

GIGABYTE™

Gigabyte UD750GM

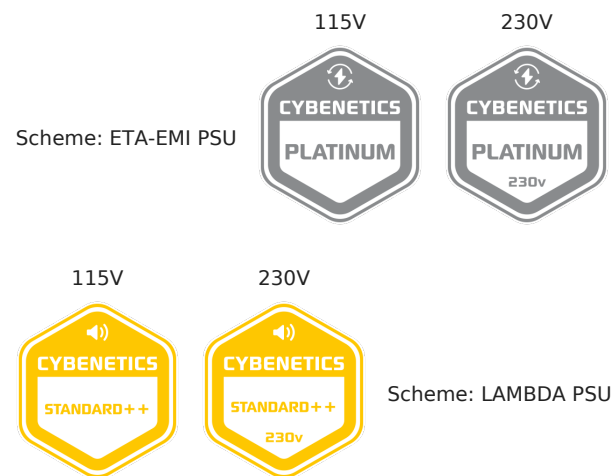
Serial Number 21443G005514

Lab ID GB75002007

Certification ID 252007

Test Result Report ID: 22PS2007A

Certificate Issue Date: Apr 21, 2022



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	Gigabyte
Model	UD750GM
OEM/ODM	MEIC
Serial Number	21443G005514
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	60-50

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 Rifle Bearing Fan (D12SH-12)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	GB75002007
Date of receipt	Mar 29, 2022
Testing Date	Apr 21, 2022
Report Issued Date	Apr 21, 2022
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 (600mm)	2	2	18AWG	No
6+2 pin PCIe (600mm+150mm)	2	4	18AWG	No
SATA (600mm+150mm+150mm+150mm)	2	8	18AWG	No
4-pin Molex (500mm+115mm+115mm) / FDD (+150mm)	1	3 / 1	18AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	16AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	61	3	0.3
	Watts	105		732	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	✓

Performance Summary

115V	
Accredited	
Average Efficiency (>1450 load combinations)	89.505%
Average Noise Output (>1450 Load Combinations)	31.59dBA
Average PF (>1450 Load Combinations)	0.980
Efficiency With 10W (≤500W) or 2% (>500W) Load	66.991%
Standby Power Consumption	0.0338W
Non-Accredited	
12V Ripple (Full Load)	26.39mV
5V Ripple (Full Load)	26.57mV
3.3V Ripple (Full Load)	25.50mV
5VSB Ripple (Full Load)	21.69mV
12V Load Regulation	0.52%
5V Load Regulation	1.10%

3.3V Load Regulation	2.51%
5VSB Load Regulation	2.17%
Inrush Current	28.100A

230V

Accredited		
Average Efficiency (>1450 load combinations)	91.212%	
Average Noise Output (>1450 Load Combinations)	33.79dBA	
Average PF (>1450 Load Combinations)	0.949	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.1558W	
Non-Accredited		
12V Ripple (Full Load)	24.33mV	
5V Ripple (Full Load)	24.80mV	
3.3V Ripple (Full Load)	25.19mV	
5VSB Ripple (Full Load)	22.28mV	
12V Load Regulation	0.51%	
5V Load Regulation	1.18%	
3.3V Load Regulation	2.45%	
5VSB Load Regulation	2.19%	
Inrush Current	81.440A	
Hold-Up Time & PWR_OK Signal	19.40ms	
AC Loss to PWR_OK Hold Up Time	16.10ms	
PWR_OK Inactive to DC Loss Delay	3.30ms	
PSU Timings: T1 (20% / 100%)	66.0ms	67.0ms
PSU Timings: T3 (20% / 100%)	136.0ms	135.0ms
OPP (26.66°C / 43.02°C)	128.76%	115.83%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	19.4
AC Loss to PWR_OK Hold Up Time (ms)	16.1
PWR_OK Inactive to DC Loss Delay (ms)	3.3

Vampire Power

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.12 V	115.09 V	113.85 V	115.16 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.96 Hz	59.40 Hz	60.03 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.034 W	0.023 W	N/A	0.062 W	N/A	N/A
Apparent Power:	7.216 W	7.179 W	N/A	7.253 W	N/A	N/A
Power Factor:	0.007	N/A	N/A	N/A	N/A	N/A

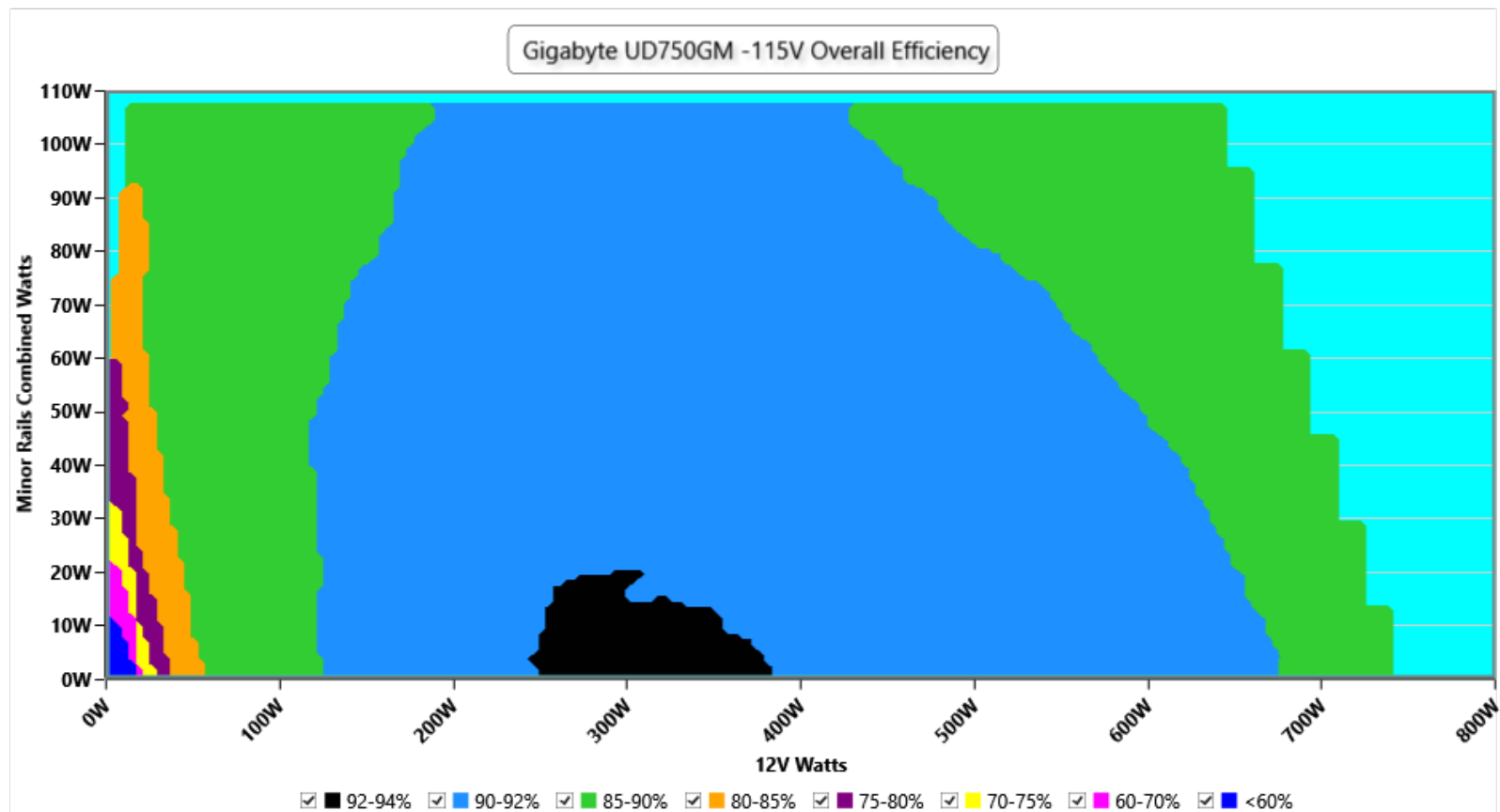
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.28 V	230.17 V	227.70 V	230.34 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	1.417	1.490	PASS
Mains Voltage THD:	0.12 %	0.10 %	N/A	0.22 %	2.00 %	PASS
Real Power:	0.156 W	0.141 W	N/A	0.185 W	N/A	N/A
Apparent Power:	24.368 W	24.228 W	N/A	24.519 W	N/A	N/A

Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A
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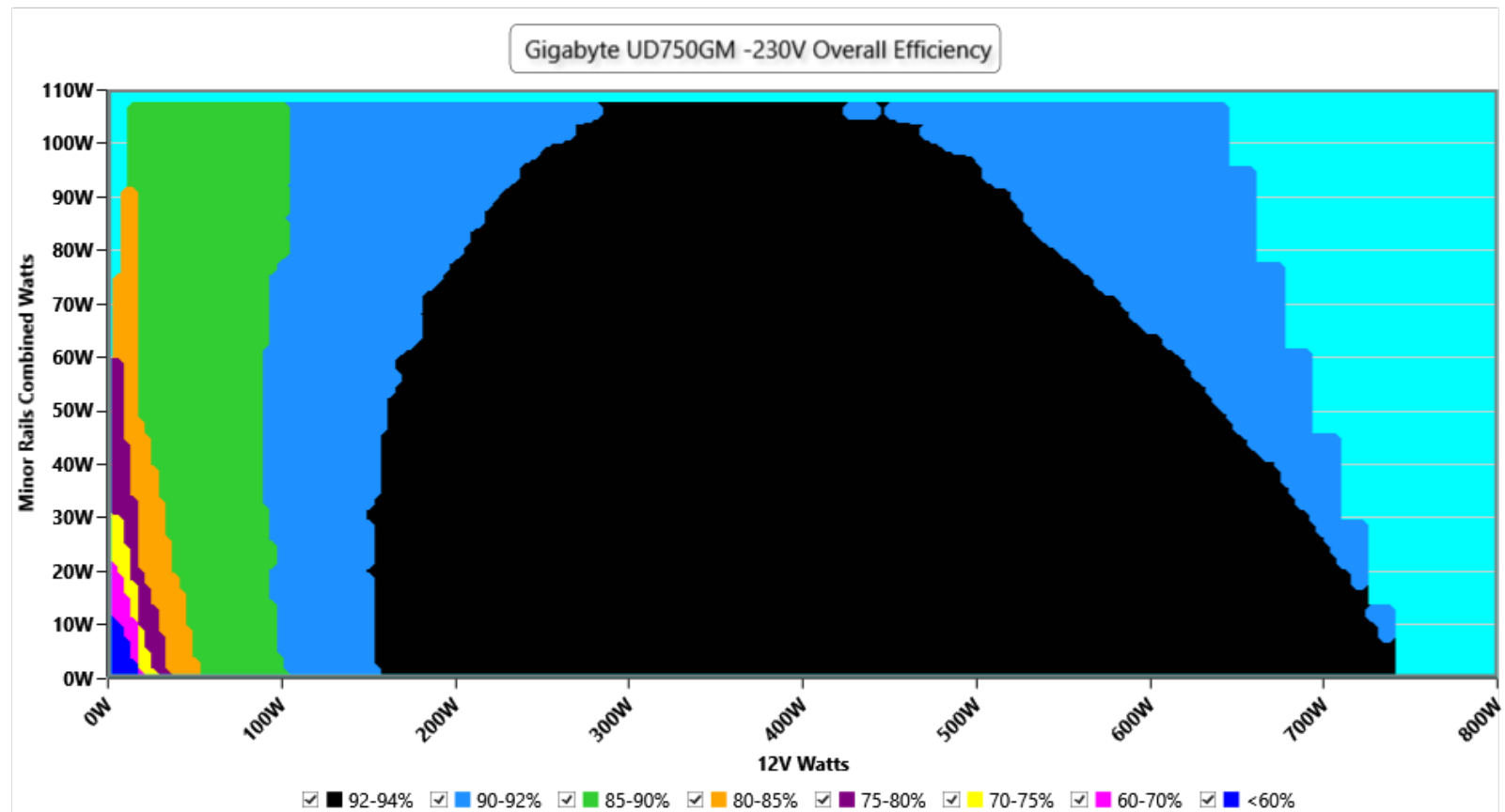
Efficiency Graph

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

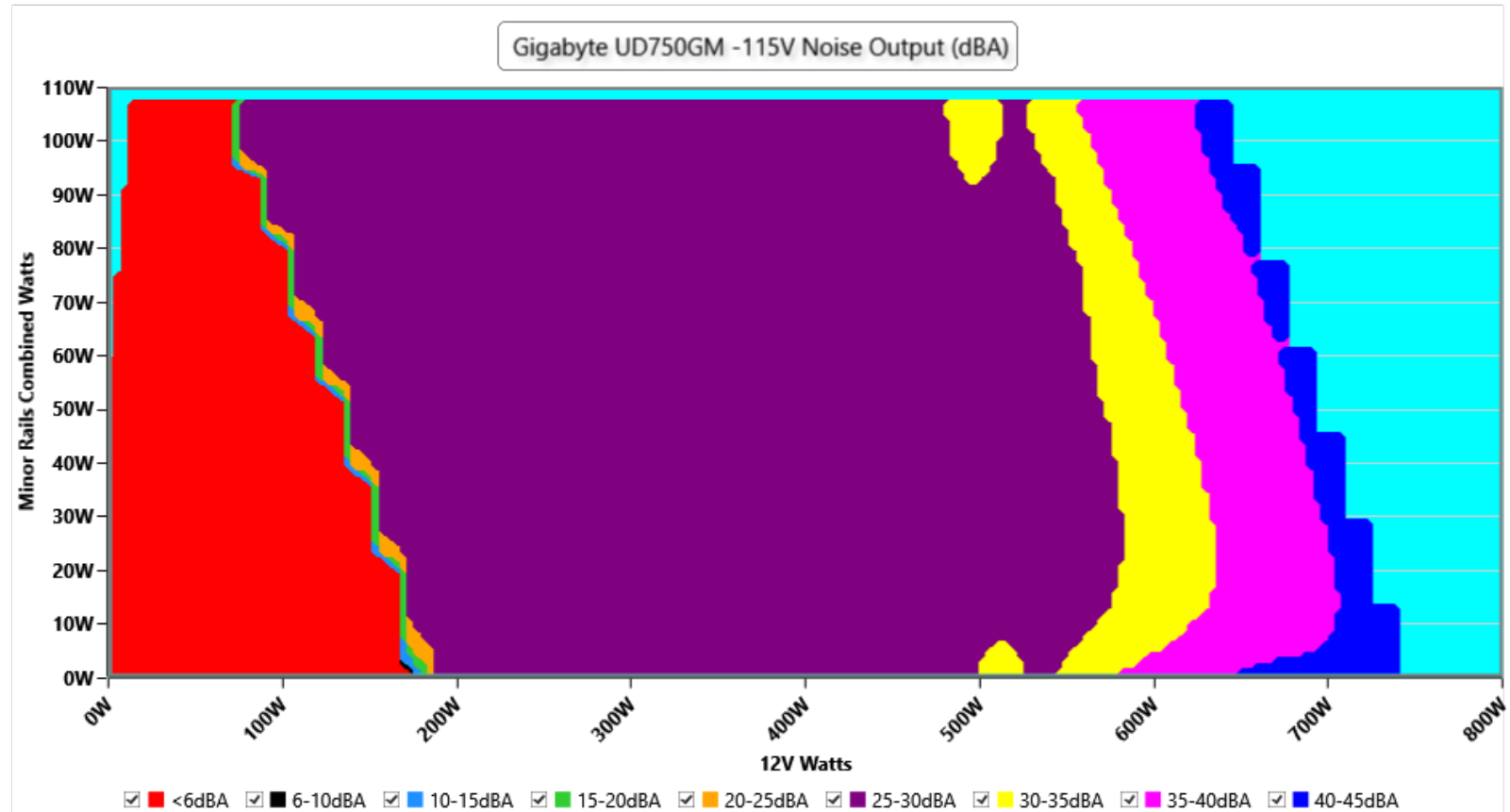


INFO

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

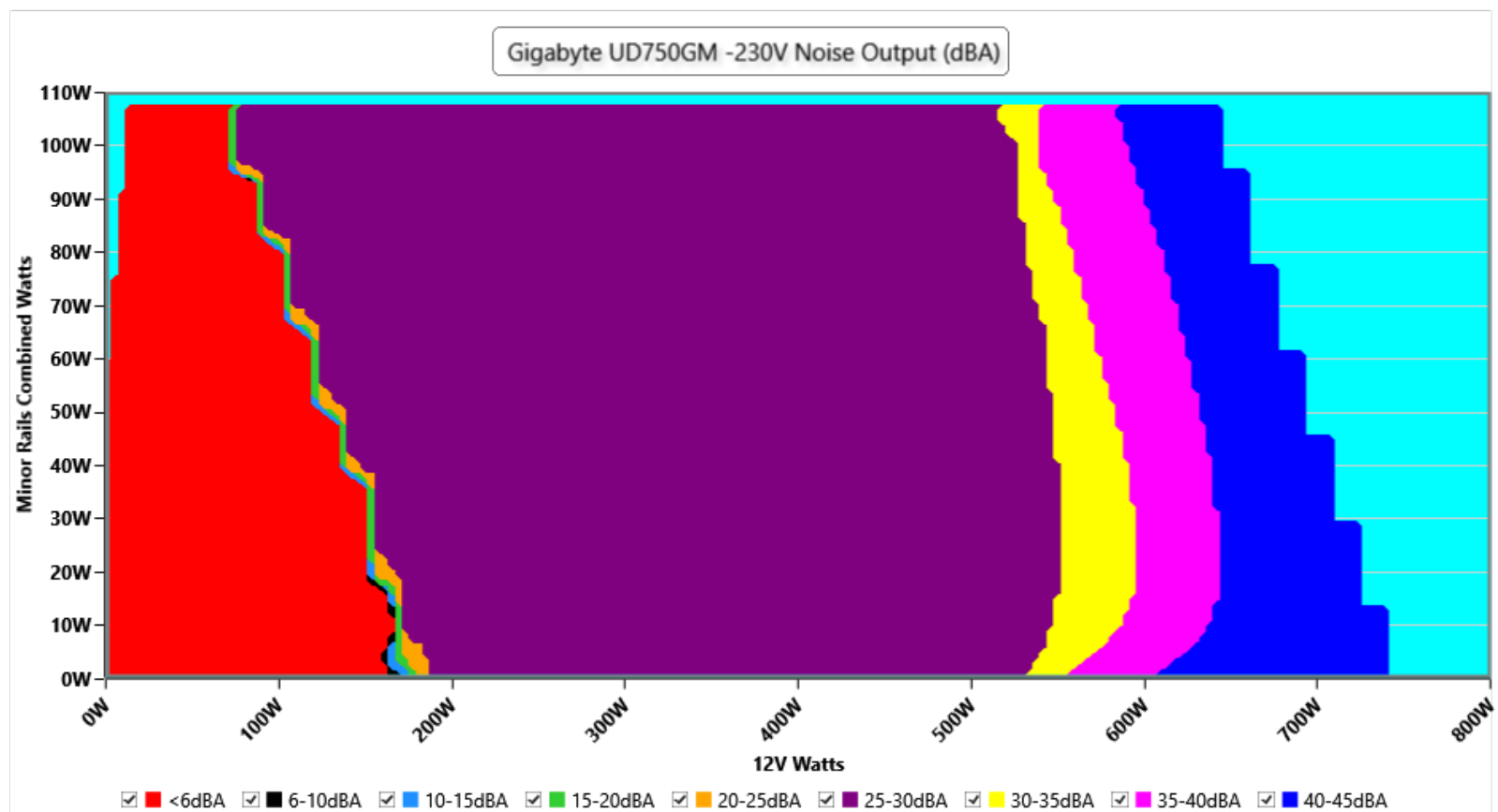
Noise Graph

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



INFO

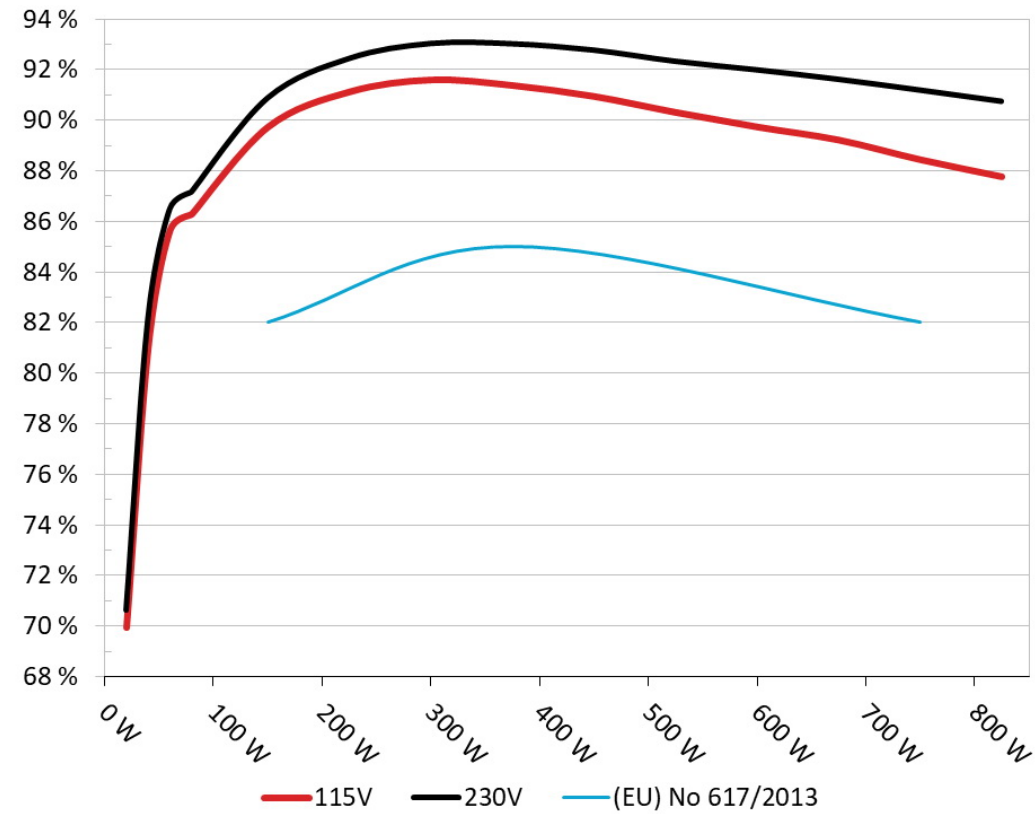
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Gigabyte UD750GM

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



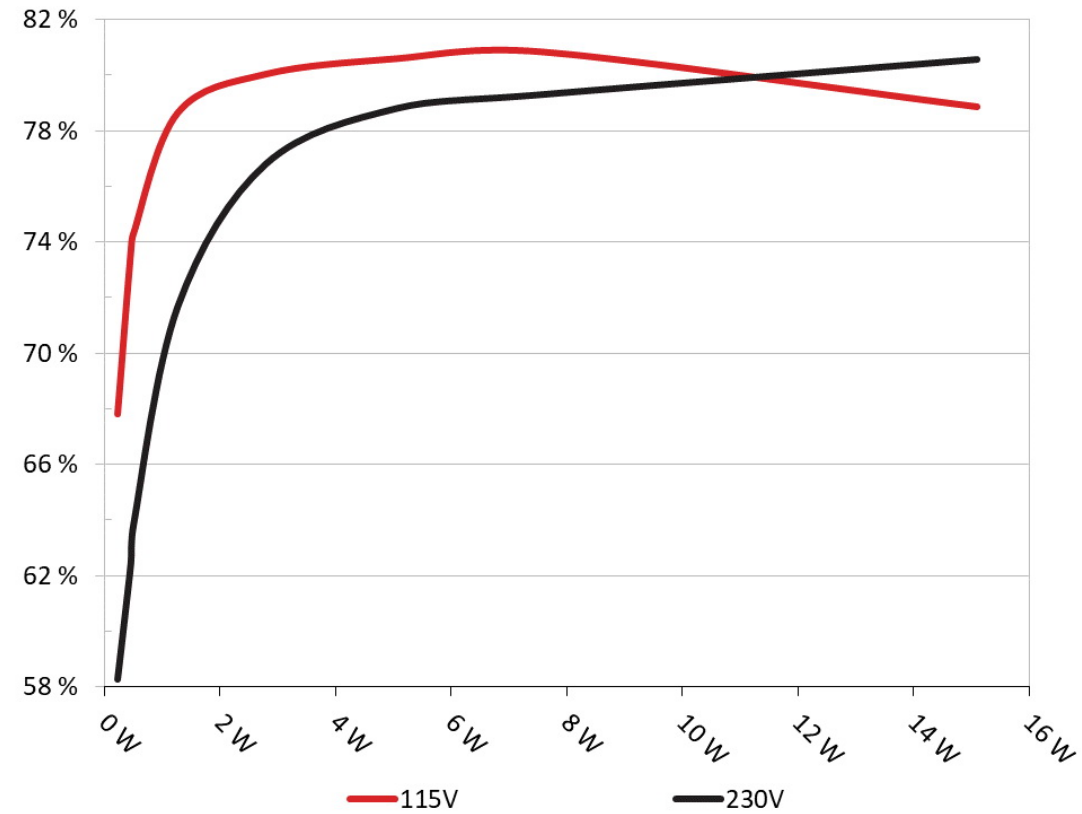
INFO

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: Gigabyte UD750GM

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	0.229W	67.822%	0.046
	5.091V	0.338W		115.12V
2	0.09A	0.458W	73.675%	0.084
	5.09V	0.622W		115.12V
3	0.55A	2.795W	80.059%	0.318
	5.081V	3.491W		115.12V
4	1A	5.072W	80.616%	0.404
	5.072V	6.291W		115.12V
5	1.5A	7.593W	80.853%	0.442
	5.061V	9.391W		115.12V
6	3A	15.092W	78.882%	0.496
	5.03V	19.132W		115.12V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229W	58.271%	0.016
	5.09V	0.396W		230.29V
2	0.09A	0.458W	62.429%	0.03
	5.09V	0.734W		230.29V
3	0.55A	2.795W	76.795%	0.137
	5.081V	3.64W		230.28V
4	1A	5.072W	78.796%	0.215
	5.071V	6.437W		230.28V
5	1.5A	7.592W	79.29%	0.276
	5.061V	9.575W		230.28V
6	3A	15.093W	80.547%	0.363
	5.031V	18.738W		230.28V

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%	4.416A	1.951A	1.954A	0.987A	75.003	86.284%	0	<6.0	45.13°C	0.954
	12.094V	5.126V	3.378V	5.064V	86.93				40.54°C	115.1V
20%	9.845A	2.93A	2.939A	1.187A	149.948	89.733%	0	<6.0	46.07°C	0.972
	12.092V	5.119V	3.368V	5.054V	167.102				40.7°C	115.08V
30%	15.629A	3.421A	3.434A	1.387A	224.953	91.127%	943	27.9	41.26°C	0.98
	12.087V	5.116V	3.364V	5.047V	246.853				47.08°C	115.06V
40%	21.430A	3.915A	3.935A	1.588A	300.056	91.602%	950	28.2	41.54°C	0.984
	12.079V	5.109V	3.354V	5.038V	327.559				47.64°C	115.04V
50%	26.851A	4.899A	4.933A	1.79A	374.612	91.384%	958	28.3	42.17°C	0.985
	12.071V	5.103V	3.345V	5.028V	409.937				48.69°C	115.02V
60%	32.307A	5.887A	5.937A	1.993A	449.563	90.95%	1250	34.4	42.85°C	0.987
	12.064V	5.097V	3.335V	5.018V	494.299				49.94°C	115V
70%	37.769A	6.877A	6.944A	2.197A	524.47	90.32%	1701	41.1	43.62°C	0.987
	12.056V	5.09V	3.327V	5.009V	580.68				51.13°C	114.98V
80%	43.303A	7.871A	7.954A	2.3A	599.663	89.743%	1955	44.5	43.73°C	0.988
	12.049V	5.084V	3.319V	5.001V	668.196				52.06°C	114.96V
90%	49.173A	8.372A	8.454A	2.403A	674.621	89.225%	1985	44.8	44.76°C	0.989
	12.042V	5.077V	3.312V	4.995V	756.082				54.04°C	114.93V
100%	54.852A	8.876A	8.994A	3.014A	749.818	88.446%	1972	44.6	45.43°C	0.986
	12.034V	5.07V	3.302V	4.977V	847.773				55.52°C	114.91V
110%	60.401A	9.883A	10.095A	3.017A	824.769	87.771%	1986	44.8	46.66°C	0.986
	12.028V	5.059V	3.298V	4.972V	939.669				57.51°C	114.89V
CL1	0.115A	12.337A	12.417A	0A	106.286	83.897%	0	<6.0	48.72°C	0.967
	12.090V	5.123V	3.357V	5.073V	126.683				42.25°C	115.09V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.115A	19.539A	0A	0A	101.399	82.618%	0	<6.0	50.53°C	0.966
	12.092V	5.119V	3.366V	5.078V	122.736				43.17°C	115.09V
CL3	0.115A	0A	19.702A	0A	67.377	77.141%	0	<6.0	52.61°C	0.955
	12.090V	5.114V	3.349V	5.075V	87.34				44.52°C	115.1V
CL4	62.269A	0A	0A	0A	749.55	89.433%	1994	44.8	45.74°C	0.99
	12.037V	5.062V	3.324V	5.048V	838.103				55.85°C	114.91V

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%	4.416A	1.95A	1.955A	0.987A	75.008	87.179%	0	<6.0	44.65°C	0.846
	12.094V	5.127V	3.376V	5.064V	86.037				40.23°C	230.27V
20%	9.847A	2.93A	2.94A	1.187A	149.96	90.895%	0	<6.0	45.71°C	0.921
	12.091V	5.12V	3.367V	5.055V	164.984				40.68°C	230.26V
30%	15.627A	3.423A	3.436A	1.387A	224.974	92.463%	947	28.1	41.2°C	0.946
	12.090V	5.113V	3.361V	5.046V	243.315				46.52°C	230.25V
40%	21.431A	3.917A	3.935A	1.588A	300.064	93.057%	952	28.2	41.38°C	0.959
	12.079V	5.107V	3.355V	5.037V	322.449				47.45°C	230.25V
50%	26.852A	4.902A	4.931A	1.79A	374.603	93.047%	958	28.3	42.17°C	0.967
	12.070V	5.1V	3.346V	5.028V	402.604				48.74°C	230.24V
60%	32.307A	5.89A	5.933A	1.993A	449.528	92.798%	1286	35.2	42.67°C	0.972
	12.063V	5.094V	3.337V	5.018V	484.411				49.73°C	230.23V
70%	37.772A	6.88A	6.939A	2.196A	524.439	92.356%	1624	40.4	43.44°C	0.975
	12.055V	5.088V	3.329V	5.009V	567.843				51.22°C	230.22V
80%	43.310A	7.875A	7.948A	2.3A	599.64	92.016%	1888	43.8	43.64°C	0.978
	12.047V	5.081V	3.321V	5.002V	651.672				52.05°C	230.21V
90%	49.184A	8.378A	8.451A	2.403A	674.662	91.642%	1978	44.7	44.98°C	0.98
	12.040V	5.074V	3.313V	4.995V	736.2				54.18°C	230.2V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	54.867A	8.883A	8.99A	3.015A	749.889	91.213%	1980	44.7	46.12°C	0.981
	12.032V	5.067V	3.303V	4.977V	822.133				56.14°C	230.19V
110%	60.428A	9.884A	10.095A	3.018A	824.897	90.769%	1973	44.6	46.73°C	0.983
	12.024V	5.06V	3.298V	4.971V	908.812				57.64°C	230.18V
CL1	0.116A	12.336A	12.408A	0A	106.304	84.293%	511	9.1	42.67°C	0.894
	12.090V	5.124V	3.36V	5.072V	126.116				48.24°C	230.27V
CL2	0.116A	19.54A	0A	0A	101.414	83.561%	0	<6.0	50.76°C	0.889
	12.092V	5.119V	3.368V	5.078V	121.367				43.07°C	230.27V
CL3	0.115A	0A	19.739A	0A	67.381	77.906%	0	<6.0	52.26°C	0.847
	12.091V	5.112V	3.343V	5.074V	86.483				44.15°C	230.28V
CL4	62.281A	0A	0A	0A	749.62	92.033%	1989	44.8	45.75°C	0.981
	12.036V	5.062V	3.319V	5.048V	814.524				55.77°C	230.19V

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	1.228A	0.488A	0.487A	0.197A	20.001	69.932%	0	<6.0	40.09°C	0.876
	12.097V	5.123V	3.385V	5.085V	28.606				37.04°C	115.12V
40W	2.704A	0.683A	0.683A	0.295A	40.002	81.058%	0	<6.0	40.71°C	0.926
	12.086V	5.121V	3.383V	5.082V	49.349				37.45°C	115.11V
60W	4.180A	0.879A	0.878A	0.394A	60.001	85.662%	0	<6.0	42.23°C	0.946
	12.090V	5.12V	3.382V	5.078V	70.042				38.48°C	115.11V
80W	5.650A	1.074A	1.074A	0.493A	79.952	87.795%	0	<6.0	44.03°C	0.956
	12.093V	5.122V	3.38V	5.075V	91.063				39.98°C	115.1V

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	1.228A	0.488A	0.487A	0.197A	19.999	70.628%	0	<6.0	40.47°C	0.6
	12.093V	5.124V	3.384V	5.086V	28.315				37.4°C	230.28V
40W	2.706A	0.683A	0.683A	0.295A	40.001	82.139%	0	<6.0	41.55°C	0.739
	12.084V	5.122V	3.381V	5.082V	48.7				38.21°C	230.28V
60W	4.180A	0.878A	0.879A	0.394A	60.003	86.5%	0	<6.0	42.34°C	0.811
	12.089V	5.122V	3.38V	5.079V	69.371				38.83°C	230.27V
80W	5.650A	1.073A	1.075A	0.493A	79.962	88.582%	0	<6.0	42.95°C	0.853
	12.093V	5.123V	3.378V	5.075V	90.269				39.25°C	230.27V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.88mV	14.25mV	9.97mV	15.97mV	Pass
20% Load	9.26mV	15.88mV	11.86mV	15.81mV	Pass
30% Load	16.10mV	17.21mV	12.32mV	20.52mV	Pass
40% Load	13.20mV	16.24mV	13.14mV	17.76mV	Pass
50% Load	14.33mV	18.18mV	14.78mV	17.76mV	Pass
60% Load	14.12mV	19.05mV	17.33mV	16.43mV	Pass
70% Load	15.91mV	21.55mV	19.74mV	17.45mV	Pass
80% Load	17.24mV	22.12mV	22.14mV	17.30mV	Pass
90% Load	17.81mV	23.19mV	23.42mV	18.02mV	Pass
100% Load	26.39mV	26.57mV	25.50mV	21.69mV	Pass
110% Load	28.90mV	26.83mV	28.32mV	22.32mV	Pass
Crossload1	10.42mV	25.55mV	28.99mV	15.49mV	Pass
Crossload2	8.80mV	17.67mV	31.81mV	14.84mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	8.24mV	24.26mV	17.69mV	14.84mV	Pass
Crossload4	24.92mV	15.41mV	10.97mV	19.05mV	Pass

The results above are not used in the certification process

230V

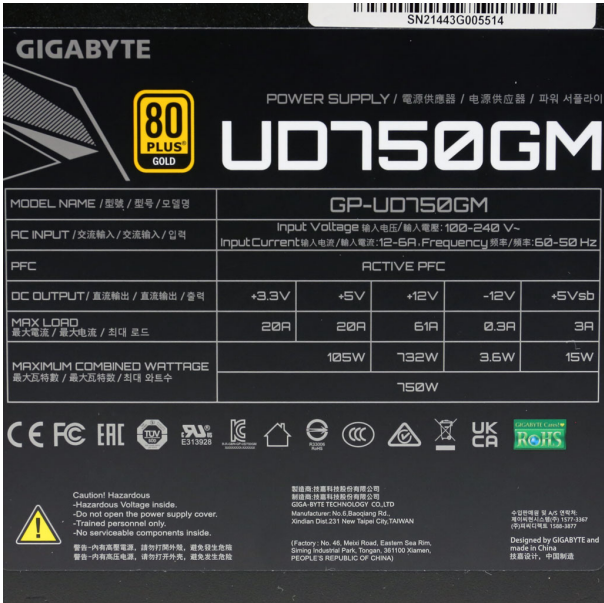
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.14mV	14.97mV	9.77mV	16.43mV	Pass
20% Load	8.80mV	14.97mV	11.04mV	16.07mV	Pass
30% Load	15.53mV	17.21mV	12.48mV	17.25mV	Pass
40% Load	12.41mV	16.45mV	13.45mV	17.19mV	Pass
50% Load	12.69mV	18.03mV	14.73mV	17.50mV	Pass
60% Load	13.10mV	19.00mV	17.08mV	17.14mV	Pass
70% Load	14.38mV	21.40mV	19.33mV	17.35mV	Pass
80% Load	15.15mV	21.86mV	21.38mV	17.81mV	Pass
90% Load	15.86mV	22.73mV	23.42mV	17.71mV	Pass
100% Load	24.33mV	24.80mV	25.19mV	22.28mV	Pass
110% Load	25.56mV	25.80mV	27.07mV	22.53mV	Pass
Crossload1	9.92mV	24.43mV	27.46mV	15.33mV	Pass
Crossload2	8.24mV	17.00mV	32.73mV	14.74mV	Pass
Crossload3	7.83mV	17.47mV	16.98mV	14.07mV	Pass
Crossload4	23.34mV	14.57mV	10.75mV	18.86mV	Pass

The results above are not used in the certification process

Gigabyte UD750GM



Top side



Power specifications label

All data and graphs included in this test report can be used by any individual on the following conditions:

- › 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

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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