

Anex

Corsair RM750i

Lab ID#: 91
Receipt Date: -
Test Date: -

Report:

Report Date: Apr 18, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMi
Model Number	RM750i
Serial Number	16427173000016730337
DUT Notes	CP-9020082

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	750
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	62.5	3	0.8
	Watts	150		750	15	9.6
Total Max. Power (W)		750				

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)	1	1	18AWG
6+2 pin PCIe (600mm+150mm)	2	4	18AWG
SATA (550mm+100mm+100mm+100mm)	1	4	18AWG
SATA (400mm+100mm+100mm+100mm)	1	4	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	2	7	18AWG
FDD Adapter (+100mm)	2	2	20AWG
C-Link USB Cable (800mm) / C-Link I2C Cable (800mm)	1 / 1	1 / 1	24-28 / 29AWG

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 1/9

Anex

Corsair RM750i

Primary Side	
Transient Filter	6x Y caps, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor
Bridge Rectifier(s)	1x GBJ25L06 (600V, 25A @ 113°C)
APFC MOSFETS	2x Vishay SiHG22N60E (650V, 13A @ 100°C, 0.18Ω)
APFC Boost Diode	1x Vishay 8S2TH061 (600V, 8A @ 120°C)
Hold-up Cap(s)	2x Nippon Chemi-Con (400V, 390uF & 470uF or 860uF combined, 2000h @ 105°C, KMW - KMR)
Main Switchers	2x Vishay SiHG20N50C (560V, 11A @ 100°C, 0.27Ω)
APFC Controller	Infineon ICE3PCS01G - CM03X
Switching Controller	Infineon ICE2HS01G
Topology	Primary side: Half-Bridge & LLC Resonant Converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	6x Sinopower SM4021NAKP (40V, 100A @ 100°C, 2.7mΩ) @ VGS=6V)
5V & 3.3V	DC-DC Converters: 4x M3006D & 2x M3004D fets PWM Controller: APW7159
Filtering Capacitors	Electrolytics: Chemi-Con (105°C, KZE series) Polymers: Nippon Chemi-Con
Supervisor IC	Weltrend WT7502 & Weltrend WT7518
Fan Model	NR135P (12 V, 0.22 A, fluid dynamic bearing)
5VSB Circuit	
Rectifier	PFR20V45CT (45V, 20A, VF: 0.42V max @ 125°C)

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 2/9

RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	87.841
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	81.436
Standby Power Consumption (W) -115V	0.0429294
Standby Power Consumption (W) -230V	0.0770010
Average PF	0.992
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	19.11
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

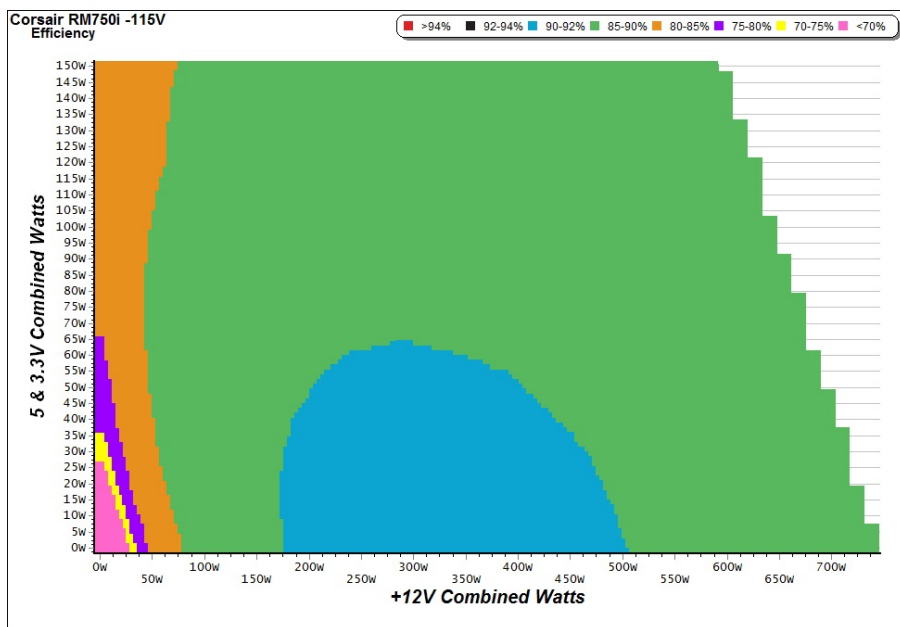
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley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

All data and graphs included in this test report can be used by any individual on the following conditions:

- › It should be mentioned that the test results are provided by Cybenetics
- › The link to the original test results document should be provided in any case

PAGE 3/9

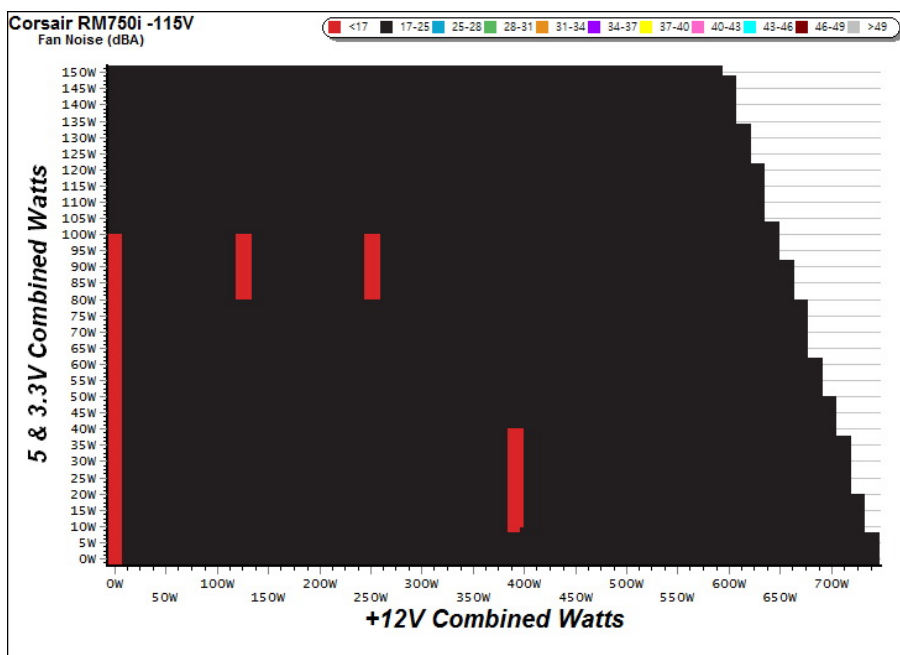
EFFICIENCY GRAPH



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

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

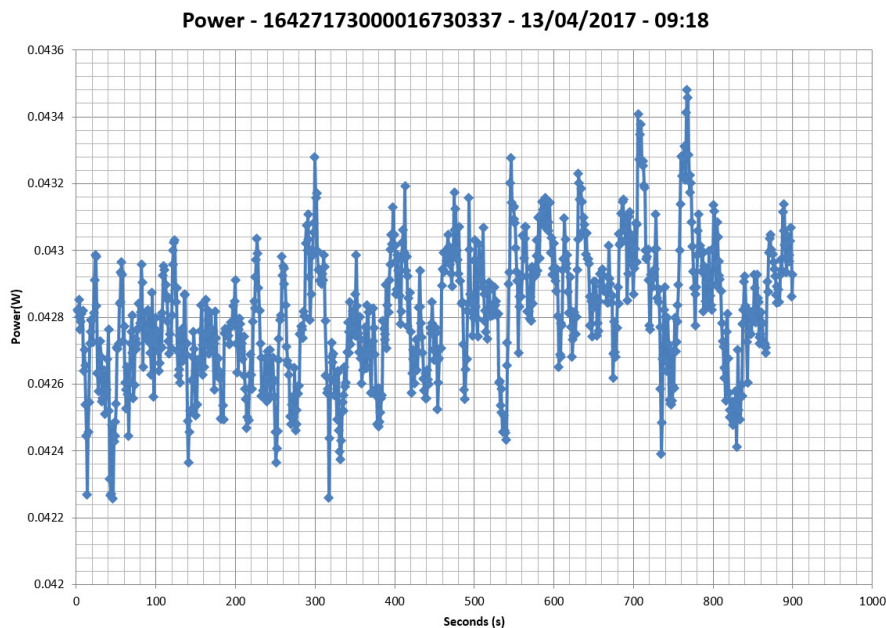
Anex

Corsair RM750i

5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.102A	0.514	76.602%	0.065
	5.055V	0.671		115.04V
2	0.252A	1.274	80.025%	0.143
	5.052V	1.592		115.04V
3	1.002A	5.049	81.778%	0.336
	5.037V	6.174		115.06V
4	3.002A	14.989	80.960%	0.445
	4.993V	18.514		115.03V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.213	61.561%	0.011
	5.055V	0.346		230.16V
2	0.088A	0.443	70.206%	0.019
	5.054V	0.631		230.16V
3	0.532A	2.685	79.040%	0.096
	5.045V	3.397		230.17V
4	3.002A	14.985	80.764%	0.314
	4.992V	18.554		230.15V

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

All data and graphs included in this test report can be used by any individual on the following conditions:

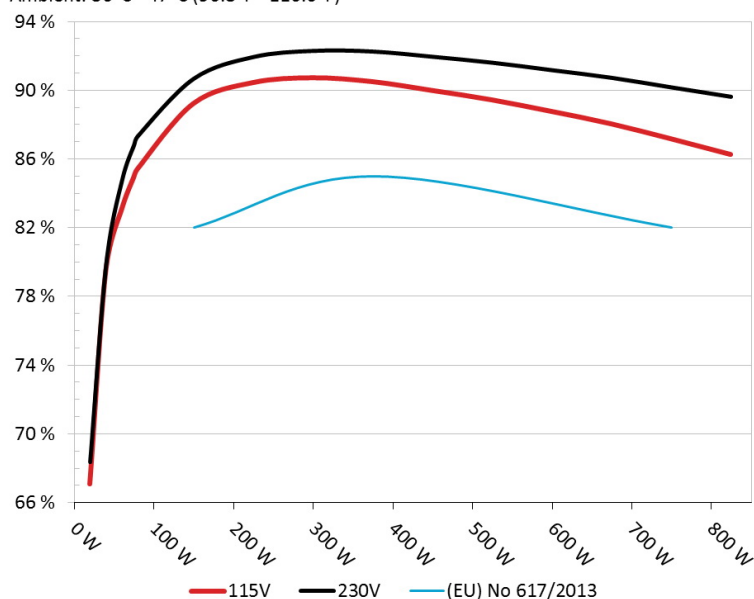
- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 5/9

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair RM750i

Ambient: 36°C - 47°C (96.8°F - 116.6°F)



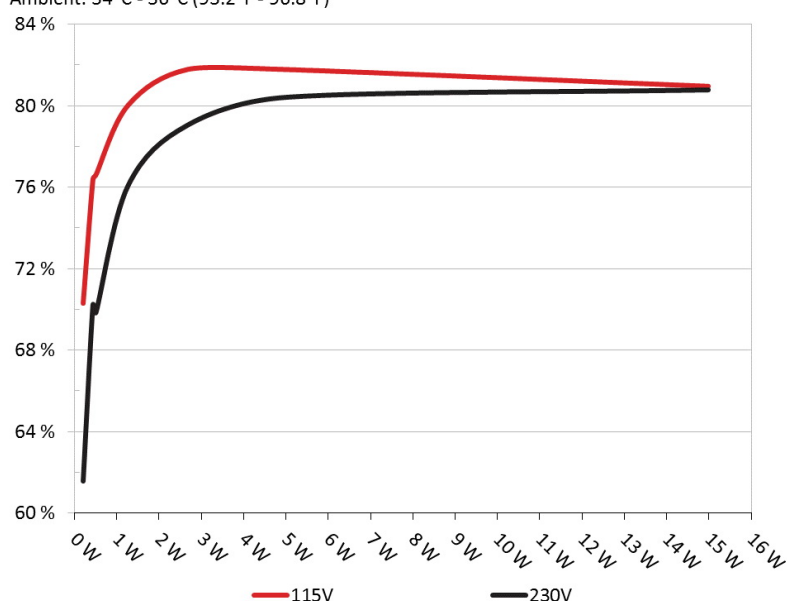
INFO

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 RM750i

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

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	4.411A	1.985A	1.989A	0.996A	74.811	84.958%	0	0	41.68°C	0.943
	12.061V	5.043V	3.315V	5.025V	88.056				37.94°C	115.09V
2	9.877A	2.971A	2.986A	1.195A	149.775	89.254%	0	0	43.16°C	0.987
	12.040V	5.039V	3.311V	5.019V	167.807				38.70°C	115.09V
3	15.710A	3.477A	3.503A	1.396A	224.909	90.474%	0	0	43.61°C	0.991
	12.019V	5.035V	3.308V	5.012V	248.589				39.86°C	115.09V
4	21.557A	3.975A	3.990A	1.596A	299.797	90.750%	0	0	44.73°C	0.994
	11.997V	5.032V	3.305V	5.006V	330.356				40.43°C	115.08V
5	27.079A	4.972A	4.996A	1.799A	374.762	90.524%	0	0	45.35°C	0.996
	11.975V	5.029V	3.301V	5.000V	413.992				41.28°C	115.08V
6	32.617A	5.972A	6.002A	2.001A	449.697	90.012%	612	17.5	42.06°C	0.996
	11.954V	5.024V	3.298V	4.995V	499.599				65.41°C	115.08V
7	38.171A	6.977A	7.011A	2.202A	524.717	89.464%	716	18.8	42.09°C	0.996
	11.936V	5.020V	3.294V	4.991V	586.511				65.26°C	115.08V
8	43.756A	7.975A	8.020A	2.405A	599.658	88.790%	821	20.1	42.95°C	0.997
	11.913V	5.017V	3.291V	4.985V	675.369				66.44°C	115.08V
9	49.795A	8.479A	8.540A	2.406A	674.686	88.067%	906	21.4	43.83°C	0.997
	11.891V	5.013V	3.288V	4.983V	766.104				68.53°C	115.08V
10	55.599A	8.989A	9.039A	3.016A	749.551	87.196%	1075	24.8	45.21°C	0.997
	11.868V	5.009V	3.285V	4.968V	859.618				71.62°C	115.08V
11	62.033A	8.994A	9.046A	3.021A	824.440	86.286%	1160	27.0	46.55°C	0.997
	11.844V	5.007V	3.282V	4.965V	955.479				74.79°C	115.08V
CL1	0.098A	18.027A	18.002A	0.004A	150.937	81.569%	767	19.2	44.85°C	0.988
	12.018V	5.018V	3.293V	5.077V	185.043				61.99°C	115.11V
CL2	62.448A	1.003A	1.003A	1.002A	754.610	87.769%	1108	25.8	45.57°C	0.997
	11.870V	5.020V	3.296V	5.001V	859.771				68.11°C	115.08V

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

Anex

Corsair RM750i

20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	PF/AC Volts
1	1.209A	0.491A	0.478A	0.196A	19.658	67.092%	0	0	0.839
	12.082V	5.047V	3.318V	5.041V	29.300				115.09V
2	2.447A	0.990A	0.993A	0.397A	39.837	79.572%	0	0	0.937
	12.076V	5.045V	3.316V	5.036V	50.064				115.09V
3	3.684A	1.476A	1.505A	0.596A	59.893	83.128%	0	0	0.940
	12.068V	5.043V	3.316V	5.032V	72.049				115.09V
4	4.908A	1.985A	1.990A	0.796A	79.806	85.455%	0	0	0.952
	12.061V	5.043V	3.315V	5.029V	93.390				115.09V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.6 mV	13.5 mV	6.9 mV	6.4 mV	Pass
20% Load	7.9 mV	13.4 mV	7.9 mV	6.1 mV	Pass
30% Load	9.4 mV	14.8 mV	9.8 mV	7.5 mV	Pass
40% Load	10.6 mV	14.5 mV	11.1 mV	6.8 mV	Pass
50% Load	11.7 mV	15.0 mV	11.8 mV	7.8 mV	Pass
60% Load	12.8 mV	15.4 mV	14.3 mV	8.1 mV	Pass
70% Load	14.6 mV	16.3 mV	17.0 mV	8.6 mV	Pass
80% Load	16.2 mV	17.1 mV	15.4 mV	9.7 mV	Pass
90% Load	17.6 mV	17.8 mV	16.3 mV	10.8 mV	Pass
100% Load	20.2 mV	19.2 mV	17.8 mV	12.9 mV	Pass
107% Load	22.5 mV	20.7 mV	19.6 mV	14.4 mV	Pass
Crossload 1	10.9 mV	16.0 mV	10.9 mV	8.0 mV	Pass
Crossload 2	19.7 mV	19.4 mV	17.2 mV	13.2 mV	Pass

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 8/9

Anex

Corsair RM750i

HOLD-UP TIME & POWER OK SIGNAL (230V)

Hold-Up Time (ms)	28.9
AC Loss to PWR_OK Hold Up Time (ms)	20.5
PWR_OK Inactive to DC Loss Delay (ms)	8.4



Top side



Power specifications label

CERTIFICATIONS



All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 9/9