



Seasonic Focus GX-750 (ATX v3.0)

Serial Number

Lab ID SS75002333

Certification ID 252333

Test Result Report ID: 24PS2333A

Certificate Issue Date: Jan 23, 2024

115V

230V

Scheme: ETA-EMI PSU

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	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	Seasonic
Model	Focus GX-750 (ATX v3.0)
OEM/ODM	Seasonic
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5

Rated Frequency (Hz)	50-60
Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybernetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12F-Z)
Semi-Passive Operation	✓ (selectable)
Cybernetics Testing Information	
Lab ID	SS75002333
Date of receipt	Jan 2, 2024
Testing Date	Jan 20, 2024
Report Issued Date	Jan 23, 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 (610mm)	1	1	16-18AWG	No
4+4 pin EPS12V (700mm)	2	2	16AWG	No
6+2 pin PCIe (750mm)	2	2	16-18AWG	No
12+4 pin PCIe (750mm) (600W)	1	1	16-28AWG	No
SATA (510mm+155mm+155mm+155mm)	2	8	18AWG	No
SATA 3.3 (410mm+160mm)	1	2	18AWG	No
4-pin Molex (450mm+125mm+125mm)	1	3	18AWG	No

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	62	3	0.3
	Watts	100		744	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)	88.829%
Average Noise Output (>1450 Load Combinations)	28.34dBA
Average PF (>1450 Load Combinations)	0.982
Efficiency With 10W (≤500W) or 2% (>500W) Load	65.836%
Standby Power Consumption	0.0727W
Non-Accredited	
12V Ripple (Full Load)	17.87mV
5V Ripple (Full Load)	23.84mV
3.3V Ripple (Full Load)	17.09mV
5VSB Ripple (Full Load)	15.58mV
12V Load Regulation	0.27%

5V Load Regulation	0.52%
3.3V Load Regulation	0.88%
5VSB Load Regulation	2.48%
Inrush Current	36.100A

230V

Accredited		
Average Efficiency (>1450 load combinations)	90.862%	
Average Noise Output (>1450 Load Combinations)	28.43dBA	
Average PF (>1450 Load Combinations)	0.944	
Efficiency With 10W (≤500W) or 2% (>500W) Load	64.413%	
Standby Power Consumption	0.1660W	
Non-Accredited		
12V Ripple (Full Load)	19.26mV	
5V Ripple (Full Load)	23.03mV	
3.3V Ripple (Full Load)	16.78mV	
5VSB Ripple (Full Load)	14.21mV	
12V Load Regulation	0.91%	
5V Load Regulation	0.56%	
3.3V Load Regulation	0.88%	
5VSB Load Regulation	2.44%	
Inrush Current	66.750A	
12V Transient Response (200%)	11.58V	
5V Transient Response (200%)	4.952V	
3.3V Transient Response (200%)	3.246V	
5VSB Transient Response (200%)	4.988V	
Hold-Up Time & PWR_OK Signal	22.50ms	
AC Loss to PWR_OK Hold Up Time	18.20ms	
PWR_OK Inactive to DC Loss Delay	4.30ms	
PSU Timings: T1 (20% / 100%)	89.0ms	89.0ms
PSU Timings: T3 (20% / 100%)	127.0ms	130.0ms
OPP (26.40°C / 42.51°C)	139.32%	141.77%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	22.5
AC Loss to PWR_OK Hold Up Time (ms)	18.2
PWR_OK Inactive to DC Loss Delay (ms)	4.3

Vampire Power

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.18 V	115.16 V	113.85 V	115.19 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	60.00 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:	0.073 W	0.066 W	N/A	0.079 W	N/A	N/A
Apparent Power:	9.959 W	9.955 W	N/A	9.962 W	N/A	N/A
Power Factor:	0.007	N/A	N/A	N/A	N/A	N/A

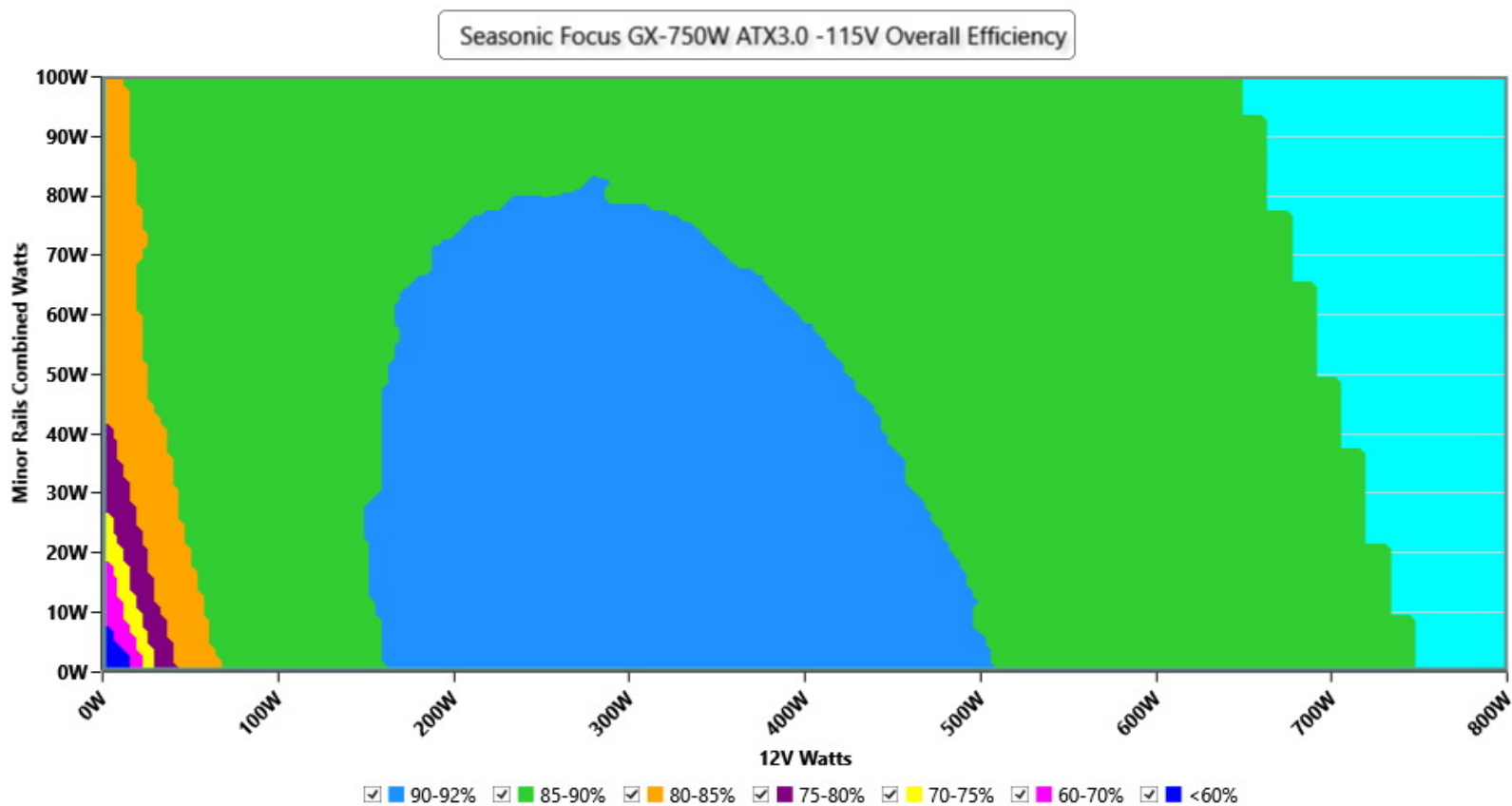
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.40 V	230.40 V	227.70 V	230.43 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	0.146 W	N/A	0.194 W	N/A	N/A
Apparent Power:	33.325 W	33.312 W	N/A	33.335 W	N/A	N/A

Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A
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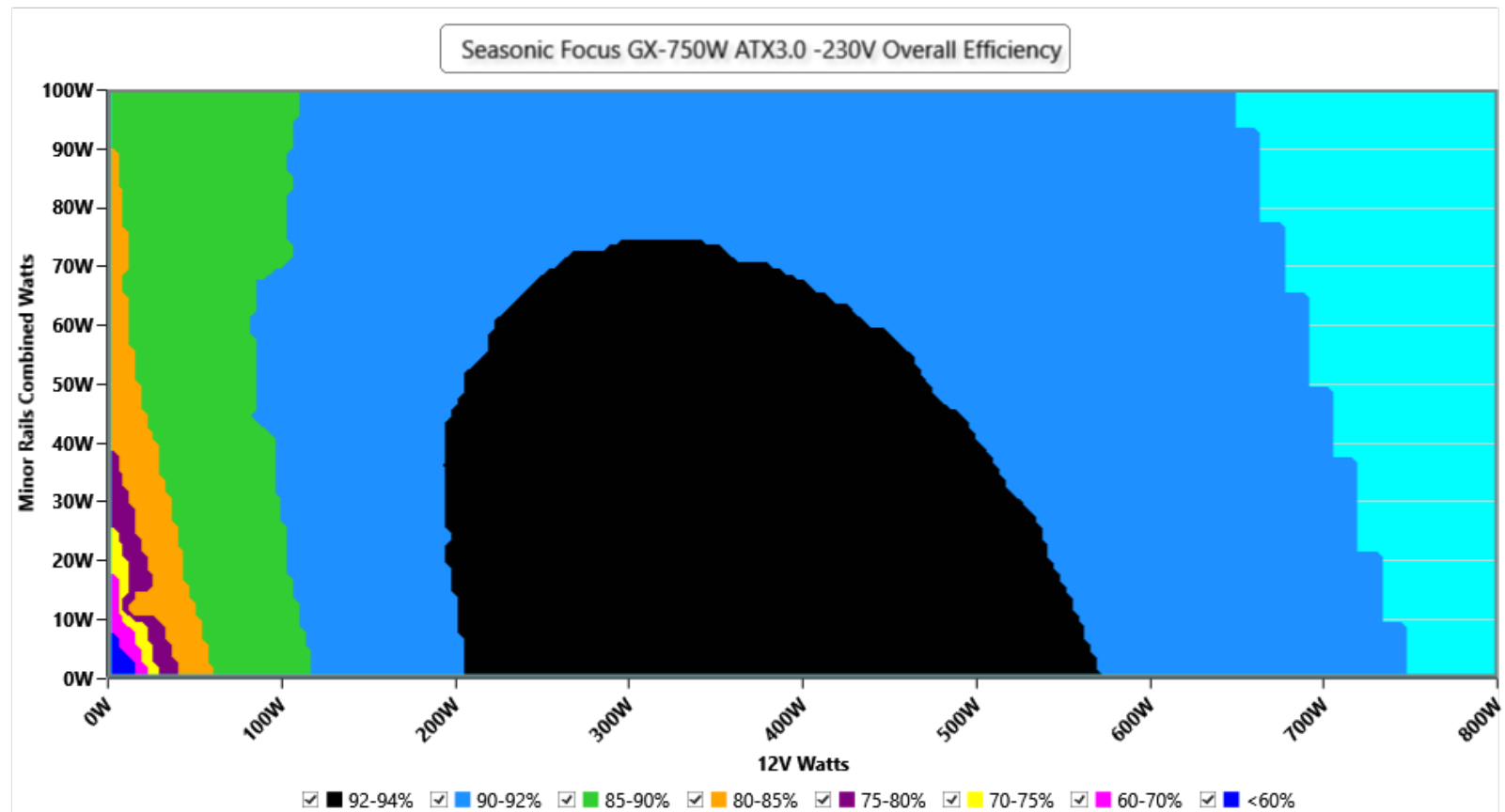
Efficiency Graph

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

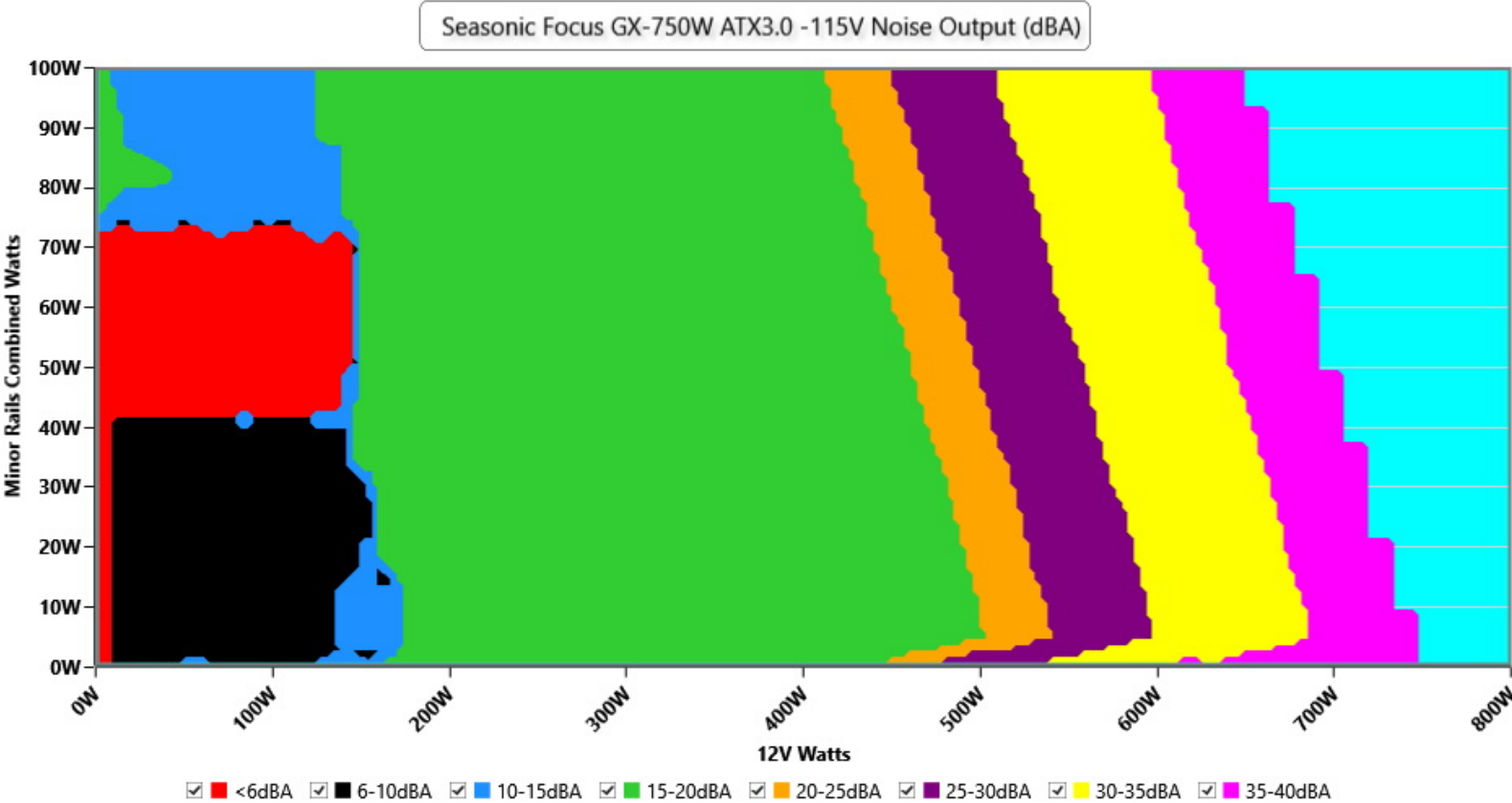


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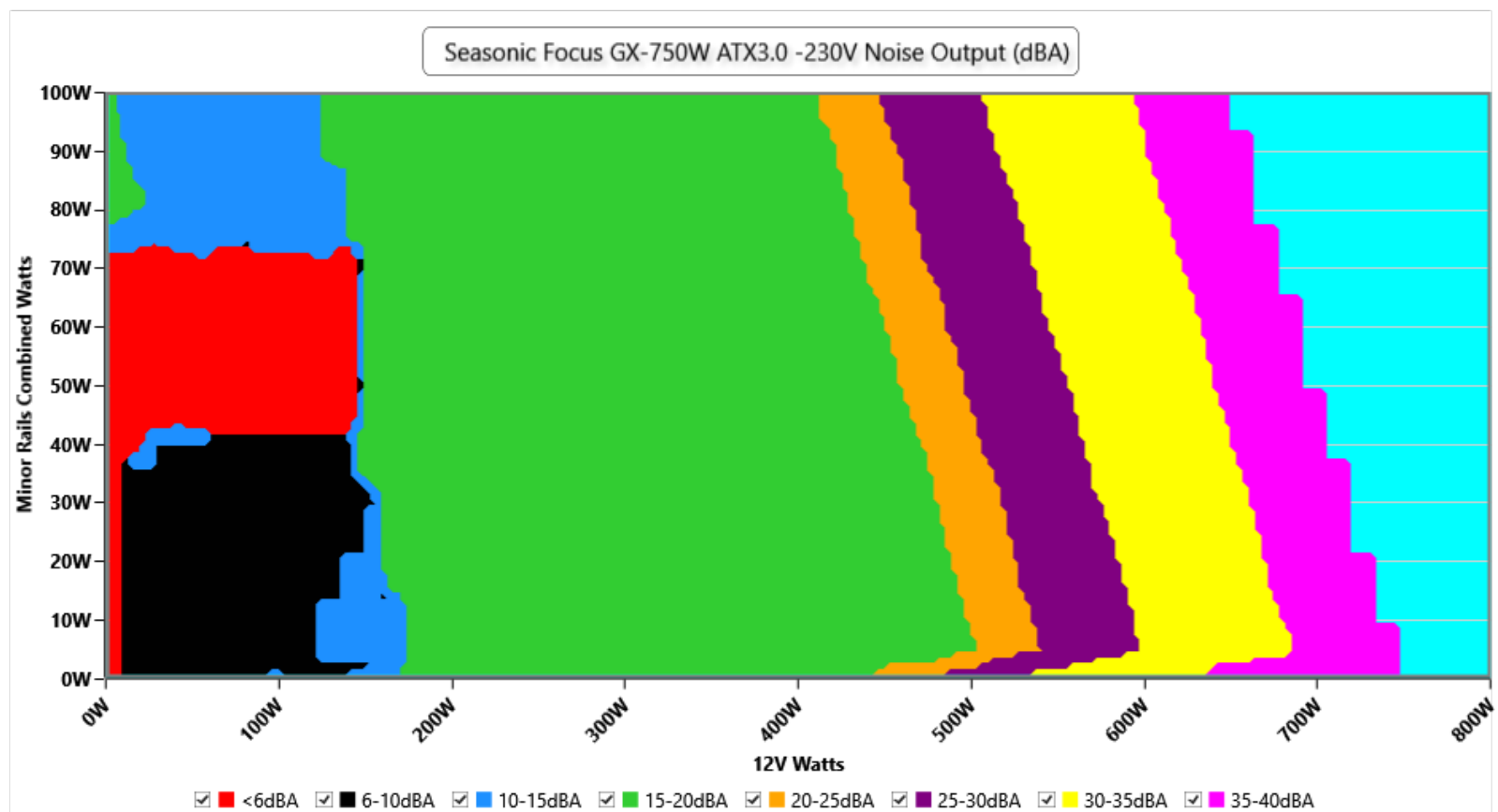
Noise Graph

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

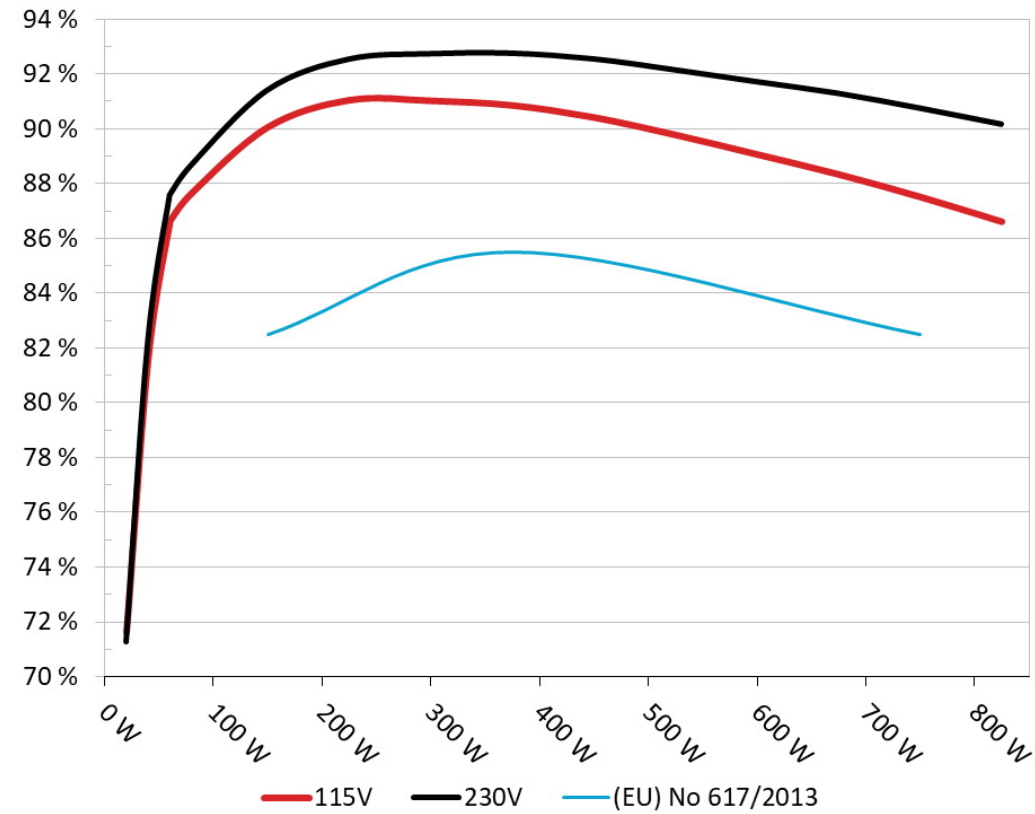
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Seasonic Focus GX-750 ATX3.0

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



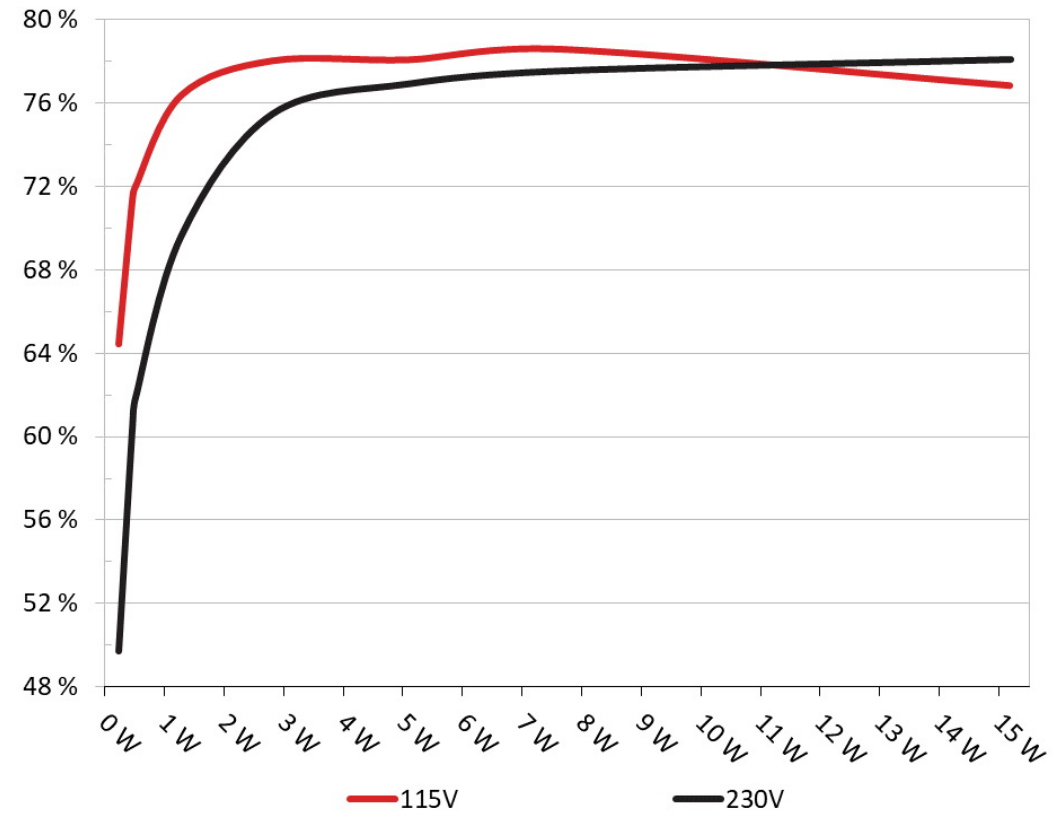
INFO

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: Seasonic Focus GX-750 ATX3.0

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	0.234W	64.451%	0.036
	5.132V	0.362W		115.17V
2	0.09A	0.464W	71.407%	0.064
	5.131V	0.65W		115.17V
3	0.55A	2.818W	78.021%	0.274
	5.121V	3.611W		115.17V
4	1A	5.113W	78.069%	0.373
	5.111V	6.549W		115.17V
5	1.5A	7.652W	78.573%	0.421
	5.1V	9.739W		115.17V
6	3.001A	15.183W	76.831%	0.486
	5.06V	19.76W		115.16V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	49.745%	0.014
	5.132V	0.465W		230.41V
2	0.09A	0.462W	60.575%	0.023
	5.131V	0.764W		230.4V
3	0.55A	2.817W	75.501%	0.107
	5.12V	3.732W		230.41V
4	1A	5.112W	76.935%	0.175
	5.11V	6.644W		230.4V
5	1.5A	7.65W	77.544%	0.235
	5.098V	9.864W		230.4V
6	3.001A	15.194W	78.095%	0.337
	5.064V	19.455W		230.4V

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%	4.419A	1.99A	1.987A	0.98A	75.003	86.126%	0	<6.0	44.68°C	0.963
	12.085V	5.025V	3.321V	5.105V	87.085				40.42°C	115.15V
20%	9.854A	2.987A	2.984A	1.178A	149.962	89.546%	0	<6.0	45.24°C	0.977
	12.082V	5.022V	3.318V	5.094V	167.469				40.57°C	115.12V
30%	15.639A	3.487A	3.484A	1.377A	224.969	90.533%	0	<6.0	46.28°C	0.983
	12.079V	5.02V	3.315V	5.084V	248.493				41.14°C	115.1V
40%	21.430A	3.986A	3.985A	1.577A	300.054	90.508%	668	16.1	41.84°C	0.984
	12.079V	5.019V	3.313V	5.073V	331.52				47.35°C	115.08V
50%	26.834A	4.984A	4.985A	1.778A	374.635	90.342%	666	16.0	42.2°C	0.986
	12.079V	5.017V	3.31V	5.063V	414.688				48.25°C	115.06V
60%	32.271A	5.985A	5.988A	1.98A	449.587	89.904%	663	15.8	42.59°C	0.987
	12.078V	5.014V	3.307V	5.053V	500.08				49.21°C	115.03V
70%	37.704A	6.987A	6.992A	2.183A	524.497	89.269%	760	20.3	43.01°C	0.988
	12.078V	5.011V	3.304V	5.04V	587.55				50.06°C	115V
80%	43.210A	7.988A	7.996A	2.286A	599.716	88.556%	953	27.3	43.87°C	0.989
	12.076V	5.008V	3.301V	5.032V	677.207				51.94°C	114.97V
90%	49.049A	8.492A	8.487A	2.389A	674.76	87.827%	1195	34.5	44.58°C	0.99
	12.075V	5.005V	3.299V	5.023V	768.282				53.63°C	114.96V
100%	54.687A	8.995A	9.01A	2.999A	749.987	87.003%	1398	38.9	45.44°C	0.991
	12.074V	5.003V	3.296V	5.003V	862.028				55.45°C	114.93V
110%	60.193A	10A	10.111A	3.003A	825.014	86.099%	1567	42.6	46.68°C	0.992
	12.073V	5V	3.293V	4.996V	958.219				57.61°C	114.9V
CL1	0.116A	12.02A	11.99A	0A	101.305	84.793%	582	11.1	40.03°C	0.97
	12.082V	5.008V	3.311V	5.117V	119.474				45.49°C	115.14V

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	19.984A	0A	0A	101.399	83.473%	748	19.8	40.73°C	0.971
	12.082V	5.004V	3.321V	5.122V	121.477				47.79°C	115.14V
CL3	0.116A	0A	19.959A	0A	67.394	78.483%	769	20.7	40.26°C	0.962
	12.078V	5.022V	3.306V	5.118V	85.871				49.38°C	115.16V
CL4	62.132A	0A	0A	0A	749.776	87.913%	1397	38.8	45.57°C	0.99
	12.067V	5.017V	3.306V	5.08V	852.872				56.49°C	114.93V

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%	4.418A	1.99A	1.987A	0.98A	74.997	87.095%	0	<6.0	44.67°C	0.823
	12.085V	5.026V	3.321V	5.105V	86.11				40.46°C	230.34V
20%	9.852A	2.986A	2.983A	1.178A	149.929	90.93%	0	<6.0	45.21°C	0.91
	12.082V	5.023V	3.318V	5.095V	164.882				40.67°C	230.33V
30%	15.636A	3.485A	3.483A	1.377A	224.925	92.064%	0	<6.0	46.42°C	0.94
	12.079V	5.021V	3.316V	5.085V	244.314				41.38°C	230.32V
40%	21.428A	3.985A	3.983A	1.577A	300.01	92.259%	659	15.7	41.65°C	0.954
	12.078V	5.019V	3.313V	5.074V	325.186				47.22°C	230.31V
50%	26.826A	4.983A	4.984A	1.778A	374.511	92.278%	657	15.6	42.34°C	0.962
	12.078V	5.017V	3.311V	5.064V	405.857				48.36°C	230.31V
60%	32.261A	5.983A	5.986A	1.979A	449.438	92.071%	654	15.5	42.91°C	0.968
	12.077V	5.015V	3.308V	5.053V	488.141				49.49°C	230.3V
70%	37.697A	6.986A	6.99A	2.182A	524.368	91.671%	752	20.0	43.11°C	0.972
	12.077V	5.011V	3.305V	5.041V	572.015				50.12°C	230.29V
80%	43.203A	7.987A	7.995A	2.285A	599.591	91.239%	960	27.7	43.71°C	0.975
	12.076V	5.008V	3.302V	5.033V	657.16				51.72°C	230.28V
90%	49.040A	8.49A	8.486A	2.388A	674.633	90.811%	1184	34.2	44.05°C	0.977
	12.075V	5.006V	3.299V	5.025V	742.896				53.14°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%	54.678A	8.993A	9.008A	2.997A	749.862	90.27%	1398	38.9	45.01°C	0.979
	12.074V	5.004V	3.296V	5.005V	830.692				55.11°C	230.27V
110%	60.182A	9.997A	10.11A	3.001A	824.891	89.685%	1556	42.3	46.86°C	0.981
	12.073V	5.001V	3.293V	4.999V	919.77				57.78°C	230.26V
CL1	0.116A	12.017A	11.989A	0A	101.294	85.93%	583	11.1	40°C	0.87
	12.082V	5.009V	3.311V	5.117V	117.882				45.45°C	230.35V
CL2	0.116A	19.977A	0A	0A	101.39	84.617%	744	19.6	40.01°C	0.872
	12.083V	5.005V	3.321V	5.122V	119.823				47.06°C	230.36V
CL3	0.115A	0A	19.956A	0A	67.387	79.363%	763	20.4	39.99°C	0.821
	12.079V	5.022V	3.307V	5.118V	84.911				49.03°C	230.36V
CL4	62.119A	0A	0A	0A	749.654	91.066%	1380	38.5	45.59°C	0.978
	12.068V	5.018V	3.306V	5.082V	823.196				56.56°C	230.27V

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	1.228A	0.497A	0.496A	0.195A	20.006	71.127%	0	<6.0	39.85°C	0.871
	12.106V	5.029V	3.325V	5.127V	28.128				36.79°C	115.16V
40W	2.704A	0.696A	0.695A	0.293A	40.002	81.154%	0	<6.0	40.47°C	0.932
	12.089V	5.028V	3.324V	5.124V	49.294				37.14°C	115.15V
60W	4.181A	0.895A	0.894A	0.391A	60	85.046%	0	<6.0	42.59°C	0.953
	12.086V	5.027V	3.322V	5.12V	70.549				38.82°C	115.15V
80W	5.654A	1.094A	1.093A	0.489A	79.96	87.139%	0	<6.0	43.19°C	0.965
	12.085V	5.026V	3.322V	5.116V	91.759				39.22°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	1.240A	0.497A	0.496A	0.195A	19.996	70.771%	0	<6.0	39.86°C	0.517
	11.980V	5.032V	3.325V	5.127V	28.255				36.78°C	230.34V
40W	2.704A	0.696A	0.695A	0.293A	39.996	81.772%	0	<6.0	40.34°C	0.687
	12.089V	5.03V	3.324V	5.124V	48.912				37.14°C	230.35V
60W	4.180A	0.895A	0.894A	0.391A	59.995	85.985%	0	<6.0	41.89°C	0.776
	12.087V	5.028V	3.323V	5.12V	69.776				38.3°C	230.34V
80W	5.652A	1.094A	1.092A	0.489A	79.943	88.196%	0	<6.0	42.98°C	0.832
	12.085V	5.027V	3.322V	5.116V	90.643				39.11°C	230.34V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.14mV	6.78mV	4.43mV	5.30mV	Pass
20% Load	9.79mV	7.65mV	4.93mV	6.16mV	Pass
30% Load	8.91mV	9.18mV	6.36mV	6.67mV	Pass
40% Load	9.16mV	8.62mV	6.51mV	8.20mV	Pass
50% Load	10.23mV	9.69mV	6.51mV	8.20mV	Pass
60% Load	10.53mV	9.49mV	6.97mV	8.97mV	Pass
70% Load	11.29mV	12.24mV	8.29mV	9.22mV	Pass
80% Load	11.40mV	17.60mV	13.79mV	11.26mV	Pass
90% Load	12.27mV	18.92mV	14.70mV	12.74mV	Pass
100% Load	17.87mV	23.84mV	17.09mV	15.58mV	Pass
110% Load	18.53mV	21.20mV	17.14mV	15.67mV	Pass
Crossload1	15.31mV	9.20mV	10.07mV	6.68mV	Pass
Crossload2	10.65mV	7.65mV	4.12mV	5.50mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	12.81mV	8.62mV	11.50mV	5.66mV	Pass
Crossload4	17.30mV	21.15mV	13.94mV	11.52mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.96mV	6.84mV	4.43mV	5.50mV	Pass
20% Load	11.21mV	8.16mV	4.88mV	6.16mV	Pass
30% Load	9.35mV	8.62mV	6.56mV	7.08mV	Pass
40% Load	9.36mV	8.82mV	5.90mV	7.75mV	Pass
50% Load	9.72mV	9.28mV	6.41mV	8.05mV	Pass
60% Load	10.99mV	10.82mV	7.43mV	9.37mV	Pass
70% Load	11.45mV	12.55mV	8.60mV	9.07mV	Pass
80% Load	11.45mV	17.50mV	13.48mV	10.34mV	Pass
90% Load	12.52mV	19.18mV	14.29mV	12.13mV	Pass
100% Load	19.26mV	23.03mV	16.78mV	14.21mV	Pass
110% Load	20.50mV	23.74mV	17.50mV	15.00mV	Pass
Crossload1	16.66mV	9.30mV	9.91mV	6.34mV	Pass
Crossload2	12.08mV	8.01mV	4.17mV	5.45mV	Pass
Crossload3	13.91mV	9.44mV	11.80mV	5.76mV	Pass
Crossload4	12.16mV	19.84mV	12.97mV	9.83mV	Pass

The results above are not used in the certification process

Seasonic Focus GX-750 (ATX v3.0)



Top side

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

Model / 型號 / 型号: SSR-750FX ³ (FOCUS GX-750 ATX 3.0)					
AC INPUT 交流輸入/交流輸入		100-240 Vac 10-5 A 50-60 Hz 仅200-240Vac 5A 50-60Hz 适用于中国及韩国地区			
DC OUTPUT 直流輸出/直流輸出	+3.3 V	+5 V	+12 V	-12 V	+5 V _{SB}
	20 A	20 A	62 A	0.3 A	3 A
	100 W		744 W	3.6 W	15 W
750 W					
 CB      CAN ICES-003(B)/NMB-003(B)  Tested To Comply With FCC Standards FOR HOME OR OFFICE USE  R33080 RoHS  R-R-AX-SSR1000FX3 ZU10176-22001 수 입 자: (주)맥스엘리트 고객지원: 1833-8287 제조년월: 별도표기					

Power specifications label

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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