



Make It Yours.

Cooler Master MWE Gold 1250 V2

Serial Number MPEC501AFCAG3EU2243100001

Lab ID CM12502572

Certification ID 252572

Test Result Report ID: 24PS2572A

Certificate Issue Date: Sep 19, 2024

Scheme: ETA-EMI PSU

115V

230V

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 1250 V2
OEM/ODM	Xin Hui Yuan Tech (Fusion Power)
Serial Number	MPEC501AFCAG3EU2243100001
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	7-15

Rated Frequency (Hz)	50-60
Rated Power (W)	1250
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Fluid Dynamic Bearing Fan (HA1425H12B-Z)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	CM12502572
Date of receipt	Sep 4, 2024
Testing Date	Sep 18, 2024
Report Issued Date	Sep 19, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (655mm)	1	1	18AWG	No
4+4 pin EPS12V (655mm)	1	1	18AWG	No
8 pin EPS12V (655mm)	1	1	18AWG	No
6+2 pin PCIe (550mm)	3	3	16AWG	No
12+4 pin PCIe (655mm) (600W)	1	1	16-28AWG	No
SATA (510mm+120mm+120mm+120mm)	3	12	18AWG	No
4-pin Molex (500mm+120mm+120mm+120mm)	1	4	18AWG	No

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

Over Power Protection	✓
Over Current (+12V) Protection	✓
Over Temperature Protection	✓
Short Circuit Protection	✓
Surge Protection	✓
Inrush Current Protection	✓
Fan Failure Protection	✗

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	104	3	0.3
	Watts	120		1250	15	3.6
Total Max. Power (W)		1250				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	88.843%
Average Noise Output (>1450 Load Combinations)	17.83dBA
Average PF (>1450 Load Combinations)	0.985
Efficiency With 10W ($\leq 500W$) or 2% (>500W) Load	73.482%
Standby Power Consumption	0.0391W
Non-Accredited	
12V Ripple (Full Load)	38.22mV
5V Ripple (Full Load)	18.60mV
3.3V Ripple (Full Load)	17.41mV
5VSB Ripple (Full Load)	18.93mV
12V Load Regulation	0.05%
5V Load Regulation	0.44%
3.3V Load Regulation	0.72%
5VSB Load Regulation	2.28%
Inrush Current	61.710A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.415%
Average Noise Output (>1450 Load Combinations)	15.74dBA
Average PF (>1450 Load Combinations)	0.967
Efficiency With 10W ($\leq 500W$) or 2% (>500W) Load	74.554%
Standby Power Consumption	0.0927W
Non-Accredited	
12V Ripple (Full Load)	36.80mV
5V Ripple (Full Load)	17.58mV
3.3V Ripple (Full Load)	16.75mV

5VSB Ripple (Full Load)	17.84mV	
12V Load Regulation	0.05%	
5V Load Regulation	0.46%	
3.3V Load Regulation	0.72%	
5VSB Load Regulation	2.30%	
Inrush Current	114.400A	
12V Transient Response (200%)	11.11V	
5V Transient Response (200%)	4.933V	
3.3V Transient Response (200%)	3.182V	
5VSB Transient Response (200%)	4.789V	
Hold-Up Time & PWR_OK Signal	27.50ms	
AC Loss to PWR_OK Hold Up Time	24.40ms	
PWR_OK Inactive to DC Loss Delay	3.10ms	
PSU Timings: T1 (20% / 100%)	65.0ms	64.0ms
PSU Timings: T3 (20% / 100%)	115.0ms	115.0ms
12V OCP (30.0°C / 43.1°C)	121.80A (117.12%), 12.138V	121.80A (117.12%), 12.141V
5V OCP (30.0°C / 43.1°C)	22.9A (114.50%), 5.029V	22.9A (114.50%), 5.014V
3.3V OCP (30.0°C / 43.1°C)	25.4A (127.00%), 3.323V	25.0A (125.00%), 3.317V
5VSB OCP (30.0°C / 43.1°C)	4.2A (140.00%), 5.057V	4.2A (140.00%), 5.05V
OPP (31.23°C / 42.05°C)	126.46%	121.42%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	27.5
AC Loss to PWR_OK Hold Up Time (ms)	24.4
PWR_OK Inactive to DC Loss Delay (ms)	3.1

Stromverbrauch im Ruhezustand

Tables

115V

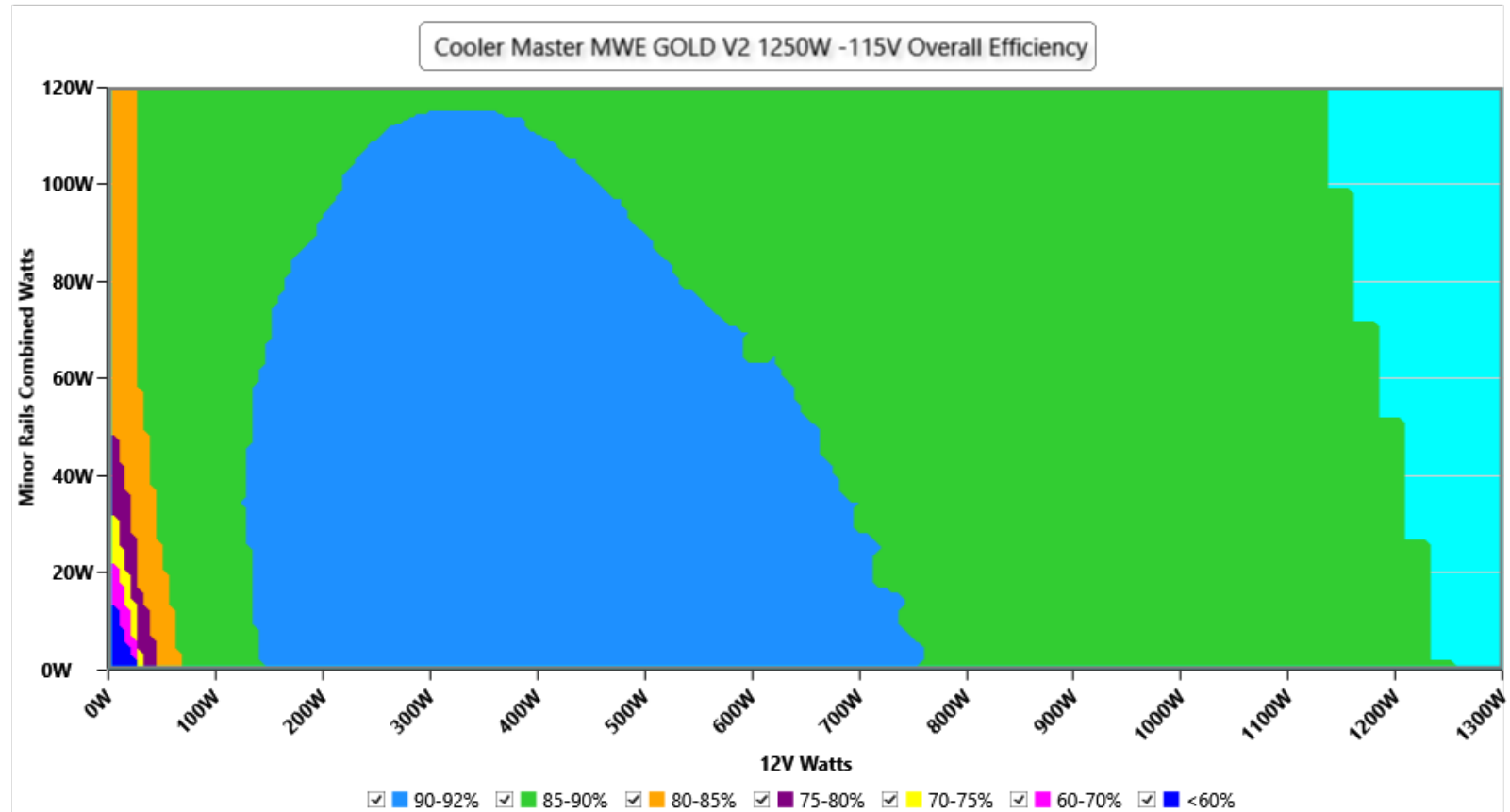
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.08 V	115.04 V	113.85 V	115.12 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.97 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.039 W	-0.010 W	N/A	0.083 W	N/A	N/A
Apparent Power:	7.302 W	6.727 W	N/A	7.894 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.04 V	230.93 V	227.70 V	231.10 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:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.15 %	N/A	0.27 %	2.00 %	PASS
Real Power:	0.093 W	0.052 W	N/A	0.162 W	N/A	N/A
Apparent Power:	21.977 W	21.297 W	N/A	22.712 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

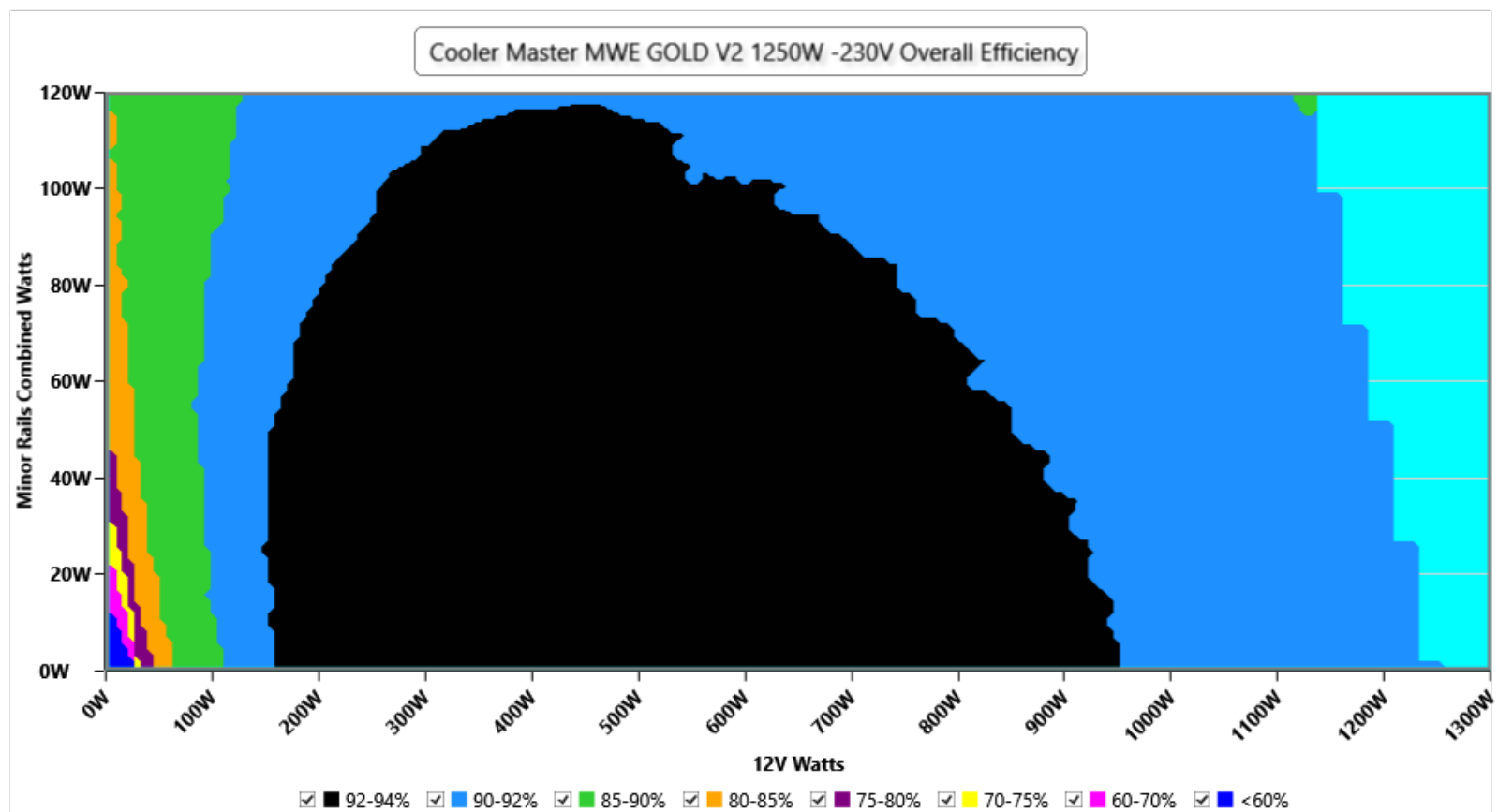
Efficiency Graph

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

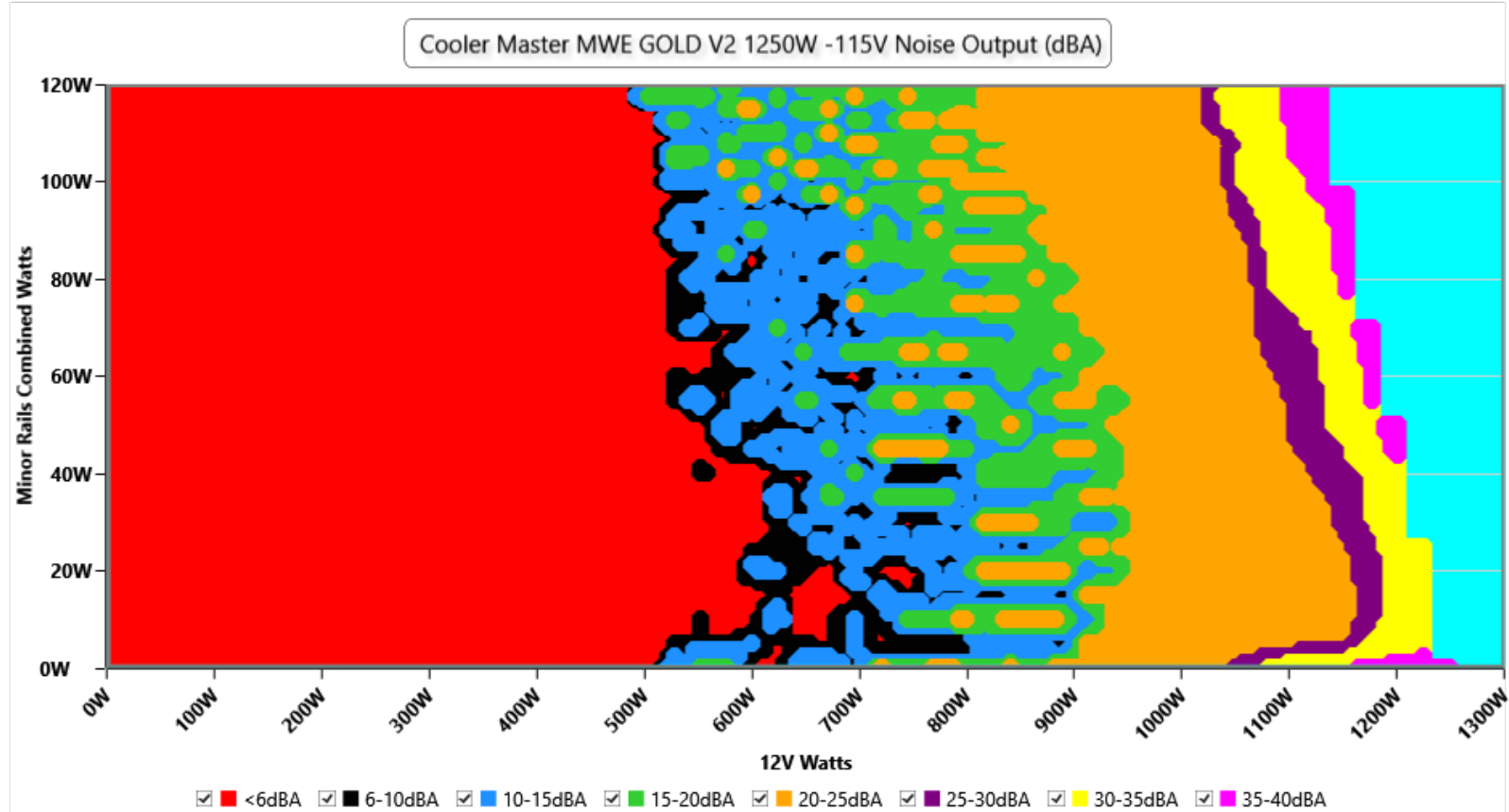


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This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

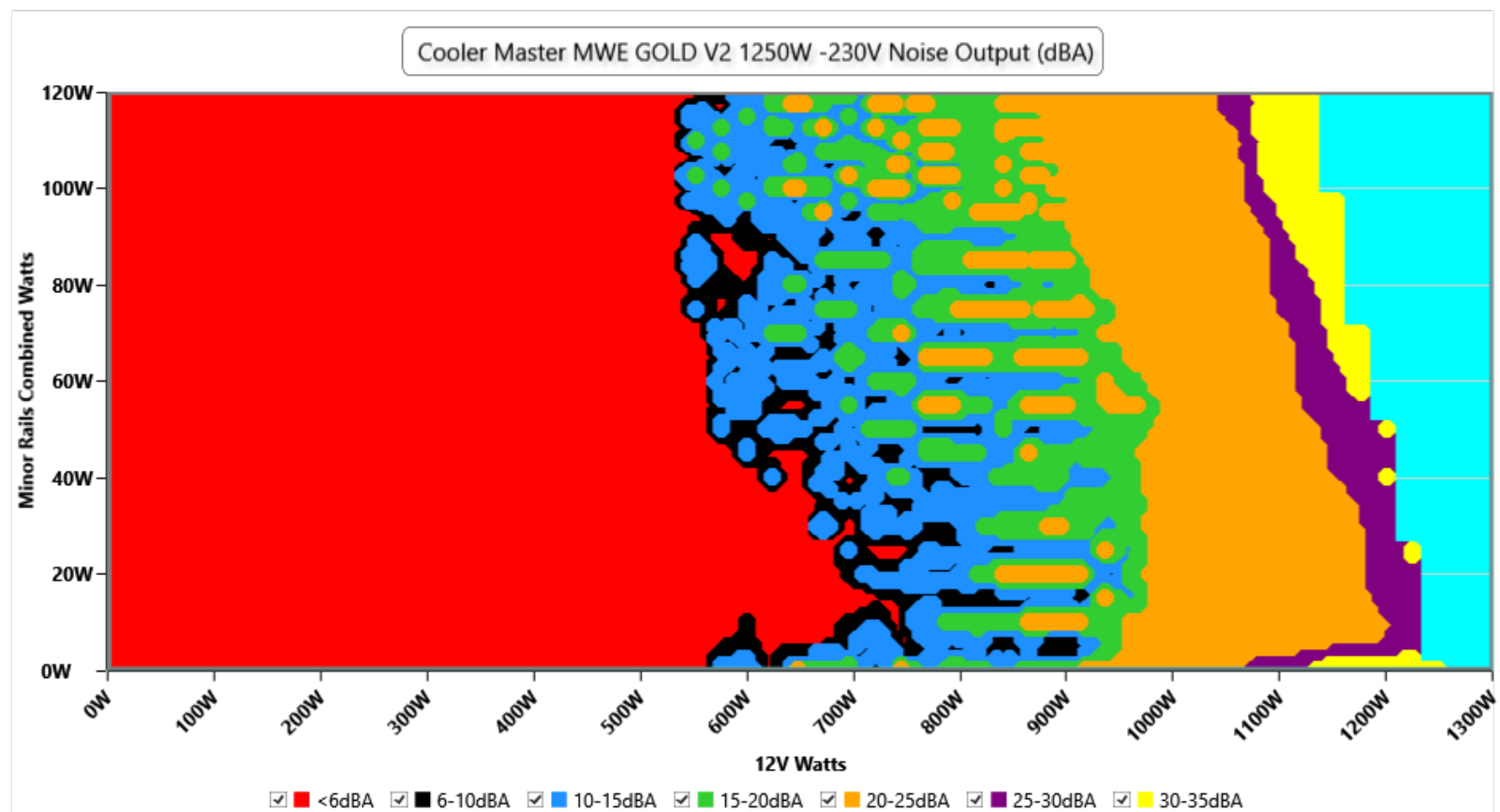
Noise Graph

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



INFO

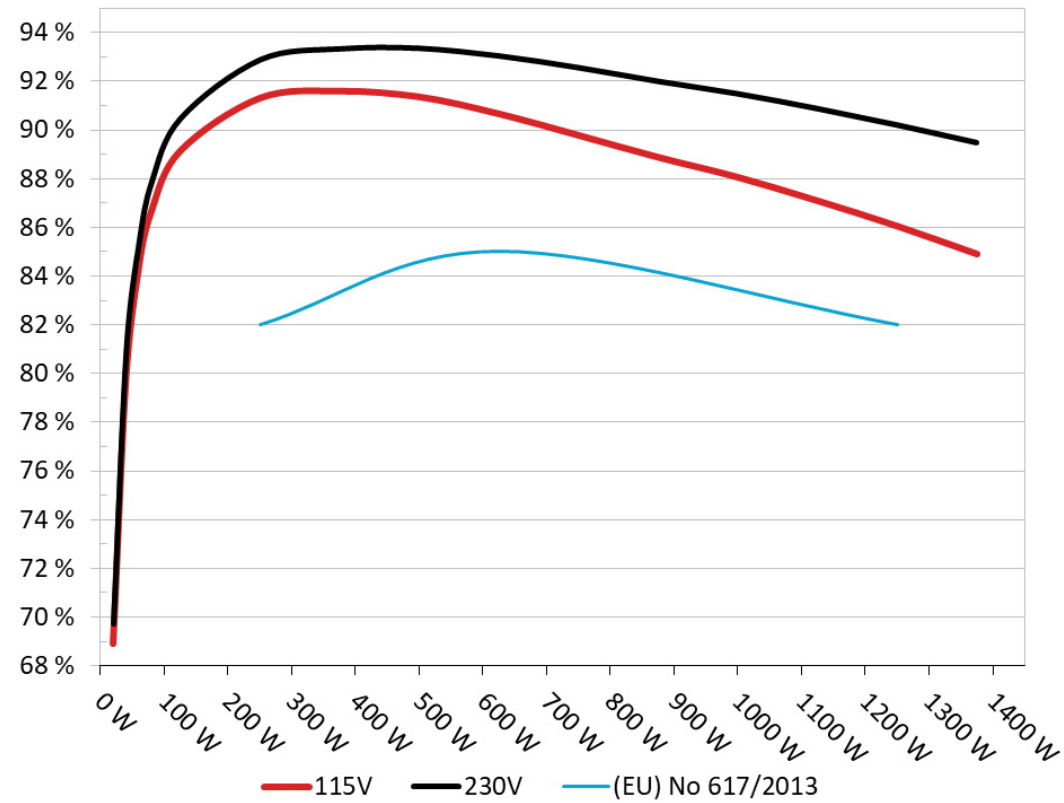
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Cooler Master MWE Gold V2 1250

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



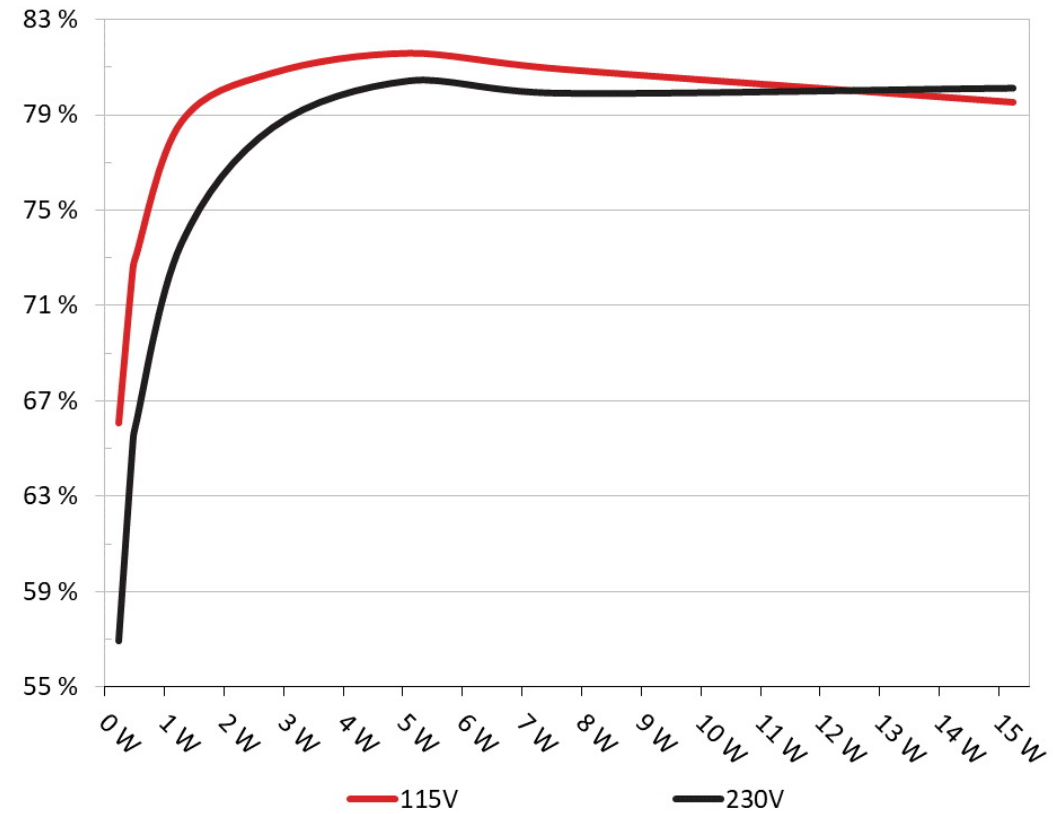
INFO

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: Cooler Master MWE Gold V2 1250

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

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	66.086%	0.053
	5.122V	0.35W		114.91V
2	0.09A	0.461W	72.402%	0.093
	5.121V	0.637W		114.91V
3	0.55A	2.813W	80.779%	0.324
	5.115V	3.483W		114.92V
4	1A	5.109W	81.608%	0.394
	5.109V	6.26W		114.91V
5	1.5A	7.653W	80.941%	0.436
	5.101V	9.455W		114.91V
6	3A	15.233W	79.551%	0.489
	5.078V	19.149W		114.91V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	56.922%	0.018
	5.122V	0.407W		229.91V
2	0.09A	0.461W	65.038%	0.031
	5.121V	0.71W		229.91V
3	0.55A	2.813W	78.472%	0.144
	5.115V	3.584W		229.91V
4	1A	5.109W	80.436%	0.224
	5.108V	6.351W		229.91V
5	1.5A	7.652W	79.911%	0.278
	5.101V	9.576W		229.91V
6	3A	15.235W	80.125%	0.371
	5.079V	19.015W		229.9V

Protection Features

OCP (Normal @ 30.0°C)	12V: 121.80A (117.12%), 12.138V 5V: 22.9A (114.50%), 5.029V 3.3V: 25.4A (127.00%), 3.323V 5VSB: 4.2A (140.00%), 5.057V
OCP (Hot @ 43.1°C)	12V: 121.80A (117.12%), 12.141V 5V: 22.9A (114.50%), 5.014V 3.3V: 25.0A (125.00%), 3.317V 5VSB: 4.2A (140.00%), 5.05V
OPP (Normal @ 31.2°C)	1580.71W (126.46%)
OPP (Hot @ 42.0°C)	1517.71W (121.42%)
OTP	✓ (145°C @ Heat Sink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

Supplementary Tests (For Reference)

Typical 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
10%	8.520A	1.982A	1.974A	0.981A	124.968	89.144%	0	<6.0	44.93°C	0.965
	12.131V	5.046V	3.344V	5.097V	140.188				40.19°C	114.88V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	18.058A	2.974A	2.963A	1.18A	249.972	91.322%	0	<6.0	45.95°C	0.975
	12.131V	5.044V	3.341V	5.087V	273.726				40.9°C	114.83V
30%	27.891A	3.472A	3.46A	1.379A	374.428	91.611%	0	<6.0	47.15°C	0.98
	12.132V	5.041V	3.339V	5.076V	408.716				41.4°C	114.79V
40%	37.779A	3.97A	3.957A	1.579A	499.575	91.377%	0	<6.0	49.58°C	0.985
	12.133V	5.038V	3.336V	5.066V	546.726				41.98°C	114.74V
50%	47.338A	4.966A	4.951A	1.781A	624.904	90.678%	0	<6.0	53.53°C	0.989
	12.134V	5.035V	3.333V	5.055V	689.147				42.06°C	114.7V
60%	56.832A	5.964A	5.948A	1.983A	749.459	89.795%	0	<6.0	56.81°C	0.992
	12.135V	5.031V	3.329V	5.044V	834.628				42.64°C	114.65V
70%	66.388A	6.958A	6.943A	2.185A	874.739	88.889%	814	21.4	43.2°C	0.993
	12.136V	5.031V	3.328V	5.034V	984.077				64.27°C	114.6V
80%	75.949A	7.951A	7.939A	2.288A	999.546	88.069%	842	22.5	43.81°C	0.993
	12.136V	5.03V	3.326V	5.026V	1134.953				63.54°C	114.55V
90%	85.900A	8.45A	8.423A	2.391A	1124.937	87.098%	1471	37.3	44.35°C	0.993
	12.135V	5.028V	3.324V	5.018V	1291.575				59.04°C	114.49V
100%	95.601A	8.95A	8.94A	2.999A	1249.768	86.055%	1944	45.1	45.19°C	0.993
	12.134V	5.027V	3.323V	5.002V	1452.29				58.19°C	114.44V
110%	105.159A	9.95A	10.032A	3.003A	1374.4	84.91%	1972	45.4	46.88°C	0.994
	12.135V	5.025V	3.32V	4.995V	1618.651				60.94°C	114.38V
CL1	0.116A	14.367A	14.368A	0A	121.298	83.518%	0	<6.0	48.85°C	0.968
	12.137V	5.024V	3.32V	5.102V	145.234				40.07°C	114.86V
CL2	0.114A	19.939A	0A	0A	101.347	81.118%	0	<6.0	46.11°C	0.965
	12.138V	5.013V	3.321V	5.105V	124.937				40.37°C	114.88V
CL3	0.114A	0A	19.931A	0A	67.397	76.201%	0	<6.0	44.76°C	0.954
	12.139V	5.021V	3.312V	5.104V	88.445				40.09°C	114.88V
CL4	102.944A	0A	0A	0A	1249.536	86.619%	1942	45.1	45.78°C	0.993
	12.138V	5.031V	3.327V	5.051V	1442.562				58.64°C	114.46V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	8.522A	1.982A	1.973A	0.981A	124.973	90.461%	0	<6.0	48.11°C	0.907
	12.130V	5.046V	3.345V	5.097V	138.152				40.04°C	229.87V
20%	18.061A	2.975A	2.963A	1.18A	249.984	92.872%	0	<6.0	49.25°C	0.951
	12.130V	5.043V	3.342V	5.087V	269.169				40.67°C	229.85V
30%	27.899A	3.472A	3.459A	1.379A	374.49	93.321%	0	<6.0	49.83°C	0.966
	12.131V	5.041V	3.34V	5.077V	401.292				41.17°C	229.82V
40%	37.789A	3.97A	3.956A	1.579A	499.637	93.343%	0	<6.0	49.21°C	0.974
	12.131V	5.038V	3.337V	5.066V	535.28				41.62°C	229.81V
50%	47.349A	4.966A	4.95A	1.781A	624.967	93.029%	0	<6.0	48.55°C	0.978
	12.132V	5.035V	3.334V	5.056V	671.802				42.05°C	229.78V
60%	56.842A	5.965A	5.948A	1.983A	749.524	92.55%	512	11.5	42.54°C	0.981
	12.133V	5.031V	3.33V	5.045V	809.857				55.83°C	229.76V
70%	66.404A	6.959A	6.941A	2.185A	874.811	91.988%	744	19	43.2°C	0.984
	12.134V	5.031V	3.329V	5.035V	951				54.7°C	229.74V
80%	75.963A	7.953A	7.937A	2.288A	999.623	91.478%	860	23.1	43.81°C	0.986
	12.134V	5.029V	3.326V	5.026V	1092.751				56.23°C	229.71V
90%	85.919A	8.452A	8.422A	2.391A	1125	90.865%	1470	37.2	44.4°C	0.987
	12.133V	5.028V	3.325V	5.019V	1238.098				54.32°C	229.69V
100%	95.622A	8.951A	8.937A	2.999A	1249.829	90.195%	1945	45.1	45.73°C	0.988
	12.132V	5.027V	3.324V	5.002V	1385.691				53.75°C	229.67V
110%	105.177A	9.952A	10.03A	3.004A	1374.428	89.472%	1974	45.4	46.9°C	0.989
	12.133V	5.024V	3.32V	4.994V	1536.149				56.37°C	229.64V
CL1	0.116A	14.363A	14.359A	0A	121.306	84.729%	0	<6.0	48.15°C	0.91
	12.135V	5.026V	3.322V	5.103V	143.169				40.51°C	229.86V
CL2	0.115A	19.935A	0A	0A	101.356	82.548%	0	<6.0	42.99°C	0.897
	12.137V	5.014V	3.323V	5.105V	122.786				41.5°C	229.87V
CL3	0.114A	0A	19.929A	0A	67.404	77.548%	0	<6.0	43.64°C	0.85
	12.138V	5.022V	3.312V	5.105V	86.918				41.18°C	229.88V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	102.962A	0A	0A	0A	1249.596	90.645%	1945	45.1	45.34°C	0.988
	12.136V	5.032V	3.327V	5.05V	1378.568				53.58°C	229.67V

The results above are not used in the certification process

Light 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
20W	1.224A	0.495A	0.494A	0.195A	20	68.886%	0	<6.0	41.06°C	0.89
	12.129V	5.049V	3.343V	5.116V	29.033				36.17°C	114.91V
40W	2.695A	0.693A	0.691A	0.293A	40.002	79.743%	0	<6.0	42.34°C	0.928
	12.130V	5.048V	3.342V	5.113V	50.165				37.11°C	114.9V
60W	4.166A	0.891A	0.888A	0.391A	60.003	84.33%	0	<6.0	44.66°C	0.953
	12.131V	5.049V	3.345V	5.11V	71.152				38.85°C	114.9V
80W	5.632A	1.09A	1.085A	0.49A	79.958	86.665%	0	<6.0	45.24°C	0.953
	12.131V	5.048V	3.347V	5.107V	92.261				39.59°C	114.89V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.224A	0.495A	0.493A	0.195A	20.002	69.71%	0	<6.0	42.06°C	0.627
	12.128V	5.05V	3.344V	5.117V	28.698				36.5°C	229.88V
40W	2.696A	0.693A	0.691A	0.293A	40.003	80.94%	0	<6.0	43°C	0.754
	12.128V	5.049V	3.343V	5.114V	49.423				37.01°C	229.88V
60W	4.166A	0.891A	0.888A	0.391A	60.005	85.343%	0	<6.0	45.03°C	0.82
	12.129V	5.049V	3.346V	5.111V	70.315				38.05°C	229.87V
80W	5.634A	1.089A	1.084A	0.49A	79.96	87.859%	0	<6.0	46.51°C	0.86
	12.129V	5.049V	3.348V	5.108V	91.015				39.01°C	229.87V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	20.76mV	14.36mV	14.07mV	14.27mV	Pass
20% Load	25.26mV	13.33mV	13.30mV	14.01mV	Pass
30% Load	22.29mV	14.51mV	14.53mV	14.58mV	Pass
40% Load	19.24mV	13.95mV	13.61mV	15.14mV	Pass
50% Load	20.36mV	15.22mV	14.07mV	15.60mV	Pass
60% Load	20.60mV	15.84mV	14.22mV	15.14mV	Pass
70% Load	21.57mV	15.58mV	13.81mV	16.52mV	Pass
80% Load	22.34mV	17.01mV	16.17mV	16.88mV	Pass
90% Load	23.21mV	16.65mV	15.60mV	16.68mV	Pass
100% Load	38.22mV	18.60mV	17.41mV	18.93mV	Pass
110% Load	39.66mV	18.38mV	17.16mV	18.34mV	Pass
Crossload1	31.01mV	15.26mV	18.04mV	13.71mV	Pass
Crossload2	19.80mV	23.09mV	14.47mV	14.88mV	Pass
Crossload3	16.99mV	13.74mV	19.03mV	13.81mV	Pass
Crossload4	36.44mV	16.51mV	14.56mV	16.41mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	23.21mV	14.46mV	14.27mV	13.25mV	Pass
20% Load	26.94mV	13.39mV	14.22mV	14.01mV	Pass
30% Load	22.85mV	14.71mV	15.19mV	14.37mV	Pass
40% Load	19.39mV	15.38mV	14.12mV	15.60mV	Pass
50% Load	19.68mV	15.02mV	14.12mV	15.14mV	Pass
60% Load	20.40mV	14.97mV	14.02mV	14.88mV	Pass

