Make It Yours.

Cooler Master MWE Gold 1050 V2 (ATX v3.0)

MPEA501AFCAG3U22224200003

Lab ID CM10502148

Certification ID 252148

Test Result Report ID: 23PS2148A

Certificate Issue Date: Mar 15, 2023

115V 230V

Scheme: ETA-EMI PSU





115V 230V





Scheme: LAMBDA PSU



Outside Validation Scope



General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Cooler Master
Model	MWE Gold 1050 V2 (ATX v3.0)
OEM/ODM	Xin Hui Yuan Tech (Fusion Power)
Serial Number	MPEA501AFCAG3U22224200003
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	13-6

□□□□ (Hz)	50-60
□□□□ (W)	1050
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	140mm Fluid Dynamic Bearing Fan (HA1425H12F-Z)
□□□□□	✓
Cybenetics Testing Information	
Lab ID	CM10502148
Date of receipt	Jan 18, 2023
Testing Date	Mar 7, 2023
Report Issued Date	Mar 15, 2023
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□				
□□	□□□□	□□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (650mm)	1	1	18AWG	□
4+4 pin EPS 12V □□ (650mm)	1	1	18AWG	□
8 pin EPS 12V □□ (650mm)	1	1	18AWG	□
6+2pin PCIe□□ (550mm)	3	3	16AWG	□
12+4 pin PCIe (650mm) (600W)	1	1	16-28AWG	□
SATA□□ (510mm+120mm+120mm+120mm)	3	12	18AWG	□
□ 4pin Molex□□ (500mm+120mm+120mm+120mm)	1	4	18AWG	□

AC Power Cord (1390mm) - C13 coupler	1	1	14AWG	-

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	20	20	87.5	3	0.3
	□	120		1050	15	3.6
□□□□□ (W)		1050				

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.0 Compliance	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	89.022%
Average Noise Output (>1450 Load Combinations)	38.46dBA
PF□□□ (>1450 Load Combinations)	0.979
Efficiency With 10W (≤500W) or 2% (>500W) Load	68.800%
□□□□□□	0.0112W
Non-Accredited	
12V Ripple (Full Load)	25.05mV
5V Ripple (Full Load)	9.04mV
3.3V Ripple (Full Load)	10.31mV

5VSB Ripple (Full Load)	13.18mV
12V Load Regulation	0.24%
5V Load Regulation	0.54%
3.3V Load Regulation	1.19%
5VSB Load Regulation	2.53%
Inrush Current	62.720A

230V

Accredited		
□□□□ (>1450 load combinations)		91.098%
Average Noise Output (>1450 Load Combinations)		38.57dBA
PF□□□ (>1450 Load Combinations)		0.957
Efficiency With 10W (≤500W) or 2% (>500W) Load		71.891%
□□□□□□		0.1040W
Non-Accredited		
12V Ripple (Full Load)		24.27mV
5V Ripple (Full Load)		8.69mV
3.3V Ripple (Full Load)		10.40mV
5VSB Ripple (Full Load)		12.36mV
12V Load Regulation		0.53%
5V Load Regulation		0.54%
3.3V Load Regulation		1.12%
5VSB Load Regulation		2.51%
Inrush Current		58.480A
12V Transient Response (200%)		11.12V
5V Transient Response (200%)		4.919V
3.3V Transient Response (200%)		3.224V
5VSB Transient Response (200%)		4.917V
□□□□ & PG□□		28.80ms
AC Loss to PWR_OK Hold Up Time		25.60ms
PWR_OK Inactive to DC Loss Delay		3.20ms
PSU Timings: T1 (20% / 100%)	84.0ms	79.0ms

PSU Timings: T3 (20% / 100%)	134.0ms	134.0ms
OPP (29.73°C / 44.08°C)	135.71%	127.32%

□□□□ & PG□□

Hold-Up Time (ms)	28.8
AC Loss to PWR_OK Hold Up Time (ms)	25.6
PWR_OK Inactive to DC Loss Delay (ms)	3.2

□□□□

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.93 V	114.88 V	113.85 V	114.97 V	116.15 V	PASS
Mains Frequency:	60.01 Hz	59.99 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.418	1.417	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.15 %	0.12 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.011 W	0.009 W	N/A	0.013 W	N/A	N/A
Apparent Power:	6.876 W	6.854 W	N/A	6.896 W	N/A	N/A
Power Factor:	0.001	N/A	N/A	N/A	N/A	N/A

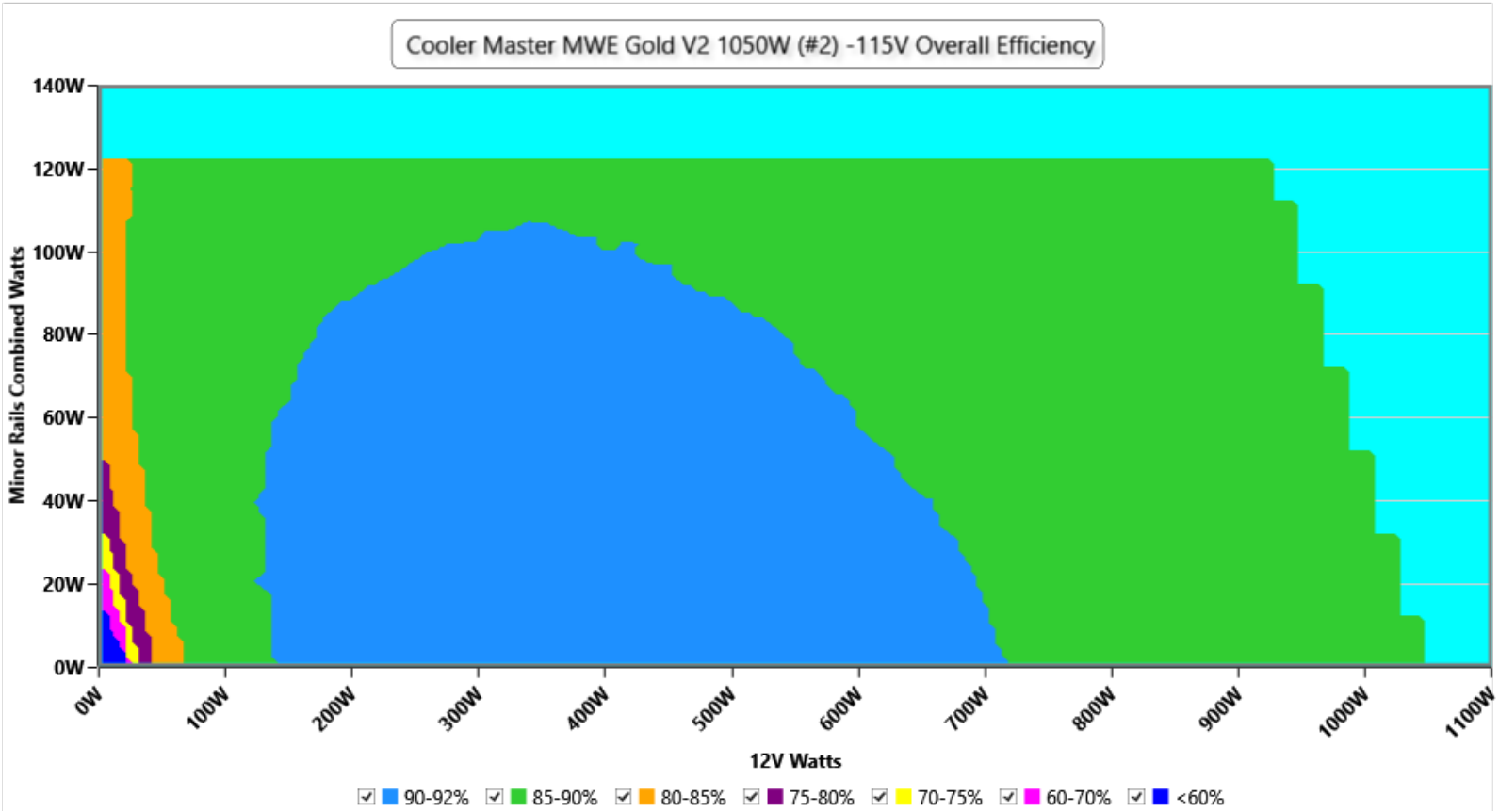
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.89 V	229.85 V	227.70 V	229.96 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.417	1.490	PASS

Mains Voltage THD:	0.17 %	0.15 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.104 W	0.082 W	N/A	0.132 W	N/A	N/A
Apparent Power:	24.361 W	24.333 W	N/A	24.394 W	N/A	N/A
Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

□□□□□□

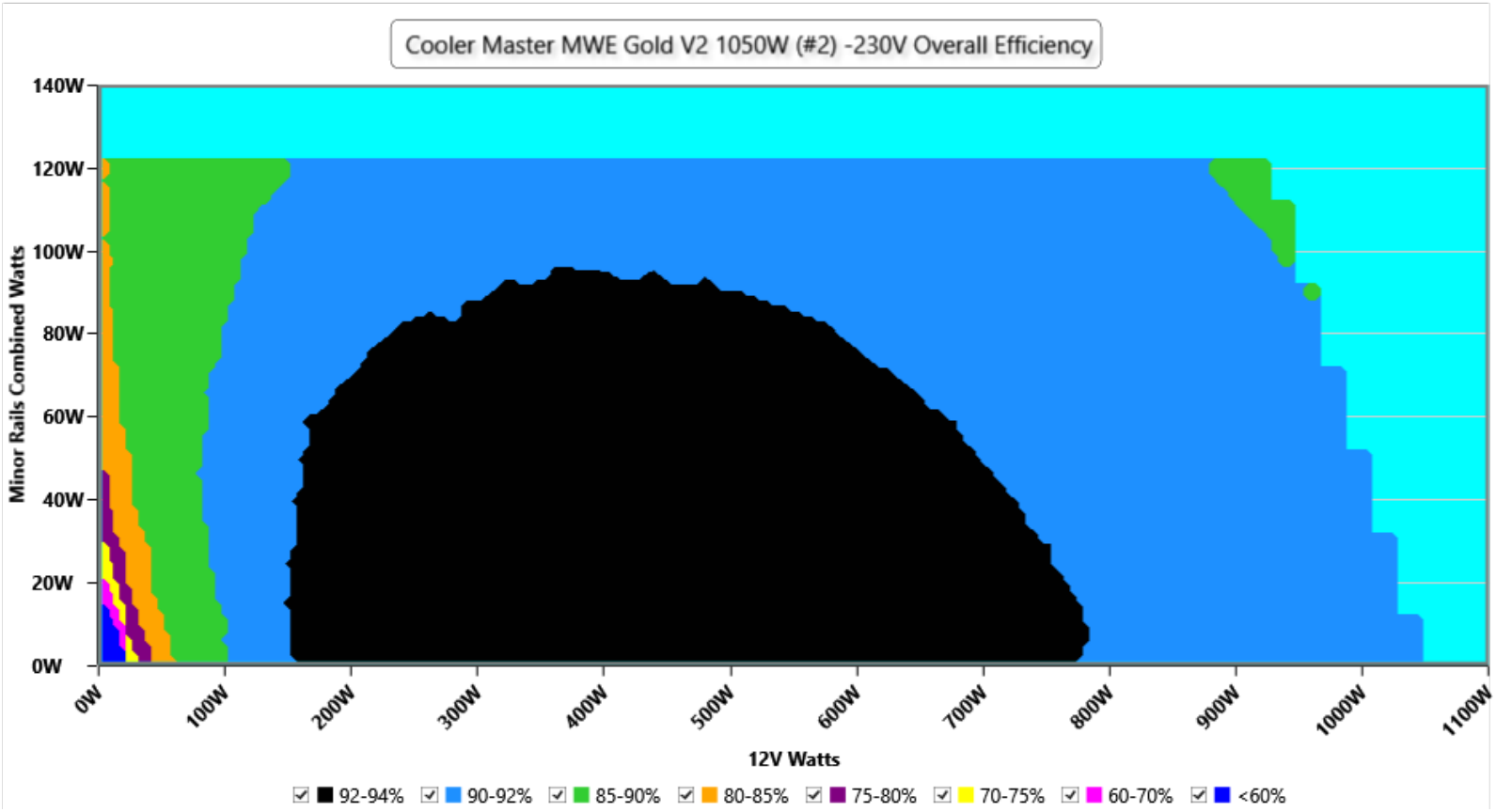
115V



□□

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

230V



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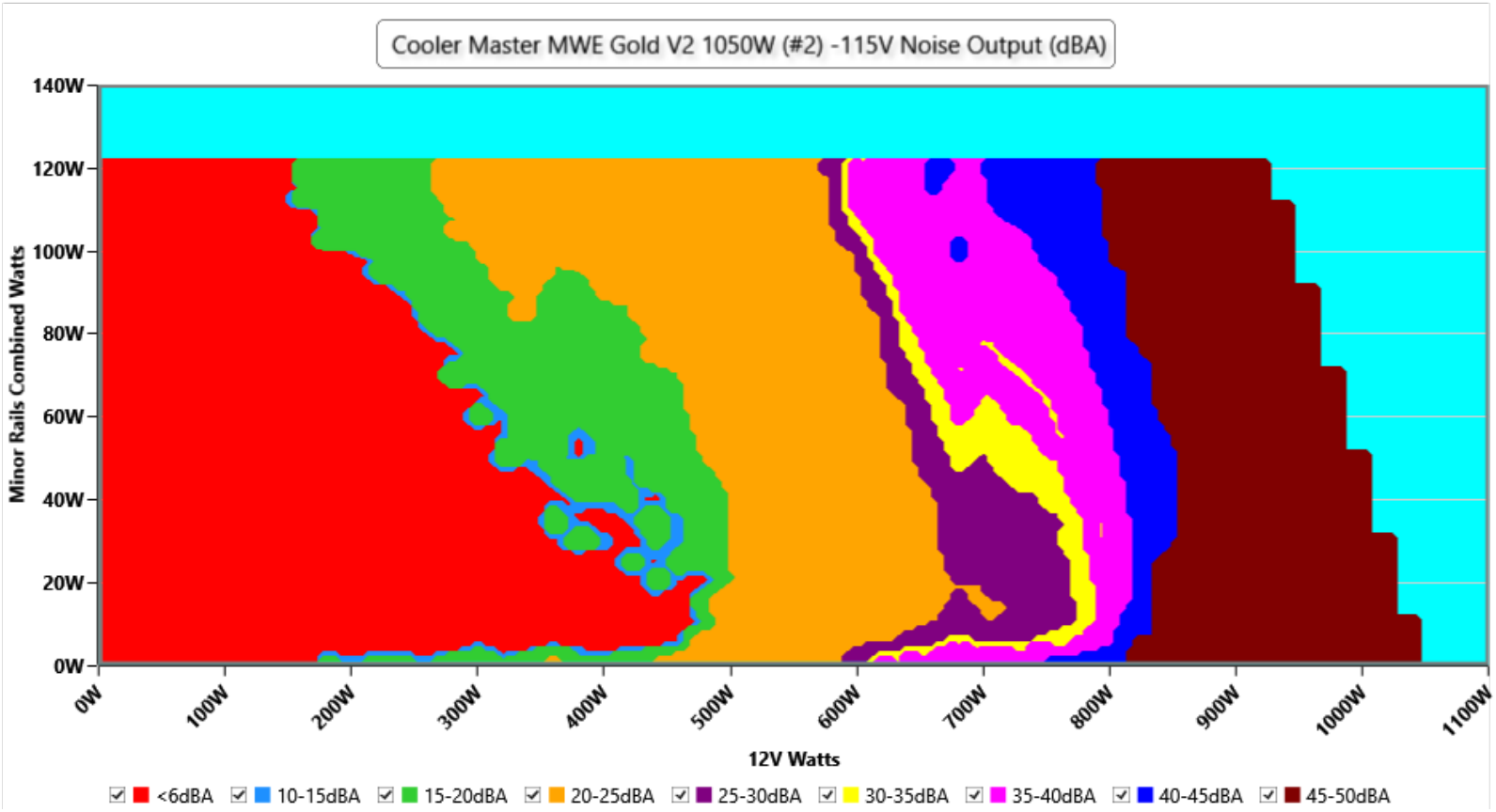
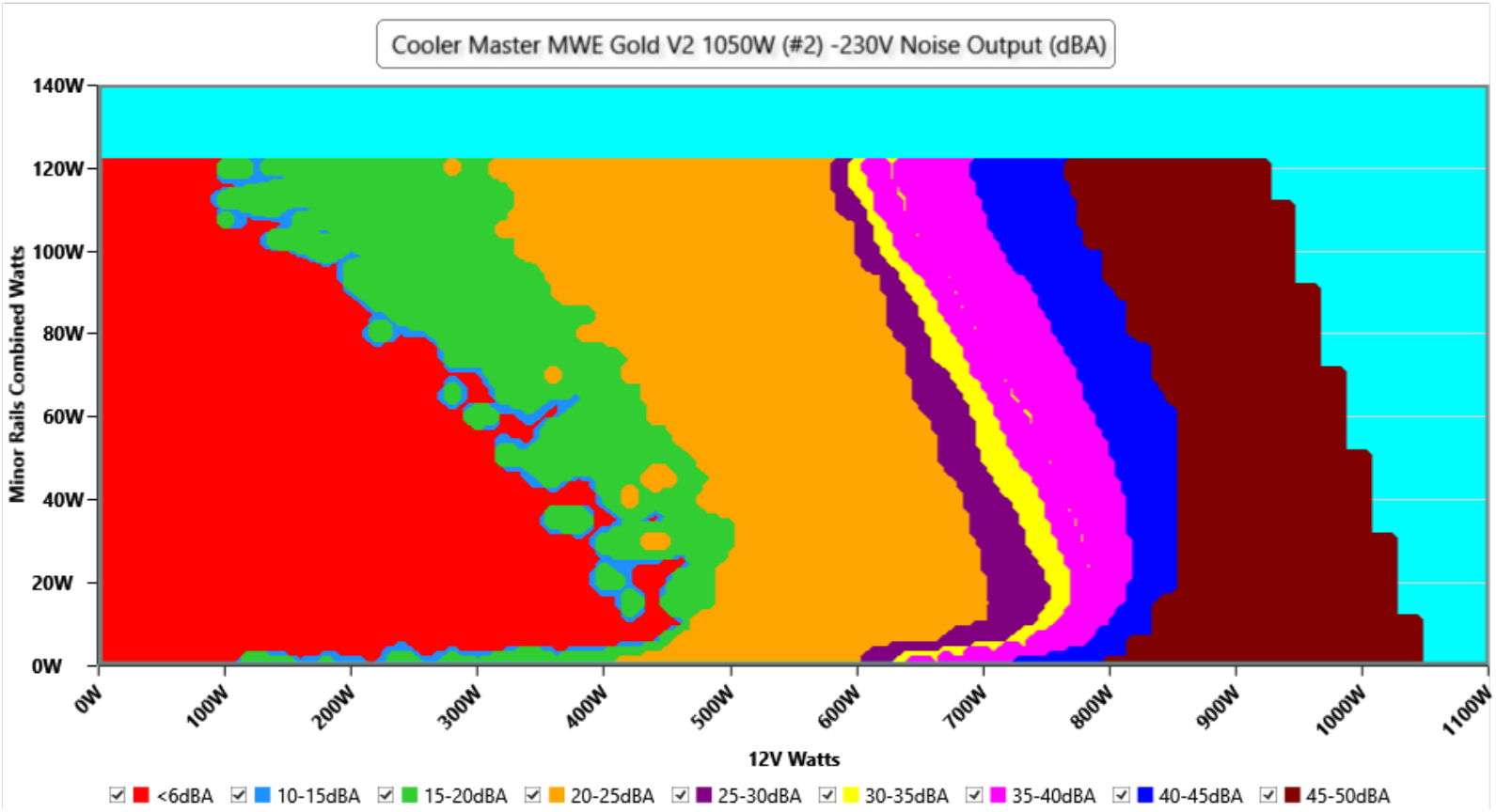
115V



□□

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

230V



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

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.3 °C	0 RPM · <6.0 dB(A) · 44.3 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.0 °C	0 RPM · <6.0 dB(A) · 45.0 °C	fan off in both
50%	841 RPM · 23.0 dB(A) · 42.5 °C	841 RPM · 23.0 dB(A) · 42.5 °C	**+0.0 dB(A)**
100%	2004 RPM · 46.7 dB(A) · 46.2 °C	2004 RPM · 46.7 dB(A) · 46.2 °C	**+0.0 dB(A)**

230V

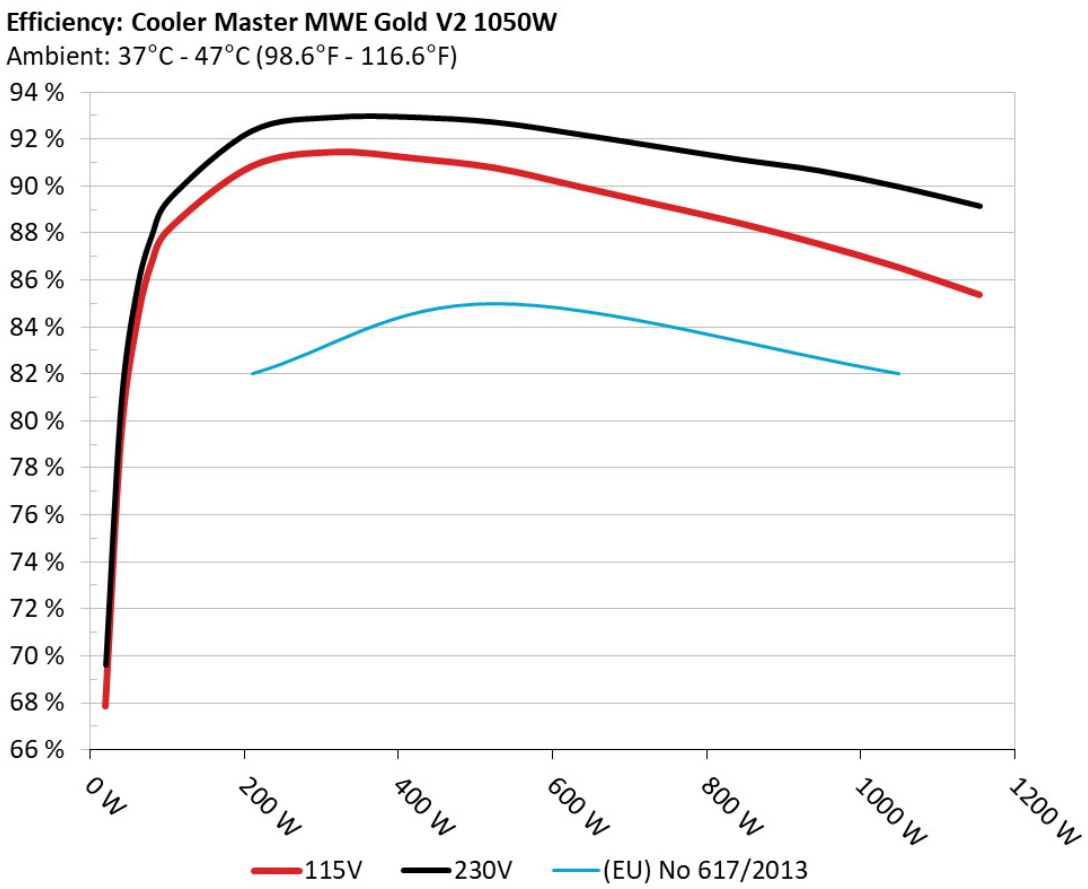
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.6 °C	0 RPM · <6.0 dB(A) · 44.6 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 44.9 °C	0 RPM · <6.0 dB(A) · 44.9 °C	fan off in both
50%	830 RPM · 25.0 dB(A) · 42.4 °C	830 RPM · 25.0 dB(A) · 42.4 °C	**+0.0 dB(A)**
100%	2004 RPM · 46.7 dB(A) · 45.9 °C	2004 RPM · 46.7 dB(A) · 45.9 °C	**+0.0 dB(A)**

INFO

Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter, with the fan stopped; with the fan stopped, the intake sensor can read higher than the chamber air.

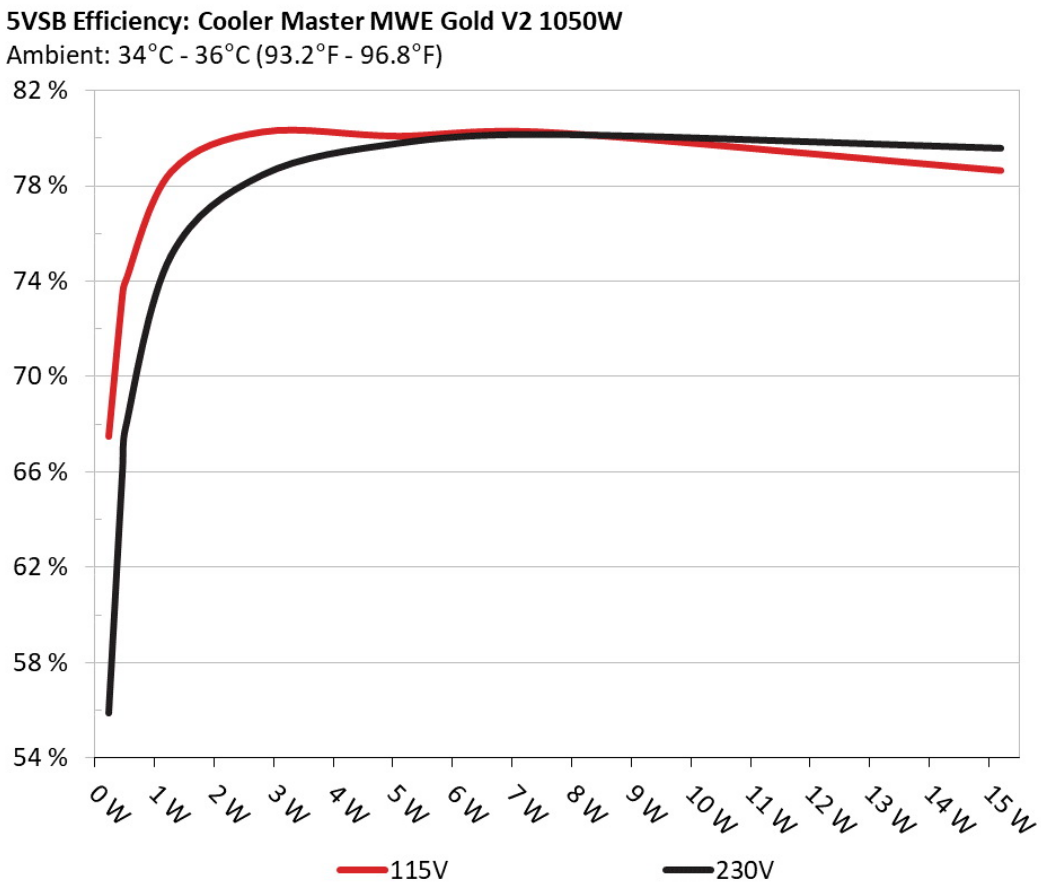
Informational. Not part of the ETA or LAMBDA rating.

Indicative Performance



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□□□□



□□

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC)

115V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.23W	67.995%	0.048
	5.113V	0.338W		114.93V
2	0.09A	0.46W	73.934%	0.086
	5.112V	0.622W		114.93V
3	0.55A	2.807W	80.755%	0.325
	5.104V	3.476W		114.94V
4	1A	5.096W	80.578%	0.412
	5.097V	6.324W		114.94V
5	1.5A	7.633W	80.733%	0.45
	5.089V	9.455W		114.93V
6	3A	15.188W	79.138%	0.505
	5.063V	19.192W		114.93V

230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.23W	56.377%	0.017
	5.112V	0.408W		229.9V
2	0.09A	0.46W	66.572%	0.028
	5.111V	0.692W		229.9V
3	0.55A	2.807W	78.959%	0.135
	5.103V	3.555W		229.89V
4	1A	5.096W	80.289%	0.215
	5.096V	6.347W		229.89V
5	1.5A	7.633W	80.654%	0.279
	5.088V	9.464W		229.9V
6	3A	15.188W	80.079%	0.373
	5.063V	18.967W		229.89V

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	6.948A	1.989A	1.983A	0.983A	104.944	88.244%	0	<6.0	44.27°C	0.953
	11.996V	5.026V	3.328V	5.088V	118.919				40.22°C	114.91V
20%	14.916A	2.986A	2.979A	1.182A	209.936	90.843%	0	<6.0	45.02°C	0.968
	12.003V	5.023V	3.323V	5.077V	231.103				40.61°C	114.89V
30%	23.238A	3.486A	3.479A	1.382A	314.953	91.45%	0	<6.0	47.87°C	0.972
	12.002V	5.021V	3.319V	5.066V	344.396				43.06°C	114.85V
40%	31.533A	3.985A	3.98A	1.582A	419.612	91.187%	813	24	42.06°C	0.978
	12.000V	5.018V	3.316V	5.055V	460.164				47.07°C	114.84V
50%	39.544A	4.985A	4.981A	1.784A	524.936	90.777%	841	23	42.47°C	0.982
	11.998V	5.015V	3.312V	5.044V	578.271				47.96°C	114.82V
60%	47.493A	5.986A	5.985A	1.987A	629.476	90.016%	1760	42.4	42.96°C	0.985
	11.995V	5.012V	3.308V	5.033V	699.3				49.01°C	114.79V
70%	55.513A	6.989A	6.991A	2.191A	734.817	89.229%	1954	45.1	43.39°C	0.987
	11.992V	5.009V	3.304V	5.022V	823.52				50.49°C	114.76V
80%	63.532A	7.993A	7.998A	2.295A	839.635	88.449%	1973	45.3	43.97°C	0.989
	11.990V	5.006V	3.3V	5.012V	949.301				52.01°C	114.73V
90%	71.951A	8.496A	8.493A	2.399A	945.015	87.544%	1989	45.8	45.33°C	0.99
	11.988V	5.003V	3.296V	5.002V	1079.477				54.35°C	114.7V
100%	80.099A	9.001A	9.022A	3.011A	1049.846	86.532%	2004	46.7	46.2°C	0.991
	11.987V	5.001V	3.291V	4.983V	1213.262				56.25°C	114.66V
110%	88.119A	10.006A	10.129A	3.016A	1154.481	85.37%	2015	46.8	47.03°C	0.992
	11.986V	4.998V	3.287V	4.974V	1352.33				58°C	114.63V
CL1	0.117A	14.413A	14.373A	0A	121.313	82.816%	851	23.8	42.33°C	0.962
	12.002V	5.01V	3.318V	5.091V	146.491				47.84°C	114.9V

CL2	0.116A	19.996A	0A	0A	101.419	81.57%	471	16.1	37.77°C	0.953
	12.001V	5.002V	3.319V	5.1V	124.343				45.01°C	114.9V
CL3	0.116A	0A	19.903A	0A	67.384	76.703%	737	23	42.06°C	0.943
	11.997V	5.026V	3.316V	5.095V	87.854				51.08°C	114.91V
CL4	87.546A	0A	0A	0A	1049.805	86.892%	2001	46.5	45.8°C	0.991
	11.992V	5.01V	3.291V	5.043V	1208.193				56.69°C	114.66V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	6.950A	1.991A	1.983A	0.983A	104.982	89.522%	0	<6.0	44.57°C	0.886
	11.998V	5.024V	3.329V	5.086V	117.264				40.48°C	229.88V
20%	14.918A	2.988A	2.978A	1.182A	209.988	92.347%	0	<6.0	44.85°C	0.939
	12.004V	5.021V	3.325V	5.075V	227.38				40.54°C	229.86V
30%	23.243A	3.488A	3.477A	1.382A	315.02	92.919%	458	14.2	41.05°C	0.955
	12.002V	5.018V	3.322V	5.065V	339.011				45.81°C	229.85V
40%	31.547A	3.988A	3.978A	1.583A	419.741	92.924%	814	24	42.18°C	0.964
	11.999V	5.016V	3.319V	5.055V	451.7				47.27°C	229.84V
50%	39.558A	4.988A	4.978A	1.785A	525.047	92.709%	830	25	42.36°C	0.97
	11.996V	5.013V	3.315V	5.044V	566.337				47.82°C	229.82V
60%	47.509A	5.99A	5.981A	1.987A	629.589	92.221%	1652	43.5	42.92°C	0.974
	11.993V	5.01V	3.311V	5.033V	682.707				49.01°C	229.82V
70%	55.529A	6.993A	6.987A	2.191A	734.922	91.679%	1951	45.2	43°C	0.976
	11.990V	5.007V	3.307V	5.021V	801.618				50.04°C	229.8V
80%	63.546A	7.998A	7.995A	2.296A	839.789	91.138%	1981	45.6	45.57°C	0.978
	11.989V	5.004V	3.302V	5.011V	921.445				53.62°C	229.79V
90%	71.970A	8.5A	8.488A	2.4A	945.065	90.654%	1988	45.8	44.34°C	0.981
	11.985V	5.001V	3.299V	5.002V	1042.497				53.37°C	229.78V
100%	80.120A	9.006A	9.016A	3.011A	1049.933	89.962%	2004	46.7	45.89°C	0.983
	11.985V	4.998V	3.294V	4.982V	1167.093				56.01°C	229.76V

110%	88.142A	10.012A	10.123A	3.017A	1154.595	89.141%	2011	46.9	47.15°C	0.984
	11.984V	4.995V	3.289V	4.972V	1295.248				58.08°C	229.75V
CL1	0.117A	14.421A	14.364A	0A	121.326	83.938%	1191	35.3	45.18°C	0.909
	12.002V	5.008V	3.32V	5.09V	144.55				50.64°C	229.88V
CL2	0.117A	20.005A	0A	0A	101.419	82.691%	818	25.5	43.44°C	0.892
	12.000V	5V	3.32V	5.099V	122.658				50.45°C	229.87V
CL3	0.117A	0A	19.897A	0A	67.388	77.795%	816	24.7	42.47°C	0.85
	11.997V	5.023V	3.317V	5.094V	86.618				51.51°C	229.88V
CL4	87.566A	0A	0A	0A	1049.89	90.275%	2009	46.7	47.06°C	0.983
	11.990V	5.008V	3.293V	5.042V	1162.997				58.01°C	229.77V

The results above are not used in the certification process

20-80□□□□□

115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.236A	0.497A	0.496A	0.196A	19.991	67.839%	0	<6.0	39.63°C	0.882
	12.015V	5.027V	3.325V	5.109V	29.467				36.54°C	114.93V
40W	2.724A	0.696A	0.694A	0.294A	39.993	79.203%	0	<6.0	40.46°C	0.914
	12.000V	5.027V	3.327V	5.105V	50.492				37.1°C	114.92V
60W	4.212A	0.895A	0.892A	0.392A	59.992	84.035%	0	<6.0	41.64°C	0.937
	11.997V	5.028V	3.33V	5.102V	71.392				37.94°C	114.92V
80W	5.694A	1.094A	1.09A	0.49A	79.935	86.735%	0	<6.0	42.03°C	0.947
	11.996V	5.027V	3.329V	5.099V	92.157				38.01°C	114.91V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.240A	0.5A	0.5A	0.2A	20.145	69.608%	0	<6.0	39.61°C	0.621
	12.048V	5.024V	3.324V	5.107V	28.943				36.58°C	229.89V
40W	2.720A	0.7A	0.7A	0.3A	40.061	80.694%	0	<6.0	41.24°C	0.756
	12.013V	5.025V	3.327V	5.103V	49.642				37.93°C	229.88V
60W	4.210A	0.895A	0.892A	0.392A	60.007	85.475%	0	<6.0	42.47°C	0.818
	12.002V	5.025V	3.331V	5.1V	70.204				39°C	229.88V
80W	5.696A	1.095A	1.09A	0.491A	79.969	87.902%	0	<6.0	42.86°C	0.856
	11.999V	5.025V	3.331V	5.097V	90.976				39.06°C	229.88V

The results above are not used in the certification process

□□□□

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	19.78mV	4.54mV	6.70mV	6.34mV	Pass
20% Load	22.54mV	5.52mV	6.75mV	7.37mV	Pass
30% Load	16.81mV	5.62mV	7.16mV	8.65mV	Pass
40% Load	15.89mV	6.43mV	8.85mV	9.62mV	Pass
50% Load	13.58mV	6.13mV	7.93mV	9.83mV	Pass
60% Load	14.51mV	6.79mV	8.49mV	10.64mV	Pass
70% Load	14.81mV	7.56mV	8.28mV	11.51mV	Pass
80% Load	15.38mV	7.46mV	9.77mV	11.51mV	Pass
90% Load	15.53mV	7.30mV	11.10mV	12.03mV	Pass
100% Load	25.05mV	9.04mV	10.31mV	13.18mV	Pass
110% Load	26.35mV	9.52mV	12.26mV	13.26mV	Pass
Crossload1	30.33mV	6.17mV	8.86mV	9.03mV	Pass
Crossload2	20.75mV	5.52mV	6.70mV	8.70mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	5.68mV	4.85mV	10.23mV	8.14mV	Pass
Crossload4	25.02mV	8.01mV	8.93mV	14.04mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.19mV	4.75mV	6.65mV	6.29mV	Pass
20% Load	22.39mV	5.01mV	7.00mV	7.06mV	Pass
30% Load	17.12mV	5.87mV	6.85mV	8.19mV	Pass
40% Load	17.58mV	6.08mV	7.67mV	8.80mV	Pass
50% Load	14.20mV	6.03mV	7.16mV	9.62mV	Pass
60% Load	14.66mV	6.13mV	7.46mV	10.49mV	Pass
70% Load	14.87mV	7.20mV	8.44mV	10.60mV	Pass
80% Load	15.43mV	7.30mV	9.16mV	10.75mV	Pass
90% Load	16.35mV	7.46mV	10.38mV	11.36mV	Pass
100% Load	24.27mV	8.69mV	10.40mV	12.36mV	Pass
110% Load	25.79mV	9.29mV	11.81mV	12.41mV	Pass
Crossload1	34.00mV	6.13mV	10.54mV	9.15mV	Pass
Crossload2	22.60mV	5.16mV	7.42mV	8.85mV	Pass
Crossload3	6.09mV	4.80mV	10.69mV	8.55mV	Pass
Crossload4	25.35mV	7.78mV	8.57mV	13.72mV	Pass

The results above are not used in the certification process





Cooler Master MWE Gold 1050 V2 (ATX v3.0)

Top side

Power specifications label

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