Gamer Storm PF850D V2 BRONZE

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Lab ID GA85003188

Certification ID 263188

Test Result Report ID: 26PS3188A

Certificate Issue Date: Mar 16, 2026

230V

Scheme: ETA-EMI PSU



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	Gamer Storm
Model	PF850D V2 BRONZE
OEM/ODM	Helly
Serial Number	-
Product Specifications	
Manufacturer-Provided Information	
□□□ (Vrms)	200-240

□□□□ (Arms)	5
□□□□ (Hz)	50-60
□□□□ (W)	850
Operating Temperature (Continuous Full Load) (°C)	0 - 40
□□	ATX12V
□□□□	Fixed cables
Warranty	No Info
Cybenetics Measurements	
Dimensions (W x H x D)	150 x 85 x 140mm
Weight	1.74 kg (3.84 lb)
□□	120mm Fluid Dynamic Bearing Fan (HA1225M12F-Z)
□□□□□	✗
Cybenetics Testing Information	
Lab ID	GA85003188
Date of receipt	Jan 28, 2026
Testing Date	Mar 5, 2026
Report Issued Date	Mar 16, 2026
□□□□□	During +12V OCP testing, the unit had high ripple (> 200 mV) under both normal and hot conditions. It shut down normally.
Engineer Name	Ioannis Kalyviotis
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□
(Non-accredited measurements)

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□□	□□□□	□□□□□□	**Gauge**	Cable Type
ATX □□ 20+4 pin (570mm)	1	1	18-22AWG	Copper
4+4 pin EPS 12V □□ (675mm+150mm)	1	2	18AWG	Copper
6+2pin PCIe□□ (575mm+150mm)	2	4	18AWG	Copper
12+4 pin PCIe (625mm) (600W)	1	1	16-24AWG	Tinned Copper

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SATA□□ (450mm+150mm+150mm) / 4-pin Molex (+150mm)	2	6 / 2	18AWG	Copper	

Protection Features

Under Voltage Protection	✓
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
□□□□	□□	15	15	70.8	3	0.3
	□	100		849.6	15	3.6
□□□□□ (W)		850				

Parts Description

General Data	
Manufacturer (OEM)	Helly Technology
PCB Type	Double-Sided
Primary Side	
Transient Filter	2x Y caps, 1x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor MF72 10D-20 (10Ohm @ 25°C) & Relay
Bridge Rectifier	2x HG GBU 1508 (600V, 15A @ 100°C)
APFC MOSFETs	1x Perfect Intelligent Power Semiconductor PTA28N50F (500V, 18A@ 100°C, Rds(on):0.17Ohm)
APFC Boost Diode	WeEn BYC10X-600P (600V, 10A @ 175°C)
Bulk Cap(s)	ChengX (420V, 560uF 2000h @ 105°C, LS)
Main Switchers	2x Perfect Intelligent Power Semiconductor PTA28N50F (500V, 18A@ 100°C, Rds(on):0.17Ohm)

PFC / PWM Combo Controller	Champion CM6800UX
Topology	Primary Side: APFC, Dual Forward Secondary Side: [12V] Synchronous Rectification & [Minor Rails] DC-DC Converters
Secondary Side	
+12V MOSFETs	3x Kwansemi KS62031CAT (60V, 116A @ 100°C, Rds(on): 2.5mOhm)
5V & 3.3V	DC-DC Converters: 2x Kwansemi KS3212NAT (30V, 44A@ 100℃,Rds(on): 3.2mOhm) 2x Kwansemi KS3214NAT (30V, 38A@ 100℃,Rds(on): 5.5mOhm) PWM Controller(s): 2x ANPEC APW7164
Filtering Capacitors	Electrolytic: 9x Chengx (2~3,000 @ 105°C, GR) 3x Chengx (1,000 @ 105°C, ZF) Polymer: 5x ChengX (2000 hours @ 105°C, PC)
Supervisor IC	INFSitronix IN1S429I (OVP,UVP,OCP,PG)
Fan Power Switch	SS8550 Y2 PNP Transistor
Fan Model	Hong Hua HA1225M12F-Z (120mm, 12V, 0.45A, Fluid Dynamic Bearing Fan)
5VSB Circuit	
Rectifier	Dongke DK5V60R20S (60V, 20mOhm)
Standby PWM Controller	Excelliance MOS EM8569C

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 230V

Accredited		
□□□□ (>1450 load combinations)		88.616%
Average Noise Output (>1450 Load Combinations)		36.41dBA
PF□□□ (>1450 Load Combinations)		0.967
Efficiency With 10W (≤500W) or 2% (>500W) Load		67.787%
□□□□□□		0.0947W
Non-Accredited		
12V Ripple (Full Load)		29.87mV
5V Ripple (Full Load)		18.31mV
3.3V Ripple (Full Load)		19.53mV
5VSB Ripple (Full Load)		24.56mV
12V Load Regulation		1.21%
5V Load Regulation		2.03%
3.3V Load Regulation		1.58%
5VSB Load Regulation		4.42%
Inrush Current		32.450A
12V Transient Response (200%)		11.09V
5V Transient Response (200%)		4.885V
3.3V Transient Response (200%)		3.215V
5VSB Transient Response (200%)		4.874V
□□□□ & PG□□		19.50ms
AC Loss to PWR_OK Hold Up Time		17.40ms
PWR_OK Inactive to DC Loss Delay		2.10ms
PSU Timings: T1 (20% / 100%)	33.0ms	33.0ms
PSU Timings: T3 (20% / 100%)	126.0ms	125.0ms
12V OCP (27.7°C / 43.3°C)	85.20A (120.34%), 11.962V *High Ripple (>200mV)	81.60A (115.25%), 11.962V *High Ripple (>200mV)
5V OCP (27.7°C / 43.3°C)	18.8A (125.33%), 4.946V	17.7A (118.00%), 4.952V
3.3V OCP (27.7°C / 43.3°C)	19.6A (130.67%), 3.327V	18.7A (124.67%), 3.334V
5VSB OCP (27.7°C / 43.3°C)	4.1A (136.67%), 4.911V	4.1A (136.67%), 4.907V
OPP (27.56°C / 42.25°C)	128.62%	116.26%

□□□□ & PG□□

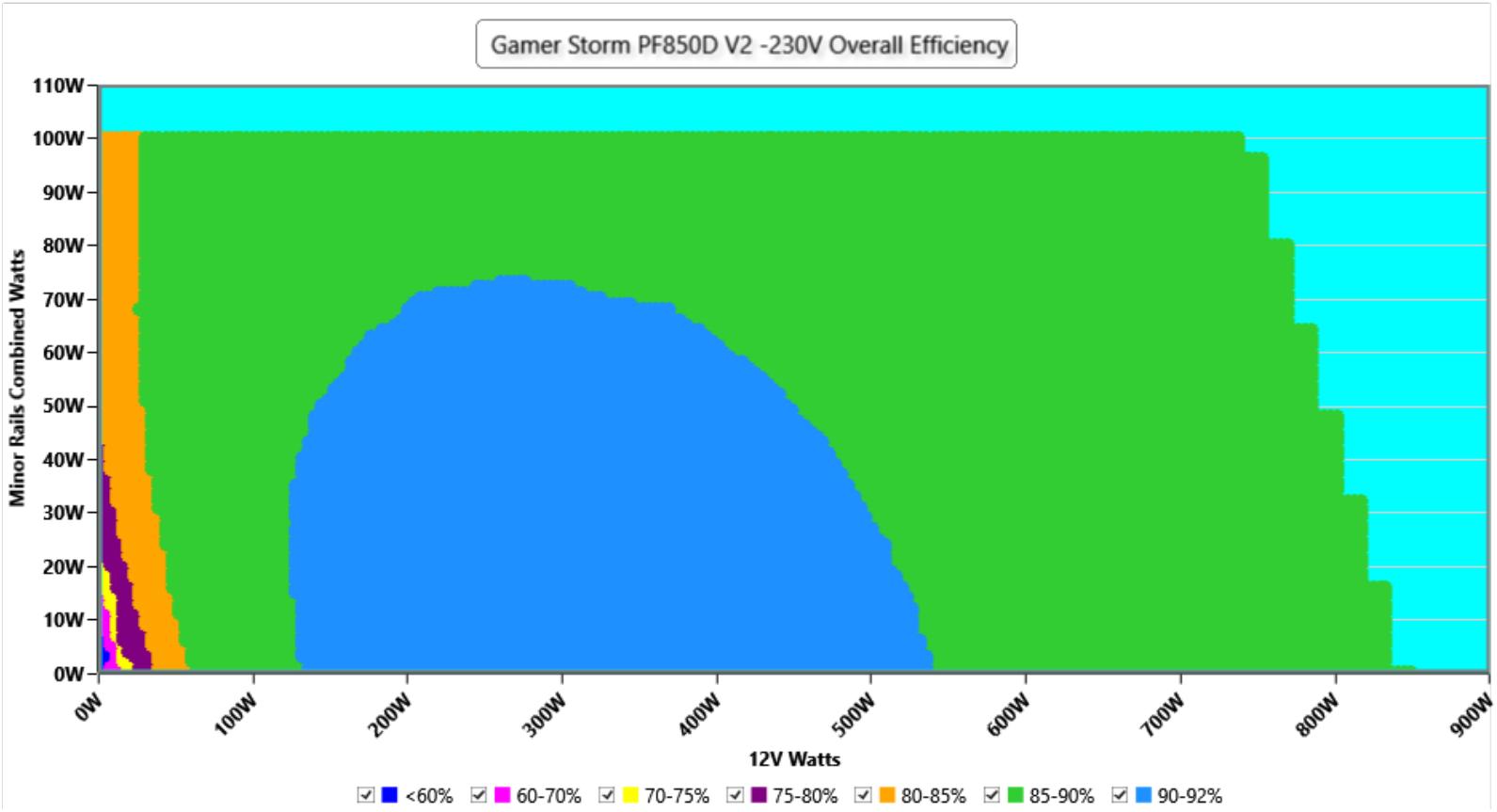
Hold-Up Time (ms)	19.5
AC Loss to PWR_OK Hold Up Time (ms)	17.4
PWR_OK Inactive to DC Loss Delay (ms)	2.1

□□□□

Tables 230V

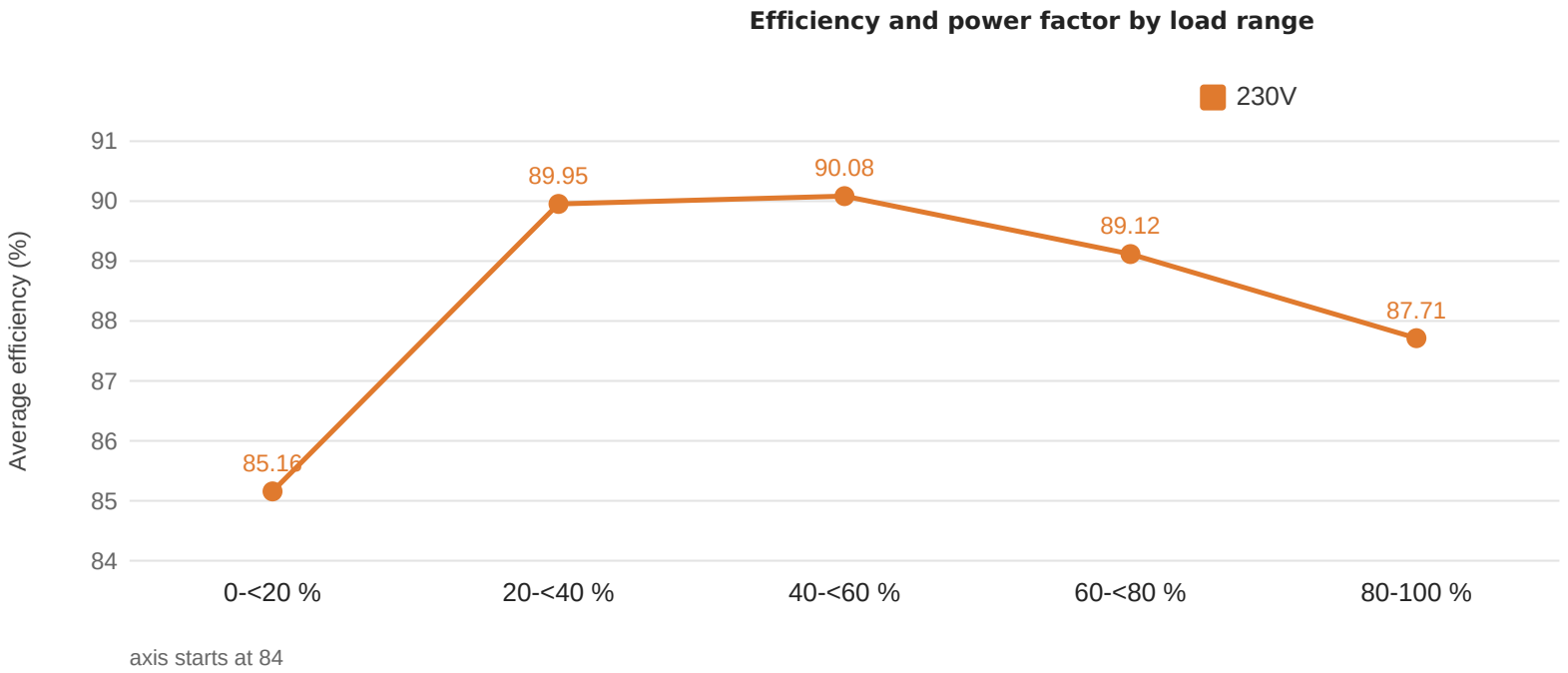
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.13 V	230.11 V	227.70 V	230.15 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	50.00 Hz	49.50 Hz	50.00 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.415	1.415	1.340	1.416	1.490	PASS
Mains Voltage THD:	0.14 %	0.13 %	N/A	0.16 %	2.00 %	PASS
Real Power:	0.095 W	0.054 W	N/A	0.162 W	N/A	N/A
Apparent Power:	28.523 W	28.481 W	N/A	28.562 W	N/A	N/A
Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

230V

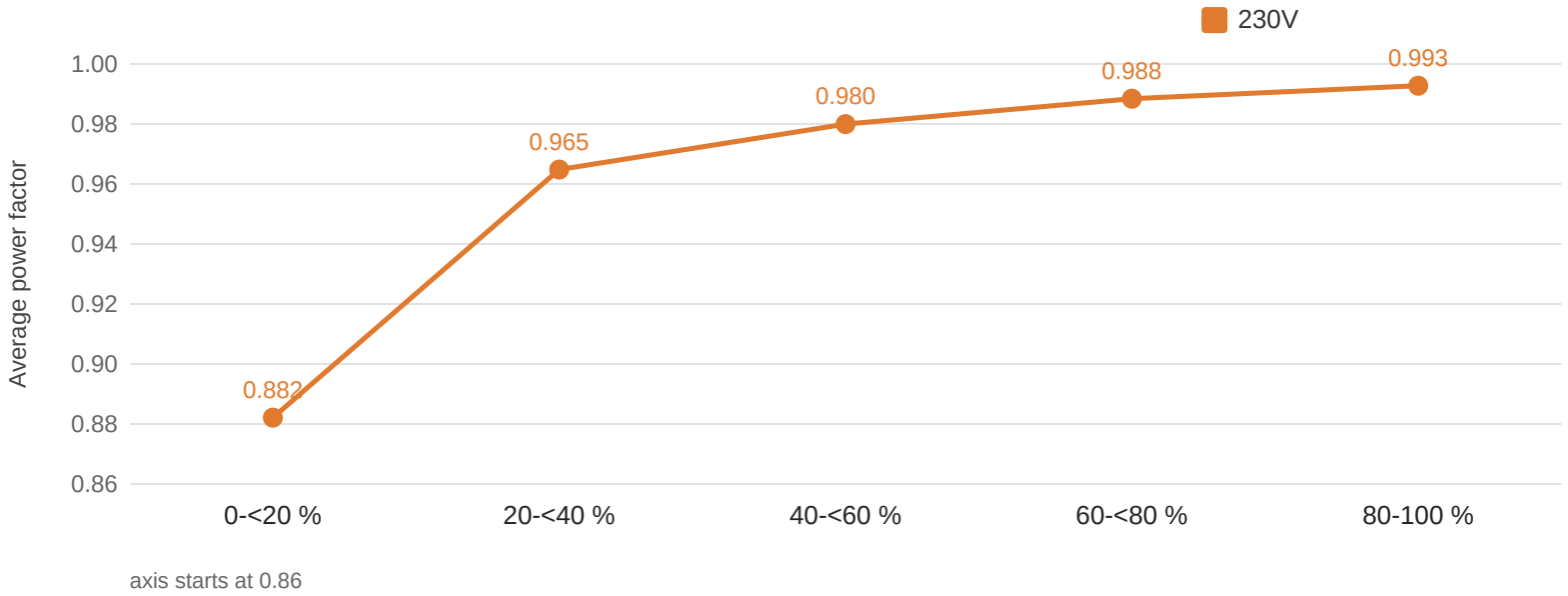


□□

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



axis starts at 84



axis starts at 0.86

Load range	Points	Efficiency 230V	PF 230V
0-<20 %	228	85.16%	0.882
20-<40 %	331	89.95%	0.965
40-<60 %	327	90.08%	0.980
60-<80 %	333	89.12%	0.988
80-100 %	332	87.71%	0.993
70-100 % (High-Load)	502	88.09%	0.992
All (published average)	1551	88.62%	0.967

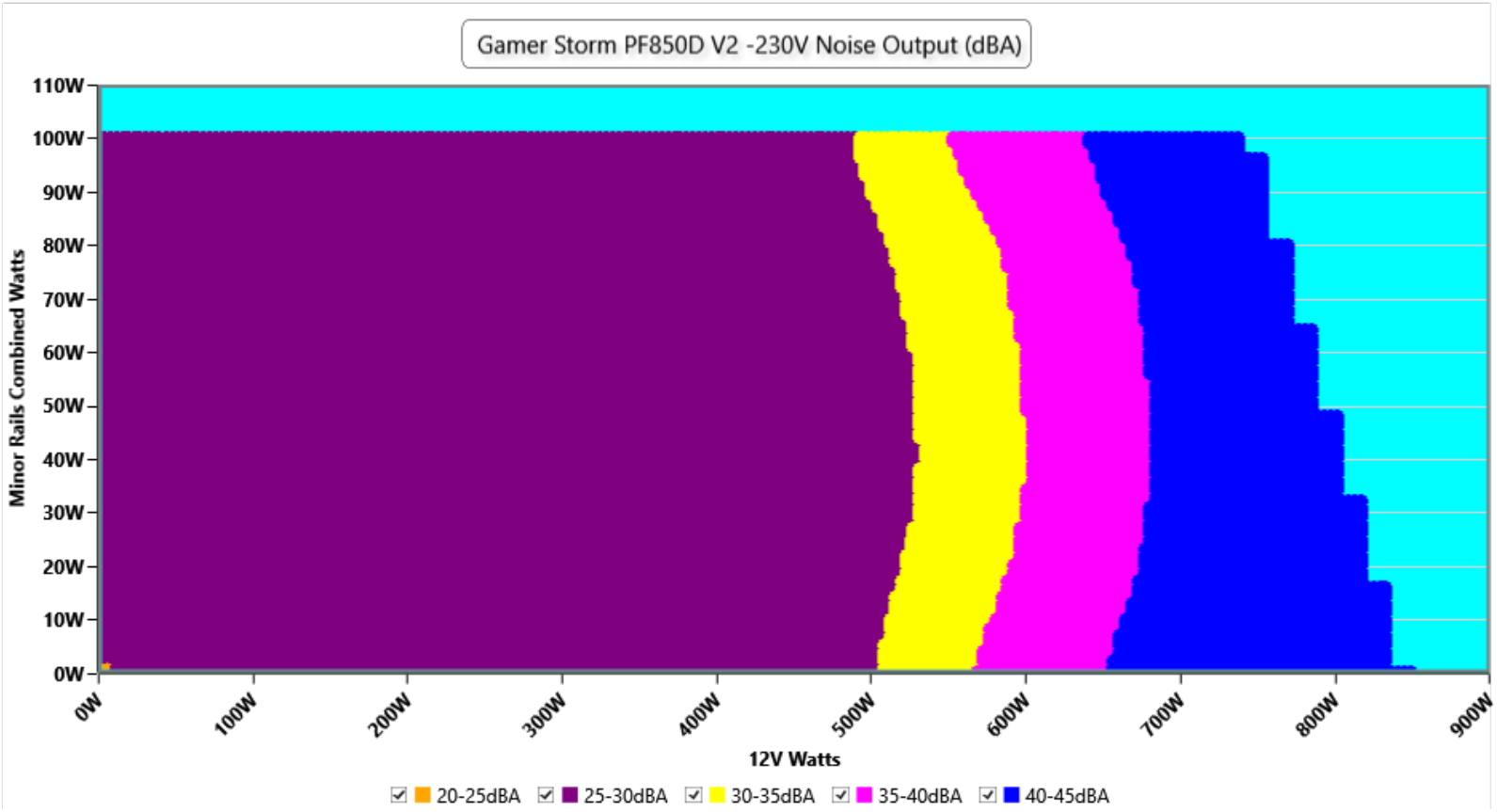
INFO

The average efficiency and power factor in five ranges of load. Calculated from the 1551 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 850 W. These are plain averages of the valid readings, as for the ETA rating, so the ranges combined give back the published averages.

Informational. Not part of the ETA or LAMBDA rating.

□□□□□

230V



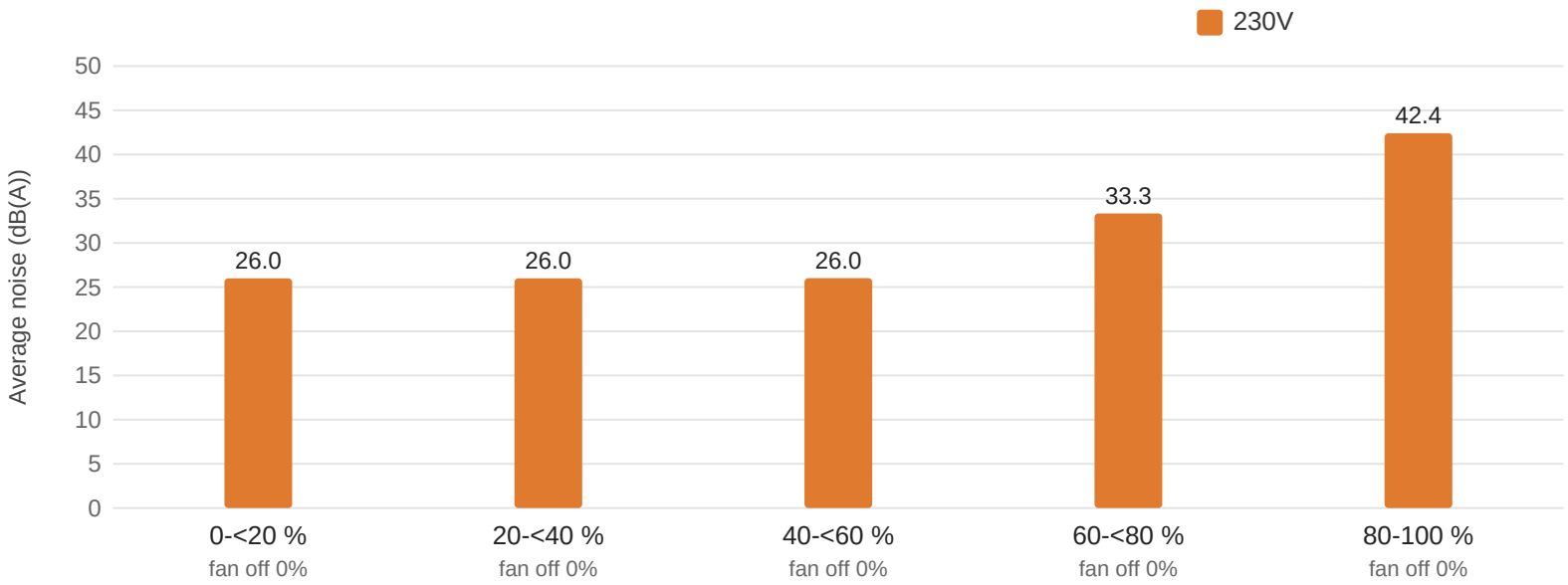
□□

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 by load range

High-Load Index (70-100 % load)
Noise **41.0 dB(A)** at 230V · loudest point 45.0 dB(A)

Efficiency 88.09% · power factor 0.992 (230V)



Load range	Noise 230V avg (loudest)	Fan off 230V
0-<20 %	26.0 (26.0)	0%
20-<40 %	26.0 (26.0)	0%
40-<60 %	26.0 (27.6)	0%
60-<80 %	33.3 (41.5)	0%
80-100 %	42.4 (45.0)	0%
70-100 % (High-Load)	41.0 (45.0)	0%
All (published average)	36.5 (45.0)	0%

INFO

The average noise in five ranges of load, the share of points with the fan stopped (semi-passive operation), and the High-Load Index: the same figures for all points at 70 % of the rated output and above. Calculated from the 1551 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 850 W. Noise is averaged on the energy scale, as for LAMBDA, so the ranges combined give back the published average noise. Each load combination is held for about five seconds; the stabilized readings at fixed loads

are under "Noise under high ambient temperature". Below 6 dB(A), the floor of our sound meter, the table and the chart show <6.0. In the averages a stopped fan counts as 5 dB(A), as in the published average.

Informational. Not part of the ETA or LAMBDA rating.

Noise under high ambient temperature (indicative)

230V

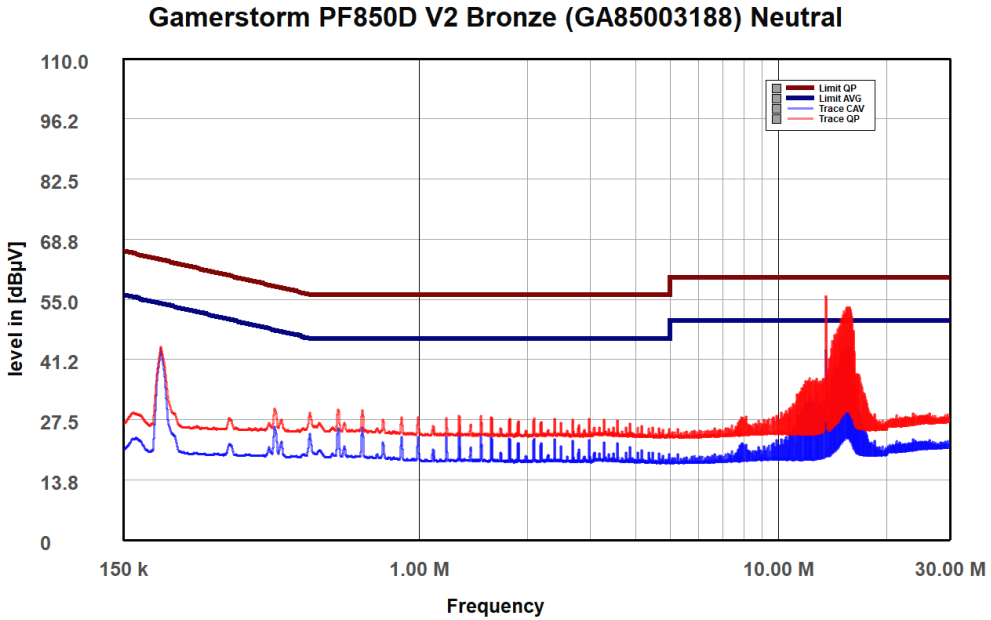
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	999 RPM · 25.8 dB(A) · 30.1 °C	1023 RPM · 26.8 dB(A) · 40.1 °C	**+1.0 dB(A)**
20%	1001 RPM · 25.9 dB(A) · 30.2 °C	1026 RPM · 26.9 dB(A) · 40.8 °C	**+1.0 dB(A)**
50%	1010 RPM · 26.2 dB(A) · 30.9 °C	1109 RPM · 29.0 dB(A) · 42.5 °C	**+2.8 dB(A)**
100%	1861 RPM · 43.6 dB(A) · 30.2 °C	2008 RPM · 45.3 dB(A) · 45.1 °C	**+1.7 dB(A)**

INFO

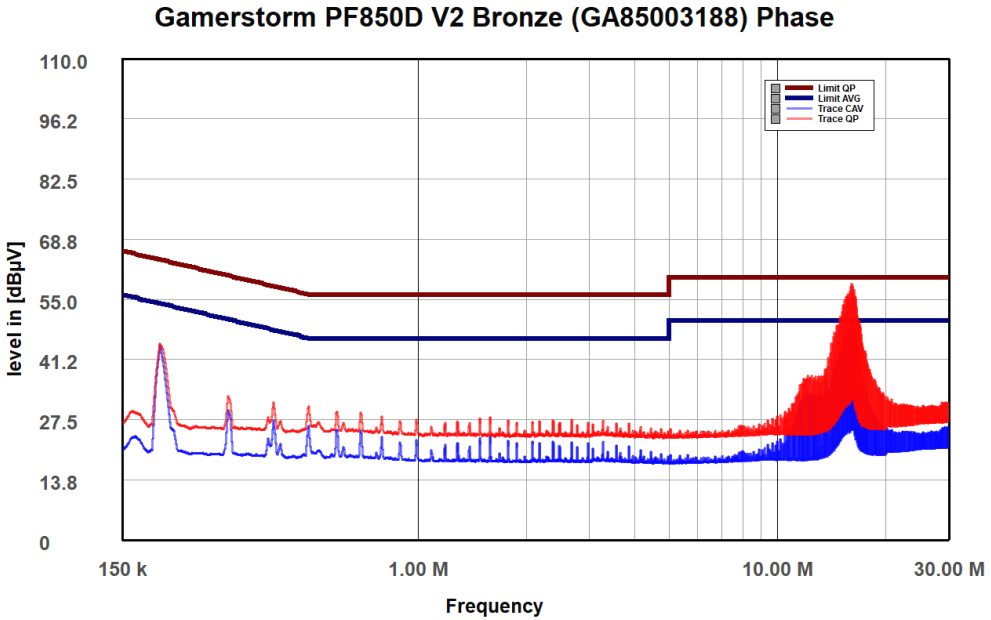
Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); 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

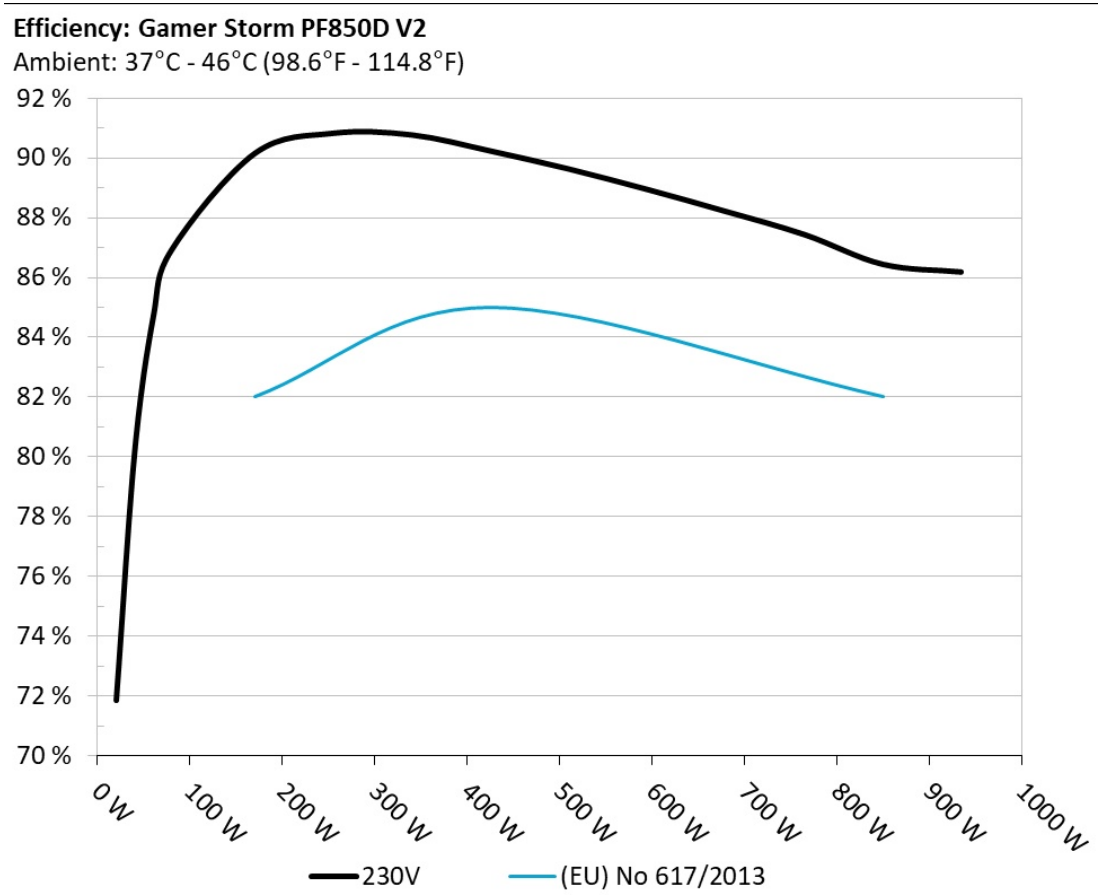


NEUTRAL



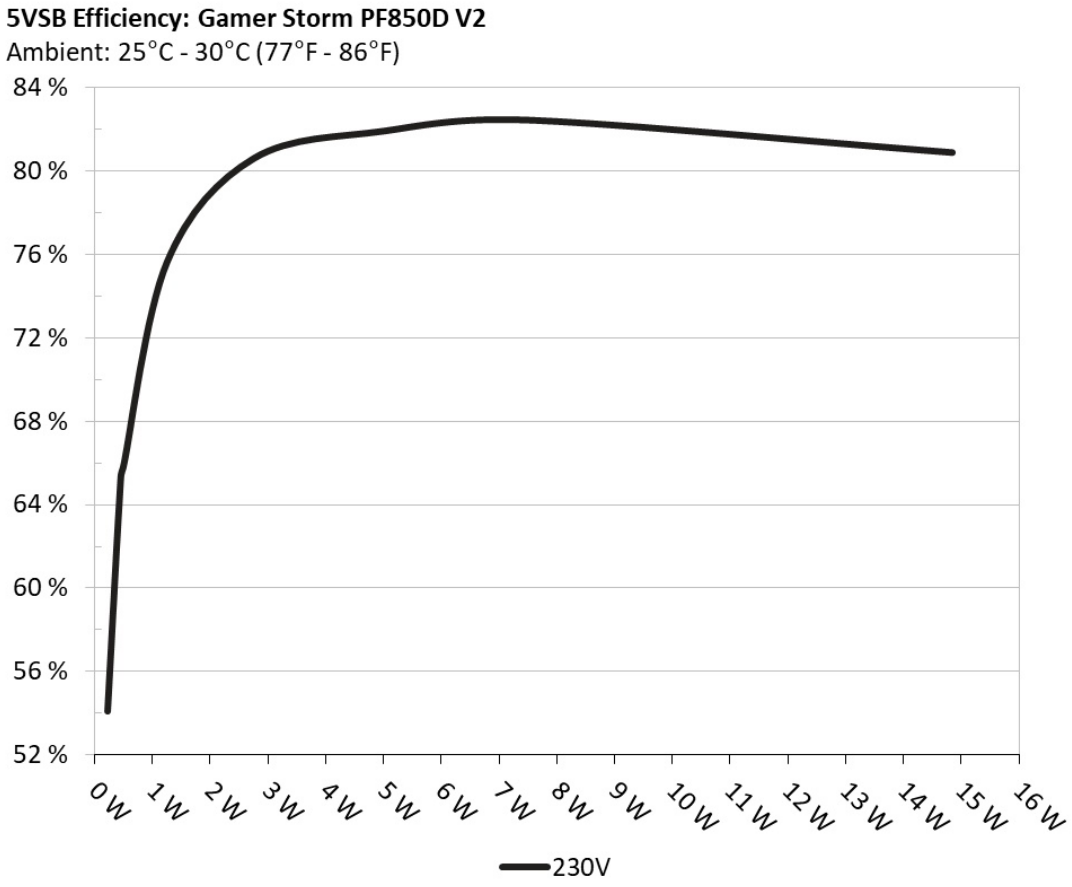
PHASE

Indicative Performance



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) 230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	**0.045A**	0.227W	54.088%	0.015
	5.038V	0.419W		230.09V

2	**0.09A**	0.454W	65.28%	0.025
	5.037V	0.695W		230.08V
3	**0.55A**	2.764W	80.614%	0.116
	5.023V	3.428W		230.06V
4	**1A**	5.011W	81.914%	0.192
	5.009V	6.118W		230.05V
5	**1.5A**	7.494W	82.443%	0.258
	4.994V	9.09W		230.05V
6	**3.001A**	14.849W	80.885%	0.376
	4.949V	18.358W		230.05V

Protection Features

OCP (Normal @ 27.7°C)	12V: 85.2A (120.34%), 11.962V *High Ripple (>200mV) 5V: 18.8A (125.33%), 4.946V 3.3V: 19.6A (130.67%), 3.327V 5VSB: 4.1A (136.67%), 4.911V
OCP (Hot @ 43.3°C)	12V: 81.6A (115.25%), 11.962V *High Ripple (>200mV) 5V: 17.7A (118%), 4.952V 3.3V: 18.7A (124.67%), 3.334V 5VSB: 4.1A (136.67%), 4.907V
OPP (Normal @ 27.6°C)	1093.25W (128.62%)
OPP (Hot @ 42.3°C)	988.22W (116.26%)
OTP	✓ (156°C @ Primary 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 @ 180V)	✓
UVP (No Damage @ 170V)	✓
Conducted Emissions EN55032 & CISPR 32	✓
NLO	✓

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

Supplementary Tests (For Reference)

10-110%□□□□ 230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	**5.276A**	**1.992A**	**1.975A**	**1.001A**	85.013	86.825%	1023	26.8	40.12°C	0.878
	12.016V	5.022V	3.342V	4.996V	97.913				43.49°C	230.03V
20%	**11.588A**	**2.994A**	**2.968A**	**1.206A**	169.986	90.152%	1026	26.9	40.78°C	0.946
	12.002V	5.011V	3.336V	4.978V	188.557				44.43°C	230.02V
30%	**18.263A**	**3.498A**	**3.467A**	**1.412A**	255.003	90.828%	1029	27	41.49°C	0.969
	11.989V	5.004V	3.331V	4.96V	280.752				46.65°C	230.02V
40%	**24.961A**	**4.004A**	**3.969A**	**1.619A**	340.101	90.771%	1032	27.4	41.57°C	0.975
	11.975V	4.996V	3.327V	4.942V	374.684				47.82°C	230.01V
50%	**31.330A**	**5.016A**	**4.968A**	**1.829A**	425.198	90.234%	1109	29	42.5°C	0.981
	11.959V	4.985V	3.322V	4.923V	471.217				50.33°C	230V
60%	**37.667A**	**6.032A**	**5.972A**	**2.001A**	509.544	89.634%	1477	37.1	42.87°C	0.986
	11.945V	4.975V	3.316V	4.905V	568.47				49.35°C	229.99V
70%	**44.087A**	**7.054A**	**6.98A**	**2.253A**	595.069	88.945%	1754	41.4	43.48°C	0.989
	11.930V	4.964V	3.31V	4.884V	669.029				49.74°C	229.98V
80%	**50.525A**	**8.08A**	**7.992A**	**2.363A**	679.906	88.211%	1956	44.8	43.94°C	0.991
	11.914V	4.952V	3.304V	4.868V	770.768				50.48°C	229.97V
90%	**57.386A**	**8.599A**	**8.49A**	**2.474A**	765.321	87.434%	1999	45.3	44.46°C	0.993
	11.898V	4.943V	3.298V	4.851V	875.318				52.1°C	229.96V
100%	**63.991A**	**9.122A**	**9.018A**	**3.114A**	850.163	86.439%	2008	45.3	45.11°C	0.994
	11.884V	4.934V	3.294V	4.817V	983.556				54.12°C	229.95V
110%	**70.468A**	**10.158A**	**10.13A**	**3.123A**	934.715	86.184%	2008	45.3	46.04°C	0.888
	11.870V	4.923V	3.287V	4.804V	1084.575				54.34°C	229.95V

CL1	**0.117A**	**12.143A**	**11.908A**	**0.001A**	101.324	81.775%	1044	27.5	40.78°C	0.913
	12.010V	4.958V	3.334V	5.003V	123.91				46.17°C	230.03V
CL2	**0.117A**	**15.163A**	**0A**	**0.001A**	76.417	80.503%	1041	27.5	39.89°C	0.874
	12.019V	4.947V	3.345V	5.018V	94.927				44.41°C	230.03V
CL3	**0.117A**	**0A**	**14.845A**	**0.001A**	50.909	76.277%	1024	26.8	40.57°C	0.812
	12.020V	5.03V	3.334V	5.018V	66.742				43.81°C	230.04V
CL4	**71.485A**	**0.001A**	**0A**	**0.002A**	849.839	87.352%	2004	45.3	45.36°C	0.994
	11.889V	4.992V	3.305V	4.935V	972.904				54.31°C	229.95V

The results above are not used in the certification process

20-80□□□□ 230V

□□	**12V**	**5V**	**3.3V**	**5VSB**	**DC/AC (□)**	□□	□□□□ **(RPM)**	□□□□□□□ **(dB[A])**	□□ **(□□ /□□)**	**PF/AC □□**
20W	**1.236A**	**0.497A**	**0.493A**	**0.199A**	20.015	71.84%	1006	26.1	36.67°C	0.561
	12.027V	5.034V	3.346V	5.03V	27.86				38.98°C	230.04V
40W	**2.720A**	**0.696A**	**0.691A**	**0.299A**	40.011	80.181%	1013	26.3	37.67°C	0.728
	12.024V	5.032V	3.345V	5.025V	49.9				40.31°C	230.04V
60W	**4.204A**	**0.895A**	**0.888A**	**0.399A**	60.01	84.668%	1016	26.5	38.15°C	0.828
	12.021V	5.03V	3.344V	5.019V	70.876				41.19°C	230.03V
80W	**5.688A**	**1.094A**	**1.086A**	**0.499A**	79.979	86.926%	1019	26.6	39.47°C	0.869
	12.017V	5.027V	3.343V	5.013V	92.007				41.85°C	230.03V

The results above are not used in the certification process

□□□□ 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	10.79mV	8.37mV	8.90mV	16.35mV	Pass
20% Load	13.99mV	11.02mV	9.87mV	18.39mV	Pass
30% Load	13.94mV	11.17mV	10.28mV	18.49mV	Pass
40% Load	15.06mV	11.78mV	10.68mV	18.70mV	Pass
50% Load	17.61mV	12.80mV	12.10mV	19.31mV	Pass
60% Load	18.67mV	13.47mV	11.60mV	19.61mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	20.86mV	14.23mV	12.20mV	21.14mV	Pass
80% Load	19.28mV	13.77mV	15.11mV	19.57mV	Pass
90% Load	27.93mV	18.41mV	19.23mV	22.82mV	Pass
100% Load	29.87mV	18.31mV	19.53mV	24.56mV	Pass
110% Load	108.23mV	21.99mV	22.07mV	25.37mV	Pass
Crossload1	14.09mV	12.40mV	17.24mV	16.51mV	Pass
Crossload2	13.84mV	11.78mV	9.41mV	16.20mV	Pass
Crossload3	13.08mV	10.86mV	18.41mV	16.91mV	Pass
Crossload4	31.60mV	17.91mV	14.34mV	22.97mV	Pass

The results above are not used in the certification process

Gamer Storm PF850D V2 BRONZE

Top side

Power specifications label

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

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