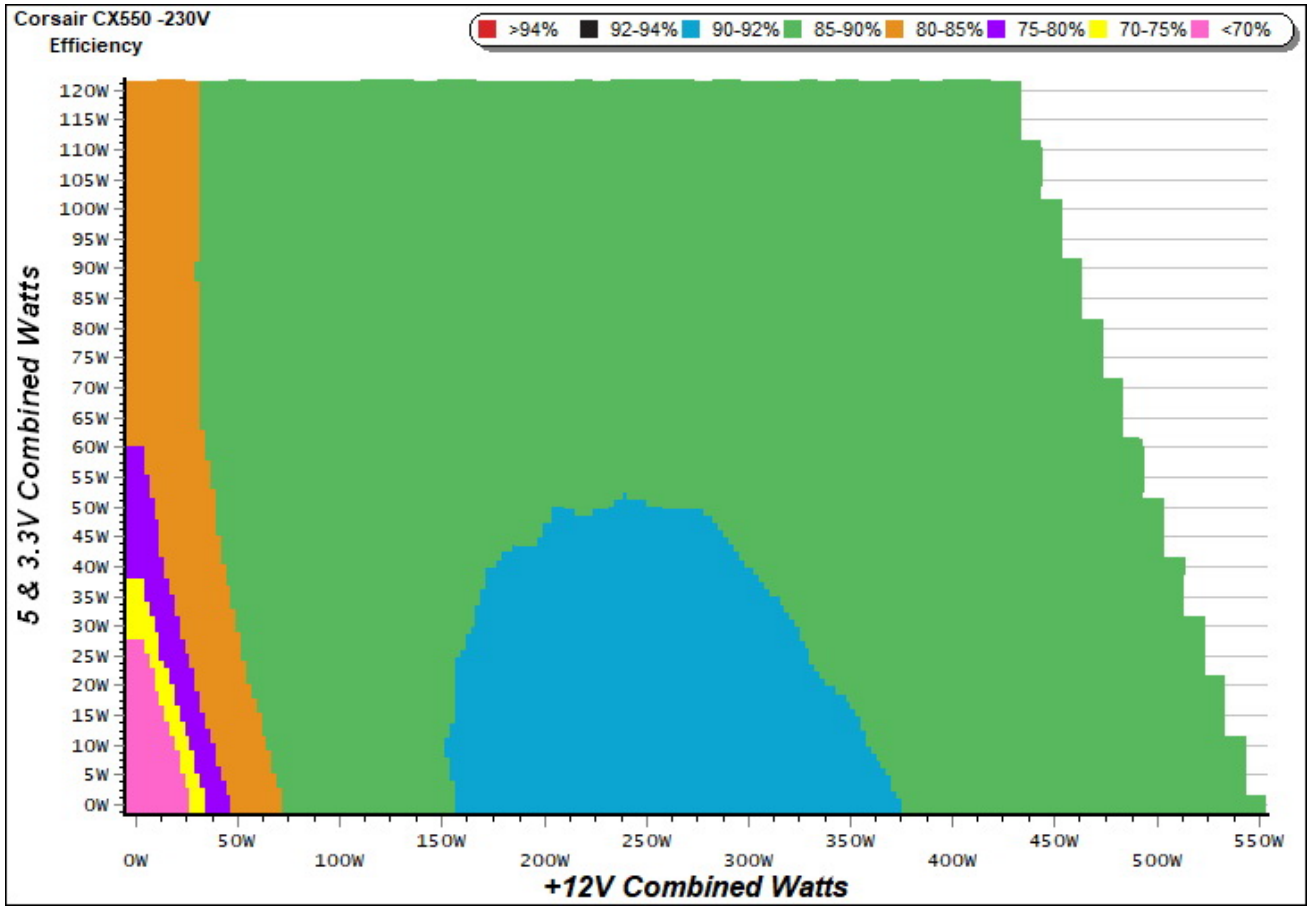
115V



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

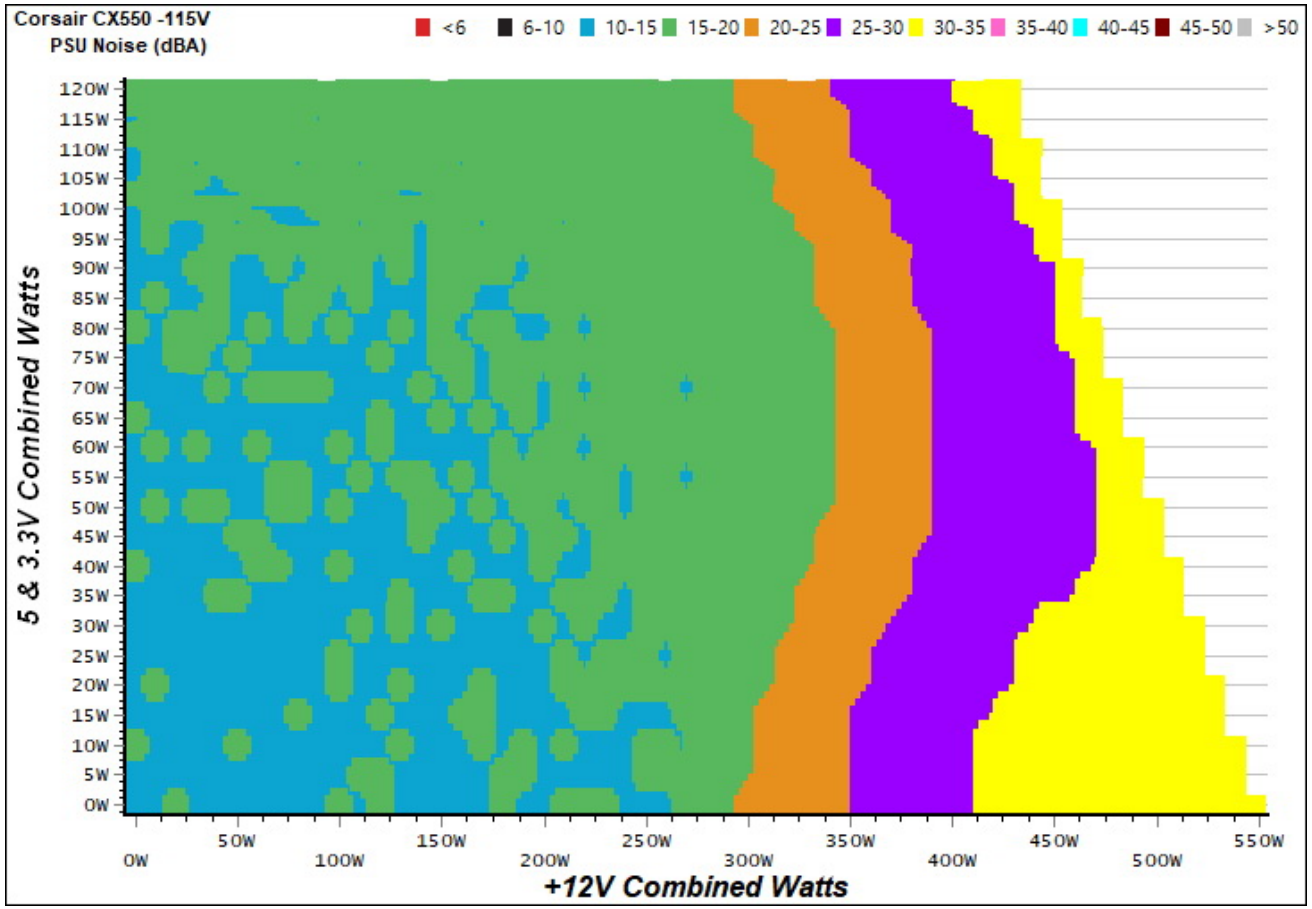


INFO

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Noise Graph

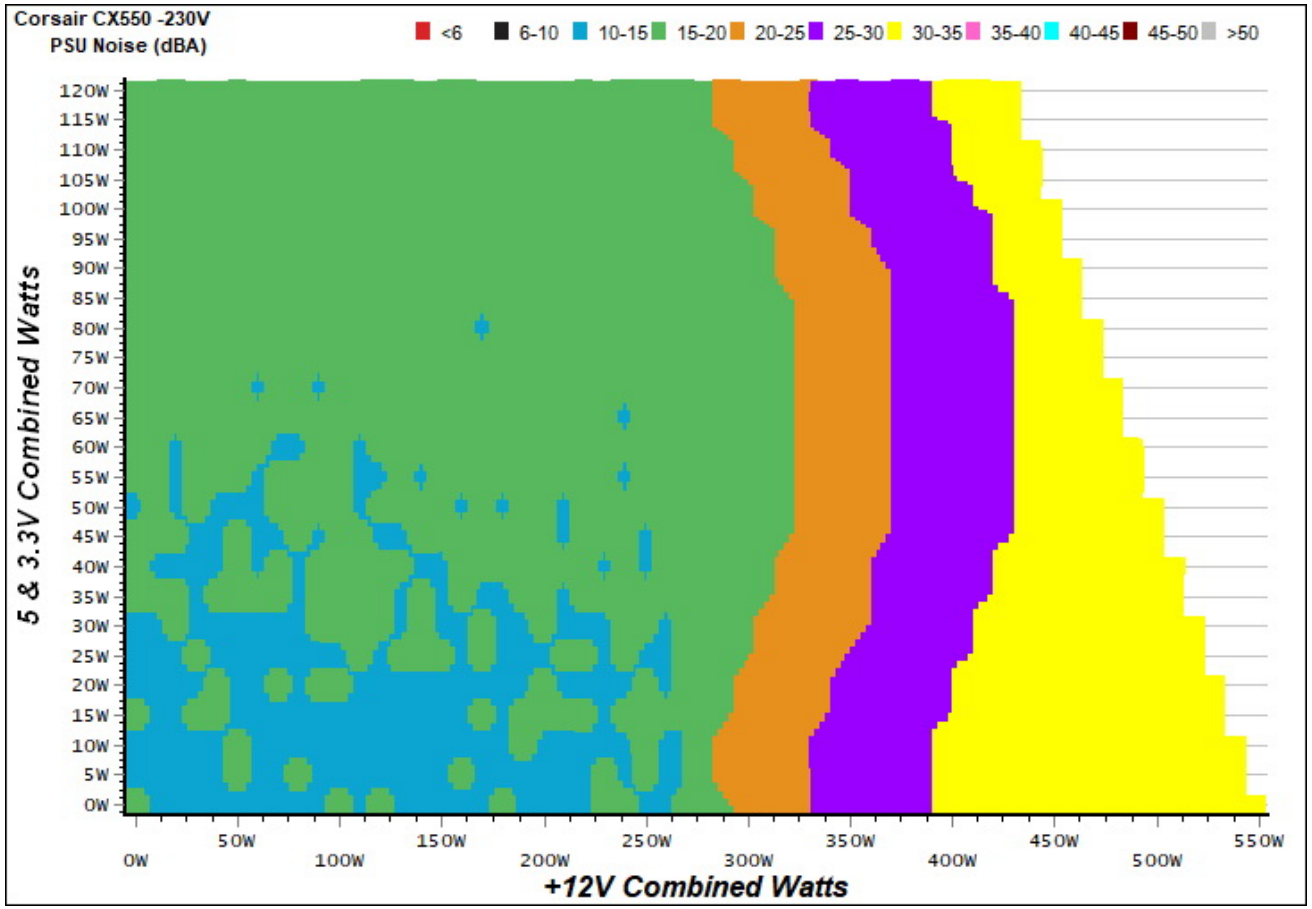
115V



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

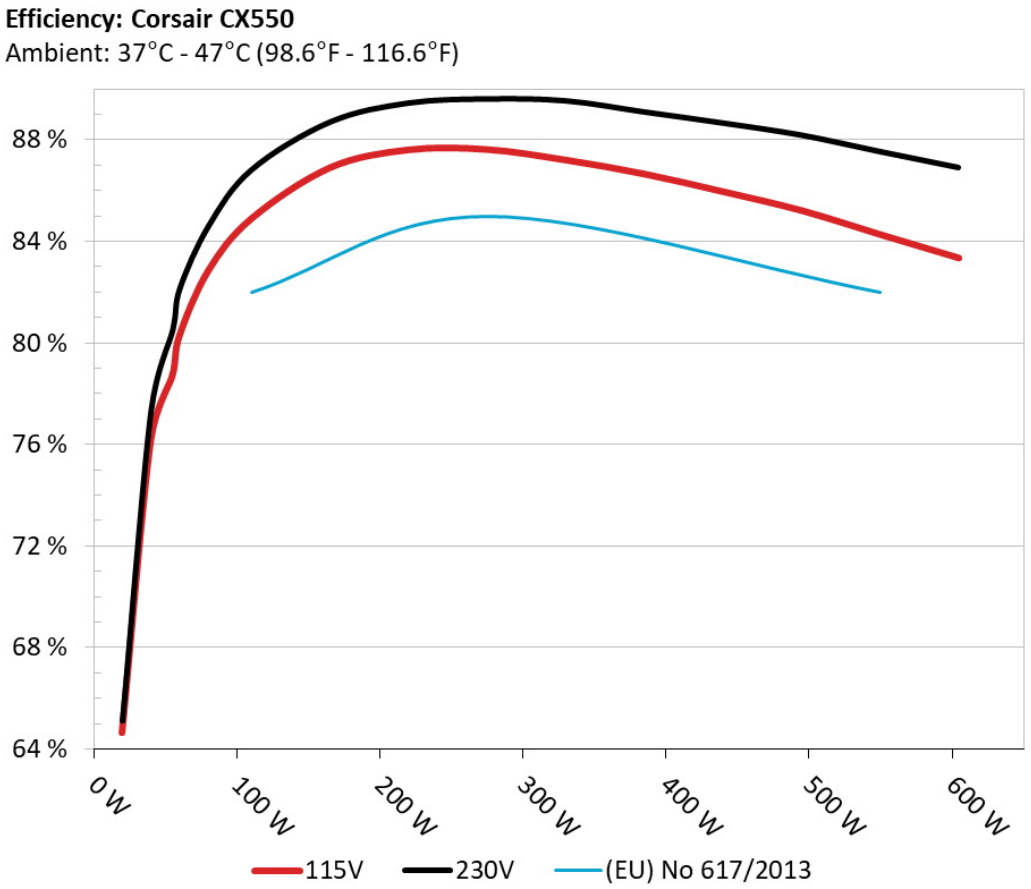


INFO

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

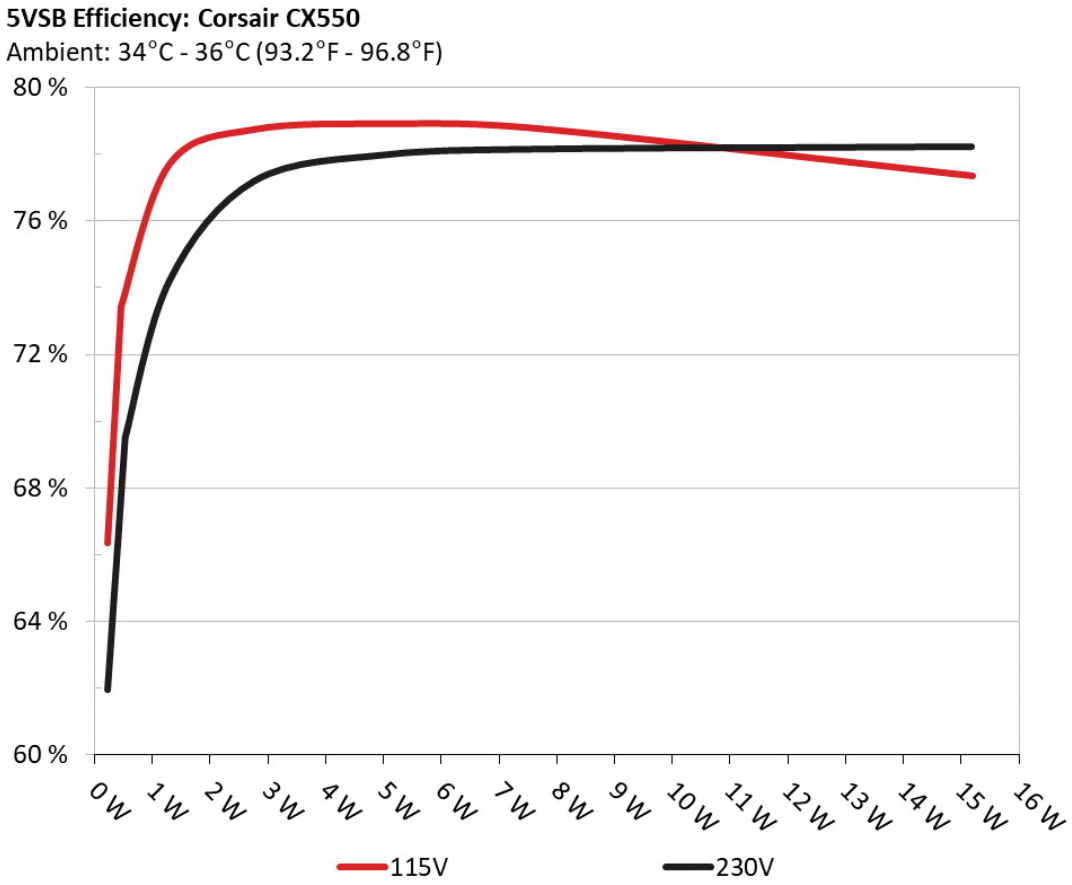
Efficiency under high ambient temperature



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



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	0.215	66.358%	0.043
	5.107V	0.324		115.08V
2	0.088A	0.448	73.322%	0.079
	5.106V	0.611		115.08V
3	0.542A	2.766	78.759%	0.296
	5.099V	3.512		115.06V
4	1.002A	5.104	78.924%	0.370
	5.092V	6.467		115.06V
5	1.502A	7.636	78.787%	0.408
	5.084V	9.692		115.07V
6	3.002A	15.189	77.365%	0.458
	5.060V	19.633		115.07V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.102A	0.519	69.385%	0.030
	5.106V	0.748		230.22V
2	0.252A	1.287	74.221%	0.068
	5.104V	1.734		230.22V
3	0.543A	2.766	77.219%	0.130
	5.098V	3.582		230.23V
4	1.003A	5.104	78.007%	0.206
	5.091V	6.543		230.23V
5	1.502A	7.635	78.163%	0.260
	5.083V	9.768		230.23V
6	3.002A	15.185	78.237%	0.341
	5.059V	19.409		230.23V

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	2.745A	1.984A	1.989A	0.981A	54.755	78.702%	818	13.8	38.07°C	0.979
	12.098V	5.026V	3.313V	5.081V	69.573				44.81°C	115.11V
2	6.528A	2.981A	2.988A	1.181A	109.782	84.892%	818	13.8	38.38°C	0.991
	12.090V	5.024V	3.310V	5.073V	129.319				45.86°C	115.11V
3	10.659A	3.488A	3.502A	1.381A	164.906	86.912%	818	13.8	38.85°C	0.997
	12.084V	5.023V	3.309V	5.065V	189.740				47.43°C	115.11V
4	14.791A	3.983A	3.989A	1.581A	219.820	87.621%	818	13.8	39.44°C	0.998
	12.077V	5.021V	3.308V	5.057V	250.876				49.36°C	115.12V
5	18.581A	4.978A	4.990A	1.781A	274.746	87.634%	818	13.8	40.12°C	0.998
	12.070V	5.019V	3.306V	5.049V	313.515				50.52°C	115.12V
6	22.377A	5.979A	5.989A	1.981A	329.709	87.218%	983	21.0	40.94°C	0.998
	12.063V	5.018V	3.304V	5.040V	378.028				51.49°C	115.12V
7	26.182A	6.980A	6.991A	2.186A	384.725	86.668%	1180	26.2	41.77°C	0.999
	12.055V	5.016V	3.303V	5.031V	443.909				52.78°C	115.12V
8	29.983A	7.980A	7.995A	2.387A	439.578	85.971%	1381	30.8	43.03°C	0.999
	12.047V	5.013V	3.300V	5.021V	511.307				54.65°C	115.12V
9	34.222A	8.481A	8.515A	2.391A	494.664	85.226%	1578	34.4	44.23°C	0.999
	12.041V	5.012V	3.300V	5.015V	580.413				56.03°C	115.12V
10	38.210A	8.987A	9.002A	2.999A	549.559	84.280%	1630	35.1	45.51°C	0.999
	12.035V	5.010V	3.298V	4.998V	652.061				58.26°C	115.12V
11	42.798A	8.990A	9.008A	3.001A	604.480	83.354%	1630	35.1	46.70°C	0.999
	12.028V	5.009V	3.296V	4.993V	725.193				60.18°C	115.14V
CL1	0.097A	14.025A	14.004A	0.004A	117.895	81.102%	818	13.8	43.19°C	0.994
	12.079V	5.019V	3.307V	5.072V	145.366				55.91°C	115.13V

CL2	45.787A	1.004A	1.003A	1.002A	564.588	84.877%	1630	35.1	45.25°C	0.999
	12.038V	5.017V	3.303V	5.044V	665.186				58.69°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	2.747A	1.985A	1.989A	0.981A	54.781	80.669%	818	13.8	38.04°C	0.861
	12.100V	5.026V	3.310V	5.080V	67.908				44.53°C	230.11V
2	6.530A	2.977A	2.990A	1.181A	109.813	87.010%	818	13.8	38.41°C	0.948
	12.094V	5.024V	3.308V	5.073V	126.208				45.46°C	230.11V
3	10.659A	3.486A	3.503A	1.381A	164.939	88.881%	818	13.8	38.73°C	0.973
	12.089V	5.022V	3.306V	5.065V	185.572				46.58°C	230.12V
4	14.787A	3.981A	3.992A	1.580A	219.837	89.619%	818	13.8	38.88°C	0.982
	12.083V	5.020V	3.304V	5.057V	245.303				48.26°C	230.13V
5	18.573A	4.977A	4.996A	1.781A	274.765	89.770%	818	13.8	39.33°C	0.983
	12.077V	5.019V	3.300V	5.049V	306.076				50.34°C	230.13V
6	22.366A	5.977A	6.001A	1.981A	329.748	89.507%	1080	22.1	40.31°C	0.990
	12.071V	5.017V	3.299V	5.040V	368.406				50.87°C	230.15V
7	26.162A	6.982A	7.006A	2.185A	384.745	89.156%	1286	28.5	41.56°C	0.992
	12.065V	5.015V	3.296V	5.031V	431.539				51.81°C	230.15V
8	29.964A	7.981A	8.012A	2.386A	439.682	88.675%	1480	33.3	42.37°C	0.994
	12.058V	5.012V	3.294V	5.023V	495.834				52.63°C	230.16V
9	34.197A	8.481A	8.531A	2.391A	494.728	88.170%	1630	35.1	43.35°C	0.994
	12.052V	5.011V	3.293V	5.017V	561.108				54.14°C	230.18V
10	38.176A	8.989A	9.025A	2.996A	549.581	87.447%	1630	35.1	45.03°C	0.995
	12.046V	5.009V	3.291V	5.002V	628.473				56.89°C	230.19V
11	42.759A	8.991A	9.029A	3.000A	604.566	86.897%	1630	35.1	46.01°C	0.995
	12.041V	5.007V	3.289V	4.997V	695.726				58.77°C	230.21V
CL1	0.101A	14.024A	14.004A	0.005A	117.888	82.942%	1015	21.1	43.84°C	0.959
	12.077V	5.019V	3.303V	5.079V	142.133				54.42°C	230.20V

CL2	45.791A	1.002A	1.004A	1.002A	565.352	88.046%	1630	35.1	44.70°C	0.995
	12.054V	5.013V	3.297V	5.044V	642.109				56.65°C	230.22V

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	1.207A	0.490A	0.481A	0.196A	19.667	64.635%	818	13.8	0.920
	12.104V	5.030V	3.314V	5.099V	30.428				115.11V
2	2.440A	0.990A	0.997A	0.391A	39.797	76.181%	818	13.8	0.965
	12.100V	5.028V	3.313V	5.093V	52.240				115.10V
3	3.672A	1.485A	1.509A	0.586A	59.870	80.302%	818	13.8	0.979
	12.098V	5.027V	3.313V	5.089V	74.556				115.10V
4	4.895A	1.986A	1.989A	0.786A	79.768	82.837%	818	13.8	0.986
	12.095V	5.026V	3.312V	5.083V	96.295				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])	PF/AC Volts
1	1.211A	0.490A	0.480A	0.196A	19.713	65.461%	818	13.8	0.599
	12.105V	5.030V	3.313V	5.097V	30.114				230.08V
2	2.442A	0.986A	0.996A	0.391A	39.800	77.706%	818	13.8	0.781
	12.102V	5.028V	3.312V	5.092V	51.219				230.09V
3	3.675A	1.484A	1.510A	0.586A	59.907	82.283%	818	13.8	0.870
	12.100V	5.027V	3.310V	5.087V	72.806				230.09V
4	4.899A	1.984A	1.991A	0.786A	79.824	84.836%	818	13.8	0.914
	12.098V	5.026V	3.310V	5.081V	94.092				230.10V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	14.2 mV	7.1 mV	4.8 mV	9.4 mV	Pass
20% Load	17.8 mV	7.5 mV	5.5 mV	10.0 mV	Pass
30% Load	17.8 mV	7.7 mV	6.2 mV	10.7 mV	Pass
40% Load	19.6 mV	7.9 mV	6.7 mV	11.5 mV	Pass
50% Load	21.3 mV	8.3 mV	7.3 mV	12.0 mV	Pass
60% Load	27.3 mV	8.7 mV	8.9 mV	12.6 mV	Pass
70% Load	28.3 mV	10.0 mV	12.0 mV	14.7 mV	Pass
80% Load	29.7 mV	9.7 mV	10.6 mV	14.9 mV	Pass
90% Load	31.2 mV	10.1 mV	10.5 mV	16.6 mV	Pass
100% Load	32.3 mV	11.4 mV	11.5 mV	19.9 mV	Pass
110% Load	35.8 mV	12.2 mV	12.2 mV	22.8 mV	Pass
Crossload 1	23.5 mV	7.1 mV	6.7 mV	9.8 mV	Pass
Crossload 2	33.7 mV	10.6 mV	11.8 mV	18.7 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	15.4 mV	14.6 mV	7.8 mV	13.3 mV	Pass
20% Load	19.2 mV	14.7 mV	8.1 mV	13.3 mV	Pass
30% Load	22.2 mV	15.4 mV	8.4 mV	14.2 mV	Pass
40% Load	22.0 mV	13.8 mV	8.7 mV	14.8 mV	Pass
50% Load	23.9 mV	14.6 mV	9.8 mV	14.6 mV	Pass
60% Load	30.0 mV	16.4 mV	10.7 mV	14.3 mV	Pass
70% Load	31.7 mV	18.3 mV	15.3 mV	15.8 mV	Pass
80% Load	31.5 mV	16.9 mV	12.5 mV	14.5 mV	Pass

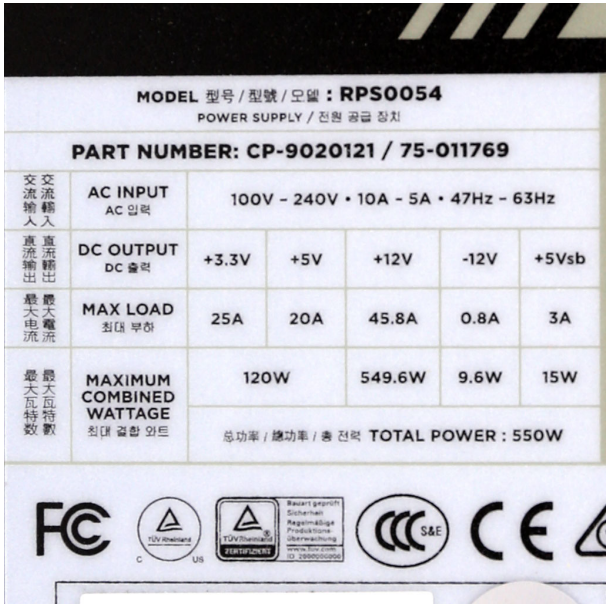
Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	34.9 mV	16.0 mV	11.8 mV	14.7 mV	Pass
100% Load	33.0 mV	18.1 mV	13.1 mV	17.2 mV	Pass
110% Load	38.4 mV	18.6 mV	13.6 mV	18.0 mV	Pass
Crossload 1	25.5 mV	16.7 mV	8.9 mV	14.6 mV	Pass
Crossload 2	37.2 mV	17.3 mV	12.5 mV	16.4 mV	Pass

The results above are not used in the certification process

Corsair CX550



Top side



Power specifications table

Cybenetics bietet freiwillige Zertifizierungsprogramme für Netzteile – ETA für Effizienz, LAMBDA für Lautstärke und SAFE für Sicherheit und korrekten Betrieb – sowie für Kühlprodukte mit DELTA für die Schalldämmung von Gehäusen und PHI für Luftstrom und statischen Druck von Lüftern

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