EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Anex

Corsair RM1000x

Lab ID#: 80
Receipt Date: -
Test Date: -

Report:
Report Date: Jan 4, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMx
Model Number	RM1000x
Serial Number	16457129000017510014
DUT Notes	CP-9020094 - Retested on 11/10/2017

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6.5
Rated Frequency (Hz)	47-63
Rated Power (W)	1000
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	83.3	3	0.8
	Watts	150		1000	15	9.6
Total Max. Power (W)		1000				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (600mm)	1	1	16-20AWG
4+4 pin EPS12V (650mm)	2	2	18AWG
6+2 pin PCIe (600mm+150mm)	4	8	18AWG
SATA (520mm+115mm+115mm)	3	11	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	3	12	18AWG
FDD Adapter (+100mm)	1	1	20AWG

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	88.830
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	81.353
Standby Power Consumption (W) -115V	0.0424304
Standby Power Consumption (W) -230V	0.0794498
Average PF	0.994
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	22.33
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 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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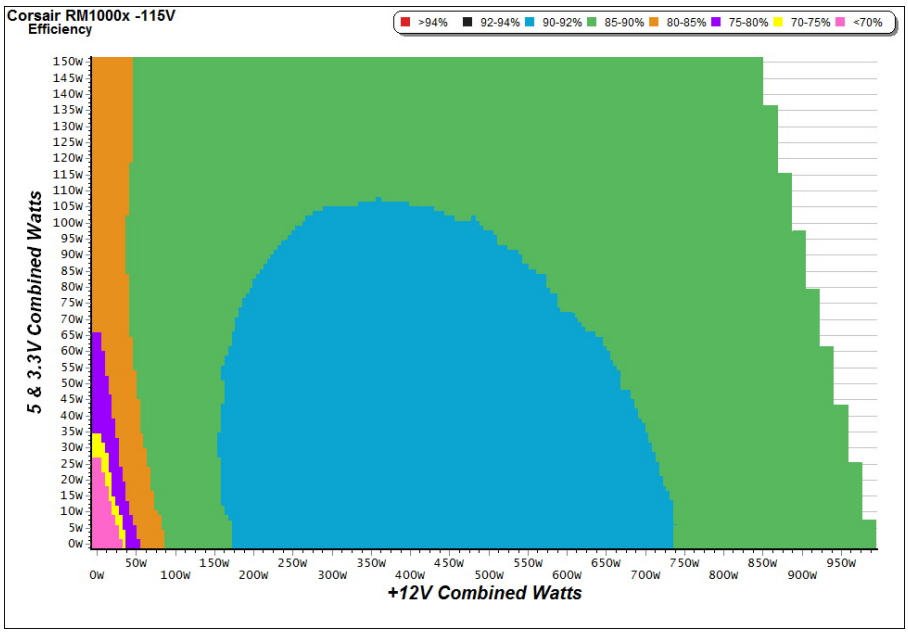
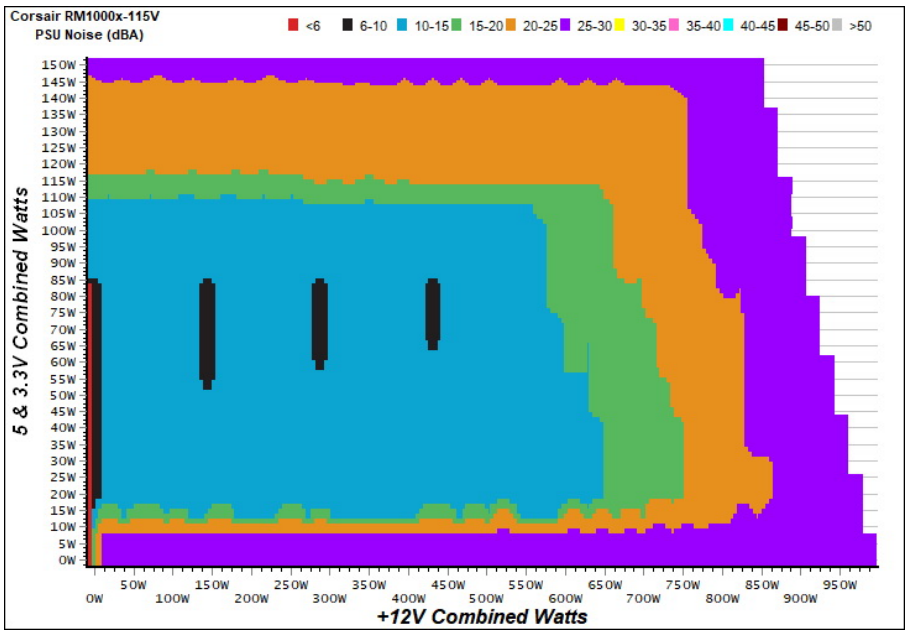
EFFICIENCY GRAPH



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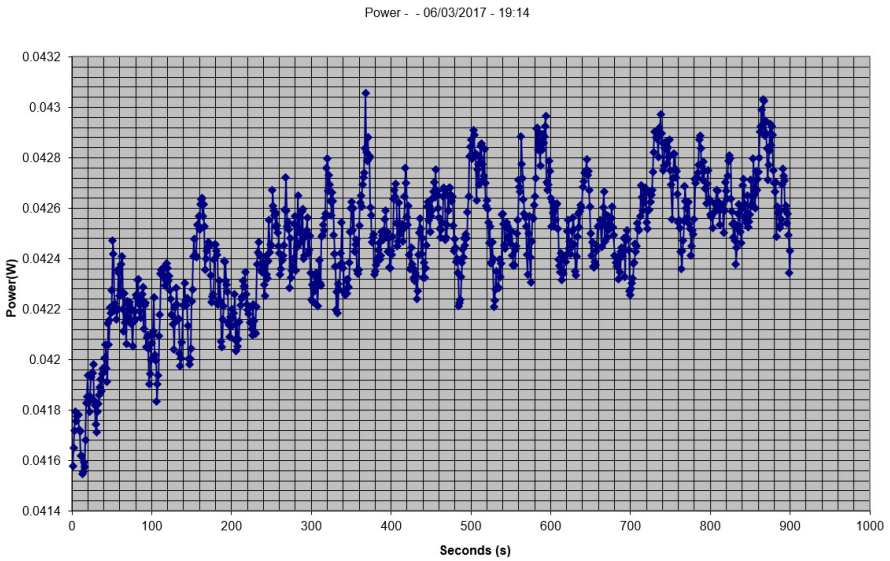
5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.211	69.180%	0.029
	5.069V	0.305		115.09V
2	0.087A	0.442	75.945%	0.057
	5.068V	0.582		115.09V
3	0.532A	2.691	81.471%	0.245
	5.059V	3.303		115.09V
4	3.002A	15.036	80.683%	0.453
	5.009V	18.636		115.08V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.211	57.967%	0.011
	5.069V	0.364		230.22V
2	0.087A	0.442	68.421%	0.019
	5.067V	0.646		230.23V
3	0.532A	2.691	78.707%	0.098
	5.059V	3.419		230.22V
4	3.002A	15.035	80.479%	0.318
	5.009V	18.682		230.22V

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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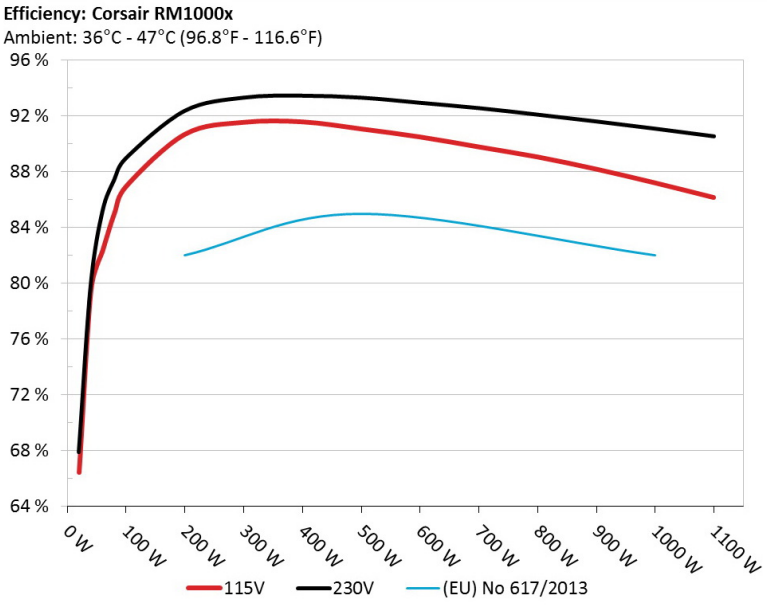
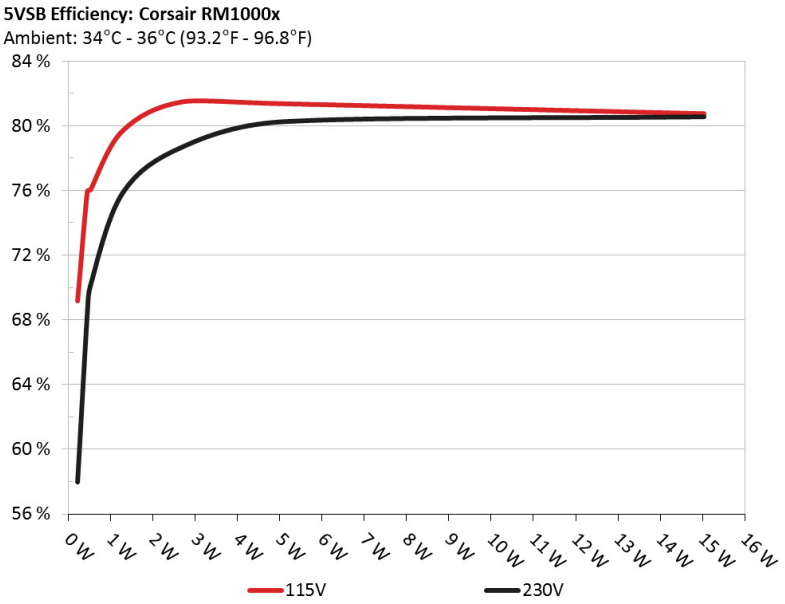
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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	6.482A	1.986A	1.988A	0.995A	99.803	86.959%	0	<6.0	49.24°C	0.975
	12.070V	5.029V	3.316V	5.010V	114.770				38.63°C	115.10V
2	14.004A	2.981A	2.987A	1.196A	199.661	90.692%	0	<6.0	49.88°C	0.993
	12.055V	5.023V	3.310V	5.002V	220.154				39.06°C	115.10V
3	21.910A	3.489A	3.505A	1.402A	299.888	91.551%	0	<6.0	51.22°C	0.995
	12.040V	5.018V	3.305V	4.993V	327.564				40.24°C	115.09V
4	29.817A	3.988A	3.996A	1.601A	399.684	91.582%	0	<6.0	52.38°C	0.997
	12.024V	5.014V	3.300V	4.986V	436.420				40.67°C	115.09V
5	37.408A	4.987A	5.007A	1.804A	499.648	91.076%	610	10.2	45.14°C	0.998
	12.008V	5.009V	3.294V	4.978V	548.608				57.11°C	115.10V
6	45.010A	5.997A	6.020A	2.012A	599.607	90.499%	610	10.2	44.51°C	0.998
	11.993V	5.003V	3.289V	4.970V	662.560				57.19°C	115.09V
7	52.631A	7.012A	7.038A	2.216A	699.595	89.785%	785	18.1	44.26°C	0.998
	11.979V	4.996V	3.282V	4.962V	779.217				57.43°C	115.09V
8	60.278A	8.020A	8.060A	2.420A	799.491	89.065%	872	22.2	44.49°C	0.998
	11.963V	4.988V	3.275V	4.953V	897.650				58.34°C	115.09V
9	68.372A	8.527A	8.594A	2.425A	899.492	88.188%	995	26.3	45.00°C	0.998
	11.948V	4.983V	3.269V	4.948V	1019.967				59.20°C	115.10V
10	76.232A	9.052A	9.097A	3.041A	999.343	87.205%	1116	29.7	45.56°C	0.998
	11.932V	4.977V	3.264V	4.932V	1145.971				60.62°C	115.08V
11	84.731A	9.060A	9.112A	3.042A	1099.291	86.155%	1376	36.1	46.74°C	0.998
	11.915V	4.971V	3.259V	4.927V	1275.947				62.38°C	115.07V
CL1	0.099A	18.027A	18.004A	0.005A	150.748	82.612%	1049	27.0	45.59°C	0.989
	12.046V	5.009V	3.290V	5.043V	182.477				58.32°C	115.10V
CL2	83.260A	1.003A	1.004A	1.002A	1006.986	87.583%	1119	30.0	46.01°C	0.998
	11.935V	4.988V	3.280V	4.972V	1149.744				60.11°C	115.08V

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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	1.207A	0.492A	0.481A	0.196A	19.649	66.404%	0	<6.0	0.840
	12.087V	5.033V	3.322V	5.029V	29.590				115.10V
2	2.443A	0.991A	0.993A	0.396A	39.793	79.483%	0	<6.0	0.929
	12.084V	5.031V	3.320V	5.024V	50.065				115.10V
3	3.678A	1.488A	1.505A	0.596A	59.888	82.363%	0	<6.0	0.951
	12.078V	5.030V	3.318V	5.019V	72.712				115.10V
4	4.904A	1.985A	1.988A	0.795A	79.776	85.030%	0	<6.0	0.965
	12.074V	5.030V	3.317V	5.015V	93.821				115.10V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.4 mV	6.2 mV	7.9 mV	4.7 mV	Pass
20% Load	5.8 mV	7.3 mV	8.5 mV	6.1 mV	Pass
30% Load	5.9 mV	6.3 mV	8.3 mV	6.5 mV	Pass
40% Load	6.5 mV	6.5 mV	8.3 mV	7.1 mV	Pass
50% Load	7.6 mV	6.6 mV	8.6 mV	7.6 mV	Pass
60% Load	7.1 mV	6.4 mV	8.3 mV	8.6 mV	Pass
70% Load	8.0 mV	6.9 mV	8.9 mV	9.8 mV	Pass
80% Load	8.1 mV	7.5 mV	9.3 mV	10.9 mV	Pass
90% Load	9.1 mV	7.9 mV	10.2 mV	12.2 mV	Pass
100% Load	10.3 mV	7.7 mV	10.4 mV	13.2 mV	Pass
110% Load	12.0 mV	8.3 mV	10.8 mV	14.6 mV	Pass
Crossload 1	7.5 mV	7.7 mV	9.2 mV	7.7 mV	Pass
Crossload 2	10.5 mV	8.5 mV	10.6 mV	12.0 mV	Pass

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HOLD-UP TIME & POWER OK SIGNAL (230V)	
Hold-Up Time (ms)	28.5
AC Loss to PWR_OK Hold Up Time (ms)	20.0
PWR_OK Inactive to DC Loss Delay (ms)	8.5

Top side

Power specifications label

CERTIFICATIONS

CYBENETICS PLATINUM

CYBENETICS A