Make It Yours.

Cooler Master MWE Gold 750 V2 (GX Gold 750) (#2)

Serial Number

Lab ID CM75002260

Certification ID 252260

Test Result Report ID: 23PS2260A

Certificate Issue Date: Oct 16, 2023

Scheme: ETA-EMI PSU

115V: CYBENETICS GOLD

230V: CYBENETICS GOLD 230v

Scheme: LAMBDA PSU

115V: CYBENETICS A-

230V: CYBENETICS A- 230v

CYBENETICS ATX 3.1 PASS

Outside Validation Scope

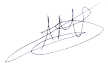
General Information

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 750 V2 (GX Gold 750) (#2)
OEM/ODM	Huizhou Xin Hui Yuan Tech (Fusion Power)
Serial Number	
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	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Fluid Dynamic Bearing Fan (HA1225H12F-Z)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	CM75002260
Date of receipt	Sep 27, 2023
Testing Date	Oct 13, 2023
Report Issued Date	Oct 16, 2023
DUT Notes	The unit doesn't have 12VHPWR
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 (610mm)	1	1	18AWG	No
4+4 pin EPS12V (610mm)	1	1	18AWG	No
8 pin EPS12V (660mm)	1	1	18AWG	No
6+2 pin PCIe (550mm+125mm)	2	4	16-18AWG	No
SATA (510mm+120mm+120mm+120mm)	3	12	18AWG	No
4-pin Molex (500mm+120mm+120mm+120mm)	1	4	18AWG	No

AC Power Cord (1410mm) - 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				

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)	88.411%
Average Noise Output (>1450 Load Combinations)	28.31dBA
Average PF (>1450 Load Combinations)	0.990
Efficiency With 10W (≤500W) or 2% (>500W) Load	63.621%
Standby Power Consumption	0.0472W
Non-Accredited	
12V Ripple (Full Load)	28.23mV
5V Ripple (Full Load)	13.89mV
3.3V Ripple (Full Load)	17.91mV

5VSB Ripple (Full Load)	11.41mV
12V Load Regulation	0.66%
5V Load Regulation	0.26%
3.3V Load Regulation	0.67%
5VSB Load Regulation	4.15%
Inrush Current	72.350A

230V

Accredited		
Average Efficiency (>1450 load combinations)		90.526%
Average Noise Output (>1450 Load Combinations)		26.62dBA
Average PF (>1450 Load Combinations)		0.949
Efficiency With 10W (≤500W) or 2% (>500W) Load		61.558%
Standby Power Consumption		0.1330W
Non-Accredited		
12V Ripple (Full Load)		28.96mV
5V Ripple (Full Load)		13.85mV
3.3V Ripple (Full Load)		16.91mV
5VSB Ripple (Full Load)		11.36mV
12V Load Regulation		0.45%
5V Load Regulation		0.28%
3.3V Load Regulation		0.67%
5VSB Load Regulation		4.15%
Inrush Current		94.360A
12V Transient Response (150%)		11.63V
5V Transient Response (150%)		4.990V
3.3V Transient Response (150%)		3.212V
5VSB Transient Response (150%)		4.938V
Hold-Up Time & PWR_OK Signal		24.60ms
AC Loss to PWR_OK Hold Up Time		22.00ms
PWR_OK Inactive to DC Loss Delay		2.60ms
PSU Timings: T1 (20% / 100%)	65.0ms	67.0ms

PSU Timings: T3 (20% / 100%)	126.0ms	126.0ms
OPP (25.52°C / 41.88°C)	139.82%	125.09%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	24.6
AC Loss to PWR_OK Hold Up Time (ms)	22
PWR_OK Inactive to DC Loss Delay (ms)	2.6

Stromverbrauch im Ruhezustand

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:	60.00 Hz	59.98 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.415	1.340	1.422	1.490	PASS
Mains Voltage THD:	0.14 %	0.11 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.047 W	0.011 W	N/A	0.074 W	N/A	N/A
Apparent Power:	8.280 W	8.256 W	N/A	8.303 W	N/A	N/A
Power Factor:	0.008	N/A	N/A	N/A	N/A	N/A

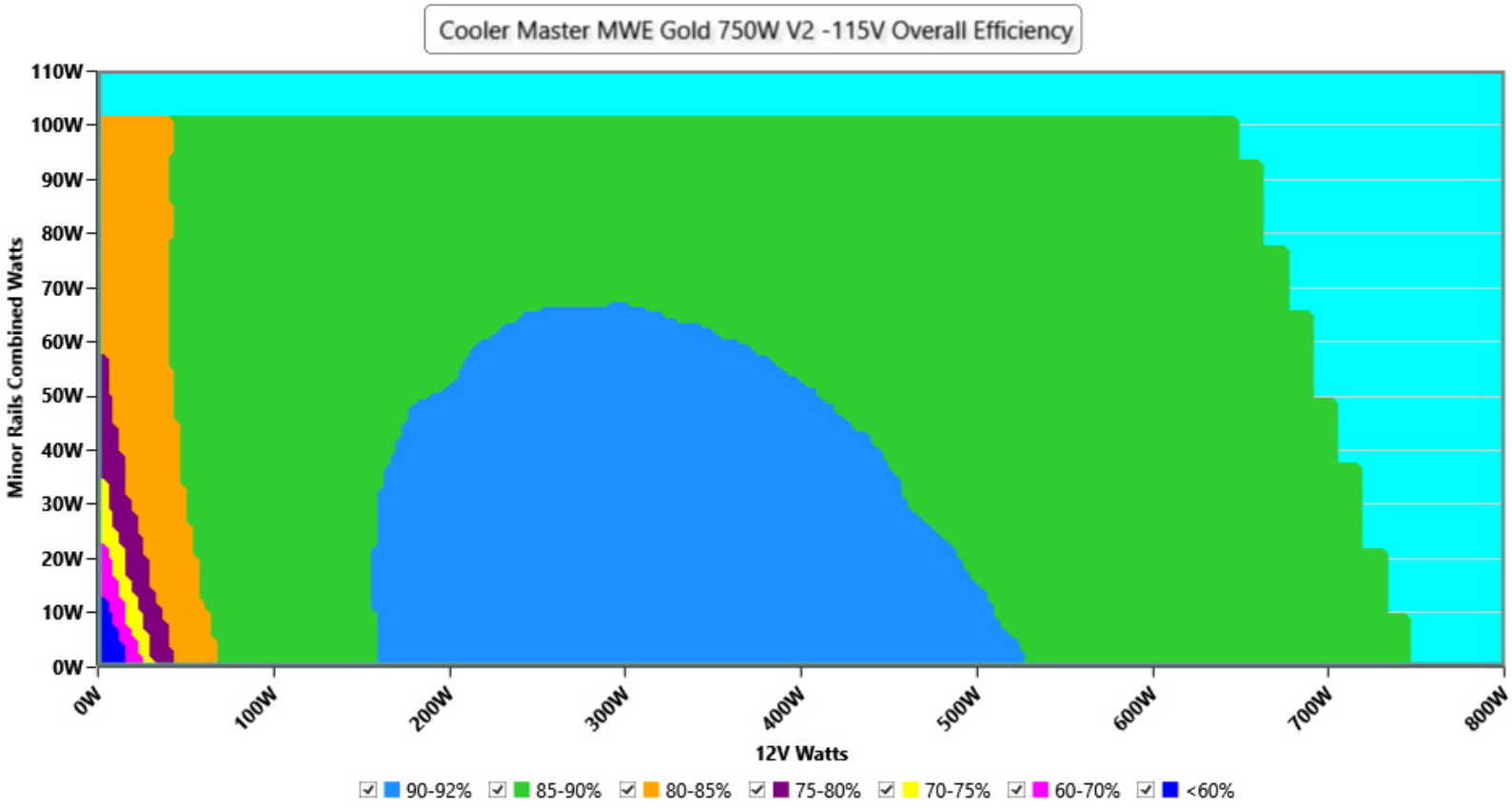
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.88 V	229.83 V	227.70 V	229.95 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	1.419	1.490	PASS

Mains Voltage THD:	0.18 %	0.15 %	N/A	0.21 %	2.00 %	PASS
Real Power:	0.133 W	0.106 W	N/A	0.166 W	N/A	N/A
Apparent Power:	28.017 W	27.994 W	N/A	28.046 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

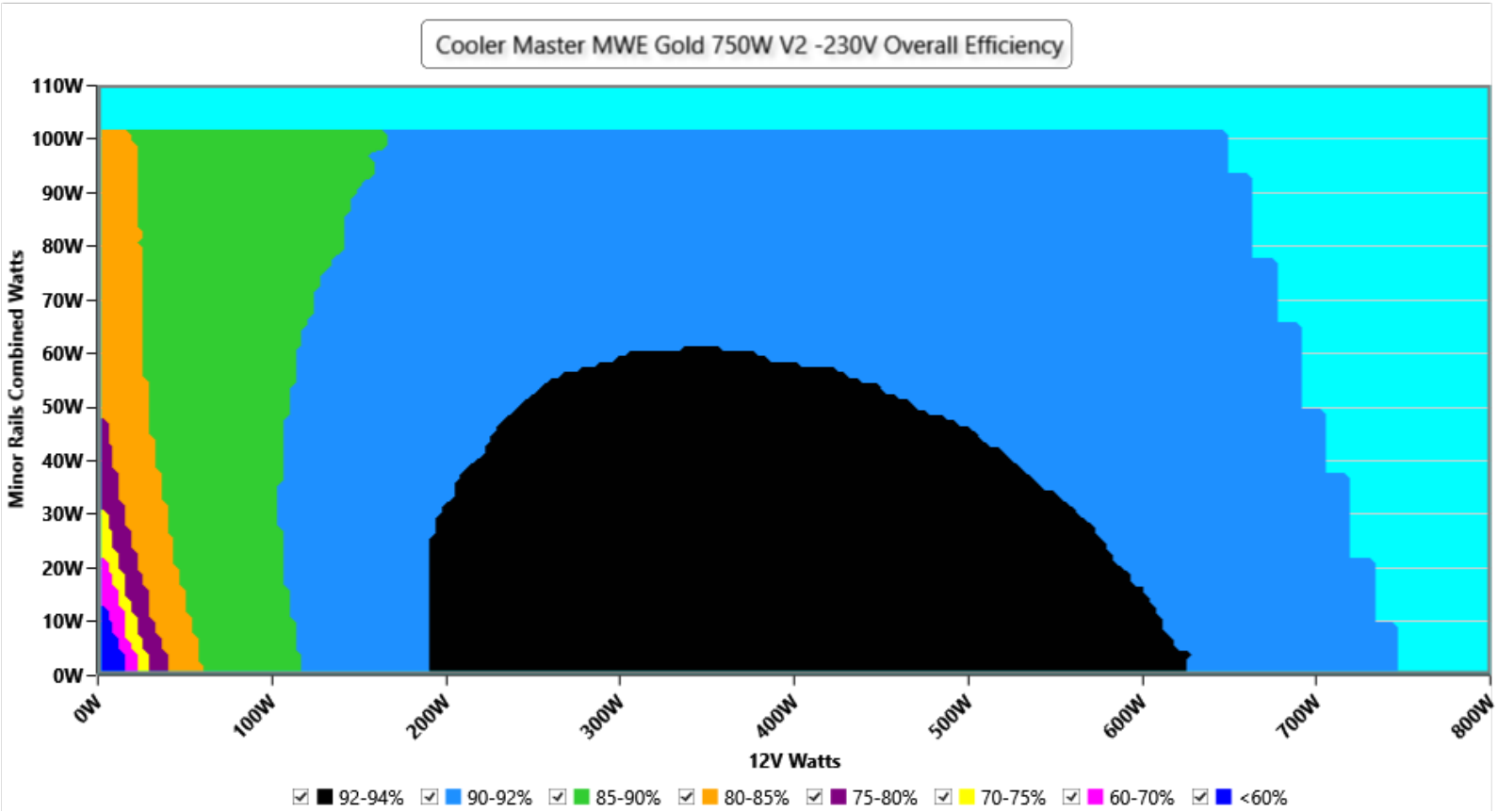
115V



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

230V



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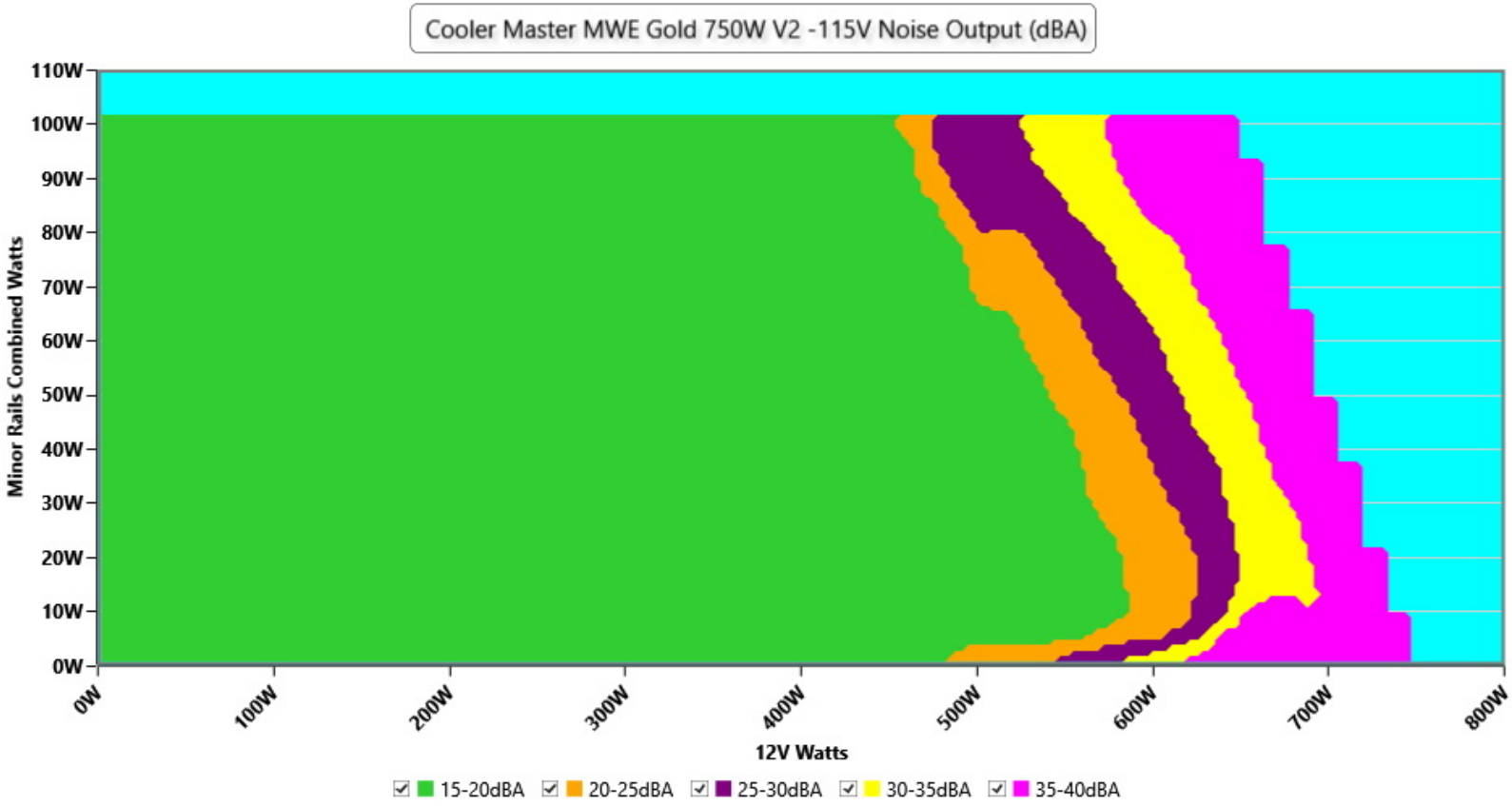
Noise Graph

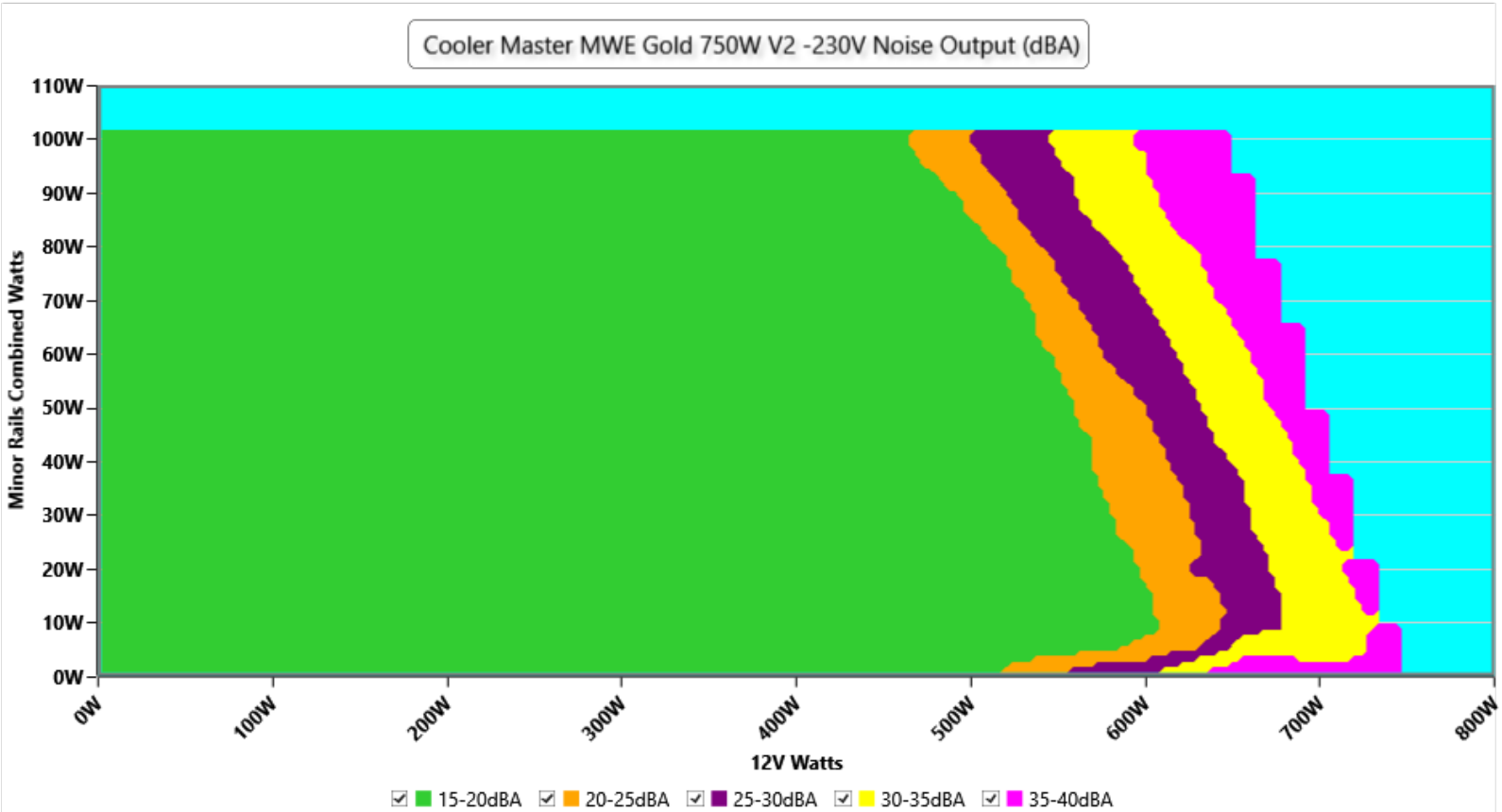
115V



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



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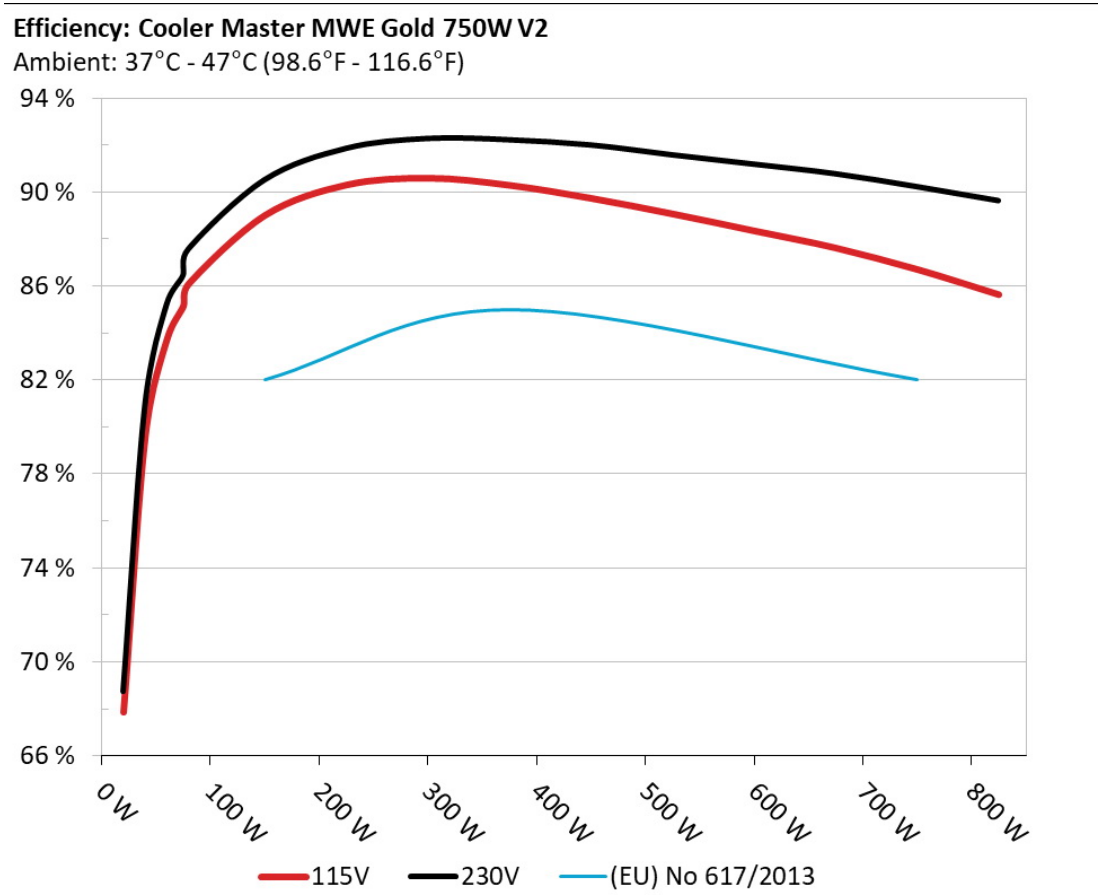
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

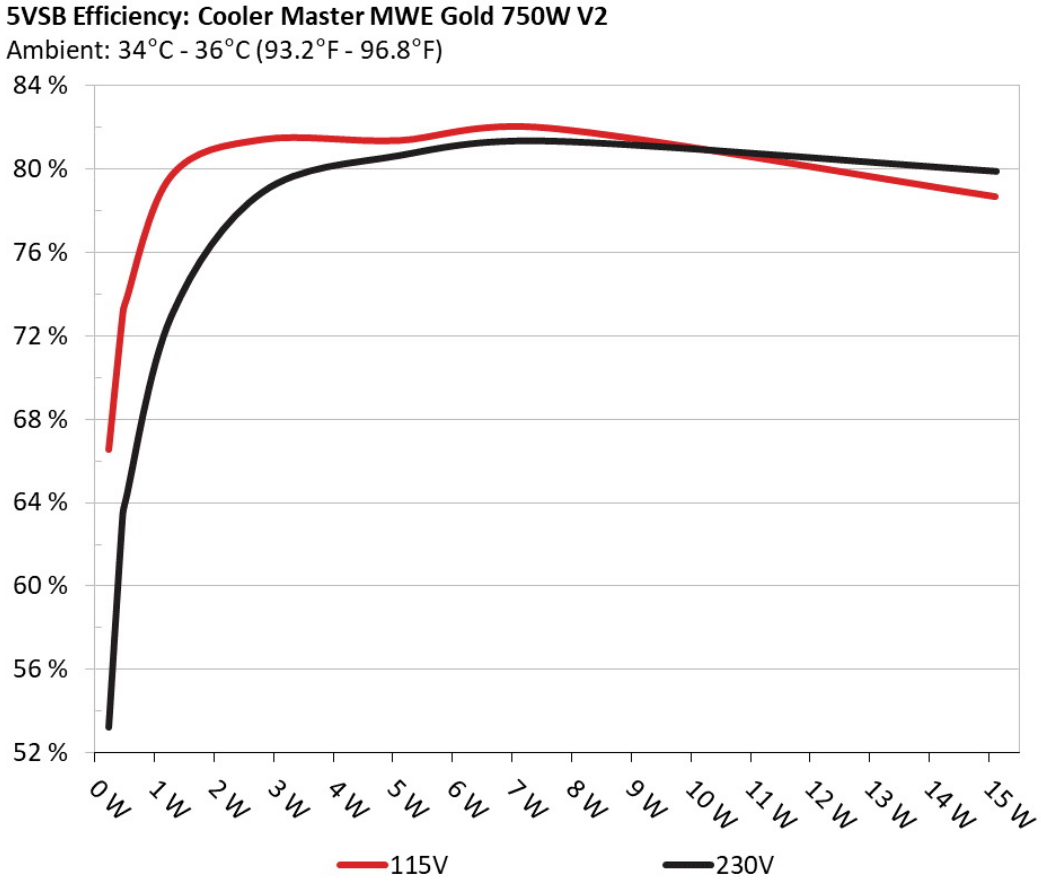
Efficiency under high ambient temperature



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

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

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	66.539%	0.041
	5.123V	0.346W		114.91V
2	0.09A	0.461W	72.963%	0.074
	5.122V	0.632W		114.93V
3	0.55A	2.81W	81.429%	0.294
	5.108V	3.451W		114.92V
4	1A	5.096W	81.381%	0.376
	5.095V	6.262W		114.92V
5	1.5A	7.622W	81.981%	0.427
	5.08V	9.298W		114.93V
6	3A	15.111W	78.688%	0.491
	5.037V	19.205W		114.92V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	53.249%	0.015
	5.123V	0.432W		229.88V
2	0.09A	0.461W	63.321%	0.026
	5.122V	0.729W		229.87V
3	0.55A	2.81W	78.876%	0.119
	5.108V	3.563W		229.88V
4	1A	5.096W	80.622%	0.193
	5.095V	6.322W		229.88V
5	1.5A	7.622W	81.319%	0.24
	5.081V	9.374W		229.88V
6	3A	15.112W	79.869%	0.349
	5.037V	18.921W		229.88V

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%	4.420A	1.981A	2.001A	0.984A	75.007	85.151%	771	16.7	40.44°C	0.974
	12.083V	5.049V	3.299V	5.084V	88.087				44.54°C	114.9V
20%	9.856A	2.972A	3.004A	1.184A	149.958	89.008%	772	16.7	40.91°C	0.984
	12.080V	5.048V	3.296V	5.066V	168.478				45.19°C	114.89V
30%	15.642A	3.468A	3.507A	1.387A	224.966	90.307%	773	16.7	41.01°C	0.986
	12.077V	5.046V	3.294V	5.049V	249.105				45.72°C	114.86V
40%	21.438A	3.964A	4.011A	1.59A	300.061	90.594%	776	16.8	41.92°C	0.99
	12.075V	5.045V	3.291V	5.032V	331.216				46.98°C	114.85V
50%	26.840A	4.957A	5.016A	1.795A	374.557	90.295%	780	16.8	42.49°C	0.993
	12.074V	5.044V	3.289V	5.013V	414.814				47.99°C	114.83V
60%	32.283A	5.95A	6.024A	2A	449.483	89.742%	1058	25	42.91°C	0.995
	12.071V	5.042V	3.287V	4.995V	500.862				48.99°C	114.81V
70%	37.728A	6.946A	7.036A	2.211A	524.396	89.078%	1497	35	43.12°C	0.996
	12.067V	5.04V	3.283V	4.976V	588.692				50.24°C	114.8V
80%	43.241A	7.941A	8.045A	2.319A	599.593	88.354%	1716	38.3	43.88°C	0.997
	12.065V	5.038V	3.281V	4.96V	678.621				52.02°C	114.78V
90%	49.078A	8.439A	8.538A	2.427A	674.615	87.626%	1719	38.3	44.57°C	0.997
	12.064V	5.037V	3.279V	4.944V	769.878				53.61°C	114.77V
100%	54.726A	8.937A	9.063A	3.053A	749.831	86.711%	1724	38.4	45.68°C	0.997
	12.062V	5.036V	3.277V	4.913V	864.746				55.69°C	114.73V
110%	60.245A	9.933A	10.167A	3.062A	824.864	85.64%	1731	38.5	46.88°C	0.998
	12.060V	5.035V	3.275V	4.899V	963.176				57.78°C	114.72V
CL1	0.116A	11.933A	12.026A	0A	101.303	82.527%	789	17	44.2°C	0.985
	12.085V	5.046V	3.3V	5.089V	122.751				49.61°C	114.9V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.116A	19.825A	0A	0A	101.415	80.321%	783	16.9	43.52°C	0.988
	12.087V	5.045V	3.303V	5.098V	126.263				50.56°C	114.89V
CL3	0.115A	0A	20.003A	0A	67.379	75.049%	781	16.9	41.46°C	0.974
	12.082V	5.047V	3.299V	5.093V	89.782				50.53°C	114.9V
CL4	62.138A	0A	0A	0A	749.787	87.512%	1723	38.4	46.26°C	0.997
	12.066V	5.043V	3.279V	5.023V	856.783				57.19°C	114.74V

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%	4.420A	1.979A	2A	0.984A	75.007	86.428%	772	16.7	40.31°C	0.798
	12.081V	5.053V	3.3V	5.084V	86.786				44.56°C	229.87V
20%	9.856A	2.97A	3.002A	1.184A	149.957	90.5%	775	16.8	40.64°C	0.908
	12.079V	5.051V	3.298V	5.066V	165.697				45.18°C	229.87V
30%	15.643A	3.465A	3.505A	1.387A	224.966	91.84%	776	16.8	41.38°C	0.944
	12.077V	5.05V	3.296V	5.049V	244.955				46.49°C	229.85V
40%	21.439A	3.962A	4.008A	1.59A	300.068	92.264%	778	16.8	41.61°C	0.962
	12.074V	5.049V	3.293V	5.031V	325.229				47.29°C	229.85V
50%	26.846A	4.954A	5.014A	1.795A	374.576	92.208%	783	16.9	42.43°C	0.973
	12.072V	5.047V	3.291V	5.013V	406.228				48.44°C	229.84V
60%	32.286A	5.946A	6.021A	2A	449.509	91.988%	1158	27.6	42.89°C	0.977
	12.070V	5.046V	3.289V	4.994V	488.663				49.45°C	229.83V
70%	37.734A	6.941A	7.033A	2.211A	524.423	91.566%	1688	37.9	43.26°C	0.982
	12.067V	5.043V	3.285V	4.975V	572.726				50.33°C	229.82V
80%	43.246A	7.935A	8.041A	2.319A	599.606	91.169%	1713	38.2	43.8°C	0.985
	12.064V	5.041V	3.283V	4.959V	657.687				52.01°C	229.81V
90%	49.086A	8.433A	8.533A	2.428A	674.614	90.763%	1721	38.3	44.84°C	0.986
	12.063V	5.041V	3.281V	4.944V	743.277				53.87°C	229.8V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	54.732A	8.931A	9.058A	3.054A	749.815	90.212%	1726	38.4	45.01°C	0.987
	12.060V	5.039V	3.278V	4.913V	831.165				55.06°C	229.79V
110%	60.250A	9.927A	10.163A	3.062A	824.827	89.617%	1732	38.5	46.66°C	0.988
	12.058V	5.038V	3.276V	4.899V	920.396				57.58°C	229.78V
CL1	0.116A	11.925A	12.02A	0A	101.296	83.856%	793	17.1	45.18°C	0.864
	12.084V	5.049V	3.302V	5.089V	120.799				50.64°C	229.87V
CL2	0.116A	19.808A	0A	0A	101.413	81.554%	786	16.9	43.86°C	0.869
	12.087V	5.05V	3.305V	5.098V	124.352				51.01°C	229.87V
CL3	0.115A	0A	19.958A	0A	67.378	76.195%	790	17.0	42.84°C	0.802
	12.082V	5.056V	3.306V	5.093V	88.428				51.88°C	229.88V
CL4	62.138A	0A	0A	0A	749.755	91.125%	1727	38.4	46.73°C	0.987
	12.066V	5.046V	3.28V	5.023V	822.775				57.66°C	229.79V

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	0.5A	0.195A	20.003	67.868%	761	16.5	37.04°C	0.841
	12.142V	5.048V	3.298V	5.117V	29.475				40.09°C	114.91V
40W	2.708A	0.693A	0.7A	0.294A	40.003	79.636%	760	16.5	37.92°C	0.925
	12.074V	5.048V	3.298V	5.111V	50.233				41.22°C	114.91V
60W	4.184A	0.891A	0.901A	0.392A	60.004	83.75%	763	16.5	38.2°C	0.956
	12.079V	5.048V	3.298V	5.105V	71.648				41.74°C	114.9V
80W	5.656A	1.089A	1.101A	0.49A	79.962	86.1%	765	16.6	38.88°C	0.973
	12.080V	5.049V	3.298V	5.099V	92.871				42.79°C	114.9V

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	1.226A	0.495A	0.5A	0.195A	20.002	68.725%	763	16.5	36.72°C	0.524
	12.115V	5.052V	3.3V	5.117V	29.101				39.78°C	229.88V
40W	2.708A	0.693A	0.7A	0.294A	40.002	80.894%	763	16.5	37.67°C	0.666
	12.074V	5.052V	3.3V	5.111V	49.446				41.05°C	229.88V
60W	4.183A	0.891A	0.9A	0.392A	60.002	85.207%	766	16.6	38.33°C	0.755
	12.080V	5.053V	3.3V	5.105V	70.417				41.84°C	229.88V
80W	5.656A	1.088A	1.1A	0.49A	79.957	87.552%	768	16.6	39.31°C	0.808
	12.080V	5.053V	3.3V	5.099V	91.323				43.09°C	229.88V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	22.18mV	9.70mV	9.31mV	6.96mV	Pass
20% Load	25.10mV	10.21mV	10.64mV	6.96mV	Pass
30% Load	18.60mV	10.88mV	10.28mV	7.47mV	Pass
40% Load	17.37mV	10.37mV	11.45mV	7.47mV	Pass
50% Load	18.03mV	11.75mV	12.48mV	7.98mV	Pass
60% Load	15.02mV	10.73mV	12.84mV	9.31mV	Pass
70% Load	15.68mV	12.11mV	14.06mV	8.65mV	Pass
80% Load	15.64mV	12.10mV	15.03mV	8.95mV	Pass
90% Load	17.29mV	12.67mV	15.55mV	9.42mV	Pass
100% Load	28.23mV	13.89mV	17.91mV	11.41mV	Pass
110% Load	31.86mV	14.59mV	18.05mV	12.69mV	Pass
Crossload1	27.04mV	11.16mV	14.73mV	7.45mV	Pass
Crossload2	22.33mV	10.98mV	11.10mV	6.35mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	20.18mV	7.30mV	13.35mV	7.42mV	Pass
Crossload4	27.61mV	11.98mV	14.49mV	10.05mV	Pass

The results above are not used in the certification process

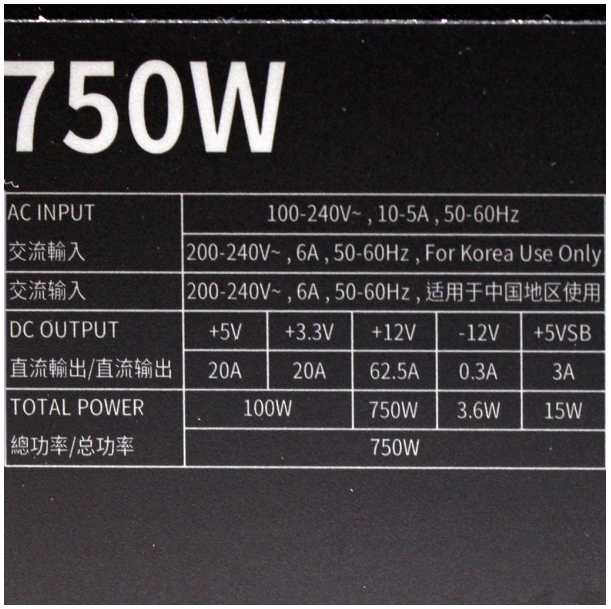
230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	27.81mV	9.24mV	9.05mV	7.11mV	Pass
20% Load	29.66mV	13.28mV	11.76mV	7.78mV	Pass
30% Load	21.22mV	10.32mV	10.23mV	9.11mV	Pass
40% Load	19.27mV	10.11mV	11.71mV	7.73mV	Pass
50% Load	19.37mV	11.54mV	12.22mV	7.98mV	Pass
60% Load	16.91mV	11.13mV	12.88mV	8.19mV	Pass
70% Load	16.40mV	11.44mV	13.29mV	8.29mV	Pass
80% Load	16.40mV	13.28mV	14.78mV	8.70mV	Pass
90% Load	17.99mV	13.79mV	16.21mV	9.57mV	Pass
100% Load	28.96mV	13.85mV	16.91mV	11.36mV	Pass
110% Load	30.13mV	14.75mV	18.13mV	11.66mV	Pass
Crossload1	31.73mV	10.97mV	13.60mV	7.75mV	Pass
Crossload2	28.22mV	10.62mV	11.20mV	7.32mV	Pass
Crossload3	26.33mV	7.61mV	12.68mV	7.42mV	Pass
Crossload4	28.43mV	12.60mV	14.70mV	10.31mV	Pass

The results above are not used in the certification process

Cooler Master MWE Gold 750 V2 (GX Gold 750) (#2)

Top side



750W

AC INPUT	100-240V~ , 10-5A , 50-60Hz				
交流輸入	200-240V~ , 6A , 50-60Hz , For Korea Use Only				
交流输入	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/直流输出	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 bietet freiwillige Zertifizierungsprogramme für Netzteile – ETA für Effizienz, LAMBDA für Lautstärke und SAFE für Sicherheit und korrekten Betrieb – sowie für Kühlprodukte mit DELTA für die Schalldämmung von Gehäusen und PHI für Luftstrom und statischen Druck von Lüftern

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