ASUS ROG-STRIX-850P-GAMING

Serial Number 2O044109113

Lab ID AS85002566

Certification ID 252566

Test Result Report ID: 24PS2566A

Certificate Issue Date: Sep 11, 2024

Scheme: ETA-EMI PSU

115V



230V



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	ASUS
Model	ROG-STRIX-850P-GAMING
OEM/ODM	Great Wall
Serial Number	2O044109113
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	10-5.5
Rated Frequency (Hz)	47-63
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 Dual Ball Bearing Fan (F1214025BL)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	AS85002566
Date of receipt	Sep 4, 2024
Testing Date	Sep 11, 2024
Report Issued Date	Sep 11, 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	18AWG	No
4+4 pin EPS12V (1000mm)	2	2	18AWG	No
6+2 pin PCIe (750mm)	3	3	18AWG	No
12+4 pin PCIe (745mm) (600W)	1	1	16-24AWG	No
SATA (400mm+120mm+120mm)	2	6	18AWG	No

4-pin Molex (390mm+150mm+150mm)	1	3	18AWG	No

Protection Features

Over Power Protection	✓
Over Current (+12V) Protection	✓
Over Temperature Protection	✓
Short Circuit Protection	✓
Surge Protection	✓
Inrush Current Protection	✓
Fan Failure Protection	✗

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	70.8	3	0.3
	Watts	130		850	15	3.6
Total Max. Power (W)		850				

Parts Description

General Data	
Manufacturer (OEM)	Great Wall
PCB Type	Double-Sided
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK-205R0 (5 Ohm @ 25°C) & Relay
Bridge Rectifier(s)	1x GBUU2508 (800V, 25A @ 110°C)
APFC GANFETs	1x Transphorm TP65H050G4WS (650V, 22A @ 100°C, Rds(on): 60mOhm)
APFC Boost Diode	1x ROHN SCS306AH (650V, 6A @ 135°C)

Bulk Cap(s)	1x Nichicon (420V, 470uF, 3,000h @ 105°C, GN(M)) 1x Nichicon (420V, 390uF, 3,000h @ 105°C, GN(M))
Main Switchers	2x Fuji FMP60N094S2FDHF (600V, 26.8A @ 100°C, Rds(on): 0.094Ohm)
Driver IC	1x NOVOSENSE NSi6602BD
APFC Controller	Champion CM6502UHHX & 1x Champion CM03X (reduce the no-load consumption)
Resonant Controller	Champion CM6901X
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	4x Infineon BSC010N04LS6 (40V, 201A @ 100°C, Rds(on): 1.0mOhm)
5V & 3.3V	DC-DC Converters: 4x DMT3004LPS (30V, 17A @ 70°C, Rds(on): 3.8mOhm) PWM Controller(s): AnpecAPW7159C
Filtering Capacitors	Electrolytic: 11x Nichicon (6-10000 @ 105°C, UHW) 2x Rubycon (4-10,000 @ 105°C, YXJ), 1x Rubycon (3-6,000 @ 105°C, YXG), 1x Rubycon (2-10,000 @ 105°C, YXF), Polymer: 31x FPCap, 1x Nippon Chemi-con
Supervisor IC	Weltrend WT7681P
Fan Controller	AS358M
Fan Model	Everflow F1214025BL (135mm, 12V, 0.20A, Dual Ball Bearing Fan)
5VSB Circuit	
TVS Diode	Littelfuse SMBJ170A
Rectifiers	SBR10E45P4 (45V, 10A) & 1x ER2J (600V, 2A @ 100°C)
Standby PWM Controller	Power Integrations TNY278PN

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 v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.130%
Average Noise Output (>1450 Load Combinations)	23.35dBA
Average PF (>1450 Load Combinations)	0.991
Efficiency With 10W (≤500W) or 2% (>500W) Load	72.590%
Standby Power Consumption	0.0704W
Non-Accredited	
12V Ripple (Full Load)	19.27mV
5V Ripple (Full Load)	12.97mV
3.3V Ripple (Full Load)	19.31mV
5VSB Ripple (Full Load)	13.36mV
12V Load Regulation	0.32%
5V Load Regulation	0.67%
3.3V Load Regulation	1.22%
5VSB Load Regulation	4.10%
Inrush Current	33.760A

230V		
Accredited		
Average Efficiency (>1450 load combinations)	91.563%	
Average Noise Output (>1450 Load Combinations)	23.29dBA	
Average PF (>1450 Load Combinations)	0.961	
Efficiency With 10W (≤500W) or 2% (>500W) Load	71.235%	
Standby Power Consumption	0.1407W	
Non-Accredited		
12V Ripple (Full Load)	21.31mV	
5V Ripple (Full Load)	12.73mV	
3.3V Ripple (Full Load)	18.63mV	
5VSB Ripple (Full Load)	12.25mV	
12V Load Regulation	0.39%	
5V Load Regulation	0.69%	
3.3V Load Regulation	1.22%	
5VSB Load Regulation	4.12%	
Inrush Current	66.030A	
12V Transient Response (200%)	11.38V	
5V Transient Response (200%)	4.987V	
3.3V Transient Response (200%)	3.175V	
5VSB Transient Response (200%)	5.005V	
Hold-Up Time & PWR_OK Signal	22.10ms	
AC Loss to PWR_OK Hold Up Time	18.80ms	
PWR_OK Inactive to DC Loss Delay	3.30ms	
PSU Timings: T1 (20% / 100%)	50.0ms	50.0ms
PSU Timings: T3 (20% / 100%)	124.0ms	125.0ms
12V OCP (28.4°C / 41.1°C)	91.20A (128.81%), 12.047V	88.00A (124.29%), 12.063V
5V OCP (28.4°C / 41.1°C)	34.7A (138.80%), 5.041V	34.7A (138.80%), 5.044V
3.3V OCP (28.4°C / 41.1°C)	34.6A (138.40%), 3.268V	34.6A (138.40%), 3.272V
5VSB OCP (28.4°C / 41.1°C)	5.7A (190.00%), 4.987V	5.6A (186.67%), 4.985V
OPP (28.23°C / 43.00°C)	127.27%	122.60%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	22.1
AC Loss to PWR_OK Hold Up Time (ms)	18.8
PWR_OK Inactive to DC Loss Delay (ms)	3.3

Stromverbrauch im Ruhezustand

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.08 V	115.05 V	113.85 V	115.12 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.070 W	0.046 W	N/A	0.098 W	N/A	N/A
Apparent Power:	12.005 W	11.755 W	N/A	12.266 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

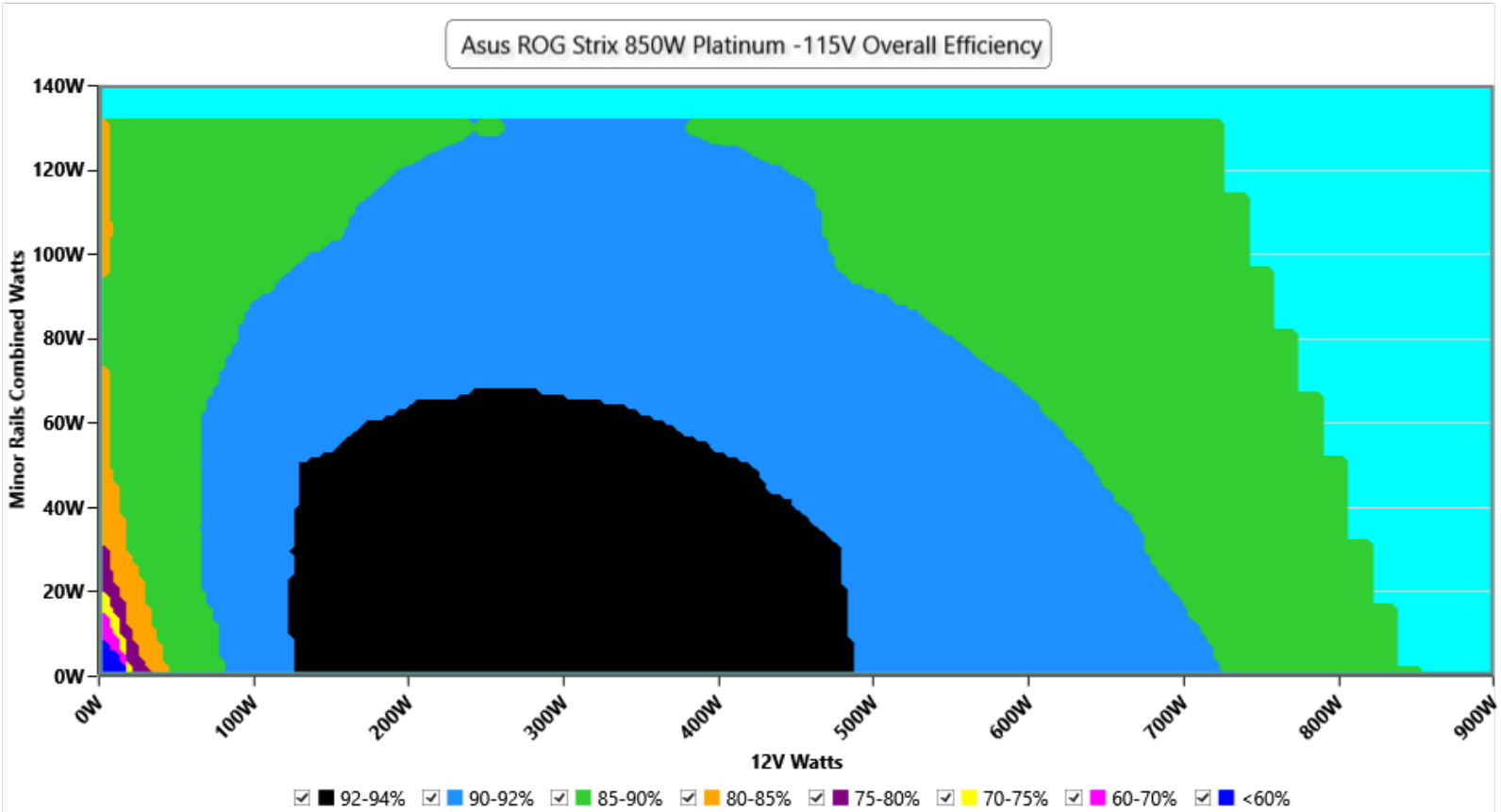
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.04 V	230.94 V	227.70 V	231.10 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:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.15 %	N/A	0.26 %	2.00 %	PASS
Real Power:	0.141 W	0.094 W	N/A	0.211 W	N/A	N/A
Apparent Power:	40.474 W	39.926 W	N/A	41.077 W	N/A	N/A

Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

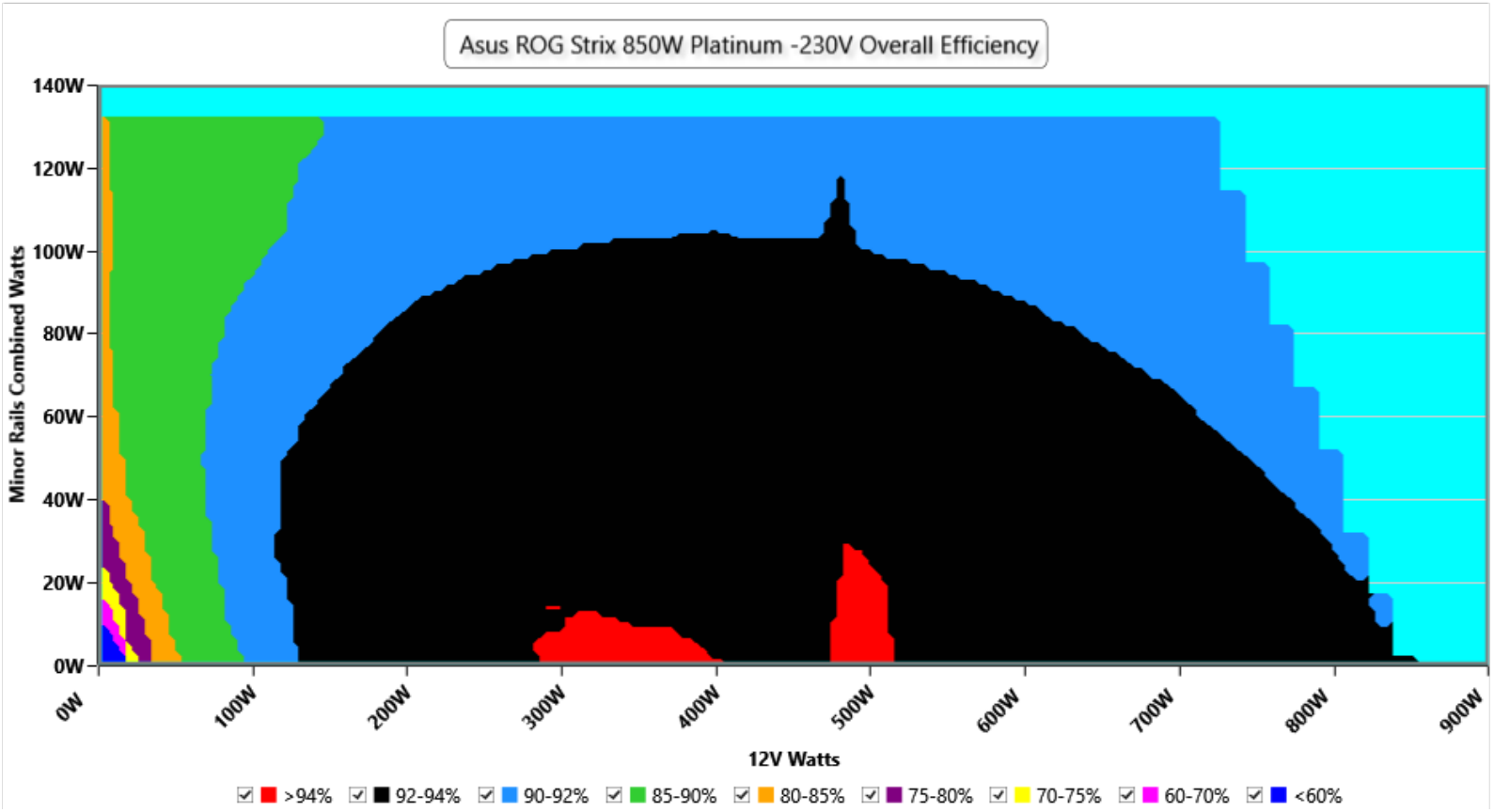
115V



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

230V

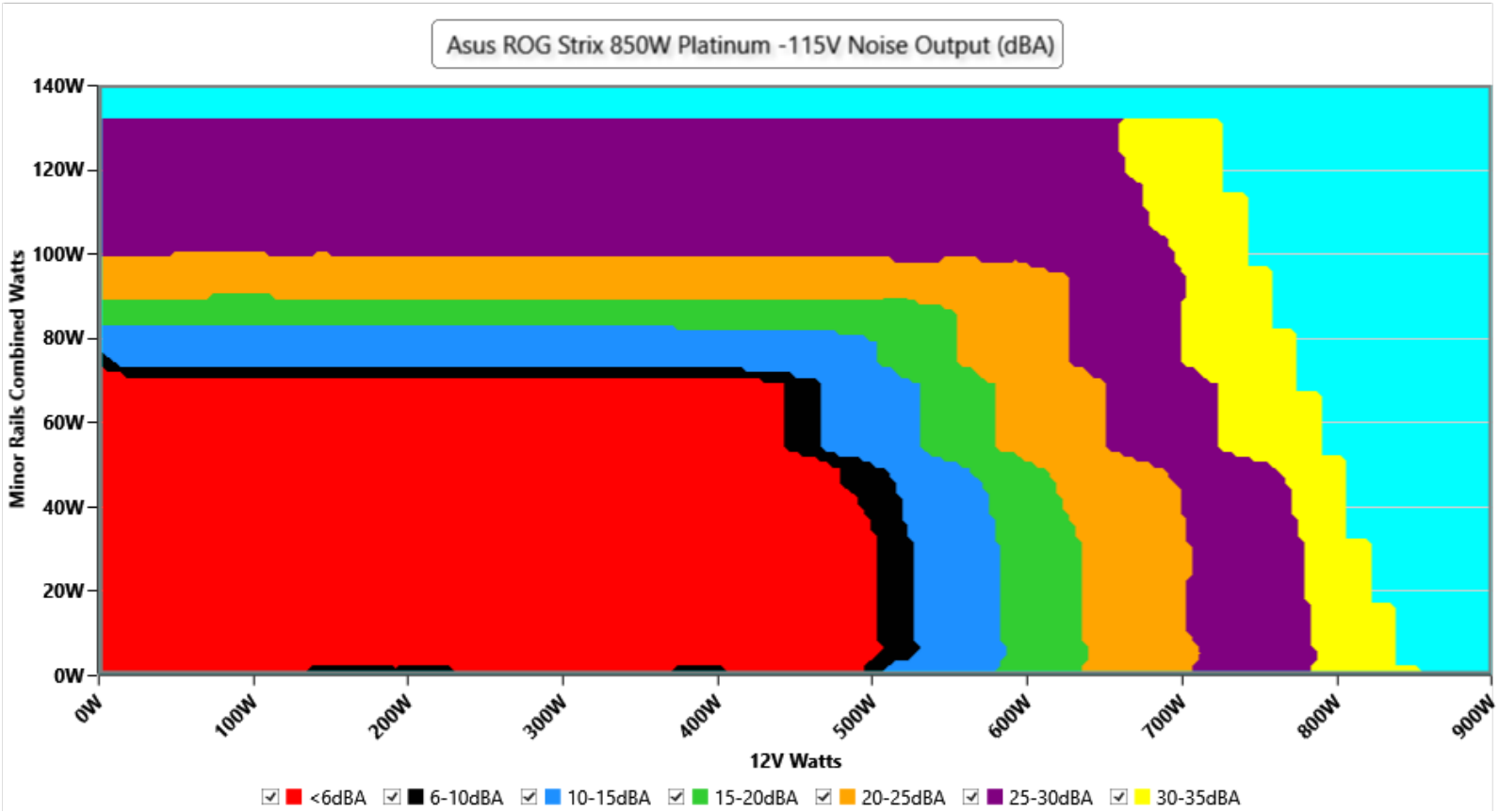


INFO

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Noise Graph

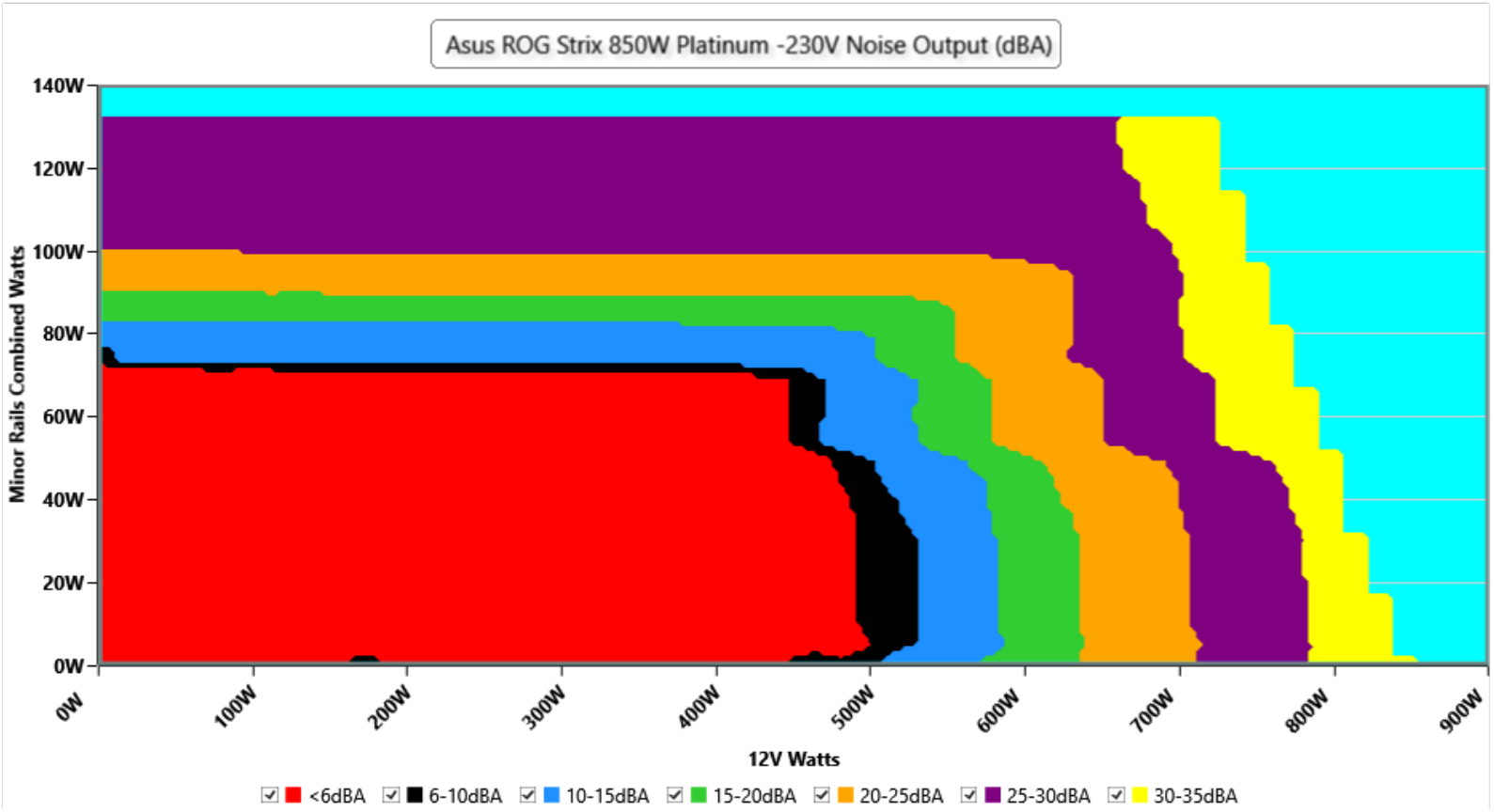
115V



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

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

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 32.7 °C	0 RPM · <6.0 dB(A) · 46.4 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 32.7 °C	0 RPM · <6.0 dB(A) · 46.6 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 33.5 °C	339 RPM · <6.0 dB(A) · 42.2 °C	<6.0 in both
100%	1078 RPM · 32.4 dB(A) · 30.2 °C	1088 RPM · 32.8 dB(A) · 45.5 °C	**+0.4 dB(A)**

230V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 31.4 °C	0 RPM · <6.0 dB(A) · 43.4 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 31.9 °C	0 RPM · <6.0 dB(A) · 44.4 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 33.4 °C	368 RPM · <6.0 dB(A) · 42.2 °C	<6.0 in both
100%	1077 RPM · 32.4 dB(A) · 30.2 °C	1088 RPM · 32.8 dB(A) · 45.4 °C	**+0.4 dB(A)**

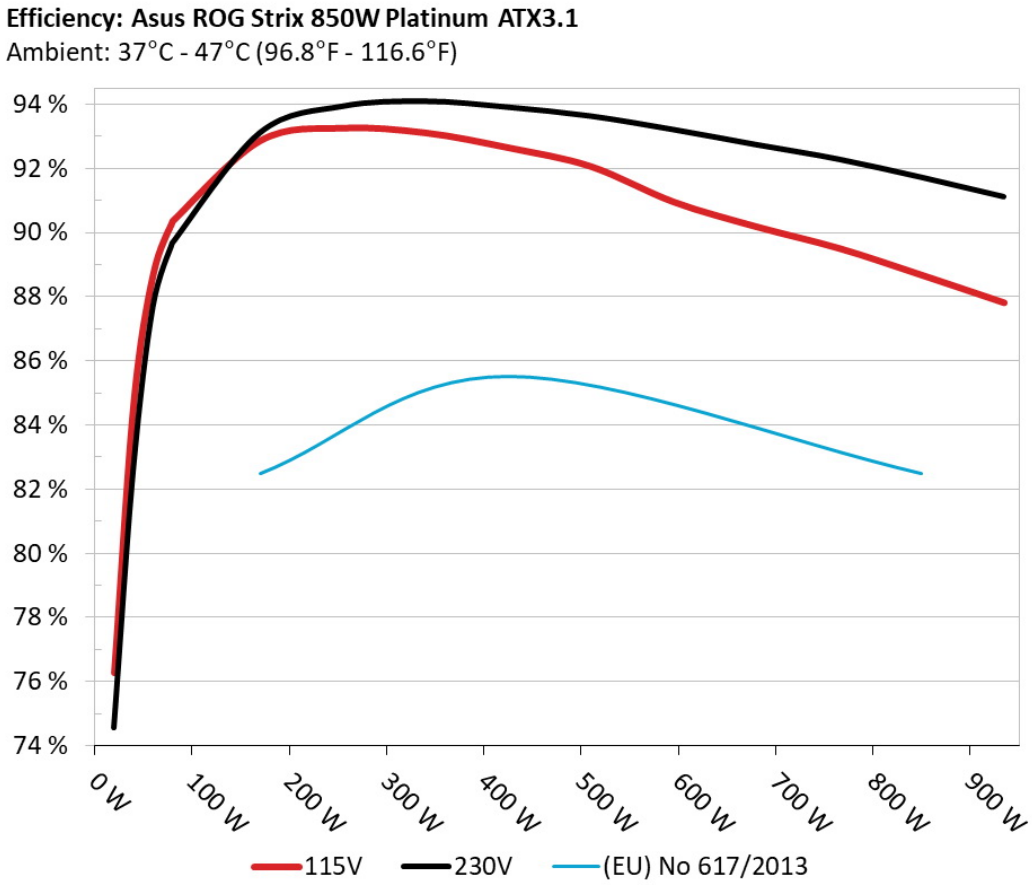
INFO

Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); with the fan stopped, the intake sensor can read higher than the chamber air.

Informational. Not part of the ETA or LAMBDA rating.

Indicative Performance

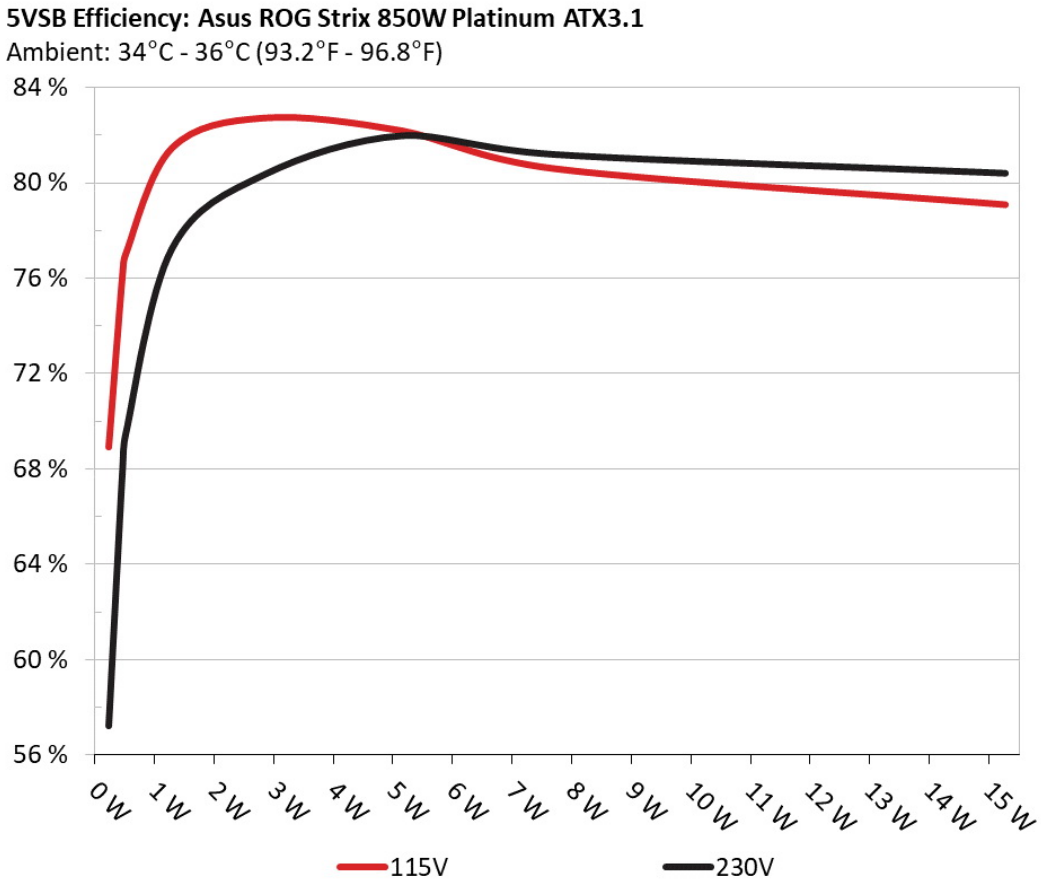
Efficiency under high ambient temperature



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



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

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

115V

General Data	
Manufacturer (OEM)	Great Wall
PCB Type	Double-Sided
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK-205R0 (5 ohm) & Relay
Bridge Rectifier(s)	1x GBUU2508 (800V, 25A @ 110°C)
APFC GANFETs	1x Transphorm TP65H050G4WS (650V, 22A @ 100°C, Rds(on): 60mOhm)
APFC Boost Diode	1x ROHN SCS306AH (650V, 6A @ 135°C)
Bulk Cap(s)	1x Nichicon (420V, 470uF, 3,000h @ 105°C, GN(M)) 1x Nichicon (420V, 390uF, 3,000h @ 105°C, GN(M))
Main Switchers	2x Fuji FMP60N094S2FDHF (600V, 26.8A @ 100°C, Rds(on): 0.094Ohm)
Driver IC	1x NOVOSENSE NSi6602BD
APFC Controller	Champion CM6502UHHX & 1x Champion CM03X (reduce the no-load consumption)
Resonant Controller	Champion CM6901X
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	4x Infineon BSC010N04LS6 (40V, 201A @ 100°C, Rds(on): 1.0mOhm)
5V & 3.3V	DC-DC Converters: 4x DMT3004LPS (30V, 17A @ 70°C, Rds(on): 3.8mOhm) PWM Controller(s): AnpecAPW7159C
Filtering Capacitors	Electrolytic: 11x Nichicon (6-10000 @ 105°C, UHW) 2x Rubycon (4-10,000 @ 105°C, YXJ), 1x Rubycon (3-6,000 @ 105°C, YXG), 1x Rubycon (2-10,000 @ 105°C, YXF), Polymer: 31x FPCap, 1x Nippon Chemi-con

Supervisor IC	Weltrend WT7681P
Fan Controller	AS358M
Fan Model	Everflow F1214025BL (135mm, 12V, 0.20A, Dual Ball Bearing Fan)
5VSB	
TVS Diode	Littelfuse SMBJ170A
Rectifiers	SBR10E45P4 (45V, 10A) & 1x ER2J (600V, 2A @ 100°C)
Standby PWM Controller	Power Integrations TNY278PN

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.234W	57.207%	0.011
	5.188V	0.409W		230.4V
2	**0.09A**	0.467W	68.068%	0.018
	5.187V	0.686W		230.4V
3	**0.55A**	2.845W	80.35%	0.09
	5.171V	3.541W		230.4V
4	**1A**	5.158W	81.984%	0.15
	5.157V	6.292W		230.39V
5	**1.5A**	7.713W	81.195%	0.209
	5.14V	9.5W		230.39V
6	**3.001A**	15.272W	80.407%	0.319
	5.09V	18.994W		230.39V

Protection Features

OCP (Normal @ 28.4°C)	12V: 91.2A (128.81%), 12.047V 5V: 34.7A (138.8%), 5.041V 3.3V: 34.6A (138.4%), 3.268V 5VSB: 5.7A (190%), 4.987V
OCP (Hot @ 41.1°C)	12V: 88A (124.29%), 12.063V 5V: 34.7A (138.8%), 5.044V 3.3V: 34.6A (138.4%), 3.272V 5VSB: 5.6A (186.67%), 4.985V
OPP (Normal @ 28.2°C)	1081.83W (127.27%)
OPP (Hot @ 43°C)	1042.07W (122.6%)
OTP	✓ (105°C @ Heat Sink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
NLO	✓
Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

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%	**5.241A**	**1.963A**	**1.997A**	**0.971A**	85.005	89.902%	0	<6.0	46.42°C	0.976
	12.097V	5.097V	3.305V	5.148V	94.553				40.06°C	115.15V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20%	**11.499A**	**2.946A**	**2.999A**	**1.17A**	169.974	92.37%	0	<6.0	46.55°C	0.989
	12.093V	5.094V	3.302V	5.131V	184.016				40.59°C	115.12V
30%	**18.109A**	**3.438A**	**3.502A**	**1.369A**	254.987	92.765%	0	<6.0	49.5°C	0.992
	12.090V	5.091V	3.298V	5.115V	274.875				41.08°C	115.1V
40%	**24.726A**	**3.931A**	**4.006A**	**1.57A**	340.078	92.616%	0	<6.0	50.49°C	0.991
	12.087V	5.089V	3.295V	5.098V	367.195				41.69°C	115.07V
50%	**30.995A**	**4.917A**	**5.014A**	**1.772A**	425.064	92.151%	339	<6.0	42.22°C	0.992
	12.084V	5.086V	3.291V	5.08V	461.274				54.2°C	115.05V
60%	**37.237A**	**5.908A**	**6.028A**	**1.976A**	509.598	91.568%	432	<6.0	42.93°C	0.994
	12.079V	5.079V	3.285V	5.062V	556.526				51.95°C	115.02V
70%	**43.547A**	**6.899A**	**7.043A**	**2.182A**	594.927	90.458%	579	11.9	43.13°C	0.995
	12.074V	5.075V	3.28V	5.043V	657.681				51.13°C	114.99V
80%	**49.867A**	**7.89A**	**8.058A**	**2.288A**	679.751	89.689%	737	19.8	43.66°C	0.996
	12.069V	5.07V	3.276V	5.027V	757.897				50.94°C	114.97V
90%	**56.591A**	**8.388A**	**8.556A**	**2.394A**	765.181	89.01%	925	27.1	44.2°C	0.996
	12.063V	5.068V	3.272V	5.012V	859.656				51°C	114.94V
100%	**63.052A**	**8.886A**	**9.086A**	**3.013A**	849.991	88.175%	1088	32.8	45.47°C	0.997
	12.058V	5.065V	3.268V	4.979V	963.983				51.71°C	114.91V
110%	**69.380A**	**9.879A**	**10.199A**	**3.021A**	934.578	87.313%	1168	34.6	46.68°C	0.997
	12.054V	5.062V	3.265V	4.967V	1070.369				53.39°C	114.88V
CL1	**0.116A**	**15.444A**	**15.685A**	**0A**	131.3	84.689%	929	27.1	40.37°C	0.988
	12.107V	5.07V	3.289V	5.159V	155.036				44.19°C	115.12V
CL2	**0.116A**	**24.701A**	**0A**	**0A**	126.395	82.853%	1161	34.4	40.64°C	0.987
	12.104V	5.061V	3.305V	5.168V	152.554				42.49°C	115.12V
CL3	**0.115A**	**0A**	**25.135A**	**0A**	83.89	77.214%	1163	34.4	41.85°C	0.982
	12.094V	5.092V	3.282V	5.161V	108.645				42.97°C	115.14V
CL4	**70.534A**	**0A**	**0A**	**0A**	849.663	89.226%	1113	33.6	45.96°C	0.996
	12.047V	5.082V	3.279V	5.097V	952.26				49.97°C	114.91V

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%	**5.238A**	**1.962A**	**1.997A**	**0.971A**	85.004	89.028%	0	<6.0	43.43°C	0.832
	12.105V	5.097V	3.306V	5.149V	95.479				40.2°C	230.39V
20%	**11.490A**	**2.945A**	**2.999A**	**1.17A**	169.979	92.609%	0	<6.0	44.36°C	0.931
	12.103V	5.094V	3.302V	5.131V	183.54				40.71°C	230.38V
30%	**18.098A**	**3.438A**	**3.502A**	**1.369A**	254.99	93.438%	0	<6.0	43.91°C	0.961
	12.097V	5.092V	3.299V	5.114V	272.896				41.17°C	230.38V
40%	**24.715A**	**3.931A**	**4.006A**	**1.57A**	340.083	93.596%	339	<6.0	41.82°C	0.972
	12.093V	5.089V	3.295V	5.097V	363.352				48.73°C	230.36V
50%	**30.989A**	**4.92A**	**5.017A**	**1.772A**	425.075	93.411%	368	<6.0	42.2°C	0.979
	12.087V	5.083V	3.289V	5.079V	455.055				47.95°C	230.35V
60%	**37.231A**	**5.909A**	**6.029A**	**1.976A**	509.598	93.134%	464	<6.0	42.99°C	0.983
	12.081V	5.078V	3.285V	5.061V	547.162				48.57°C	230.34V
70%	**43.547A**	**6.9A**	**7.044A**	**2.182A**	594.948	92.713%	624	13.8	43.02°C	0.985
	12.075V	5.074V	3.28V	5.042V	641.713				48.25°C	230.32V
80%	**49.871A**	**7.89A**	**8.059A**	**2.289A**	679.802	92.245%	738	19.8	43.53°C	0.987
	12.069V	5.07V	3.276V	5.026V	736.953				48.52°C	230.32V
90%	**56.598A**	**8.389A**	**8.557A**	**2.395A**	765.245	91.787%	924	27.1	44.49°C	0.989
	12.063V	5.067V	3.272V	5.011V	833.717				48.9°C	230.3V
100%	**63.059A**	**8.887A**	**9.087A**	**3.014A**	850.062	91.223%	1088	32.8	45.44°C	0.99
	12.058V	5.064V	3.268V	4.977V	931.856				49.9°C	230.29V
110%	**69.390A**	**9.881A**	**10.201A**	**3.022A**	934.651	90.622%	1168	34.6	46.3°C	0.991
	12.053V	5.061V	3.264V	4.964V	1031.378				50.8°C	230.28V
CL1	**0.116A**	**15.446A**	**15.688A**	**0A**	131.307	84.868%	928	27.1	41.51°C	0.917
	12.109V	5.069V	3.289V	5.158V	154.72				44.53°C	230.39V
CL2	**0.116A**	**24.704A**	**0A**	**0A**	126.401	82.916%	1162	34.4	41.01°C	0.915
	12.106V	5.06V	3.305V	5.167V	152.444				42.39°C	230.39V
CL3	**0.116A**	**0A**	**25.135A**	**0A**	83.894	76.681%	1162	34.4	40.78°C	0.861
	12.098V	5.092V	3.282V	5.161V	109.404				41.88°C	230.4V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL4	**70.546A**	**0A**	**0A**	**0A**	849.758	92.131%	1113	33.6	45.11°C	0.989
	12.046V	5.081V	3.278V	5.095V	922.338				47.44°C	230.29V

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**	**0.49A**	**0.499A**	**0.193A**	20.011	75.764%	0	<6.0	41.12°C	0.841
	12.097V	5.099V	3.308V	5.183V	26.411				36.58°C	115.18V
40W	**2.703A**	**0.686A**	**0.698A**	**0.29A**	40.007	84.181%	0	<6.0	42.81°C	0.934
	12.097V	5.099V	3.308V	5.177V	47.525				37.52°C	115.17V
60W	**4.177A**	**0.883A**	**0.898A**	**0.387A**	60.004	88.203%	0	<6.0	43.73°C	0.961
	12.097V	5.098V	3.307V	5.172V	68.028				38.26°C	115.16V
80W	**5.650A**	**1.079A**	**1.098A**	**0.484A**	79.971	89.861%	0	<6.0	44.46°C	0.971
	12.097V	5.098V	3.306V	5.166V	88.994				39.51°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	**1.228A**	**0.49A**	**0.499A**	**0.193A**	20.006	74.071%	0	<6.0	41.2°C	0.469
	12.092V	5.099V	3.308V	5.182V	27.008				36.73°C	230.41V
40W	**2.702A**	**0.686A**	**0.698A**	**0.29A**	40.003	82.137%	0	<6.0	42.48°C	0.654
	12.102V	5.099V	3.308V	5.177V	48.701				37.79°C	230.4V
60W	**4.176A**	**0.883A**	**0.898A**	**0.387A**	60.002	87.178%	0	<6.0	42.37°C	0.76
	12.102V	5.098V	3.307V	5.172V	68.825				38.6°C	230.4V
80W	**5.646A**	**1.079A**	**1.098A**	**0.484A**	79.968	89.174%	0	<6.0	43.42°C	0.82
	12.103V	5.098V	3.306V	5.166V	89.675				39.16°C	230.4V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.2 mV	8.5 mV	11.0 mV	7.0 mV	Pass
20% Load	9.4 mV	9.0 mV	11.2 mV	6.6 mV	Pass
30% Load	9.1 mV	8.8 mV	11.3 mV	7.0 mV	Pass
40% Load	10.4 mV	9.0 mV	11.7 mV	7.9 mV	Pass
50% Load	12.1 mV	9.5 mV	11.9 mV	7.7 mV	Pass
60% Load	14.2 mV	10.0 mV	12.2 mV	8.2 mV	Pass
70% Load	13.9 mV	10.3 mV	12.6 mV	9.9 mV	Pass
80% Load	16.1 mV	10.9 mV	15.5 mV	10.2 mV	Pass
90% Load	15.4 mV	11.6 mV	16.0 mV	10.2 mV	Pass
100% Load	19.3 mV	13.0 mV	19.3 mV	13.4 mV	Pass
110% Load	21.0 mV	13.7 mV	20.4 mV	14.5 mV	Pass
Crossload 1	13.0 mV	14.7 mV	20.3 mV	7.9 mV	Pass
Crossload 2	10.8 mV	17.7 mV	12.3 mV	6.8 mV	Pass
Crossload 3	11.7 mV	11.7 mV	20.5 mV	6.8 mV	Pass
Crossload 4	20.4 mV	10.2 mV	15.2 mV	10.0 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.9 mV	8.8 mV	10.9 mV	6.2 mV	Pass
20% Load	8.4 mV	8.2 mV	10.6 mV	5.6 mV	Pass
30% Load	9.7 mV	9.5 mV	11.4 mV	7.0 mV	Pass
40% Load	10.1 mV	9.0 mV	12.1 mV	7.1 mV	Pass
50% Load	13.3 mV	10.1 mV	12.1 mV	7.5 mV	Pass
60% Load	14.4 mV	10.2 mV	12.5 mV	8.4 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
70% Load	13.1 mV	10.6 mV	12.6 mV	10.1 mV	Pass
80% Load	15.3 mV	11.3 mV	15.6 mV	10.1 mV	Pass
90% Load	15.5 mV	11.5 mV	15.4 mV	10.3 mV	Pass
100% Load	21.3 mV	12.7 mV	18.6 mV	12.3 mV	Pass
110% Load	22.2 mV	13.2 mV	19.4 mV	13.6 mV	Pass
Crossload 1	18.9 mV	14.8 mV	19.7 mV	7.0 mV	Pass
Crossload 2	14.9 mV	17.9 mV	11.8 mV	6.9 mV	Pass
Crossload 3	14.7 mV	11.8 mV	19.5 mV	6.9 mV	Pass
Crossload 4	20.8 mV	10.0 mV	15.0 mV	9.6 mV	Pass

The results above are not used in the certification process

ASUS ROG-STRIX-850P-GAMING



Top side



Power specifications label

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