

Lab ID#: 90
Receipt Date: Apr 6, 2018
Test Date: Apr 10, 2018

Report:

Report Date: Apr 13, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMi
Model Number	
Serial Number	16437174000016811255
DUT Notes	CP-9020083

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	47-63
Rated Power (W)	850
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (NR135P)
Semi-Passive Operation	✓
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	70.8	3	0.8
	Watts	150		850	15	9.6
Total Max. Power (W)		850				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (600mm)	1	1	18-20AWG
4+4 pin EPS12V (650mm)	2	2	18AWG
6+2 pin PCIe (600mm+150mm)	3	6	18AWG
SATA (500mm+100mm+100mm)	2	6	18AWG
SATA (550mm+100mm+100mm+100mm)	1	4	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG
FDD Adapter (+100mm)	2	2	20AWG
C-Link USB Cable (800mm) / C-Link I2C Cable (800mm)	1 / 1	1 / 1	24-28 / 29AWG

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PAGE 1/8

RESULTS

Temperature Range (°C / °F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

115V

Average Efficiency	88.280%
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$)	0.000
Average Efficiency 5VSB	80.865%
Standby Power Consumption (W)	0.0432615
Average PF	0.993
Avg Noise Output	19.09 dB(A)
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	Brüel & Kjær 2250-L G4	
Microphone	Brüel & Kjær Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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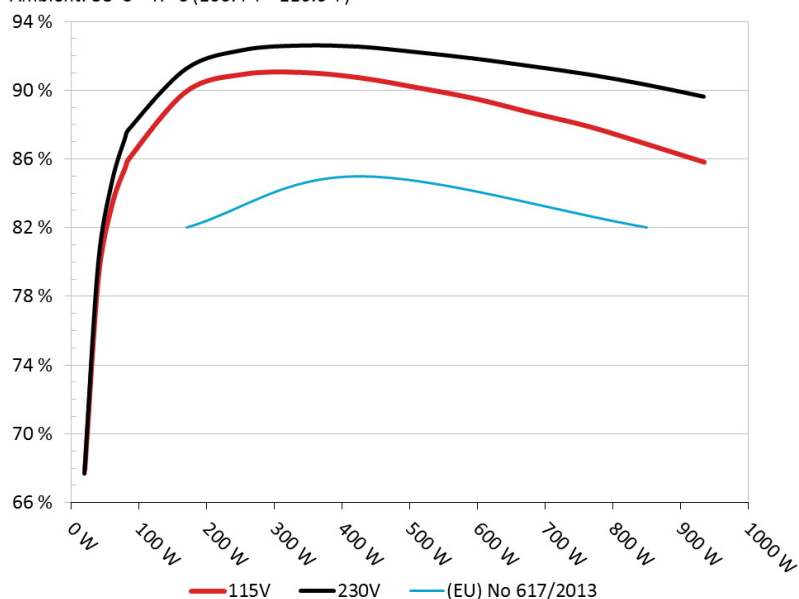
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PAGE 2/8

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair RM850i

Ambient: 38°C - 47°C (100.4°F - 116.6°F)



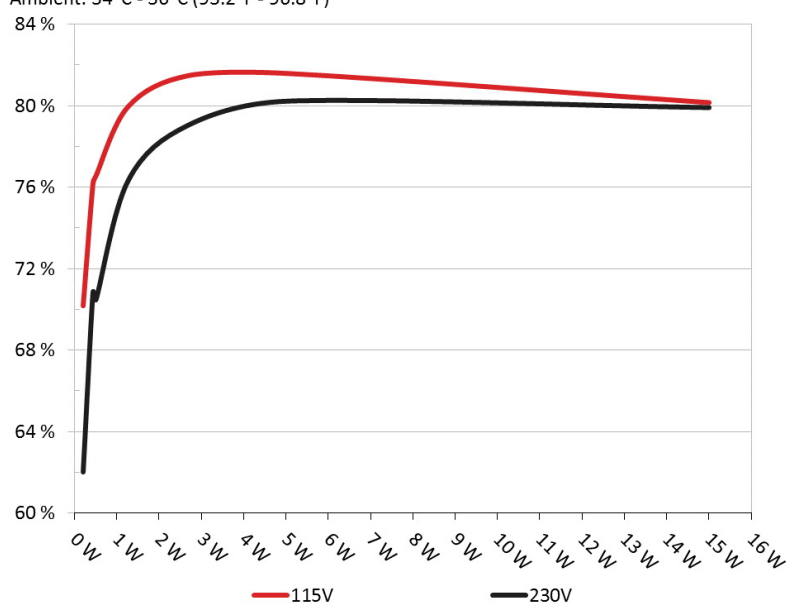
INFO

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 RM850i

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.214	70.164%	0.031
	5.077V	0.305		115.03V
2	0.087A	0.444	76.158%	0.057
	5.075V	0.583		115.04V
3	0.532A	2.695	81.494%	0.247
	5.063V	3.307		115.04V
4	3.002A	14.994	80.165%	0.446
	4.995V	18.704		115.02V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.214	62.029%	0.010
	5.077V	0.345		230.07V
2	0.088A	0.445	70.860%	0.019
	5.075V	0.628		230.07V
3	0.532A	2.695	79.055%	0.097
	5.063V	3.409		230.14V
4	3.002A	14.994	79.921%	0.317
	4.995V	18.761		230.12V

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PAGE 4/8

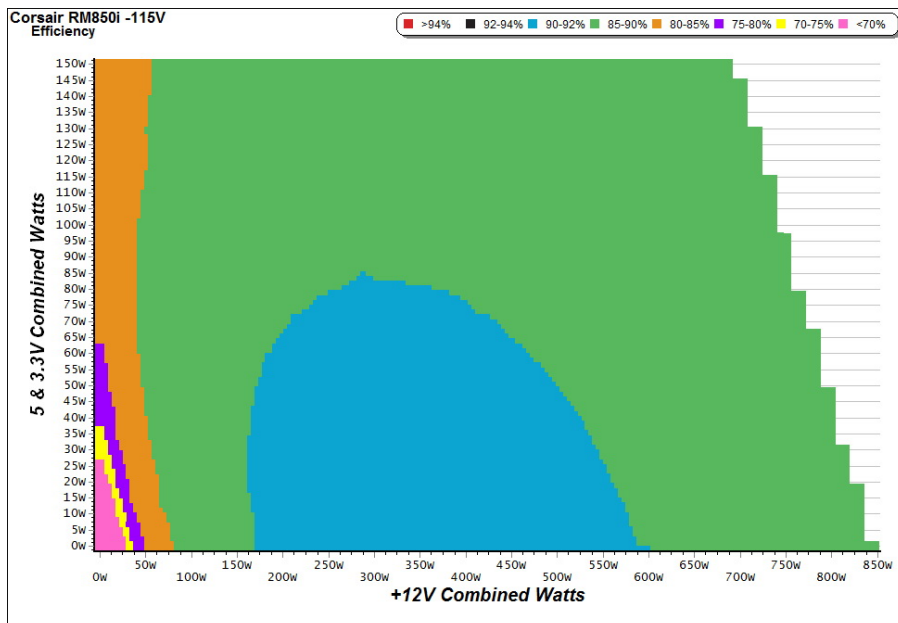
115V

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PAGE 5/8

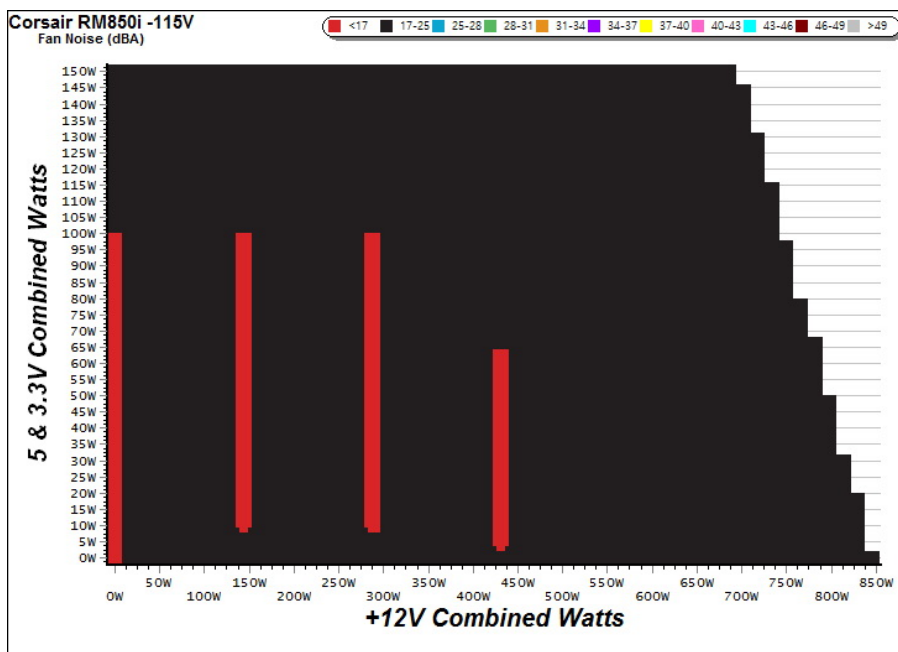
EFFICIENCY GRAPH 115V



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

NOISE GRAPH 115V



INFO

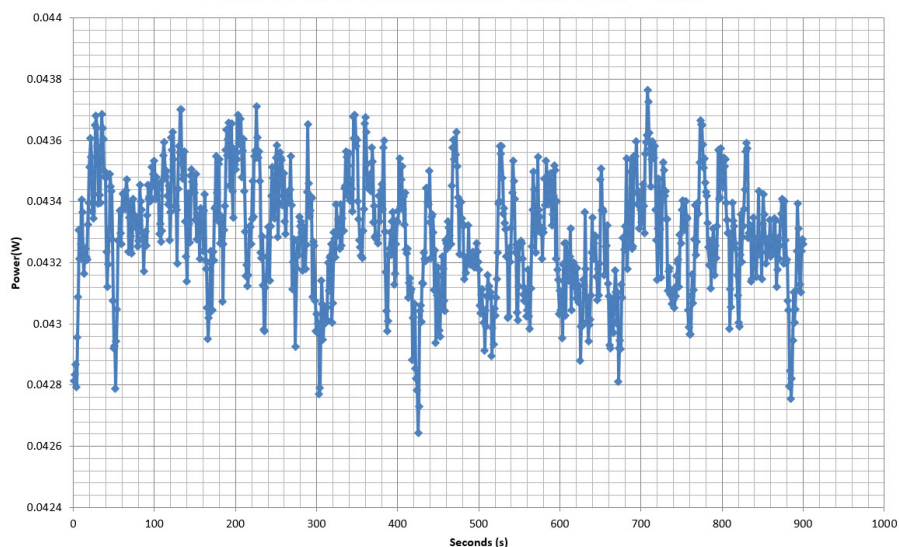
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - 16437174000016811255 - 12/04/2017 - 09:47



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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PAGE 7/8

COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V

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PAGE 8/8

EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

Corsair RM850i



Top side



Power specifications label

CERTIFICATIONS 115V




Aris Mpitsiopoulos
Lab Director

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PAGE 9/8