



ASUS ROG-STRIX-850G-AURA-GAMING

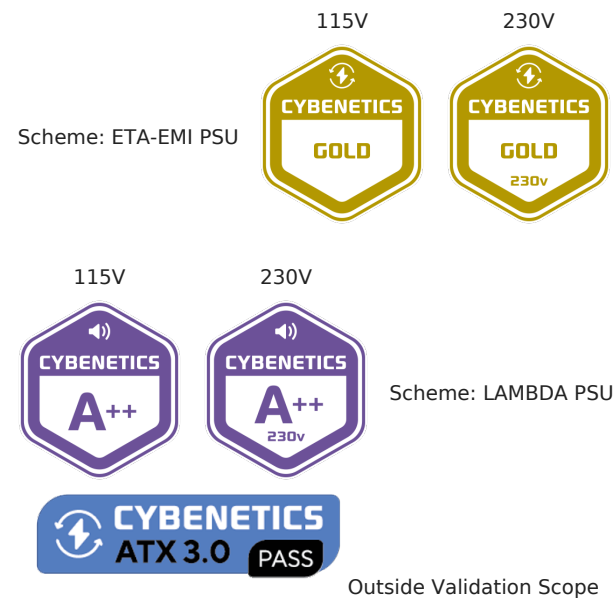
Serial Number

Lab ID AS85002048

Certification ID 252048

Test Result Report ID: 22PS2048A

Certificate Issue Date: Jul 29, 2022



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	ASUS
Model	ROG-STRIX-850G-AURA-GAMING
OEM/ODM	CWT
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6

Rated Frequency (Hz)	50-60
Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	135mm Double Ball Bearing Fan (CF1325H12D)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	AS85002048
Date of receipt	Jul 2, 2022
Testing Date	Jul 29, 2022
Report Issued Date	Jul 29, 2022
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 (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+120mm120mm)	1	3	18AWG	No

4 pin Molex (400mm+150mm+150mm+150mm)	1	4	18AWG	No
ARGB Cable (790mm)	1	1	22AWG	-

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				

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)	88.842%
Average Noise Output (>1450 Load Combinations)	14.69dBA
Average PF (>1450 Load Combinations)	0.992
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.079%
Standby Power Consumption	0.0102W
Non-Accredited	
12V Ripple (Full Load)	13.82mV
5V Ripple (Full Load)	7.00mV

3.3V Ripple (Full Load)	12.40mV
5VSB Ripple (Full Load)	13.41mV
12V Load Regulation	0.75%
5V Load Regulation	0.75%
3.3V Load Regulation	0.64%
5VSB Load Regulation	2.30%
Inrush Current	32.120A

230V

Accredited	
Average Efficiency (>1450 load combinations)	90.921%
Average Noise Output (>1450 Load Combinations)	14.50dBA
Average PF (>1450 Load Combinations)	0.966
Efficiency With 10W ($\leq$ 500W) or 2% (>500W) Load	74.315%
Standby Power Consumption	0.0605W
Non-Accredited	
12V Ripple (Full Load)	14.41mV
5V Ripple (Full Load)	7.28mV
3.3V Ripple (Full Load)	12.81mV
5VSB Ripple (Full Load)	13.72mV
12V Load Regulation	0.70%
5V Load Regulation	0.77%
3.3V Load Regulation	0.67%
5VSB Load Regulation	2.34%
Inrush Current	65.840A
12V Transient Response (200%)	11.26V
5V Transient Response (200%)	4.940V
3.3V Transient Response (200%)	3.216V
5VSB Transient Response (200%)	4.989V
Hold-Up Time & PWR_OK Signal	24.30ms
AC Loss to PWR_OK Hold Up Time	20.10ms
PWR_OK Inactive to DC Loss Delay	4.20ms

PSU Timings: T1 (20% / 100%)	52.0ms	51.0ms
PSU Timings: T3 (20% / 100%)	136.0ms	138.0ms
OPP (29.21°C / 39.96°C)	137.83%	137.84%

Hold-Up Time & PWR_OK Signal

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

Vampire Power

Tables

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

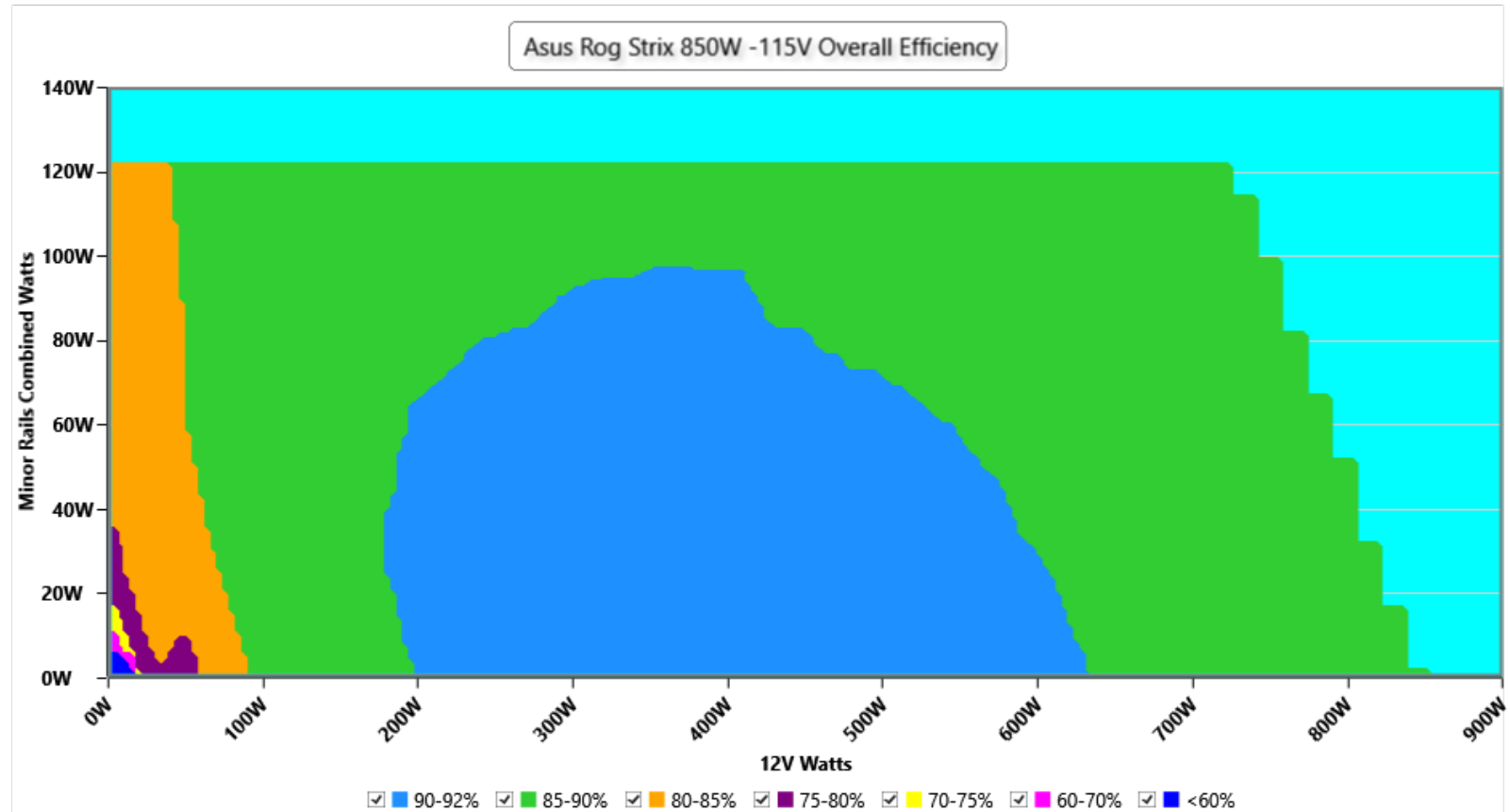
230V

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

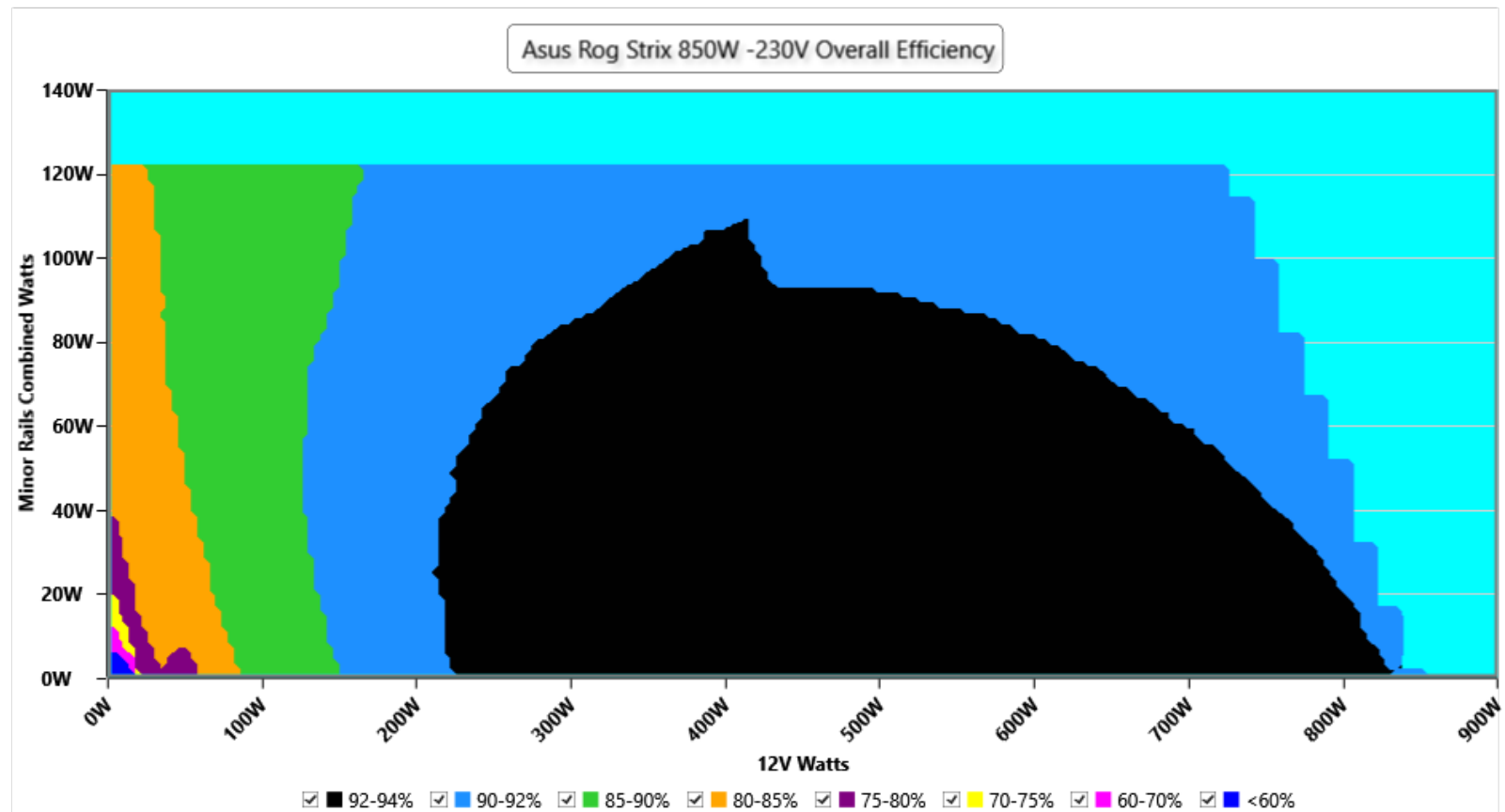
Efficiency Graph

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

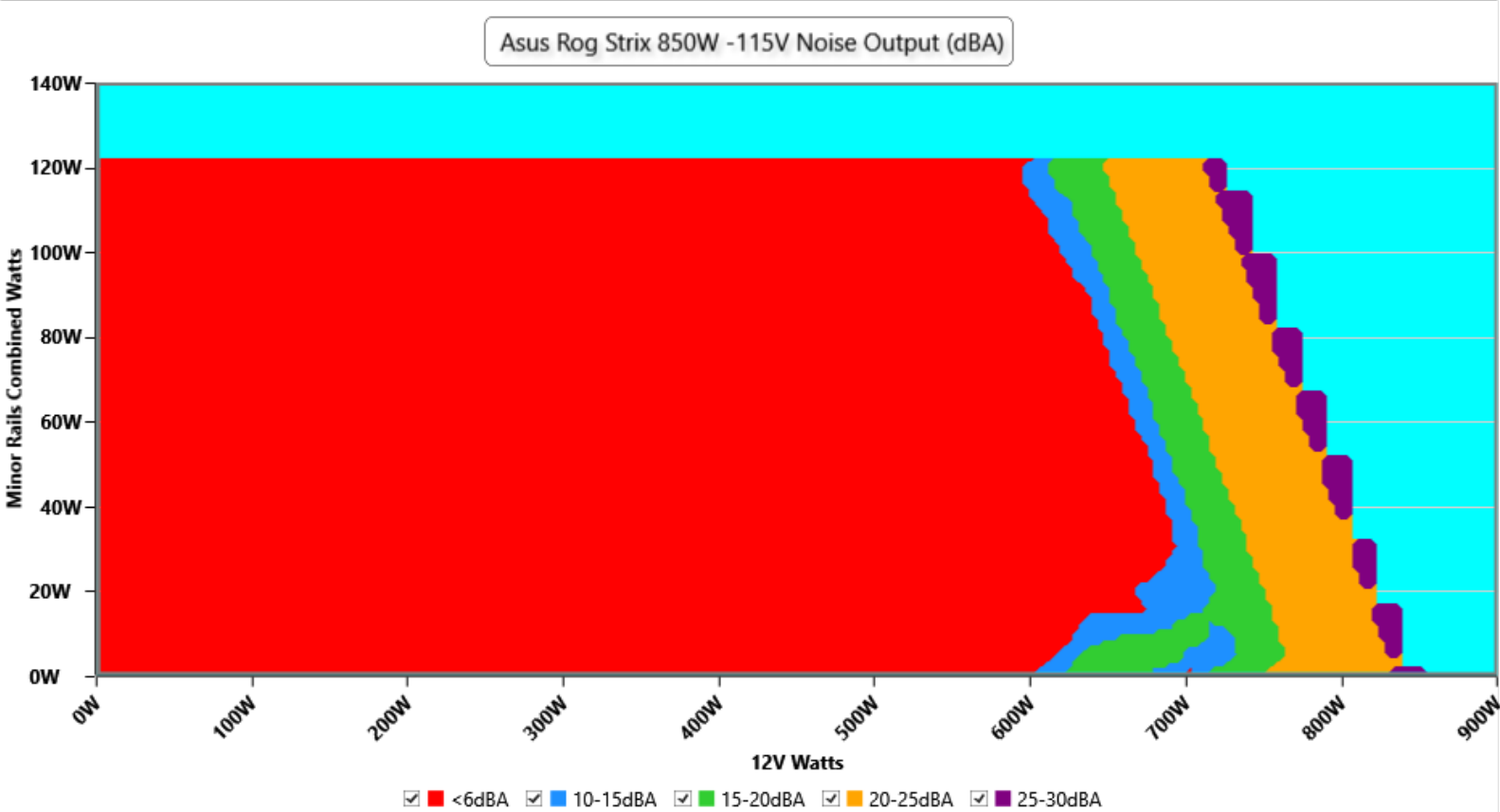


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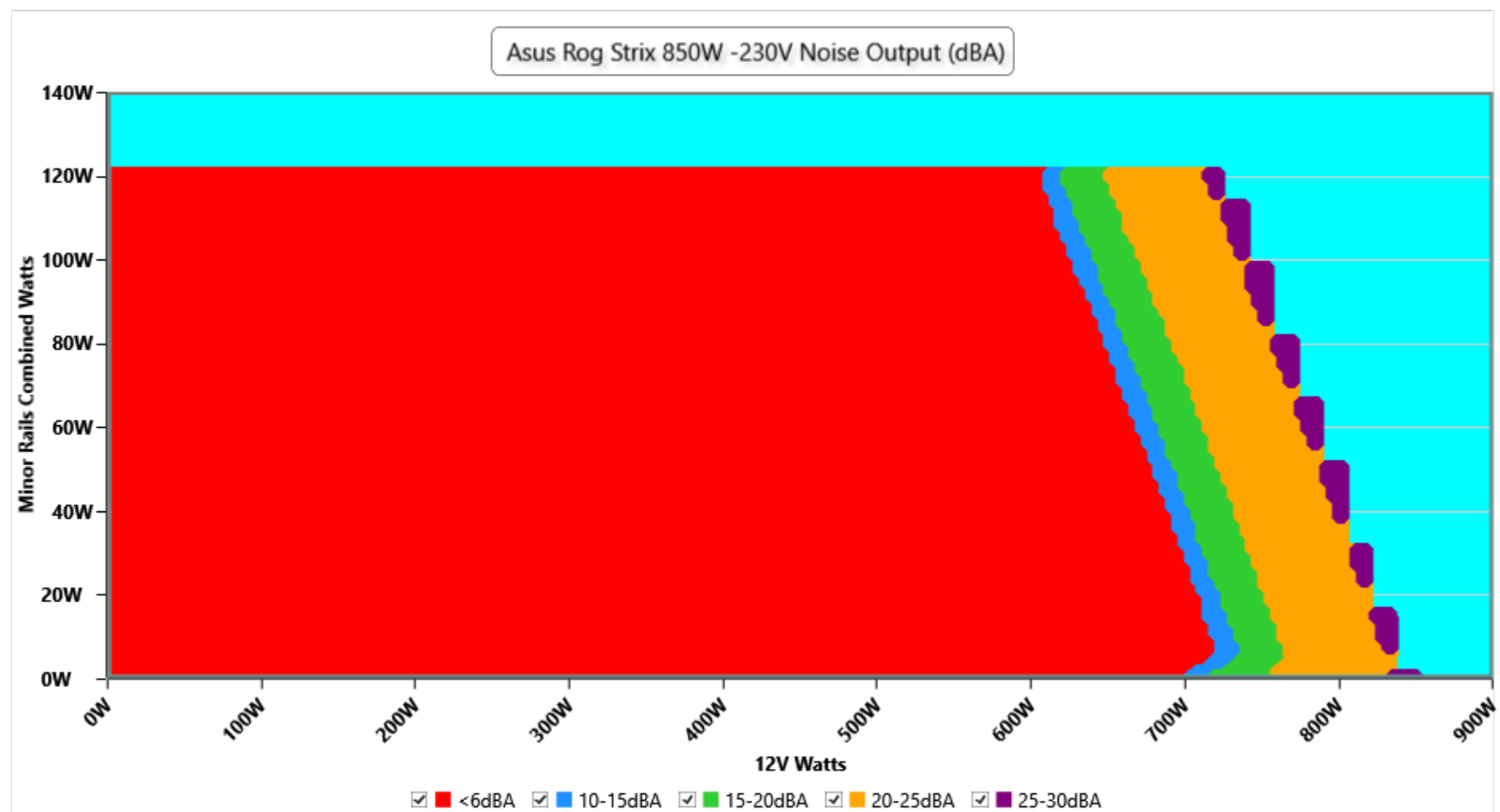
Noise Graph

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

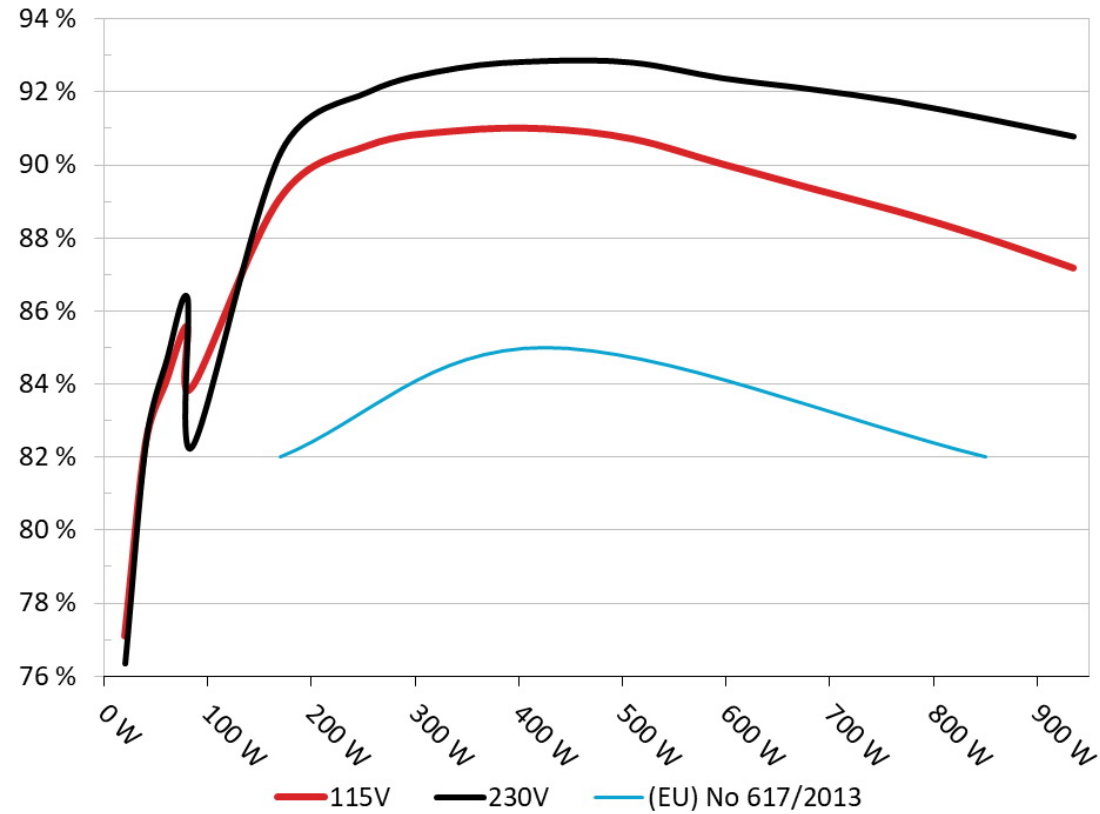
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Asus Rog Strix 850W

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



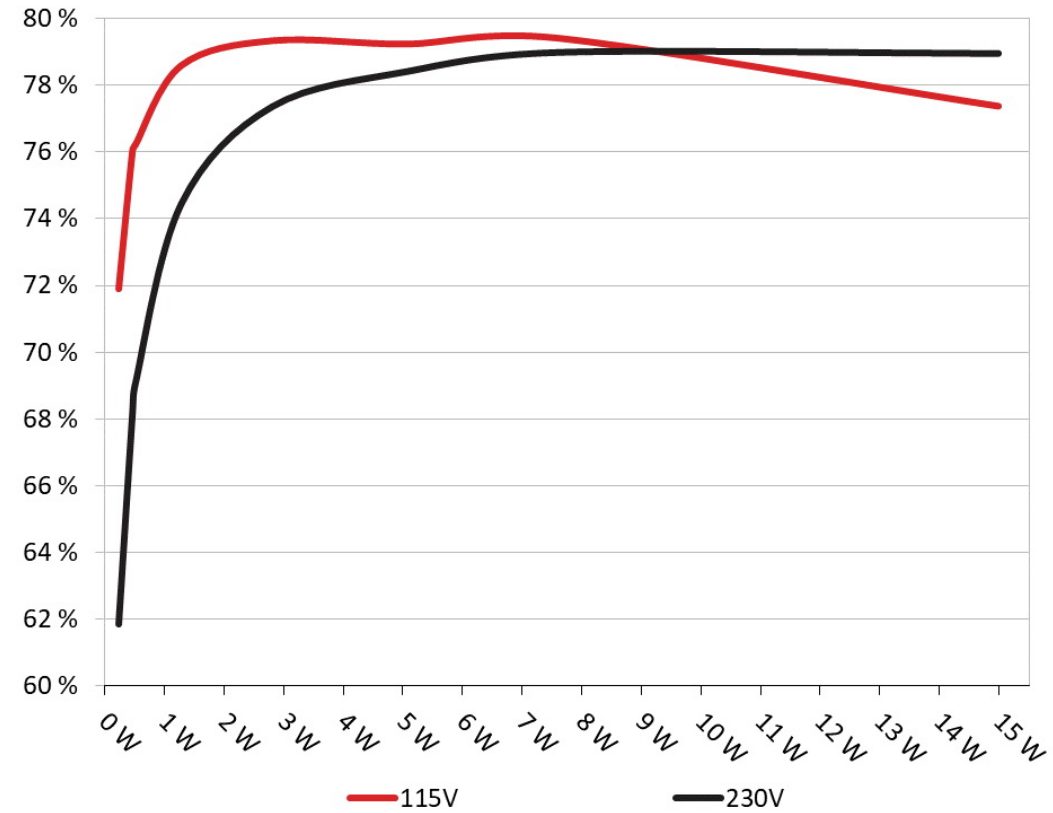
INFO

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

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

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

230V

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

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%	5.288A	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

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	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

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%	5.290A	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

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	63.761A	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

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	0.492A	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

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	1.233A	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

The results above are not used in the certification process

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

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	9.14mV	8.08mV	18.27mV	7.90mV	Pass
Crossload4	12.88mV	8.58mV	5.09mV	9.86mV	Pass

The results above are not used in the certification process

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

The results above are not used in the certification process

ASUS ROG-STRIX-850G-AURA-GAMING



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

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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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