



BoostBoxx PB1000P

Serial Number 2N124104016

Lab ID BB10002347

Certification ID 252347

Test Result Report ID: 24PS2347A

Certificate Issue Date: Feb 9, 2024

Scheme: ETA-EMI PSU

115V

230V

115V

230V

Scheme: LAMBDA PSU

Outside Validation Scope

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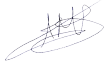
General Information

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	PB1000P
OEM/ODM	Great Wall
Serial Number	2N124104016
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6

Rated Frequency (Hz)	60-50
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	140mm Double Ball Bearing Fan (HA1425M12B-Z)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	BB10002347
Date of receipt	Jan 25, 2024
Testing Date	Feb 6, 2024
Report Issued Date	Feb 9, 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	18-20AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (700mm+150mm)	2	4	18AWG	No
12+4 pin PCIe (700mm) (600W)	1	1	16-24AWG	No
SATA (1000mm+120mm+120mm)	1	3	18AWG	No
SATA (1000mm) / 4-pin Molex (+150mm+150mm)	1	1 / 2	18AWG	No
SATA (900mm) / 4-pin Molex (+150mm) / FDD (+150mm)	1	1 / 1 / 1	18-22AWG	No

AC Power Cord (1650mm) - C13 coupler	1	1	18AWG	-
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Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	83.33	4	0.5
	Watts	130		1000	20	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 v3.1 PSU Power Excursion	✓

Performance Summary

115V	
Accredited	
Average Efficiency (>1450 load combinations)	89.698%
Average Noise Output (>1450 Load Combinations)	29.52dBA
Average PF (>1450 Load Combinations)	0.977
Efficiency With 10W (≤500W) or 2% (>500W) Load	76.321%
Standby Power Consumption	0.1087W
Non-Accredited	
12V Ripple (Full Load)	40.59mV
5V Ripple (Full Load)	14.83mV
3.3V Ripple (Full Load)	14.87mV

5VSB Ripple (Full Load)	36.81mV
12V Load Regulation	0.99%
5V Load Regulation	0.56%
3.3V Load Regulation	1.10%
5VSB Load Regulation	3.87%
Inrush Current	172.600A

230V

Accredited		
Average Efficiency (>1450 load combinations)	91.765%	
Average Noise Output (>1450 Load Combinations)	28.86dBA	
Average PF (>1450 Load Combinations)	0.952	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.1670W	
Non-Accredited		
12V Ripple (Full Load)	36.73mV	
5V Ripple (Full Load)	15.58mV	
3.3V Ripple (Full Load)	14.34mV	
5VSB Ripple (Full Load)	36.46mV	
12V Load Regulation	0.96%	
5V Load Regulation	0.58%	
3.3V Load Regulation	1.10%	
5VSB Load Regulation	3.89%	
Inrush Current	133.200A	
12V Transient Response (200%)	11.24V	
5V Transient Response (200%)	4.918V	
3.3V Transient Response (200%)	3.195V	
5VSB Transient Response (200%)	4.958V	
Hold-Up Time & PWR_OK Signal	18.20ms	
AC Loss to PWR_OK Hold Up Time	15.30ms	
PWR_OK Inactive to DC Loss Delay	2.90ms	
PSU Timings: T1 (20% / 100%)	74.0ms	81.0ms

PSU Timings: T3 (20% / 100%)	127.0ms	127.0ms
OPP (27.46°C / 42.23°C)	131.54%	128.53%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	18.2
AC Loss to PWR_OK Hold Up Time (ms)	15.3
PWR_OK Inactive to DC Loss Delay (ms)	2.9



Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.17 V	115.13 V	113.85 V	115.18 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 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	0.15 %	2.00 %	PASS
Real Power:	0.109 W	0.011 W	N/A	0.136 W	N/A	N/A
Apparent Power:	9.028 W	9.019 W	N/A	9.033 W	N/A	N/A
Power Factor:	0.014	N/A	N/A	N/A	N/A	N/A

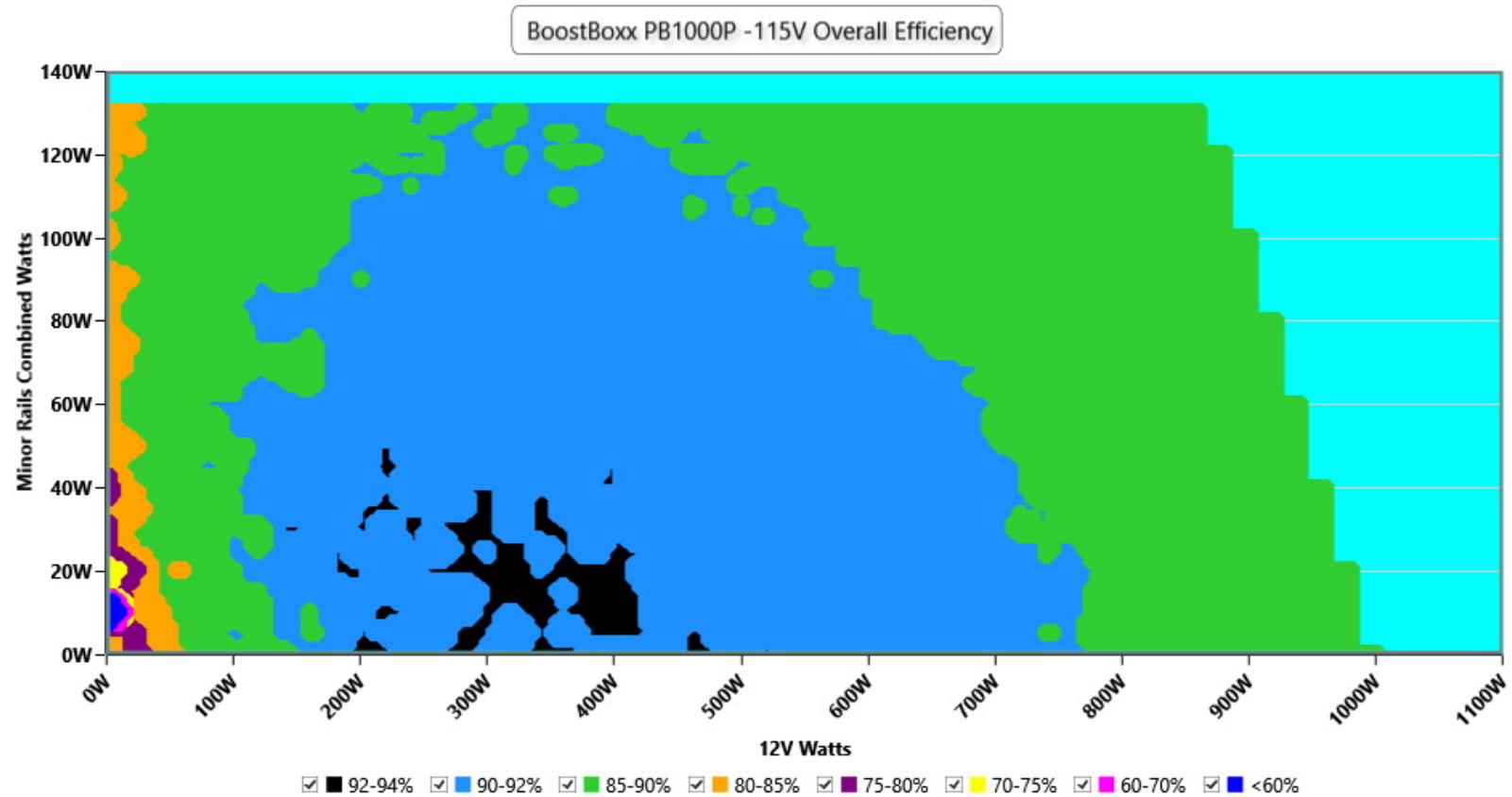
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.38 V	230.38 V	227.70 V	230.42 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:	0.167 W	0.141 W	N/A	0.202 W	N/A	N/A
Apparent Power:	30.204 W	30.193 W	N/A	30.215 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

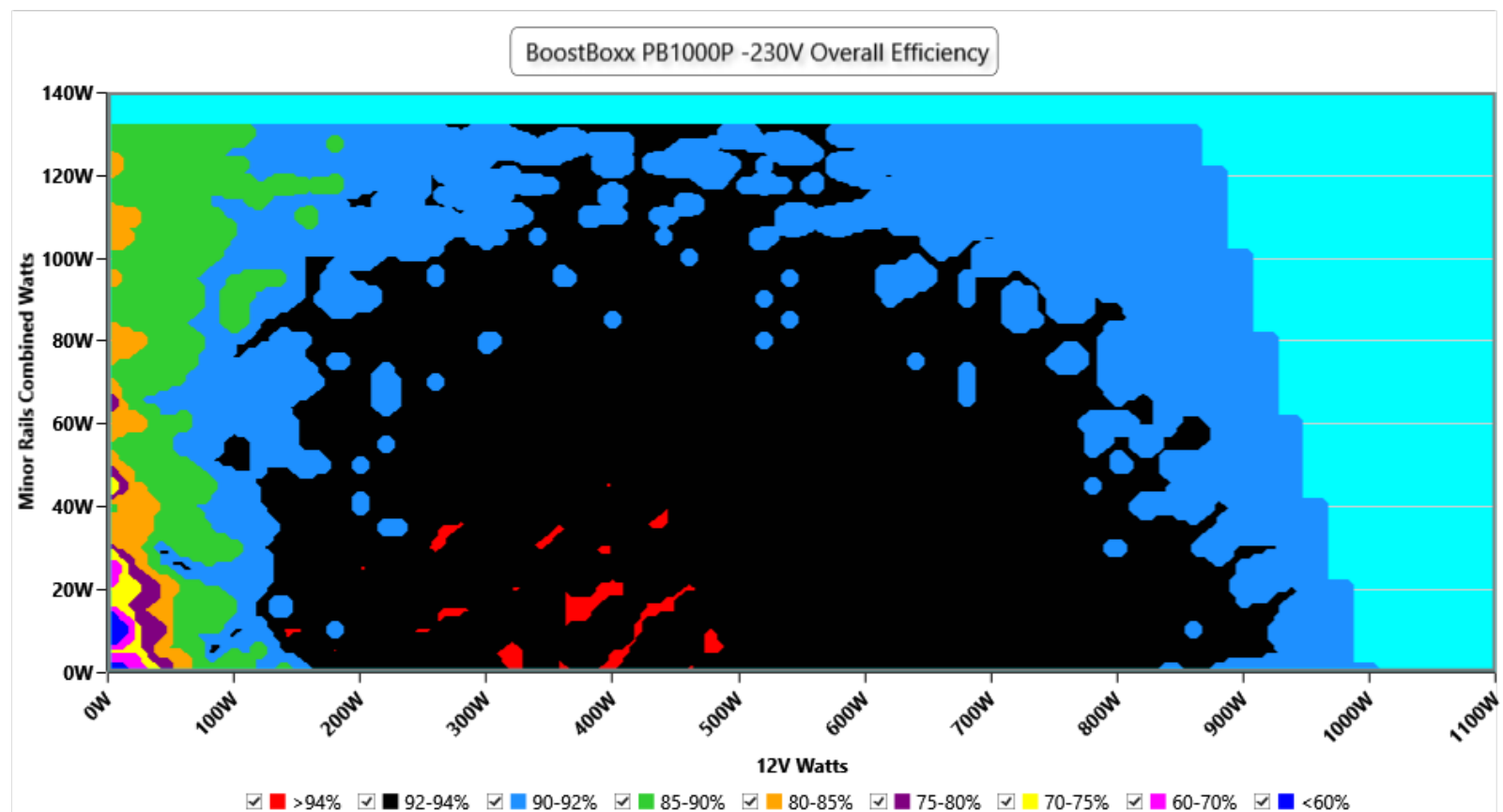
Efficiency Graph

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

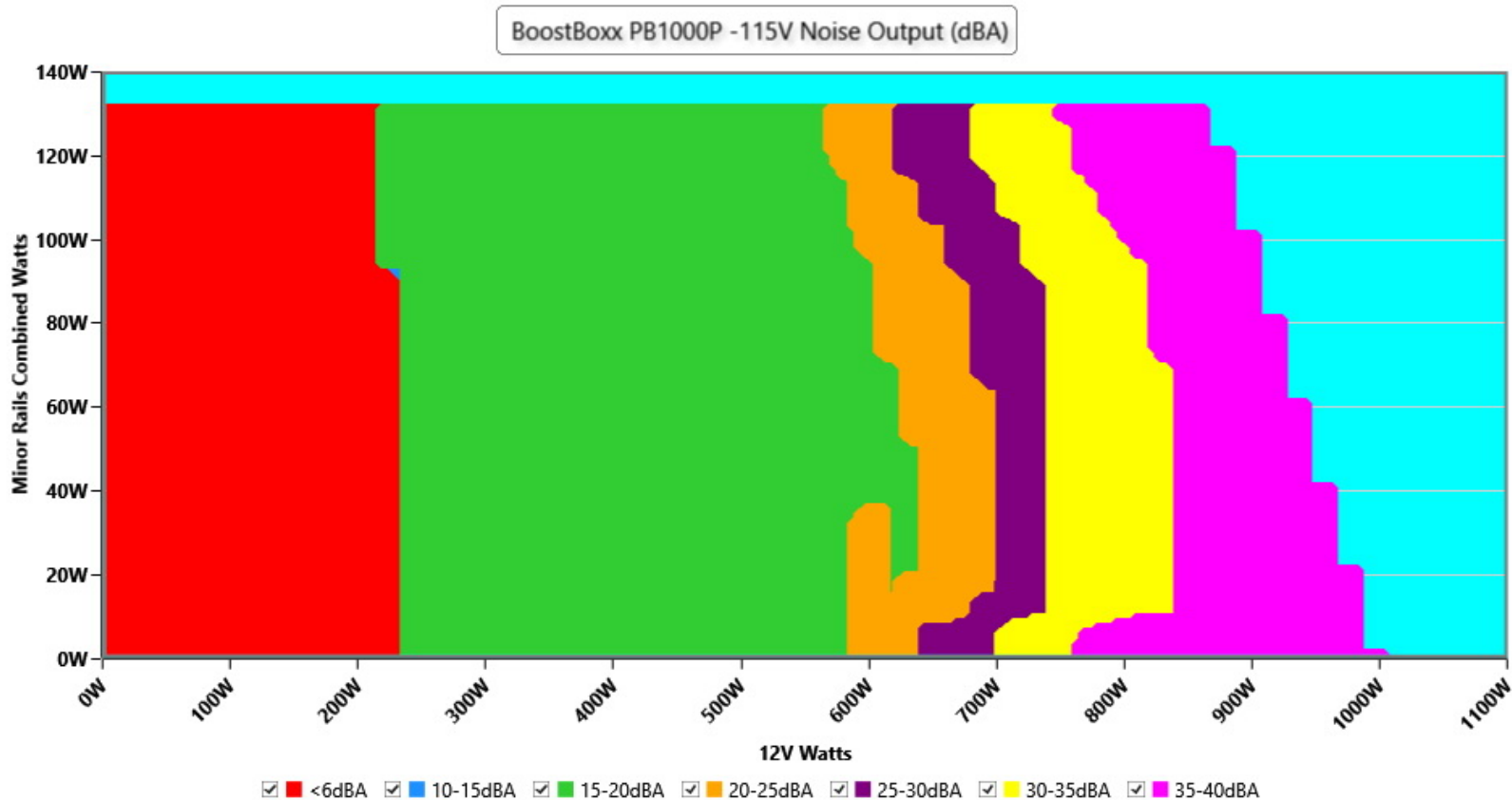


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This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

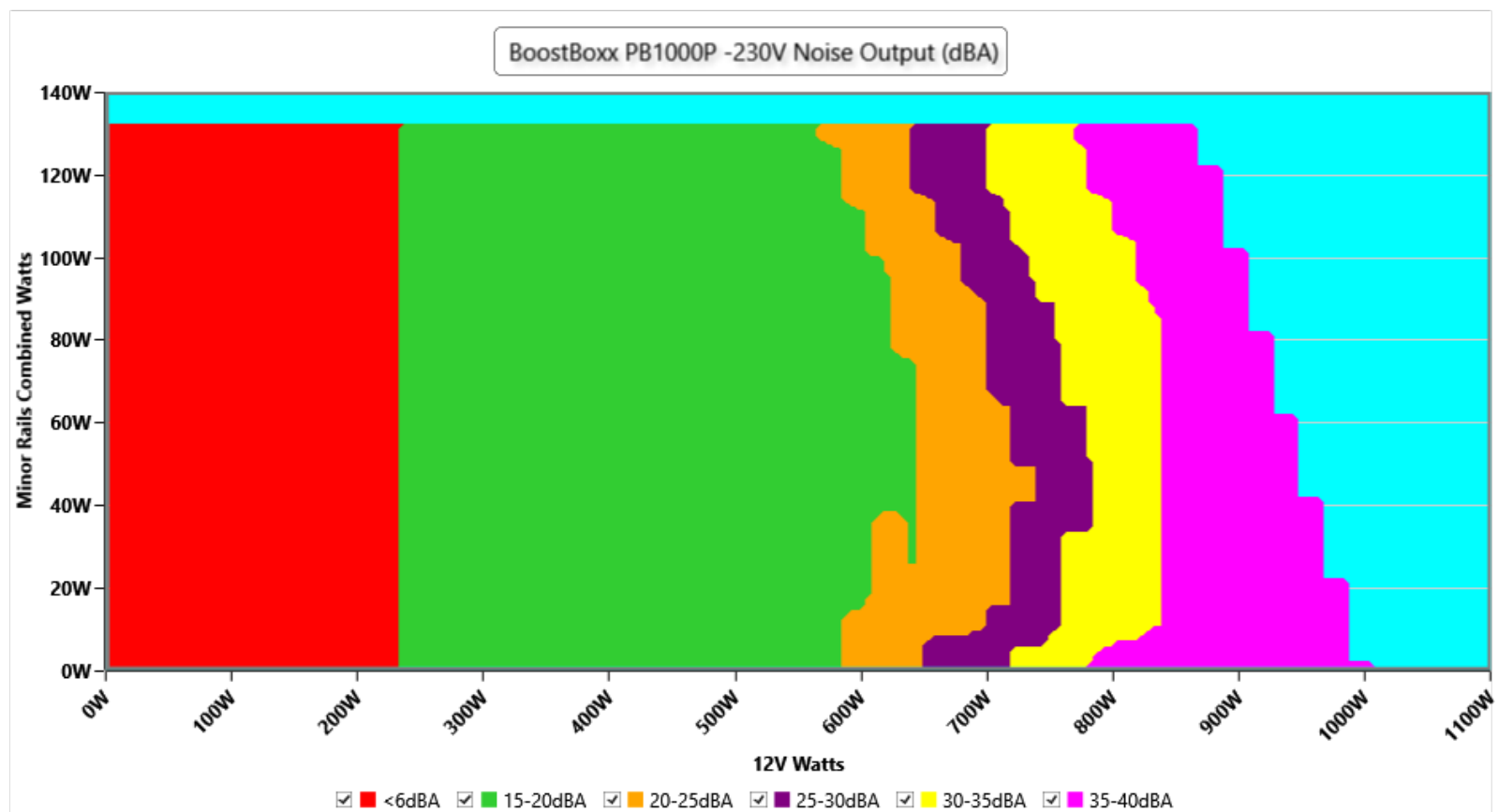
Noise Graph

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

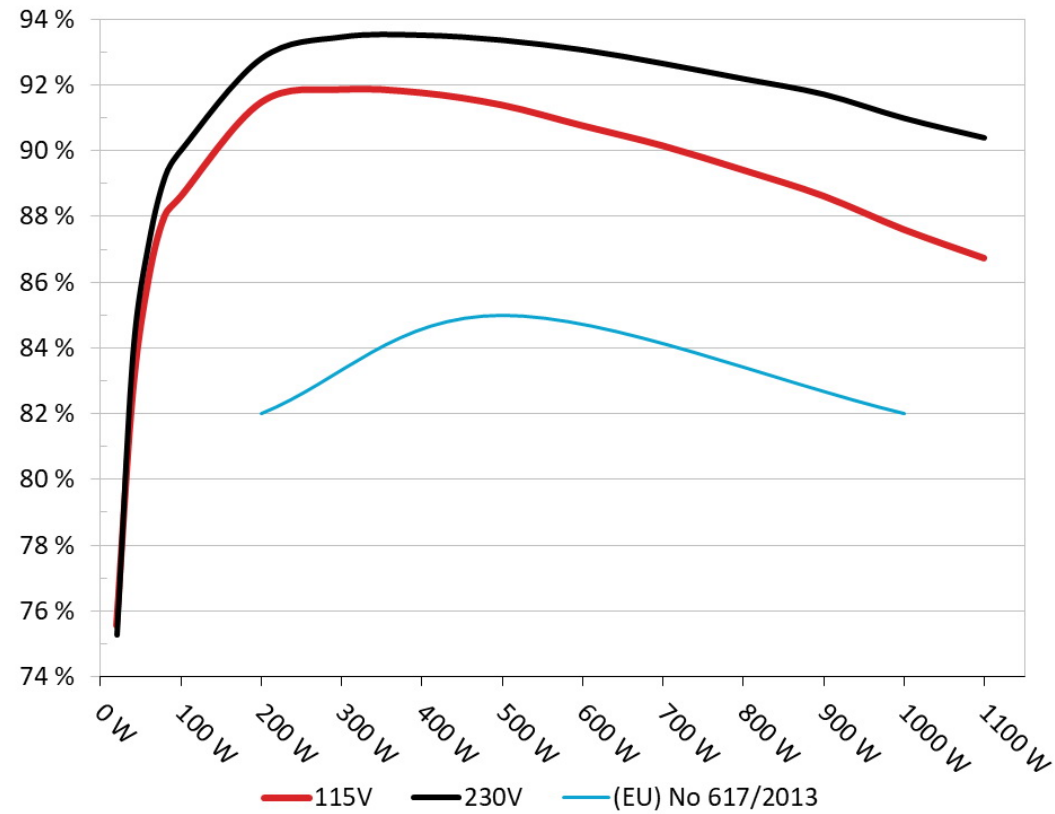
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: BoostBoxx PB1000P

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



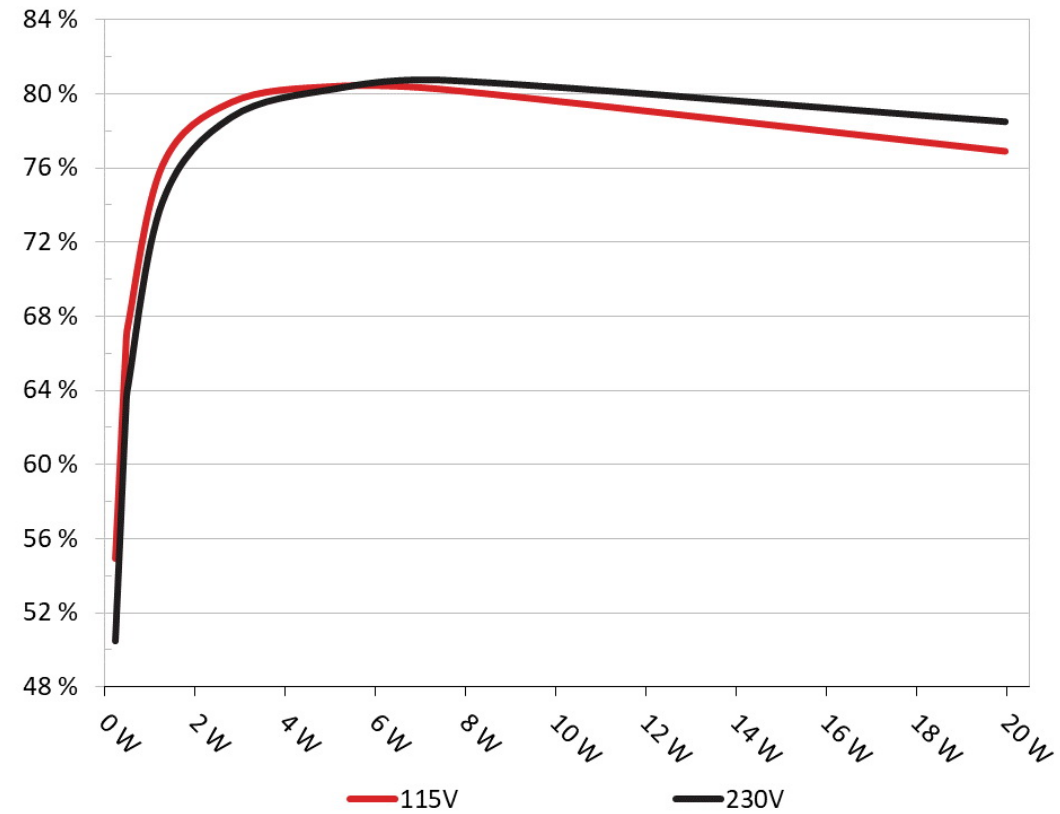
INFO

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: BoostBoxx PB1000P

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	0.23W	54.453%	0.046
	5.106V	0.423W		115.16V
2	0.09A	0.46W	65.751%	0.076
	5.105V	0.7W		115.16V
3	0.55A	2.801W	79.03%	0.286
	5.092V	3.544W		115.16V
4	1A	5.08W	79.887%	0.379
	5.079V	6.359W		115.16V
5	1.5A	7.598W	79.703%	0.426
	5.064V	9.533W		115.16V
6	4.001A	19.964W	76.393%	0.509
	4.99V	26.133W		115.15V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	49.974%	0.015
	5.106V	0.461W		230.39V
2	0.09A	0.46W	62.308%	0.024
	5.105V	0.739W		230.39V
3	0.55A	2.801W	78.207%	0.112
	5.092V	3.582W		230.39V
4	1A	5.08W	79.729%	0.183
	5.079V	6.372W		230.39V
5	1.5A	7.598W	80.198%	0.244
	5.064V	9.473W		230.39V
6	4.001A	19.967W	77.967%	0.383
	4.991V	25.61W		230.39V

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%	6.482A	1.986A	1.988A	0.987A	100.007	88.596%	0	<6.0	44.43°C	0.871
	12.097V	5.037V	3.32V	5.069V	112.979				40.14°C	115.14V
20%	13.988A	2.98A	2.985A	1.187A	199.961	91.457%	0	<6.0	45.29°C	0.958
	12.085V	5.035V	3.316V	5.056V	218.709				40.71°C	115.11V
30%	21.860A	3.478A	3.486A	1.388A	300.013	91.848%	0	<6.0	46.05°C	0.992
	12.075V	5.033V	3.314V	5.043V	326.651				41.03°C	115.08V
40%	29.719A	3.978A	3.989A	1.591A	399.704	91.746%	762	17.6	41.85°C	0.995
	12.063V	5.029V	3.31V	5.029V	435.709				47.43°C	115.06V
50%	37.238A	4.977A	4.993A	1.794A	499.437	91.375%	761	17.6	42.22°C	0.994
	12.056V	5.024V	3.305V	5.016V	546.602				48.26°C	115.04V
60%	44.849A	5.976A	5.999A	1.999A	599.981	90.747%	874	21.6	42.8°C	0.995
	12.044V	5.021V	3.301V	5.003V	661.107				49.37°C	115V
70%	52.407A	6.977A	7.007A	2.205A	699.721	90.137%	1184	30.9	43.43°C	0.995
	12.033V	5.018V	3.297V	4.989V	776.249				50.49°C	114.98V
80%	60.028A	7.976A	8.016A	2.31A	799.747	89.399%	1458	37.2	43.82°C	0.996
	12.025V	5.015V	3.293V	4.979V	894.566				51.86°C	114.95V
90%	68.018A	8.479A	8.51A	2.416A	899.544	88.612%	1706	41.8	44.25°C	0.995
	12.012V	5.013V	3.29V	4.968V	1015.158				53.28°C	114.93V
100%	75.461A	8.981A	9.037A	4.075A	999.77	87.591%	1939	45.5	45.67°C	0.996
	11.994V	5.011V	3.286V	4.909V	1141.423				55.72°C	114.89V
110%	83.138A	9.985A	10.144A	4.082A	1099.577	86.722%	2014	46.2	46.97°C	0.995
	11.983V	5.008V	3.282V	4.9V	1267.896				57.88°C	114.87V
CL1	0.121A	15.614A	15.616A	0A	131.361	84.34%	760	17.6	40.53°C	0.904
	12.068V	5.015V	3.304V	5.084V	155.441				45.98°C	114.94V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.118A	19.956A	0A	0A	101.424	83.253%	760	17.6	40.47°C	0.881
	12.086V	5.011V	3.322V	5.095V	121.819				47.53°C	115.15V
CL3	0.116A	0A	19.995A	0A	67.392	79.278%	761	17.6	41.32°C	0.864
	12.088V	5.038V	3.301V	5.09V	85.015				50.43°C	115.15V
CL4	83.151A	0A	0A	0.003A	1000.078	88.527%	1906	44.9	45.36°C	0.996
	12.027V	5.025V	3.297V	5.042V	1129.656				56.31°C	114.9V

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%	6.484A	1.985A	1.988A	0.987A	100.013	90.023%	0	<6.0	44.41°C	0.811
	12.095V	5.038V	3.32V	5.069V	111.166				40.18°C	230.38V
20%	13.992A	2.98A	2.985A	1.187A	199.97	92.814%	0	<6.0	45.23°C	0.876
	12.082V	5.036V	3.317V	5.055V	215.711				40.7°C	230.38V
30%	21.864A	3.477A	3.486A	1.388A	300.021	93.463%	0	<6.0	46.28°C	0.926
	12.073V	5.034V	3.314V	5.043V	321.089				41.28°C	230.36V
40%	29.724A	3.979A	3.99A	1.591A	399.739	93.516%	763	17.6	41.52°C	0.966
	12.062V	5.028V	3.309V	5.03V	427.517				47.04°C	230.35V
50%	37.246A	4.977A	4.993A	1.794A	499.466	93.364%	760	17.6	42.19°C	0.985
	12.053V	5.024V	3.305V	5.017V	535.022				48.22°C	230.34V
60%	44.855A	5.977A	5.999A	1.999A	600.012	93.068%	874	21.6	42.67°C	0.991
	12.043V	5.021V	3.301V	5.003V	644.743				49.19°C	230.32V
70%	52.401A	6.977A	7.008A	2.205A	699.75	92.654%	1184	30.9	43.25°C	0.993
	12.035V	5.018V	3.297V	4.989V	755.267				50.35°C	230.31V
80%	60.033A	7.977A	8.016A	2.31A	799.779	92.189%	1460	37.2	43.85°C	0.994
	12.024V	5.015V	3.293V	4.978V	867.461				51.93°C	230.29V
90%	68.007A	8.479A	8.511A	2.416A	899.574	91.719%	1711	41.9	44.66°C	0.994
	12.015V	5.012V	3.29V	4.968V	980.883				53.71°C	230.28V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	75.444A	8.982A	9.038A	4.075A	999.773	90.988%	1940	45.5	45.83°C	0.995
	11.997V	5.01V	3.286V	4.909V	1098.808				55.91°C	230.27V
110%	83.137A	9.987A	10.146A	4.083A	1099.604	90.394%	2014	46.2	46.76°C	0.996
	11.984V	5.007V	3.282V	4.899V	1216.614				57.69°C	230.26V
CL1	0.121A	15.616A	15.617A	0A	131.364	85.747%	761	17.6	40.61°C	0.846
	12.067V	5.014V	3.304V	5.084V	153.284				46.07°C	230.38V
CL2	0.118A	19.957A	0A	0A	101.426	84.545%	761	17.6	40.29°C	0.82
	12.087V	5.01V	3.322V	5.095V	120.001				47.38°C	230.39V
CL3	0.116A	0A	19.996A	0A	67.393	80.64%	760	17.6	40.59°C	0.777
	12.089V	5.038V	3.3V	5.09V	83.711				49.61°C	230.38V
CL4	83.153A	0A	0A	0.003A	1000.103	91.855%	1870	44.3	45.6°C	0.995
	12.027V	5.025V	3.297V	5.042V	1088.777				56.58°C	230.28V

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	1.226A	0.496A	0.497A	0.196A	19.999	75.555%	0	<6.0	39.86°C	0.761
	12.113V	5.038V	3.322V	5.099V	26.533				36.8°C	115.15V
40W	2.700A	0.695A	0.695A	0.294A	39.999	82.565%	0	<6.0	40.78°C	0.814
	12.109V	5.038V	3.322V	5.095V	48.606				37.4°C	115.14V
60W	4.174A	0.893A	0.894A	0.393A	59.998	86.114%	0	<6.0	42.53°C	0.839
	12.106V	5.039V	3.322V	5.091V	69.71				38.72°C	115.14V
80W	5.646A	1.092A	1.093A	0.492A	79.953	88.014%	0	<6.0	43.57°C	0.863
	12.102V	5.038V	3.321V	5.086V	90.86				39.59°C	115.14V

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	1.226A	0.496A	0.497A	0.196A	20.004	75.266%	0	<6.0	39.93°C	0.495
	12.113V	5.038V	3.322V	5.1V	26.081				36.85°C	230.39V
40W	2.700A	0.695A	0.695A	0.294A	40.001	83.848%	0	<6.0	41.17°C	0.667
	12.109V	5.038V	3.322V	5.095V	47.796				37.85°C	230.39V
60W	4.174A	0.893A	0.894A	0.393A	60	87.237%	0	<6.0	42.08°C	0.744
	12.105V	5.039V	3.322V	5.091V	68.891				38.64°C	230.38V
80W	5.646A	1.092A	1.093A	0.492A	79.959	89.223%	0	<6.0	43.25°C	0.785
	12.102V	5.038V	3.321V	5.086V	89.682				39.39°C	230.38V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	21.37mV	8.06mV	5.29mV	10.39mV	Pass
20% Load	11.76mV	7.75mV	4.99mV	14.32mV	Pass
30% Load	16.13mV	8.16mV	5.24mV	13.80mV	Pass
40% Load	19.34mV	8.98mV	6.05mV	14.72mV	Pass
50% Load	20.61mV	9.95mV	6.66mV	15.54mV	Pass
60% Load	22.85mV	10.15mV	7.37mV	18.29mV	Pass
70% Load	23.36mV	10.91mV	7.68mV	18.65mV	Pass
80% Load	27.68mV	12.85mV	12.26mV	21.60mV	Pass
90% Load	28.90mV	12.80mV	13.22mV	23.64mV	Pass
100% Load	40.59mV	14.83mV	14.87mV	36.81mV	Pass
110% Load	43.12mV	16.39mV	16.28mV	41.03mV	Pass
Crossload1	28.72mV	16.04mV	16.11mV	10.78mV	Pass
Crossload2	22.49mV	15.15mV	6.20mV	8.97mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	19.49mV	12.50mV	18.01mV	8.91mV	Pass
Crossload4	33.50mV	13.27mV	9.26mV	19.79mV	Pass

The results above are not used in the certification process

230V

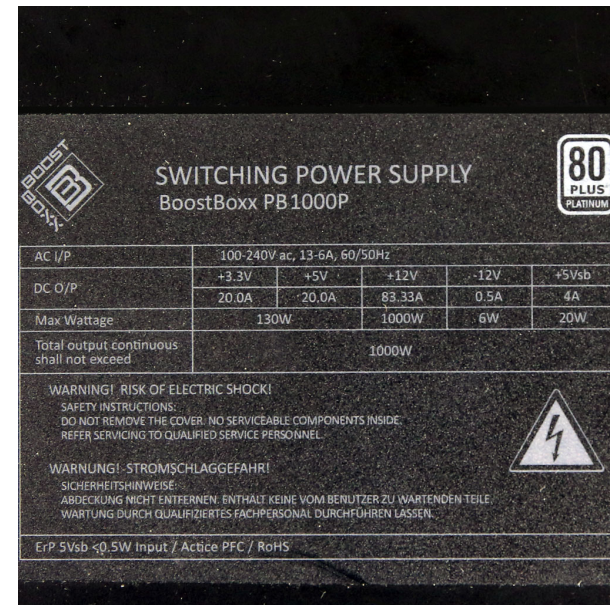
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	20.71mV	8.01mV	5.44mV	10.90mV	Pass
20% Load	8.40mV	7.09mV	4.63mV	12.94mV	Pass
30% Load	12.36mV	8.37mV	5.34mV	14.42mV	Pass
40% Load	15.67mV	8.87mV	5.85mV	14.01mV	Pass
50% Load	17.50mV	10.30mV	6.61mV	14.62mV	Pass
60% Load	19.79mV	10.51mV	7.43mV	19.31mV	Pass
70% Load	21.83mV	11.53mV	7.93mV	18.70mV	Pass
80% Load	29.16mV	13.46mV	13.07mV	21.96mV	Pass
90% Load	29.16mV	13.21mV	13.94mV	24.66mV	Pass
100% Load	36.73mV	15.58mV	14.34mV	36.46mV	Pass
110% Load	40.18mV	16.56mV	16.49mV	39.87mV	Pass
Crossload1	27.29mV	14.67mV	15.83mV	10.37mV	Pass
Crossload2	22.24mV	14.79mV	5.80mV	9.02mV	Pass
Crossload3	20.30mV	12.40mV	18.01mV	8.71mV	Pass
Crossload4	37.04mV	13.33mV	9.29mV	20.00mV	Pass

The results above are not used in the certification process

BoostBoxx PB1000P



Top side



Power specifications label

[illegible]ETA LAMBDA [illegible]DELTA

PHI[]

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