Anex

Corsair RM550x (2018) (Sample #2)

Lab ID#: 331
Receipt Date: -
Test Date: -

Report: 19PS330A
Report Date: Mar 22, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMx
Model Number	RM550x (2018) (Sample #2)
Serial Number	17477135000034420166
DUT Notes	CP-9020090

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	550
Type	ATX12V
Cooling	135mm Rifle Bearing Fan (NR135L)
Semi-Passive Operation	✓
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	45.8	3	0.8
	Watts	130		550	15	9.6
Total Max. Power (W)		550				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-20AWG	Yes
4+4 pin EPS12V (650mm)	1	1	18AWG	Yes
6+2 pin PCIe (600mm+150mm)	1	2	18AWG	Yes
SATA (520mm+110mm+110mm)	2	6	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No
FDD Adapter (+100mm)	1	1	20AWG	No
AC Power Cord (1430mm) - C13 coupler	1	1	18AWG	-

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	88.542
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	77.505
Standby Power Consumption (W) -115V	0.0384522
Standby Power Consumption (W) -230V	0.0568269
Average PF	0.989
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	14.69
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A++

TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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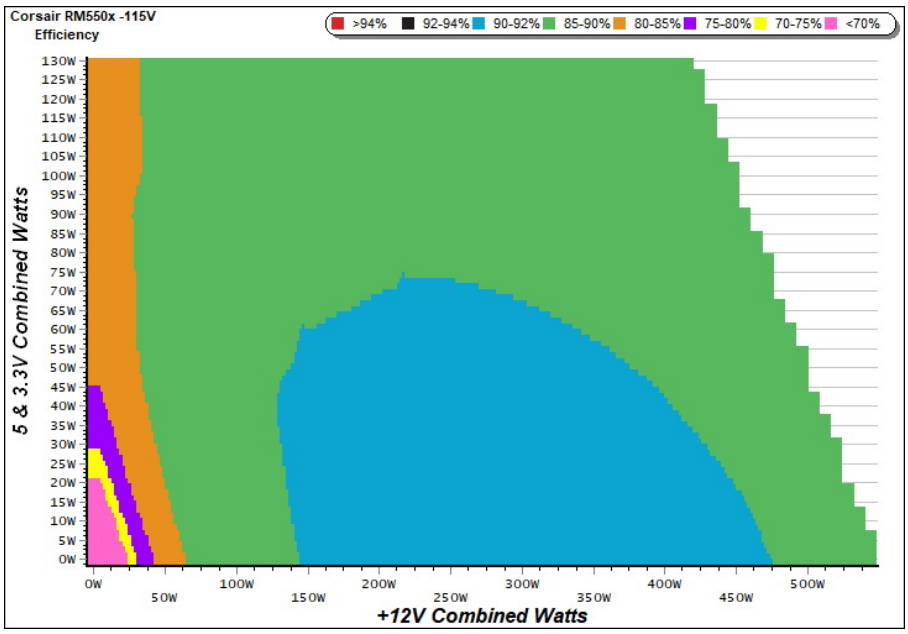
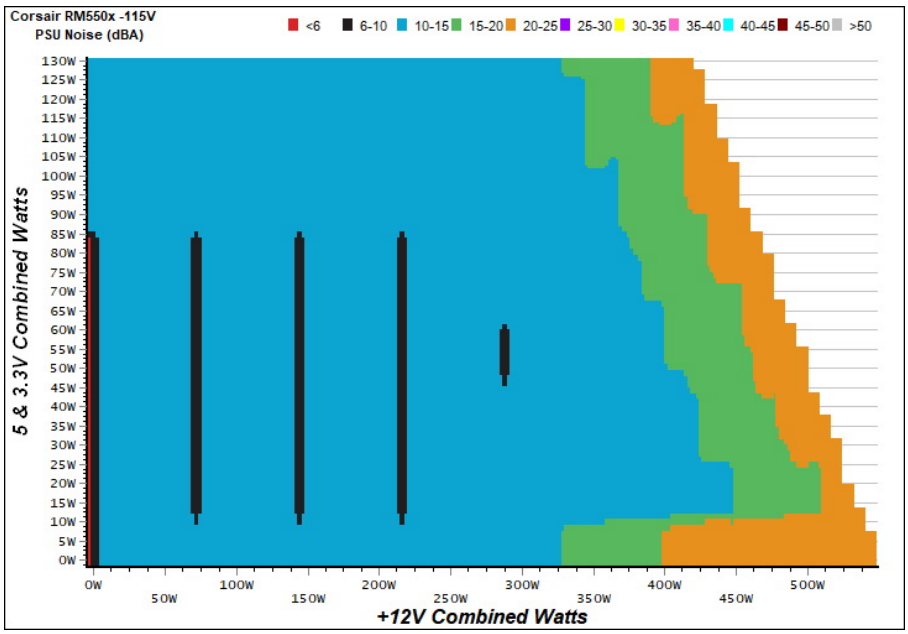
EFFICIENCY GRAPH



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



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

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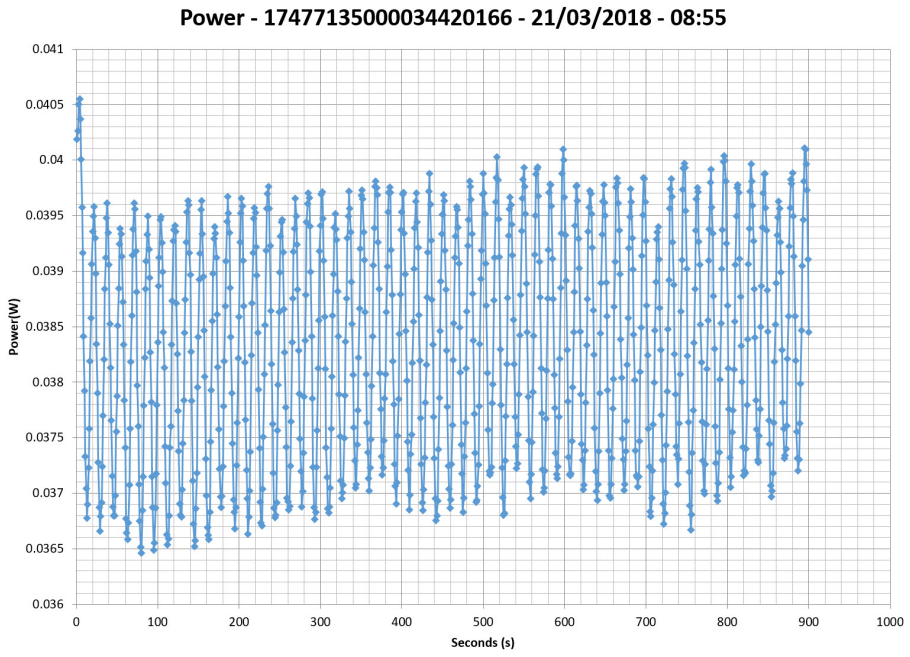
5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	70.807%	0.023
	5.051V	0.322		115.38V
2	0.090A	0.455	75.207%	0.043
	5.050V	0.605		115.38V
3	0.550A	2.770	78.962%	0.210
	5.036V	3.508		115.38V
4	1.000A	5.023	78.033%	0.307
	5.022V	6.437		115.37V
5	1.500A	7.516	77.581%	0.367
	5.010V	9.688		115.36V
6	3.000A	14.904	76.060%	0.446
	4.968V	19.595		115.35V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	65.797%	0.009
	5.051V	0.345		230.82V
2	0.090A	0.454	71.835%	0.016
	5.050V	0.632		230.82V
3	0.550A	2.770	77.678%	0.086
	5.036V	3.566		230.82V
4	1.000A	5.022	78.188%	0.145
	5.022V	6.423		230.81V
5	1.500A	7.514	77.849%	0.201
	5.010V	9.652		230.81V
6	3.000A	14.894	77.179%	0.306
	4.965V	19.298		230.82V

VAMPIRE POWER -115V



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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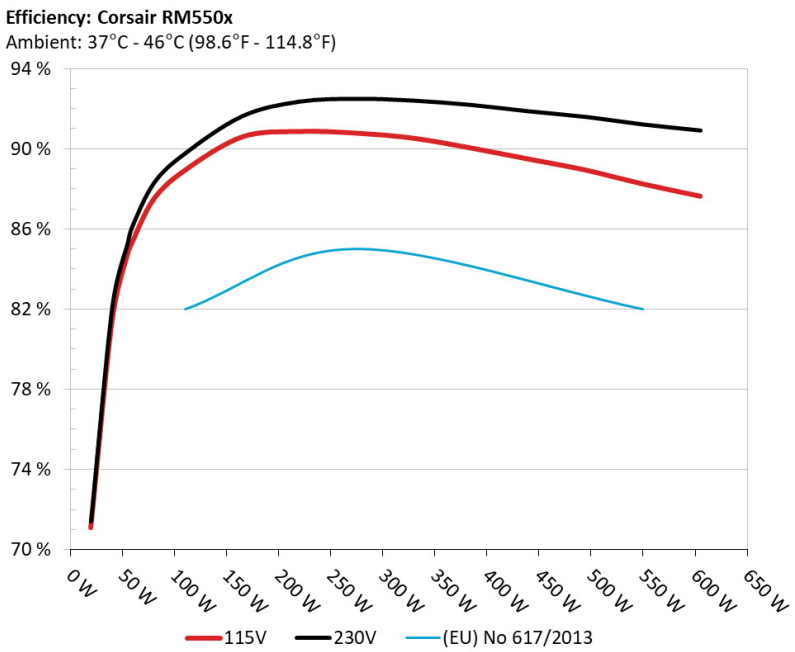
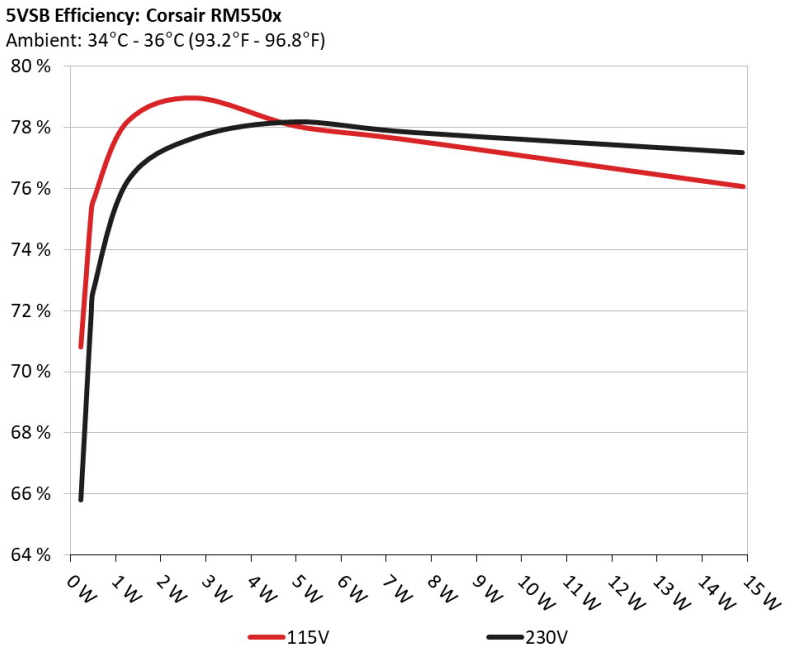
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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

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10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	2.734A	1.990A	1.996A	1.000A	54.373	84.685%	0	<6.0	45.65°C	0.954
	11.986V	5.024V	3.308V	5.003V	64.206				39.17°C	115.31V
2	6.546A	2.985A	2.994A	1.201A	109.293	88.911%	0	<6.0	46.84°C	0.981
	11.977V	5.022V	3.306V	4.998V	122.924				40.07°C	115.22V
3	10.752A	3.486A	3.482A	1.402A	164.784	90.598%	0	<6.0	47.81°C	0.988
	11.977V	5.021V	3.304V	4.993V	181.885				40.75°C	115.15V
4	14.908A	3.986A	3.999A	1.604A	219.600	90.873%	633	10.9	41.00°C	0.992
	11.966V	5.019V	3.302V	4.988V	241.656				49.02°C	115.07V
5	18.735A	4.984A	4.998A	1.806A	274.493	90.789%	633	10.9	41.31°C	0.993
	11.956V	5.017V	3.300V	4.983V	302.342				49.65°C	115.10V
6	22.570A	5.983A	6.001A	2.009A	329.418	90.536%	610	10.2	41.64°C	0.994
	11.946V	5.015V	3.298V	4.978V	363.854				50.42°C	115.01V
7	26.440A	6.982A	7.007A	2.212A	384.719	90.047%	610	10.2	42.05°C	0.993
	11.937V	5.014V	3.296V	4.974V	427.241				51.21°C	114.94V
8	30.318A	7.982A	8.015A	2.415A	440.013	89.495%	705	15.9	42.55°C	0.994
	11.927V	5.012V	3.294V	4.970V	491.660				52.12°C	114.85V
9	34.572A	8.482A	8.502A	2.415A	494.531	88.949%	872	22.2	43.14°C	0.995
	11.918V	5.011V	3.293V	4.970V	555.970				53.13°C	114.87V
10	38.630A	8.985A	9.025A	3.029A	549.763	88.254%	1071	28.0	44.81°C	0.995
	11.909V	5.010V	3.291V	4.953V	622.930				55.30°C	114.78V
11	43.297A	8.985A	9.030A	3.030A	604.988	87.640%	1172	31.4	46.35°C	0.996
	11.901V	5.009V	3.289V	4.952V	690.308				57.37°C	114.69V
CL1	0.134A	16.002A	16.000A	0.000A	134.669	82.917%	655	11.2	42.84°C	0.988
	11.959V	5.015V	3.301V	5.058V	162.414				51.51°C	115.16V
CL2	45.839A	1.002A	1.001A	1.000A	559.805	89.043%	995	26.3	45.16°C	0.995
	11.922V	5.015V	3.293V	4.990V	628.693				54.12°C	114.77V

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20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.196A	0.497A	0.482A	0.199A	19.437	71.094%	0	<6.0	0.826
	11.994V	5.026V	3.310V	5.021V	27.340				115.34V
2	2.467A	0.994A	0.994A	0.399A	39.864	81.408%	0	<6.0	0.928
	11.990V	5.024V	3.309V	5.016V	48.968				115.32V
3	3.669A	1.492A	1.479A	0.599A	59.366	85.356%	0	<6.0	0.959
	11.986V	5.024V	3.308V	5.012V	69.551				115.29V
4	4.940A	1.989A	1.995A	0.799A	79.780	87.480%	0	<6.0	0.971
	11.982V	5.023V	3.307V	5.007V	91.198				115.26V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	2.0 mV	2.9 mV	2.8 mV	2.2 mV	Pass
20% Load	5.8 mV	3.7 mV	3.6 mV	2.7 mV	Pass
30% Load	9.1 mV	5.1 mV	4.8 mV	3.8 mV	Pass
40% Load	7.9 mV	4.6 mV	4.9 mV	3.1 mV	Pass
50% Load	8.1 mV	8.5 mV	11.3 mV	6.9 mV	Pass
60% Load	8.9 mV	11.9 mV	9.9 mV	9.1 mV	Pass
70% Load	8.3 mV	7.2 mV	5.7 mV	4.4 mV	Pass
80% Load	8.5 mV	6.7 mV	6.1 mV	4.0 mV	Pass
90% Load	8.8 mV	7.4 mV	6.3 mV	4.4 mV	Pass
100% Load	8.9 mV	7.7 mV	6.7 mV	5.0 mV	Pass
110% Load	9.7 mV	9.4 mV	6.9 mV	6.1 mV	Pass
Crossload 1	10.9 mV	6.9 mV	7.1 mV	4.3 mV	Pass
Crossload 2	8.6 mV	6.3 mV	7.3 mV	4.8 mV	Pass

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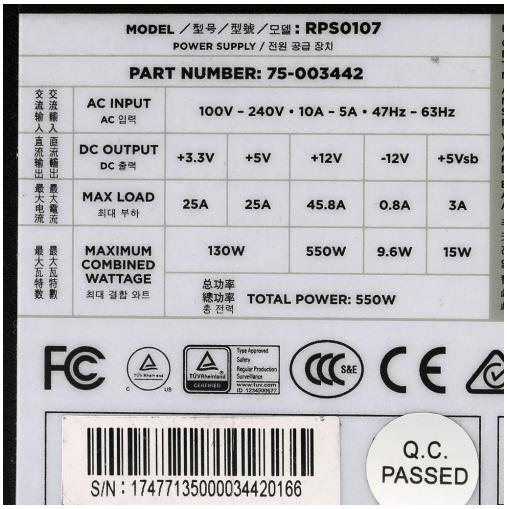
HOLD-UP TIME & POWER OK SIGNAL (230V)	
Hold-Up Time (ms)	23.0
AC Loss to PWR_OK Hold Up Time (ms)	21.0
PWR_OK Inactive to DC Loss Delay (ms)	2.0

Top side



Power specifications label

CERTIFICATIONS

CYBENETICS PLATINUM

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