

Anex

Seasonic Focus GX-750 ATX3.0

Lab ID#: SS75002333
 Receipt Date: Jan 2, 2024
 Test Date: Jan 20, 2024

Report: 24PS2333A
 Report Date: Jan 23, 2024

DUT INFORMATION	
Brand	Seasonic
Manufacturer (OEM)	Seasonic
Series	Focus GX
Model Number	SSR-750FX3
Serial Number	
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	50-60
Rated Power (W)	750
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12F-Z)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P
Power Analyzers	RS HMC8015, N4L PPA1530, N4L PPA5530
Oscilloscopes	Picoscope 4444, Rigol DS7014, 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, Keithley 2015 - THD
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Isolation Transformer	4kVA

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.0 PSU Power Excursion	✓

115V

Average Efficiency	88.829%
Efficiency With 10W (≤500W) or 2% (>500W)	65.836
Average Efficiency 5VSB	77.836%
Standby Power Consumption (W)	0.0727000
Average PF	0.982
Avg Noise Output	28.34 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

230V

Average Efficiency	90.862%
Average Efficiency 5VSB	76.226%
Standby Power Consumption (W)	0.1660000
Average PF	0.944
Avg Noise Output	28.43 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

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				

HOLD-UP TIME & POWER OK SIGNAL (230V)

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

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CABLES AND CONNECTORS

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

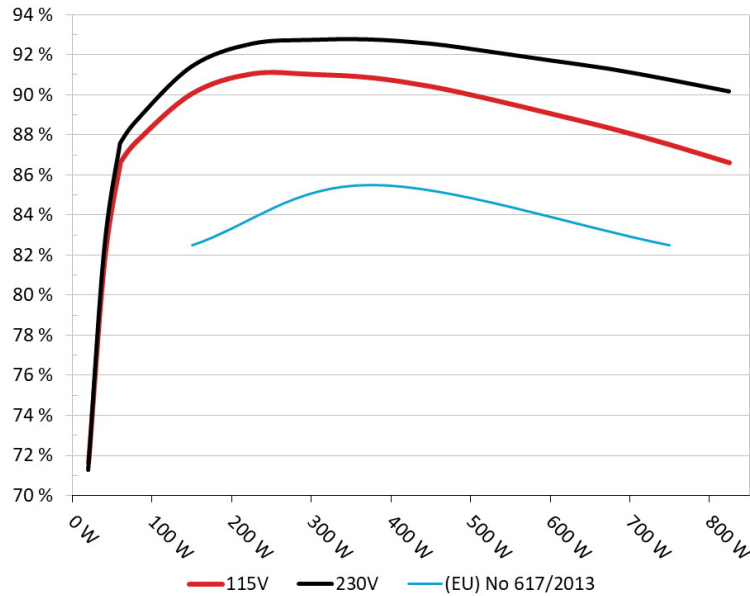
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Seasonic Focus GX-750 ATX3.0

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



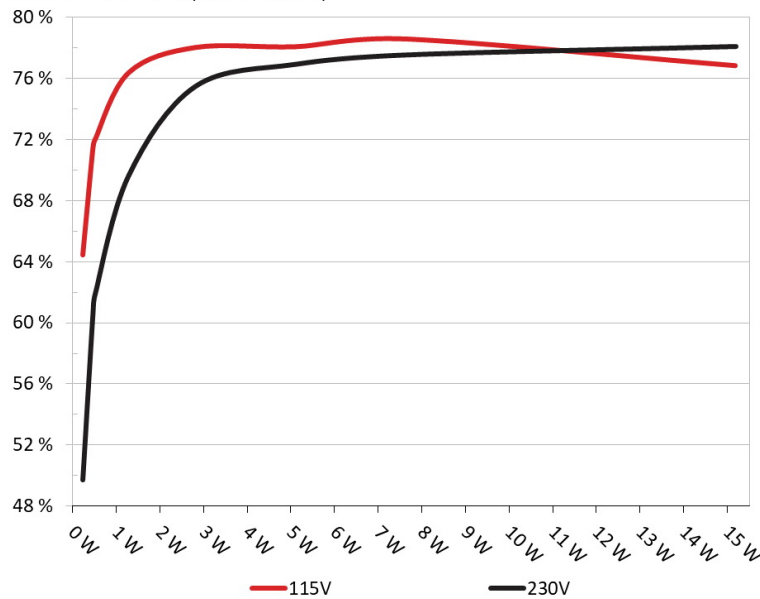
INFO

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

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

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

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

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

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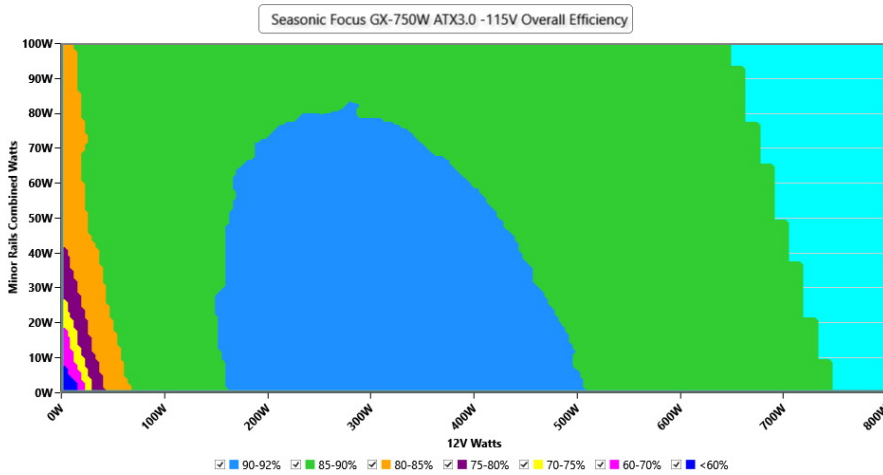
115V

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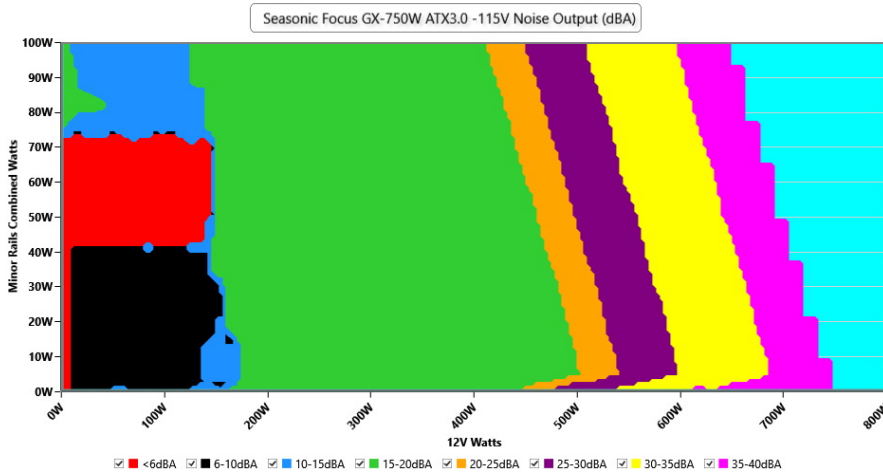
EFFICIENCY GRAPH 115V



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

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

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VAMPIRE POWER -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

INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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10-110% 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
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

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20-80W 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

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
Crossload3	12.81mV	8.62mV	11.50mV	5.66mV	Pass
Crossload4	17.30mV	21.15mV	13.94mV	11.52mV	Pass

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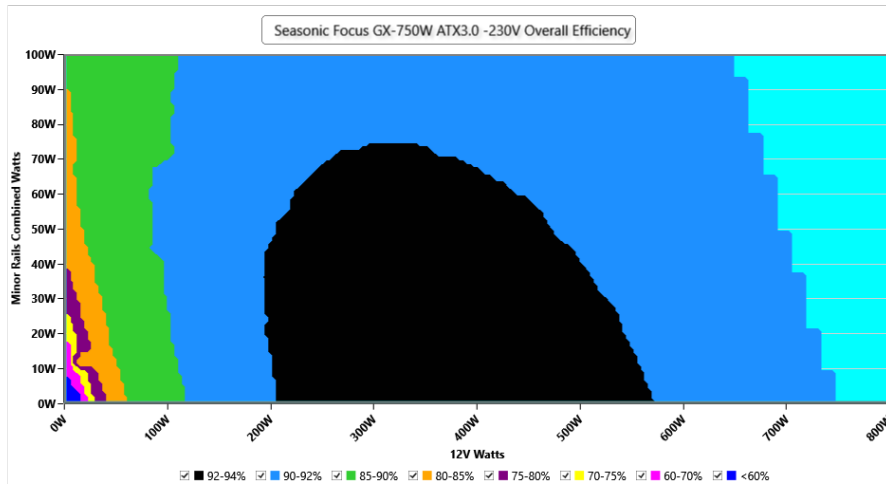
230V

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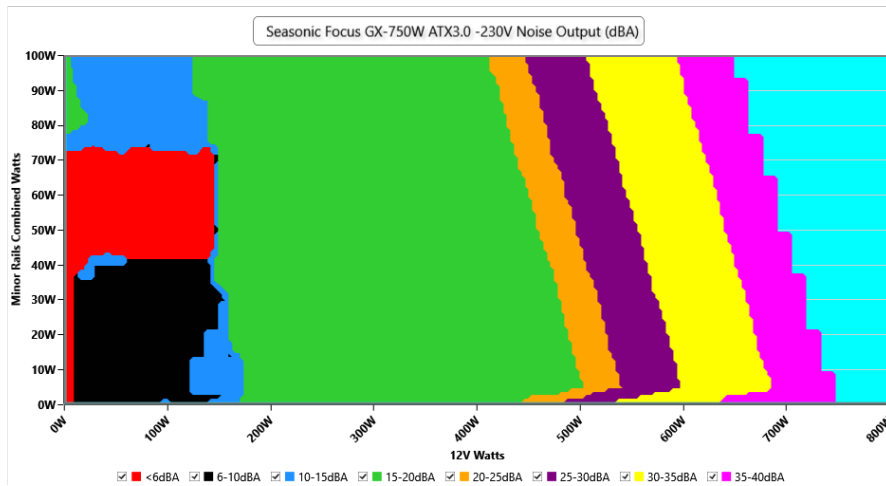
EFFICIENCY GRAPH 230V



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

NOISE GRAPH 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

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VAMPIRE POWER -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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10-110% LOAD TESTS 230V

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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
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

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20-80W LOAD TESTS 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

RIPPLE MEASUREMENTS 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

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

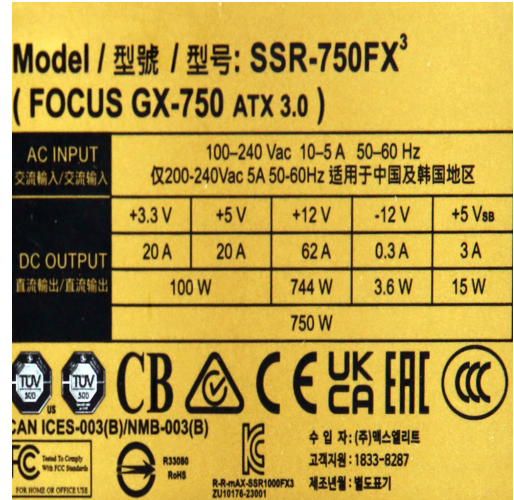
- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

Anex

Seasonic Focus GX-750 ATX3.0

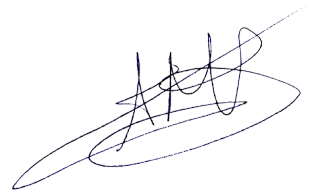


Top side



Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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