



XPG Core Reactor II 750W

Serial Number 4N1680B15032

Lab ID AD75002217

Certification ID 252217

Test Result Report ID: 23PS2217A

Certificate Issue Date: Aug 25, 2023

Scheme: ETA-EMI PSU

115V

230V

115V

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	Brueel & Kjaer 2270 G4
Microphone	Brueel & 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	XPG
Model	Core Reactor II 750W
OEM/ODM	Channel Well Technology
Serial Number	4N1680B15032
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5

Rated Frequency (Hz)	47-63
Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Fluid Dynamic Bearing Fan (HA1225H12F-Z)
Semi-Passive Operation	X
Cybenetics Testing Information	
Lab ID	AD75002217
Date of receipt	Jul 25, 2023
Testing Date	Jul 31, 2023
Report Issued Date	Aug 25, 2023
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 (650mm)	1	1	16-20AWG	No
4+4 pin EPS12V (650mm)	2	2	16AWG	No
6+2 pin PCIe (650mm+150mm)	2	4	16-18AWG	No
6+2 pin PCIe (650mm)	2	2	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

AC Power Cord (1400mm) - C13 coupler	1	1	18AWG	-
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Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	62.5	3	0.3
	Watts	120		750	15	3.6
Total Max. Power (W)		750				

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)	89.153%
Average Noise Output (>1450 Load Combinations)	26.05dBA
Average PF (>1450 Load Combinations)	0.988
Efficiency With 10W (≤500W) or 2% (>500W) Load	71.281%
Standby Power Consumption	0.0179W
Non-Accredited	
12V Ripple (Full Load)	20.96mV
5V Ripple (Full Load)	9.95mV
3.3V Ripple (Full Load)	19.30mV

5VSB Ripple (Full Load)	8.70mV
12V Load Regulation	1.01%
5V Load Regulation	0.36%
3.3V Load Regulation	0.67%
5VSB Load Regulation	1.45%
Inrush Current	25.640A

230V

Accredited		
Average Efficiency (>1450 load combinations)	91.118%	
Average Noise Output (>1450 Load Combinations)	25.53dBA	
Average PF (>1450 Load Combinations)	0.960	
Efficiency With 10W (≤500W) or 2% (>500W) Load	70.217%	
Standby Power Consumption	0.0791W	
Non-Accredited		
12V Ripple (Full Load)	21.39mV	
5V Ripple (Full Load)	10.44mV	
3.3V Ripple (Full Load)	19.65mV	
5VSB Ripple (Full Load)	9.15mV	
12V Load Regulation	1.00%	
5V Load Regulation	0.34%	
3.3V Load Regulation	0.73%	
5VSB Load Regulation	1.49%	
Inrush Current	48.950A	
12V Transient Response (200%)	11.71V	
5V Transient Response (200%)	5.028V	
3.3V Transient Response (200%)	3.209V	
5VSB Transient Response (200%)	4.991V	
Hold-Up Time & PWR_OK Signal	18.60ms	
AC Loss to PWR_OK Hold Up Time	16.00ms	
PWR_OK Inactive to DC Loss Delay	2.60ms	
PSU Timings: T1 (20% / 100%)	66.0ms	62.0ms

PSU Timings: T3 (20% / 100%)	126.0ms	127.0ms
OPP (29.43°C / 42.97°C)	129.19%	131.32%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	18.6
AC Loss to PWR_OK Hold Up Time (ms)	16
PWR_OK Inactive to DC Loss Delay (ms)	2.6

Vampire Power

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.94 V	114.89 V	113.85 V	114.98 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.94 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.418	1.417	1.340	1.420	1.490	PASS
Mains Voltage THD:	0.15 %	0.11 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.018 W	0.015 W	N/A	0.020 W	N/A	N/A
Apparent Power:	10.305 W	10.283 W	N/A	10.328 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

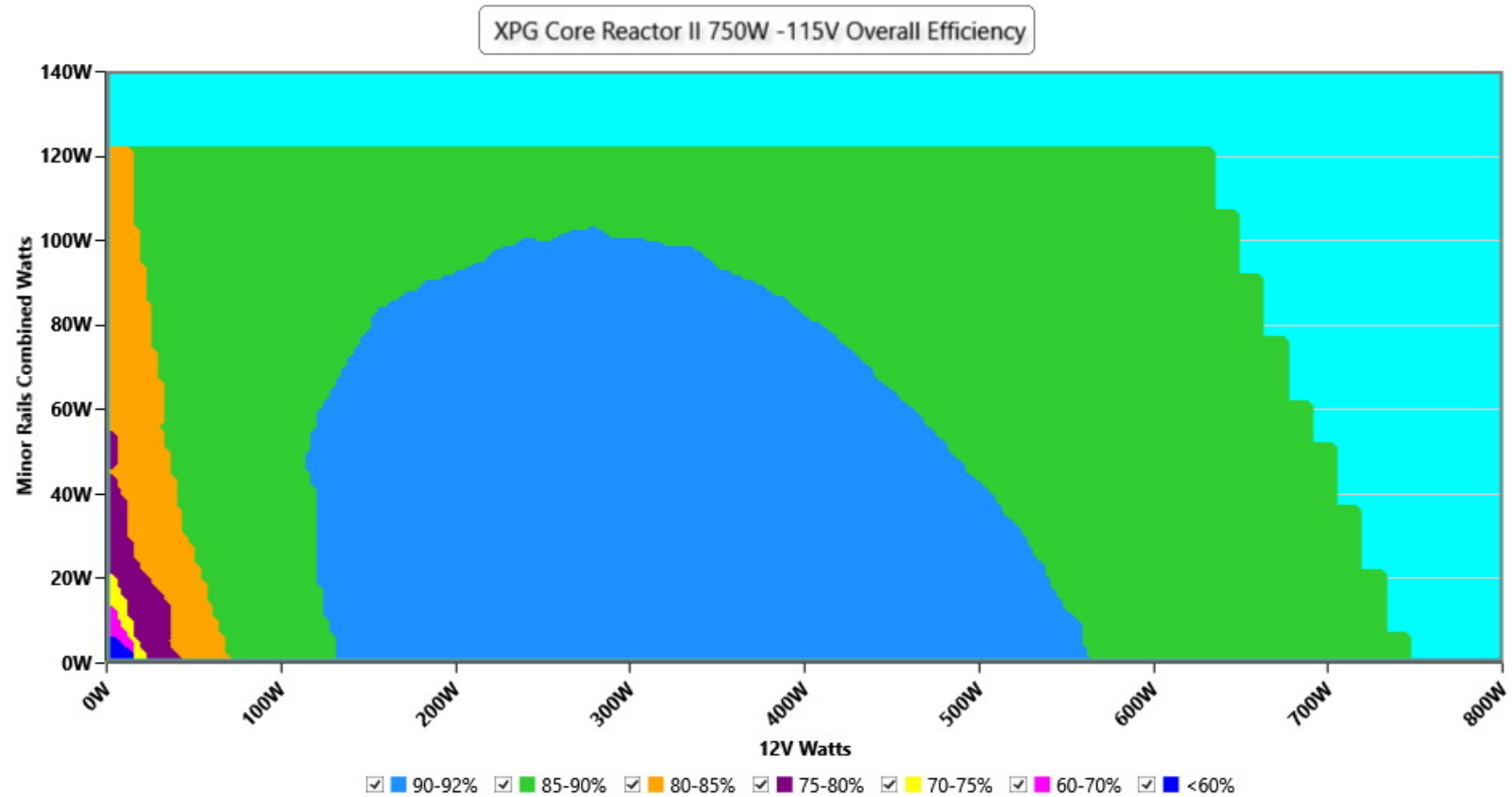
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.88 V	229.83 V	227.70 V	229.95 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:	1.417	1.416	1.340	1.417	1.490	PASS

Mains Voltage THD:	0.19 %	0.17 %	N/A	0.22 %	2.00 %	PASS
Real Power:	0.079 W	0.069 W	N/A	0.093 W	N/A	N/A
Apparent Power:	34.869 W	34.834 W	N/A	34.912 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

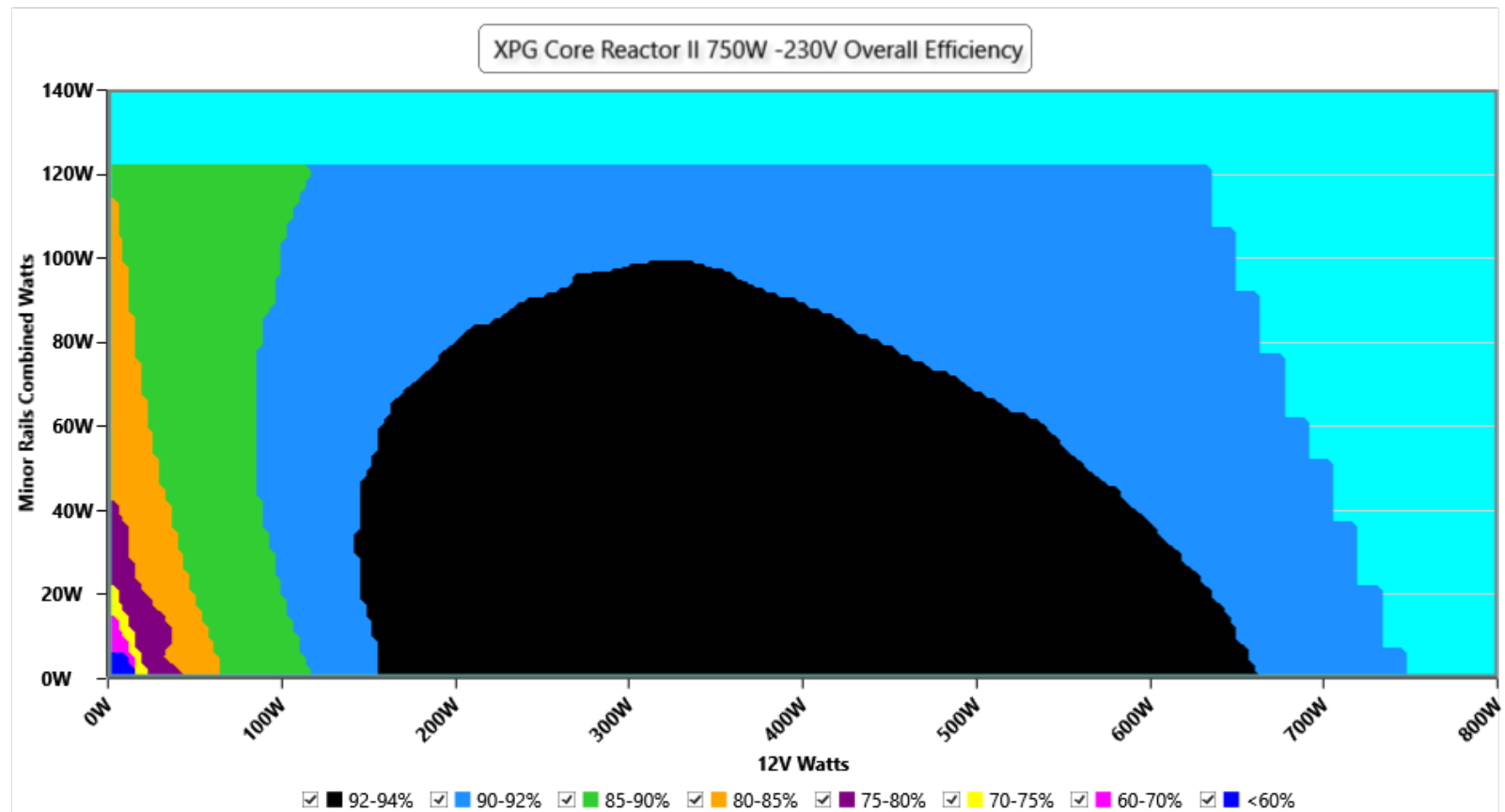
Efficiency Graph

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

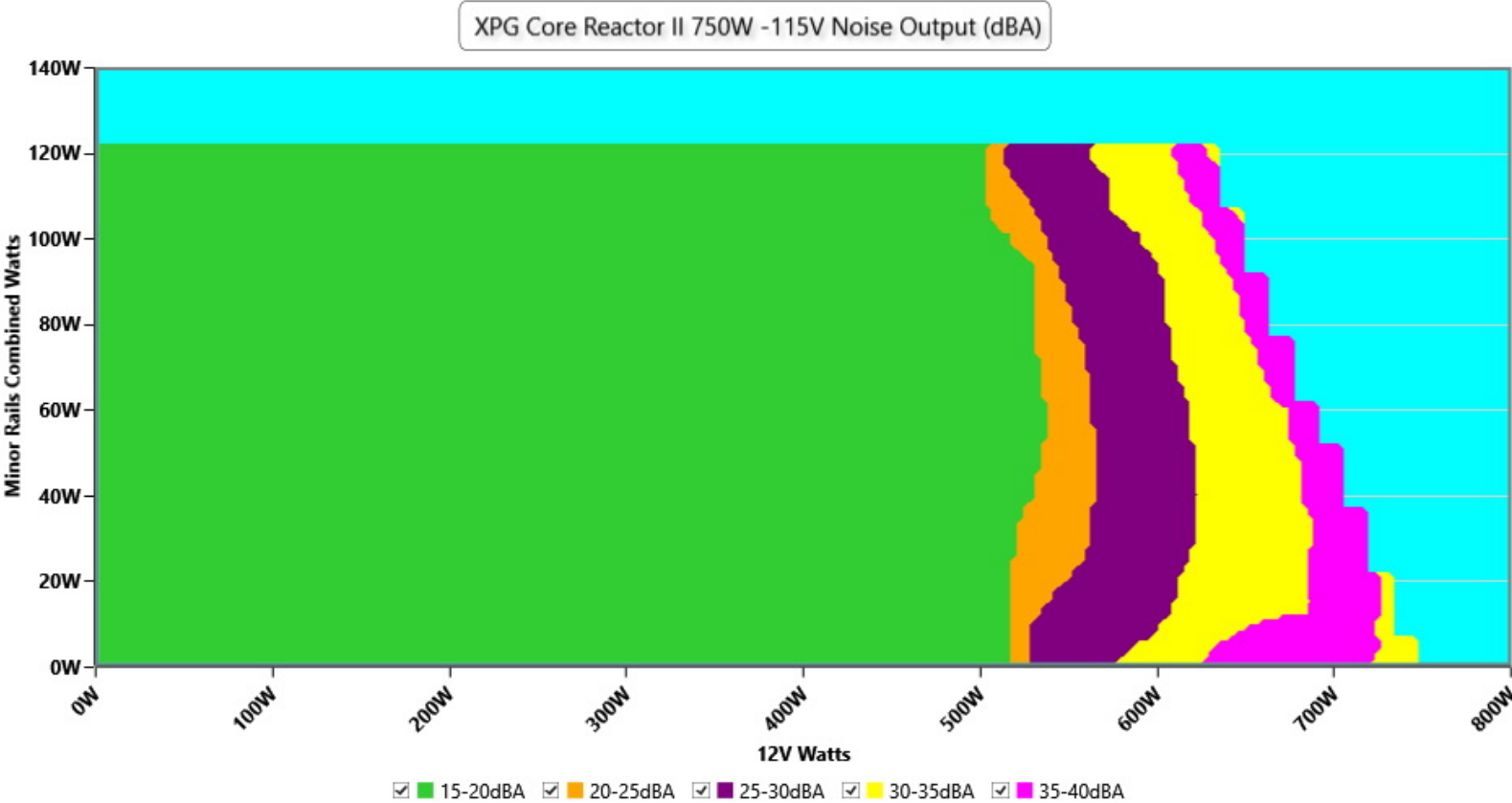


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This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

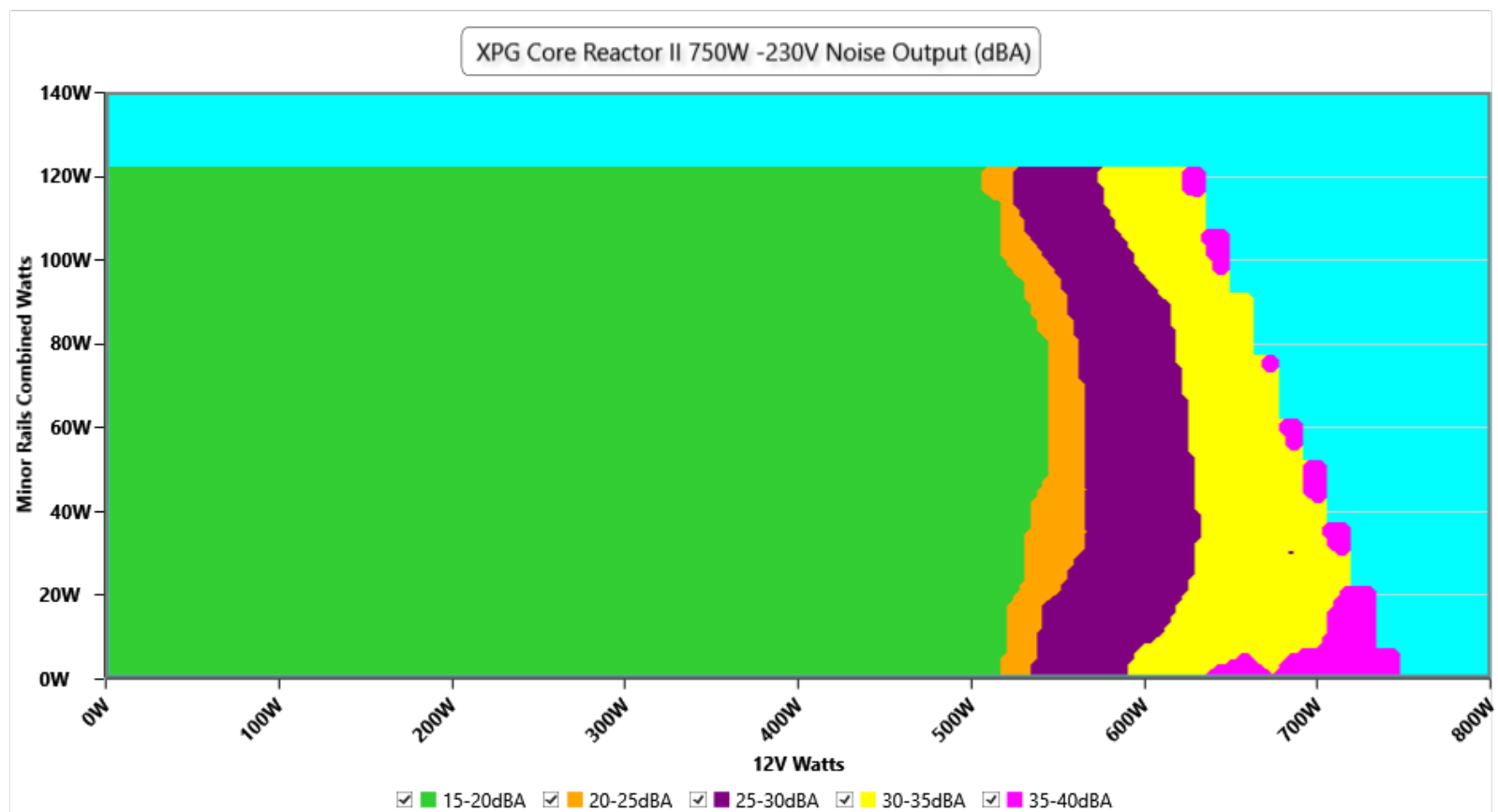
Noise Graph

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

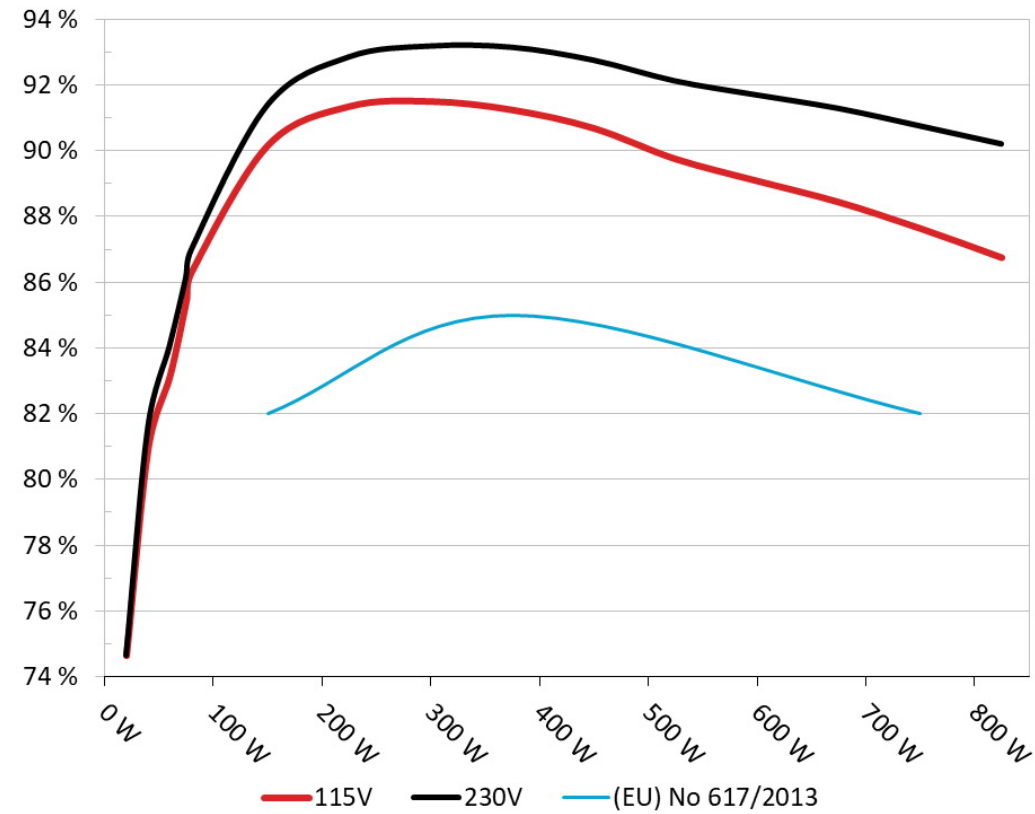
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: XPG Core Reactor II 750W

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



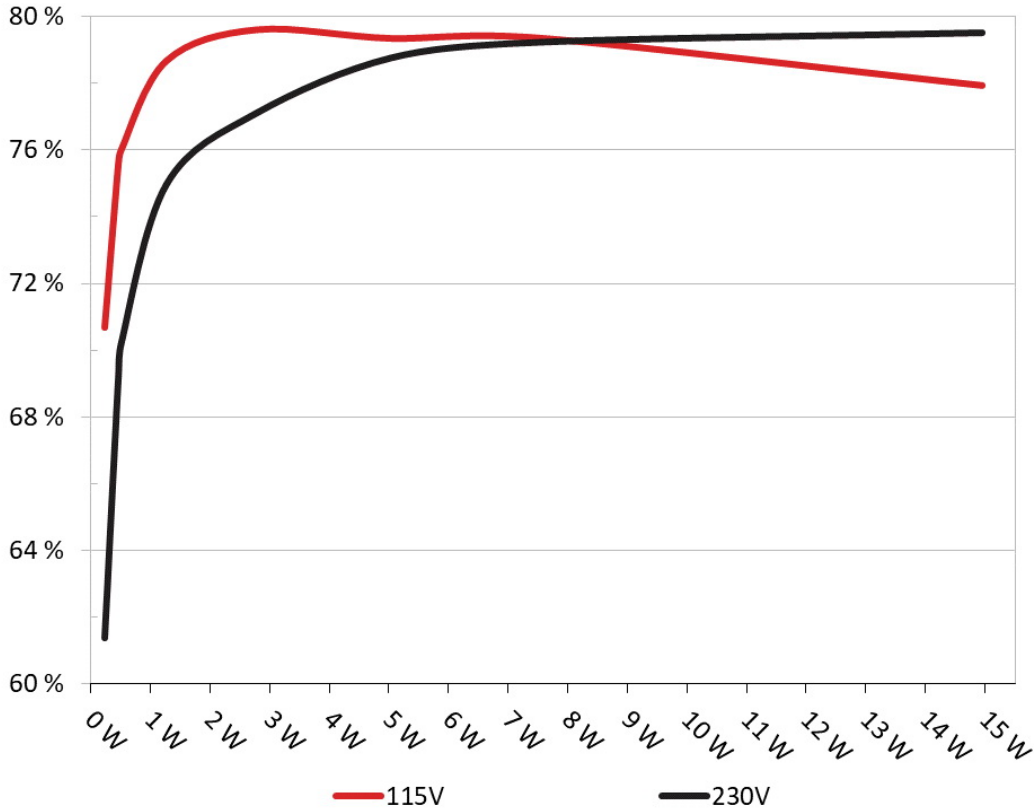
INFO

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: XPG Core Reactor II 750W

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	0.228W	70.669%	0.031
	5.065V	0.323W		114.93V
2	0.09A	0.456W	75.572%	0.058
	5.064V	0.604W		114.92V
3	0.55A	2.779W	79.614%	0.263
	5.052V	3.49W		114.94V
4	1A	5.04W	79.353%	0.354
	5.04V	6.351W		114.92V
5	1.5A	7.54W	79.363%	0.412
	5.026V	9.501W		114.93V
6	3.001A	14.956W	77.94%	0.482
	4.985V	19.189W		114.93V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228W	61.378%	0.011
	5.065V	0.372W		229.89V
2	0.09A	0.456W	69.149%	0.019
	5.064V	0.66W		229.89V
3	0.55A	2.779W	77.096%	0.099
	5.051V	3.605W		229.88V
4	1A	5.04W	78.749%	0.165
	5.039V	6.401W		229.89V
5	1.5A	7.539W	79.216%	0.214
	5.026V	9.517W		229.89V
6	3.001A	14.955W	79.498%	0.323
	4.984V	18.812W		229.89V

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%	4.386A	1.979A	1.998A	0.994A	75.011	85.429%	879	20.0	40.12°C	0.963
	12.179V	5.052V	3.303V	5.031V	87.807				44.41°C	114.9V
20%	9.849A	2.971A	2.999A	1.194A	149.962	90.171%	881	20.0	40.89°C	0.988
	12.088V	5.05V	3.301V	5.026V	166.31				45.49°C	114.89V
30%	15.639A	3.467A	3.502A	1.395A	224.972	91.357%	883	20.1	41.35°C	0.991
	12.081V	5.048V	3.298V	5.02V	246.256				46.42°C	114.88V
40%	21.405A	3.963A	4.005A	1.596A	300.065	91.508%	886	20.2	41.51°C	0.989
	12.094V	5.047V	3.296V	5.014V	327.908				47.07°C	114.86V
50%	26.730A	4.955A	5.009A	1.797A	374.677	91.251%	887	20.4	42.37°C	0.989
	12.127V	5.046V	3.294V	5.009V	410.603				48.35°C	114.84V
60%	32.154A	5.948A	6.015A	1.998A	449.57	90.694%	1128	28.2	42.92°C	0.991
	12.122V	5.044V	3.292V	5.005V	495.704				49.42°C	114.82V
70%	37.582A	6.943A	7.024A	2.201A	524.488	89.761%	1465	35.9	43.43°C	0.992
	12.116V	5.042V	3.289V	4.999V	584.322				50.44°C	114.8V
80%	43.093A	7.94A	8.034A	2.303A	599.699	89.09%	1708	40.3	44.26°C	0.993
	12.108V	5.039V	3.286V	4.995V	673.135				52.29°C	114.78V
90%	48.940A	8.44A	8.527A	2.405A	674.729	88.446%	1929	45.0	44.38°C	0.994
	12.101V	5.037V	3.283V	4.991V	762.879				53.45°C	114.76V
100%	54.590A	8.939A	9.052A	3.016A	749.944	87.642%	2189	46.6	45.45°C	0.994
	12.094V	5.035V	3.281V	4.974V	855.698				55.47°C	114.73V
110%	60.112A	9.937A	10.157A	3.016A	824.972	86.754%	2312	49.3	46.6°C	0.994
	12.088V	5.033V	3.278V	4.974V	950.932				57.53°C	114.71V
CL1	0.116A	14.321A	14.437A	0A	121.316	84.094%	909	21.0	43.97°C	0.982
	12.105V	5.043V	3.304V	5.08V	144.26				49.45°C	114.89V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.116A	21.799A	0A	0A	111.427	82.208%	908	21.0	42.84°C	0.98
	12.108V	5.047V	3.313V	5.11V	135.545				49.91°C	114.89V
CL3	0.115A	0A	21.948A	0A	73.985	77.307%	889	20.4	41.54°C	0.971
	12.181V	5.062V	3.307V	5.055V	95.702				50.55°C	114.9V
CL4	61.965A	0A	0.001A	0A	749.878	88.136%	2247	47.7	46.27°C	0.994
	12.102V	5.049V	3.286V	5.039V	850.813				57.19°C	114.73V

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%	4.386A	1.979A	1.998A	0.994A	75.017	86.158%	882	20.0	40.41°C	0.836
	12.180V	5.053V	3.304V	5.032V	87.071				44.67°C	229.88V
20%	9.850A	2.971A	2.999A	1.194A	149.976	91.397%	885	20.2	40.83°C	0.928
	12.089V	5.05V	3.301V	5.026V	164.094				45.53°C	229.87V
30%	15.638A	3.467A	3.501A	1.395A	224.991	92.86%	885	20.2	41.5°C	0.956
	12.082V	5.049V	3.299V	5.02V	242.295				46.68°C	229.86V
40%	21.405A	3.963A	4.005A	1.596A	300.088	93.191%	887	20.4	41.96°C	0.971
	12.094V	5.047V	3.296V	5.014V	322.01				47.49°C	229.85V
50%	26.731A	4.955A	5.009A	1.797A	374.724	93.154%	890	20.6	42.26°C	0.976
	12.129V	5.046V	3.294V	5.009V	402.261				48.26°C	229.84V
60%	32.153A	5.948A	6.014A	1.998A	449.625	92.762%	1188	29.4	42.44°C	0.981
	12.123V	5.045V	3.293V	5.005V	484.711				48.97°C	229.83V
70%	37.589A	6.944A	7.024A	2.201A	524.532	92.132%	1427	35.9	43.44°C	0.984
	12.116V	5.042V	3.289V	4.999V	569.33				50.45°C	229.82V
80%	43.102A	7.941A	8.035A	2.303A	599.746	91.703%	1649	39.9	43.61°C	0.985
	12.107V	5.039V	3.286V	4.995V	654.007				51.62°C	229.81V
90%	48.947A	8.441A	8.528A	2.405A	674.781	91.297%	2010	45.0	44.1°C	0.987
	12.100V	5.037V	3.283V	4.991V	739.103				53.15°C	229.81V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	54.583A	8.939A	9.052A	3.016A	749.999	90.762%	2229	47.6	46.28°C	0.988
	12.097V	5.036V	3.281V	4.975V	826.339				56.34°C	229.79V
110%	60.114A	9.937A	10.157A	3.016A	825.023	90.215%	2310	49.3	46.61°C	0.988
	12.088V	5.034V	3.278V	4.974V	914.51				57.54°C	229.79V
CL1	0.116A	14.323A	14.44A	0A	121.322	85.007%	906	20.9	43.24°C	0.911
	12.102V	5.042V	3.303V	5.08V	142.721				48.69°C	229.87V
CL2	0.116A	21.801A	0A	0A	111.431	83.135%	904	20.8	42.01°C	0.904
	12.106V	5.047V	3.313V	5.11V	134.032				49.09°C	229.88V
CL3	0.115A	0A	21.95A	0A	73.989	77.877%	890	20.6	41.99°C	0.859
	12.180V	5.061V	3.307V	5.055V	95.007				51.09°C	229.87V
CL4	61.977A	0A	0.001A	0A	749.917	91.39%	2202	47.7	45.42°C	0.988
	12.100V	5.049V	3.286V	5.039V	820.569				56.39°C	229.8V

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	0.495A	0.5A	0.198A	20.01	74.632%	860	19.7	36.76°C	0.839
	12.057V	5.051V	3.303V	5.046V	26.813				39.83°C	114.91V
40W	2.712A	0.693A	0.699A	0.297A	40.009	80.957%	866	19.8	37.27°C	0.929
	12.057V	5.052V	3.303V	5.045V	49.42				40.56°C	114.91V
60W	4.150A	0.891A	0.899A	0.397A	60.008	83.148%	874	19.6	38.36°C	0.964
	12.178V	5.052V	3.303V	5.043V	72.169				42.09°C	114.9V
80W	5.612A	1.089A	1.099A	0.496A	79.966	86.321%	874	19.6	39.41°C	0.967
	12.177V	5.053V	3.303V	5.042V	92.637				43.4°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
20W	1.232A	0.495A	0.499A	0.198A	20.017	74.658%	864	19.8	37.23°C	0.481
	12.060V	5.053V	3.305V	5.049V	26.81				40.29°C	229.88V
40W	2.712A	0.693A	0.699A	0.297A	40.015	81.586%	872	19.4	37.7°C	0.687
	12.059V	5.053V	3.304V	5.047V	49.045				41.06°C	229.88V
60W	4.150A	0.891A	0.899A	0.397A	60.014	84.073%	873	19.4	38.49°C	0.78
	12.180V	5.053V	3.304V	5.044V	71.38				42.02°C	229.88V
80W	5.612A	1.089A	1.099A	0.496A	79.978	87%	877	19.7	39.53°C	0.851
	12.177V	5.053V	3.303V	5.042V	91.93				43.37°C	229.88V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.60mV	4.96mV	8.18mV	3.27mV	Pass
20% Load	12.71mV	4.75mV	8.90mV	3.48mV	Pass
30% Load	9.93mV	5.67mV	10.13mV	4.35mV	Pass
40% Load	10.95mV	5.82mV	11.40mV	4.76mV	Pass
50% Load	12.02mV	6.28mV	12.89mV	5.48mV	Pass
60% Load	12.28mV	7.20mV	13.91mV	6.09mV	Pass
70% Load	13.41mV	7.61mV	14.58mV	6.91mV	Pass
80% Load	14.23mV	8.37mV	16.57mV	7.57mV	Pass
90% Load	15.25mV	8.94mV	18.92mV	7.83mV	Pass
100% Load	20.96mV	9.95mV	19.30mV	8.70mV	Pass
110% Load	21.66mV	10.98mV	21.24mV	9.50mV	Pass
Crossload1	21.63mV	6.57mV	13.03mV	3.93mV	Pass
Crossload2	18.14mV	10.16mV	8.80mV	6.40mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	6.86mV	4.85mV	13.14mV	3.63mV	Pass
Crossload4	20.66mV	9.19mV	18.17mV	8.13mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.81mV	4.80mV	8.33mV	3.22mV	Pass
20% Load	13.79mV	5.11mV	9.21mV	3.48mV	Pass
30% Load	10.41mV	5.31mV	9.87mV	4.04mV	Pass
40% Load	10.57mV	5.92mV	11.10mV	4.71mV	Pass
50% Load	11.87mV	6.23mV	12.17mV	5.32mV	Pass
60% Load	12.69mV	7.05mV	12.99mV	5.99mV	Pass
70% Load	13.46mV	7.30mV	14.52mV	6.75mV	Pass
80% Load	14.79mV	9.30mV	16.36mV	7.16mV	Pass
90% Load	15.51mV	8.89mV	18.00mV	7.78mV	Pass
100% Load	21.39mV	10.44mV	19.65mV	9.15mV	Pass
110% Load	22.81mV	10.72mV	20.98mV	9.02mV	Pass
Crossload1	22.90mV	6.50mV	11.60mV	3.77mV	Pass
Crossload2	20.29mV	9.81mV	9.56mV	6.50mV	Pass
Crossload3	6.70mV	5.01mV	12.94mV	3.23mV	Pass
Crossload4	21.40mV	9.07mV	17.95mV	8.09mV	Pass

The results above are not used in the certification process

XPG Core Reactor II 750W



Top side

XPG						CORE REACTOR II					
Model (型番) (型号) (型号)						COREREACTORII750GOLD					
AC Input (交流輸入) (交流輸入規格) (规格)		100-240VAC, 47-63Hz, 10A-5A									
DC Output (直流輸出) (直流輸出規格) (规格)		+5V	+3.3V	+12V	-12V	+5Vsb					
Output Current (额定輸出電流) (额定輸出電流)		22A	22A	62.5A	0.3A	3A					
Output Wattage (輸出功率) (輸出功率)		120W		750W	3.6W	15W					
Total Continuous Power (總連續輸出功率) (總連續輸出功率)						750W					
WARNING! HAZARDOUS AREA SAFETY INSTRUCTIONS DO NOT REMOVE THE COVER. NO SERVICEABLE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. 請勿開啓外蓋，避免觸電。 WARNUNG! GEFAHRENZONE SICHERHEITSHINWEISE VOR DEM OFFNEN DES GERÄTES NETZSTECKER ZIEHEN KEINE SERVICEFÄHIGEN BAUTEILE ENTHALTEN. SERVICEARBEITEN SOLLTEN NUR VON AUTORIZIERTEM FACHPERSONAL DURCHFÜHRT WERDEN. CAN ICES-003(B)/NMB-003(B) Fusion Power Supply / 威剛科技股份有限公司 / 電源供應器 製造商 威剛科技股份有限公司 Made in China / 中國製造 / 中國製造 警告標誌 切勿隨意拆卸 CE UK CB FC ENEC NOM NYCE </											

Power specifications label

All data and graphs included in this test report can be used by any individual on the following conditions:

- › It should be mentioned that the test results are provided by Cybenetics
- › The link to the original test results document should be provided in any case

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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