

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

Lab ID#: CM55001851
Receipt Date: May 6, 2021
Test Date: May 27, 2021

Report: 21PS1851A

Report Date: May 28, 2021

DUT INFORMATION

Brand	Cooler Master
Manufacturer (OEM)	Huizhou Xin Hui Yuan Tech (Fusion Power)
Series	MWE Gold V2
Model Number	MPE-5501-ACAAG
Serial Number	MPE5501ACAAGU21205200002
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	50-60
Rated Power (W)	550
Type	ATX12V
Cooling	120mm Fluid Dynamic Bearing Fan (HA1225M12F-Z)
Semi-Passive Operation	X
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

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 1/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

RESULTS

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

115V

Average Efficiency	87.928%
Efficiency With 10W (≤500W) or 2% (>500W)	54.848
Average Efficiency 5VSB	81.144%
Standby Power Consumption (W)	0.1103160
Average PF	0.986
Avg Noise Output	24.95 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A

230V

Average Efficiency	90.086%
Average Efficiency 5VSB	79.918%
Standby Power Consumption (W)	0.1717520
Average PF	0.935
Avg Noise Output	24.11 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	45.8	3	0.3
	Watts	100		549.6	15	3.6
Total Max. Power (W)		550				

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

Hold-Up Time (ms)	19.9
AC Loss to PWR_OK Hold Up Time (ms)	16.6
PWR_OK Inactive to DC Loss Delay (ms)	3.3

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

Cooler Master MWE Gold 550 V2 (Fixed)

CABLES AND CONNECTORS

Captive Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (620mm)	1	1	18-22AWG	No
8 pin EPS12V (640mm) / 4+4 pin EPS12V (+125mm)	1	1 / 1	18AWG	No
6+2 pin PCIe (570mm+120mm)	1	2	18AWG	No
SATA (530mm+125mm+125mm+125mm)	2	8	18AWG	No
4-pin Molex (530mm+125mm+125mm+125mm)	1	4	18AWG	No

Modular Cables

AC Power Cord (1370mm) - C13 coupler	1	1	18AWG	-
--------------------------------------	---	---	-------	---

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 3/16

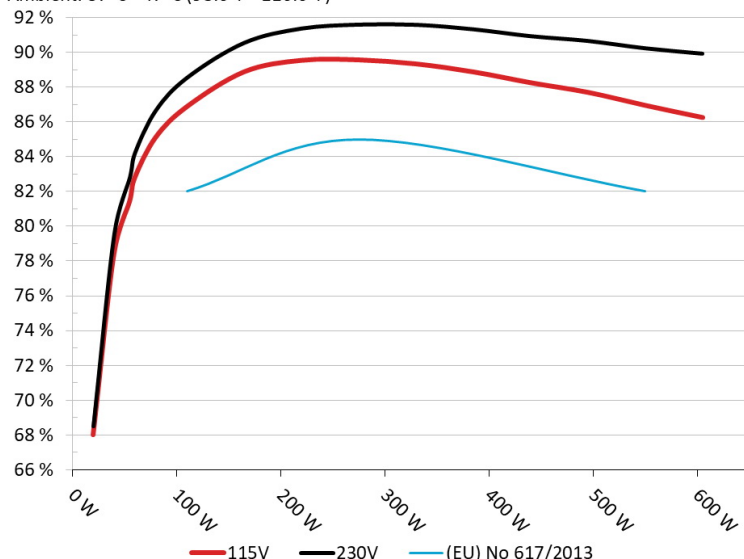
Anex

Cooler Master MWE Gold 550 V2 (Fixed)

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Cooler Master MWE Gold 550 V2 (Fixed)

Ambient: 37°C - 47°C (98.6°F - 116.6°F)



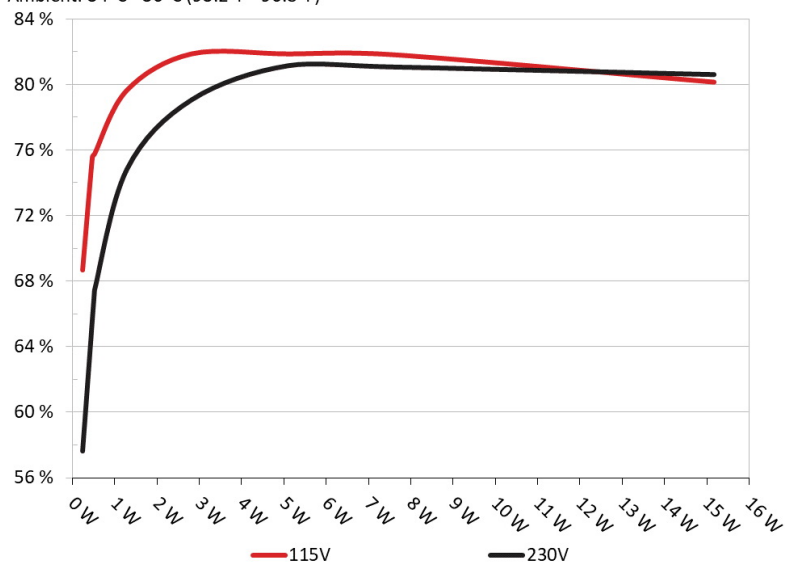
INFO

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: Cooler Master MWE Gold 550 V2 (Fixed)

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

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.230	68.657%	0.028
	5.087V	0.335		115.12V
2	0.090A	0.460	75.534%	0.073
	5.113V	0.609		115.12V
3	0.550A	2.808	81.842%	0.295
	5.105V	3.431		115.12V
4	1.000A	5.097	81.840%	0.385
	5.096V	6.228		115.12V
5	1.500A	7.632	81.783%	0.433
	5.087V	9.332		115.12V
6	3.000A	15.178	80.120%	0.495
	5.059V	18.944		115.11V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.230	57.644%	0.015
	5.114V	0.399		230.24V
2	0.090A	0.460	67.449%	0.025
	5.113V	0.682		230.24V
3	0.550A	2.808	79.054%	0.120
	5.105V	3.552		230.25V
4	1.000A	5.097	81.137%	0.192
	5.096V	6.282		230.25V
5	1.500A	7.632	81.054%	0.254
	5.087V	9.416		230.25V
6	3.000A	15.179	80.594%	0.354
	5.059V	18.834		230.25V

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 5/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

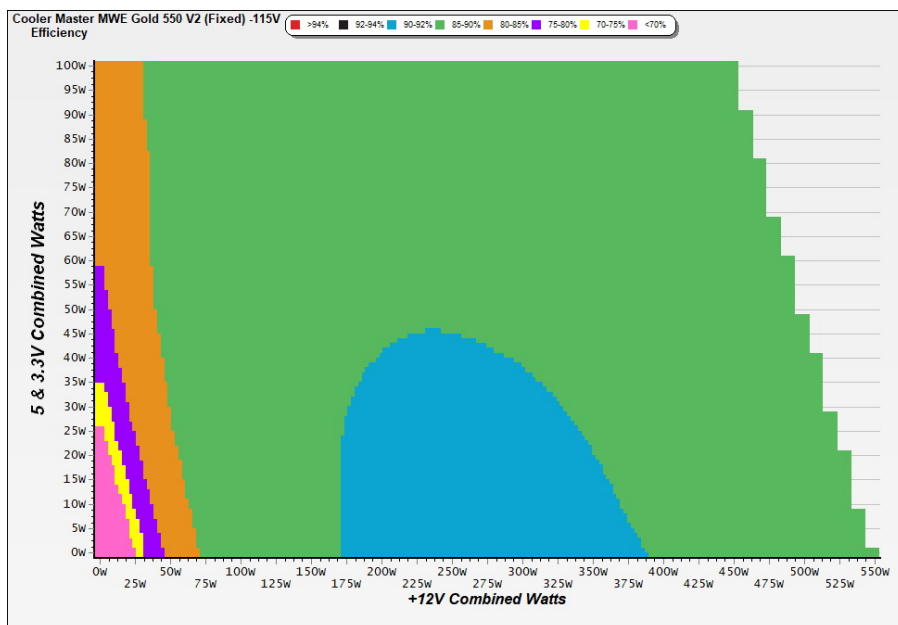
115V

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 6/16

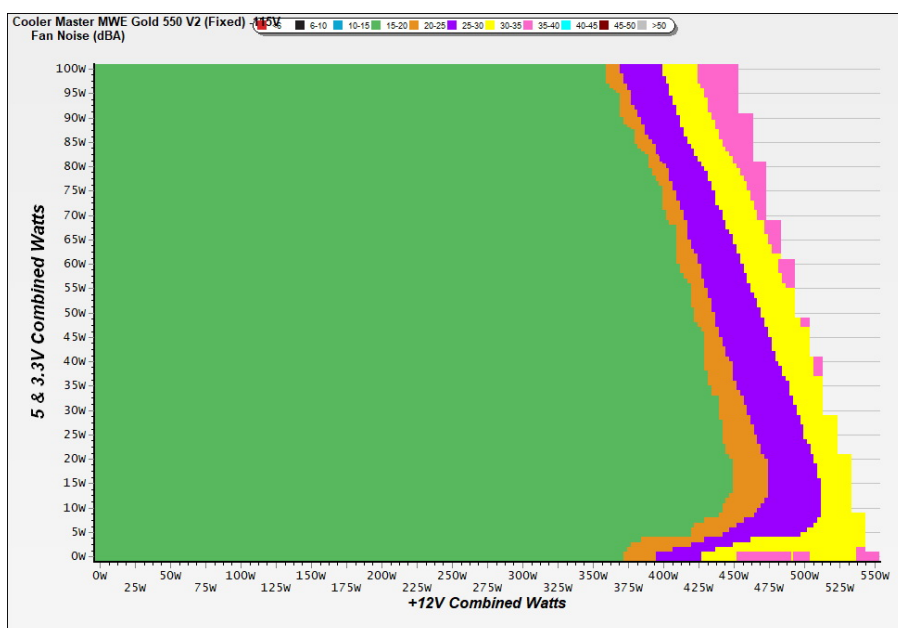
EFFICIENCY GRAPH 115V



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

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

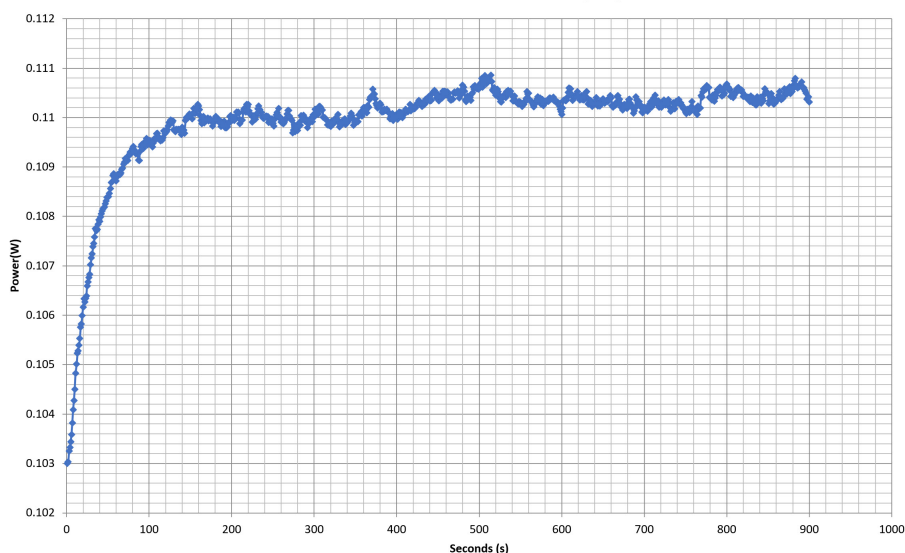
- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

VAMPIRE POWER -115V

Power - MPE5501ACAAGU21205200002 - 24/05/2021 - 11:47



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

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 8/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

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	2.730A	1.983A	1.971A	0.983A	54.969	81.416%	856	18.8	40.07°C	0.951
	12.226V	5.041V	3.346V	5.087V	67.516				44.39°C	115.12V
2	6.476A	2.977A	2.962A	1.183A	110.041	86.867%	855	18.8	40.71°C	0.981
	12.221V	5.037V	3.342V	5.075V	126.678				45.70°C	115.12V
3	10.559A	3.477A	3.458A	1.383A	165.041	88.869%	858	18.6	41.46°C	0.988
	12.216V	5.034V	3.339V	5.064V	185.712				47.29°C	115.12V
4	14.645A	3.976A	3.959A	1.584A	220.051	89.526%	859	18.6	41.81°C	0.987
	12.212V	5.030V	3.335V	5.053V	245.796				48.27°C	115.12V
5	18.393A	4.974A	4.954A	1.786A	275.049	89.550%	863	18.7	42.34°C	0.989
	12.208V	5.027V	3.331V	5.040V	307.145				49.54°C	115.12V
6	22.146A	5.974A	5.951A	1.989A	330.054	89.320%	870	18.9	42.67°C	0.991
	12.203V	5.023V	3.327V	5.028V	369.517				50.68°C	115.11V
7	25.910A	6.977A	6.953A	2.194A	385.145	88.858%	1379	32.6	43.38°C	0.992
	12.197V	5.018V	3.323V	5.016V	433.440				51.63°C	115.11V
8	29.675A	7.982A	7.957A	2.399A	440.185	88.236%	1655	37.9	43.44°C	0.994
	12.191V	5.013V	3.318V	5.003V	498.875				52.29°C	115.11V
9	33.822A	8.485A	8.448A	2.403A	494.698	87.688%	1666	38.2	44.60°C	0.994
	12.187V	5.010V	3.314V	4.995V	564.158				53.85°C	115.11V
10	37.778A	8.992A	8.970A	3.016A	549.924	86.938%	1668	38.1	45.24°C	0.995
	12.182V	5.006V	3.310V	4.976V	632.545				55.27°C	115.10V
11	42.322A	8.996A	8.982A	3.020A	605.129	86.238%	1675	38.3	46.87°C	0.996
	12.178V	5.004V	3.308V	4.968V	701.699				57.81°C	115.10V
CL1	0.118A	12.003A	11.999A	0.000A	101.762	83.049%	859	18.6	42.25°C	0.981
	12.214V	5.027V	3.332V	5.079V	122.533				49.72°C	115.13V
CL2	45.847A	1.001A	1.001A	1.000A	572.294	87.653%	1673	38.3	45.49°C	0.995
	12.191V	5.018V	3.321V	5.026V	652.907				55.03°C	115.11V

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 9/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

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	1.215A	0.495A	0.491A	0.196A	20.000	68.011%	847	19.5	0.837
	12.228V	5.045V	3.351V	5.108V	29.407				115.12V
2	2.428A	0.992A	0.986A	0.392A	39.989	78.421%	851	19.4	0.924
	12.226V	5.043V	3.348V	5.101V	50.993				115.12V
3	3.646A	1.488A	1.479A	0.589A	60.019	82.800%	853	19.1	0.957
	12.224V	5.041V	3.347V	5.094V	72.487				115.12V
4	4.858A	1.983A	1.972A	0.786A	79.970	85.101%	853	19.1	0.971
	12.223V	5.040V	3.345V	5.088V	93.971				115.12V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	11.40mV	12.80mV	18.50mV	7.50mV	Pass
20% Load	15.50mV	13.20mV	20.20mV	7.90mV	Pass
30% Load	20.00mV	12.20mV	16.90mV	8.00mV	Pass
40% Load	22.30mV	13.40mV	17.10mV	8.20mV	Pass
50% Load	24.30mV	13.50mV	19.60mV	8.90mV	Pass
60% Load	24.80mV	15.50mV	19.60mV	9.30mV	Pass
70% Load	26.50mV	16.10mV	21.90mV	9.80mV	Pass
80% Load	29.90mV	17.00mV	23.40mV	10.60mV	Pass
90% Load	32.50mV	18.70mV	30.30mV	11.30mV	Pass
100% Load	48.10mV	20.00mV	33.00mV	12.20mV	Pass
110% Load	52.40mV	20.90mV	35.80mV	12.60mV	Pass
Crossload1	24.00mV	18.00mV	25.80mV	9.60mV	Pass
Crossload2	49.40mV	20.60mV	29.50mV	11.90mV	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 10/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

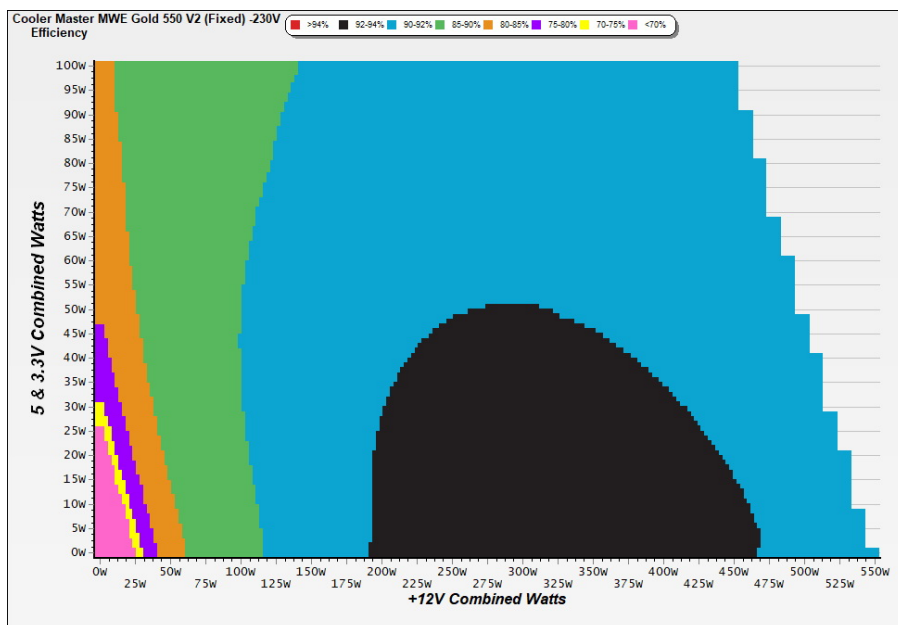
230V

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 11/16

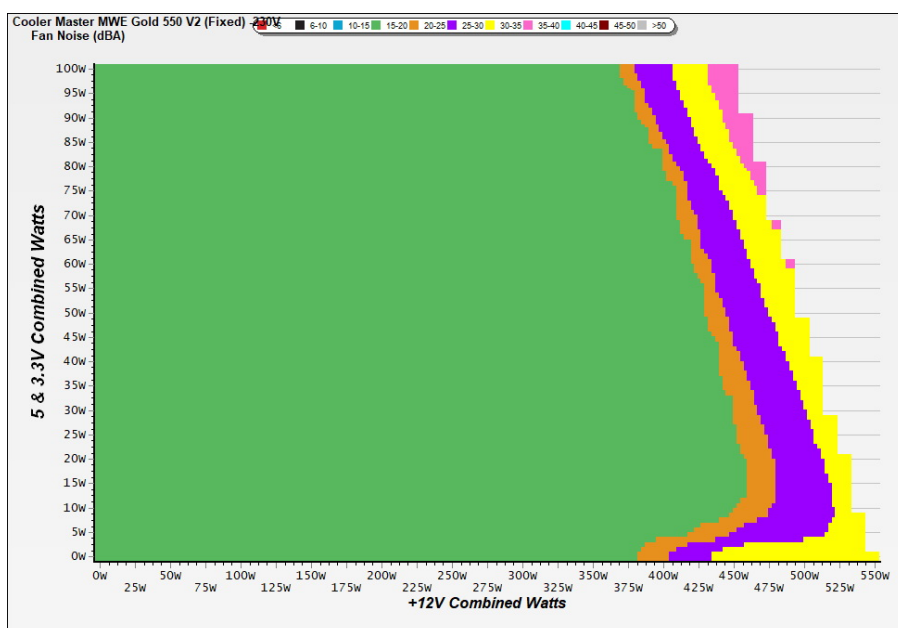
EFFICIENCY GRAPH 230V



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

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

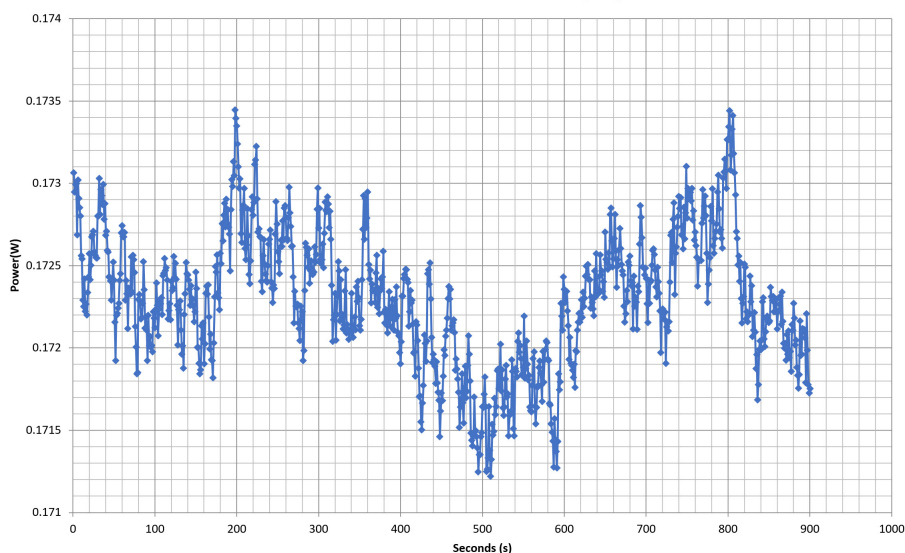
- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

VAMPIRE POWER -230V

Power - MPE5501ACAAGU21205200002 - 24/05/2021 - 11:47



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

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 13/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

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	2.729A	1.984A	1.972A	0.983A	54.968	82.804%	856	18.8	40.31°C	0.733
	12.227V	5.041V	3.346V	5.086V	66.383				44.50°C	230.27V
2	6.476A	2.977A	2.961A	1.183A	110.037	88.551%	858	18.6	40.90°C	0.867
	12.221V	5.037V	3.342V	5.074V	124.264				45.67°C	230.27V
3	10.558A	3.477A	3.460A	1.383A	165.037	90.556%	859	18.6	41.24°C	0.924
	12.216V	5.034V	3.339V	5.064V	182.248				46.65°C	230.26V
4	14.644A	3.975A	3.958A	1.584A	220.044	91.375%	861	18.7	41.62°C	0.947
	12.213V	5.030V	3.335V	5.052V	240.813				47.64°C	230.26V
5	18.392A	4.975A	4.954A	1.786A	275.037	91.601%	861	18.7	42.05°C	0.960
	12.208V	5.026V	3.331V	5.040V	300.256				48.85°C	230.26V
6	22.144A	5.975A	5.953A	1.989A	330.037	91.588%	876	20.9	42.54°C	0.969
	12.203V	5.022V	3.327V	5.028V	360.351				50.15°C	230.26V
7	25.908A	6.977A	6.955A	2.194A	385.120	91.330%	1389	32.9	43.39°C	0.974
	12.197V	5.018V	3.322V	5.016V	421.679				51.52°C	230.25V
8	29.673A	7.982A	7.954A	2.399A	440.159	90.934%	1657	37.9	43.84°C	0.979
	12.191V	5.014V	3.318V	5.003V	484.044				52.88°C	230.25V
9	33.816A	8.485A	8.449A	2.403A	494.670	90.665%	1665	38.1	44.72°C	0.981
	12.188V	5.010V	3.315V	4.995V	545.599				54.31°C	230.25V
10	37.776A	8.993A	8.971A	3.015A	549.902	90.240%	1671	38.3	45.69°C	0.982
	12.182V	5.006V	3.310V	4.976V	609.375				55.73°C	230.25V
11	42.310A	8.996A	8.978A	3.019A	605.001	89.929%	1676	38.3	47.20°C	0.985
	12.179V	5.003V	3.308V	4.969V	672.757				57.95°C	230.25V
CL1	0.118A	12.002A	11.999A	0.000A	101.732	84.655%	860	18.6	42.40°C	0.862
	12.215V	5.025V	3.332V	5.080V	120.172				48.94°C	230.26V
CL2	45.843A	1.000A	1.002A	1.000A	572.244	91.071%	1671	38.3	45.22°C	0.983
	12.191V	5.018V	3.321V	5.027V	628.351				55.26°C	230.25V

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 14/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)

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	1.215A	0.494A	0.493A	0.196A	20.002	68.491%	851	19.4	0.524
	12.228V	5.045V	3.350V	5.108V	29.204				230.28V
2	2.428A	0.992A	0.986A	0.392A	39.991	79.545%	850	19.4	0.665
	12.227V	5.043V	3.348V	5.101V	50.275				230.28V
3	3.646A	1.488A	1.479A	0.589A	60.021	84.240%	854	18.9	0.751
	12.225V	5.041V	3.346V	5.094V	71.250				230.28V
4	4.858A	1.982A	1.974A	0.786A	79.970	86.666%	857	18.6	0.809
	12.223V	5.040V	3.345V	5.087V	92.274				230.27V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.50mV	12.30mV	18.10mV	7.50mV	Pass
20% Load	16.90mV	13.50mV	20.00mV	7.70mV	Pass
30% Load	21.00mV	12.10mV	17.60mV	7.80mV	Pass
40% Load	24.50mV	13.10mV	18.10mV	8.20mV	Pass
50% Load	27.30mV	13.40mV	19.50mV	8.70mV	Pass
60% Load	25.10mV	14.60mV	20.70mV	9.20mV	Pass
70% Load	28.20mV	16.00mV	21.60mV	9.70mV	Pass
80% Load	31.40mV	17.00mV	25.20mV	10.00mV	Pass
90% Load	34.30mV	18.60mV	30.60mV	10.80mV	Pass
100% Load	49.50mV	20.30mV	32.80mV	11.70mV	Pass
110% Load	54.80mV	21.50mV	35.20mV	12.50mV	Pass
Crossload1	25.50mV	19.00mV	25.70mV	9.10mV	Pass
Crossload2	49.70mV	19.90mV	29.30mV	11.90mV	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 15/16

Anex

Cooler Master MWE Gold 550 V2 (Fixed)



Top side

550W

MOD Switch

AC INPUT	100-240V~, 10-5A, 50-60Hz				
交流輸入/交流輸入	200-240V~, 6A, 50-60Hz, 适用于中国地区使用				
DC OUTPUT	+5V	+3.3V	+12V	-12V	+5VSB
直流輸出/直流輸出	20A	20A	45.8A	0.3A	3A
TOTAL POWER	100W	549.6W	3.6W	15W	
總功率/总功率	550W				

Power specifications label

CERTIFICATIONS 115V



CERTIFICATIONS 230V



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