



Make It Yours.

Cooler Master MWE Gold 1050 V2 ATX v3.1 (GX Gold 1050)

Serial Number MPEA501AFCAG3U22241400001

Lab ID CM10502476

Certification ID 252476

Test Result Report ID: 24PS2476A

Certificate Issue Date: Jun 17, 2024

Scheme: ETA-EMI PSU

115V

230V

115V

230V

Scheme: LAMBDA PSU

Outside Validation Scope

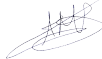
General Information

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 1050 V2 ATX v3.1 (GX Gold 1050)
OEM/ODM	
Serial Number	MPEA501AFCAG3U22241400001
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6

Rated Frequency (Hz)	50-60
Rated Power (W)	1050
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 (HA1425H12F-Z)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	CM10502476
Date of receipt	May 29, 2024
Testing Date	Jun 13, 2024
Report Issued Date	Jun 17, 2024
DUT Notes	Unit broke during OCP hot test on 5V rail
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 (650mm)	1	1	18AWG	No
8 pin EPS12V (650mm)	1	1	18AWG	No
6+2 pin PCIe (550mm)	3	3	16AWG	No
12+4 pin PCIe (650mm) (600W)	1	1	16-28AWG	No
SATA (500mm+120mm+120mm+120mm)	3	12	18AWG	No

4 pin Molex (500mm+120mm+120mm+120mm)	1	4	18AWG	No
AC Power Cord (1395mm) - C13 coupler	1	1	14AWG	-

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	87.5	3	0.3
	Watts	120		1050	15	3.6
Total Max. Power (W)		1050				

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)	89.244%
Average Noise Output (>1450 Load Combinations)	24.89dBA
Average PF (>1450 Load Combinations)	0.986
Efficiency With 10W ($\leq$ 500W) or 2% (>500W) Load	70.445%
Standby Power Consumption	0.0379W
Non-Accredited	
12V Ripple (Full Load)	28.59mV
5V Ripple (Full Load)	14.91mV
3.3V Ripple (Full Load)	15.46mV
5VSB Ripple (Full Load)	13.11mV
12V Load Regulation	0.16%
5V Load Regulation	0.34%
3.3V Load Regulation	0.92%
5VSB Load Regulation	2.16%
Inrush Current	48.580A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.436%
Average Noise Output (>1450 Load Combinations)	24.80dBA
Average PF (>1450 Load Combinations)	0.964
Efficiency With 10W ($\leq$ 500W) or 2% (>500W) Load	72.157%
Standby Power Consumption	0.0916W
Non-Accredited	
12V Ripple (Full Load)	30.02mV
5V Ripple (Full Load)	14.35mV
3.3V Ripple (Full Load)	15.31mV

5VSB Ripple (Full Load)	13.58mV	
12V Load Regulation	0.16%	
5V Load Regulation	0.34%	
3.3V Load Regulation	0.95%	
5VSB Load Regulation	2.16%	
Inrush Current	79.970A	
12V Transient Response (200%)	11.36V	
5V Transient Response (200%)	4.922V	
3.3V Transient Response (200%)	3.190V	
5VSB Transient Response (200%)	4.894V	
Hold-Up Time & PWR_OK Signal	30.30ms	
AC Loss to PWR_OK Hold Up Time	27.20ms	
PWR_OK Inactive to DC Loss Delay	3.10ms	
PSU Timings: T1 (20% / 100%)	86.0ms	80.0ms
PSU Timings: T3 (20% / 100%)	131.0ms	132.0ms
12V OCP (27.5°C / 38.8°C)	100.60A (114.97%), 12.151V	-
5V OCP (27.5°C / 38.8°C)	25.2A (126.00%), 5.013V	24.6A (123.00%), 5.016V
3.3V OCP (27.5°C / 38.8°C)	25.0A (125.00%), 3.273V	24.6A (123.00%), 3.277V
5VSB OCP (27.5°C / 38.8°C)	6.8A (226.67%), 5.018V	6.8A (226.67%), 5.016V
OPP (27.42°C / 42.58°C)	126.57%	126.28%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	30.3
AC Loss to PWR_OK Hold Up Time (ms)	27.2
PWR_OK Inactive to DC Loss Delay (ms)	3.1

Vampire Power

Tables

115V

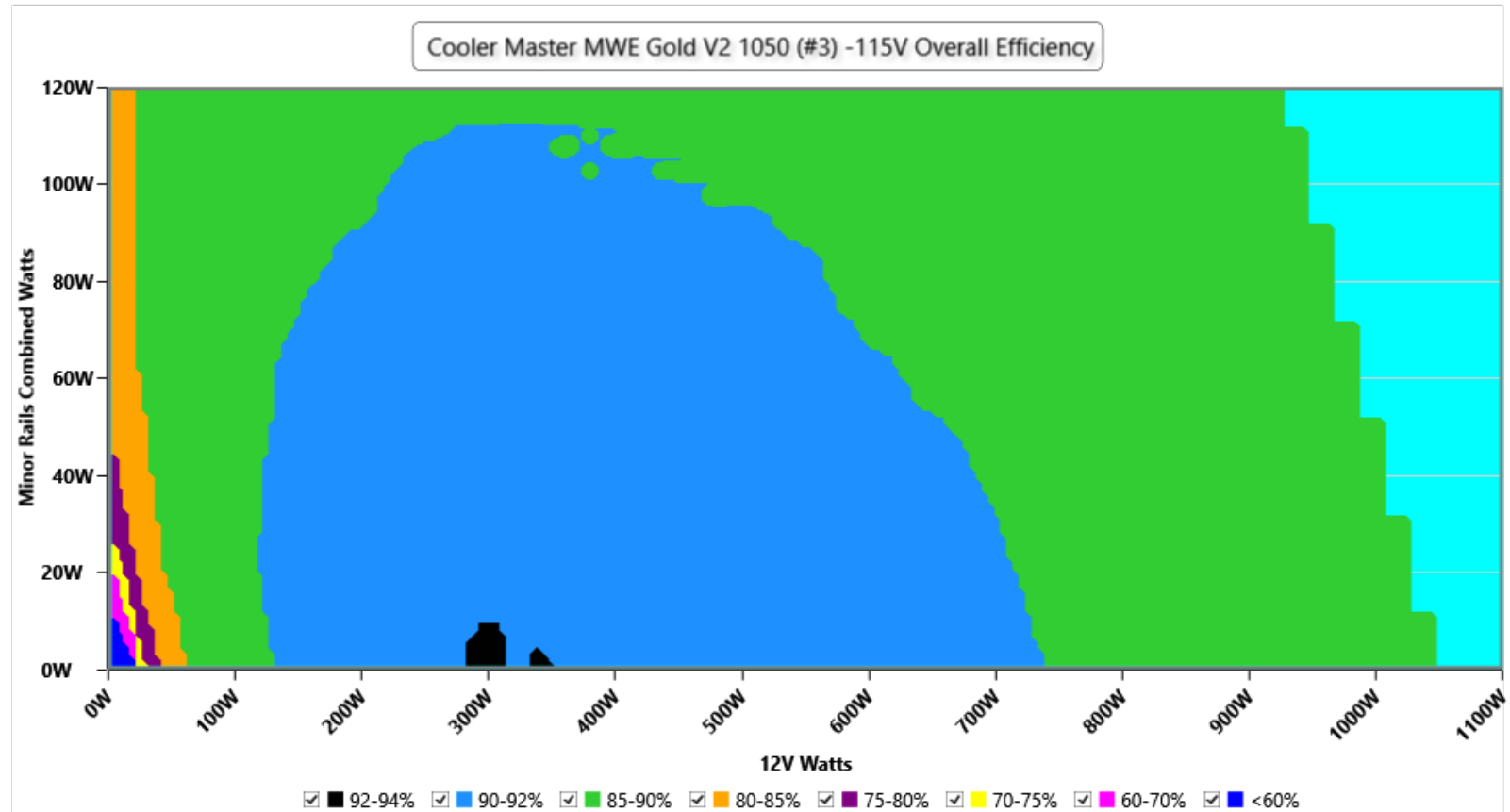
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.07 V	115.03 V	113.85 V	115.11 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.038 W	-0.009 W	N/A	0.079 W	N/A	N/A
Apparent Power:	7.004 W	6.529 W	N/A	7.484 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:	231.01 V	230.91 V	227.70 V	231.07 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 %	0.14 %	N/A	0.27 %	2.00 %	PASS
Real Power:	0.092 W	0.051 W	N/A	0.146 W	N/A	N/A
Apparent Power:	21.866 W	21.330 W	N/A	22.477 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

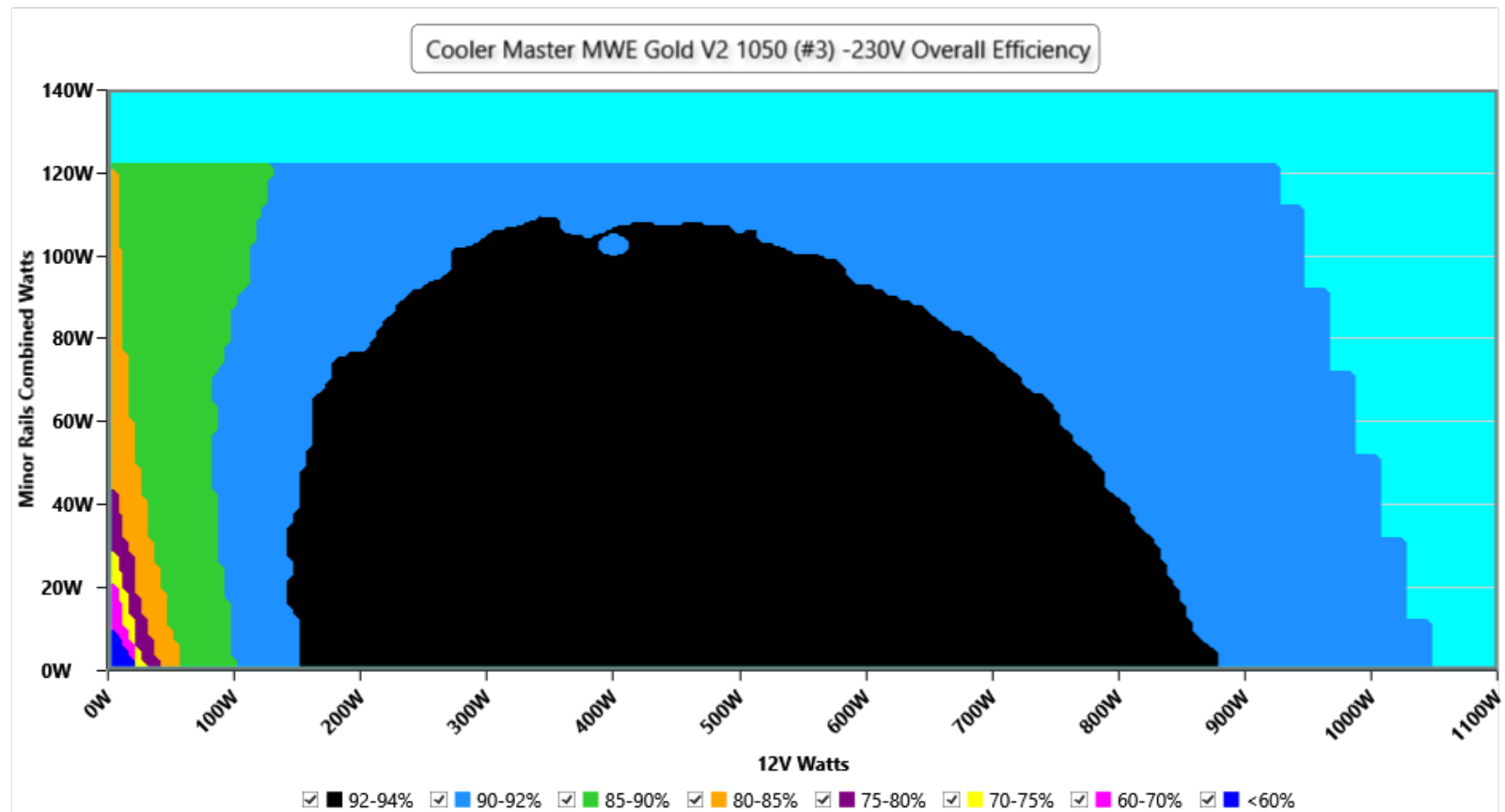
Efficiency Graph

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

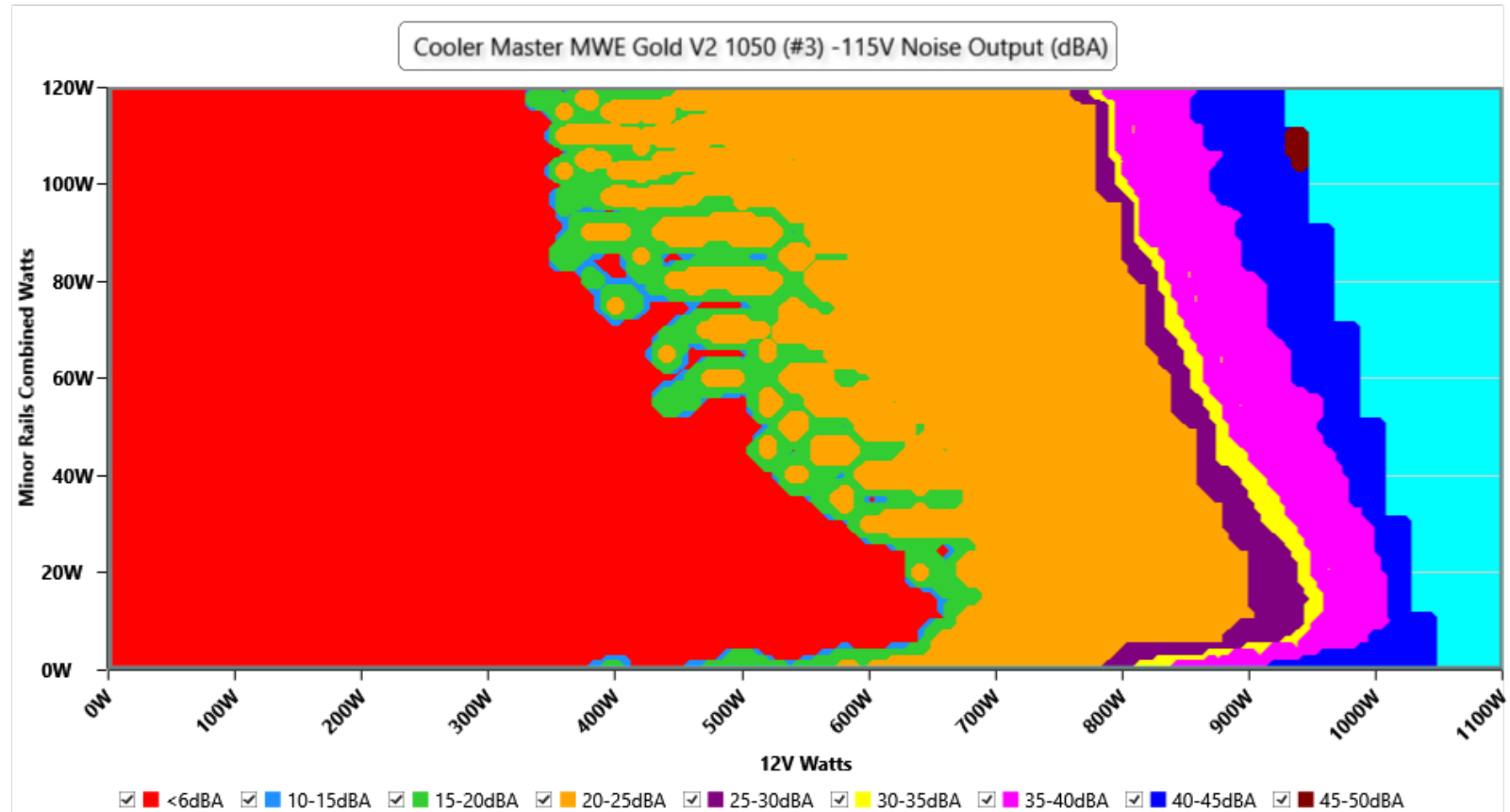


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This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

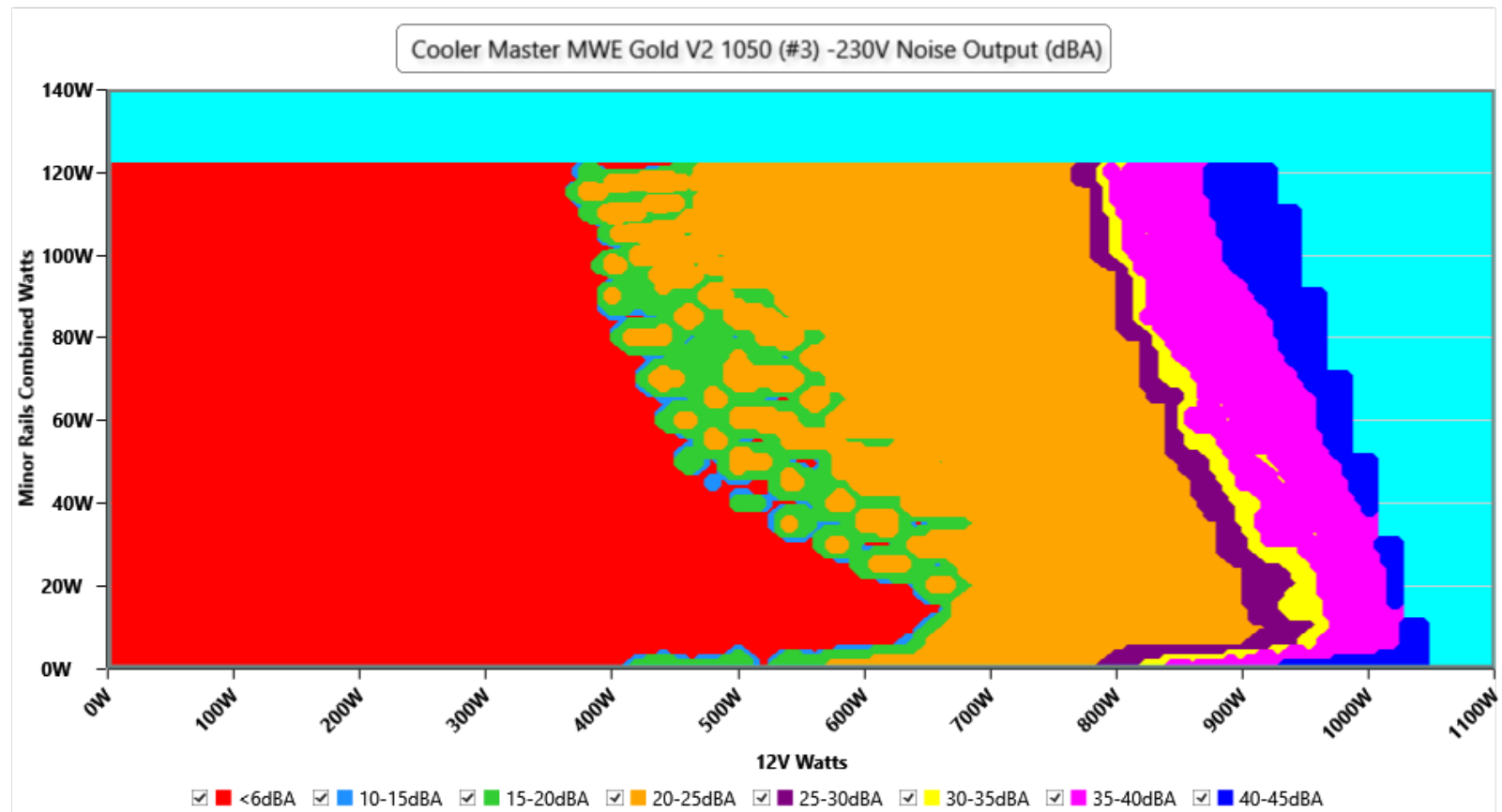
Noise Graph

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

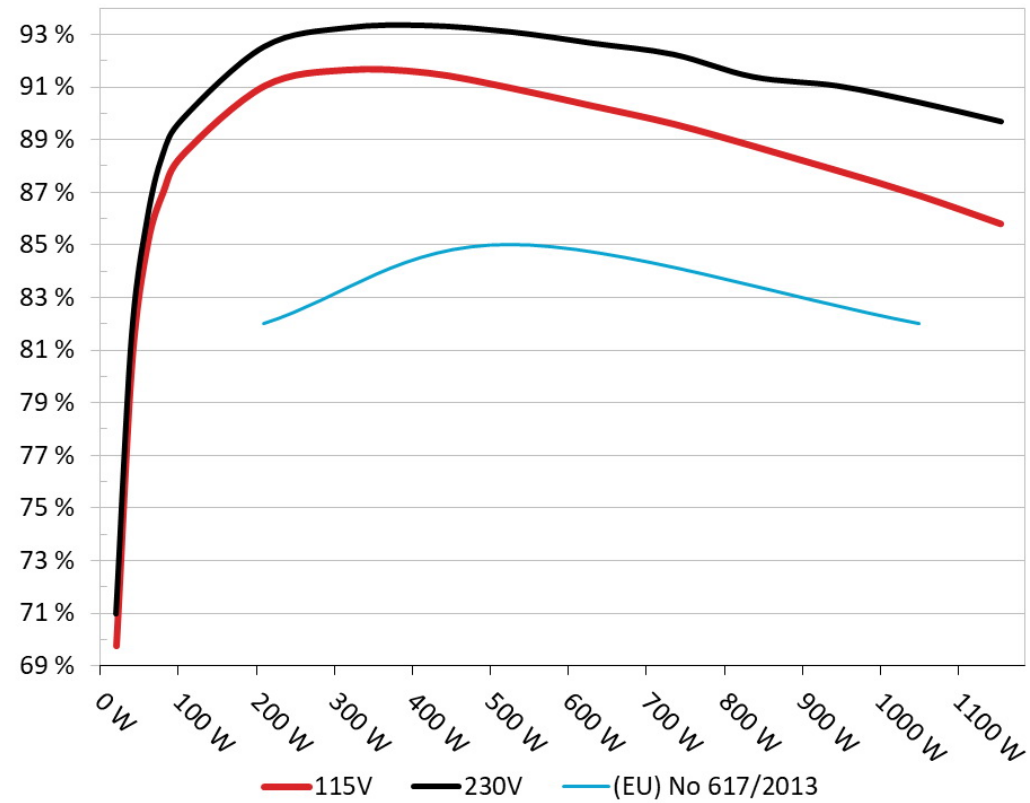
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Cooler Master MWE Gold V2 1050W

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



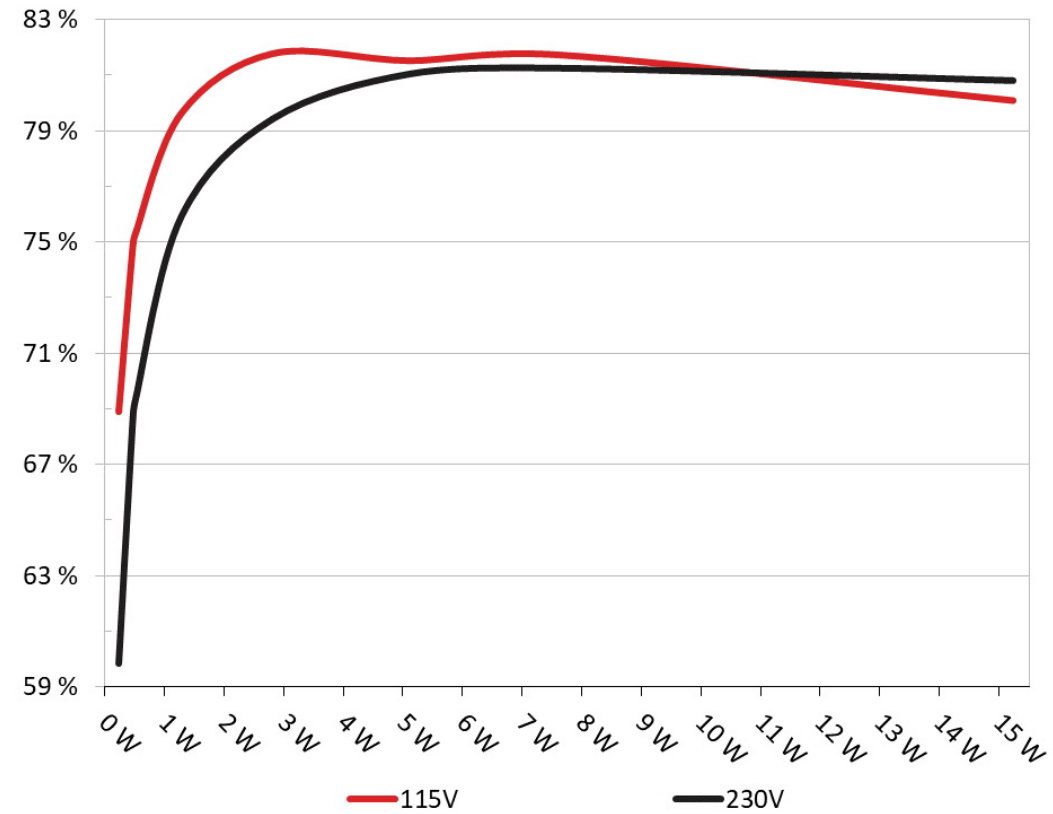
INFO

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 V2 1050W

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	0.23W	68.898%	0.053
	5.122V	0.334W		115.15V
2	0.09A	0.461W	74.738%	0.095
	5.121V	0.617W		115.15V
3	0.55A	2.813W	81.775%	0.328
	5.114V	3.44W		115.14V
4	1A	5.109W	81.519%	0.405
	5.108V	6.268W		115.14V
5	1.5A	7.652W	81.724%	0.438
	5.1V	9.363W		115.14V
6	3A	15.233W	80.086%	0.49
	5.077V	19.022W		115.13V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	59.849%	0.018
	5.122V	0.385W		230.36V
2	0.09A	0.461W	68.458%	0.032
	5.121V	0.674W		230.36V
3	0.55A	2.813W	79.441%	0.152
	5.114V	3.542W		230.35V
4	1A	5.109W	81.058%	0.232
	5.108V	6.302W		230.35V
5	1.5A	7.652W	81.265%	0.291
	5.1V	9.417W		230.35V
6	3A	15.236W	80.82%	0.373
	5.078V	18.852W		230.35V

Protection Features

OCP (Cold @ 27.5°C)	12V: 100.60A (114.97%), 12.151V 5V: 25.2A (126.00%), 5.013V 3.3V: 25.0A (125.00%), 3.273V 5VSB: 6.8A (226.67%), 5.018V
OCP (Hot) @ 38.8°C	12V: - 5V: 24.6A (123.00%), 5.016V 3.3V: 24.6A (123.00%), 3.277V 5VSB: 6.8A (226.67%), 5.016V
OCP (Cold @ 27.4°C)	1328.959W (126.57%)
OCP (Hot @ 42.6°C)	1325.979W (126.28%)
OTP	✓ (155°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%	6.866A	1.986A	2.001A	0.98A	104.963	88.409%	0	<6.0	47.79°C	0.973
	12.141V	5.035V	3.298V	5.102V	118.726				40.16°C	115.11V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	14.750A	2.981A	3.005A	1.178A	209.961	91.025%	0	<6.0	48.58°C	0.979
	12.139V	5.034V	3.294V	5.092V	230.665				40.62°C	115.08V
30%	22.979A	3.478A	3.509A	1.377A	314.976	91.633%	0	<6.0	51.83°C	0.98
	12.138V	5.033V	3.291V	5.083V	343.741				41.4°C	115.05V
40%	31.183A	3.976A	4.014A	1.577A	419.658	91.52%	0	<6.0	54.23°C	0.984
	12.136V	5.031V	3.289V	5.074V	458.545				41.77°C	115.01V
50%	39.102A	4.972A	5.023A	1.778A	525.003	90.953%	0	<6.0	57.91°C	0.988
	12.135V	5.03V	3.285V	5.064V	577.23				42.18°C	114.97V
60%	46.959A	5.97A	6.034A	1.979A	629.547	90.275%	837	23.7	42.9°C	0.99
	12.132V	5.027V	3.282V	5.054V	697.367				59.03°C	114.92V
70%	54.885A	6.969A	7.047A	2.181A	734.887	89.582%	857	24	43.22°C	0.991
	12.130V	5.024V	3.278V	5.044V	820.344				60.04°C	114.89V
80%	62.815A	7.966A	8.06A	2.284A	839.719	88.717%	1668	42.7	43.77°C	0.992
	12.128V	5.022V	3.275V	5.036V	946.515				56.38°C	114.86V
90%	71.142A	8.467A	8.557A	2.387A	945.107	87.811%	1990	45.8	44.26°C	0.992
	12.125V	5.02V	3.272V	5.027V	1076.306				56.77°C	114.81V
100%	79.206A	8.967A	9.085A	2.994A	1049.926	86.867%	2012	46.9	45.89°C	0.993
	12.123V	5.019V	3.269V	5.011V	1208.658				59.84°C	114.78V
110%	87.135A	9.967A	10.197A	2.998A	1154.548	85.793%	2031	47.2	46.49°C	0.993
	12.122V	5.017V	3.265V	5.004V	1345.739				62.94°C	114.75V
CL1	0.116A	14.37A	14.524A	0A	121.302	83.89%	0	<6.0	41.34°C	0.975
	12.140V	5.024V	3.284V	5.106V	144.603				40.23°C	115.11V
CL2	0.115A	19.927A	0A	0A	101.397	81.9%	0	<6.0	46.69°C	0.975
	12.145V	5.018V	3.29V	5.114V	123.809				41.6°C	115.11V
CL3	0.115A	0A	20.14A	0A	67.388	76.84%	0	<6.0	47.77°C	0.967
	12.143V	5.035V	3.277V	5.108V	87.7				40.86°C	115.12V
CL4	86.539A	0A	0A	0A	1049.617	87.352%	2011	46.9	45.86°C	0.993
	12.129V	5.024V	3.272V	5.064V	1201.588				59.82°C	114.79V

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%	6.867A	1.987A	2.002A	0.98A	104.977	89.786%	0	<6.0	48.5°C	0.892
	12.142V	5.035V	3.297V	5.101V	116.914				40.16°C	230.38V
20%	14.750A	2.981A	3.006A	1.179A	209.975	92.546%	0	<6.0	49.75°C	0.946
	12.140V	5.033V	3.294V	5.092V	226.883				40.55°C	230.36V
30%	22.980A	3.479A	3.51A	1.377A	314.989	93.258%	0	<6.0	52.15°C	0.962
	12.138V	5.032V	3.291V	5.083V	337.758				41.27°C	230.35V
40%	31.186A	3.976A	4.015A	1.577A	419.699	93.346%	0	<6.0	53.3°C	0.971
	12.137V	5.031V	3.288V	5.074V	449.622				41.78°C	230.33V
50%	39.104A	4.972A	5.024A	1.778A	525.028	93.109%	0	<6.0	55.48°C	0.976
	12.135V	5.029V	3.285V	5.064V	563.903				42.41°C	230.31V
60%	46.962A	5.971A	6.034A	1.979A	629.581	92.679%	837	23.7	42.57°C	0.98
	12.132V	5.025V	3.282V	5.054V	679.287				54.14°C	230.3V
70%	54.888A	6.97A	7.048A	2.181A	734.902	92.247%	852	23.9	43.29°C	0.981
	12.130V	5.023V	3.278V	5.045V	796.667				55.3°C	230.28V
80%	62.820A	7.967A	7.498A	1.921A	836.119	91.398%	844	23.2	43.77°C	0.983
	12.128V	5.021V	3.274V	5.041V	914.72				53.21°C	230.26V
90%	71.148A	8.469A	8.558A	2.387A	945.173	91.049%	1992	45.9	44.04°C	0.985
	12.125V	5.019V	3.271V	5.027V	1038.097				53.97°C	230.25V
100%	79.214A	8.969A	9.087A	2.994A	1050.017	90.42%	2015	46.8	45.74°C	0.986
	12.123V	5.018V	3.268V	5.011V	1161.256				55.9°C	230.24V
110%	87.141A	9.969A	10.199A	2.998A	1154.612	89.696%	2030	47.1	47.13°C	0.987
	12.122V	5.016V	3.265V	5.004V	1287.247				58.94°C	230.21V
CL1	0.116A	14.372A	14.525A	0A	121.305	85.022%	0	<6.0	43.46°C	0.916
	12.140V	5.024V	3.284V	5.106V	142.682				40.46°C	230.37V
CL2	0.115A	19.931A	0A	0A	101.397	83.13%	0	<6.0	46.14°C	0.898
	12.146V	5.017V	3.289V	5.113V	121.989				41.94°C	230.37V
CL3	0.115A	0A	20.141A	0A	67.391	78.197%	0	<6.0	47°C	0.851
	12.143V	5.035V	3.277V	5.108V	86.179				40.98°C	230.38V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	86.543A	0A	0A	0A	1049.649	90.876%	2020	46.9	45.96°C	0.986
	12.128V	5.024V	3.272V	5.064V	1155.036				57.76°C	230.23V

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	0.497A	0.501A	0.195A	20.001	69.764%	0	<6.0	42.54°C	0.906
	12.142V	5.033V	3.293V	5.119V	28.67				36.61°C	115.14V
40W	2.692A	0.695A	0.701A	0.293A	39.999	80.546%	0	<6.0	43.13°C	0.945
	12.142V	5.034V	3.294V	5.116V	49.657				37.2°C	115.13V
60W	4.162A	0.894A	0.9A	0.391A	59.998	85.03%	0	<6.0	44.38°C	0.965
	12.142V	5.036V	3.299V	5.114V	70.559				38.27°C	115.13V
80W	5.627A	1.092A	1.1A	0.489A	79.954	86.987%	0	<6.0	45.72°C	0.965
	12.141V	5.036V	3.299V	5.111V	91.913				39.16°C	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])	Temps (In/Out)	PF/AC Volts
20W	1.223A	0.497A	0.501A	0.195A	20.001	70.982%	0	<6.0	42.33°C	0.619
	12.143V	5.033V	3.293V	5.119V	28.178				36.9°C	230.37V
40W	2.692A	0.695A	0.701A	0.293A	39.999	81.543%	0	<6.0	43.84°C	0.758
	12.142V	5.033V	3.294V	5.116V	49.047				37.78°C	230.37V
60W	4.162A	0.894A	0.9A	0.391A	59.999	85.982%	0	<6.0	44.92°C	0.824
	12.142V	5.035V	3.299V	5.114V	69.782				38.08°C	230.37V
80W	5.628A	1.093A	1.1A	0.489A	79.962	88.442%	0	<6.0	46.66°C	0.859
	12.142V	5.035V	3.299V	5.111V	90.417				39.37°C	230.37V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	16.0 mV	6.7 mV	3.8 mV	7.5 mV	Pass
20% Load	21.5 mV	7.4 mV	4.5 mV	8.1 mV	Pass
30% Load	20.1 mV	9.5 mV	5.3 mV	8.9 mV	Pass
40% Load	18.4 mV	9.1 mV	5.3 mV	9.6 mV	Pass
50% Load	14.6 mV	10.4 mV	6.0 mV	10.3 mV	Pass
60% Load	14.7 mV	11.0 mV	7.0 mV	10.8 mV	Pass
70% Load	16.5 mV	10.8 mV	6.9 mV	12.2 mV	Pass
80% Load	17.1 mV	11.7 mV	12.9 mV	12.2 mV	Pass
90% Load	18.3 mV	12.3 mV	14.0 mV	12.1 mV	Pass
100% Load	28.6 mV	14.9 mV	15.5 mV	13.1 mV	Pass
110% Load	32.5 mV	15.6 mV	15.9 mV	13.9 mV	Pass
Crossload 1	23.2 mV	8.3 mV	13.3 mV	10.8 mV	Pass
Crossload 2	16.4 mV	7.8 mV	4.2 mV	10.4 mV	Pass
Crossload 3	13.5 mV	7.1 mV	14.6 mV	9.8 mV	Pass
Crossload 4	28.5 mV	13.7 mV	8.4 mV	15.3 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	18.8 mV	6.7 mV	3.8 mV	7.5 mV	Pass
20% Load	22.7 mV	7.2 mV	4.2 mV	7.9 mV	Pass
30% Load	21.7 mV	8.8 mV	5.3 mV	9.6 mV	Pass
40% Load	18.8 mV	9.5 mV	5.4 mV	10.1 mV	Pass
50% Load	15.7 mV	10.3 mV	5.7 mV	10.3 mV	Pass
60% Load	15.4 mV	10.3 mV	6.2 mV	11.4 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	16.7 mV	11.3 mV	6.9 mV	11.8 mV	Pass
80% Load	15.0 mV	10.6 mV	9.5 mV	10.7 mV	Pass
90% Load	18.5 mV	12.6 mV	13.5 mV	12.3 mV	Pass
100% Load	30.0 mV	14.4 mV	15.3 mV	13.6 mV	Pass
110% Load	33.4 mV	16.0 mV	15.7 mV	13.1 mV	Pass
Crossload 1	24.0 mV	8.2 mV	12.8 mV	10.8 mV	Pass
Crossload 2	17.8 mV	6.6 mV	3.8 mV	10.3 mV	Pass
Crossload 3	15.7 mV	7.2 mV	14.2 mV	9.9 mV	Pass
Crossload 4	29.1 mV	13.6 mV	8.2 mV	15.2 mV	Pass

The results above are not used in the certification process

- › 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

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