Anex

Corsair RM750 (2019)

Lab ID#: CR19750011
Receipt Date: Mar 21, 2019
Test Date: Mar 29, 2019

Report: 19PS658A
Report Date: Jan 4, 2019

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RM
Model Number	RM750 (2019)
Serial Number	19027121000038930024
DUT Notes	CP-9020195

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	750
Type	ATX12V
Cooling	140mm Rifle Bearing Fan (HA1425M12F-Z)
Semi-Passive Operation	✓
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	62.5	3	0.3
	Watts	150		750	15	3.6
Total Max. Power (W)		750				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (610mm)	1	1	18-20AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
6+2 pin PCIe (600mm+150mm)	3	6	16-18AWG	No
SATA (450mm+110mm+110mm+110mm)	1	3	18AWG	No
SATA (500mm+100mm+100mm)	2	6	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No
AC Power Cord (1420mm) - C13 coupler	1	1	16AWG	-

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Anex

Corsair RM750 (2019)

RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	88.623
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	76.846
Average Efficiency 5VSB	77.317
Standby Power Consumption (W) -115V	0.0360372
Standby Power Consumption (W) -230V	0.0589868
Average PF	0.990
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	21.00
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, 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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Anex

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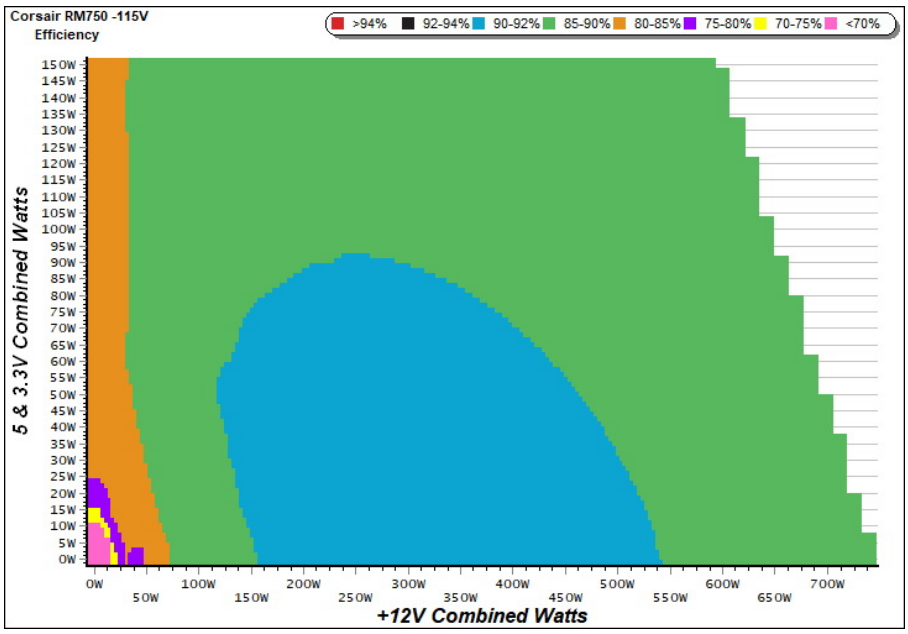
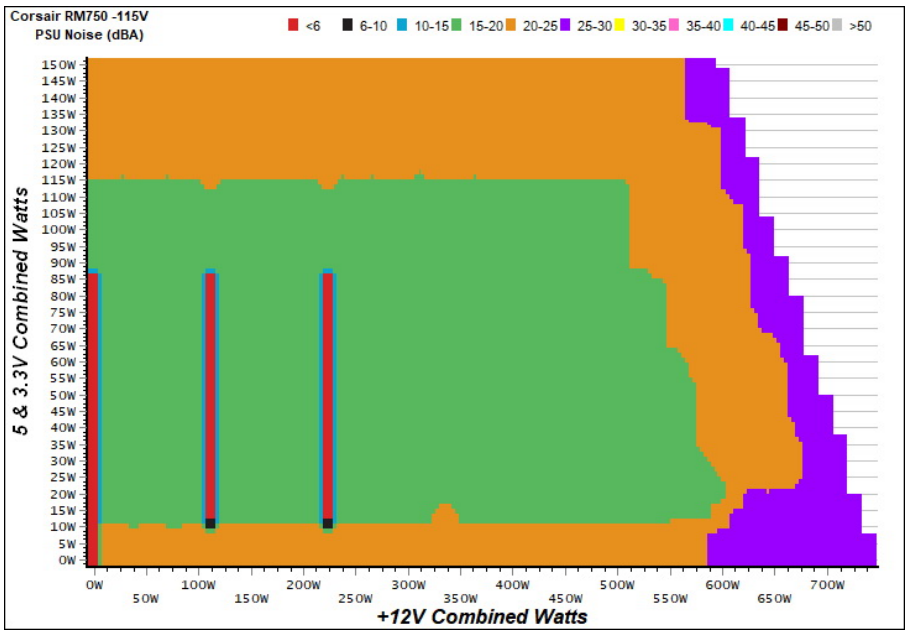
EFFICIENCY GRAPH



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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Anex

Corsair RM750 (2019)

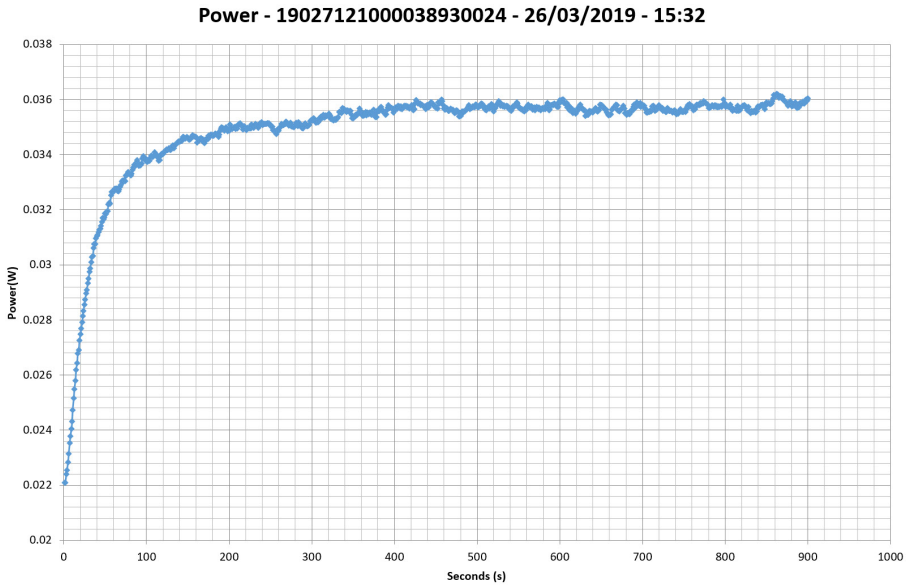
5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	71.028%	0.033
	5.061V	0.321		115.10V
2	0.090A	0.456	75.248%	0.061
	5.061V	0.606		115.10V
3	0.550A	2.778	78.563%	0.260
	5.051V	3.536		115.10V
4	1.000A	5.039	77.583%	0.348
	5.039V	6.495		115.10V
5	1.500A	7.539	77.426%	0.396
	5.026V	9.737		115.11V
6	3.000A	14.958	76.653%	0.457
	4.986V	19.514		115.11V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	65.330%	0.011
	5.062V	0.349		230.28V
2	0.090A	0.456	71.250%	0.019
	5.061V	0.640		230.28V
3	0.550A	2.778	76.804%	0.102
	5.050V	3.617		230.27V
4	1.000A	5.038	77.401%	0.168
	5.038V	6.509		230.27V
5	1.500A	7.537	77.358%	0.224
	5.024V	9.743		230.27V
6	3.000A	14.951	77.214%	0.320
	4.983V	19.363		230.28V

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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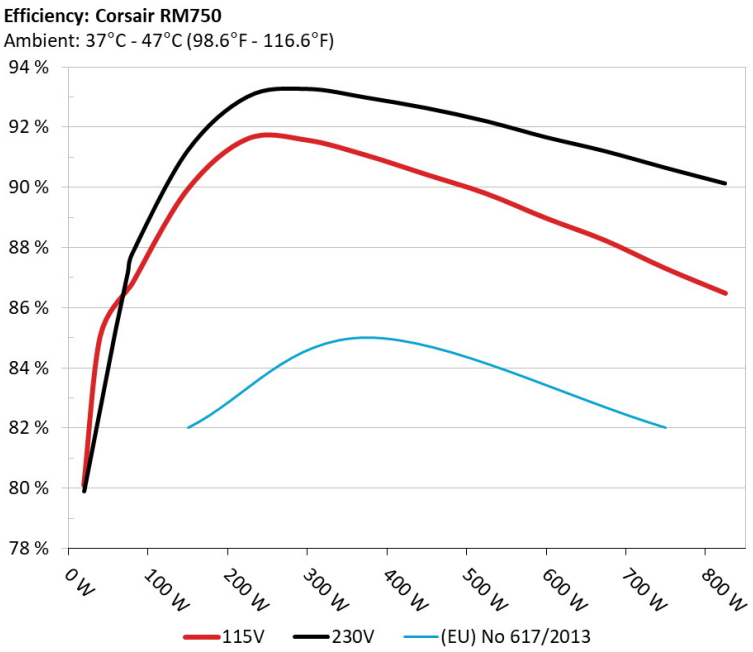
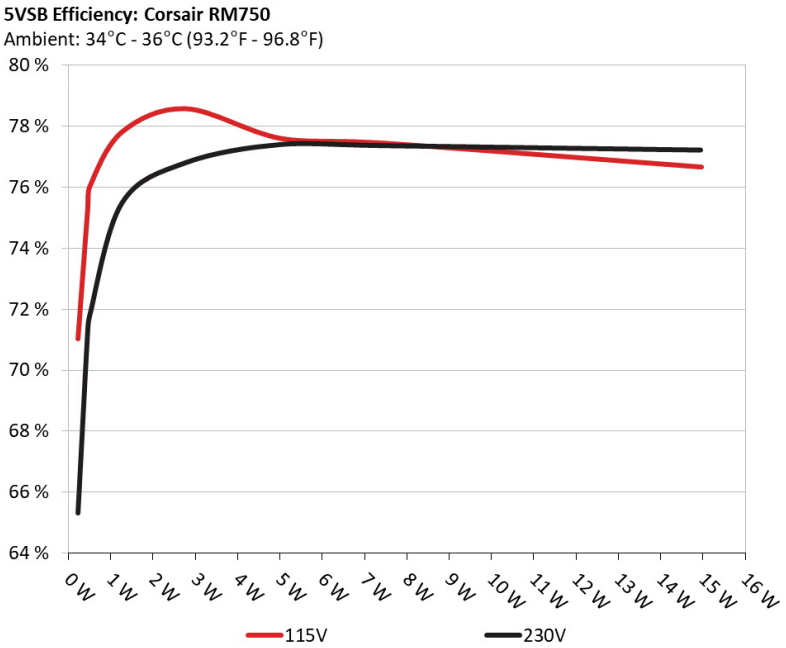
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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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Anex

Corsair RM750 (2019)

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	4.360A	1.985A	2.005A	0.997A	74.493	86.177%	0	<6.0	42.73°C	0.974
	12.130V	5.040V	3.291V	5.018V	86.442				39.84°C	115.12V
2	9.778A	2.979A	3.010A	1.197A	149.392	89.931%	0	<6.0	44.42°C	0.988
	12.118V	5.037V	3.288V	5.013V	166.119				40.76°C	115.11V
3	15.625A	3.477A	3.500A	1.398A	224.898	91.626%	0	<6.0	45.61°C	0.991
	12.089V	5.035V	3.286V	5.007V	245.451				41.07°C	115.11V
4	21.399A	3.975A	4.021A	1.600A	299.665	91.584%	0	<6.0	46.67°C	0.993
	12.078V	5.033V	3.283V	5.000V	327.202				41.78°C	115.11V
5	26.864A	4.972A	5.029A	1.802A	374.613	91.076%	780	15.9	42.36°C	0.992
	12.064V	5.031V	3.283V	4.995V	411.318				47.71°C	115.11V
6	32.324A	5.969A	6.038A	2.005A	449.550	90.439%	781	16.0	42.84°C	0.992
	12.057V	5.028V	3.280V	4.989V	497.076				49.23°C	115.11V
7	37.842A	6.965A	7.045A	2.208A	524.842	89.803%	783	16.1	44.18°C	0.993
	12.043V	5.026V	3.279V	4.984V	584.440				51.16°C	115.12V
8	43.338A	7.967A	8.058A	2.412A	600.169	88.985%	1122	28.1	44.50°C	0.994
	12.039V	5.022V	3.277V	4.978V	674.458				52.21°C	115.12V
9	49.212A	8.468A	8.546A	2.412A	674.684	88.241%	1407	34.8	45.39°C	0.995
	12.033V	5.021V	3.276V	4.976V	764.590				53.79°C	115.12V
10	54.905A	8.970A	9.071A	3.026A	749.954	87.314%	1633	39.0	46.43°C	0.995
	12.025V	5.018V	3.275V	4.958V	858.914				55.76°C	115.12V
11	61.186A	8.974A	9.075A	3.028A	825.176	86.487%	1753	40.8	46.81°C	0.995
	12.020V	5.016V	3.273V	4.955V	954.100				57.49°C	115.12V
CL1	0.139A	18.005A	18.001A	0.000A	151.022	82.858%	1007	24.6	42.50°C	0.989
	12.116V	5.015V	3.280V	5.070V	182.267				47.74°C	115.14V
CL2	62.520A	1.004A	1.001A	1.000A	765.559	87.755%	1715	40.4	46.14°C	0.995
	12.032V	5.026V	3.272V	4.997V	872.387				55.29°C	115.12V

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Anex

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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	1.193A	0.496A	0.483A	0.199A	19.510	80.103%	0	<6.0	0.829
	12.088V	5.038V	3.289V	5.034V	24.356				115.11V
2	2.452A	0.992A	1.002A	0.398A	39.960	85.039%	0	<6.0	0.936
	12.096V	5.039V	3.292V	5.031V	46.990				115.11V
3	3.642A	1.488A	1.488A	0.597A	59.447	86.615%	0	<6.0	0.963
	12.095V	5.039V	3.292V	5.027V	68.634				115.11V
4	4.885A	1.984A	2.005A	0.796A	79.841	86.791%	0	<6.0	0.975
	12.128V	5.039V	3.292V	5.023V	91.992				115.11V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	4.7 mV	6.2 mV	8.6 mV	7.8 mV	Pass
20% Load	5.5 mV	6.6 mV	10.1 mV	8.3 mV	Pass
30% Load	10.7 mV	7.4 mV	10.0 mV	9.2 mV	Pass
40% Load	9.1 mV	8.1 mV	10.3 mV	8.0 mV	Pass
50% Load	9.1 mV	9.3 mV	12.5 mV	9.3 mV	Pass
60% Load	9.0 mV	9.2 mV	11.9 mV	8.7 mV	Pass
70% Load	10.3 mV	9.8 mV	12.1 mV	8.7 mV	Pass
80% Load	10.3 mV	10.5 mV	12.8 mV	8.9 mV	Pass
90% Load	11.7 mV	11.0 mV	14.6 mV	11.1 mV	Pass
100% Load	16.6 mV	12.0 mV	14.9 mV	9.5 mV	Pass
110% Load	17.7 mV	13.4 mV	15.9 mV	9.3 mV	Pass
Crossload 1	20.8 mV	10.7 mV	15.8 mV	9.0 mV	Pass
Crossload 2	15.8 mV	10.4 mV	12.9 mV	9.0 mV	Pass

Anex

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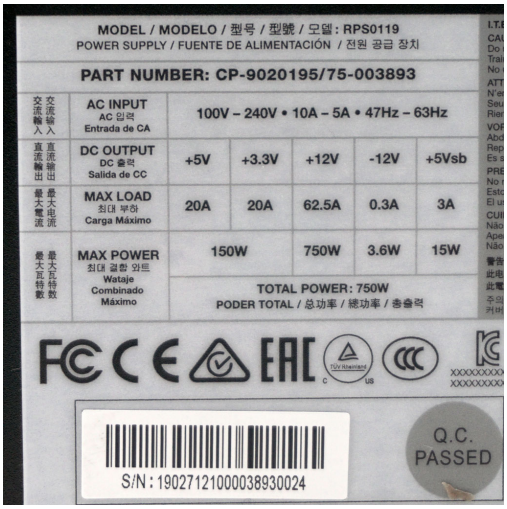
HOLD-UP TIME & POWER OK SIGNAL (230V)	
Hold-Up Time (ms)	19.10
AC Loss to PWR_OK Hold Up Time (ms)	16.70
PWR_OK Inactive to DC Loss Delay (ms)	2.40

Top side



Power specifications label

CERTIFICATIONS

CYBENETICS PLATINUM

CYBENETICS A