BoostBoxx PB1200P

2N124106015

Lab ID BB12002343

Certification ID 252343

Test Result Report ID: 24PS2343A

Certificate Issue Date: Feb 6, 2024

Scheme: ETA-EMI PSU

115V: CYBENETICS GOLD

230V: CYBENETICS PLATINUM 230v

Scheme: LAMBDA PSU

115V: CYBENETICS STANDARD+

230V: CYBENETICS STANDARD+ 230v

CYBENETICS ATX 3.1 PASS

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	BoostBoxx
Model	PB1200P
OEM/ODM	Great Wall
Serial Number	2N124106015
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	15-7

□□□□ (Hz)	60-50
□□□□ (W)	1200
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	140mm Fluid Dynamic Bearing Fan (HA1425H12B-Z)
□□□□□	✓
Cybenetics Testing Information	
Lab ID	BB12002343
Date of receipt	Jan 25, 2024
Testing Date	Feb 2, 2024
Report Issued Date	Feb 6, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□				
□□	□□□□	□□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (600mm)	1	1	18-20AWG	□
4+4 pin EPS 12V □□ (700mm)	2	2	18AWG	□
6+2pin PCIe□□ (700mm+150mm)	2	4	18AWG	□
12+4 pin PCIe (700mm) (600W)	1	1	16-24AWG	□
SATA□□ (1000mm+120mm+120mm)	1	3	18AWG	□
SATA□□ (1000mm) / 4-pin Molex (+150mm+150mm)	1	1 / 2	18AWG	□
SATA□□ (900mm) / 4-pin Molex (+150mm) / FDD (+150mm)	1	1 / 1 / 1	18-22AWG	No

AC Power Cord (1670mm) - C13 coupler	1	1	18AWG	-

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	25	25	100	4	0.5
	□	150		1200	20	6
□□□□□ (W)		1200				

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)	88.720%
Average Noise Output (>1450 Load Combinations)	38.95dBA
PF□□□ (>1450 Load Combinations)	0.983
Efficiency With 10W (≤500W) or 2% (>500W) Load	71.847%
□□□□□□	0.1193W
Non-Accredited	
12V Ripple (Full Load)	52.70mV
5V Ripple (Full Load)	17.37mV
3.3V Ripple (Full Load)	16.36mV

5VSB Ripple (Full Load)	37.76mV
12V Load Regulation	0.99%
5V Load Regulation	0.60%
3.3V Load Regulation	1.23%
5VSB Load Regulation	4.19%
Inrush Current	184.500A

230V

Accredited		
□□□□ (>1450 load combinations)		91.042%
Average Noise Output (>1450 Load Combinations)		39.29dBA
PF□□□ (>1450 Load Combinations)		0.963
Efficiency With 10W (≤500W) or 2% (>500W) Load		-
□□□□□□		0.1664W
Non-Accredited		
12V Ripple (Full Load)		46.22mV
5V Ripple (Full Load)		18.15mV
3.3V Ripple (Full Load)		16.31mV
5VSB Ripple (Full Load)		43.85mV
12V Load Regulation		1.00%
5V Load Regulation		0.62%
3.3V Load Regulation		1.26%
5VSB Load Regulation		4.25%
Inrush Current		133.900A
12V Transient Response (200%)		11.07V
5V Transient Response (200%)		4.872V
3.3V Transient Response (200%)		3.145V
5VSB Transient Response (200%)		4.908V
□□□□ & PG□□		19.90ms
AC Loss to PWR_OK Hold Up Time		17.10ms
PWR_OK Inactive to DC Loss Delay		2.80ms
PSU Timings: T1 (20% / 100%)	41.0ms	69.0ms

PSU Timings: T3 (20% / 100%)	127.0ms	127.0ms
OPP (26.25°C / 41.60°C)	132.58%	126.17%

□□□□ & PG□□

Hold-Up Time (ms)	19.9
AC Loss to PWR_OK Hold Up Time (ms)	17.1
PWR_OK Inactive to DC Loss Delay (ms)	2.8

□□□□

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.15 V	115.12 V	113.85 V	115.17 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.94 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.415	1.415	1.340	1.416	1.490	PASS
Mains Voltage THD:	0.13 %	0.11 %	N/A	0.14 %	2.00 %	PASS
Real Power:	0.119 W	0.011 W	N/A	0.133 W	N/A	N/A
Apparent Power:	9.112 W	9.104 W	N/A	9.117 W	N/A	N/A
Power Factor:	0.013	N/A	N/A	N/A	N/A	N/A

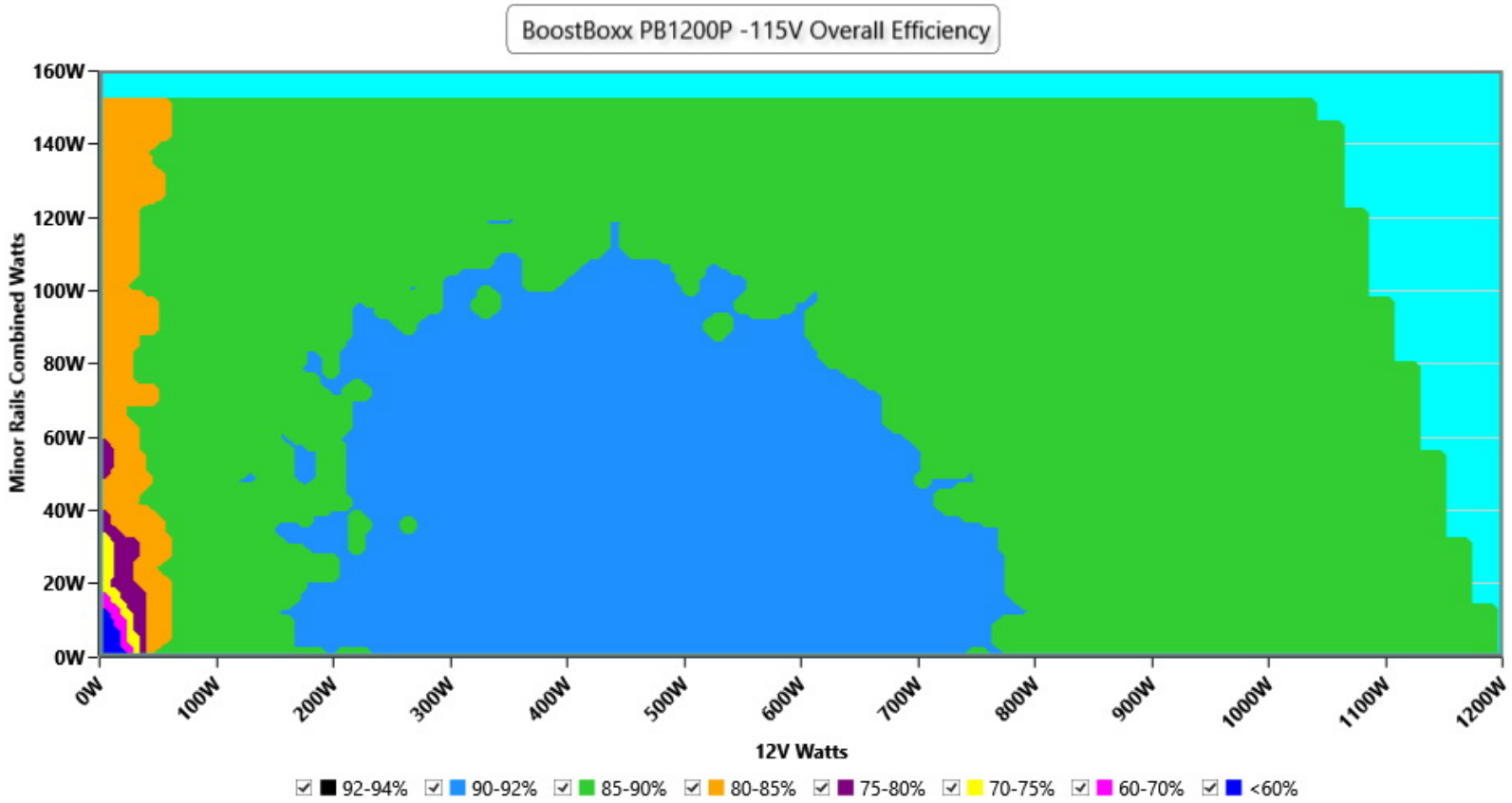
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.38 V	230.37 V	227.70 V	230.40 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:	0.166 W	0.140 W	N/A	0.204 W	N/A	N/A
Apparent Power:	30.483 W	30.470 W	N/A	30.494 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

□□□□□□

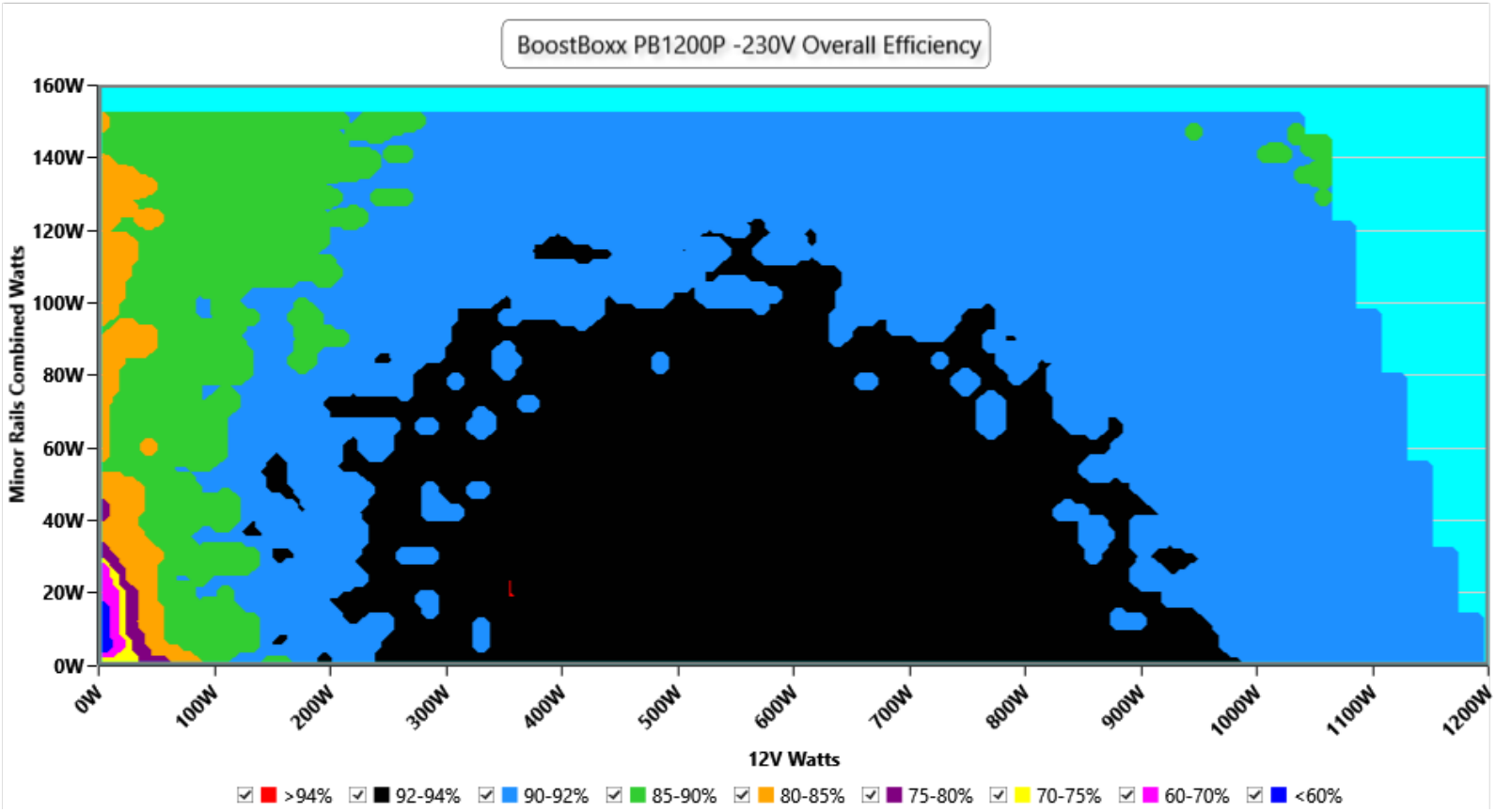
115V



□□

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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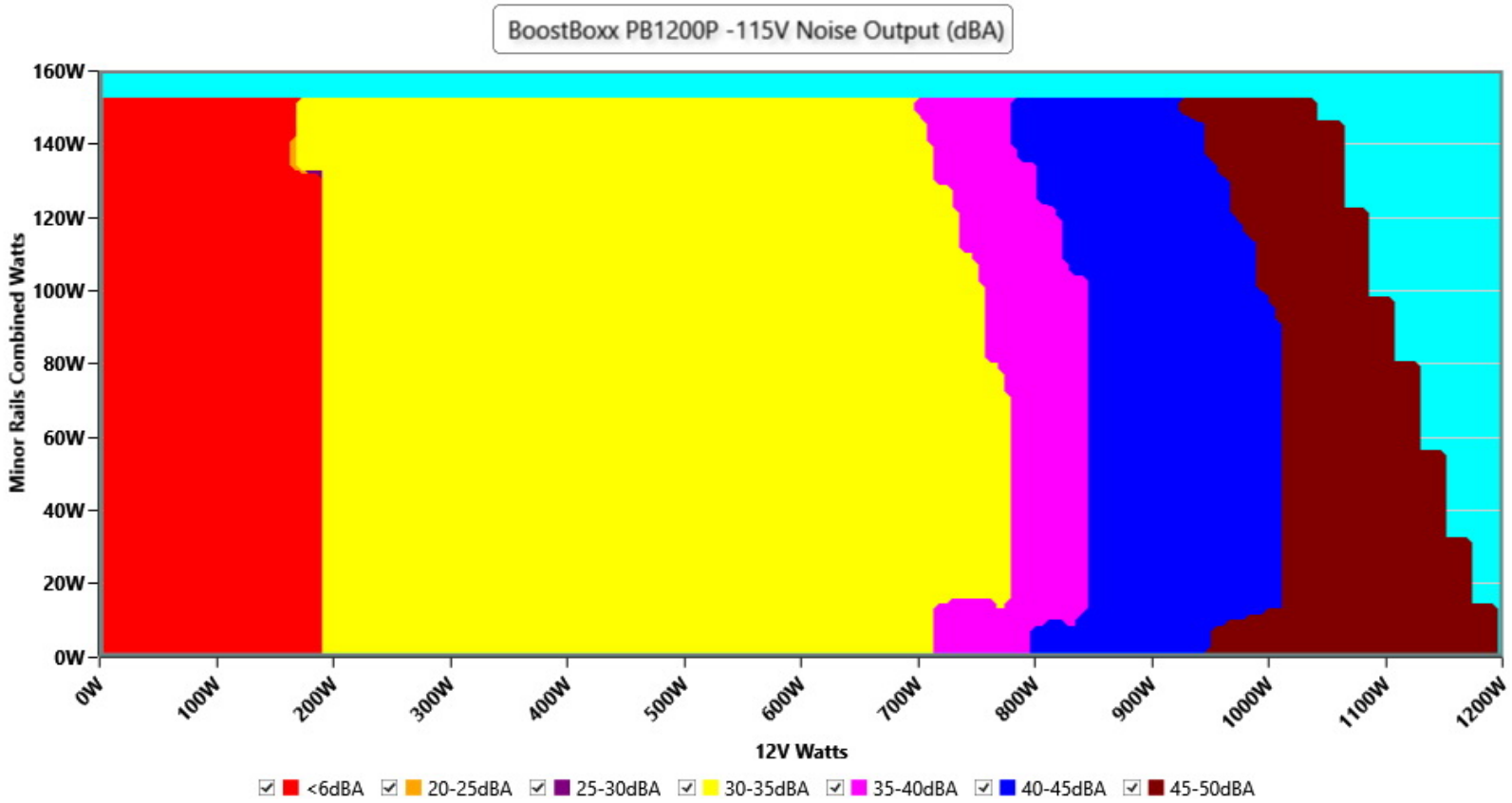
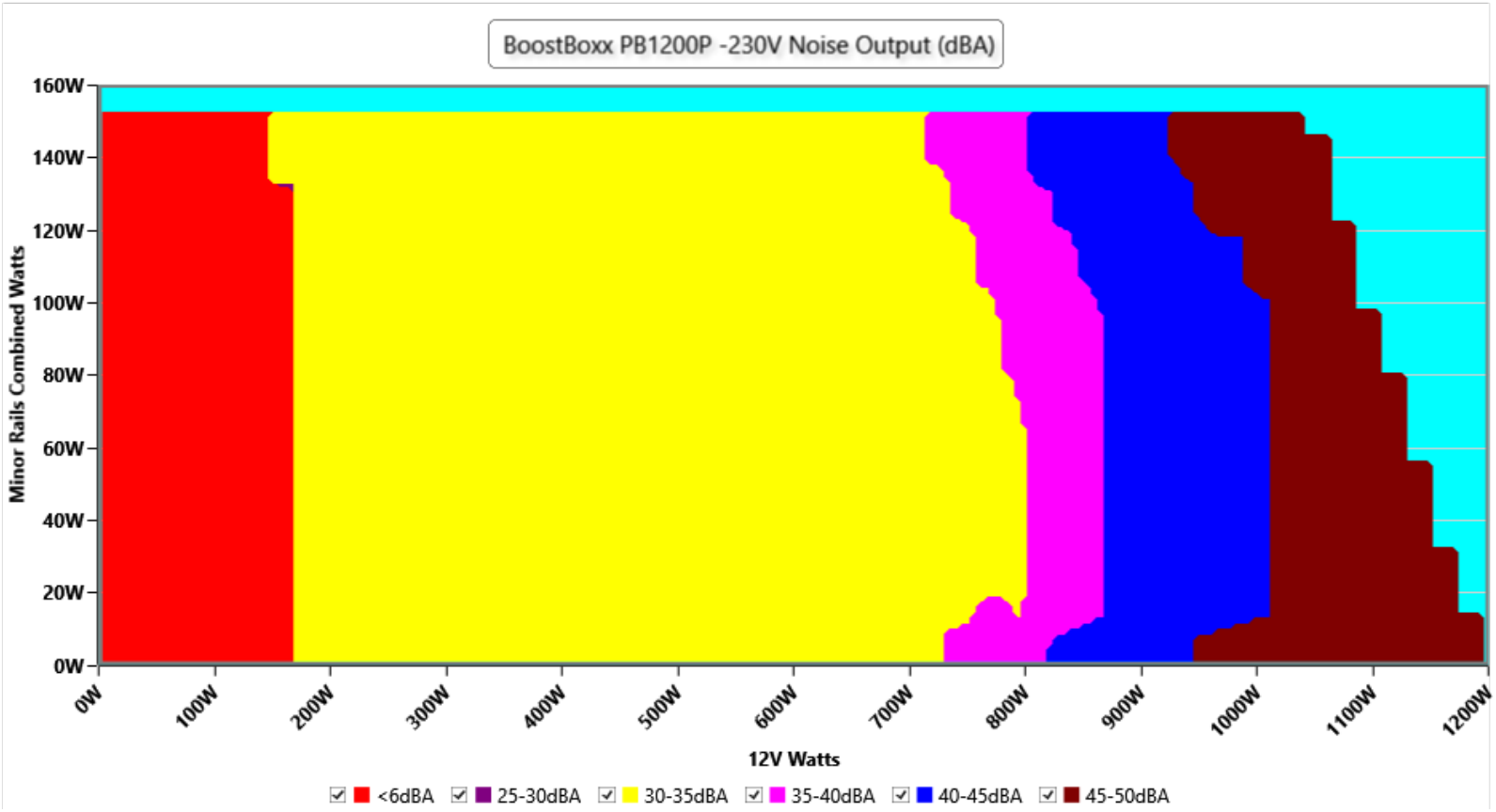
115V



□□

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) · 45.5 °C	0 RPM · <6.0 dB(A) · 45.5 °C	fan off in both
50%	1223 RPM · 31.3 dB(A) · 42.2 °C	1223 RPM · 31.3 dB(A) · 42.2 °C	**+0.0 dB(A)**
100%	2518 RPM · 52.0 dB(A) · 45.4 °C	2518 RPM · 52.0 dB(A) · 45.4 °C	**+0.0 dB(A)**

230V

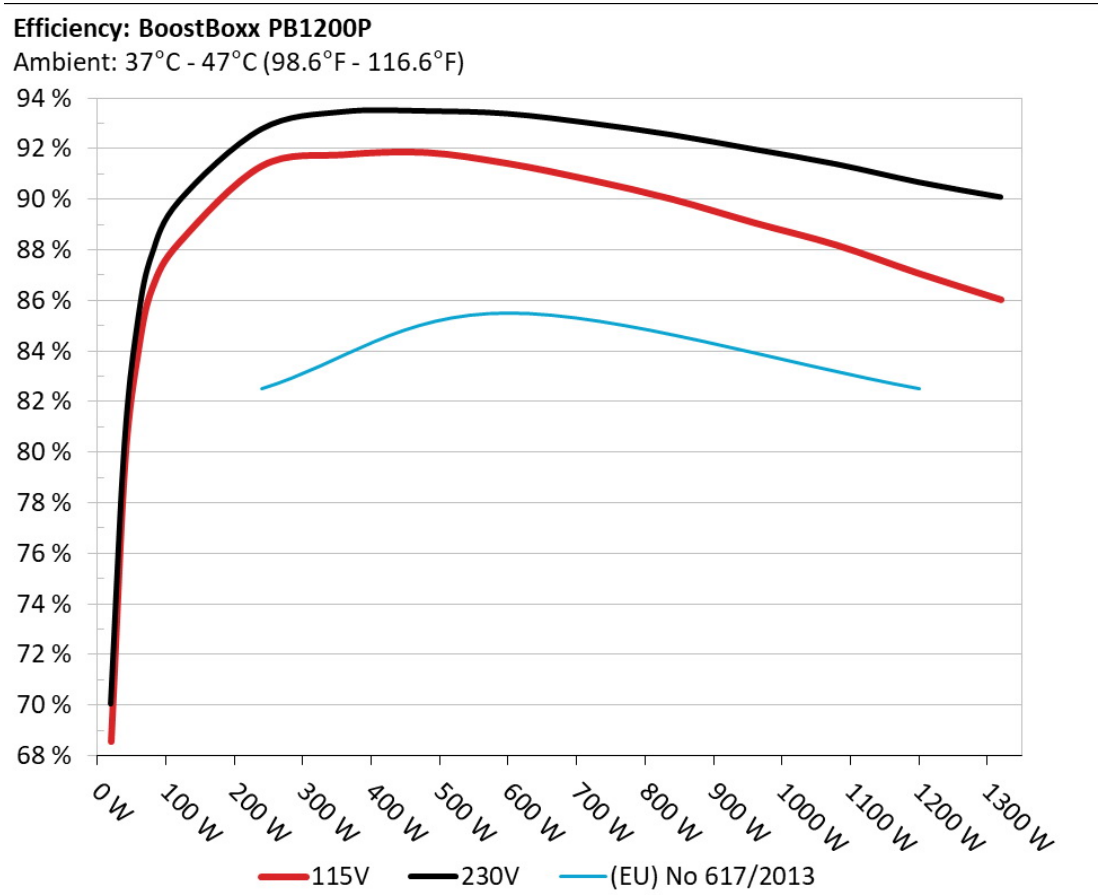
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.4 °C	0 RPM · <6.0 dB(A) · 44.4 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.3 °C	0 RPM · <6.0 dB(A) · 45.3 °C	fan off in both
50%	1222 RPM · 31.2 dB(A) · 42.3 °C	1222 RPM · 31.2 dB(A) · 42.3 °C	**+0.0 dB(A)**
100%	2517 RPM · 52.0 dB(A) · 46.0 °C	2517 RPM · 52.0 dB(A) · 46.0 °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.

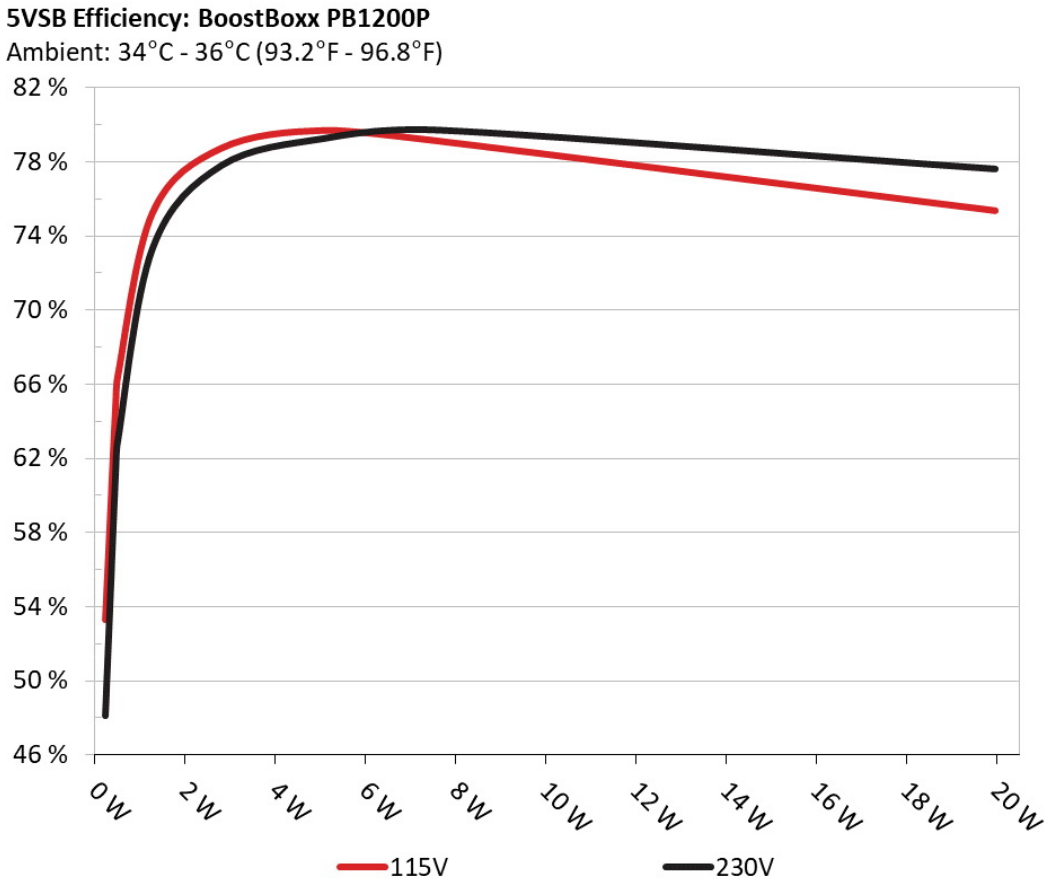
Informational. Not part of the ETA or LAMBDA rating.

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	0.23W	53.767%	0.047
	5.107V	0.428W		115.16V
2	0.09A	0.46W	65.521%	0.075
	5.106V	0.702W		115.15V
3	0.55A	2.802W	79.207%	0.285
	5.092V	3.538W		115.15V
4	1A	5.08W	80.171%	0.378
	5.079V	6.337W		115.16V
5	1.5A	7.599W	79.6%	0.427
	5.065V	9.547W		115.15V
6	4.001A	19.962W	75.84%	0.514
	4.99V	26.322W		115.14V

230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.23W	48.608%	0.015
	5.106V	0.473W		230.38V
2	0.09A	0.46W	61.928%	0.024
	5.105V	0.743W		230.38V
3	0.55A	2.802W	78.258%	0.111
	5.092V	3.581W		230.38V
4	1A	5.081W	79.718%	0.182
	5.079V	6.375W		230.38V
5	1.5A	7.598W	80.172%	0.243
	5.064V	9.478W		230.38V
6	4.001A	19.964W	78.075%	0.382
	4.99V	25.573W		230.38V

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	8.123A	1.99A	2.001A	0.987A	120.011	87.797%	0	<6.0	44.55°C	0.896
	12.115V	5.026V	3.299V	5.067V	136.716				40.26°C	115.14V
20%	17.273A	2.987A	3.004A	1.188A	239.969	90.806%	0	<6.0	45.52°C	0.972
	12.103V	5.024V	3.295V	5.052V	264.223				40.96°C	115.11V
30%	26.733A	3.488A	3.511A	1.389A	359.41	91.253%	1221	31.2	41.03°C	0.993
	12.095V	5.018V	3.29V	5.039V	393.754				46.08°C	115.08V
40%	36.293A	3.988A	4.017A	1.593A	479.775	91.337%	1223	31.3	41.94°C	0.994
	12.084V	5.016V	3.286V	5.025V	525.675				47.48°C	115.04V
50%	45.493A	4.988A	5.027A	1.797A	599.589	90.902%	1223	31.3	42.22°C	0.997
	12.072V	5.013V	3.283V	5.01V	659.624				48.31°C	115.01V
60%	54.742A	5.99A	6.04A	2.001A	720.051	90.251%	1539	37.9	42.53°C	0.997
	12.061V	5.01V	3.279V	4.996V	797.717				49.09°C	114.98V
70%	63.962A	6.992A	7.056A	2.209A	839.806	89.489%	1822	42.7	43.16°C	0.996
	12.049V	5.007V	3.275V	4.98V	938.507				50.19°C	114.96V
80%	73.264A	7.995A	8.072A	2.315A	959.78	88.556%	2132	46.8	43.84°C	0.996
	12.038V	5.003V	3.27V	4.969V	1083.837				51.91°C	114.92V
90%	82.913A	8.499A	8.571A	2.421A	1079.589	87.677%	2405	50.0	44.57°C	0.996
	12.026V	5.001V	3.267V	4.956V	1231.272				53.61°C	114.88V
100%	92.022A	9.003A	9.103A	4.088A	1199.853	86.558%	2518	52.0	45.4°C	0.996
	12.009V	4.999V	3.262V	4.893V	1386.293				55.41°C	114.85V
110%	101.398A	10.009A	10.22A	4.096A	1319.663	85.523%	2521	52.0	46.67°C	0.995
	11.996V	4.995V	3.258V	4.883V	1543.115				57.58°C	114.82V
CL1	0.116A	18.051A	18.154A	0A	151.301	82.187%	1220	31.1	40.16°C	0.938
	12.101V	5.002V	3.283V	5.081V	184.046				45.61°C	115.05V

CL2	0.123A	25.011A	0A	0A	126.487	80.175%	1221	31.2	40.71°C	0.909
	12.112V	4.997V	3.3V	5.091V	157.837				47.78°C	115.14V
CL3	0.116A	0A	25.165A	0A	83.901	76.103%	1221	31.2	40.15°C	0.864
	12.111V	5.024V	3.278V	5.086V	110.178				49.22°C	115.15V
CL4	99.765A	0A	0A	0.004A	1200.097	87.425%	2539	52.1	45.39°C	0.996
	12.029V	5.011V	3.272V	5.03V	1372.827				56.35°C	114.85V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	8.120A	1.99A	2.001A	0.987A	120	89.453%	0	<6.0	44.35°C	0.839
	12.119V	5.025V	3.298V	5.067V	134.391				40.08°C	230.36V
20%	17.268A	2.987A	3.005A	1.188A	239.956	92.292%	0	<6.0	45.33°C	0.905
	12.107V	5.023V	3.295V	5.052V	259.936				40.78°C	230.35V
30%	26.726A	3.486A	3.509A	1.39A	359.279	92.978%	1223	31.3	41.36°C	0.958
	12.095V	5.02V	3.291V	5.037V	386.438				46.42°C	230.34V
40%	36.282A	3.988A	4.017A	1.593A	479.648	93.011%	1222	31.2	41.72°C	0.984
	12.084V	5.016V	3.286V	5.023V	515.634				47.25°C	230.32V
50%	45.465A	4.988A	5.027A	1.797A	599.413	92.901%	1222	31.2	42.3°C	0.992
	12.074V	5.013V	3.282V	5.009V	645.146				48.37°C	230.3V
60%	54.733A	5.99A	6.04A	2A	719.932	92.529%	1538	37.9	42.9°C	0.993
	12.061V	5.01V	3.278V	4.993V	778.028				49.41°C	230.29V
70%	63.954A	6.993A	7.055A	2.21A	839.679	92.066%	1874	43.6	43.29°C	0.994
	12.049V	5.006V	3.274V	4.978V	912.019				50.39°C	230.27V
80%	73.263A	7.995A	8.072A	2.316A	959.678	91.493%	2178	47.8	43.86°C	0.995
	12.037V	5.003V	3.27V	4.965V	1048.976				52.01°C	230.26V
90%	82.921A	8.499A	8.571A	2.423A	1079.499	90.907%	2445	50.6	44.31°C	0.996
	12.023V	5V	3.266V	4.953V	1187.733				53.38°C	230.24V
100%	92.028A	9.003A	9.103A	4.091A	1199.75	90.192%	2517	52.0	45.95°C	0.997
	12.008V	4.998V	3.262V	4.89V	1330.018				55.98°C	230.23V

110%	101.419A	10.009A	10.219A	4.101A	1319.578	89.6%	2517	52.0	46.85°C	0.997
	11.993V	4.995V	3.258V	4.878V	1472.755				57.76°C	230.21V
CL1	0.116A	18.052A	18.152A	0A	151.295	83.294%	1219	31.1	40.16°C	0.867
	12.100V	5.002V	3.283V	5.08V	181.958				45.58°C	230.36V
CL2	0.123A	25.018A	0A	0A	126.486	81.342%	1221	31.2	41.89°C	0.852
	12.111V	4.996V	3.3V	5.09V	155.535				49.01°C	230.36V
CL3	0.116A	0A	25.162A	0A	83.899	77.087%	1220	31.1	40.68°C	0.814
	12.110V	5.024V	3.278V	5.085V	108.969				49.73°C	230.37V
CL4	99.811A	0A	0A	0.004A	1200.101	90.978%	2530	52.1	45.65°C	0.997
	12.024V	5.011V	3.272V	5.027V	1319.078				56.59°C	230.23V

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	1.225A	0.497A	0.5A	0.196A	20.005	68.066%	0	<6.0	39.82°C	0.767
	12.128V	5.029V	3.302V	5.098V	29.539				36.75°C	115.16V
40W	2.696A	0.696A	0.7A	0.295A	40.002	79.045%	0	<6.0	40.79°C	0.813
	12.125V	5.029V	3.302V	5.094V	50.657				37.46°C	115.16V
60W	4.168A	0.895A	0.9A	0.393A	60.001	83.578%	0	<6.0	42.28°C	0.836
	12.123V	5.028V	3.301V	5.089V	71.806				38.56°C	115.16V
80W	5.638A	1.094A	1.1A	0.492A	79.962	85.981%	0	<6.0	43.46°C	0.859
	12.120V	5.028V	3.301V	5.085V	93.016				39.48°C	115.15V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.224A	0.497A	0.5A	0.196A	20.002	69.541%	0	<6.0	39.84°C	0.527
	12.128V	5.029V	3.303V	5.098V	29.014				36.75°C	230.39V
40W	2.696A	0.696A	0.7A	0.295A	39.999	79.811%	0	<6.0	41.24°C	0.677
	12.126V	5.029V	3.302V	5.094V	49.881				37.91°C	230.39V
60W	4.168A	0.895A	0.9A	0.393A	59.998	84.782%	0	<6.0	42.42°C	0.752
	12.124V	5.028V	3.301V	5.089V	70.802				38.91°C	230.38V
80W	5.636A	1.094A	1.1A	0.492A	79.956	87.318%	0	<6.0	43.25°C	0.79
	12.121V	5.028V	3.301V	5.085V	91.604				39.36°C	230.38V

The results above are not used in the certification process

□□□□

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	30.79mV	9.13mV	6.76mV	15.23mV	Pass
20% Load	27.27mV	8.82mV	8.24mV	20.73mV	Pass
30% Load	19.23mV	9.28mV	5.65mV	14.42mV	Pass
40% Load	24.12mV	9.54mV	5.85mV	19.87mV	Pass
50% Load	34.30mV	10.76mV	6.92mV	17.93mV	Pass
60% Load	36.43mV	12.04mV	7.63mV	21.24mV	Pass
70% Load	38.83mV	11.88mV	7.99mV	22.77mV	Pass
80% Load	38.47mV	13.26mV	13.17mV	26.49mV	Pass
90% Load	47.78mV	14.44mV	13.99mV	30.16mV	Pass
100% Load	52.70mV	17.37mV	16.36mV	37.76mV	Pass
110% Load	59.71mV	18.71mV	17.61mV	42.51mV	Pass
Crossload1	16.31mV	16.08mV	18.66mV	12.67mV	Pass
Crossload2	35.92mV	18.31mV	8.49mV	12.79mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	24.58mV	14.54mV	20.96mV	11.87mV	Pass
Crossload4	52.93mV	15.18mV	10.77mV	26.12mV	Pass

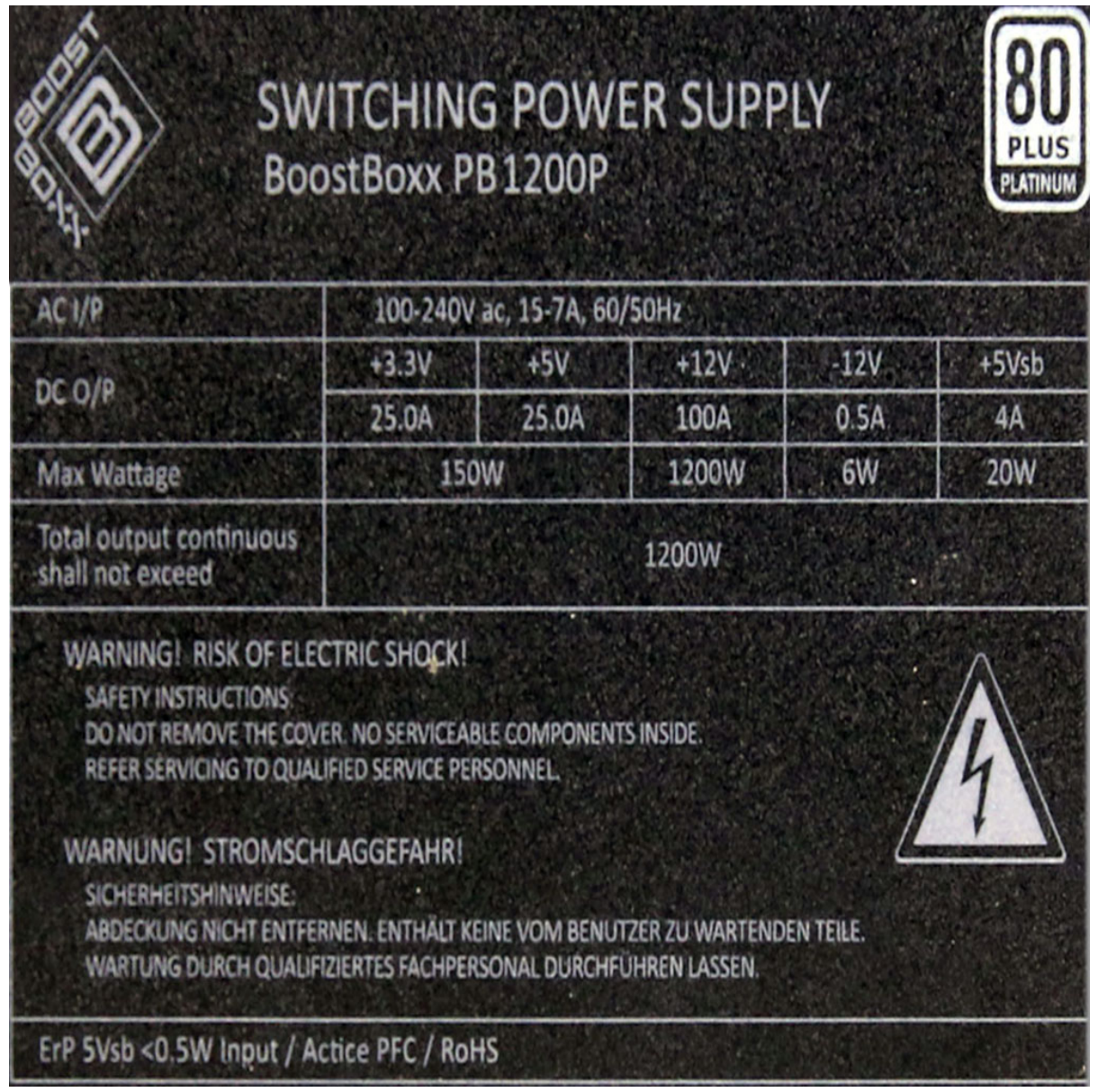
The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	31.24mV	9.44mV	6.10mV	16.76mV	Pass
20% Load	13.18mV	9.23mV	5.80mV	22.26mV	Pass
30% Load	16.54mV	10.97mV	6.05mV	23.28mV	Pass
40% Load	19.95mV	10.86mV	5.95mV	20.53mV	Pass
50% Load	22.90mV	11.58mV	7.02mV	18.14mV	Pass
60% Load	27.53mV	11.89mV	7.99mV	21.50mV	Pass
70% Load	33.48mV	12.91mV	8.70mV	23.59mV	Pass
80% Load	38.87mV	13.93mV	13.17mV	27.05mV	Pass
90% Load	42.03mV	14.64mV	14.55mV	29.34mV	Pass
100% Load	46.22mV	18.15mV	16.31mV	43.85mV	Pass
110% Load	57.74mV	18.83mV	18.10mV	45.49mV	Pass
Crossload1	12.95mV	16.33mV	18.94mV	12.63mV	Pass
Crossload2	35.57mV	18.82mV	8.59mV	12.48mV	Pass
Crossload3	26.76mV	15.40mV	22.13mV	12.23mV	Pass
Crossload4	52.13mV	15.16mV	11.23mV	26.42mV	Pass

The results above are not used in the certification process





BoostBoxx PB1200P

Top side

Power specifications label

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CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

www.cybenetics.com - info@cybenetics.com