



Make It Yours.

Cooler Master MWE Gold 750 V2 (Fixed)

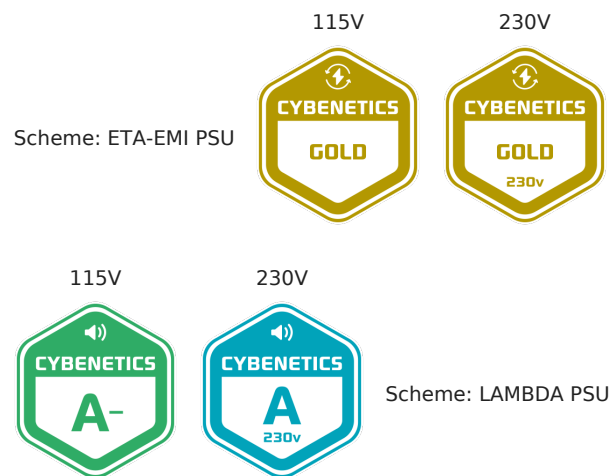
Serial Number MPE7501ACAAGU21205200001

Lab ID CM75001848

Certification ID 251848

Test Result Report ID: 21PS1848A

Certificate Issue Date: May 26, 2021



A handwritten signature in blue ink, appearing to read "A. Bitziopoulos", is written over a faint circular stamp.

Aristeidis Bitziopoulos, Certification Body General Manager

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 750 V2 (Fixed)
OEM/ODM	Huizhou Xin Hui Yuan Tech (Fusion Power)
Serial Number	MPE7501ACAAGU21205200001
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	50-60

Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fixed cables
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Fluid Dynamic Bearing Fan (HA1225M12F-Z)
Semi-Passive Operation	X
Cybenetics Testing Information	
Lab ID	CM75001848
Date of receipt	May 6, 2021
Testing Date	May 24, 2021
Report Issued Date	May 26, 2021
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

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 (630mm) / 4+4 pin EPS12V (+125mm)	1	1 / 1	16-18AWG	No
6+2 pin PCIe (590mm+120mm)	2	4	16-18AWG	No
SATA (510mm+125mm+125mm+125mm)	3	12	18AWG	No
4-pin Molex (510mm+125mm+125mm+125mm)	1	4	18AWG	No
Modular Cables				
AC Power Cord (1370mm) - C13 coupler	1	1	18AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	62.5	3	0.3
	Watts	100		750	15	3.6
Total Max. Power (W)		750				

Parts Description

General Data	
Manufacturer (OEM)	Huizhou Xin Hui Yuan Tech (Fusion Power)
PCB Type	Double Sided
Primary Side	
Transient Filter	4x Y caps, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor MF72 5D15 (50hm) & Relay
Bridge Rectifier(s)	1x GBU15J (600V, 15A @ 100°C)
APFC MOSFETs	2x NCE Power NCE65TF180F (650V, 13.2A @ 100°C, Rds(on): 0.180hm)
APFC Boost Diode	1x ON Semiconductor RHRP1560 (600V, 15A @ 140°C)
Bulk Cap(s)	1x Elite (400V, 560uF, 105°C, 2,000h @ 105°C, PL)
Main Switchers	4x Great Power GPT13N50DG (500V, 13A, Rds(on): 0.490hm)
APFC Controller	ON Semiconductor NCP1654
Resonant Controller	Champion CM6901T6X
Topology	Primary side: APFC, Full-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	4x Excelliance MOS Corp EMP16N04HS (40V, 100A @ 100°C, Rds(on): 1.6mOhm)
5V & 3.3V	DC-DC Converters: 4x Excelliance MOS Corp EMB06N03HR (30V, 45A @ 100°C, Rds(on): 6mOhm) PWM Controller(s): ANPEC APW7159C
Filtering Capacitors	Electrolytic: 5x Ltec (4-7,000h @ 105°C, LZG), 7x Elite (4-10,000h @ 105°C, EY) Polymer: 4x FPCAP, 2x Elite, 4x info
Supervisor IC	IN1S313I-DAG
Fan Model	Hong Hua HA1225M12F-Z (120mm, 12V, 0.45A, Fluid Dynamic Bearing Fan)
5VSB Circuit	

Rectifier	1x 45R10C
Standby PWM Controller	Excelliance MOS Corp EM8569

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	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	88.615%
Average Noise Output (>1450 Load Combinations)	26.60dBA
Average PF (>1450 Load Combinations)	0.988
Efficiency With 10W ($\leq$ 500W) or 2% (>500W) Load	61.110%
Standby Power Consumption	0.1139W
Non-Accredited	
12V Ripple (Full Load)	44.44mV
5V Ripple (Full Load)	20.43mV
3.3V Ripple (Full Load)	33.75mV
5VSB Ripple (Full Load)	20.79mV
12V Load Regulation	0.40%
5V Load Regulation	0.73%
3.3V Load Regulation	1.22%
5VSB Load Regulation	2.51%
Inrush Current	70.270A

230V

Accredited		
Average Efficiency (>1450 load combinations)	90.949%	
Average Noise Output (>1450 Load Combinations)	24.24dBA	
Average PF (>1450 Load Combinations)	0.945	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.1793W	
Non-Accredited		
12V Ripple (Full Load)	44.15mV	
5V Ripple (Full Load)	23.01mV	
3.3V Ripple (Full Load)	34.06mV	
5VSB Ripple (Full Load)	20.22mV	
12V Load Regulation	0.40%	
5V Load Regulation	0.73%	
3.3V Load Regulation	1.22%	
5VSB Load Regulation	2.45%	
Inrush Current	84.920A	
Hold-Up Time & PWR_OK Signal	20.20ms	
AC Loss to PWR_OK Hold Up Time	16.80ms	
PWR_OK Inactive to DC Loss Delay	3.40ms	
PSU Timings: T1 (20% / 100%)	48.0ms	48.0ms
PSU Timings: T3 (20% / 100%)	128.0ms	128.0ms
OPP (28.20°C / 45.31°C)	130.06%	115.24%

Hold-Up Time & PWR_OK Signal

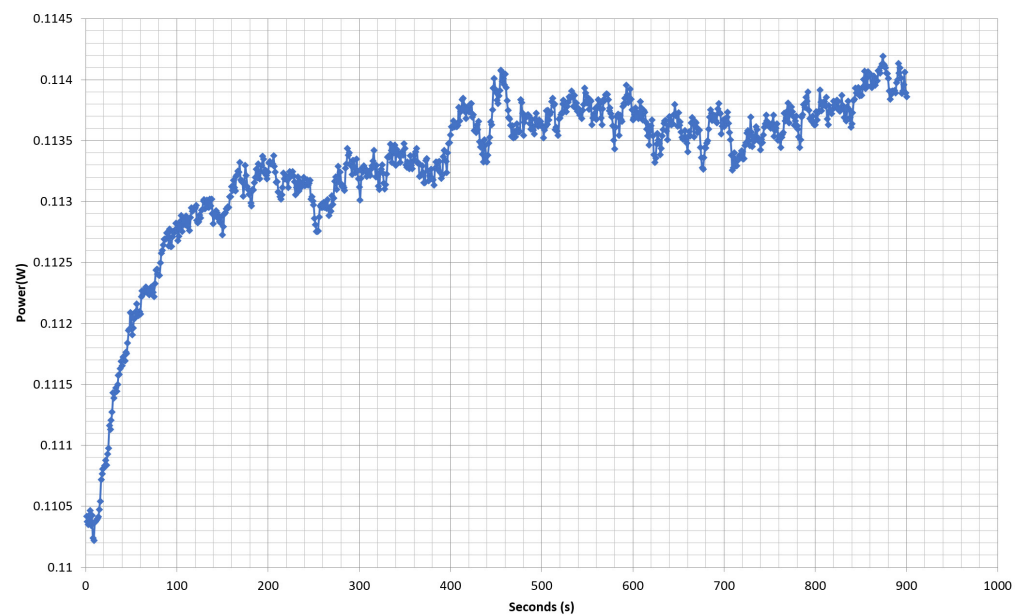
Hold-Up Time (ms)	20.2
AC Loss to PWR_OK Hold Up Time (ms)	16.8
PWR_OK Inactive to DC Loss Delay (ms)	3.4



Graphs

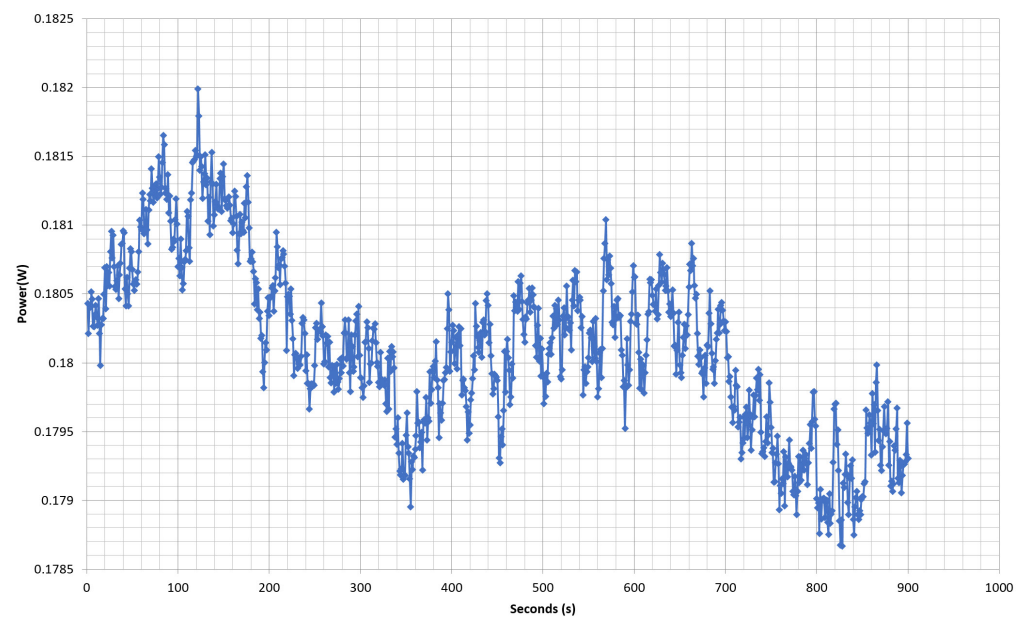
115V

Power - MPE7501ACAAGU21205200001 - 18/05/2021 - 14:04



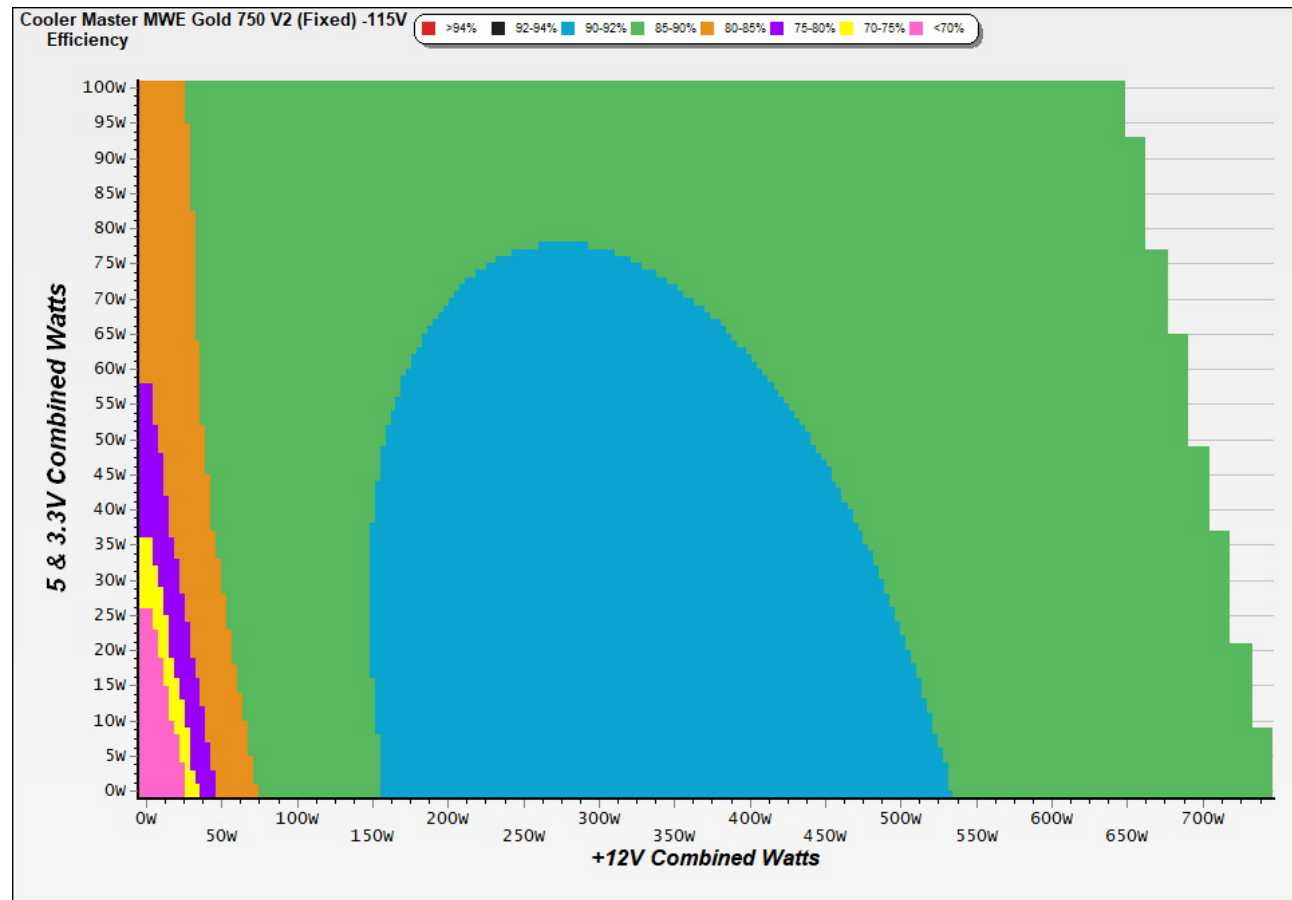
230V

Power - MPE7501ACAAGU21205200001 - 18/05/2021 - 14:04



Efficiency Graph

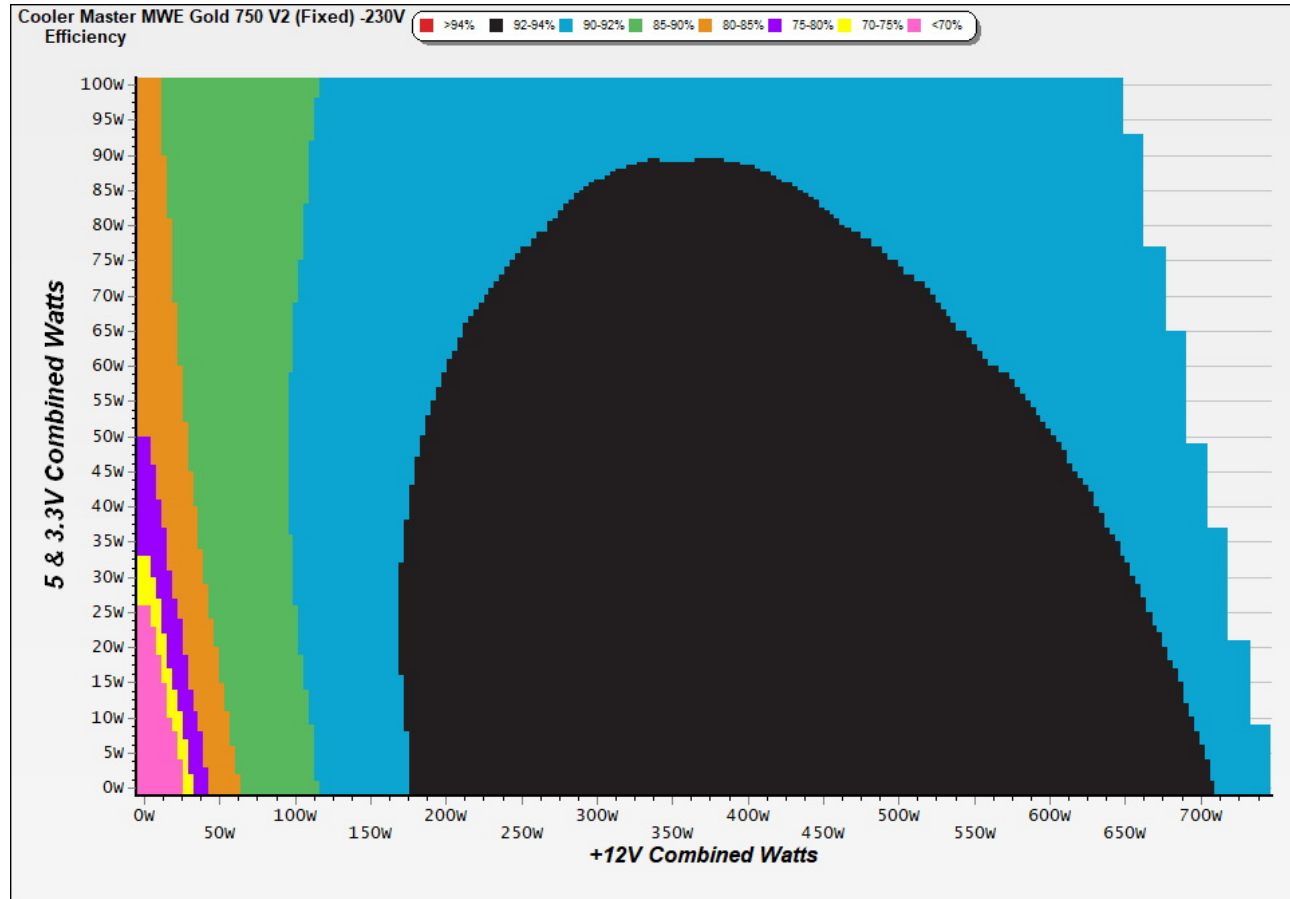
115V



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

230V

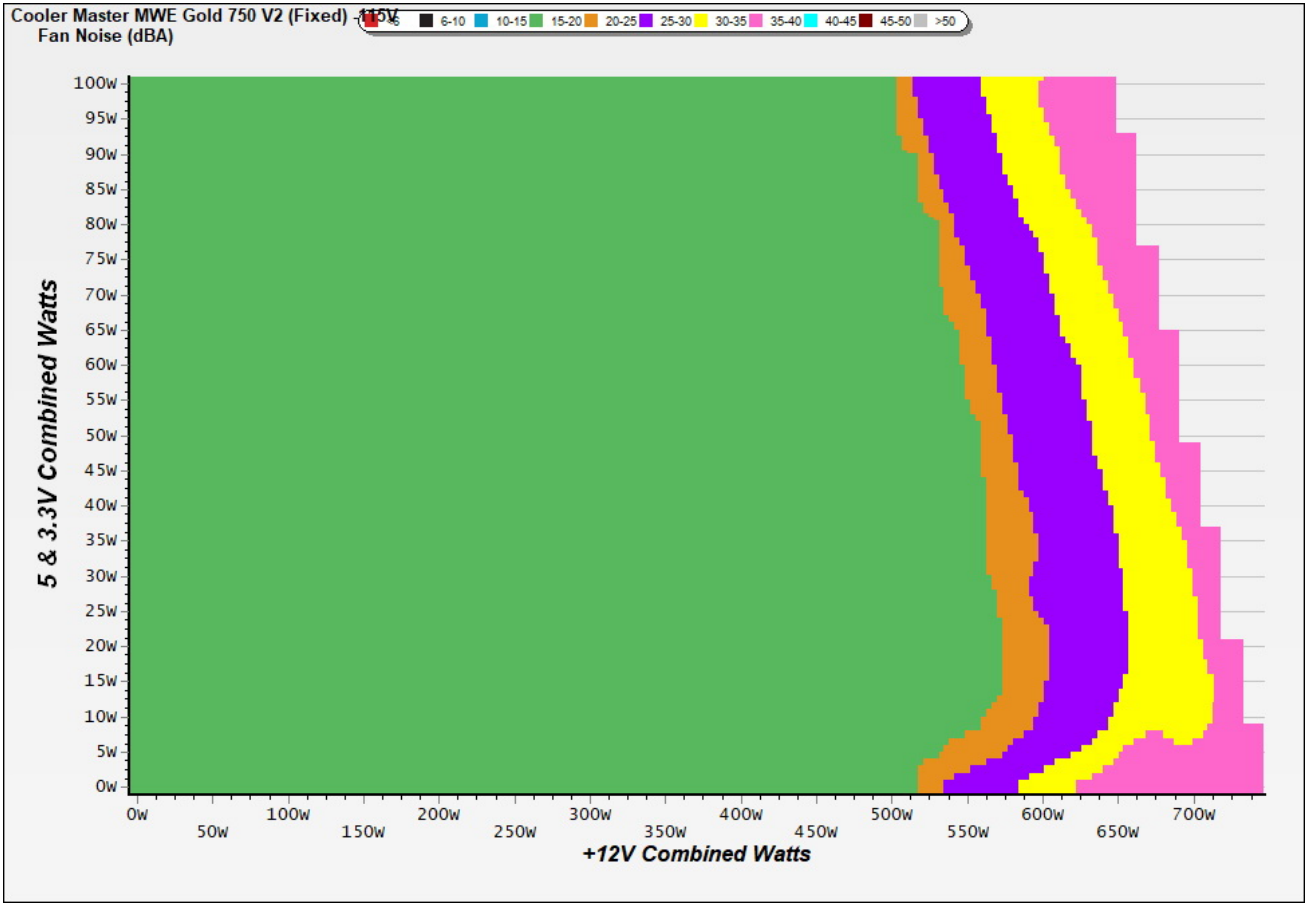


INFO

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

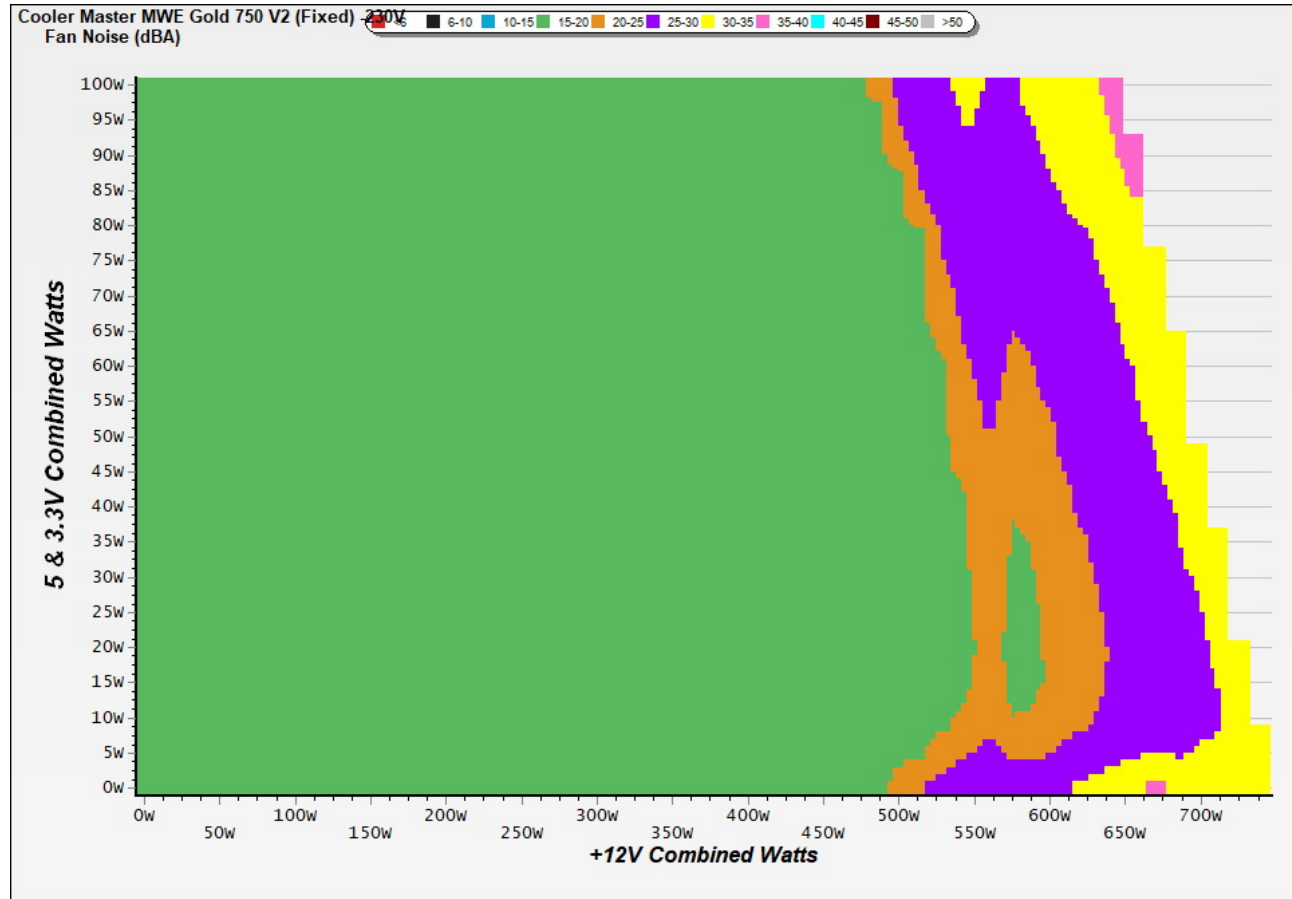
115V



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

230V



INFO

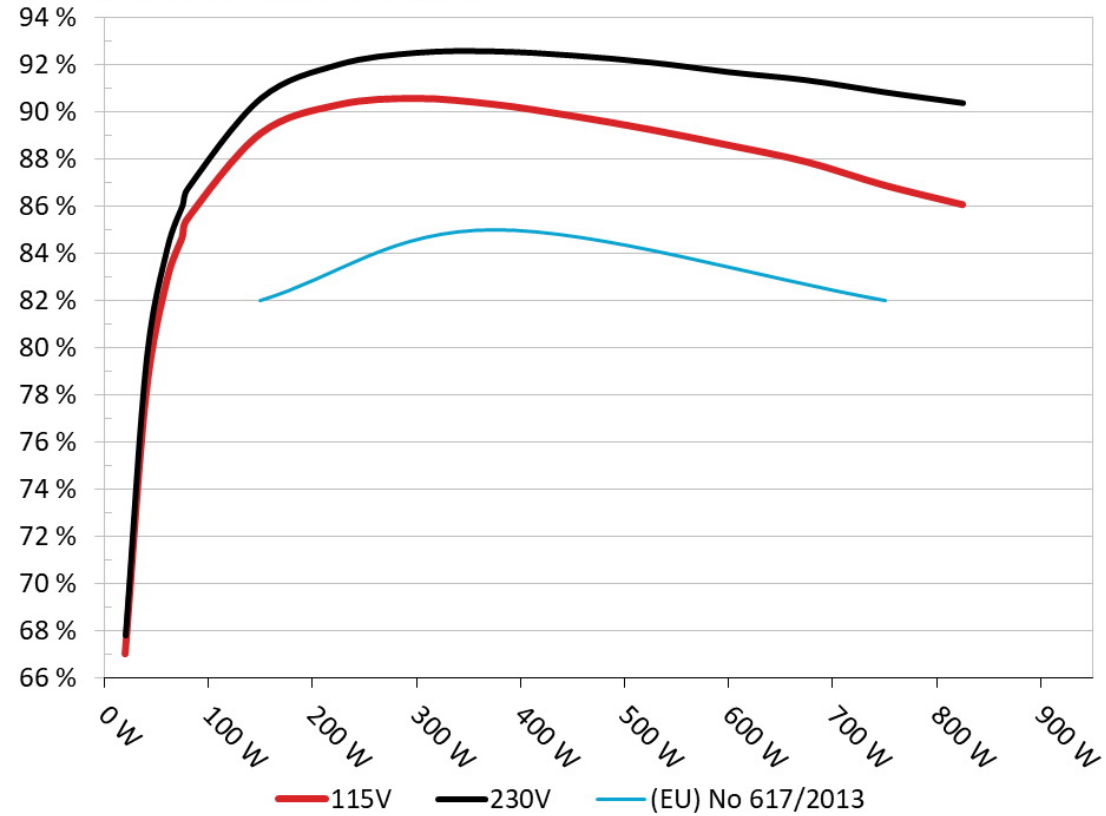
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Cooler Master MWE Gold 750 V2 (Fixed)

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



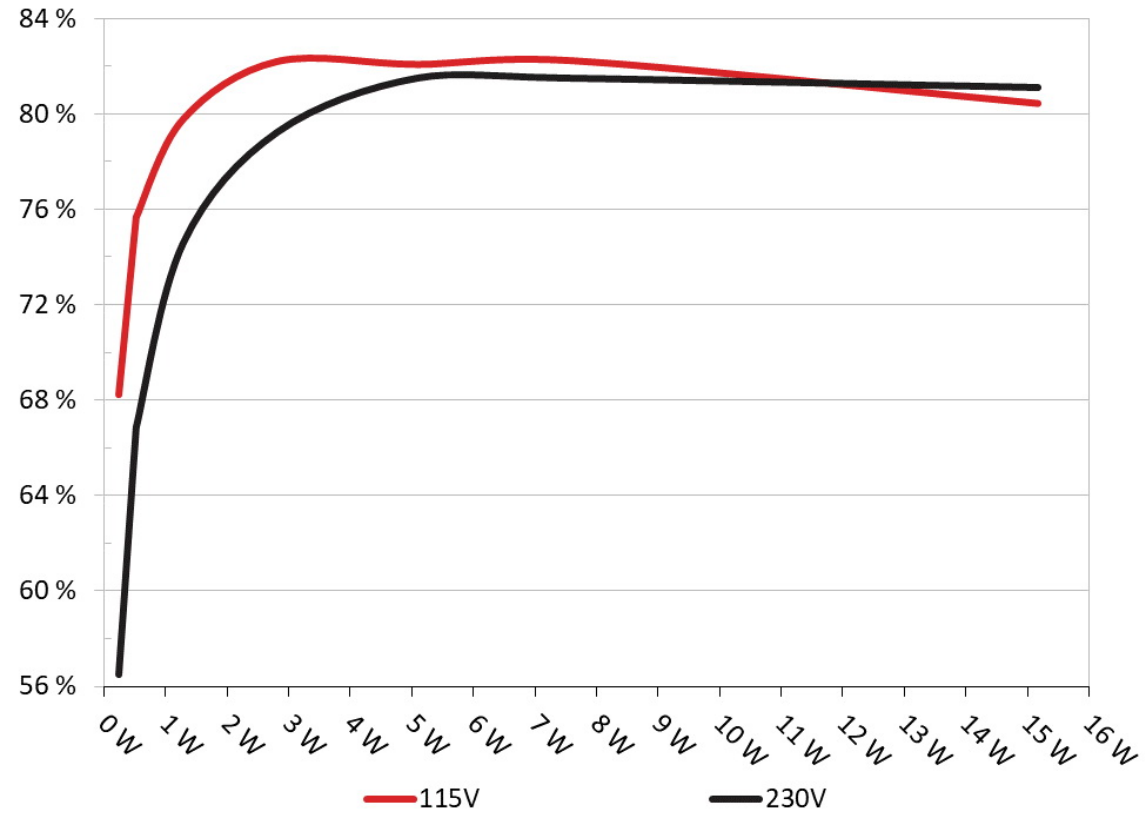
INFO

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 750 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

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

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.230	68.249%	0.041
	5.112V	0.337		115.11V
2	0.090A	0.460	75.658%	0.072
	5.111V	0.608		115.11V
3	0.550A	2.807	82.172%	0.294
	5.103V	3.416		115.11V
4	1.000A	5.096	82.048%	0.385
	5.095V	6.211		115.11V
5	1.500A	7.630	82.202%	0.434
	5.086V	9.282		115.11V
6	3.000A	15.176	80.420%	0.494
	5.058V	18.871		115.12V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.230	56.511%	0.015
	5.112V	0.407		230.24V
2	0.090A	0.460	66.860%	0.025
	5.111V	0.688		230.24V
3	0.550A	2.807	79.249%	0.120
	5.103V	3.542		230.24V
4	1.000A	5.096	81.523%	0.192
	5.095V	6.251		230.24V
5	1.500A	7.630	81.508%	0.253
	5.086V	9.361		230.24V
6	3.000A	15.177	81.121%	0.356
	5.059V	18.709		230.24V

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
1	4.404A	1.975A	1.973A	0.984A	74.970	84.692%	849	19.6	40.27°C	0.964
	12.118V	5.063V	3.346V	5.083V	88.521				44.81°C	115.13V
2	9.836A	2.965A	2.962A	1.183A	150.050	89.069%	852	19.1	40.54°C	0.978
	12.114V	5.059V	3.341V	5.072V	168.465				45.73°C	115.12V
3	15.609A	3.462A	3.460A	1.383A	225.063	90.290%	854	18.9	41.26°C	0.985
	12.109V	5.056V	3.338V	5.062V	249.268				47.36°C	115.12V
4	21.388A	3.959A	3.959A	1.584A	300.081	90.558%	854	18.9	41.32°C	0.990
	12.104V	5.052V	3.334V	5.051V	331.370				48.28°C	115.12V
5	26.793A	4.952A	4.957A	1.786A	374.679	90.305%	859	18.6	42.26°C	0.994
	12.099V	5.049V	3.330V	5.040V	414.905				49.70°C	115.11V
6	32.233A	5.948A	5.955A	1.990A	449.639	89.817%	1193	27.8	42.60°C	0.996
	12.094V	5.045V	3.325V	5.028V	500.618				50.36°C	115.11V
7	37.709A	6.946A	6.958A	2.194A	524.940	89.239%	1546	35.9	43.00°C	0.996
	12.088V	5.040V	3.320V	5.016V	588.238				51.59°C	115.11V
8	43.193A	7.948A	7.964A	2.399A	600.238	88.575%	1652	37.8	43.41°C	0.997
	12.081V	5.035V	3.315V	5.004V	677.664				52.52°C	115.10V
9	49.038A	8.450A	8.456A	2.402A	674.762	87.876%	1661	38.0	44.92°C	0.997
	12.077V	5.032V	3.312V	4.997V	767.856				54.48°C	115.09V
10	54.693A	8.955A	8.981A	3.015A	749.986	86.880%	1666	38.2	45.63°C	0.998
	12.072V	5.028V	3.307V	4.977V	863.241				55.66°C	115.09V
11	60.938A	8.957A	8.986A	3.019A	825.107	86.062%	1672	38.3	47.24°C	0.998
	12.068V	5.025V	3.304V	4.971V	958.734				57.81°C	115.08V
CL1	0.118A	12.003A	11.999A	0.000A	102.014	83.489%	855	18.8	42.40°C	0.981
	12.111V	5.049V	3.332V	5.082V	122.189				49.43°C	115.13V

CL2	62.525A	1.001A	0.999A	1.000A	768.437	87.480%	1671	38.3	45.37°C	0.998
	12.076V	5.041V	3.318V	5.024V	878.419				55.30°C	115.09V

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
1	4.404A	1.975A	1.973A	0.984A	74.967	86.044%	853	19.1	40.32°C	0.803
	12.117V	5.063V	3.346V	5.084V	87.126				44.17°C	230.25V
2	9.836A	2.966A	2.963A	1.183A	150.039	90.553%	854	18.9	40.92°C	0.902
	12.112V	5.059V	3.341V	5.073V	165.692				45.34°C	230.25V
3	15.609A	3.462A	3.460A	1.383A	225.046	91.991%	855	18.8	41.11°C	0.940
	12.108V	5.056V	3.337V	5.063V	244.639				46.25°C	230.25V
4	21.387A	3.960A	3.959A	1.584A	300.059	92.489%	857	18.6	41.71°C	0.959
	12.103V	5.053V	3.334V	5.052V	324.428				47.09°C	230.25V
5	26.792A	4.953A	4.955A	1.786A	374.630	92.547%	859	18.6	42.06°C	0.970
	12.098V	5.048V	3.329V	5.040V	404.798				48.27°C	230.25V
6	32.228A	5.949A	5.957A	1.989A	449.550	92.374%	1022	23.6	42.88°C	0.978
	12.093V	5.044V	3.325V	5.029V	486.661				49.77°C	230.24V
7	37.706A	6.946A	6.960A	2.193A	524.863	92.078%	1426	34.1	43.07°C	0.982
	12.087V	5.039V	3.320V	5.017V	570.023				50.84°C	230.24V
8	43.188A	7.948A	7.963A	2.398A	600.174	91.666%	1656	37.9	43.54°C	0.984
	12.081V	5.035V	3.315V	5.006V	654.737				51.74°C	230.25V
9	49.038A	8.450A	8.456A	2.401A	674.693	91.324%	1666	38.2	44.39°C	0.985
	12.076V	5.031V	3.311V	4.998V	738.788				53.18°C	230.24V
10	54.693A	8.954A	8.978A	3.013A	749.915	90.813%	1670	38.1	45.15°C	0.987
	12.071V	5.028V	3.307V	4.980V	825.775				54.92°C	230.24V
11	60.944A	8.960A	8.989A	3.018A	825.137	90.355%	1673	38.3	46.53°C	0.988
	12.067V	5.025V	3.304V	4.971V	913.216				57.42°C	230.24V
CL1	0.118A	12.002A	11.997A	0.000A	102.002	85.036%	856	18.8	42.01°C	0.860
	12.110V	5.049V	3.332V	5.084V	119.951				48.24°C	230.25V

CL2	62.516A	1.000A	1.000A	1.000A	768.328	91.430%	1674	38.3	45.21°C	0.987
	12.076V	5.041V	3.318V	5.026V	840.350				54.54°C	230.24V

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])	PF/AC Volts
1	1.225A	0.494A	0.494A	0.196A	19.997	67.039%	844	19.6	0.837
	12.121V	5.067V	3.350V	5.105V	29.829				115.13V
2	2.450A	0.987A	0.984A	0.392A	39.987	78.004%	846	19.5	0.919
	12.120V	5.065V	3.348V	5.099V	51.263				115.13V
3	3.678A	1.480A	1.480A	0.589A	60.018	82.834%	848	19.6	0.959
	12.118V	5.064V	3.347V	5.093V	72.456				115.13V
4	4.899A	1.975A	1.974A	0.786A	79.969	85.464%	851	19.4	0.973
	12.118V	5.063V	3.346V	5.087V	93.570				115.12V

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])	PF/AC Volts
1	1.225A	0.494A	0.491A	0.196A	19.995	67.775%	847	19.5	0.540
	12.120V	5.067V	3.350V	5.105V	29.502				230.28V
2	2.450A	0.987A	0.984A	0.392A	39.985	79.425%	848	19.6	0.683
	12.119V	5.065V	3.348V	5.099V	50.343				230.28V
3	3.678A	1.480A	1.480A	0.589A	60.015	84.191%	850	19.4	0.761
	12.117V	5.064V	3.347V	5.094V	71.284				230.25V
4	4.900A	1.974A	1.973A	0.786A	79.966	86.747%	851	19.4	0.814
	12.117V	5.063V	3.345V	5.088V	92.183				230.25V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.30mV	12.30mV	14.10mV	8.80mV	Pass
20% Load	17.90mV	12.90mV	15.30mV	9.50mV	Pass
30% Load	17.70mV	14.50mV	20.40mV	10.80mV	Pass
40% Load	20.90mV	14.00mV	21.50mV	12.50mV	Pass
50% Load	23.10mV	13.70mV	19.50mV	13.80mV	Pass
60% Load	24.30mV	16.10mV	21.30mV	15.60mV	Pass
70% Load	25.00mV	16.00mV	23.50mV	16.60mV	Pass
80% Load	26.80mV	17.00mV	25.30mV	17.70mV	Pass
90% Load	29.10mV	18.40mV	28.40mV	18.90mV	Pass
100% Load	44.40mV	20.40mV	33.80mV	20.80mV	Pass
110% Load	47.70mV	22.90mV	37.00mV	21.80mV	Pass
Crossload1	24.00mV	18.80mV	23.50mV	11.30mV	Pass
Crossload2	44.50mV	18.70mV	29.40mV	21.10mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	16.80mV	12.40mV	14.80mV	8.80mV	Pass
20% Load	22.40mV	13.20mV	16.10mV	9.80mV	Pass
30% Load	18.40mV	14.20mV	20.40mV	11.20mV	Pass
40% Load	21.70mV	14.60mV	22.00mV	12.00mV	Pass
50% Load	23.30mV	15.40mV	20.80mV	13.60mV	Pass
60% Load	24.70mV	15.90mV	22.10mV	14.80mV	Pass
70% Load	26.60mV	16.10mV	23.70mV	16.00mV	Pass
80% Load	28.40mV	17.90mV	27.30mV	17.40mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	30.30mV	18.50mV	30.20mV	18.20mV	Pass
100% Load	44.20mV	23.00mV	34.10mV	20.20mV	Pass
110% Load	47.70mV	22.10mV	34.60mV	20.90mV	Pass
Crossload1	26.20mV	20.00mV	24.80mV	11.40mV	Pass
Crossload2	45.20mV	19.10mV	32.60mV	20.10mV	Pass

The results above are not used in the certification process

Cooler Master MWE Gold 750 V2 (Fixed)



Top side

750W

MOD Switch

AC INPUT	100-240V~, 10-5A, 50-60Hz				
交流輸入	200-240V~, 6A, 50-60Hz, For Korea Use Only				
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	62.5A	0.3A	3A
TOTAL POWER	100W		750W	3.6W	15W
總功率/总功率	750W				

Power specifications label

Cybenetics [REDACTED]

ETA[REDACTED]

LAMBDA[REDACTED]

SAFE[REDACTED]

DELTA[REDACTED]

PHI[REDACTED]

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

www.cybenetics.com - info@cybenetics.com