Gamer Storm PX1000G

Serial Number

Lab ID GA10002135

Certification ID 252135

Test Result Report ID: 23PS2135A

Certificate Issue Date: Sep 17, 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	Gamer Storm
Model	PX1000G
OEM/ODM	CWT
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	13-6.5
Rated Frequency (Hz)	50-60
Rated Power (W)	1000
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12SF-Z)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	GA10002135
Date of receipt	Aug 31, 2024
Testing Date	Sep 17, 2024
Report Issued Date	Sep 17, 2024
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 (600mm)	1	1	16AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (650mm)	3	3	16AWG	No
12+4 pin PCIe (650mm) (600W)	1	1	16-24AWG	No
SATA (500mm+150mm+150mm+150mm)	2	8	18AWG	No

4-pin Molex (500mm+150mm+150mm+150mm)	1	4	18AWG	No	

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	83.3	3	0.3
	Watts	120		999.6	15	3.6
Total Max. Power (W)		1000				

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 v3.0 Compliance	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	88.958%
Average Noise Output (>1450 Load Combinations)	32.53dBA
Average PF (>1450 Load Combinations)	0.982
Efficiency With 10W (≤500W) or 2% (>500W) Load	79.094%
Standby Power Consumption	0.0139W
Non-Accredited	
12V Ripple (Full Load)	18.05mV
5V Ripple (Full Load)	6.36mV
3.3V Ripple (Full Load)	12.21mV

5VSB Ripple (Full Load)	12.95mV
12V Load Regulation	1.03%
5V Load Regulation	0.70%
3.3V Load Regulation	0.79%
5VSB Load Regulation	1.48%
Inrush Current	23.990A

230V

Accredited		
Average Efficiency (>1450 load combinations)		90.779%
Average Noise Output (>1450 Load Combinations)		31.82dBA
Average PF (>1450 Load Combinations)		0.957
Efficiency With 10W (≤500W) or 2% (>500W) Load		78.293%
Standby Power Consumption		0.0694W
Non-Accredited		
12V Ripple (Full Load)		19.06mV
5V Ripple (Full Load)		6.68mV
3.3V Ripple (Full Load)		13.25mV
5VSB Ripple (Full Load)		13.62mV
12V Load Regulation		1.05%
5V Load Regulation		0.68%
3.3V Load Regulation		0.73%
5VSB Load Regulation		1.48%
Inrush Current		46.130A
12V Transient Response (200%)		11.28V
5V Transient Response (200%)		4.962V
3.3V Transient Response (200%)		3.177V
5VSB Transient Response (200%)		5.041V
Hold-Up Time & PWR_OK Signal		18.20ms
AC Loss to PWR_OK Hold Up Time		15.90ms
PWR_OK Inactive to DC Loss Delay		2.30ms
PSU Timings: T1 (20% / 100%)	60.5ms	61.0ms

PSU Timings: T3 (20% / 100%)	129.0ms	129.5ms
OPP (29.92°C / 38.49°C)	125.49%	125.50%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	18.2
AC Loss to PWR_OK Hold Up Time (ms)	15.9
PWR_OK Inactive to DC Loss Delay (ms)	2.3

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Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.09 V	115.05 V	113.85 V	115.13 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.97 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 %	0.10 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.014 W	0.009 W	N/A	0.018 W	N/A	N/A
Apparent Power:	10.176 W	10.146 W	N/A	10.212 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

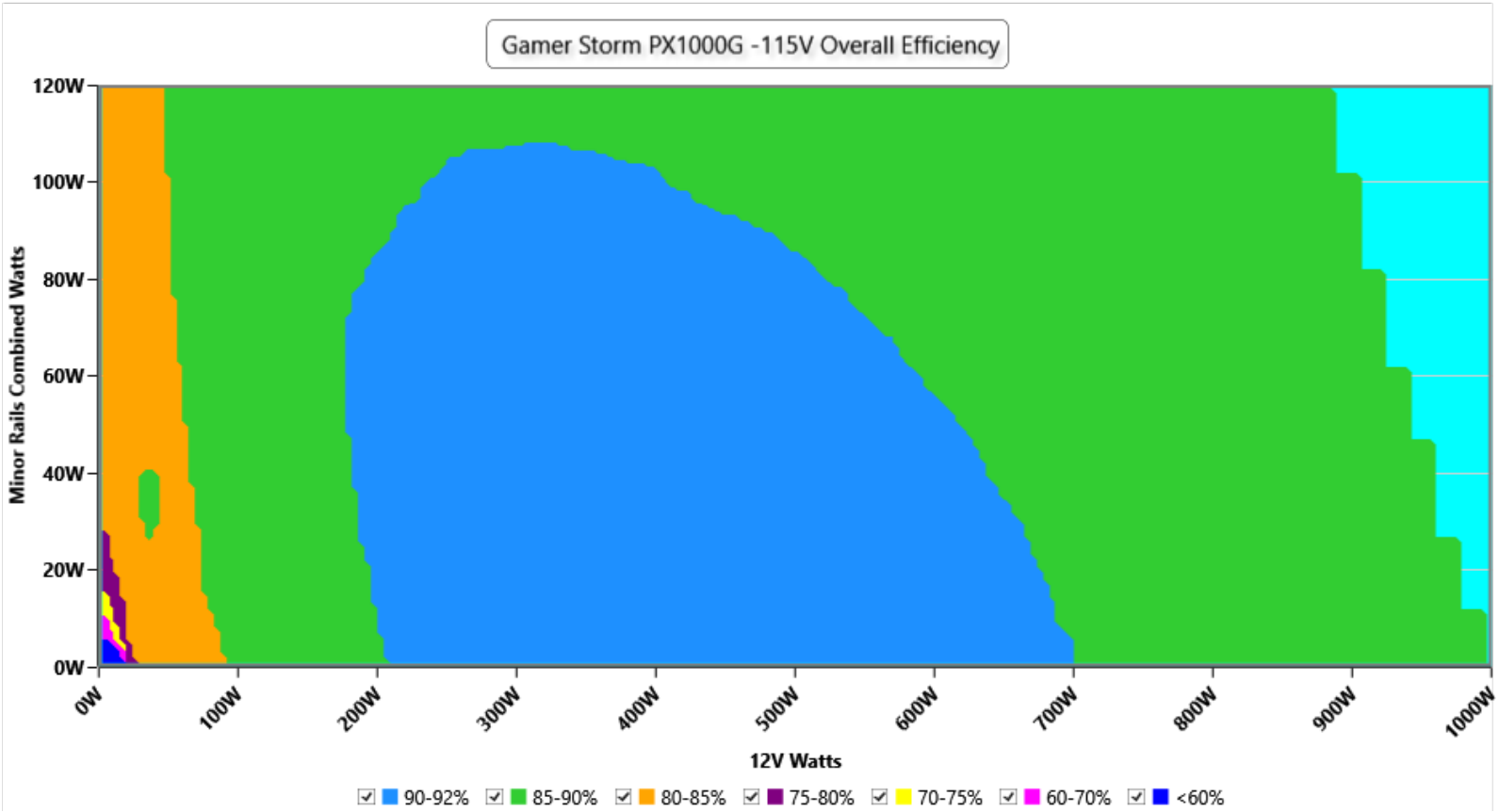
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.23 V	230.10 V	227.70 V	230.28 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:	0.069 W	0.060 W	N/A	0.085 W	N/A	N/A
Apparent Power:	34.726 W	34.561 W	N/A	34.923 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

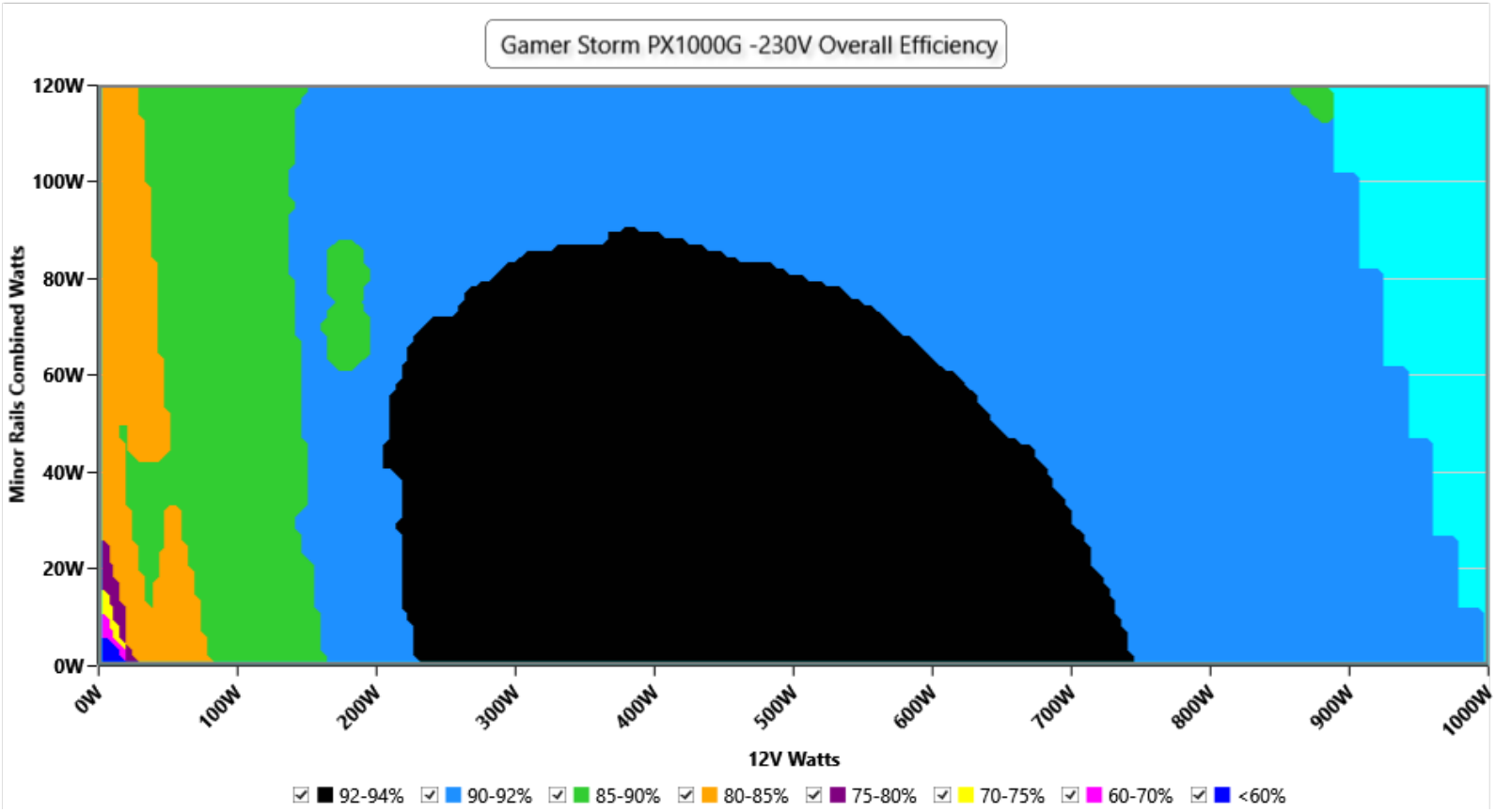
115V



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

230V



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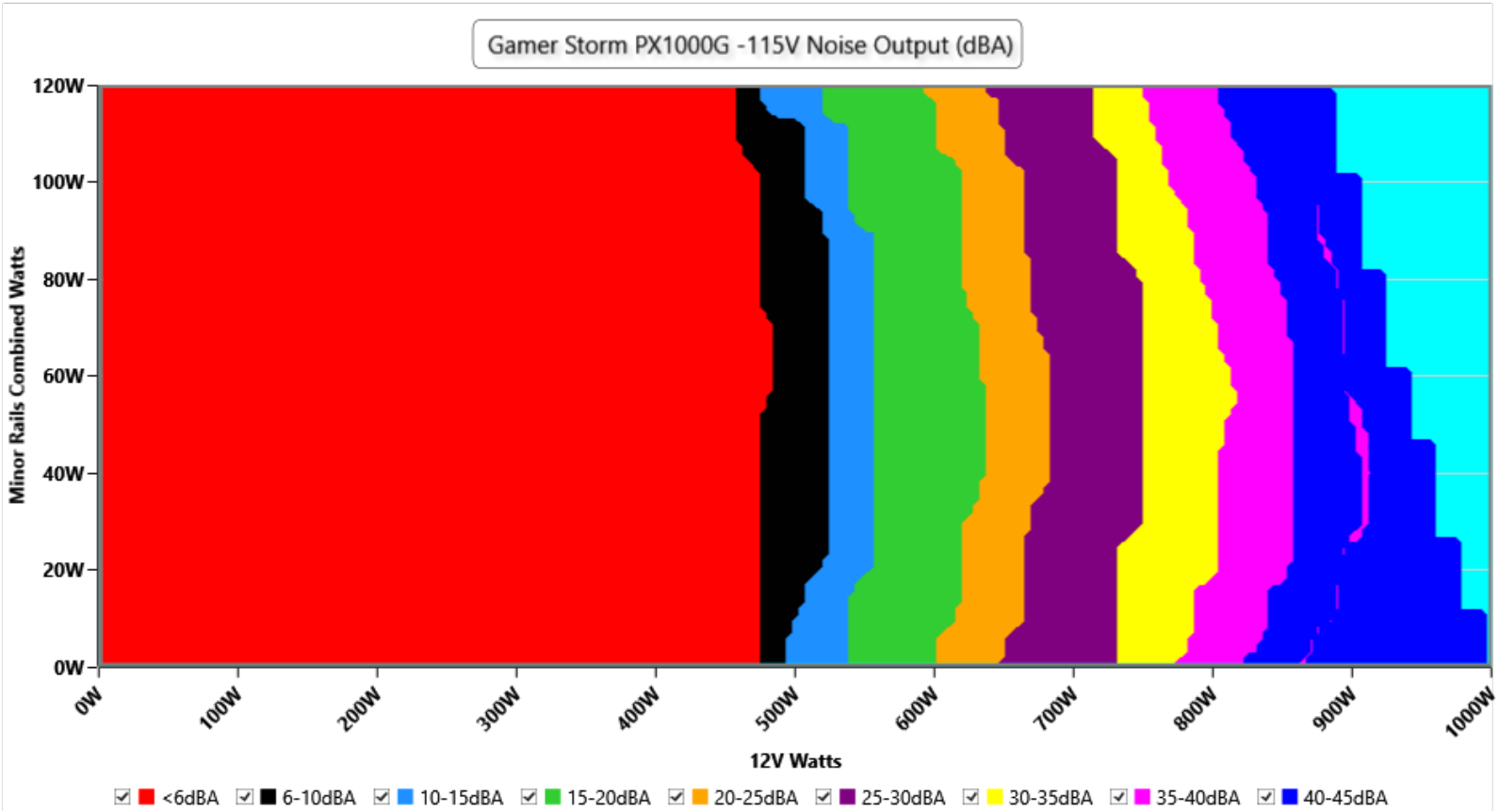
Noise Graph

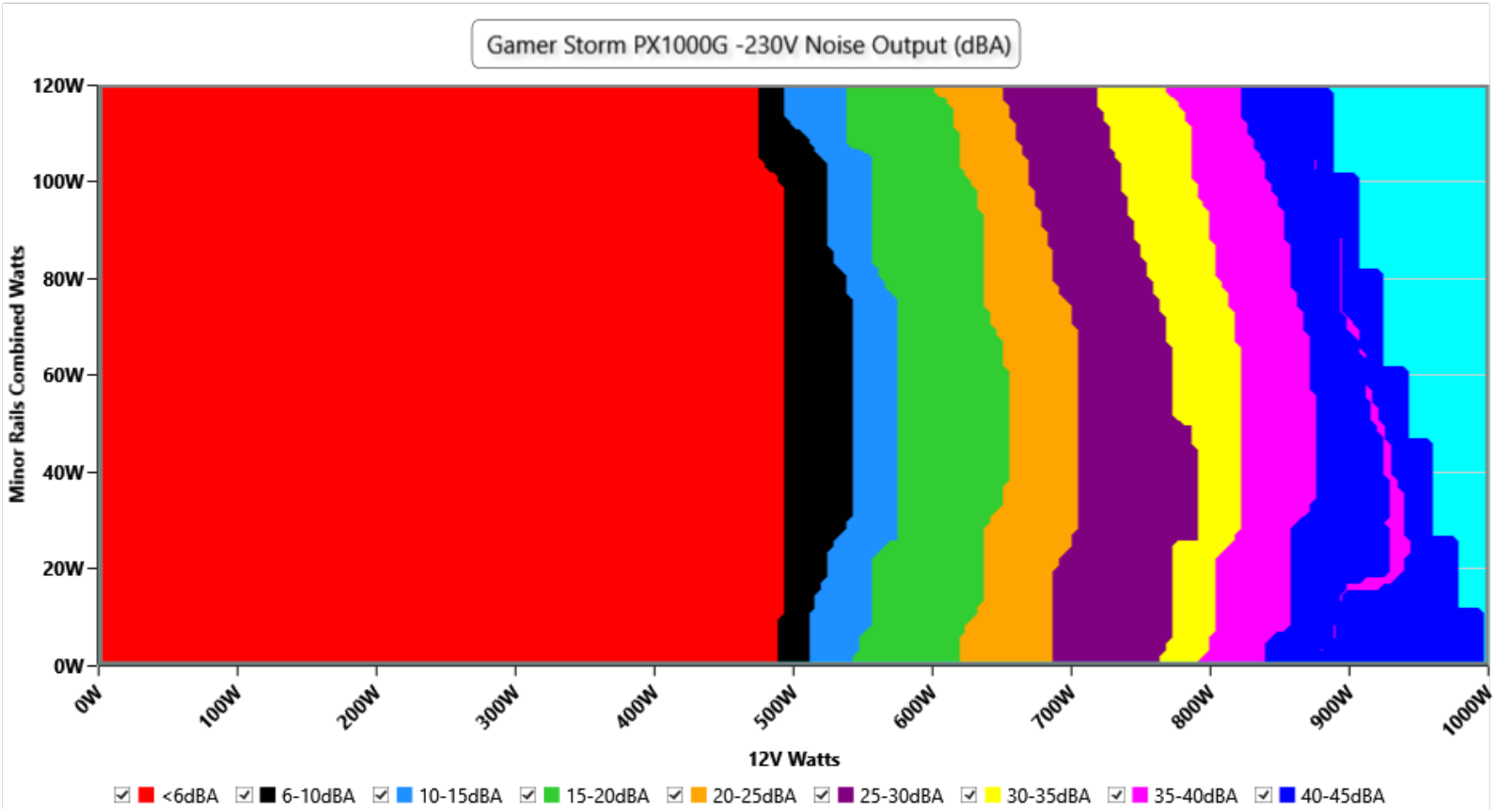
115V



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

230V



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

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) · 44.4 °C	0 RPM · <6.0 dB(A) · 44.4 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.7 °C	0 RPM · <6.0 dB(A) · 45.7 °C	fan off in both
50%	634 RPM · 14.4 dB(A) · 42.4 °C	634 RPM · 14.4 dB(A) · 42.4 °C	**+0.0 dB(A)**
100%	2087 RPM · 50.8 dB(A) · 46.1 °C	2087 RPM · 50.8 dB(A) · 46.1 °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) · 45.0 °C	0 RPM · <6.0 dB(A) · 45.0 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.4 °C	0 RPM · <6.0 dB(A) · 45.4 °C	fan off in both
50%	608 RPM · 12.9 dB(A) · 42.6 °C	608 RPM · 12.9 dB(A) · 42.6 °C	**+0.0 dB(A)**
100%	2088 RPM · 50.8 dB(A) · 46.6 °C	2088 RPM · 50.8 dB(A) · 46.6 °C	**+0.0 dB(A)**

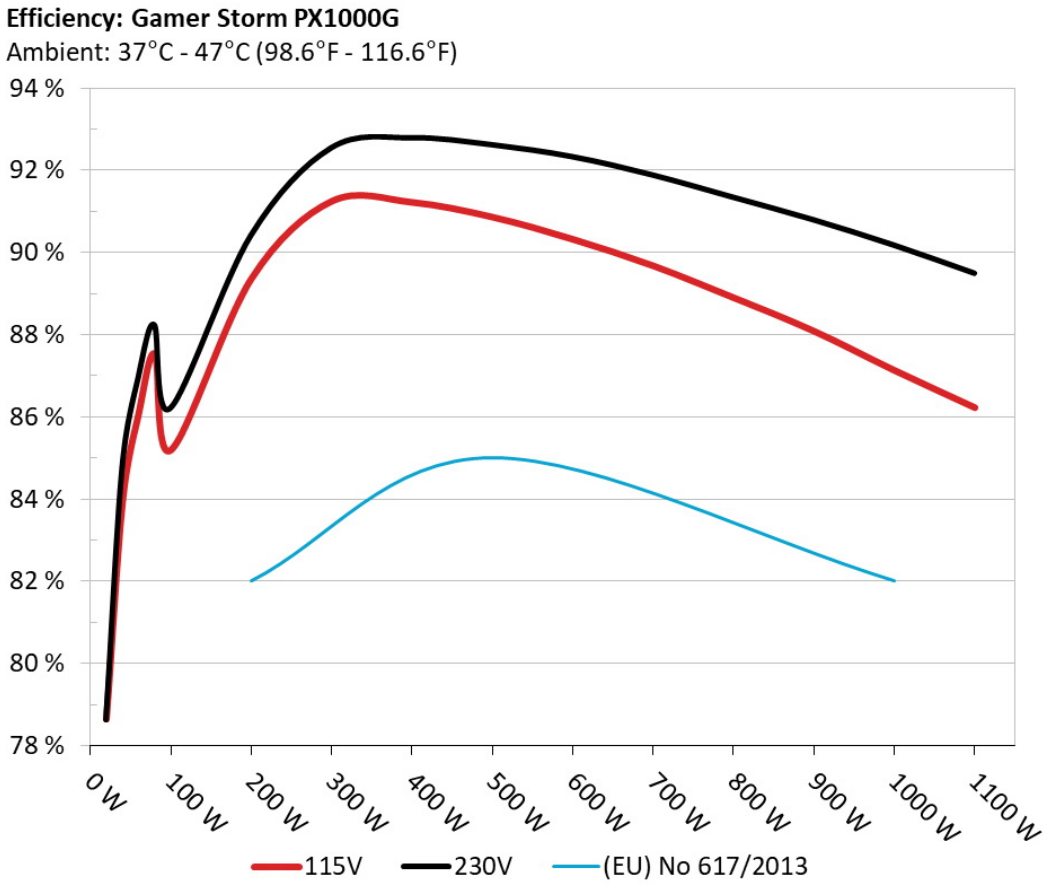
INFO

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: 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.

Indicative Performance

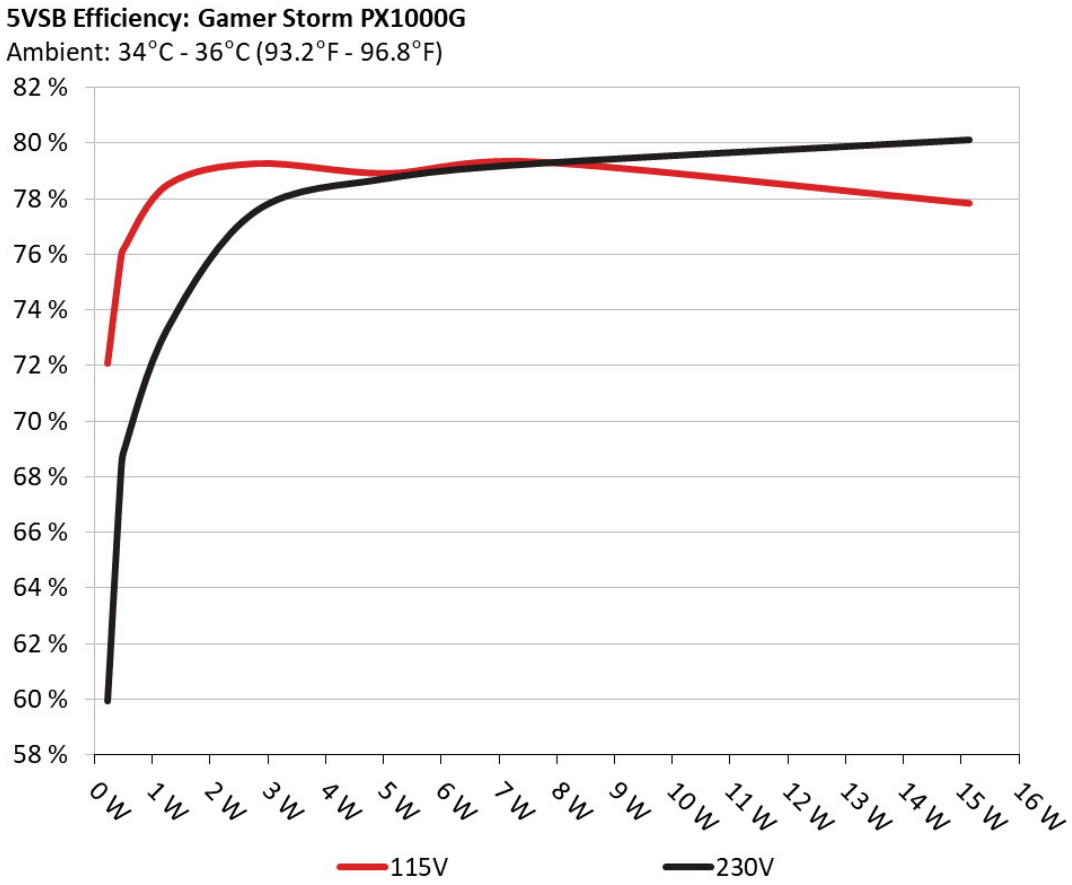
Efficiency under high ambient temperature



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



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	72.081%	0.031
	5.098V	0.318W		115.08V
2	0.09A	0.459W	75.885%	0.058
	5.097V	0.605W		115.08V
3	0.55A	2.799W	79.282%	0.269
	5.089V	3.53W		115.08V
4	1A	5.082W	78.926%	0.372
	5.081V	6.439W		115.08V
5	1.5A	7.609W	79.349%	0.425
	5.072V	9.589W		115.08V
6	3A	15.138W	77.852%	0.495
	5.045V	19.445W		115.08V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229W	59.921%	0.011
	5.097V	0.382W		230.22V
2	0.09A	0.459W	68.124%	0.019
	5.096V	0.674W		230.22V
3	0.55A	2.799W	77.556%	0.099
	5.089V	3.609W		230.22V
4	1A	5.081W	78.731%	0.166
	5.081V	6.454W		230.22V
5	1.5A	7.609W	79.256%	0.225
	5.072V	9.599W		230.22V
6	3A	15.137W	80.113%	0.331
	5.047V	18.894W		230.22V

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%	6.444A	1.983A	2.004A	0.986A	100.007	85.196%	0	<6.0	44.42°C	0.968
	12.166V	5.044V	3.294V	5.072V	117.382				40.14°C	115.07V
20%	13.896A	2.976A	3.008A	1.185A	199.953	89.368%	0	<6.0	45.69°C	0.978
	12.165V	5.042V	3.292V	5.062V	223.739				40.79°C	115.04V
30%	21.732A	3.472A	3.51A	1.363A	299.997	91.261%	0	<6.0	46.34°C	0.982
	12.145V	5.041V	3.291V	5.137V	328.725				41.12°C	115.01V
40%	29.533A	3.969A	4.013A	1.559A	399.475	91.237%	501	7.8	41.2°C	0.984
	12.131V	5.04V	3.29V	5.132V	437.845				47.21°C	114.98V
50%	37.036A	4.964A	5.02A	1.756A	499.183	90.879%	634	14.4	42.41°C	0.985
	12.114V	5.037V	3.287V	5.124V	549.286				48.89°C	114.95V
60%	44.629A	5.96A	6.028A	1.955A	599.702	90.336%	816	22.8	42.51°C	0.987
	12.097V	5.035V	3.285V	5.117V	663.864				49.64°C	114.92V
70%	52.181A	6.955A	7.036A	2.153A	699.427	89.69%	1046	30.0	43.11°C	0.988
	12.080V	5.033V	3.284V	5.109V	779.832				50.92°C	114.88V
80%	59.805A	7.952A	8.039A	2.254A	799.414	88.916%	1396	39.0	43.79°C	0.99
	12.064V	5.032V	3.282V	5.102V	899.07				52.51°C	114.85V
90%	67.766A	8.449A	8.532A	2.355A	899.19	88.101%	1752	46.4	44.89°C	0.991
	12.053V	5.03V	3.28V	5.096V	1020.635				54.29°C	114.81V
100%	75.483A	8.951A	9.055A	2.952A	999.205	87.147%	2087	50.8	46.06°C	0.992
	12.050V	5.027V	3.278V	5.08V	1146.584				55.95°C	114.76V
110%	83.133A	9.95A	10.16A	2.956A	1099.781	86.233%	2132	50.9	47.28°C	0.993
	12.047V	5.025V	3.276V	5.075V	1275.365				58.18°C	114.73V
CL1	0.115A	14.307A	14.486A	0A	121.274	82.665%	637	14.4	43.3°C	0.971
	12.162V	5.046V	3.292V	5.079V	146.707				45.61°C	115.06V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.113A	21.743A	0A	0A	111.376	80.566%	502	7.8	42.18°C	0.969
	12.170V	5.059V	3.295V	5.085V	138.242				44.89°C	115.06V
CL3	0.113A	0A	22.003A	0A	73.966	75.612%	404	<6.0	41.07°C	0.96
	12.170V	5.052V	3.299V	5.079V	97.824				44.4°C	115.07V
CL4	82.973A	0A	0A	0A	999.939	87.487%	2129	50.9	45.28°C	0.992
	12.051V	5.042V	3.287V	5.138V	1142.958				47.04°C	114.77V

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%	6.442A	1.984A	2.003A	0.986A	99.978	86.216%	0	<6.0	44.96°C	0.885
	12.167V	5.04V	3.294V	5.072V	115.961				40.48°C	230.22V
20%	13.892A	2.977A	3.006A	1.185A	199.916	90.414%	0	<6.0	45.44°C	0.939
	12.166V	5.039V	3.293V	5.063V	221.109				40.52°C	230.21V
30%	21.728A	3.474A	3.509A	1.362A	299.949	92.55%	0	<6.0	46.45°C	0.957
	12.145V	5.037V	3.291V	5.138V	324.094				40.91°C	230.2V
40%	29.520A	3.972A	4.011A	1.558A	399.319	92.795%	498	7.8	41.94°C	0.966
	12.131V	5.036V	3.29V	5.133V	430.325				48.17°C	230.19V
50%	37.025A	4.967A	5.018A	1.756A	499.041	92.627%	608	12.9	42.59°C	0.971
	12.114V	5.033V	3.288V	5.126V	538.769				49.38°C	230.17V
60%	44.620A	5.963A	6.025A	1.954A	599.575	92.335%	819	22.8	42.87°C	0.975
	12.097V	5.031V	3.286V	5.118V	649.346				50.65°C	230.16V
70%	52.169A	6.959A	7.033A	2.152A	699.319	91.89%	1045	30.0	43.96°C	0.977
	12.080V	5.03V	3.285V	5.11V	761.047				51.98°C	230.15V
80%	59.798A	7.957A	8.037A	2.252A	799.321	91.349%	1376	38.3	44.62°C	0.98
	12.064V	5.028V	3.283V	5.103V	875.015				53.43°C	230.13V
90%	67.758A	8.454A	8.53A	2.353A	899.107	90.802%	1733	45.0	45.47°C	0.981
	12.053V	5.026V	3.281V	5.097V	990.184				55.22°C	230.12V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	75.474A	8.956A	9.053A	2.951A	999.103	90.186%	2088	50.8	46.59°C	0.982
	12.050V	5.023V	3.279V	5.082V	1107.823				57°C	230.1V
110%	83.119A	9.956A	10.156A	2.954A	1099.711	89.499%	2132	50.9	47.19°C	0.983
	12.048V	5.021V	3.277V	5.076V	1228.752				58.1°C	230.09V
CL1	0.114A	14.317A	14.482A	0A	121.262	83.52%	637	14.4	44.58°C	0.909
	12.164V	5.042V	3.293V	5.08V	145.19				47.2°C	230.22V
CL2	0.113A	21.764A	0A	0A	111.369	81.562%	504	7.8	43.4°C	0.903
	12.172V	5.054V	3.296V	5.085V	136.549				46.61°C	230.22V
CL3	0.113A	0A	21.995A	0A	73.962	75.952%	405	<6.0	42.63°C	0.863
	12.173V	5.046V	3.3V	5.08V	97.382				46.3°C	230.22V
CL4	82.955A	0A	0A	0A	999.876	90.487%	2128	50.9	46.55°C	0.982
	12.053V	5.038V	3.288V	5.139V	1105.004				47.97°C	230.1V

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	1.232A	0.494A	0.499A	0.196A	19.994	78.644%	0	<6.0	40.18°C	0.86
	12.044V	5.062V	3.303V	5.091V	25.423				37.07°C	115.09V
40W	2.714A	0.691A	0.699A	0.295A	39.991	83.944%	0	<6.0	41.31°C	0.917
	12.042V	5.062V	3.304V	5.088V	47.64				37.92°C	115.08V
60W	4.194A	0.891A	0.901A	0.393A	59.991	86.084%	0	<6.0	42.41°C	0.949
	12.046V	5.052V	3.298V	5.085V	69.686				38.75°C	115.08V
80W	5.673A	1.09A	1.102A	0.492A	79.957	87.538%	0	<6.0	43.62°C	0.951
	12.044V	5.047V	3.295V	5.082V	91.338				39.63°C	115.07V

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	1.232A	0.494A	0.499A	0.196A	19.985	78.635%	0	<6.0	39.95°C	0.527
	12.042V	5.057V	3.303V	5.092V	25.412				36.85°C	230.23V
40W	2.714A	0.692A	0.699A	0.295A	39.984	84.77%	0	<6.0	40.57°C	0.717
	12.041V	5.057V	3.303V	5.089V	47.162				37.26°C	230.23V
60W	4.194A	0.892A	0.9A	0.393A	59.984	86.956%	0	<6.0	41.43°C	0.806
	12.044V	5.046V	3.297V	5.086V	68.986				37.9°C	230.23V
80W	5.672A	1.091A	1.102A	0.492A	79.93	88.245%	0	<6.0	42.02°C	0.849
	12.041V	5.041V	3.294V	5.083V	90.569				38.08°C	230.23V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.85mV	10.97mV	6.27mV	9.87mV	Pass
20% Load	9.01mV	11.48mV	7.38mV	9.87mV	Pass
30% Load	15.06mV	10.67mV	8.75mV	10.12mV	Pass
40% Load	13.54mV	10.82mV	8.19mV	11.23mV	Pass
50% Load	11.65mV	10.72mV	8.34mV	10.47mV	Pass
60% Load	11.44mV	13.11mV	16.63mV	10.57mV	Pass
70% Load	12.78mV	10.77mV	9.81mV	11.54mV	Pass
80% Load	12.41mV	11.48mV	11.33mV	11.64mV	Pass
90% Load	12.15mV	11.18mV	11.37mV	11.59mV	Pass
100% Load	18.05mV	6.36mV	12.21mV	12.95mV	Pass
110% Load	18.43mV	6.54mV	13.22mV	13.09mV	Pass
Crossload1	7.37mV	5.80mV	10.52mV	13.75mV	Pass
Crossload2	9.31mV	6.61mV	7.68mV	13.00mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	9.77mV	10.11mV	12.84mV	13.51mV	Pass
Crossload4	16.76mV	5.13mV	10.04mV	14.30mV	Pass

The results above are not used in the certification process

230V

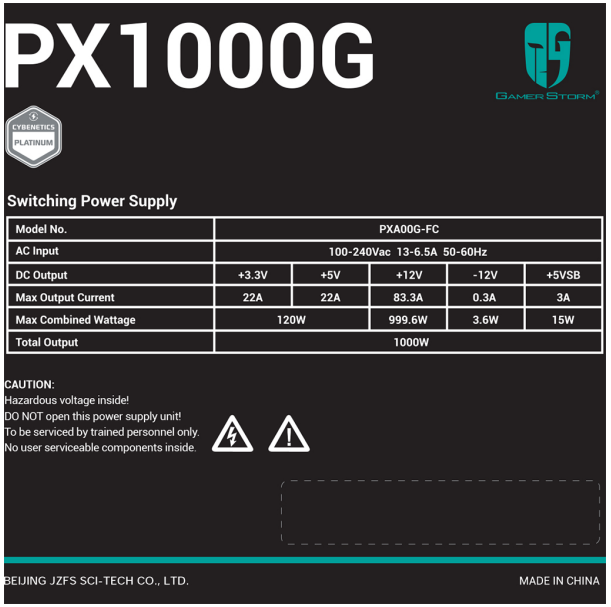
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.29mV	11.64mV	8.29mV	10.68mV	Pass
20% Load	6.18mV	4.32mV	7.53mV	10.02mV	Pass
30% Load	16.99mV	11.84mV	9.86mV	9.51mV	Pass
40% Load	13.09mV	4.52mV	9.00mV	9.56mV	Pass
50% Load	11.72mV	12.40mV	9.96mV	9.81mV	Pass
60% Load	11.72mV	12.50mV	16.83mV	10.68mV	Pass
70% Load	10.61mV	12.25mV	10.67mV	11.23mV	Pass
80% Load	10.66mV	11.99mV	12.08mV	11.89mV	Pass
90% Load	12.05mV	12.20mV	11.88mV	11.84mV	Pass
100% Load	19.06mV	6.68mV	13.25mV	13.62mV	Pass
110% Load	19.65mV	6.51mV	13.55mV	13.08mV	Pass
Crossload1	7.91mV	6.03mV	11.80mV	14.66mV	Pass
Crossload2	9.97mV	12.81mV	9.35mV	13.41mV	Pass
Crossload3	7.85mV	3.86mV	13.20mV	13.81mV	Pass
Crossload4	18.30mV	5.19mV	10.93mV	14.62mV	Pass

The results above are not used in the certification process

Gamer Storm PX1000G



Top side



Power specifications label