

Anex

Corsair RM650x v2 (Sample #2)

Lab ID#: 272

Receipt Date: -

Test Date: -

Report:

Report Date: Dec 1, 2018

DUT INFORMATION	
Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMx
Model Number	RM650x v2 (Sample #2)
Serial Number	17477136000034430178
DUT Notes	CP-9020091

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	650
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	54	3	0.8
	Watts	130		648	15	9.6
Total Max. Power (W)		650				

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)	2	4	18AWG	Yes
SATA (520mm+110mm+110mm)	3	9	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	87.844
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	77.482
Standby Power Consumption (W) -115V	0.0377771
Standby Power Consumption (W) -230V	0.0571906
Average PF	0.989
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	14.74
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A++

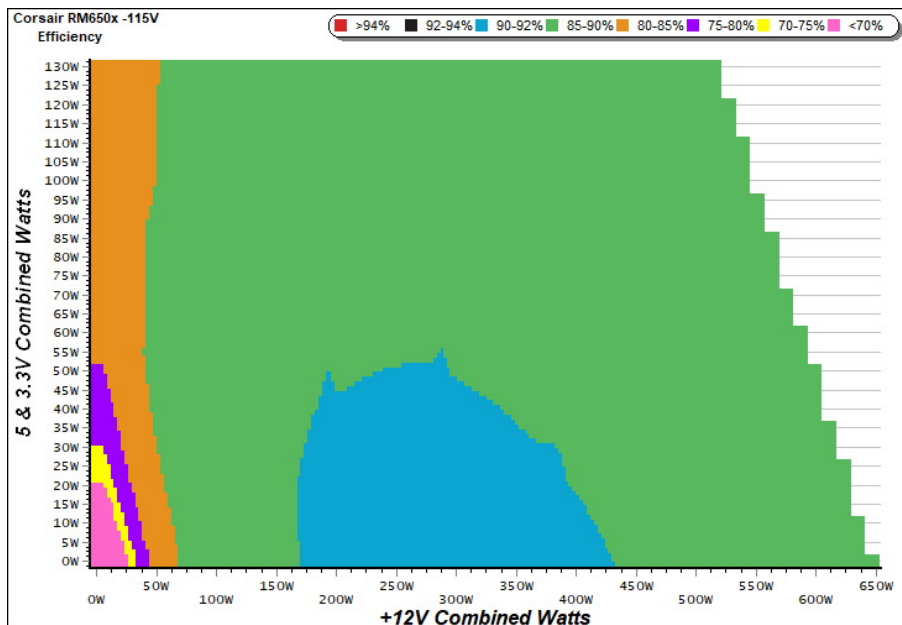
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 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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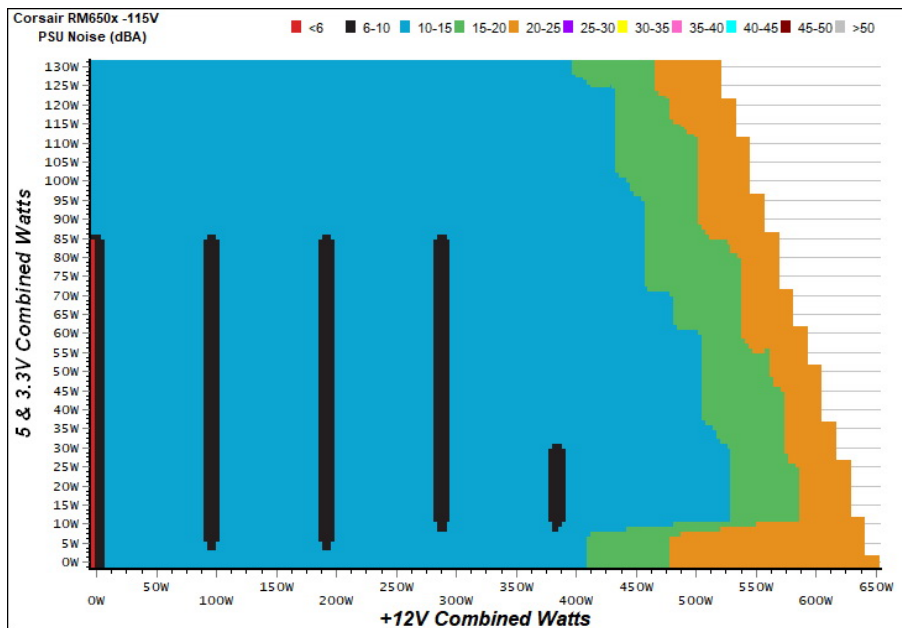
EFFICIENCY GRAPH



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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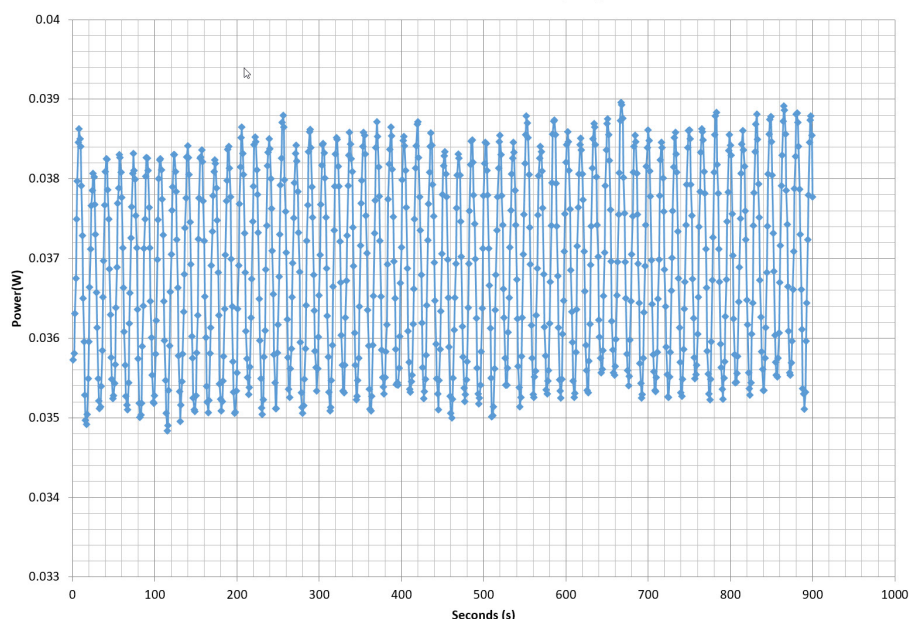
Corsair RM650x v2 (Sample #2)

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	68.373%	0.025
	5.039V	0.332		115.38V
2	0.090A	0.453	74.507%	0.045
	5.038V	0.608		115.38V
3	0.550A	2.763	79.214%	0.214
	5.024V	3.488		115.37V
4	1.000A	5.010	78.281%	0.309
	5.010V	6.400		115.37V
5	1.500A	7.496	77.792%	0.366
	4.997V	9.636		115.36V
6	3.000A	14.855	76.285%	0.444
	4.952V	19.473		115.35V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	65.043%	0.009
	5.039V	0.349		230.83V
2	0.090A	0.453	71.677%	0.016
	5.038V	0.632		230.83V
3	0.550A	2.763	77.743%	0.087
	5.024V	3.554		230.82V
4	1.000A	5.010	78.171%	0.148
	5.010V	6.409		230.82V
5	1.500A	7.494	77.835%	0.203
	4.996V	9.628		230.82V
6	3.000A	14.849	77.106%	0.307
	4.950V	19.258		230.81V

VAMPIRE POWER -115V

Power - 17477136000034430178 - 11/01/2018 - 22:39



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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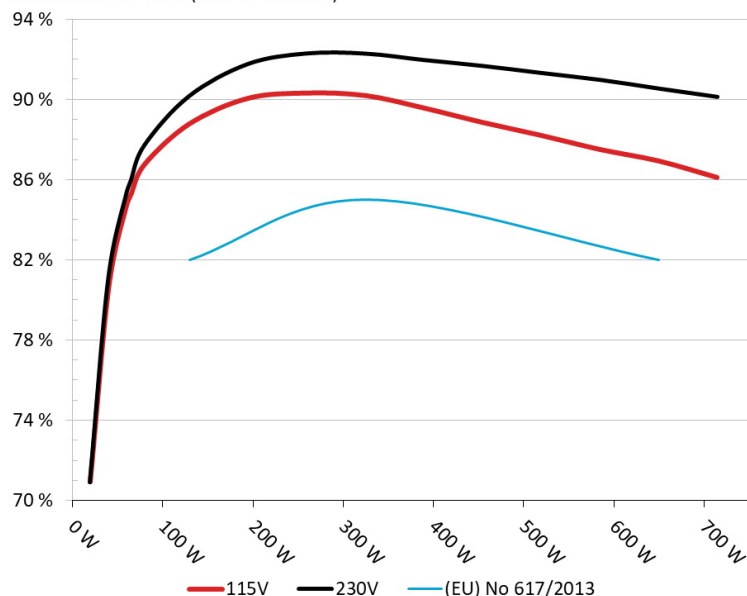
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair RM650x

Ambient: 36°C - 48°C (96.8°F - 118.4°F)



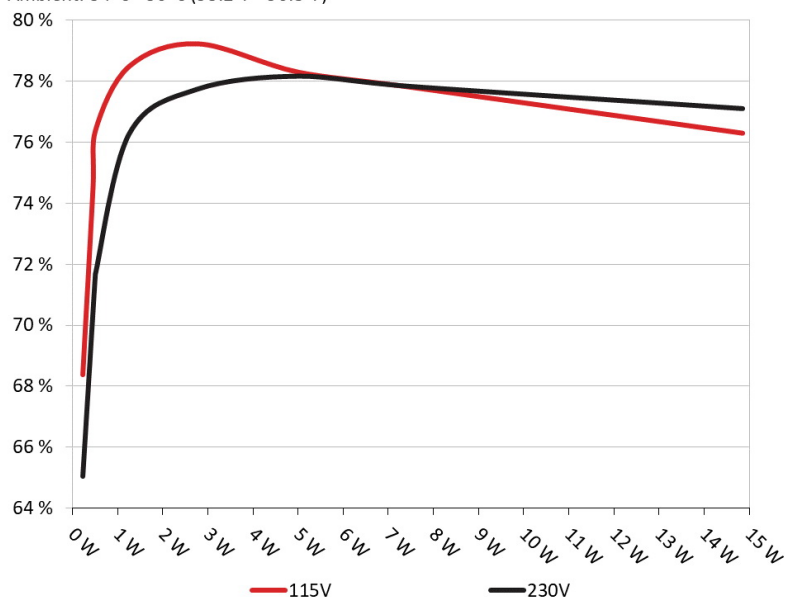
INFO

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 RM650x

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

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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	3.567A	1.990A	1.987A	1.001A	64.650	85.280%	0	<6.0	51.83°C	0.962
	12.073V	5.019V	3.319V	4.997V	75.809				38.18°C	115.28V
2	8.148A	2.988A	2.983A	1.202A	129.156	88.782%	610	10.2	39.59°C	0.984
	12.061V	5.017V	3.316V	4.992V	145.475				54.03°C	115.19V
3	13.126A	3.488A	3.469A	1.404A	194.244	90.060%	633	10.9	39.71°C	0.990
	12.057V	5.014V	3.314V	4.985V	215.682				54.40°C	115.10V
4	18.115A	3.988A	3.984A	1.607A	259.474	90.322%	633	10.9	39.99°C	0.992
	12.050V	5.013V	3.312V	4.979V	287.278				55.05°C	115.02V
5	22.777A	4.988A	4.983A	1.809A	324.770	90.195%	610	10.2	41.34°C	0.993
	12.042V	5.011V	3.310V	4.975V	360.074				56.51°C	115.02V
6	27.379A	5.986A	5.985A	2.012A	389.296	89.578%	677	13.2	41.70°C	0.992
	12.035V	5.010V	3.308V	4.971V	434.591				57.15°C	114.92V
7	32.051A	6.987A	6.987A	2.215A	454.608	88.855%	843	20.4	42.38°C	0.993
	12.028V	5.009V	3.306V	4.967V	511.629				58.84°C	114.82V
8	36.729A	7.987A	7.988A	2.419A	519.913	88.205%	980	25.7	44.35°C	0.994
	12.021V	5.008V	3.304V	4.962V	589.440				61.15°C	114.72V
9	41.816A	8.489A	8.478A	2.419A	584.828	87.505%	1119	30.0	45.16°C	0.995
	12.013V	5.006V	3.302V	4.962V	668.335				62.53°C	114.72V
10	46.637A	8.990A	9.001A	3.034A	649.669	86.935%	1329	35.1	47.25°C	0.995
	12.007V	5.005V	3.300V	4.944V	747.304				64.77°C	114.62V
11	52.064A	8.993A	9.006A	3.035A	714.472	86.112%	1440	37.0	48.34°C	0.996
	12.000V	5.004V	3.298V	4.943V	829.700				66.44°C	114.51V
CL1	0.727A	16.001A	15.998A	0.000A	141.941	82.713%	714	16.5	43.85°C	0.987
	12.046V	5.012V	3.312V	5.054V	171.606				58.05°C	115.14V
CL2	54.163A	1.000A	0.998A	1.000A	664.111	87.365%	1282	34.4	47.49°C	0.995
	12.016V	5.009V	3.302V	4.983V	760.158				64.25°C	114.61V

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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	1.180A	0.496A	0.479A	0.199A	19.323	70.921%	0	<6.0	0.819
	12.072V	5.019V	3.321V	5.015V	27.246				115.33V
2	2.440A	0.994A	0.991A	0.399A	39.731	80.610%	0	<6.0	0.926
	12.071V	5.019V	3.320V	5.010V	49.288				115.31V
3	3.632A	1.492A	1.473A	5.006A	59.213	84.663%	0	<6.0	0.956
	12.070V	5.019V	3.319V	5.006V	69.940				115.28V
4	4.893A	1.990A	1.988A	0.800A	79.641	86.767%	0	<6.0	0.969
	12.070V	5.018V	3.318V	5.001V	91.787				115.25V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	1.9 mV	3.8 mV	2.4 mV	2.6 mV	Pass
20% Load	2.5 mV	3.9 mV	2.9 mV	2.5 mV	Pass
30% Load	8.5 mV	4.6 mV	3.7 mV	3.3 mV	Pass
40% Load	7.9 mV	8.4 mV	5.5 mV	6.7 mV	Pass
50% Load	8.1 mV	8.9 mV	5.2 mV	6.9 mV	Pass
60% Load	7.2 mV	6.1 mV	4.5 mV	3.9 mV	Pass
70% Load	7.2 mV	7.4 mV	5.2 mV	5.9 mV	Pass
80% Load	7.6 mV	8.6 mV	6.0 mV	6.0 mV	Pass
90% Load	7.7 mV	9.4 mV	6.2 mV	7.8 mV	Pass
100% Load	8.6 mV	8.9 mV	6.7 mV	6.4 mV	Pass
110% Load	9.1 mV	9.9 mV	7.6 mV	7.3 mV	Pass
Crossload 1	7.5 mV	7.8 mV	6.6 mV	5.0 mV	Pass
Crossload 2	7.6 mV	5.9 mV	4.9 mV	4.3 mV	Pass

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HOLD-UP TIME & POWER OK SIGNAL (230V)	
Hold-Up Time (ms)	21.10
AC Loss to PWR_OK Hold Up Time (ms)	19.40
PWR_OK Inactive to DC Loss Delay (ms)	1.70




Top side


MODEL / 型号 / 型號 / 모델 : RPS0108 POWER SUPPLY / 전원 공급 장치					
PART NUMBER: 75-003443					
交流輸入 AC 입력 直流輸出 DC 출력 最大電流 최대 부하 最大瓦特數 최대 결합 외트	AC INPUT AC 입력	100V - 240V • 10A • 5A • 47Hz - 63Hz			
	DC OUTPUT DC 출력	+3.3V	+5V	+12V	-12V +5Vsb
	MAX LOAD 최대 부하	25A	25A	54A	0.8A 3A
	MAXIMUM COMBINED WATTAGE 총 전력	130W		648W	9.6W 15W
TOTAL POWER: 650W					

FC



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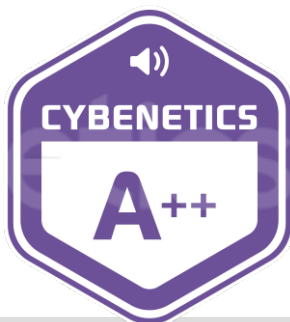


S/N : 17477136000034430178

Q.C.
PASSED

Power specifications table

CERTIFICATIONS



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