GIGABYTE™

Gigabyte GP-UD850GM PG5 V2 / ICE

-

Lab ID GB85003089

Certification ID 253089

Test Result Report ID: 25PS3089A

Certificate Issue Date: Jan 9, 2026

115V

Scheme: ETA-EMI PSU



115V



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	Gigabyte
Model	GP-UD850GM PG5 V2 / ICE
OEM/ODM	Guangzhou Pansheng Electronic Technology Co., Ltd
Serial Number	-
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	6.5-12

□□□□ (Hz)	50-60
□□□□ (W)	850
Operating Temperature (Continuous Full Load) (°C)	0 - 50
□□	ATX12V
□□□□	Fully Modular
Warranty	No Info
Cybenetics Measurements	
Dimensions (W x H x D)	150 x 85 x 140mm
Weight	1.35kg (2.98 lb)
□□	120mm Fluid Dynamic Bearing Fan (BK BDH12025S)
□□□□□	✓
Cybenetics Testing Information	
Lab ID	GB85003089
Date of receipt	Nov 17, 2025
Testing Date	Dec 31, 2025
Report Issued Date	Jan 9, 2026
□□□□□	• The results apply to both the black and white (ICE) models. • The vampire power consumption is too high for the Gold ETA rating at 230V (0.2067W). • The power factor is too low at 230V (0.923). As a result of this and the vampire power consumption, the PSU drops to Silver ETA rating at 230V.
Engineer Name	Ioannis Kalyviotis
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□				
□□	□□□□	□□□□□□	**Gauge**	Cable Type
ATX □□ 20+4 pin (600mm)	1	1	18AWG	Tinned Copper
4+4 pin EPS 12V □□ (650mm+200mm)	1	2	18AWG	Tinned Copper
6+2pin PCIe□□ (600mm+145mm)	2	4	18AWG	Tinned Copper
12+4 pin PCIe (700mm) (600W)	1	1	16-24AWG	Tinned Copper

SATA□□ (600mm+150mm+150mm+150mm)	2	8	18AWG	Tinned Copper
4-pin Molex (500mm+150mm+150mm) / FDD (+150mm)	1	3 / 1	18AWG	Tinned Copper

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	70.8	3	0.3
	□	105		850	15	3.6
□□□□□ (W)		850				

Parts Description

General Data	
Manufacturer (OEM)	Guangzhou Pansheng Electronic Technology Co., Ltd
PCB Type	Double-Sided
Primary Side	
Transient Filter	4x Y caps, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor MF72-10D15 (10 Ohm @ 25°C) & Relay
Bridge Rectifier	2x GBU1510 (1000V, 15A @ 100°C)
APFC MOSFETs	2x Wuhan Xinyuan Semiconductor CWS60R125AZ (600V, 19A @ 100°C, Rds(on): 125mOhm)
APFC Boost Diode	1x CR Micro CRXF10D065G2 (650V, 10A @ 125 °C)
Bulk Cap(s)	2x Toshin Kogyo (420V, 330µF @ 2000h @ 105°C, LW)
Main Switchers	2x Wuhan Xinyuan Semiconductor CWS60R130BF (600V, 19A @ 100°C, Rds(on): 130mOhm)

APFC Controller	Champion CM6500UNX
Resonant Controller	Champion CU6901T6X
Topology	Primary side: APFC, Half-Bridge & LLC Resonant Converter Secondary side: [12V] Synchronous Rectification & [Minor Rails] DC-DC converters
Secondary Side	
+12V MOSFETs	6x InPower Semiconductor 014N04SA (40V, 100A @ 100°C, Rds(on): 1.4mOhm)
5V & 3.3V	DC-DC Converters: 4x CR Micro 014N03L6 (30V, 100A @ 100°C, Rds(on): 1.4mOhm) PWM Controller(s): 2x ANPEC APW7164
Filtering Capacitors	Electrolytic: 5x Toshin Kogyo (@ 105°C, HZ series) 10x Toshin Kogyo (@ 105°C, AZ series) Polymer 7x Teapo (470µF, 16V) 9x Teapo (820µF, 6.3V)
Supervisor IC	Grenergy GR8329E (OVP, UVP, OCP, PGO, FPO)
MCU / Fan Controller	Anpec APW9010
Fan Model	BOK BDH12025S (120mm, 12V, 0.18A, Fluid Dynamic Bearing)
5VSB Circuit	
Rectifier	Dongke Semiconductor DK5V60R20H Synchronous Rectifier (60V, 35A, Rds(on): 20mOhm)
Standby PWM Controller	Excelliance MOS Corporation EM8564A

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	✓
Conducted Emissions EN 55032 & CISPR 32	Passed

Performance Summary 115V

Accredited	
□□□□ (>1450 load combinations)	89.181%
Average Noise Output (>1450 Load Combinations)	28.01dBA
PF□□□ (>1450 Load Combinations)	0.980
Efficiency With 10W (≤500W) or 2% (>500W) Load	67.906%
□□□□□□	0.0744W
Non-Accredited	
12V Ripple (Full Load)	25.24mV
5V Ripple (Full Load)	22.54mV
3.3V Ripple (Full Load)	23.94mV
5VSB Ripple (Full Load)	19.56mV
12V Load Regulation	0.24%
5V Load Regulation	1.95%
3.3V Load Regulation	0.51%
5VSB Load Regulation	1.95%
Inrush Current	29.090A

□□□□ & PG□□

Hold-Up Time (ms)	26
AC Loss to PWR_OK Hold Up Time (ms)	18.7
PWR_OK Inactive to DC Loss Delay (ms)	7.3

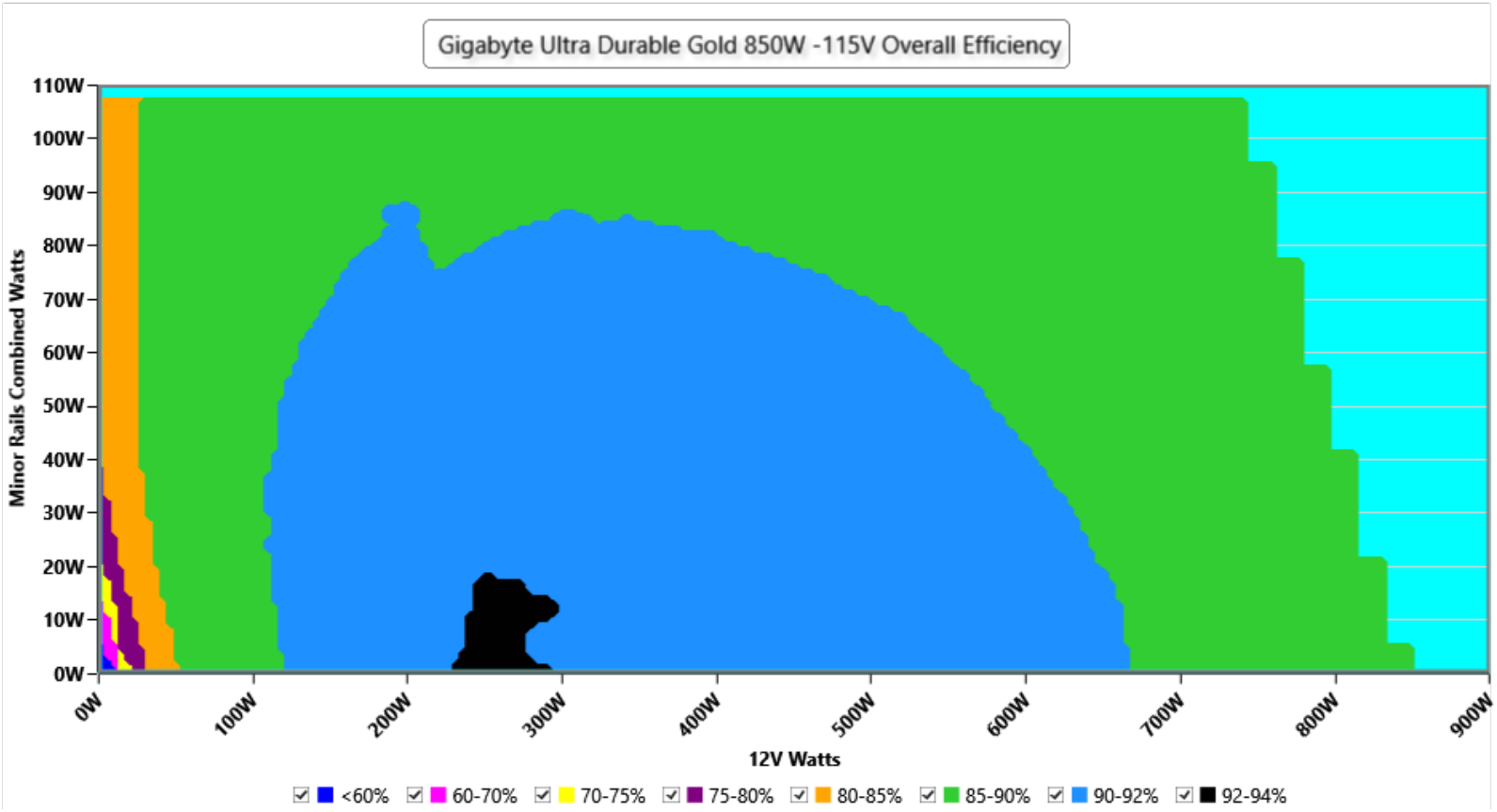
□□□□

Tables 115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.02 V	115.01 V	113.85 V	115.05 V	116.15 V	PASS

Mains Frequency:	60.00 Hz	59.92 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.416	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.13 %	0.11 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.074 W	0.029 W	N/A	0.113 W	N/A	N/A
Apparent Power:	20.295 W	20.270 W	N/A	20.319 W	N/A	N/A
Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

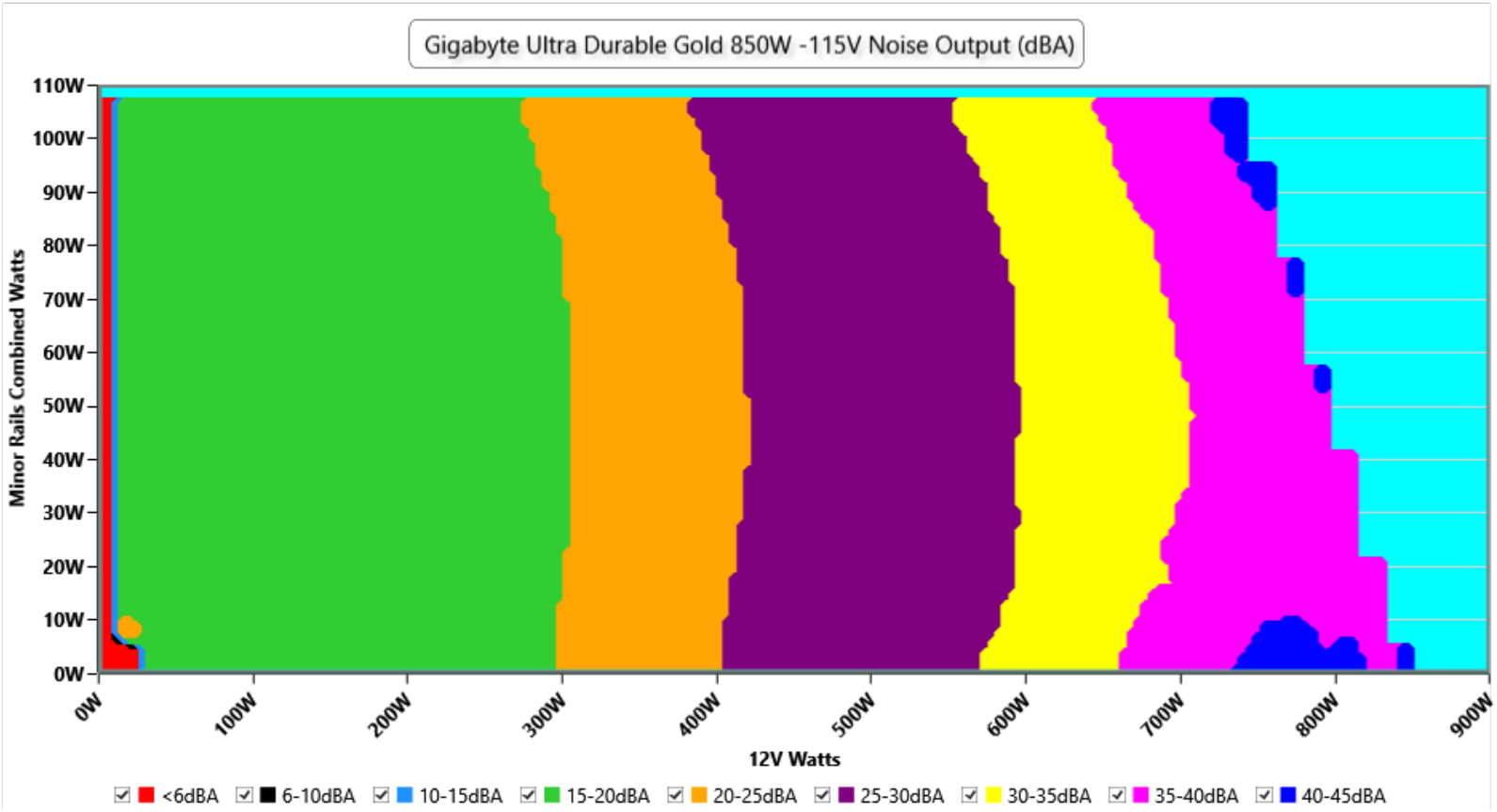
115V



□□

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

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

Noise under high ambient temperature (indicative)

115V

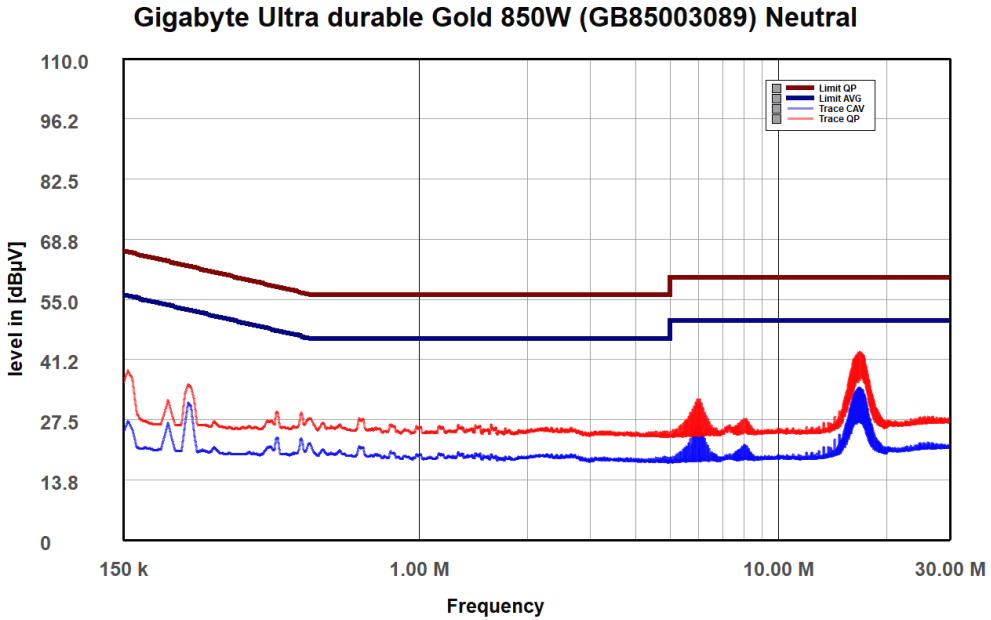
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	648 RPM · 16.7 dB(A) · 30.2 °C	732 RPM · 21.0 dB(A) · 40.1 °C	**+4.3 dB(A)**
20%	651 RPM · 16.8 dB(A) · 30.6 °C	773 RPM · 22.3 dB(A) · 40.8 °C	**+5.5 dB(A)**
50%	780 RPM · 22.7 dB(A) · 30.9 °C	1038 RPM · 31.4 dB(A) · 42.1 °C	**+8.7 dB(A)**
100%	1454 RPM · 39.7 dB(A) · 30.6 °C	1925 RPM · 44.8 dB(A) · 45.9 °C	**+5.1 dB(A)**

INFO

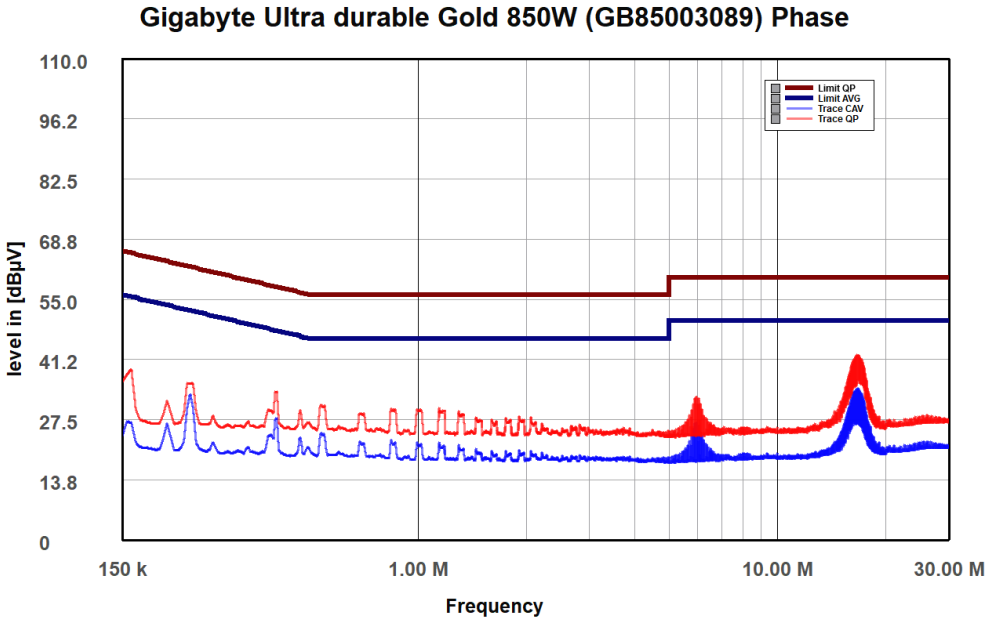
Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative 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.

Conducted Emissions EN 55032 & CISPR 32



NEUTRAL



PHASE

Indicative Performance

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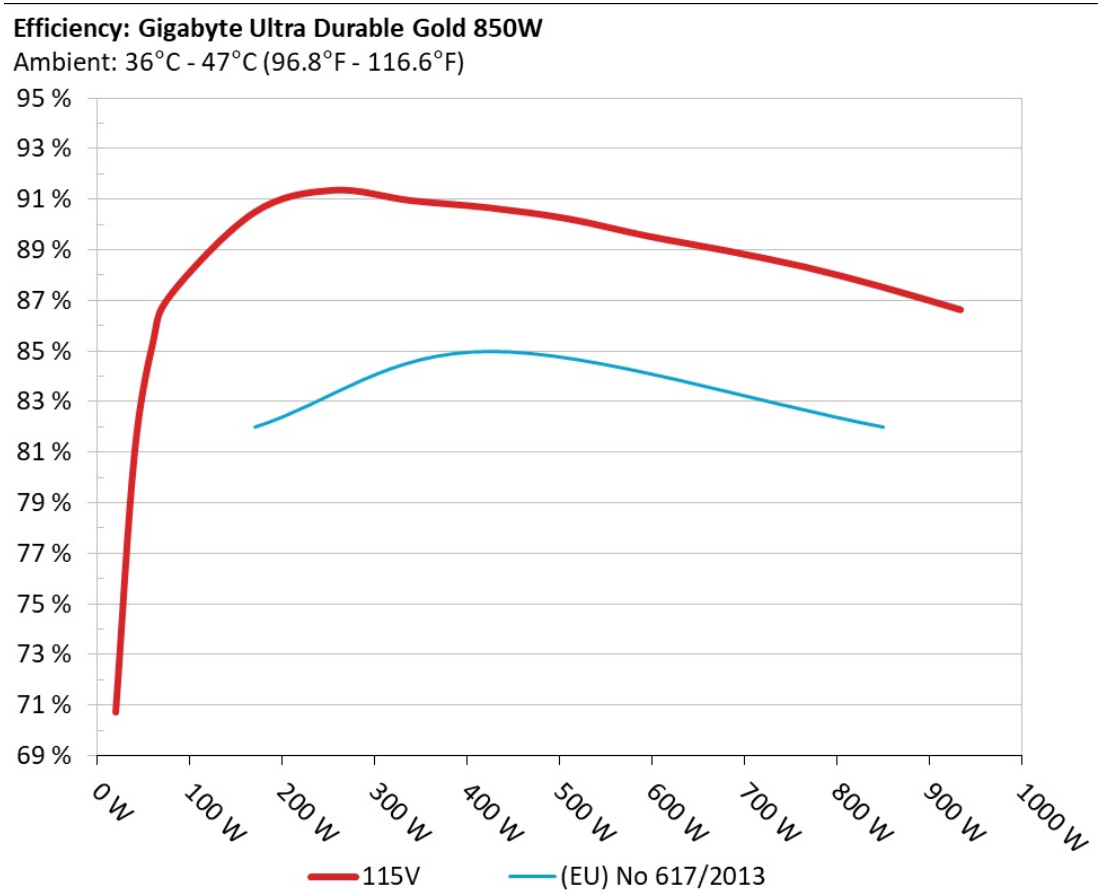
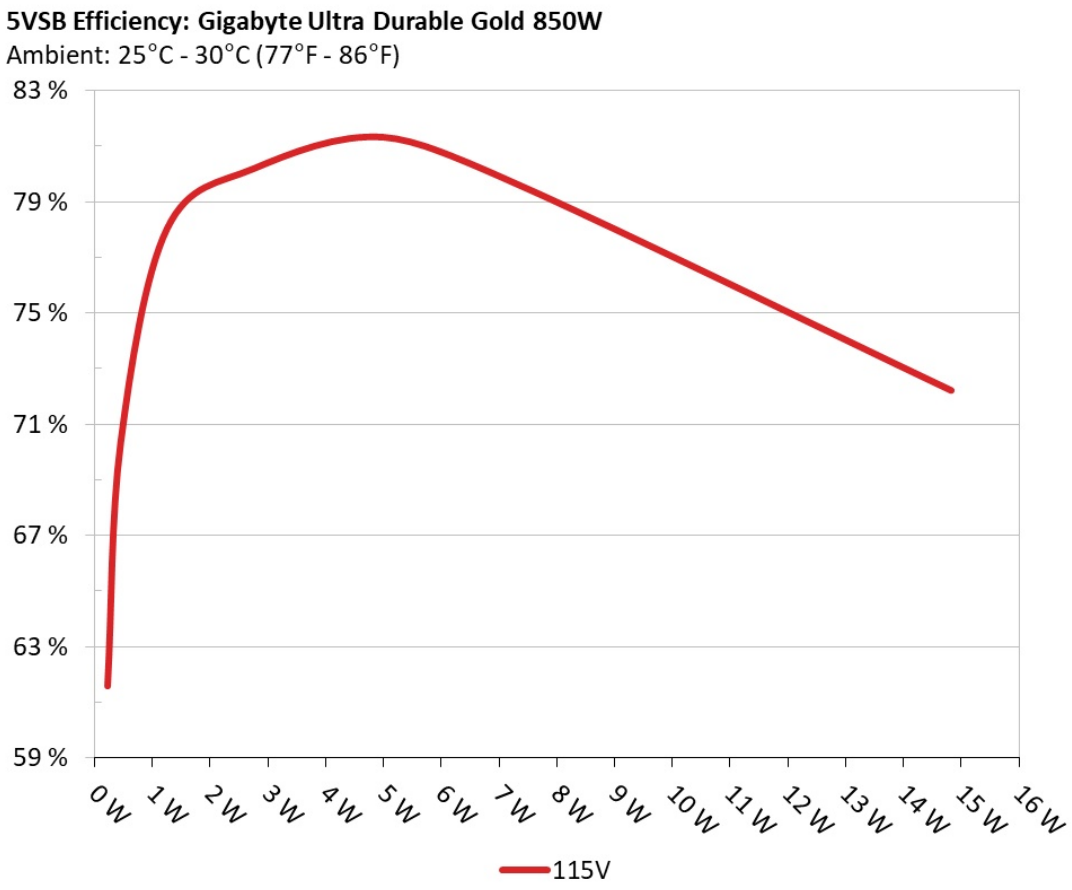


□□

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**	0.226W	61.605%	0.018
	5.028V	0.367W		115.04V

2	**0.09A**	0.453W	70.345%	0.032
	5.027V	0.644W		115.04V
3	**0.55A**	2.758W	80.18%	0.154
	5.014V	3.44W		115.04V
4	**1A**	5.002W	81.306%	0.237
	5.001V	6.152W		115.04V
5	**1.5A**	7.482W	79.468%	0.298
	4.987V	9.415W		115.04V
6	**3A**	14.835W	72.215%	0.379
	4.945V	20.544W		115.04V

Protection Features

OCP (Normal @ 28.3°C)	12V: 87.00A (122.88%), 11.807V 5V: 27.6A (138.00%), 5.042V 3.3V: 31.3A (156.50%), 3.301V 5VSB: 3.8A (126.67%), 4.923V
OCP (Hot @ 44.6°C)	12V: 90.00A (127.12%), 11.805V 5V: 27.5A (137.50%), 5.041V 3.3V: 31.5A (157.50%), 3.3V 5VSB: 3.7A (123.33%), 4.925V
OPP (Normal @ 28.3°C)	1057.65W (124.43%)
OPP (Hot @ 44.6°C)	1055.14W (124.13%)
OTP	✓ (115°C @ 12V Heatsink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
UVP (Full Load @ 90V)	✓
UVP (No Damage @ 80V)	✓
Conducted Emissions EN55032 & CISPR 32	✓
NLO	✓

Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

Supplementary Tests (For Reference)

10-110%□□□□ 115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	**5.360A**	**1.978A**	**1.974A**	**1A**	85.011	87.085%	732	21	40.13°C	0.943
	11.830V	5.057V	3.343V	5.001V	97.618				42.94°C	115.01V
20%	**11.757A**	**2.972A**	**2.963A**	**1.202A**	169.967	90.503%	773	22.3	40.81°C	0.967
	11.828V	5.047V	3.341V	4.994V	187.804				44.2°C	114.98V
30%	**18.514A**	**3.475A**	**3.459A**	**1.404A**	254.983	91.379%	837	25	41.19°C	0.975
	11.825V	5.037V	3.34V	4.987V	279.056				45.55°C	114.95V
40%	**25.279A**	**3.979A**	**3.955A**	**1.607A**	340.079	90.969%	936	28.3	41.63°C	0.983
	11.823V	5.027V	3.338V	4.98V	373.843				47.52°C	114.92V
50%	**31.679A**	**4.983A**	**4.946A**	**1.81A**	424.945	90.684%	1038	31.4	42.11°C	0.987
	11.819V	5.018V	3.337V	4.972V	468.596				49.63°C	114.89V
60%	**38.053A**	**5.992A**	**5.939A**	**2.001A**	509.391	90.251%	1274	37	42.57°C	0.99
	11.816V	5.008V	3.335V	4.965V	564.417				49.79°C	114.86V
70%	**44.505A**	**7.007A**	**6.933A**	**2.219A**	594.84	89.57%	1621	41.5	43.24°C	0.992
	11.813V	4.996V	3.332V	4.957V	664.107				49.89°C	114.83V
80%	**50.949A**	**8.021A**	**7.928A**	**2.322A**	679.593	88.995%	1838	44	43.97°C	0.993
	11.810V	4.986V	3.33V	4.953V	763.632				50.53°C	114.79V
90%	**57.802A**	**8.539A**	**8.41A**	**2.425A**	764.943	88.35%	1922	44.8	44.64°C	0.994
	11.807V	4.976V	3.329V	4.949V	865.809				51.74°C	114.76V
100%	**64.392A**	**9.06A**	**8.924A**	**3.043A**	849.733	87.547%	1925	44.8	45.88°C	0.995
	11.803V	4.966V	3.328V	4.929V	970.601				54.41°C	114.73V
110%	**70.856A**	**10.087A**	**10.013A**	**3.044A**	934.287	86.647%	1924	44.8	46.49°C	0.996
	11.799V	4.955V	3.325V	4.928V	1078.268				56.76°C	114.69V

CL1	**0.118A**	**12.509A**	**12.536A**	**0A**	106.285	81.422%	1891	44.5	40.34°C	0.965
	11.832V	5.051V	3.326V	5.031V	130.533				44.51°C	115V
CL2	**0.117A**	**19.71A**	**0A**	**0A**	101.343	81.302%	807	23.9	40.95°C	0.962
	11.832V	5.071V	3.346V	5.031V	124.649				44.19°C	115V
CL3	**0.117A**	**0A**	**19.9A**	**0A**	67.391	75.252%	853	25.6	40.61°C	0.933
	11.833V	5.039V	3.317V	5.031V	89.554				44.46°C	115.02V
CL4	**71.981A**	**0A**	**0A**	**0A**	849.463	88.62%	1921	44.8	45.91°C	0.994
	11.802V	4.975V	3.343V	5.018V	958.559				53.63°C	114.74V

The results above are not used in the certification process

20-80□□□□ 115V

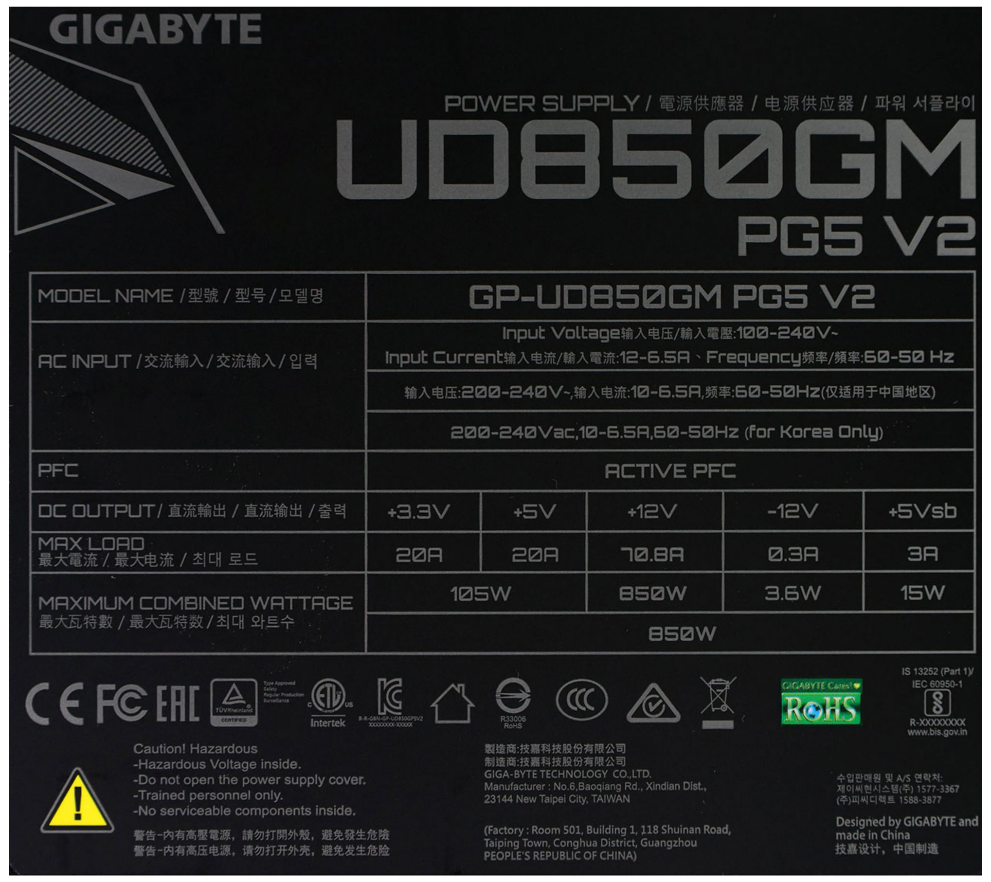
□□	**12V**	**5V**	**3.3V**	**5VSB**	**DC/AC (□)**	□□	□□□□ **(RPM)**	□□□□□□□ **(dB[A])**	□□ **(□□ /□□)**	**PF/AC □□**
20W	**1.256A**	**0.494A**	**0.493A**	**0.199A**	20.006	70.707%	650	16.8	36.41°C	0.749
	11.832V	5.063V	3.345V	5.025V	28.294				38.56°C	115.03V
40W	**2.764A**	**0.691A**	**0.691A**	**0.299A**	40.005	80.849%	654	16.8	37.75°C	0.878
	11.831V	5.062V	3.345V	5.022V	49.484				39.82°C	115.02V
60W	**4.272A**	**0.889A**	**0.888A**	**0.399A**	60.005	85.315%	660	17.6	38.59°C	0.922
	11.831V	5.06V	3.344V	5.019V	70.331				40.83°C	115.02V
80W	**5.776A**	**1.087A**	**1.086A**	**0.498A**	79.959	87.26%	681	18.3	39.26°C	0.935
	11.830V	5.058V	3.344V	5.015V	91.631				41.68°C	115.01V

The results above are not used in the certification process

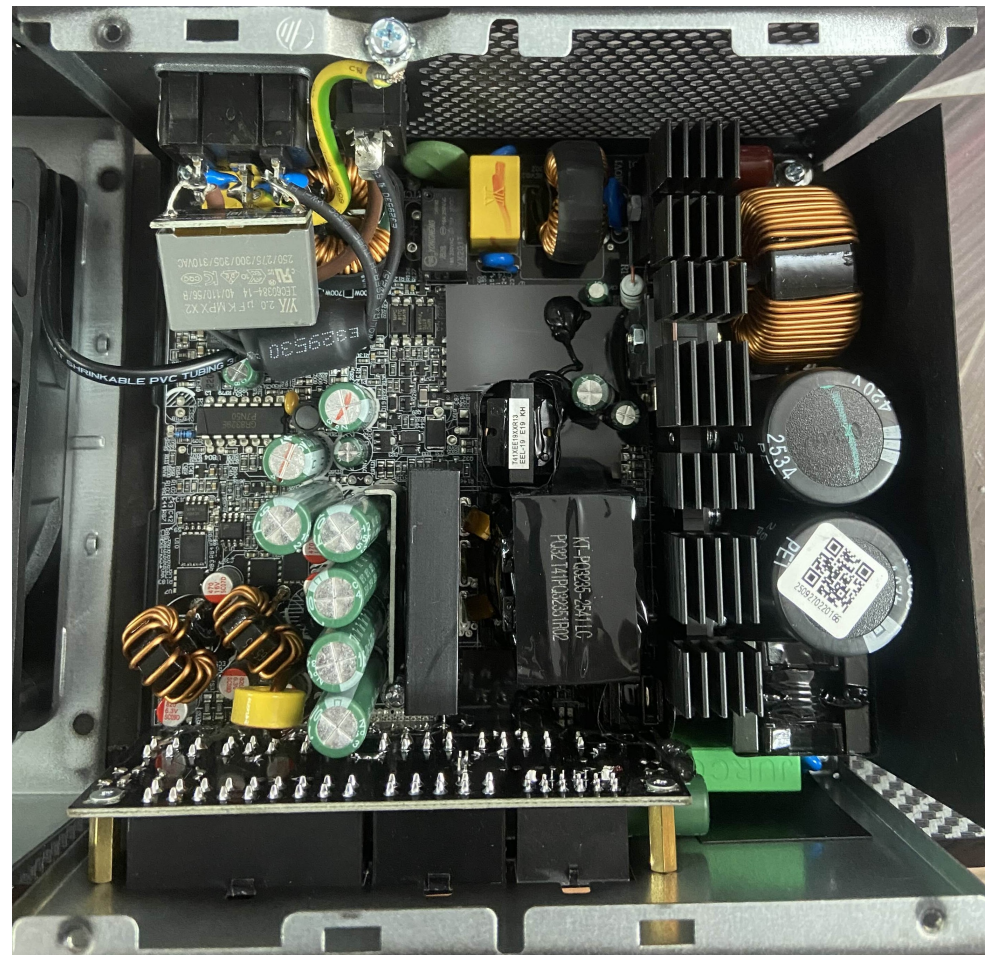
□□□□ **115V**

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	26.19mV	19.06mV	19.13mV	16.52mV	Pass
20% Load	23.48mV	18.19mV	18.82mV	16.47mV	Pass
30% Load	21.54mV	17.01mV	18.31mV	15.65mV	Pass
40% Load	40.11mV	27.13mV	37.60mV	23.63mV	Pass
50% Load	24.71mV	19.93mV	21.79mV	17.24mV	Pass
60% Load	24.40mV	22.07mV	22.15mV	17.91mV	Pass









Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	24.76mV	22.73mV	24.60mV	18.82mV	Pass
80% Load	25.53mV	23.91mV	24.66mV	19.64mV	Pass
90% Load	26.19mV	23.81mV	24.15mV	19.49mV	Pass
100% Load	25.24mV	22.54mV	23.94mV	19.56mV	Pass
110% Load	25.16mV	23.93mV	27.66mV	20.41mV	Pass
Crossload1	24.06mV	21.72mV	24.57mV	17.16mV	Pass
Crossload2	27.22mV	24.16mV	28.24mV	16.01mV	Pass
Crossload3	27.11mV	26.11mV	21.85mV	15.86mV	Pass
Crossload4	24.06mV	19.48mV	21.17mV	23.84mV	Pass

The results above are not used in the certification process

Gigabyte GP-UD850GM PG5 V2 / ICE

Top side

Power specifications label

Fan

PSU Internals

本测试报告中包含的所有数据和图表均可在以下条件下由任何人使用：使用过程需提及测试结果由Cybenetics提供。
在任何情况下都应提供原始测试结果文档的网站链接

Cybenetics 提供自愿性认证计划：电源方面有 ETA（效率）、LAMBDA（噪声）与 SAFE（安全与正确运行）；散热产品方面有 DELTA（机箱隔音）与 PHI（风扇风量与静压）

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