



ASUS ROG-LOKI-850P-SFX-L-GAMING

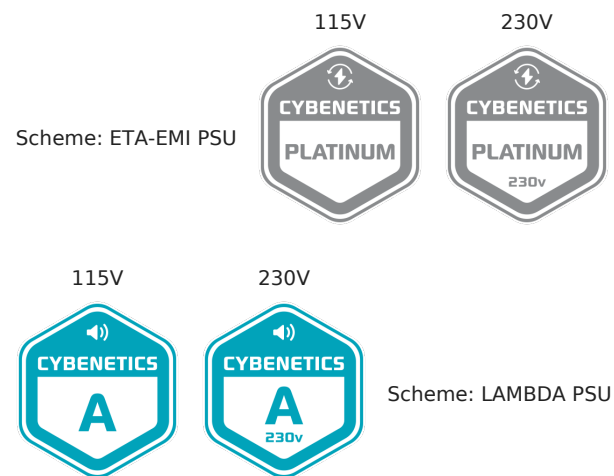
Serial Number 2M020065637

Lab ID AS85002045

Certification ID 252045

Test Result Report ID: 22PS2045A

Certificate Issue Date: Jul 22, 2022



Aristeidis Bitziopoulos, Certification Body General Manager

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	Cybernetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	ASUS
Model	ROG-LOKI-850P-SFX-L-GAMING
OEM/ODM	Great Wall
Serial Number	2M020065637
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	47-63
Rated Frequency (Hz)	10-5

Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	
Type	SFX-L
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Double Ball Bearing Fan (CF1225H12D)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	AS85002045
Date of receipt	Jul 2, 2022
Testing Date	Jul 22, 2022
Report Issued Date	Jul 22, 2022
DUT Notes	Applies to ROG-LOKI-850P-SFX-L-WHITE-GAMING also
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 (450mm)	1	1	18AWG	No
4+4 pin EPS12V (550mm)	2	2	16AWG	No
12+4 pin PCIe (460mm)	1	1	16-24AWG	No
2x 6+2 pin PCIe (450mm)	1	2	16AWG	No
6+2 pin PCIe (450mm)	1	1	16-18AWG	No
SATA (300mm+190mm+90mm)	2	6	18AWG	No
4 pin Molex (300mm+100mm+100mm+100mm)	1	4	18AWG	No

Addressable Aura RGB cable (80mm)	1	1	22AWG	No
RGB controller cable (80mm)	1	1	24AWG	No

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70.8	2.5	0.8
	Watts	110		850	12.5	9.6
Total Max. Power (W)		850				

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	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.306%
Average Noise Output (>1450 Load Combinations)	23.76dBA
Average PF (>1450 Load Combinations)	0.986
Efficiency With 10W (≤500W) or 2% (>500W) Load	72.591%
Standby Power Consumption	0.0504W
Non-Accredited	
12V Ripple (Full Load)	23.74mV
5V Ripple (Full Load)	13.30mV
3.3V Ripple (Full Load)	18.40mV

5VSB Ripple (Full Load)	8.24mV
12V Load Regulation	0.22%
5V Load Regulation	0.42%
3.3V Load Regulation	0.82%
5VSB Load Regulation	2.70%
Inrush Current	62.920A

230V

Accredited		
Average Efficiency (>1450 load combinations)	92.234%	
Average Noise Output (>1450 Load Combinations)	23.86dBA	
Average PF (>1450 Load Combinations)	0.947	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.0933W	
Non-Accredited		
12V Ripple (Full Load)	23.35mV	
5V Ripple (Full Load)	10.53mV	
3.3V Ripple (Full Load)	15.64mV	
5VSB Ripple (Full Load)	9.83mV	
12V Load Regulation	0.23%	
5V Load Regulation	0.40%	
3.3V Load Regulation	0.82%	
5VSB Load Regulation	3.01%	
Inrush Current	83.220A	
12V Transient Response (200%)	11.43V	
5V Transient Response (200%)	4.943V	
3.3V Transient Response (200%)	3.192V	
5VSB Transient Response (200%)	4.840V	
Hold-Up Time & PWR_OK Signal	20.80ms	
AC Loss to PWR_OK Hold Up Time	17.80ms	
PWR_OK Inactive to DC Loss Delay	3.00ms	
PSU Timings: T1 (20% / 100%)	36.0ms	36.0ms

PSU Timings: T3 (20% / 100%)	123.0ms	123.0ms
OPP (32.61°C / 40.63°C)	119.19%	117.42%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	20.8
AC Loss to PWR_OK Hold Up Time (ms)	17.8
PWR_OK Inactive to DC Loss Delay (ms)	3



Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.13 V	115.10 V	113.85 V	115.17 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.95 Hz	59.40 Hz	60.03 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.050 W	0.044 W	N/A	0.058 W	N/A	N/A
Apparent Power:	9.828 W	9.766 W	N/A	9.881 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

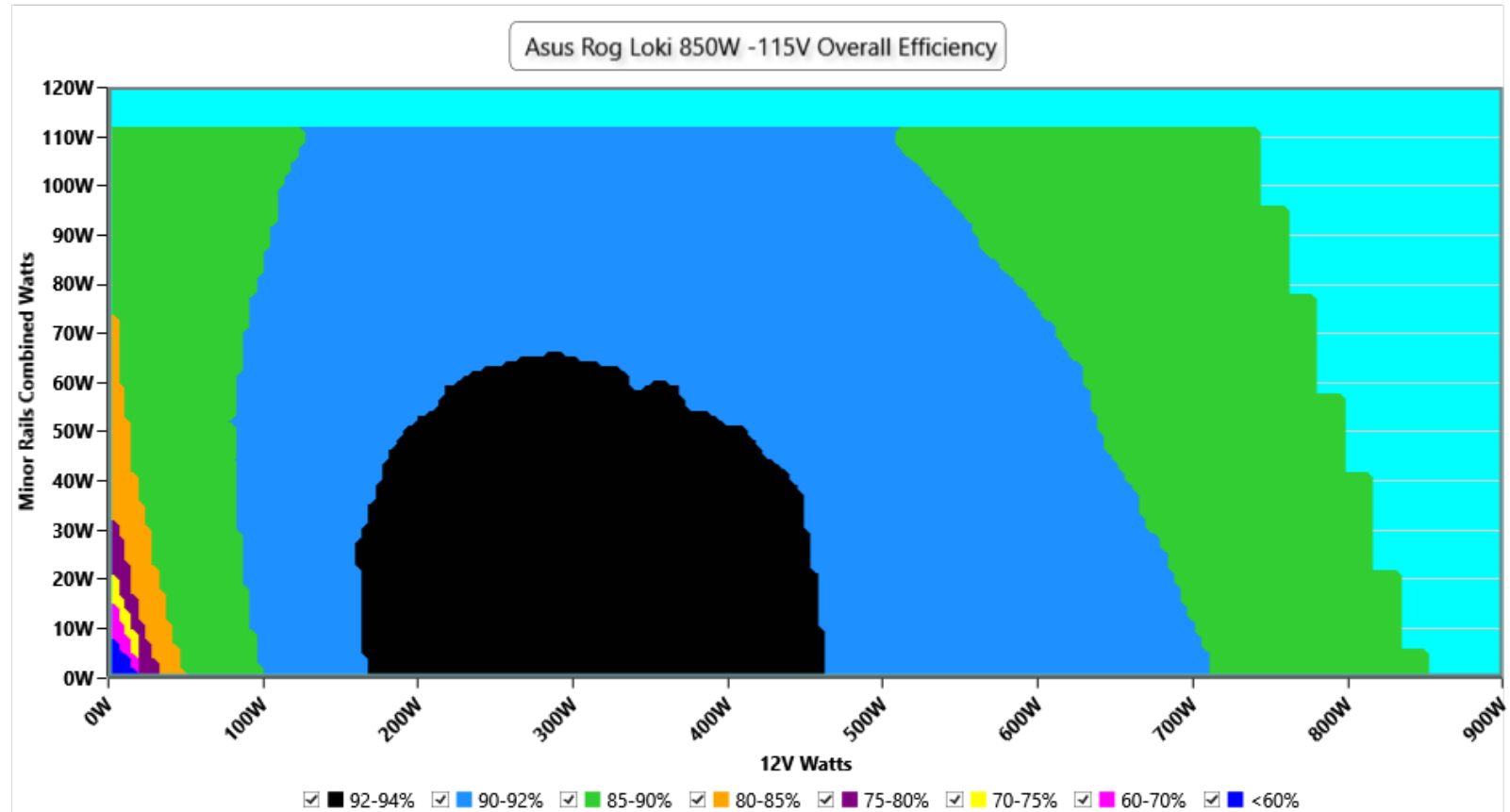
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.28 V	230.17 V	227.70 V	230.34 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:	1.416	1.415	1.340	1.417	1.490	PASS

Mains Voltage THD:	0.13 %	0.10 %	N/A	0.23 %	2.00 %	PASS
Real Power:	0.093 W	0.082 W	N/A	0.119 W	N/A	N/A
Apparent Power:	33.072 W	32.852 W	N/A	33.260 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

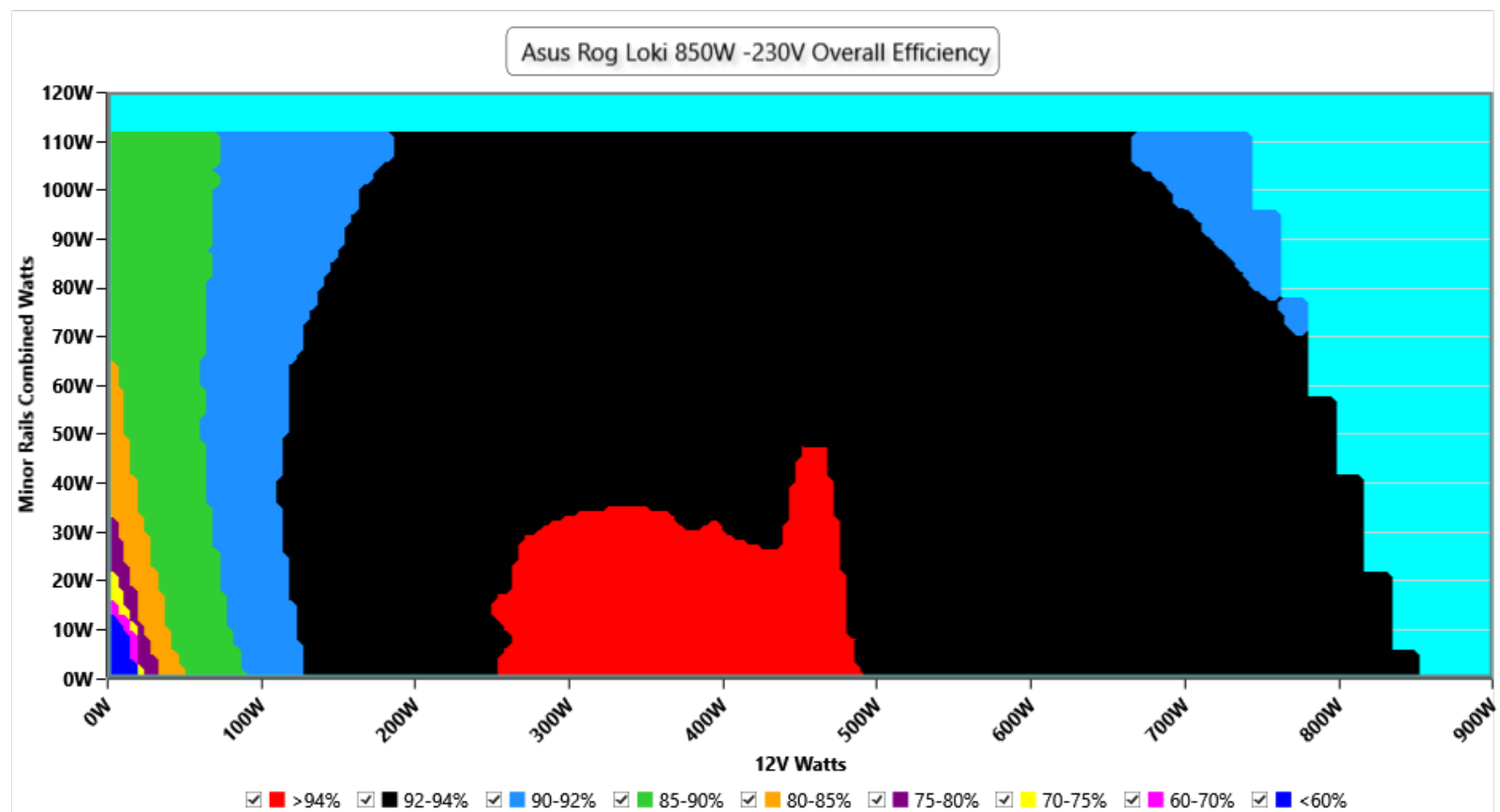
Efficiency Graph

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

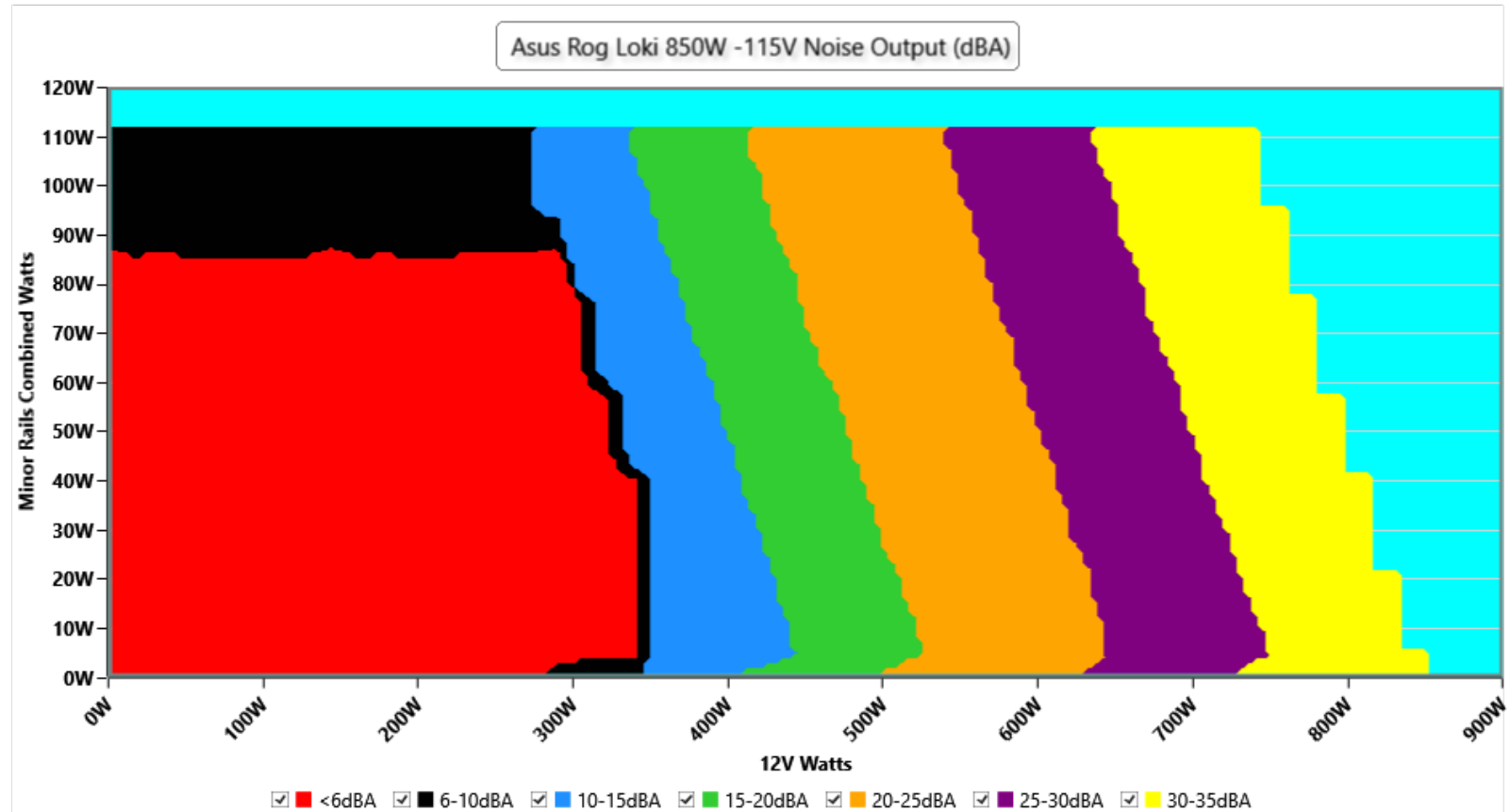


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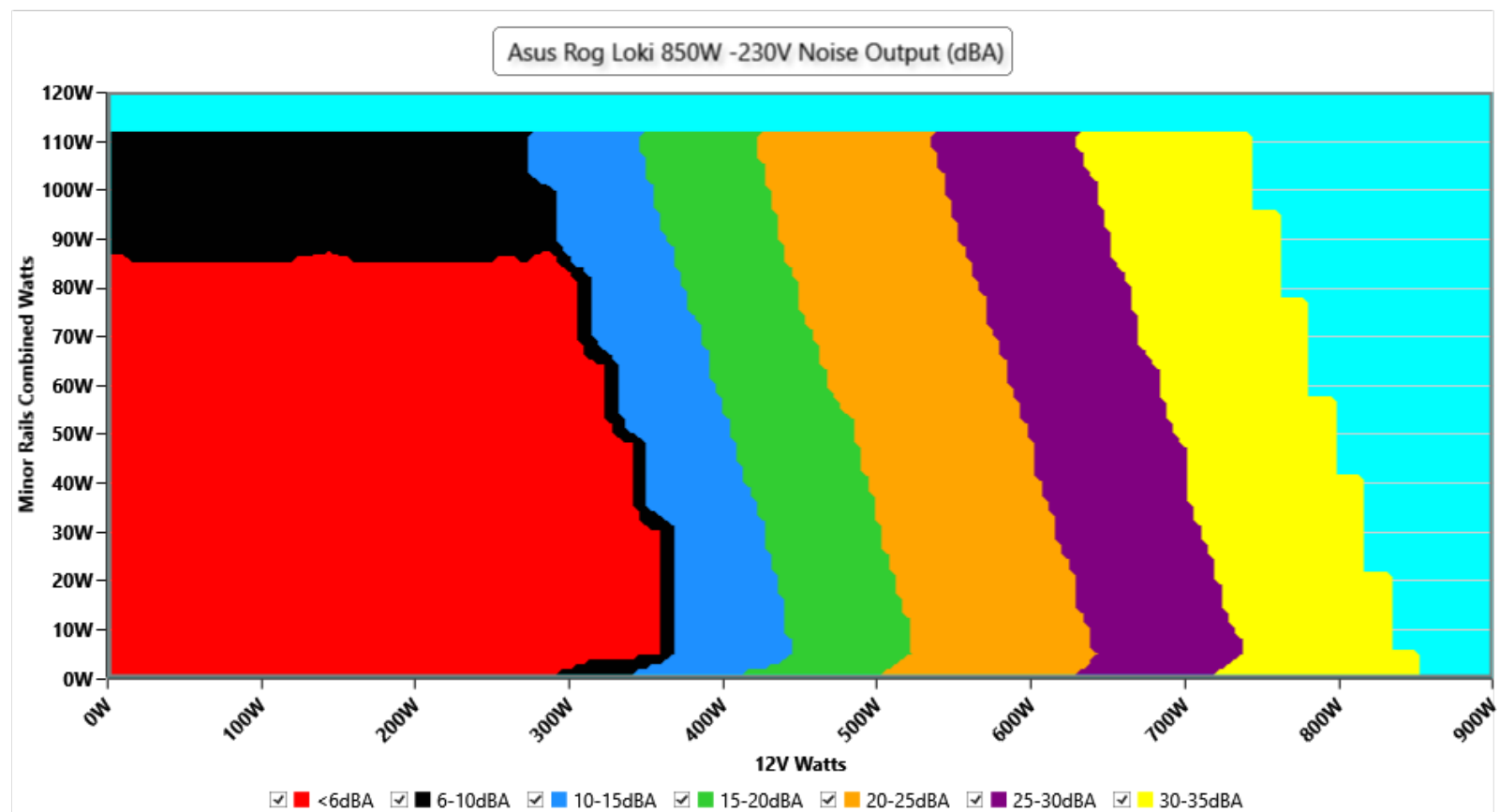
Noise Graph

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

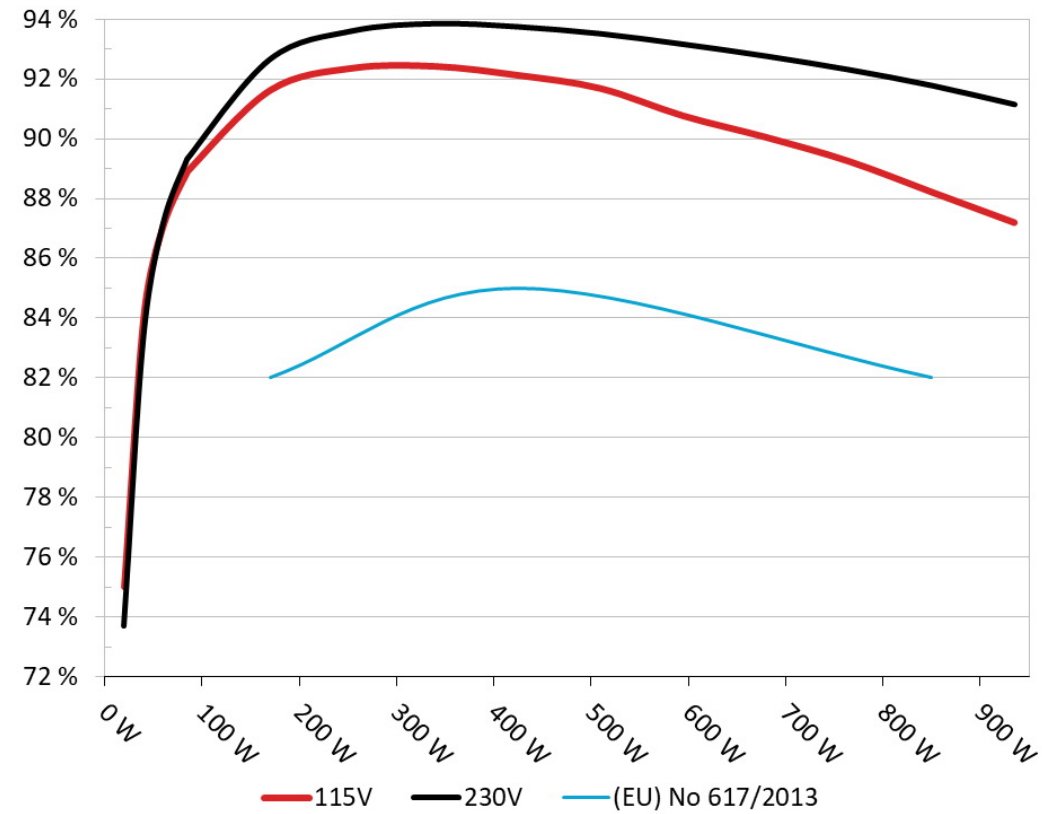
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Asus Rog Loki SFX-L 850W

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



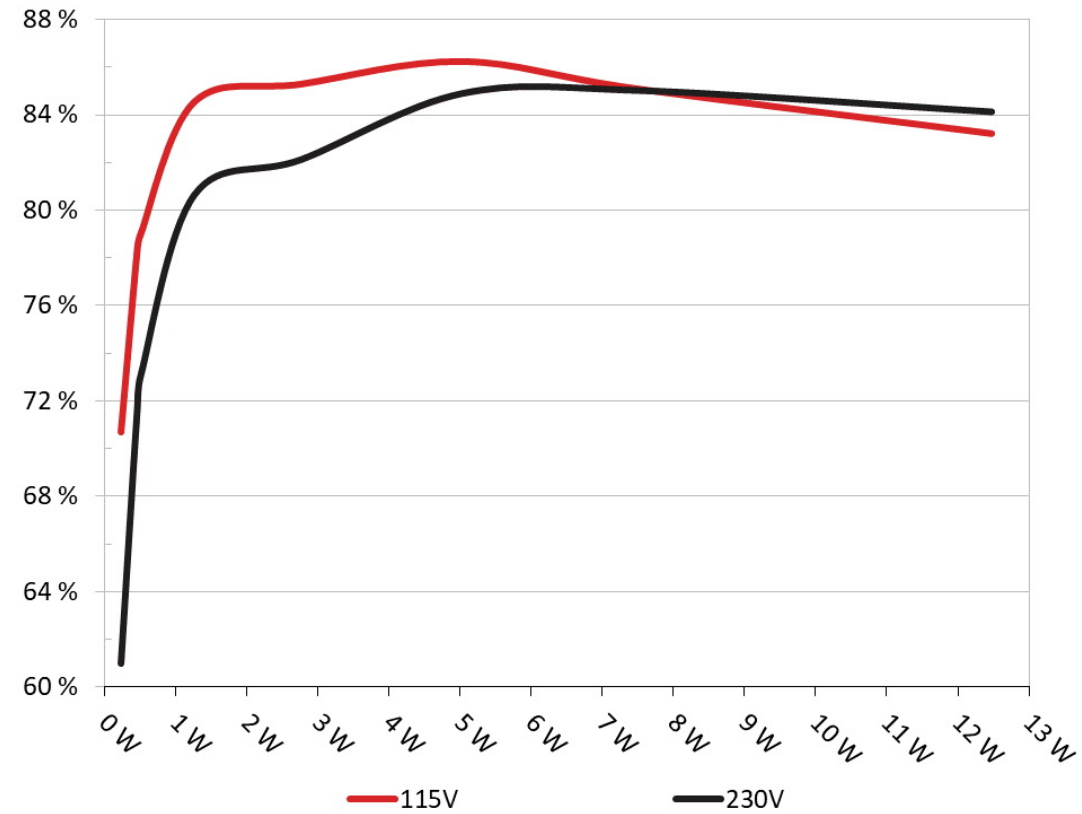
INFO

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: Asus Rog Loki SFX-L 850W

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	0.227W	70.687%	0.033
	5.044V	0.321W		114.93V
2	0.09A	0.454W	78.266%	0.058
	5.043V	0.58W		114.94V
3	0.55A	2.768W	85.281%	0.257
	5.031V	3.246W		114.93V
4	1A	5.023W	86.227%	0.343
	5.022V	5.826W		114.93V
5	1.5A	7.519W	85.068%	0.405
	5.012V	8.839W		114.92V
6	2.501A	12.478W	83.204%	0.463
	4.99V	14.997W		114.92V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227W	60.988%	0.011
	5.045V	0.372W		230.3V
2	0.09A	0.454W	71.596%	0.019
	5.044V	0.634W		230.29V
3	0.55A	2.766W	82.147%	0.097
	5.028V	3.367W		230.29V
4	1A	5.02W	84.913%	0.16
	5.02V	5.912W		230.29V
5	1.5A	7.515W	85.041%	0.219
	5.009V	8.837W		230.29V
6	2.501A	12.469W	84.148%	0.298
	4.986V	14.818W		230.29V

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%	5.291A	1.978A	1.994A	1.001A	85.021	88.881%	0	<6.0	44.39°C	0.972
	11.986V	5.058V	3.31V	4.998V	95.657				40.06°C	115.11V
20%	11.605A	2.968A	2.994A	1.203A	169.997	91.608%	0	<6.0	45.73°C	0.975
	11.985V	5.055V	3.307V	4.988V	185.569				40.92°C	115.09V
30%	18.271A	3.463A	3.496A	1.406A	255.016	92.348%	0	<6.0	46.48°C	0.98
	11.984V	5.054V	3.304V	4.98V	276.144				41.32°C	115.07V
40%	24.949A	3.96A	3.998A	1.61A	340.129	92.407%	0	<6.0	47.59°C	0.986
	11.981V	5.052V	3.302V	4.969V	368.078				42.02°C	115.05V
50%	31.272A	4.953A	5.002A	1.816A	425.205	92.107%	840	14.5	42.69°C	0.99
	11.982V	5.048V	3.299V	4.958V	461.642				48.85°C	115.02V
60%	37.555A	5.947A	6.008A	2A	509.61	91.671%	929	18.7	43.02°C	0.992
	11.980V	5.046V	3.296V	4.945V	555.915				49.69°C	114.99V
70%	43.921A	6.941A	7.015A	2.233A	595.043	90.752%	1026	22.8	43.13°C	0.993
	11.974V	5.044V	3.294V	4.927V	655.686				50.31°C	114.97V
80%	50.288A	7.937A	8.023A	2.339A	679.876	90.04%	1126	24.9	43.97°C	0.994
	11.970V	5.042V	3.291V	4.918V	755.086				52.12°C	114.94V
90%	57.063A	8.436A	8.515A	2.445A	765.3	89.236%	1210	28.0	44.2°C	0.995
	11.965V	5.041V	3.289V	4.909V	857.618				53.29°C	114.91V
100%	63.774A	8.934A	9.038A	2.554A	850.013	88.214%	1490	35.9	45.98°C	0.996
	11.960V	5.039V	3.286V	4.897V	963.581				56.02°C	114.88V
110%	70.206A	9.932A	10.142A	2.557A	935.399	87.191%	1953	43.4	46.66°C	0.996
	11.959V	5.037V	3.283V	4.889V	1072.815				57.59°C	114.86V
CL1	0.118A	13.129A	13.237A	0A	111.339	85.317%	571	<6.0	48.27°C	0.985
	11.964V	5.044V	3.301V	5.017V	130.5				42.09°C	115.1V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.117A	19.866A	0A	0A	101.444	83.619%	1040	23.0	43.81°C	0.986
	11.974V	5.036V	3.312V	5.025V	121.315				50.95°C	115.1V
CL3	0.117A	0A	20.021A	0A	67.398	79.617%	1261	30.6	44.19°C	0.971
	11.980V	5.061V	3.296V	5.023V	84.655				52.29°C	115.11V
CL4	70.996A	0A	0A	0A	849.873	88.92%	1434	32.9	45.21°C	0.995
	11.971V	5.051V	3.293V	4.977V	955.781				55.01°C	114.89V

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%	5.292A	1.979A	1.995A	1.002A	85.026	89.27%	0	<6.0	44.88°C	0.828
	11.987V	5.055V	3.308V	4.991V	95.244				40.45°C	230.32V
20%	11.599A	2.969A	2.995A	1.205A	170.013	92.656%	0	<6.0	45.83°C	0.92
	11.993V	5.054V	3.306V	4.983V	183.492				40.93°C	230.31V
30%	18.267A	3.465A	3.497A	1.408A	255.044	93.611%	0	<6.0	46.69°C	0.947
	11.988V	5.053V	3.303V	4.972V	272.452				41.38°C	230.3V
40%	24.944A	3.961A	4A	1.613A	340.159	93.855%	0	<6.0	47.51°C	0.958
	11.985V	5.051V	3.301V	4.96V	362.43				41.81°C	230.29V
50%	31.274A	4.955A	5.004A	1.82A	425.294	93.748%	840	14.5	42°C	0.965
	11.984V	5.047V	3.298V	4.947V	453.657				48.14°C	230.28V
60%	37.556A	5.949A	6.01A	2.001A	509.679	93.517%	912	17.9	42.21°C	0.97
	11.982V	5.045V	3.295V	4.933V	545.018				48.82°C	230.27V
70%	43.915A	6.943A	7.017A	2.239A	595.139	93.162%	1025	22.8	43.14°C	0.975
	11.978V	5.044V	3.293V	4.916V	638.823				50.15°C	230.26V
80%	50.278A	7.939A	8.026A	2.346A	679.978	92.765%	1124	24.8	43.74°C	0.977
	11.974V	5.041V	3.29V	4.904V	733.01				52.05°C	230.24V
90%	57.046A	8.439A	8.518A	2.453A	765.398	92.31%	1209	27.9	44.69°C	0.979
	11.970V	5.04V	3.288V	4.895V	829.149				54.01°C	230.23V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	63.754A	8.938A	9.042A	2.562A	850.113	91.783%	1431	32.8	45.25°C	0.981
	11.966V	5.038V	3.285V	4.882V	926.214				55.28°C	230.22V
110%	70.186A	9.936A	10.146A	2.566A	935.497	91.147%	1888	43.7	46.94°C	0.983
	11.964V	5.035V	3.282V	4.874V	1026.357				57.79°C	230.21V
CL1	0.118A	13.132A	13.24A	0A	111.352	85.999%	571	<6.0	42.16°C	0.884
	11.964V	5.044V	3.301V	5.017V	129.479				48.64°C	230.31V
CL2	0.117A	19.868A	0A	0A	101.452	84.215%	1039	23.0	43.77°C	0.872
	11.971V	5.036V	3.312V	5.024V	120.473				50.88°C	230.31V
CL3	0.117A	0A	20.025A	0A	67.405	79.724%	1253	30.8	44.29°C	0.808
	11.975V	5.061V	3.296V	5.021V	84.551				52.43°C	230.32V
CL4	70.942A	0A	0A	0A	849.867	92.616%	1326	30.5	45.05°C	0.98
	11.980V	5.05V	3.292V	4.977V	917.623				55.02°C	230.22V

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	1.240A	0.494A	0.498A	0.199A	20.019	75.021%	0	<6.0	40.15°C	0.842
	11.986V	5.06V	3.313V	5.029V	26.684				37.03°C	115.13V
40W	2.728A	0.692A	0.697A	0.299A	40.017	84.036%	0	<6.0	40.56°C	0.938
	11.987V	5.06V	3.312V	5.024V	47.619				37.2°C	115.12V
60W	4.216A	0.89A	0.897A	0.399A	60.018	87.078%	0	<6.0	41.99°C	0.962
	11.987V	5.06V	3.312V	5.019V	68.921				38.27°C	115.11V
80W	5.702A	1.087A	1.097A	0.499A	79.987	88.906%	0	<6.0	43.3°C	0.97
	11.987V	5.059V	3.311V	5.015V	89.965				39.33°C	115.11V

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	0.494A	0.498A	0.199A	20.019	73.686%	0	<6.0	40.44°C	0.49
	11.990V	5.058V	3.312V	5.029V	27.165				37.39°C	230.32V
40W	2.728A	0.692A	0.698A	0.299A	40.02	83.317%	0	<6.0	42.04°C	0.648
	11.988V	5.058V	3.311V	5.021V	48.032				38.78°C	230.32V
60W	4.218A	0.89A	0.897A	0.399A	60.023	87.124%	0	<6.0	42.41°C	0.751
	11.986V	5.058V	3.311V	5.016V	68.89				38.85°C	230.32V
80W	5.704A	1.088A	1.097A	0.499A	80.002	89.319%	0	<6.0	42.79°C	0.817
	11.985V	5.058V	3.31V	5.011V	89.569				39.01°C	230.32V

The results above are not used in the certification process

Ripple Measurements**115V**

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.52mV	10.68mV	14.83mV	5.88mV	Pass
20% Load	10.28mV	10.68mV	14.42mV	12.59mV	Pass
30% Load	10.64mV	10.68mV	14.58mV	6.04mV	Pass
40% Load	12.02mV	10.57mV	14.93mV	6.19mV	Pass
50% Load	13.56mV	11.29mV	14.93mV	6.96mV	Pass
60% Load	14.94mV	10.98mV	15.19mV	6.19mV	Pass
70% Load	14.38mV	11.39mV	15.49mV	6.50mV	Pass
80% Load	16.32mV	12.31mV	16.16mV	6.55mV	Pass
90% Load	16.58mV	12.00mV	16.82mV	6.50mV	Pass
100% Load	23.74mV	13.30mV	18.40mV	8.24mV	Pass
110% Load	26.70mV	14.14mV	19.30mV	8.93mV	Pass
Crossload1	16.62mV	12.79mV	17.67mV	5.92mV	Pass
Crossload2	15.45mV	13.64mV	14.01mV	12.85mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	17.71mV	11.80mV	17.54mV	12.44mV	Pass
Crossload4	22.48mV	11.82mV	17.59mV	13.25mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.98mV	7.92mV	12.78mV	6.50mV	Pass
20% Load	16.40mV	8.37mV	12.83mV	6.70mV	Pass
30% Load	11.67mV	8.73mV	12.94mV	6.81mV	Pass
40% Load	11.31mV	14.15mV	14.42mV	7.27mV	Pass
50% Load	12.28mV	8.89mV	13.65mV	7.17mV	Pass
60% Load	13.76mV	9.14mV	13.14mV	7.52mV	Pass
70% Load	14.84mV	9.96mV	13.45mV	7.83mV	Pass
80% Load	15.61mV	9.45mV	14.06mV	7.68mV	Pass
90% Load	16.32mV	9.50mV	14.88mV	7.32mV	Pass
100% Load	23.35mV	10.53mV	15.64mV	9.83mV	Pass
110% Load	26.36mV	11.11mV	15.95mV	10.07mV	Pass
Crossload1	21.33mV	10.95mV	15.70mV	6.98mV	Pass
Crossload2	18.32mV	12.26mV	12.32mV	11.72mV	Pass
Crossload3	15.15mV	8.37mV	15.60mV	11.87mV	Pass
Crossload4	20.79mV	8.98mV	15.59mV	13.95mV	Pass

The results above are not used in the certification process

ASUS ROG-LOKI-850P-SFX-L-GAMING



Top side



Power specifications label

Cybenetics [REDACTED] ETA [REDACTED] LAMBDA [REDACTED] SAFE [REDACTED] DELTA [REDACTED] PHI [REDACTED]

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