Anex

Corsair RM550x (2018) (Sample #3)

Lab ID#: CR55001668
Receipt Date: Feb 14, 2018
Test Date: Jun 22, 2020

Report: 20PS1668A
Report Date: Jun 30, 2020

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMx
Model Number	RPS0107
Serial Number	17477135000034420109
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	550
Type	ATX12V
Cooling	135mm Rifle Bearing Fan (NR135L)
Semi-Passive Operation	✓
Cable Design	Fully Modular

TEST EQUIPMENT

Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

RESULTS

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

115V

Average Efficiency	87.413%
Efficiency With 10W (≤500W) or 2% (>500W)	44.819
Average Efficiency 5VSB	77.313%
Standby Power Consumption (W)	0.0318090
Average PF	0.990
Avg Noise Output	16.48 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

230V

Average Efficiency	89.338%
Average Efficiency 5VSB	77.139%
Standby Power Consumption (W)	0.0472340
Average PF	0.961
Avg Noise Output	16.52 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	45.8	3	0.8
	Watts	130		550	15	9.6
Total Max. Power (W)		550				

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

Hold-Up Time (ms)	23
AC Loss to PWR_OK Hold Up Time (ms)	20.7
PWR_OK Inactive to DC Loss Delay (ms)	2.3

Anex

Corsair RM550x (2018) (Sample #3)

CABLES AND CONNECTORS

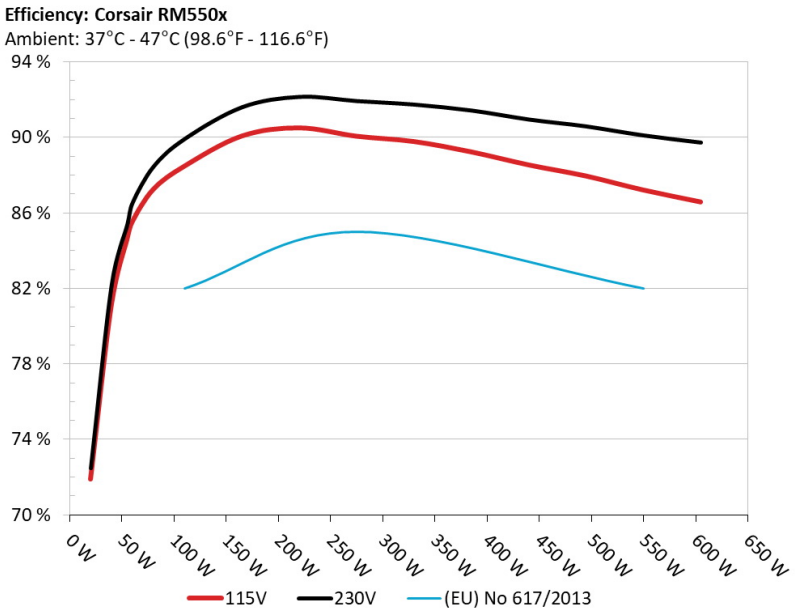
Modular Cables

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)	1	2	18AWG	Yes
SATA (520mm+110mm+110mm)	2	6	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	-

Anex

Corsair RM550x (2018) (Sample #3)

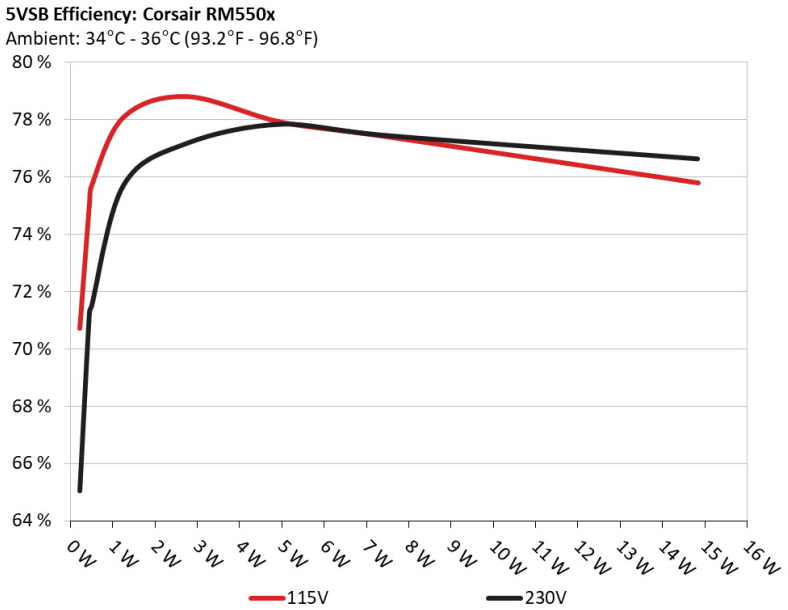
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	70.717%	0.037
	5.048V	0.321		115.17V
2	0.090A	0.454	75.041%	0.069
	5.046V	0.605		115.17V
3	0.550A	2.766	78.781%	0.276
	5.029V	3.511		115.17V
4	1.000A	5.014	77.881%	0.358
	5.014V	6.438		115.17V
5	1.500A	7.499	77.381%	0.403
	5.000V	9.691		115.17V
6	2.999A	14.842	75.779%	0.462
	4.949V	19.586		115.17V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	65.043%	0.012
	5.048V	0.349		230.32V
2	0.090A	0.454	71.272%	0.022
	5.046V	0.637		230.32V
3	0.550A	2.766	77.176%	0.115
	5.029V	3.584		230.32V
4	1.000A	5.013	77.842%	0.186
	5.014V	6.440		230.28V
5	1.500A	7.498	77.443%	0.243
	4.999V	9.682		230.32V
6	2.999A	14.834	76.630%	0.334
	4.946V	19.358		230.32V

Anex

Corsair RM550x (2018) (Sample #3)

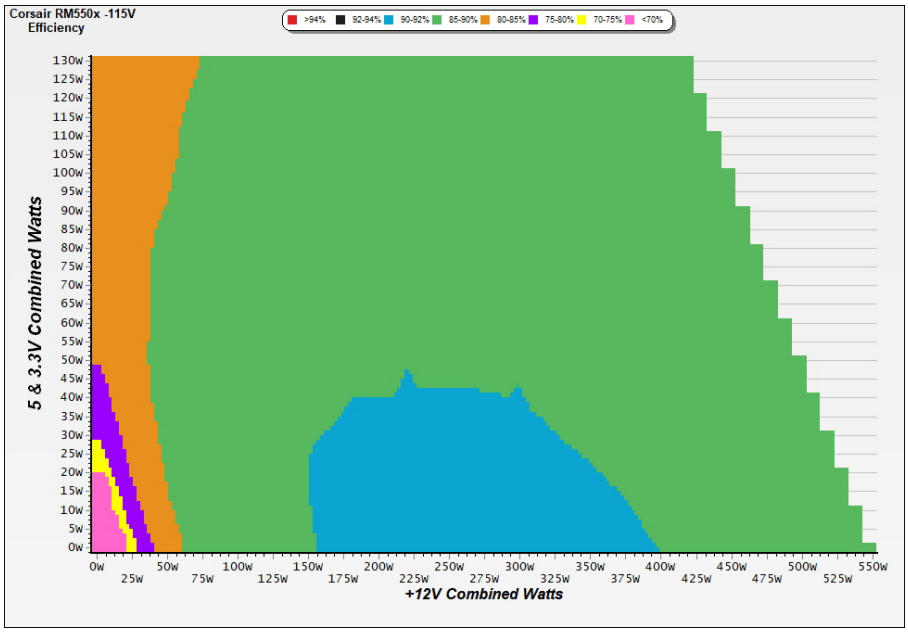
115V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

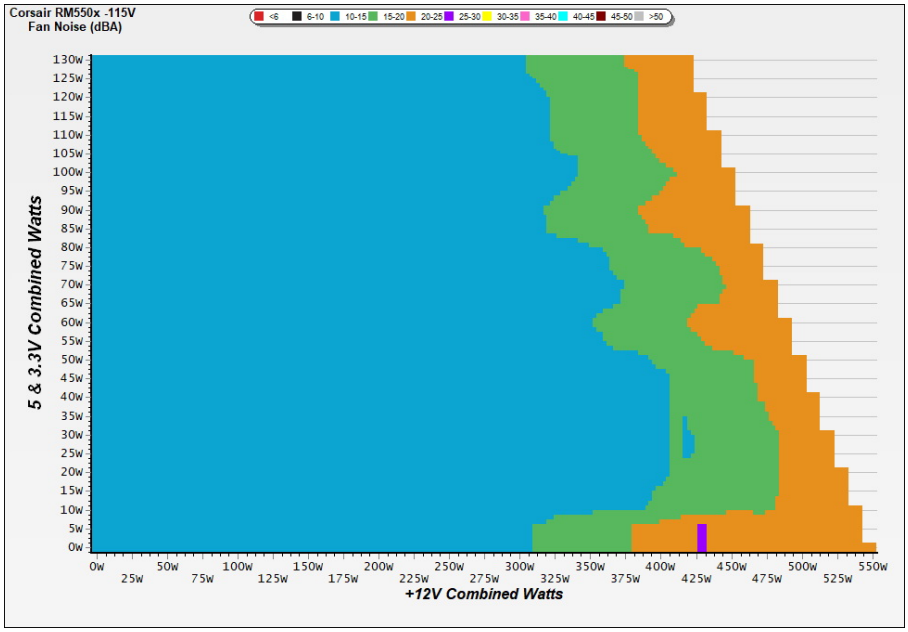
EFFICIENCY GRAPH 115V



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



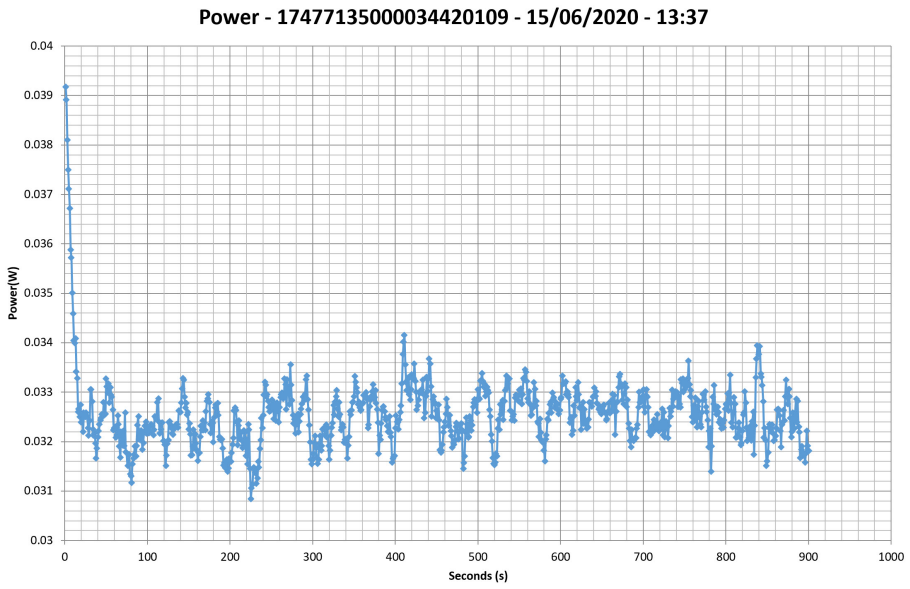
INFO

The PSU's noise in its entire operational range and under 30-32 °C 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

Anex

Corsair RM550x (2018) (Sample #3)

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

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

10-110% LOAD TESTS 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	2.766A	1.988A	1.994A	0.998A	54.953	84.624%	0	<6.0	45.10°C	0.968
	12.061V	5.031V	3.306V	5.008V	64.938				40.68°C	115.17V
2	6.565A	2.986A	2.999A	1.200A	110.011	88.495%	0	<6.0	46.07°C	0.986
	12.050V	5.025V	3.300V	5.001V	124.313				40.97°C	115.17V
3	10.702A	3.486A	3.506A	1.402A	165.002	90.091%	0	<6.0	47.38°C	0.990
	12.049V	5.021V	3.295V	4.992V	183.150				41.65°C	115.16V
4	14.852A	3.988A	4.013A	1.606A	220.001	90.522%	0	<6.0	48.23°C	0.992
	12.038V	5.017V	3.290V	4.983V	243.037				41.81°C	115.17V
5	18.672A	4.991A	5.026A	1.810A	274.992	90.080%	628	11.5	42.43°C	0.994
	12.022V	5.011V	3.284V	4.974V	305.275				49.45°C	115.16V
6	22.503A	5.996A	6.041A	2.000A	329.916	89.799%	628	11.5	42.56°C	0.994
	12.006V	5.005V	3.278V	4.966V	367.393				50.28°C	115.16V
7	26.341A	7.003A	7.063A	2.218A	385.056	89.250%	629	11.5	43.74°C	0.993
	11.994V	5.000V	3.272V	4.958V	431.434				51.96°C	115.16V
8	30.178A	8.003A	8.083A	2.424A	439.926	88.560%	738	16.8	44.67°C	0.994
	11.981V	4.995V	3.265V	4.950V	496.755				53.26°C	115.16V
9	34.428A	8.516A	8.585A	2.425A	494.478	87.980%	842	21.7	45.03°C	0.994
	11.967V	4.990V	3.260V	4.947V	562.032				54.95°C	115.16V
10	38.485A	9.037A	9.132A	3.049A	549.676	87.236%	983	27.1	45.28°C	0.995
	11.952V	4.980V	3.252V	4.920V	630.103				55.81°C	115.16V
11	43.141A	9.046A	9.144A	3.051A	604.892	86.601%	1097	30.5	46.53°C	0.996
	11.942V	4.976V	3.247V	4.916V	698.484				58.12°C	115.16V
CL1	0.101A	16.001A	15.998A	0.000A	133.838	81.525%	638	11.9	42.04°C	0.990
	12.023V	5.014V	3.275V	5.090V	164.168				49.60°C	115.18V
CL2	45.830A	1.001A	1.002A	1.000A	562.098	88.203%	988	27.1	45.36°C	0.995
	11.976V	4.993V	3.267V	4.966V	637.281				55.21°C	115.16V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

20-80W LOAD TESTS 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.229A	0.497A	0.498A	0.199A	19.981	71.918%	0	<6.0	0.884
	12.066V	5.035V	3.312V	5.030V	27.783				115.16V
2	2.460A	0.993A	0.998A	0.398A	39.971	81.154%	0	<6.0	0.951
	12.062V	5.032V	3.309V	5.024V	49.253				115.16V
3	3.695A	1.490A	1.498A	0.598A	60.003	85.549%	0	<6.0	0.972
	12.058V	5.030V	3.307V	5.018V	70.139				115.16V
4	4.924A	1.988A	1.997A	0.798A	79.954	87.254%	0	<6.0	0.979
	12.055V	5.029V	3.304V	5.012V	91.634				115.16V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.30mV	4.80mV	4.00mV	4.70mV	Pass
20% Load	4.90mV	4.50mV	4.40mV	4.60mV	Pass
30% Load	7.70mV	5.30mV	4.50mV	5.00mV	Pass
40% Load	7.30mV	9.80mV	7.50mV	8.80mV	Pass
50% Load	7.20mV	9.80mV	6.60mV	8.10mV	Pass
60% Load	6.90mV	7.50mV	5.40mV	6.50mV	Pass
70% Load	6.50mV	8.60mV	5.60mV	8.00mV	Pass
80% Load	7.20mV	9.90mV	8.00mV	8.90mV	Pass
90% Load	8.20mV	9.80mV	8.90mV	8.90mV	Pass
100% Load	11.00mV	12.00mV	8.30mV	10.80mV	Pass
110% Load	12.40mV	12.60mV	8.50mV	10.00mV	Pass
Crossload1	13.00mV	6.10mV	7.70mV	4.90mV	Pass
Crossload2	9.70mV	8.30mV	5.40mV	6.10mV	Pass

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

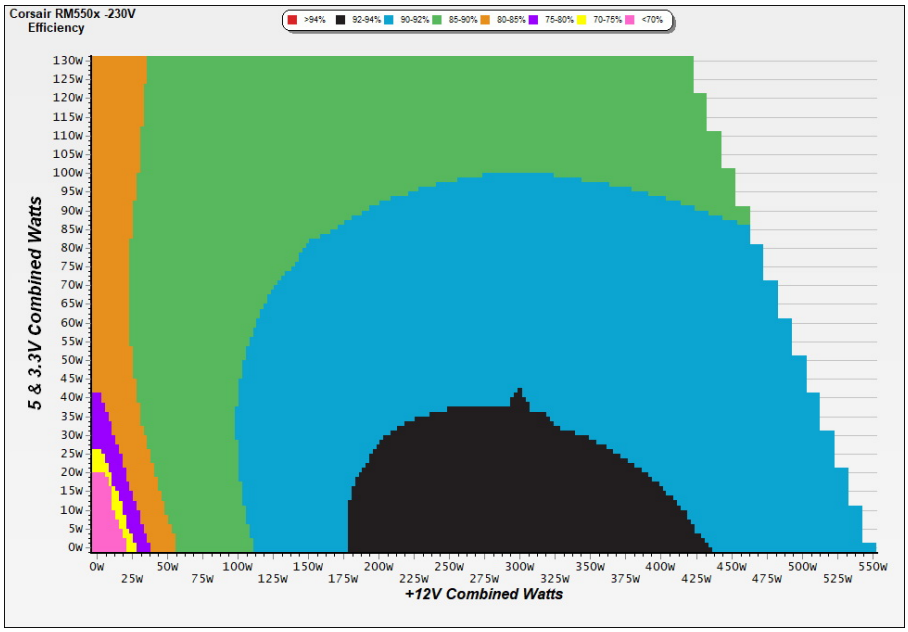
230V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

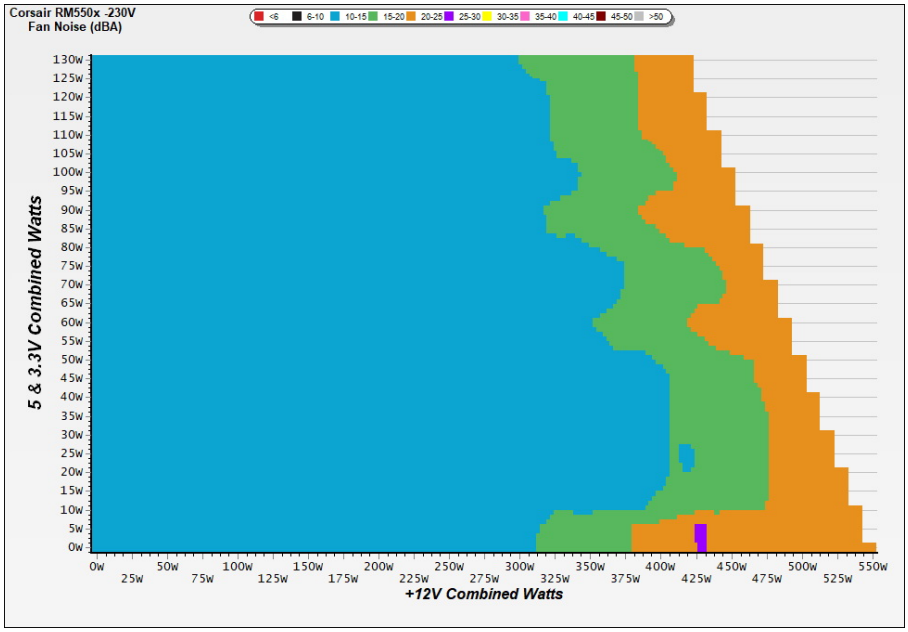
EFFICIENCY GRAPH 230V



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 230V



INFO

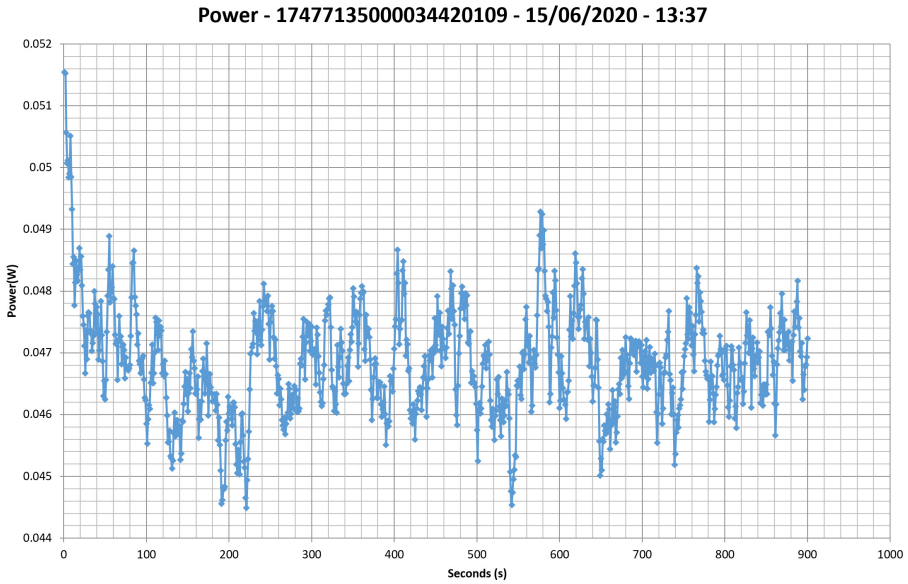
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

VAMPIRE POWER -230V



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

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus

Anex

Corsair RM550x (2018) (Sample #3)

10-110% LOAD TESTS 230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	2.765A	1.987A	1.995A	0.998A	54.953	85.389%	0	<6.0	44.15°C	0.803
	12.065V	5.031V	3.307V	5.009V	64.356				40.19°C	230.33V
2	6.563A	2.986A	2.999A	1.200A	110.016	89.918%	0	<6.0	45.54°C	0.919
	12.054V	5.026V	3.300V	5.001V	122.351				40.47°C	230.33V
3	10.699A	3.486A	3.506A	1.402A	165.009	91.598%	0	<6.0	47.29°C	0.953
	12.053V	5.021V	3.295V	4.992V	180.145				41.45°C	230.34V
4	14.848A	3.988A	4.011A	1.606A	220.007	92.145%	0	<6.0	48.25°C	0.968
	12.042V	5.017V	3.290V	4.983V	238.762				41.60°C	230.34V
5	18.674A	4.992A	5.025A	1.810A	274.989	91.922%	630	11.5	42.36°C	0.976
	12.021V	5.009V	3.284V	4.973V	299.156				49.74°C	230.33V
6	22.506A	6.006A	6.054A	2.000A	329.901	91.736%	628	11.5	42.47°C	0.981
	12.004V	4.997V	3.272V	4.959V	359.621				50.58°C	230.33V
7	26.348A	7.016A	7.080A	2.222A	385.056	91.421%	627	11.4	43.12°C	0.984
	11.991V	4.990V	3.264V	4.950V	421.190				51.83°C	230.33V
8	30.178A	8.003A	8.102A	2.428A	439.773	90.947%	790	19.2	44.33°C	0.986
	11.979V	4.984V	3.257V	4.941V	483.547				53.51°C	230.32V
9	34.422A	8.536A	8.610A	2.430A	494.410	90.585%	892	23.5	45.00°C	0.988
	11.967V	4.978V	3.251V	4.938V	545.799				54.88°C	230.33V
10	38.477A	9.052A	9.150A	3.052A	549.612	90.106%	1003	27.6	45.73°C	0.989
	11.953V	4.972V	3.245V	4.914V	609.959				56.38°C	230.33V
11	43.132A	9.060A	9.165A	3.055A	604.818	89.725%	1130	31.4	46.60°C	0.990
	11.943V	4.967V	3.240V	4.909V	674.083				58.17°C	230.34V
CL1	0.103A	16.001A	15.998A	0.000A	133.701	82.890%	639	11.9	42.28°C	0.945
	12.025V	5.008V	3.271V	5.090V	161.299				49.43°C	230.34V
CL2	45.826A	1.000A	0.998A	1.000A	561.923	91.123%	973	26.6	45.41°C	0.989
	11.974V	4.987V	3.261V	4.960V	616.664				56.45°C	230.34V

Anex

Corsair RM550x (2018) (Sample #3)

20-80W LOAD TESTS 230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.229A	0.496A	0.497A	0.199A	19.982	72.493%	0	<6.0	0.534
	12.072V	5.037V	3.313V	5.032V	27.564				230.32V
2	2.459A	0.993A	0.996A	0.398A	39.972	82.211%	0	<6.0	0.725
	12.069V	5.034V	3.310V	5.025V	48.621				230.33V
3	3.693A	1.491A	1.496A	0.598A	60.003	86.539%	0	<6.0	0.821
	12.064V	5.031V	3.307V	5.019V	69.336				230.33V
4	4.921A	1.989A	1.998A	0.798A	79.954	88.447%	0	<6.0	0.873
	12.060V	5.029V	3.305V	5.013V	90.398				230.33V

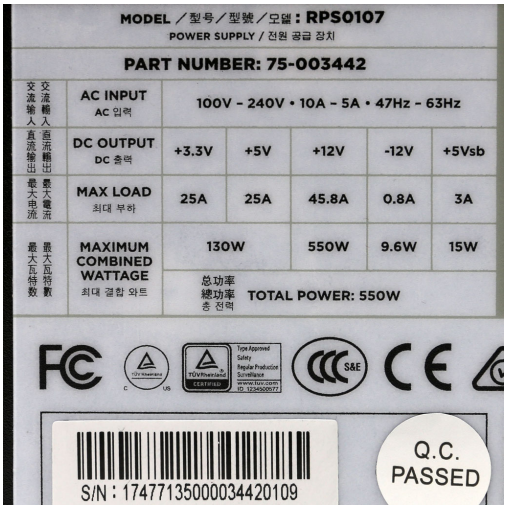
RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.10mV	4.50mV	4.20mV	4.50mV	Pass
20% Load	4.80mV	4.30mV	4.40mV	4.30mV	Pass
30% Load	8.10mV	5.70mV	4.50mV	5.30mV	Pass
40% Load	7.30mV	11.10mV	7.20mV	10.30mV	Pass
50% Load	6.90mV	10.00mV	6.40mV	8.30mV	Pass
60% Load	6.30mV	7.10mV	5.10mV	6.50mV	Pass
70% Load	6.80mV	8.70mV	5.80mV	8.00mV	Pass
80% Load	7.40mV	8.70mV	7.80mV	8.20mV	Pass
90% Load	7.10mV	9.90mV	8.50mV	8.70mV	Pass
100% Load	11.40mV	11.30mV	8.20mV	10.10mV	Pass
110% Load	12.90mV	11.50mV	8.70mV	9.90mV	Pass
Crossload1	13.90mV	5.60mV	7.50mV	4.90mV	Pass
Crossload2	10.00mV	7.30mV	5.30mV	6.30mV	Pass

Anex

Corsair RM550x (2018) (Sample #3)

Top side



Power specifications label

CERTIFICATIONS 115V

CERTIFICATIONS 230V

www.cybenetics.com -info@cybenetics.com
CYBENETICS LTD. 15, Elpinikis Str. 4100 Agios Athanasios, Limassol, Cyprus