

Anex

Asus ROG-STRIX-850G-AURA-GAMING

Lab ID#: AS85002048
 Receipt Date: Jul 2, 2022
 Test Date: Jul 29, 2022

Report: 22PS2048A
 Report Date: Jul 29, 2022

DUT INFORMATION	
Brand	Asus
Manufacturer (OEM)	CWT
Series	Rog Strix
Model Number	ROG-STRIX-850G-AURA-GAMING
Serial Number	
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	50-60
Rated Power (W)	850
Type	ATX12V
Cooling	135mm Double Ball Bearing Fan (CF1325H12D)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

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Asus ROG-STRIX-850G-AURA-GAMING

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 3.0 Ready	✓

115V

Average Efficiency	88.842%
Efficiency With 10W (≤500W) or 2% (>500W)	75.079
Average Efficiency 5VSB	78.953%
Standby Power Consumption (W)	0.0102000
Average PF	0.992
Avg Noise Output	14.69 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A++

230V

Average Efficiency	90.921%
Average Efficiency 5VSB	77.971%
Standby Power Consumption (W)	0.0605000
Average PF	0.966
Avg Noise Output	14.50 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A++

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	70.8	3	0.3
	Watts	120		849.6	15	3.6
Total Max. Power (W)		850				

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

Hold-Up Time (ms)	24.3
AC Loss to PWR_OK Hold Up Time (ms)	20.1
PWR_OK Inactive to DC Loss Delay (ms)	4.2

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CABLES AND CONNECTORS

Modular Cables

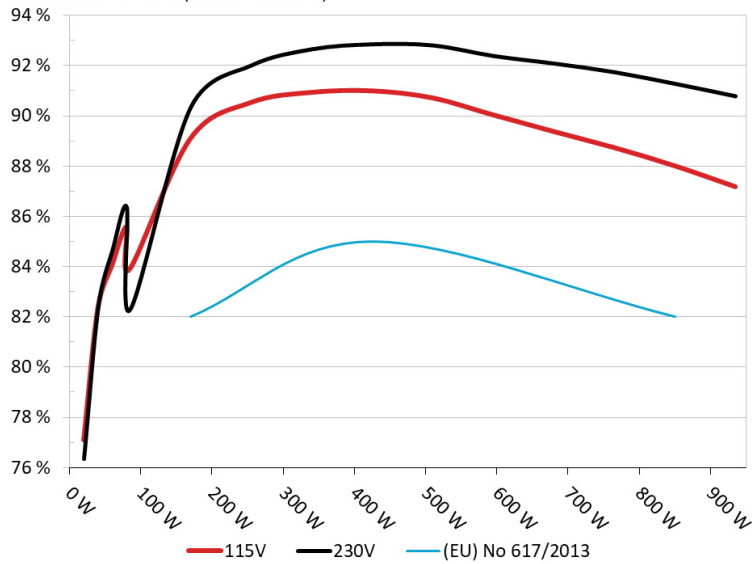
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16-18AWG	No
4+4 pin EPS12V (650mm)	2	2	16AWG	No
6+2 pin PCIe (600mm)	1	1	16AWG	No
2x 6+2 pin PCIe (610mm)	1	2	16AWG	No
12+4 pin PCIe (600mm)	1	1	16-24AWG	No
SATA (400mm+120mm)	1	2	18AWG	No
SATA (400mm+120mm+120mm)	1	3	18AWG	No
4 pin Molex (400mm+150mm+150mm+150mm)	1	4	18AWG	No
ARGB Cable (790mm)	1	1	22AWG	-

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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Asus Rog Strix 850W
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

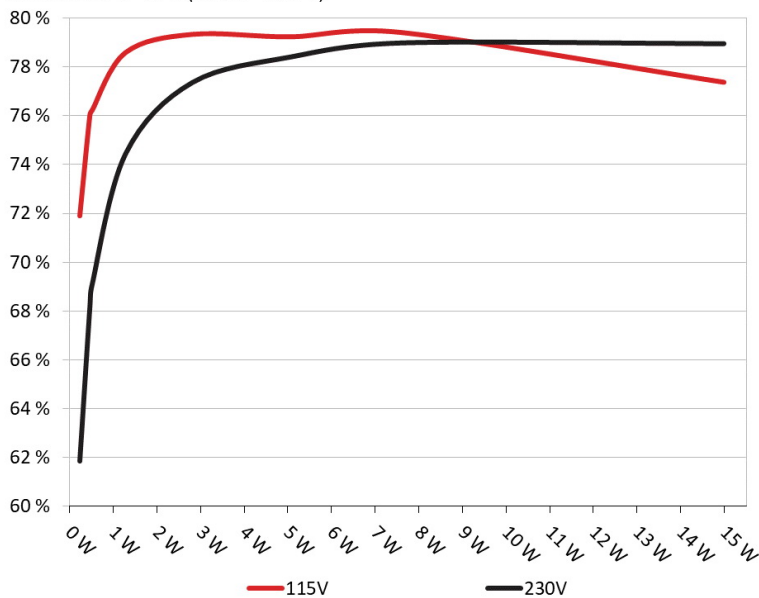


INFO

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 Strix 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

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	71.895%	0.032
	5.122V	0.321W		115.17V
2	0.09A	0.461W	76.036%	0.06
	5.118V	0.606W		115.17V
3	0.55A	2.804W	79.353%	0.261
	5.097V	3.533W		115.17V
4	1A	5.079W	79.252%	0.346
	5.078V	6.409W		115.16V
5	1.5A	7.587W	79.431%	0.395
	5.057V	9.554W		115.16V
6	3.001A	14.98W	77.385%	0.459
	4.993V	19.357W		115.15V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	61.854%	0.011
	5.119V	0.374W		230.39V
2	0.09A	0.461W	68.162%	0.02
	5.117V	0.676W		230.39V
3	0.55A	2.804W	77.359%	0.103
	5.096V	3.626W		230.4V
4	1A	5.079W	78.415%	0.169
	5.077V	6.478W		230.39V
5	1.5A	7.587W	78.982%	0.224
	5.057V	9.606W		230.39V
6	3.001A	14.98W	78.953%	0.322
	4.993V	18.973W		230.39V

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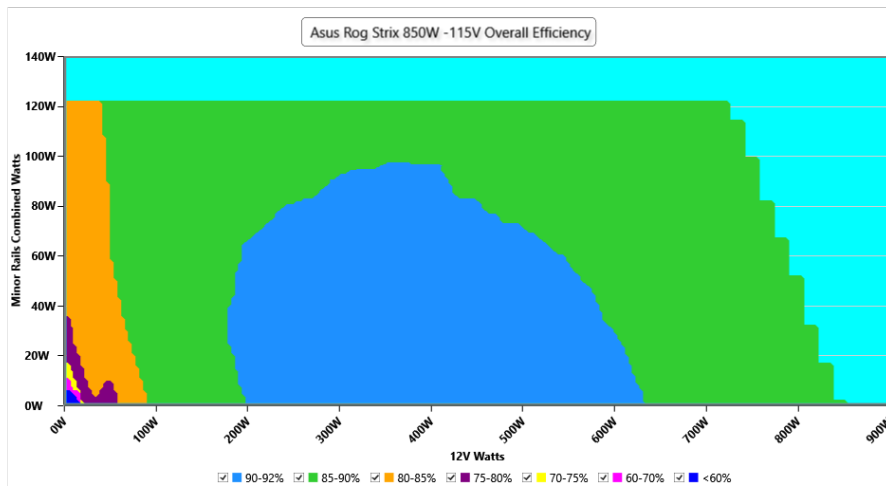
115V

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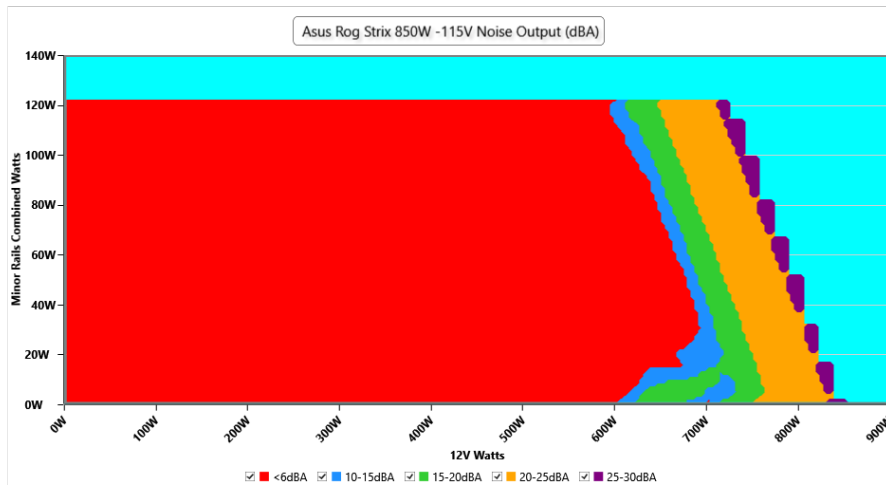
EFFICIENCY GRAPH 115V



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	115.15 V	113.85 V	115.18 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	0.14 %	2.00 %	PASS
Real Power:	0.010 W	0.003 W	N/A	0.020 W	N/A	N/A
Apparent Power:	10.035 W	10.026 W	N/A	10.049 W	N/A	N/A
Power Factor:	0.002	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%	5.288A	1.971A	2.002A	0.989A	85.022	84.475%	0	<6.0	44.28°C	0.977
	11.992V	5.076V	3.297V	5.057V	100.647				39.64°C	114.92V
20%	11.624A	2.958A	3.007A	1.19A	169.995	89.16%	0	<6.0	45.12°C	0.99
	11.966V	5.072V	3.293V	5.042V	190.667				40.18°C	114.9V
30%	18.307A	3.453A	3.511A	1.393A	255.013	90.201%	0	<6.0	46.16°C	0.994
	11.960V	5.07V	3.29V	5.026V	282.714				40.83°C	114.88V
40%	25.003A	3.948A	4.017A	1.597A	340.121	90.367%	0	<6.0	47.77°C	0.995
	11.955V	5.067V	3.286V	5.011V	376.375				41.73°C	114.86V
50%	31.352A	4.939A	5.027A	1.8A	425.197	90.194%	0	<6.0	48.91°C	0.995
	11.951V	5.063V	3.282V	5V	471.432				42.44°C	114.83V
60%	37.602A	5.931A	6.04A	1.994A	509.712	89.341%	381	<6.0	42.57°C	0.995
	11.965V	5.06V	3.279V	5.015V	570.522				49.48°C	114.81V
70%	44.030A	6.925A	7.057A	2.177A	595.04	88.722%	380	<6.0	43.11°C	0.995
	11.944V	5.056V	3.274V	5.054V	670.685				50.59°C	114.79V
80%	50.423A	7.921A	8.075A	2.281A	679.882	87.901%	684	21.9	43.62°C	0.996
	11.938V	5.052V	3.27V	5.043V	773.451				51.69°C	114.76V
90%	57.221A	8.421A	8.573A	2.386A	765.299	87.089%	946	28.1	44.45°C	0.996
	11.932V	5.049V	3.266V	5.032V	878.763				53.51°C	114.73V
100%	63.764A	8.921A	9.103A	3.004A	850.119	86.202%	1279	34,0	45.41°C	0.997
	11.925V	5.047V	3.263V	4.995V	986.197				55.46°C	114.71V
110%	70.186A	9.92A	10.221A	3.009A	934.721	85.239%	1503	37.5	46.98°C	0.997
	11.917V	5.043V	3.258V	4.986V	1096.571				57.86°C	114.69V
CL1	0.117A	14.28A	14.547A	0A	121.346	83.208%	388	<6.0	42.19°C	0.987
	11.978V	5.058V	3.279V	5.084V	145.836				48.54°C	114.89V
CL2	0.117A	21.852A	0A	0A	111.445	81.488%	387	<6.0	43.4°C	0.985
	11.982V	5.036V	3.294V	5.094V	136.766				50.44°C	114.9V
CL3	0.117A	0A	22.183A	0A	73.996	75.222%	378	<6.0	44.51°C	0.976
	11.991V	5.09V	3.272V	5.087V	98.372				52.7°C	114.91V
CL4	71.246A	0A	0A	0A	849.788	87.102%	967	28.5	45.37°C	0.997
	11.928V	5.053V	3.272V	5.146V	975.626				55.31°C	114.71V

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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	1.232A	0.492A	0.497A	0.196A	20.014	77.102%	0	<6.0	40.08°C	0.847
	12.059V	5.08V	3.321V	5.113V	25.959				36.98°C	115.17V
40W	2.710A	0.689A	0.696A	0.294A	40.011	82.373%	0	<6.0	41.19°C	0.94
	12.065V	5.08V	3.321V	5.106V	48.575				37.84°C	115.16V
60W	4.194A	0.887A	0.895A	0.392A	60.009	84.081%	0	<6.0	42.35°C	0.967
	12.048V	5.078V	3.32V	5.1V	71.371				38.65°C	115.16V
80W	5.672A	1.084A	1.094A	0.491A	79.98	85.589%	0	<6.0	43.29°C	0.978
	12.048V	5.077V	3.32V	5.094V	93.445				39.38°C	115.15V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	10.61mV	7.82mV	4.20mV	7.19mV	Pass
20% Load	10.46mV	8.44mV	4.55mV	7.19mV	Pass
30% Load	9.64mV	10.58mV	7.63mV	8.06mV	Pass
40% Load	9.95mV	7.16mV	4.71mV	8.82mV	Pass
50% Load	9.23mV	7.67mV	5.22mV	8.77mV	Pass
60% Load	8.84mV	7.36mV	5.68mV	9.38mV	Pass
70% Load	8.58mV	6.55mV	5.48mV	9.18mV	Pass
80% Load	9.86mV	7.26mV	10.85mV	9.94mV	Pass
90% Load	9.35mV	6.65mV	11.57mV	10.65mV	Pass
100% Load	13.82mV	7.00mV	12.40mV	13.41mV	Pass
110% Load	14.38mV	7.87mV	12.97mV	13.81mV	Pass
Crossload1	16.16mV	7.22mV	15.17mV	9.20mV	Pass
Crossload2	11.49mV	8.80mV	4.91mV	8.46mV	Pass
Crossload3	9.14mV	8.08mV	18.27mV	7.90mV	Pass
Crossload4	12.88mV	8.58mV	5.09mV	9.86mV	Pass

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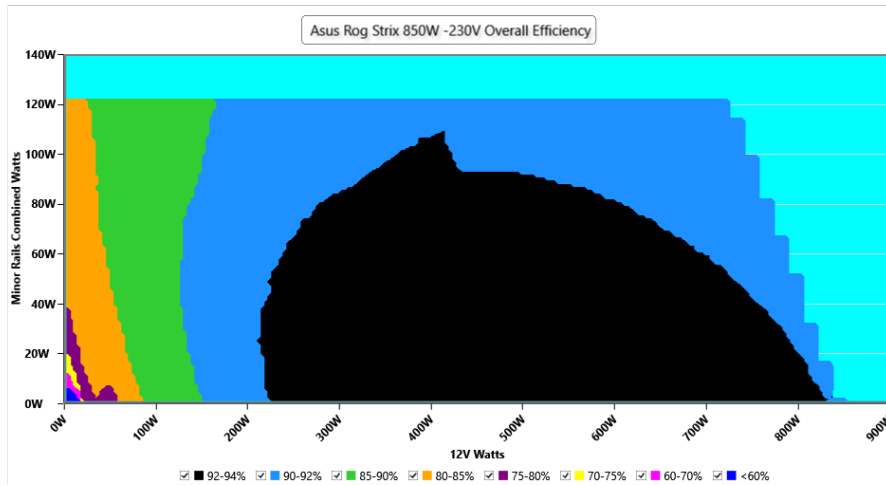
230V

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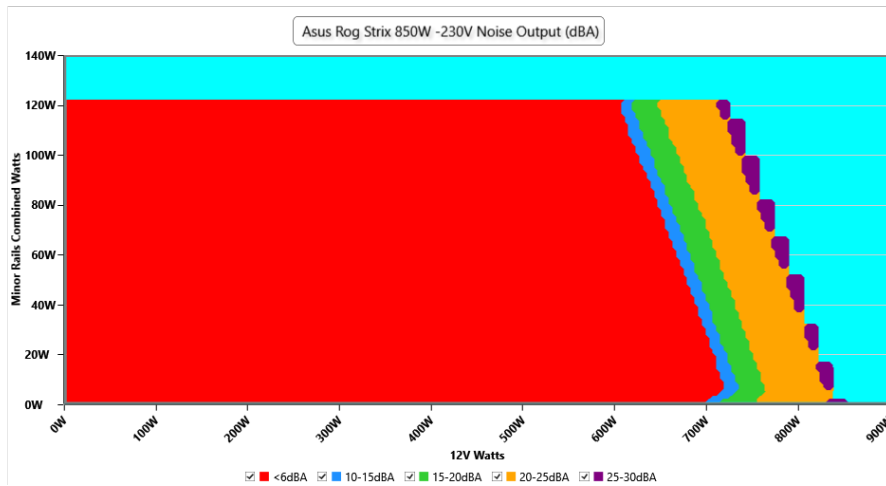
EFFICIENCY GRAPH 230V



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



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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:	230.38 V	230.38 V	227.70 V	230.41 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:	0.060 W	0.040 W	N/A	0.081 W	N/A	N/A
Apparent Power:	33.577 W	33.559 W	N/A	33.598 W	N/A	N/A
Power Factor:	0.001	N/A	N/A	N/A	N/A	N/A

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10-110% 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
10%	5.290A	1.97A	2.002A	0.989A	85.019	82.919%	0	<6.0	44.61°C	0.856
	11.986V	5.076V	3.298V	5.057V	102.536				40.24°C	229.88V
20%	11.626A	2.957A	3.006A	1.19A	169.989	90.484%	0	<6.0	45.35°C	0.94
	11.963V	5.073V	3.294V	5.042V	187.866				40.71°C	229.87V
30%	18.311A	3.453A	3.511A	1.393A	255.012	91.855%	0	<6.0	46.81°C	0.966
	11.958V	5.07V	3.29V	5.026V	277.624				41.75°C	229.86V
40%	25.007A	3.948A	4.016A	1.597A	340.123	92.303%	0	<6.0	47.79°C	0.977
	11.954V	5.067V	3.287V	5.011V	368.485				42.35°C	229.85V
50%	31.358A	4.939A	5.027A	1.8A	425.197	92.315%	0	<6.0	48.59°C	0.982
	11.949V	5.063V	3.283V	5V	460.594				42.63°C	229.84V
60%	37.605A	5.932A	6.04A	1.995A	509.723	91.749%	380	<6.0	42.81°C	0.987
	11.964V	5.059V	3.279V	5.014V	555.562				49.34°C	229.83V
70%	44.032A	6.926A	7.057A	2.177A	595.059	91.439%	379	<6.0	43.03°C	0.989
	11.945V	5.055V	3.274V	5.054V	650.769				50.04°C	229.82V
80%	50.430A	7.922A	8.075A	2.281A	679.885	91.036%	679	21.7	43.71°C	0.99
	11.936V	5.052V	3.27V	5.043V	746.832				52.01°C	229.81V
90%	57.225A	8.422A	8.573A	2.386A	765.299	90.607%	928	27.8	45.21°C	0.991
	11.931V	5.049V	3.266V	5.032V	844.634				54.31°C	229.8V
100%	63.761A	8.922A	9.103A	3.004A	850.118	90.083%	1222	33.2	46.01°C	0.992
	11.925V	5.046V	3.263V	4.995V	943.706				56.03°C	229.79V
110%	70.186A	9.92A	10.219A	3.009A	934.72	89.504%	1503	37.5	46.99°C	0.992
	11.917V	5.043V	3.259V	4.986V	1044.325				57.84°C	229.78V
CL1	0.117A	14.278A	14.544A	0A	121.344	84.288%	388	<6.0	42.78°C	0.909
	11.977V	5.059V	3.28V	5.084V	143.963				48.22°C	229.87V
CL2	0.117A	21.847A	0A	0A	111.444	82.633%	380	<6.0	43.39°C	0.9
	11.979V	5.037V	3.295V	5.093V	134.865				50.55°C	229.87V
CL3	0.117A	0A	22.19A	0A	73.998	75.924%	378	<6.0	44.33°C	0.84
	11.992V	5.089V	3.271V	5.087V	97.464				52.35°C	229.88V
CL4	71.262A	0A	0A	0A	849.81	90.883%	967	28.5	45.59°C	0.992
	11.926V	5.054V	3.273V	5.145V	935.059				55.18°C	229.79V

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Asus ROG-STRIX-850G-AURA-GAMING

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	1.233A	0.492A	0.497A	0.196A	20.01	76.346%	0	<6.0	40.02°C	0.48
	12.051V	5.081V	3.321V	5.111V	26.208				36.89°C	230.41V
40W	2.712A	0.689A	0.696A	0.294A	40.009	82.394%	0	<6.0	41.21°C	0.683
	12.059V	5.08V	3.32V	5.105V	48.561				37.78°C	230.41V
60W	4.196A	0.886A	0.895A	0.392A	60.008	84.655%	0	<6.0	42.54°C	0.795
	12.042V	5.079V	3.32V	5.098V	70.885				38.71°C	230.41V
80W	5.674A	1.084A	1.094A	0.491A	79.978	86.361%	0	<6.0	43.27°C	0.856
	12.046V	5.077V	3.32V	5.092V	92.605				39.08°C	230.41V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.72mV	7.87mV	4.04mV	6.93mV	Pass
20% Load	12.91mV	8.95mV	4.30mV	7.29mV	Pass
30% Load	10.71mV	9.00mV	7.93mV	7.19mV	Pass
40% Load	10.35mV	7.11mV	4.55mV	8.41mV	Pass
50% Load	9.02mV	7.82mV	5.37mV	8.21mV	Pass
60% Load	8.89mV	6.75mV	5.42mV	8.72mV	Pass
70% Load	9.04mV	6.49mV	5.58mV	8.92mV	Pass
80% Load	10.01mV	7.72mV	10.03mV	9.84mV	Pass
90% Load	10.32mV	6.75mV	10.69mV	10.14mV	Pass
100% Load	14.41mV	7.28mV	12.81mV	13.72mV	Pass
110% Load	14.87mV	7.61mV	13.09mV	13.97mV	Pass
Crossload1	11.07mV	6.49mV	13.77mV	8.05mV	Pass
Crossload2	12.40mV	8.90mV	4.86mV	8.92mV	Pass
Crossload3	35.23mV	8.18mV	18.38mV	7.39mV	Pass
Crossload4	14.31mV	8.87mV	5.17mV	9.65mV	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

Asus ROG-STRIX-850G-AURA-GAMING

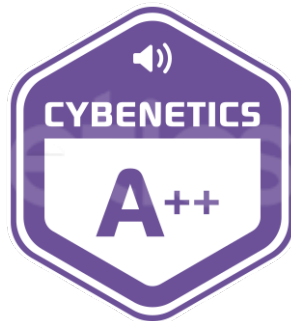


Top side

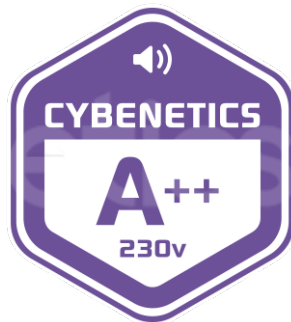


Power specifications label

CERTIFICATIONS 115V



CERTIFICATIONS 230V



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