Make It Yours.

Cooler Master GX III 750 Gold

Lab ID CM75002433

Certification ID 252433

Test Result Report ID: 24PS2433A

Certificate Issue Date: May 8, 2024

Scheme: ETA-EMI PSU

115V 230V

Scheme: LAMBDA PSU

115V 230V

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	GX III 750 Gold
OEM/ODM	Lite-On
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	10-5

□□□□ (Hz)	50-60
□□□□ (W)	750
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	135mm Fluid Dynamic Bearing Fan (HA13525H12F-Z)
□□□□□	✓
Cybenetics Testing Information	
Lab ID	CM75002433
Date of receipt	Apr 9, 2024
Testing Date	May 3, 2024
Report Issued Date	May 8, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□				
□□	□□□□	□□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (610mm)	1	1	18-22AWG	□
4+4 pin EPS 12V □□ (600mm)	1	1	18AWG	□
8 pin EPS 12V □□ (600mm)	1	1	18AWG	□
6+2pin PCIe□□ (550mm)	3	3	16-18AWG	□
12+4 pin PCIe (650mm) (450W)	1	1	16-28AWG	□
SATA□□ (500mm+120mm+120mm+120mm)	2	8	20AWG	□
4-pin Molex (500mm+120mm+120mm+120mm)	1	4	20AWG	□

AC Power Cord (1360mm) - C13 coupler	1	1	18AWG	-

Protection Features(Manufacturer)

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

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	20	20	62.5	3	0.3
	□	120		750	15	3.6
□□□□□ (W)		750				

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 v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	89.904%
Average Noise Output (>1450 Load Combinations)	29.52dBA
PF□□□ (>1450 Load Combinations)	0.993
Efficiency With 10W (≤500W) or 2% (>500W) Load	79.730%
□□□□□□	0.0905W
Non-Accredited	
12V Ripple (Full Load)	45.37mV
5V Ripple (Full Load)	18.33mV
3.3V Ripple (Full Load)	17.90mV
5VSB Ripple (Full Load)	15.56mV
12V Load Regulation	0.87%
5V Load Regulation	2.28%
3.3V Load Regulation	3.18%
5VSB Load Regulation	4.80%
Inrush Current	33.000A

230V

Accredited	
□□□□ (>1450 load combinations)	91.809%
Average Noise Output (>1450 Load Combinations)	29.34dBA
PF□□□ (>1450 Load Combinations)	0.981
Efficiency With 10W (≤500W) or 2% (>500W) Load	77.888%
□□□□□□	0.1274W
Non-Accredited	
12V Ripple (Full Load)	46.55mV
5V Ripple (Full Load)	17.82mV
3.3V Ripple (Full Load)	17.80mV

5VSB Ripple (Full Load)		13.95mV
12V Load Regulation		0.85%
5V Load Regulation		2.28%
3.3V Load Regulation		2.18%
5VSB Load Regulation		4.85%
Inrush Current		65.430A
12V Transient Response (200%)		11.19V
5V Transient Response (200%)		4.823V
3.3V Transient Response (200%)		3.231V
5VSB Transient Response (200%)		4.933V
□□□□ & PG□□		29.20ms
AC Loss to PWR_OK Hold Up Time		25.00ms
PWR_OK Inactive to DC Loss Delay		4.20ms
PSU Timings: T1 (20% / 100%)	43.0ms	57.0ms
PSU Timings: T3 (20% / 100%)	125.0ms	126.0ms
OPP (28.35°C / 41.21°C)	135.56%	128.09%

□□□□ & PG□□

Hold-Up Time (ms)	29.2
AC Loss to PWR_OK Hold Up Time (ms)	25
PWR_OK Inactive to DC Loss Delay (ms)	4.2

□□□□

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.85 V	114.79 V	113.85 V	114.91 V	116.15 V	PASS

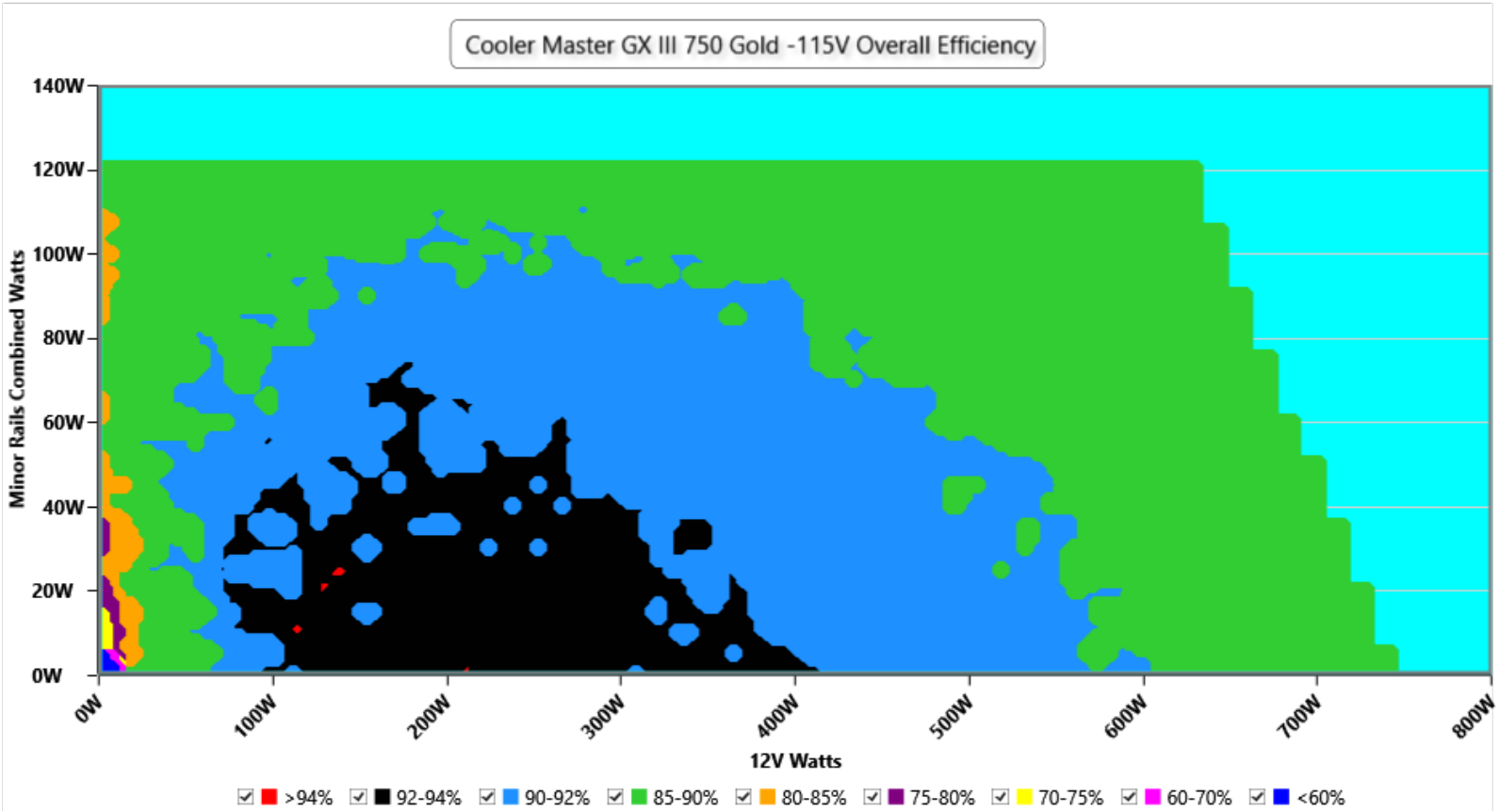
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.420	1.418	1.340	1.422	1.490	PASS
Mains Voltage THD:	0.15 %	0.10 %	N/A	0.28 %	2.00 %	PASS
Real Power:	0.090 W	0.080 W	N/A	0.101 W	N/A	N/A
Apparent Power:	7.444 W	7.428 W	N/A	7.461 W	N/A	N/A
Power Factor:	0.012	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.87 V	229.77 V	227.70 V	229.92 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:	1.419	1.418	1.340	1.420	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.127 W	0.105 W	N/A	0.153 W	N/A	N/A
Apparent Power:	25.355 W	25.336 W	N/A	25.378 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

□□□□□□

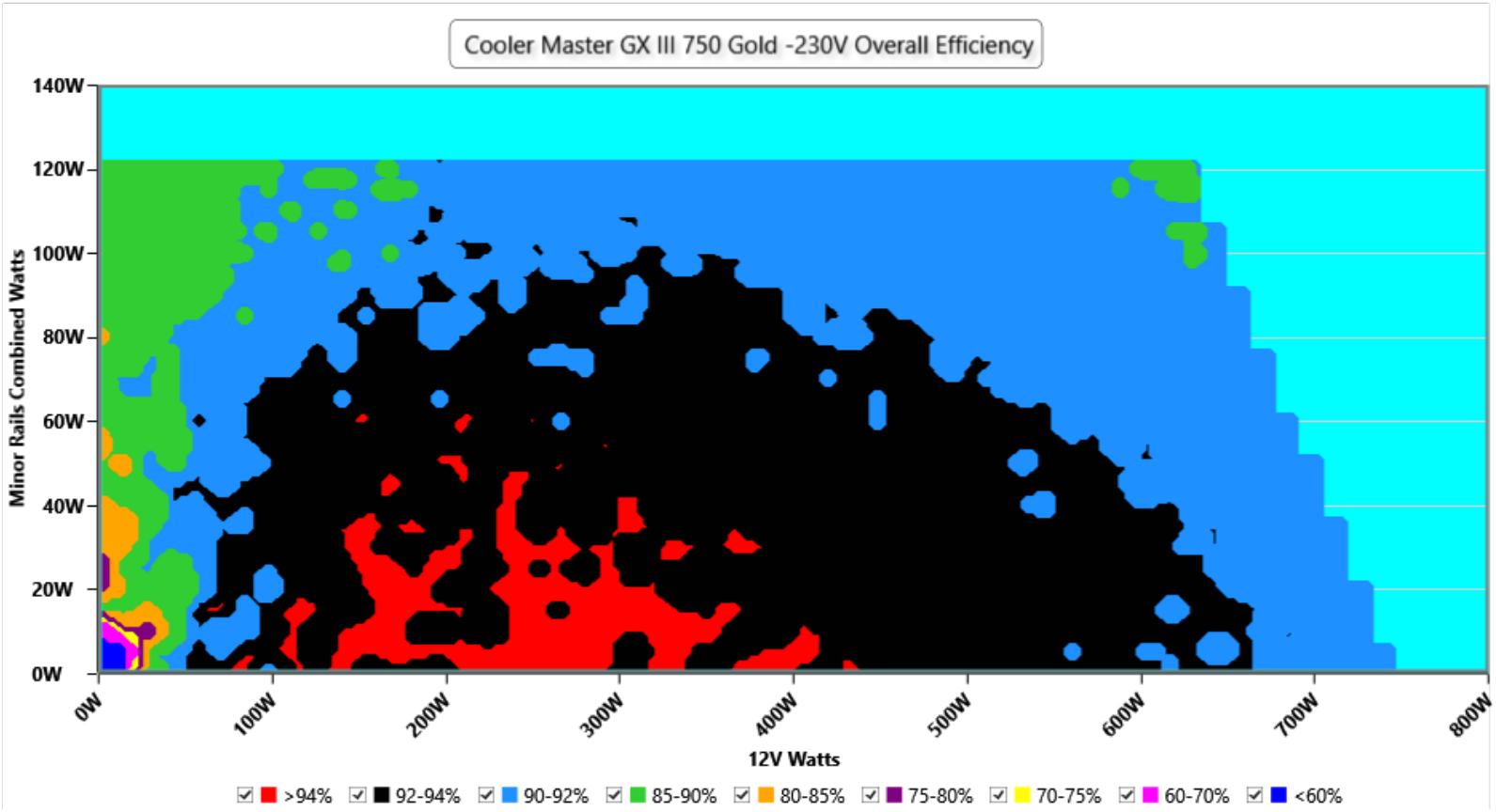
115V



□□

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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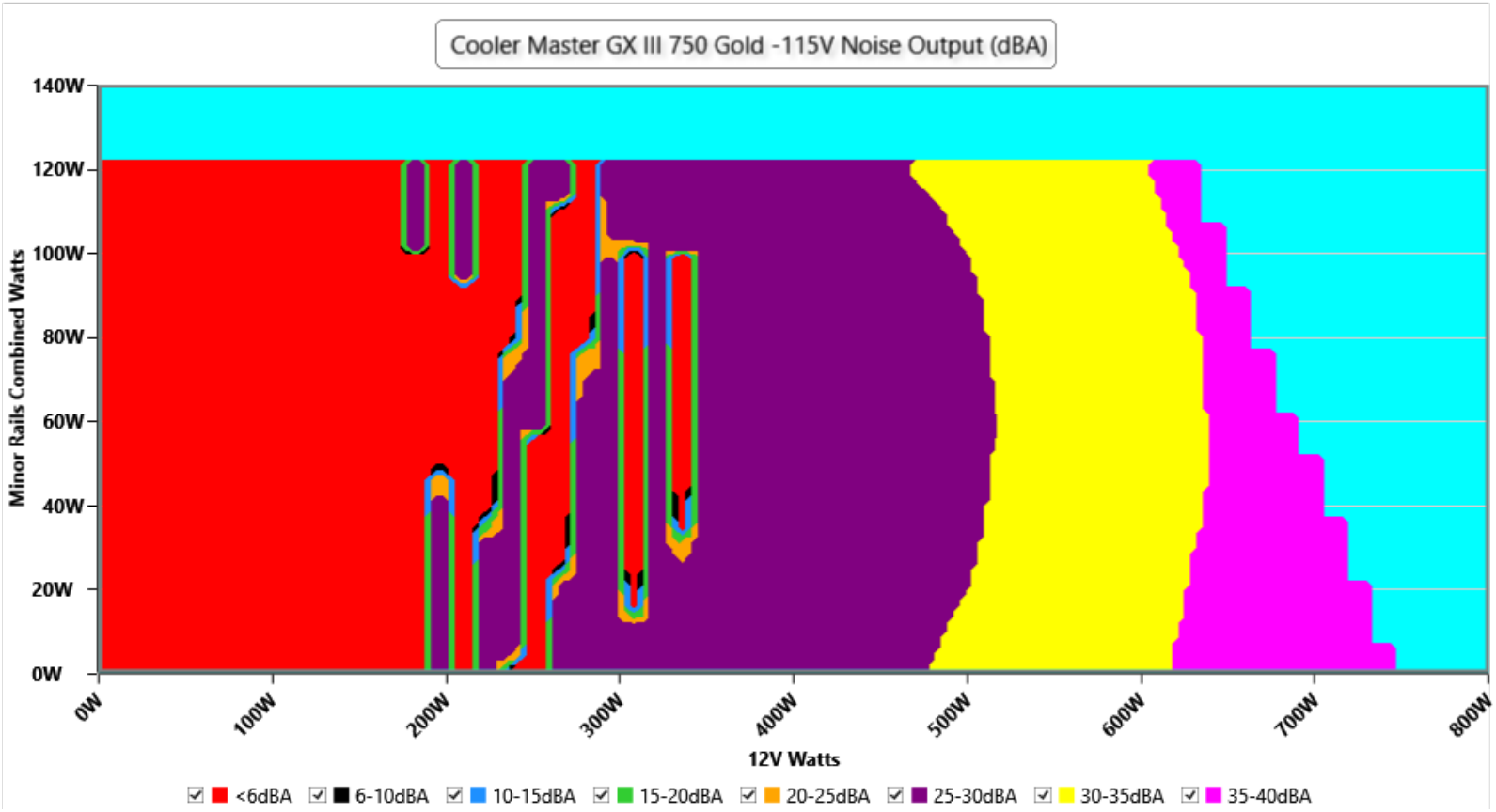
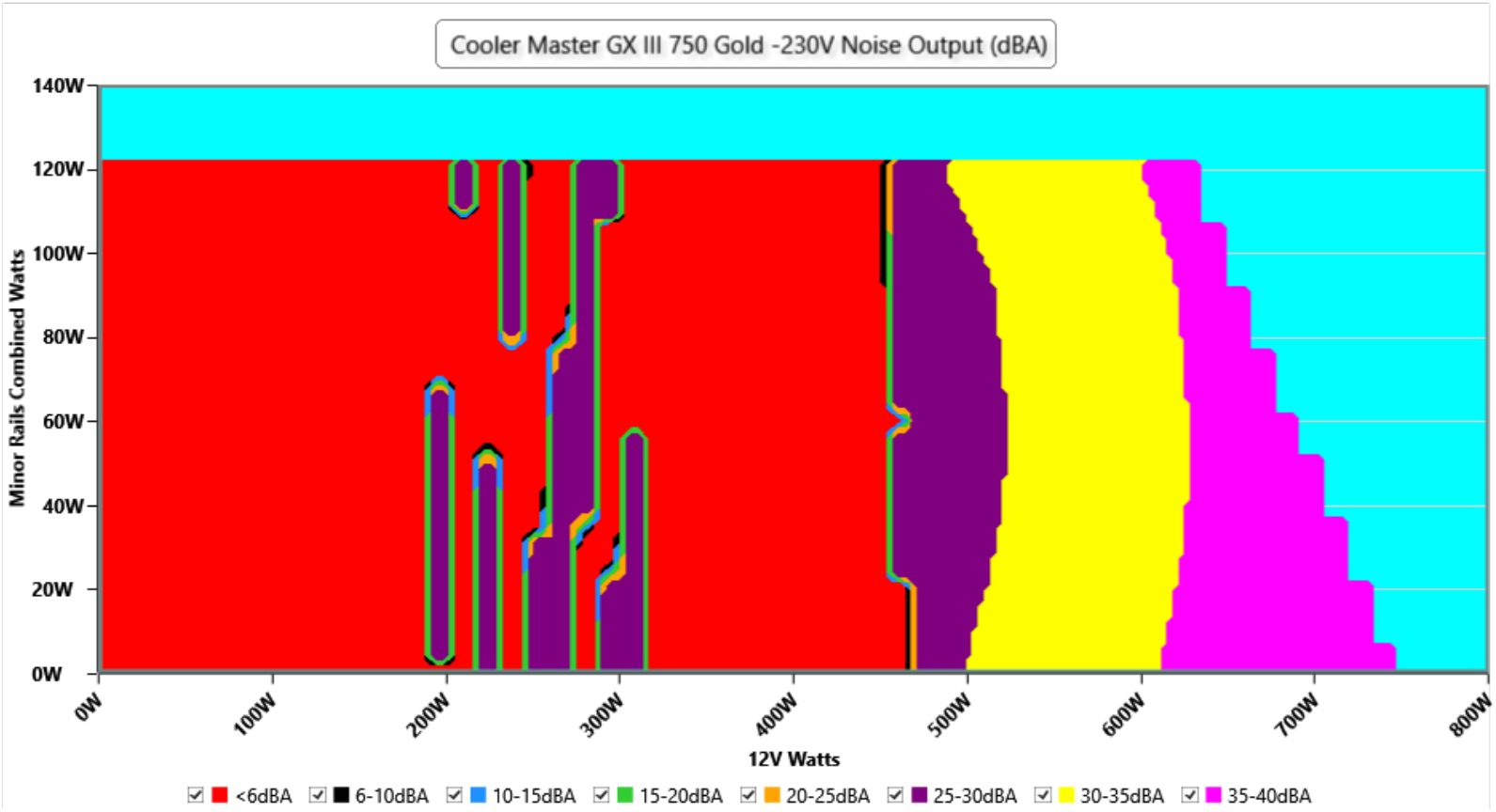
115V



□□

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) · 44.6 °C	0 RPM · <6.0 dB(A) · 44.6 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.3 °C	0 RPM · <6.0 dB(A) · 45.3 °C	fan off in both
50%	994 RPM · 29.5 dB(A) · 42.0 °C	994 RPM · 29.5 dB(A) · 42.0 °C	**+0.0 dB(A)**
100%	1928 RPM · 45.7 dB(A) · 45.7 °C	1928 RPM · 45.7 dB(A) · 45.7 °C	**+0.0 dB(A)**

230V

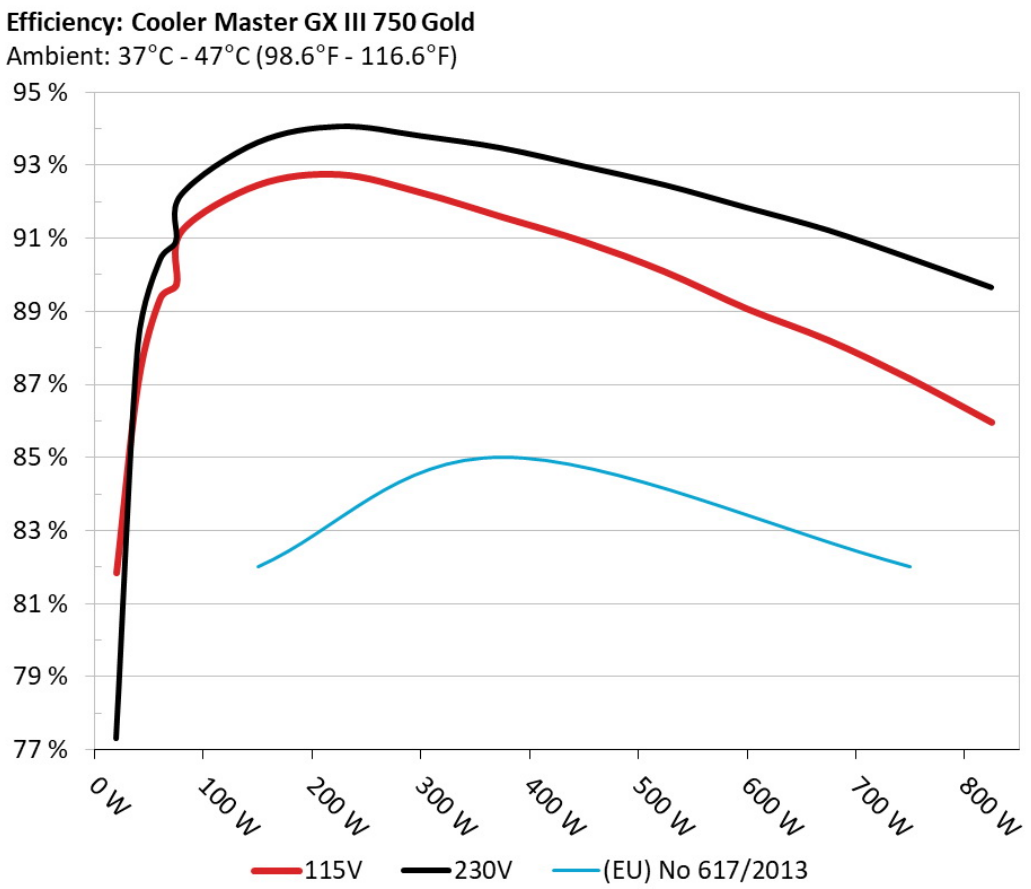
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.5 °C	0 RPM · <6.0 dB(A) · 44.5 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.2 °C	0 RPM · <6.0 dB(A) · 45.2 °C	fan off in both
50%	963 RPM · 28.9 dB(A) · 42.1 °C	963 RPM · 28.9 dB(A) · 42.1 °C	**+0.0 dB(A)**
100%	1887 RPM · 45.1 dB(A) · 45.6 °C	1887 RPM · 45.1 dB(A) · 45.6 °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.

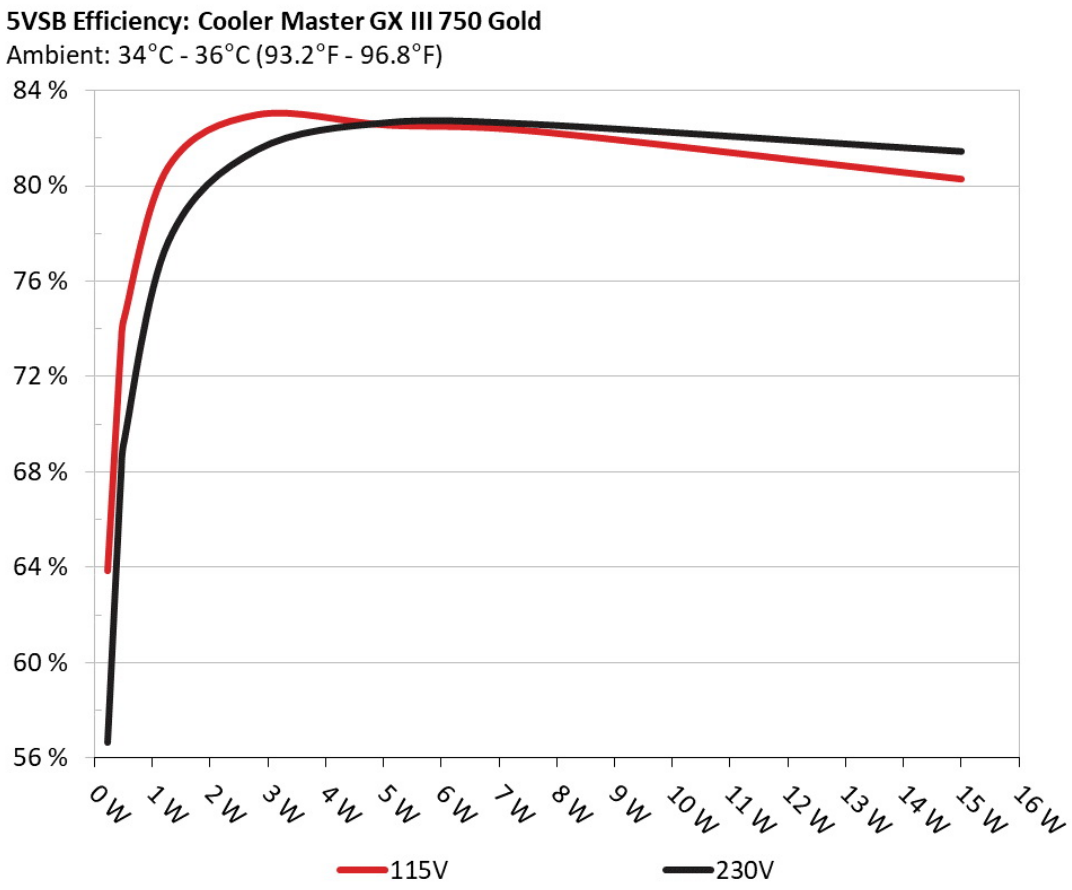
Informational. Not part of the ETA or LAMBDA rating.

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	0.231W	63.838%	0.048
	5.138V	0.362W		114.84V
2	0.09A	0.462W	73.316%	0.082
	5.136V	0.63W		114.85V
3	0.55A	2.813W	82.996%	0.305
	5.115V	3.389W		114.85V
4	1A	5.094W	82.557%	0.393
	5.094V	6.171W		114.83V
5	1.5A	7.607W	82.306%	0.432
	5.071V	9.243W		114.84V
6	3A	14.997W	80.296%	0.485
	4.999V	18.678W		114.83V

230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.231W	56.638%	0.016
	5.139V	0.409W		229.85V
2	0.09A	0.462W	67.812%	0.027
	5.136V	0.682W		229.85V
3	0.55A	2.813W	81.506%	0.127
	5.115V	3.451W		229.84V
4	1A	5.094W	82.66%	0.203
	5.094V	6.163W		229.85V
5	1.5A	7.607W	82.585%	0.266
	5.071V	9.212W		229.84V
6	3A	15.003W	81.444%	0.362
	5.001V	18.421W		229.84V

Protection Features

Protection Features	
OCP (Cold @ 27°C)	12V: 76.8A (122.88%), 11.882V 5V: 27.5A (137.5%), 4.994V 3.3V: 28.1A (140.5%), 3.386V 5VSB: 6A (200%), 4.834V
OCP (Hot @ 42°C)	12V: 76A (121.6%), 11.874V 5V: 26A (130%), 5.008V 3.3V: 27.2A (136%), 3.363V 5VSB: 5.6A (186.67%), 4.837V
OPP (Cold @ 28°C)	1016.7W (135.56%)
OPP (Hot @ 41°C)	960.67W (128.09%)
OTP	✓ (125°C @ +12V 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 Thermistor & Bypass relay

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	4.464A	1.975A	1.963A	0.984A	75.008	89.739%	0	<6.0	44.57°C	0.974
	11.963V	5.064V	3.363V	5.082V	83.619				40.31°C	114.82V
20%	9.960A	2.969A	2.953A	1.185A	149.954	92.465%	0	<6.0	45.26°C	0.988
	11.953V	5.053V	3.353V	5.063V	162.228				40.74°C	114.79V
30%	15.816A	3.47A	3.455A	1.388A	224.962	92.753%	0	<6.0	46.45°C	0.993
	11.943V	5.044V	3.344V	5.044V	242.529				41.39°C	114.78V
40%	21.692A	3.973A	3.959A	1.593A	300.056	92.255%	924	27.7	41.82°C	0.995
	11.933V	5.035V	3.335V	5.024V	325.253				47.34°C	114.75V
50%	27.176A	4.979A	4.966A	1.799A	374.537	91.589%	994	29.5	42.03°C	0.997
	11.923V	5.022V	3.323V	5.004V	408.936				48.2°C	114.72V
60%	32.706A	5.99A	5.981A	2A	449.419	90.916%	1111	32.2	42.68°C	0.997
	11.913V	5.009V	3.311V	4.985V	494.33				49.25°C	114.7V
70%	38.246A	7.006A	7.001A	2.216A	524.356	90.087%	1262	35.2	43.2°C	0.997
	11.903V	4.997V	3.3V	4.964V	581.024				50.23°C	114.49V
80%	43.871A	8.025A	8.028A	2.325A	599.598	89.076%	1523	39.8	43.72°C	0.997
	11.892V	4.984V	3.288V	4.948V	673.142				51.73°C	114.64V
90%	49.831A	8.544A	8.539A	2.433A	674.595	88.21%	1698	42.2	44.42°C	0.997
	11.882V	4.974V	3.279V	4.933V	764.725				53.5°C	114.62V
100%	55.601A	9.066A	9.086A	3.067A	749.779	87.152%	1928	45.7	45.68°C	0.997
	11.871V	4.964V	3.269V	4.892V	860.315				55.77°C	114.58V
110%	61.252A	10.098A	10.224A	3.074A	824.788	85.962%	1986	46.4	46.73°C	0.997
	11.860V	4.951V	3.257V	4.88V	959.462				57.56°C	114.56V
CL1	0.116A	14.407A	14.128A	0A	121.291	85.117%	878	26.2	41.84°C	0.985
	11.940V	5.012V	3.376V	5.11V	142.497				43.87°C	114.8V

CL2	0.116A	19.904A	0A	0A	101.335	83.556%	0	<6.0	42.68°C	0.982
	11.947V	5.021V	3.349V	5.119V	121.284				41.11°C	114.81V
CL3	0.116A	0A	19.337A	0A	67.381	80.684%	889	26.5	40.94°C	0.974
	11.947V	5.058V	3.413V	5.119V	83.475				44.11°C	114.82V
CL4	63.040A	0A	0A	0A	749.539	88.304%	1727	42.5	45.38°C	0.997
	11.890V	5.009V	3.304V	5.054V	848.799				52.78°C	114.6V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	4.464A	1.974A	1.958A	0.984A	75.005	90.912%	0	<6.0	44.51°C	0.93
	11.962V	5.065V	3.37V	5.082V	82.554				40.27°C	229.83V
20%	9.959A	2.968A	2.943A	1.185A	149.946	93.623%	0	<6.0	45.15°C	0.971
	11.952V	5.054V	3.364V	5.062V	160.19				40.57°C	229.82V
30%	15.816A	3.469A	3.441A	1.388A	224.945	94.066%	0	<6.0	46.25°C	0.981
	11.943V	5.045V	3.357V	5.043V	239.144				41.13°C	229.8V
40%	21.686A	3.974A	3.943A	1.593A	300.031	93.805%	846	25.0	41.68°C	0.987
	11.935V	5.033V	3.348V	5.024V	319.826				47.24°C	229.79V
50%	27.165A	4.979A	4.939A	1.799A	374.445	93.473%	963	28.9	42.09°C	0.991
	11.925V	5.022V	3.341V	5.004V	400.539				48.15°C	229.77V
60%	32.694A	5.989A	5.94A	2A	449.331	92.978%	1093	31.9	42.78°C	0.992
	11.915V	5.009V	3.333V	4.984V	483.212				49.38°C	229.77V
70%	38.235A	7.005A	6.946A	2.216A	524.288	92.463%	1237	34.7	43.41°C	0.994
	11.905V	4.997V	3.326V	4.964V	567.142				50.49°C	229.76V
80%	43.853A	8.024A	7.955A	2.324A	599.496	91.844%	1418	38.2	43.68°C	0.995
	11.894V	4.985V	3.318V	4.948V	652.754				51.69°C	229.74V
90%	49.817A	8.543A	8.457A	2.433A	674.539	91.224%	1645	41.5	44.71°C	0.995
	11.885V	4.974V	3.311V	4.932V	739.392				53.89°C	229.73V
100%	55.593A	9.066A	8.994A	3.068A	749.773	90.459%	1887	45.1	45.61°C	0.995
	11.873V	4.963V	3.302V	4.89V	828.843				55.74°C	229.72V

110%	61.242A	10.099A	10.106A	3.075A	824.795	89.656%	1992	46.4	46.71°C	0.996
	11.863V	4.951V	3.295V	4.879V	919.989				57.57°C	229.7V
CL1	0.116A	14.408A	14.131A	0A	121.299	86.041%	996	29.6	41.29°C	0.967
	11.938V	5.011V	3.375V	5.109V	141.097				43.39°C	229.82V
CL2	0.116A	19.908A	0A	0A	101.339	84.247%	856	25.4	41.68°C	0.962
	11.947V	5.021V	3.348V	5.118V	120.295				43.15°C	229.82V
CL3	0.116A	0A	19.341A	0A	67.383	82.257%	0	<6.0	42.87°C	0.929
	11.948V	5.056V	3.412V	5.119V	82.08				40.34°C	229.83V
CL4	63.046A	0A	0A	0A	749.559	91.448%	1697	42.2	45.3°C	0.995
	11.889V	5.009V	3.304V	5.054V	819.601				47.81°C	229.72V

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	1.240A	0.492A	0.489A	0.195A	20.004	81.838%	0	<6.0	39.61°C	0.911
	11.974V	5.077V	3.373V	5.127V	24.521				36.54°C	114.83V
40W	2.732A	0.69A	0.685A	0.293A	40.004	87.071%	0	<6.0	40.52°C	0.95
	11.970V	5.074V	3.371V	5.12V	45.958				37.23°C	114.83V
60W	4.223A	0.887A	0.882A	0.391A	60.004	89.351%	0	<6.0	42.34°C	0.968
	11.967V	5.07V	3.368V	5.113V	67.151				38.79°C	114.82V
80W	5.711A	1.085A	1.079A	0.49A	79.953	91.209%	0	<6.0	43.08°C	0.975
	11.964V	5.067V	3.365V	5.106V	87.682				39.11°C	114.82V

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	0.493A	0.489A	0.195A	20.001	77.301%	0	<6.0	39.69°C	0.499
	11.974V	5.076V	3.374V	5.127V	24.108				36.55°C	229.84V
40W	2.731A	0.69A	0.685A	0.293A	40.001	88.075%	0	<6.0	40.87°C	0.774
	11.970V	5.073V	3.373V	5.12V	45.496				37.53°C	229.84V
60W	4.222A	0.887A	0.881A	0.391A	60	90.393%	0	<6.0	42.05°C	0.891
	11.967V	5.07V	3.371V	5.113V	66.412				38.5°C	229.82V
80W	5.710A	1.085A	1.077A	0.49A	79.941	92.199%	0	<6.0	43.09°C	0.936
	11.965V	5.068V	3.369V	5.106V	86.735				39.35°C	229.83V

The results above are not used in the certification process

□□□□

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	26.85mV	14.47mV	12.98mV	7.44mV	Pass
20% Load	24.30mV	13.60mV	13.24mV	7.64mV	Pass
30% Load	24.86mV	13.24mV	13.13mV	7.85mV	Pass
40% Load	25.47mV	13.45mV	13.08mV	8.83mV	Pass
50% Load	29.71mV	13.86mV	15.90mV	8.57mV	Pass
60% Load	29.20mV	14.58mV	20.42mV	8.93mV	Pass
70% Load	28.75mV	15.19mV	22.57mV	9.49mV	Pass
80% Load	30.38mV	16.43mV	24.93mV	9.13mV	Pass
90% Load	33.14mV	15.19mV	19.09mV	9.70mV	Pass
100% Load	45.37mV	18.33mV	17.90mV	15.56mV	Pass
110% Load	42.28mV	18.55mV	19.31mV	15.24mV	Pass
Crossload1	28.96mV	15.74mV	17.63mV	15.12mV	Pass
Crossload2	26.03mV	19.91mV	16.83mV	14.67mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	23.88mV	14.06mV	18.47mV	14.47mV	Pass
Crossload4	39.24mV	17.64mV	17.55mV	13.89mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	27.46mV	15.65mV	13.90mV	8.98mV	Pass
20% Load	24.75mV	15.96mV	13.80mV	9.23mV	Pass
30% Load	26.24mV	14.68mV	14.98mV	8.93mV	Pass
40% Load	28.85mV	14.99mV	13.29mV	8.67mV	Pass
50% Load	27.06mV	14.83mV	15.75mV	8.88mV	Pass
60% Load	29.82mV	14.88mV	20.32mV	9.65mV	Pass
70% Load	29.72mV	16.94mV	22.93mV	9.60mV	Pass
80% Load	30.59mV	16.11mV	24.22mV	10.21mV	Pass
90% Load	31.97mV	17.29mV	22.52mV	10.42mV	Pass
100% Load	46.55mV	17.82mV	17.80mV	13.95mV	Pass
110% Load	47.80mV	17.27mV	18.59mV	14.73mV	Pass
Crossload1	29.52mV	14.12mV	18.18mV	13.60mV	Pass
Crossload2	24.91mV	19.66mV	15.75mV	13.86mV	Pass
Crossload3	23.94mV	13.39mV	17.14mV	13.24mV	Pass
Crossload4	43.68mV	16.28mV	15.60mV	13.07mV	Pass

The results above are not used in the certification process





Cooler Master GX III 750 Gold

Top side

Power specifications label

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