ASUS ROG-STRIX-750G-AURA-GAMING

Serial Number

Lab ID AS75002052

Certification ID 252052

Test Result Report ID: 22PS2052A

Certificate Issue Date: Aug 23, 2022

Scheme: ETA-EMI PSU

115V



230V

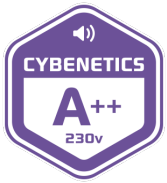


Scheme: LAMBDA PSU

115V



230V





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-750G-AURA-GAMING
OEM/ODM	CWT
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	10-5
Rated Frequency (Hz)	50-60
Rated Power (W)	750
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	AS75002052
Date of receipt	Jul 2, 2022
Testing Date	Aug 5, 2022
Report Issued Date	Aug 23, 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	62.5	3	0.3
	Watts	120		750	15	3.6
Total Max. Power (W)		750				

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)	88.281%
Average Noise Output (>1450 Load Combinations)	12.34dBA
Average PF (>1450 Load Combinations)	0.991
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.973%
Standby Power Consumption	0.0172W

Non-Accredited	
12V Ripple (Full Load)	10.67mV
5V Ripple (Full Load)	6.97mV
3.3V Ripple (Full Load)	10.50mV
5VSB Ripple (Full Load)	14.81mV
12V Load Regulation	0.79%
5V Load Regulation	0.61%
3.3V Load Regulation	1.01%
5VSB Load Regulation	2.27%
Inrush Current	70.670A

230V

Accredited	
Average Efficiency (>1450 load combinations)	89.667%
Average Noise Output (>1450 Load Combinations)	12.28dBA
Average PF (>1450 Load Combinations)	0.963
Efficiency With 10W (≤500W) or 2% (>500W) Load	68.556%
Standby Power Consumption	0.0820W
Non-Accredited	
12V Ripple (Full Load)	11.27mV
5V Ripple (Full Load)	6.68mV
3.3V Ripple (Full Load)	10.20mV
5VSB Ripple (Full Load)	12.13mV
12V Load Regulation	0.68%
5V Load Regulation	0.67%
3.3V Load Regulation	1.04%
5VSB Load Regulation	2.21%
Inrush Current	83.720A
12V Transient Response (200%)	11.23V
5V Transient Response (200%)	4.954V
3.3V Transient Response (200%)	3.180V
5VSB Transient Response (200%)	4.967V

Hold-Up Time & PWR_OK Signal		22.00ms
AC Loss to PWR_OK Hold Up Time		18.20ms
PWR_OK Inactive to DC Loss Delay		3.80ms
PSU Timings: T1 (20% / 100%)	62.0ms	61.0ms
PSU Timings: T3 (20% / 100%)	129.0ms	130.0ms
OPP (29.64°C / 41.48°C)	136.98%	136.98%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	22
AC Loss to PWR_OK Hold Up Time (ms)	18.2
PWR_OK Inactive to DC Loss Delay (ms)	3.8

Tables

115V

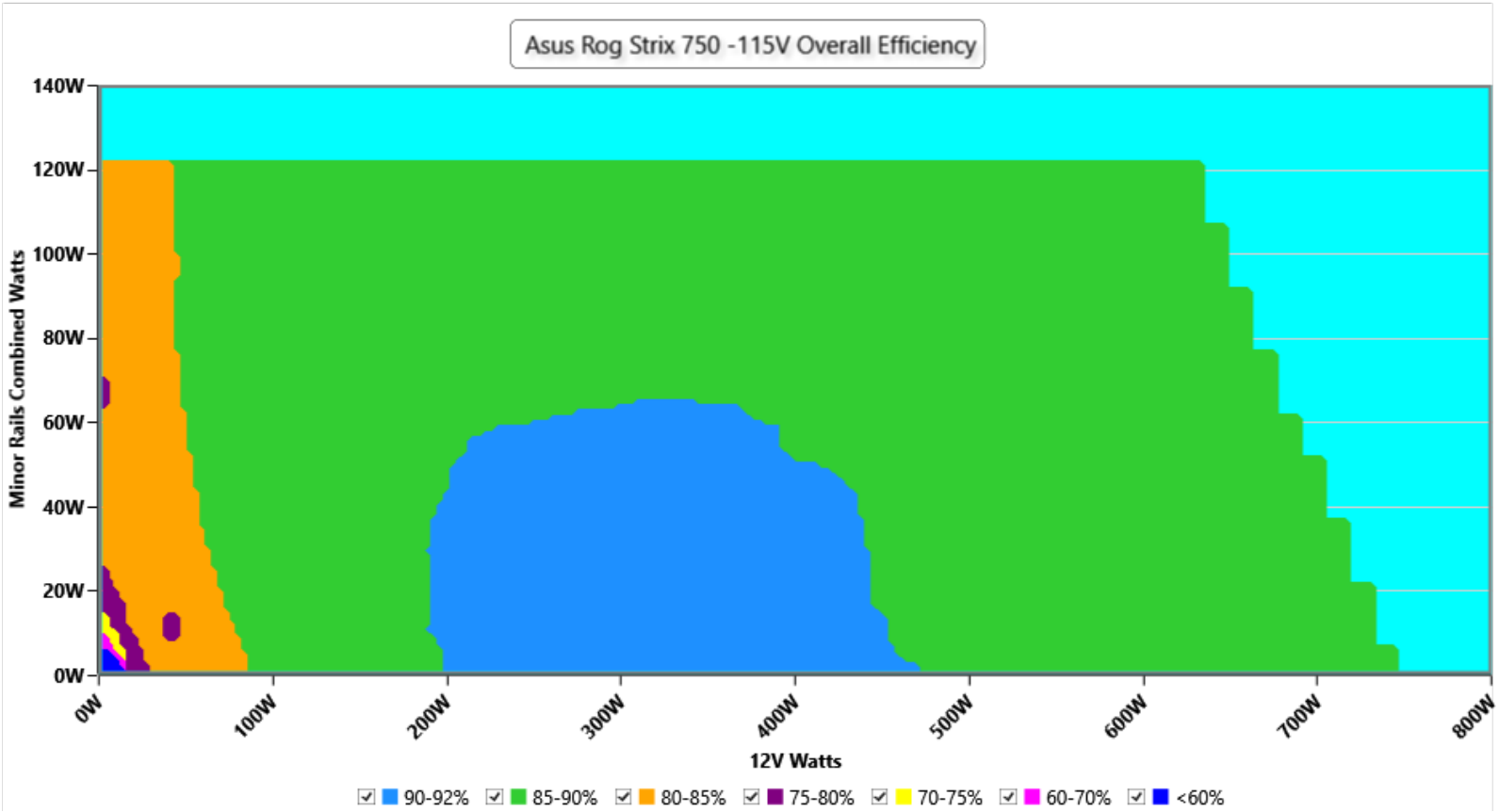
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.93 V	114.89 V	113.85 V	114.96 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.98 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.15 %	0.12 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.017 W	0.015 W	N/A	0.019 W	N/A	N/A
Apparent Power:	10.417 W	10.398 W	N/A	10.439 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:	229.88 V	229.84 V	227.70 V	229.94 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:	0.15 %	0.13 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.082 W	0.071 W	N/A	0.100 W	N/A	N/A
Apparent Power:	35.193 W	35.174 W	N/A	35.218 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

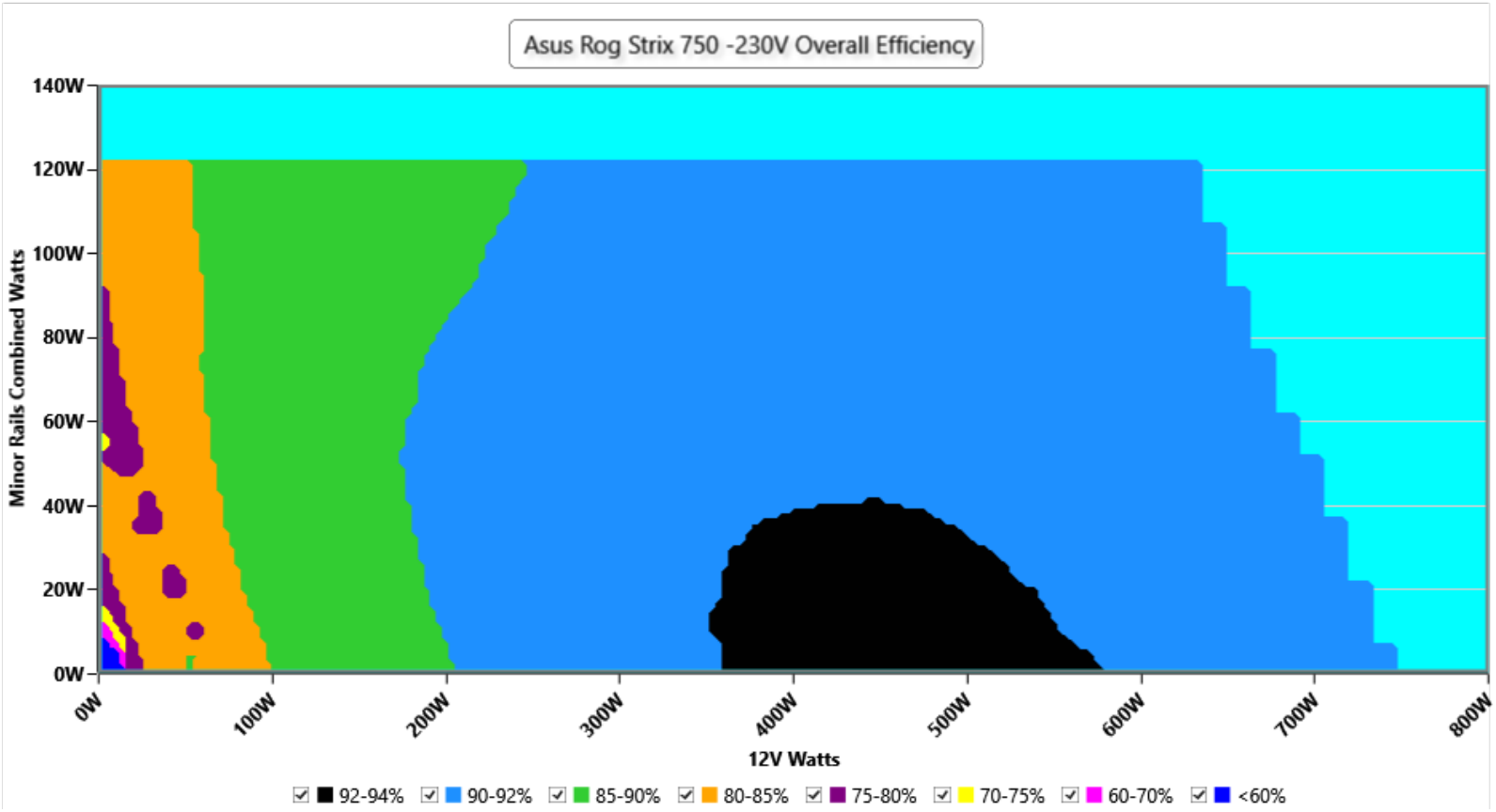
115V



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



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Noise Graph

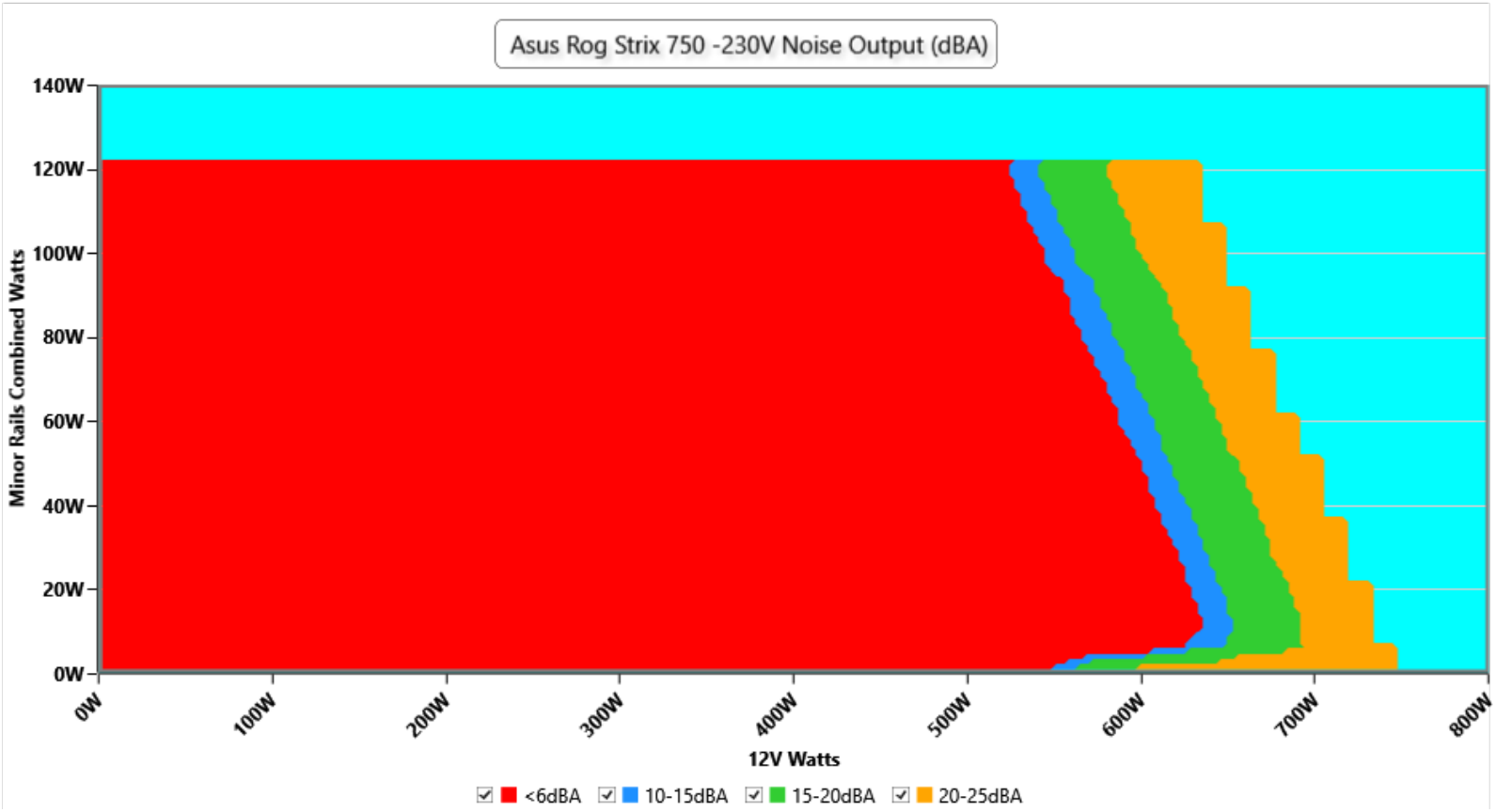
115V



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) · 44.8 °C	0 RPM · <6.0 dB(A) · 44.8 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.8 °C	0 RPM · <6.0 dB(A) · 45.8 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 48.5 °C	0 RPM · <6.0 dB(A) · 48.5 °C	fan off in both
100%	909 RPM · 27.4 dB(A) · 45.7 °C	909 RPM · 27.4 dB(A) · 45.7 °C	**+0.0 dB(A)**

230V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.7 °C	0 RPM · <6.0 dB(A) · 44.7 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.4 °C	0 RPM · <6.0 dB(A) · 45.4 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 48.5 °C	0 RPM · <6.0 dB(A) · 48.5 °C	fan off in both
100%	912 RPM · 27.4 dB(A) · 45.9 °C	912 RPM · 27.4 dB(A) · 45.9 °C	**+0.0 dB(A)**

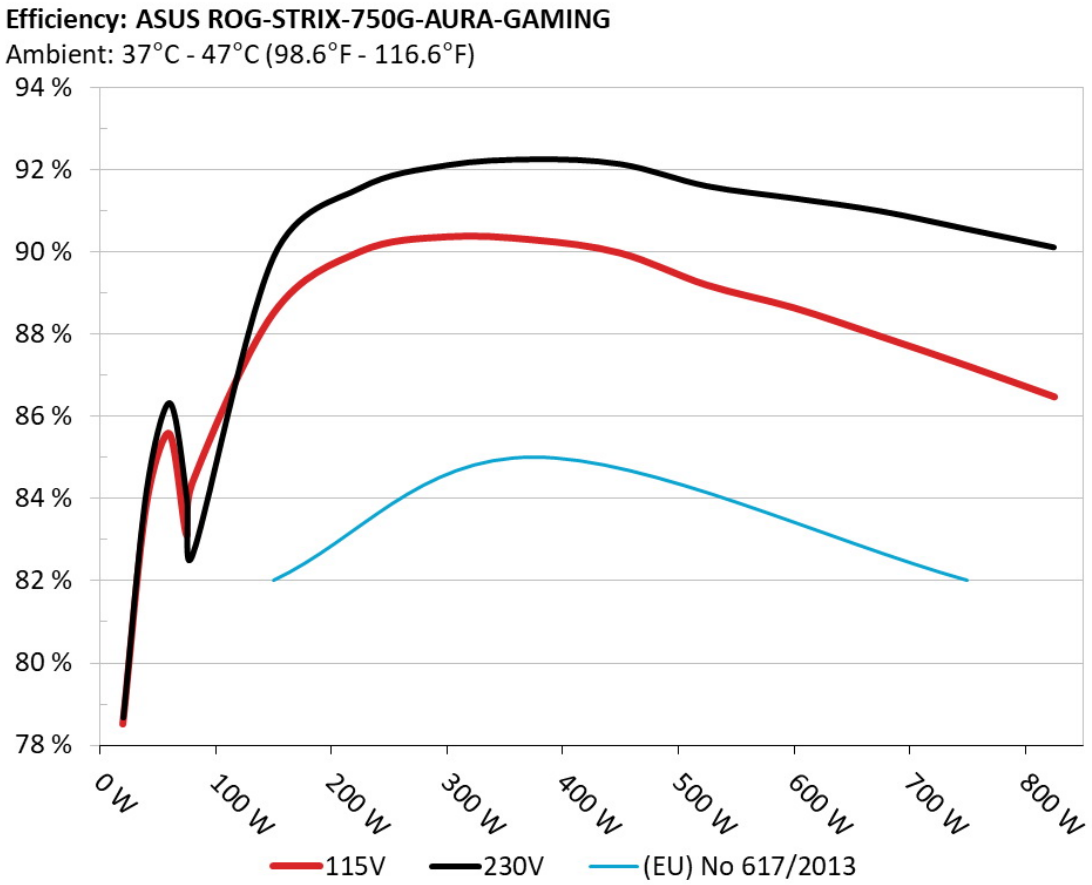
INFO

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

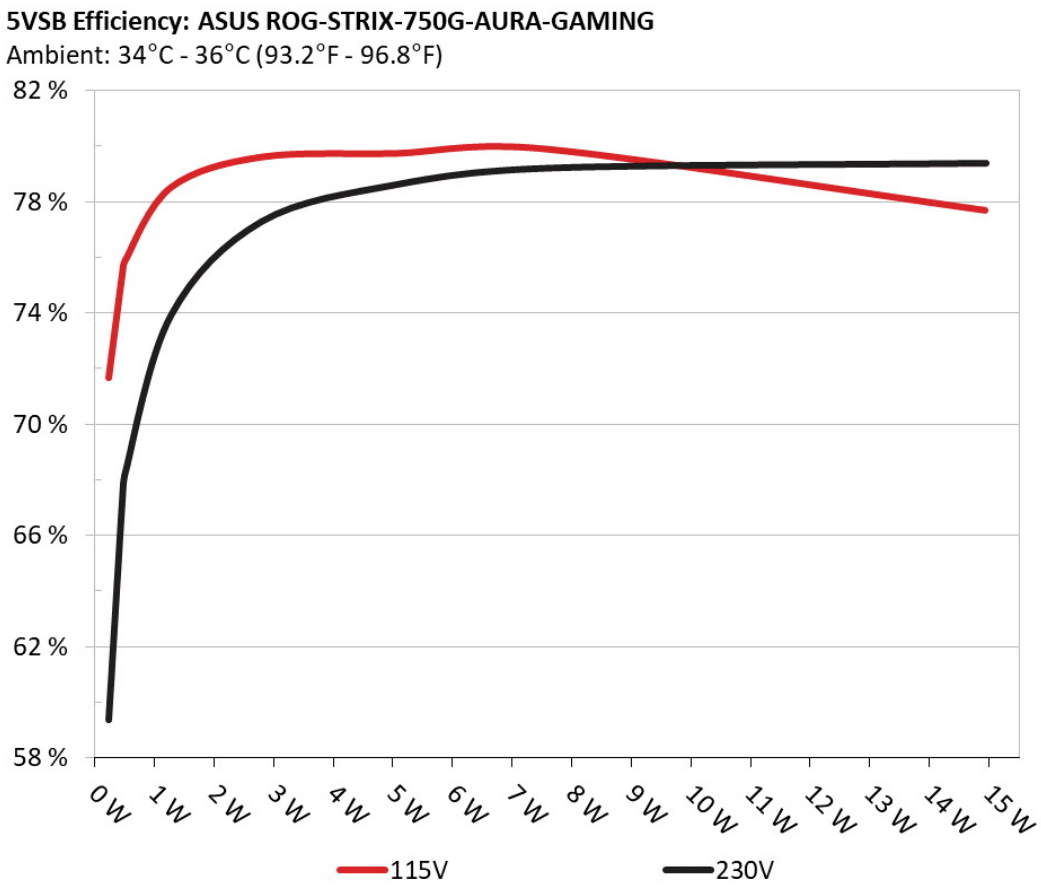
Efficiency under high ambient temperature



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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	71.678%	0.031
	5.102V	0.321W		114.94V
2	0.09A	0.459W	75.439%	0.057
	5.1V	0.609W		114.93V
3	0.55A	2.795W	79.61%	0.255
	5.081V	3.511W		114.93V
4	1A	5.063W	79.74%	0.333
	5.062V	6.35W		114.92V
5	1.5A	7.564W	79.899%	0.387
	5.042V	9.467W		114.93V
6	3.001A	14.94W	77.695%	0.457
	4.979V	19.229W		114.92V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	59.388%	0.011
	5.106V	0.389W		229.89V
2	0.09A	0.459W	67.33%	0.019
	5.102V	0.683W		229.89V
3	0.55A	2.796W	77.296%	0.098
	5.082V	3.619W		229.89V
4	1A	5.064W	78.625%	0.162
	5.063V	6.441W		229.89V
5	1.5A	7.565W	79.211%	0.204
	5.043V	9.551W		229.89V
6	3.001A	14.943W	79.389%	0.308
	4.98V	18.821W		229.89V

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%	4.454A	1.971A	2.002A	0.989A	75.02	83.115%	0	<6.0	44.78°C	0.974
	11.991V	5.075V	3.297V	5.055V	90.264				40.21°C	114.9V
20%	9.950A	2.958A	3.006A	1.191A	149.988	88.507%	0	<6.0	45.8°C	0.989
	11.968V	5.072V	3.294V	5.04V	169.466				40.81°C	114.9V
30%	15.796A	3.452A	3.51A	1.393A	224.995	90.01%	0	<6.0	46.23°C	0.993
	11.962V	5.07V	3.291V	5.025V	249.966				41.01°C	114.86V
40%	21.655A	3.947A	4.015A	1.597A	300.086	90.37%	0	<6.0	47.51°C	0.994
	11.955V	5.067V	3.288V	5.009V	332.06				41.61°C	114.84V
50%	27.129A	4.937A	5.024A	1.802A	374.692	90.295%	0	<6.0	48.45°C	0.995
	11.949V	5.064V	3.285V	4.994V	414.961				42.14°C	114.84V
60%	32.647A	5.928A	6.035A	2A	449.561	89.976%	383	<6.0	42.84°C	0.995
	11.939V	5.061V	3.281V	4.986V	499.642				49.65°C	114.81V
70%	38.102A	6.921A	7.049A	2.199A	524.492	89.196%	384	<6.0	43.02°C	0.995
	11.952V	5.059V	3.278V	5.003V	588.023				50.28°C	114.81V
80%	43.717A	7.916A	8.064A	2.282A	599.708	88.642%	382	<6.0	43.89°C	0.995
	11.936V	5.055V	3.274V	5.04V	676.551				52.01°C	114.78V
90%	49.633A	8.417A	8.562A	2.386A	674.745	87.945%	615	19.1	44.77°C	0.996
	11.932V	5.051V	3.27V	5.03V	767.231				53.71°C	114.76V
100%	55.369A	8.916A	9.092A	3.004A	749.951	87.226%	909	27.4	45.67°C	0.996
	11.924V	5.049V	3.267V	4.994V	859.786				55.39°C	114.74V
110%	60.964A	9.912A	10.204A	3.009A	824.958	86.475%	1198	32.8	46.58°C	0.997
	11.919V	5.046V	3.263V	4.986V	953.978				57.41°C	114.71V
CL1	0.117A	14.274A	14.517A	0A	121.322	83.312%	381	<6.0	42.23°C	0.987
	11.976V	5.059V	3.285V	5.084V	145.601				48.54°C	114.9V

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	21.841A	0A	0A	111.431	81.547%	379	<6.0	43.57°C	0.985
	11.981V	5.038V	3.295V	5.094V	136.649				50.76°C	114.91V
CL3	0.117A	0A	22.125A	0A	73.991	75.477%	379	<6.0	44.87°C	0.975
	11.991V	5.09V	3.281V	5.087V	98.03				53.01°C	114.91V
CL4	62.857A	0A	0A	0A	749.72	88.168%	746	23.5	45.93°C	0.996
	11.927V	5.055V	3.272V	5.152V	850.33				55.29°C	114.74V

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%	4.450A	1.971A	2.001A	0.989A	75.015	83.998%	0	<6.0	44.67°C	0.822
	12.003V	5.073V	3.298V	5.057V	89.308				40.42°C	229.88V
20%	9.940A	2.959A	3.005A	1.19A	149.973	89.889%	0	<6.0	45.43°C	0.929
	11.978V	5.071V	3.295V	5.041V	166.845				40.78°C	229.87V
30%	15.785A	3.453A	3.509A	1.393A	224.981	91.563%	0	<6.0	46.15°C	0.96
	11.969V	5.068V	3.292V	5.025V	245.717				41.13°C	229.87V
40%	21.643A	3.948A	4.013A	1.597A	300.074	92.118%	0	<6.0	47.47°C	0.973
	11.961V	5.066V	3.289V	5.009V	325.749				41.79°C	229.86V
50%	27.119A	4.938A	5.022A	1.802A	374.667	92.26%	0	<6.0	48.48°C	0.98
	11.953V	5.063V	3.286V	4.994V	406.095				42.34°C	229.84V
60%	32.639A	5.929A	6.032A	2A	449.545	92.147%	382	<6.0	42.62°C	0.983
	11.942V	5.061V	3.283V	4.987V	487.849				49.41°C	229.83V
70%	38.094A	6.921A	7.045A	2.197A	524.468	91.612%	382	<6.0	43.1°C	0.987
	11.954V	5.058V	3.279V	5.007V	572.492				50.21°C	229.83V
80%	43.715A	7.917A	8.06A	2.282A	599.694	91.314%	381	<6.0	43.69°C	0.989
	11.936V	5.054V	3.275V	5.04V	656.738				51.64°C	229.82V
90%	49.636A	8.416A	8.557A	2.386A	674.721	91.002%	568	16.7	44.74°C	0.99
	11.931V	5.051V	3.272V	5.03V	741.437				53.33°C	229.82V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	55.362A	8.916A	9.087A	3.005A	749.932	90.562%	912	27.4	45.88°C	0.991
	11.925V	5.048V	3.268V	4.993V	828.092				55.72°C	229.8V
110%	60.962A	9.912A	10.199A	3.009A	824.939	90.121%	1135	31.7	46.74°C	0.992
	11.919V	5.046V	3.265V	4.985V	915.367				57.62°C	229.79V
CL1	0.117A	14.27A	14.507A	0A	121.319	84.433%	383	<6.0	42.01°C	0.908
	11.976V	5.061V	3.288V	5.084V	143.679				48.76°C	229.88V
CL2	0.117A	21.84A	0A	0A	111.426	82.755%	383	<6.0	43.67°C	0.899
	11.984V	5.038V	3.296V	5.094V	134.651				50.83°C	229.87V
CL3	0.117A	0A	22.117A	0A	73.992	76.222%	380	<6.0	44.27°C	0.839
	11.994V	5.089V	3.282V	5.088V	97.079				52.5°C	229.88V
CL4	62.855A	0A	0A	0A	749.721	91.453%	744	23.5	45.16°C	0.991
	11.928V	5.054V	3.273V	5.152V	819.785				55.3°C	229.8V

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	1.238A	0.492A	0.5A	0.196A	20.015	78.51%	0	<6.0	39.97°C	0.805
	12.006V	5.08V	3.3V	5.099V	25.495				36.93°C	114.93V
40W	2.722A	0.689A	0.7A	0.295A	40.015	83.807%	0	<6.0	41.52°C	0.925
	12.018V	5.08V	3.3V	5.093V	47.745				38.2°C	114.91V
60W	4.208A	0.886A	0.901A	0.393A	60.017	85.583%	0	<6.0	42.07°C	0.96
	12.012V	5.078V	3.299V	5.087V	70.13				38.29°C	114.91V
80W	5.702A	1.084A	1.101A	0.492A	79.985	84.38%	0	<6.0	42.77°C	0.975
	11.989V	5.077V	3.298V	5.08V	94.792				38.79°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
20W	1.240A	0.492A	0.5A	0.196A	20.013	78.684%	0	<6.0	39.54°C	0.415
	11.989V	5.082V	3.302V	5.097V	25.435				36.52°C	229.89V
40W	2.724A	0.689A	0.7A	0.295A	40.014	84.198%	0	<6.0	40.37°C	0.631
	12.006V	5.081V	3.301V	5.091V	47.526				37.07°C	229.89V
60W	4.210A	0.886A	0.9A	0.393A	60.015	86.335%	0	<6.0	41.43°C	0.758
	12.003V	5.08V	3.3V	5.085V	69.518				37.93°C	229.88V
80W	5.704A	1.083A	1.1A	0.492A	79.981	82.653%	0	<6.0	43.01°C	0.844
	11.981V	5.078V	3.299V	5.079V	96.765				39.26°C	229.88V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.22mV	7.25mV	6.14mV	5.32mV	Pass
20% Load	8.98mV	9.20mV	7.26mV	5.48mV	Pass
30% Load	8.22mV	7.76mV	11.00mV	6.04mV	Pass
40% Load	7.27mV	6.74mV	7.00mV	6.81mV	Pass
50% Load	7.42mV	7.51mV	7.31mV	6.81mV	Pass
60% Load	7.98mV	6.79mV	7.72mV	7.78mV	Pass
70% Load	7.37mV	6.79mV	7.82mV	8.49mV	Pass
80% Load	7.32mV	7.41mV	9.15mV	8.19mV	Pass
90% Load	8.19mV	6.23mV	9.10mV	10.44mV	Pass
100% Load	10.67mV	6.97mV	10.50mV	14.81mV	Pass
110% Load	11.58mV	7.29mV	11.68mV	12.43mV	Pass
Crossload1	17.53mV	7.13mV	12.02mV	7.41mV	Pass
Crossload2	11.77mV	8.12mV	7.62mV	6.70mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	10.39mV	8.37mV	15.39mV	6.86mV	Pass
Crossload4	9.60mV	8.06mV	7.33mV	7.66mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.73mV	7.92mV	6.44mV	5.58mV	Pass
20% Load	9.85mV	7.10mV	7.01mV	5.83mV	Pass
30% Load	8.36mV	9.35mV	10.89mV	5.68mV	Pass
40% Load	7.54mV	6.95mV	6.49mV	6.70mV	Pass
50% Load	7.47mV	6.89mV	6.90mV	7.06mV	Pass
60% Load	7.29mV	6.18mV	7.41mV	7.06mV	Pass
70% Load	7.16mV	6.54mV	8.54mV	8.29mV	Pass
80% Load	7.47mV	7.41mV	9.05mV	8.19mV	Pass
90% Load	8.04mV	6.54mV	9.16mV	10.18mV	Pass
100% Load	11.27mV	6.68mV	10.20mV	12.13mV	Pass
110% Load	11.65mV	7.38mV	11.87mV	13.01mV	Pass
Crossload1	18.39mV	7.19mV	12.20mV	6.77mV	Pass
Crossload2	10.59mV	8.94mV	7.82mV	7.06mV	Pass
Crossload3	9.88mV	8.84mV	15.14mV	6.81mV	Pass
Crossload4	10.71mV	7.95mV	7.55mV	7.66mV	Pass

The results above are not used in the certification process

ASUS ROG-STRIX-750G-AURA-GAMING



Top side



Power specifications label