ASUS TUF Gaming 850W Gold EVO

Serial Number 2Q024144894

Lab ID AS85003254

Certification ID 263254

Test Result Report ID: 26PS3254A

Certificate Issue Date: Apr 27, 2026

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	TUF Gaming 850W Gold EVO
OEM/ODM	Great Wall
Serial Number	2Q024144894
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	6-10
Rated Frequency (Hz)	47-63
Rated Power (W)	850
Operating Temperature (Continuous Full Load) (°C)	0 - 40
Type	ATX12V
Cable Design	Fully Modular
Warranty	8 years
Cybenetics Measurements	
Dimensions (W x H x D)	150 x 85 x 140mm
Weight	1.34 kg (2.95 lb)
Cooling	135mm Ball Bearing Fan (HA13525M12B-Z)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	AS85003254
Date of receipt	Mar 26, 2026
Testing Date	Apr 17, 2026
Report Issued Date	Apr 27, 2026
Engineer Name	Ioannis Kalyviotis
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors
(Non-accredited measurements)

Modular Cables				
Description	**Cable Count**	**Connector Count (Total)**	**Gauge**	**Cable Type**
ATX connector 20+4 pin (500mm)	1	1	18AWG	Tinned Copper
4+4 pin EPS12V (650mm+100mm)	1	2	18AWG	Tinned Copper
6+2 pin PCIe (500mm)	1	1	18AWG	Tinned Copper
2x 6+2 pin PCIe (500mm)	2	2	18AWG	Tinned Copper
12+4 pin PCIe (500mm) (600W)	1	1	16-24AWG	Tinned Copper

Modular Cables				
SATA (400mm+115mm) / 4-pin Molex (+115mm)	2	4 / 2	18AWG	Tinned Copper

Protection Features

Under Voltage Protection	✓
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	20	20	70.83	3	0.3
	Watts	110		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, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK-056 (5 Ohm @ 20°C) & Relay
Bridge Rectifier	1x LRC GBU25M (1000V, 25A @ 100°C)
APFC MOSFETs	1x Infineon IPW60R060C7 (650V, 10A @ 100°C, Rds(on): 0.060 Ohm)
APFC Boost Diode	1x Wolfspeed C6D10065A (650V, 10A @ 155°C)
Bulk Cap(s)	1x Elite (450V, 560uF, 2,000h @ 105°C, PL)
Main Switchers	2x ST STF33N60DM2 (600V, 15.5A @ 100°C, Rds(on): 0.130 Ohm)

PFC/PWM Combo Controller	MPS HR1280
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	4x ONSEMI NTMFS5C430NL (40V, 140A @ 100°C, Rds(on): 1.4 mOhm)
5V & 3.3V	DC-DC Converters: 4x AP4024GEMT-HF (30V, 60A @ 25°C, Rds(on): 4.5 mOhm) PWM Controller(s): ANPEC APW7159C
Filtering Capacitors	Electrolytic: 4x Elite (5000 @ 105°C, EJ) 1x Elite (4000 @ 105°C, EK) 2x Elite (4000 @ 105°C, ED) Polymer: 8x Nichicon FPCAP, 3x Elite
Supervisor IC	NDP NDP5201KC
Fan Controller	BCD AS358M
Fan Model	HongHua HA13525M12B-Z (135mm, 12V, 0.36A, Dual Ball Bearing Fan)
5VSB Circuit	
Rectifier	DIODES SDT8A60VP5 (60V,8A)
Standby PWM Controller	Lendtrend LD5537E1

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)	88.476%
Average Noise Output (>1450 Load Combinations)	29.37dBA
Average PF (>1450 Load Combinations)	0.978
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.694%
Standby Power Consumption	0.0460W
Non-Accredited	
12V Ripple (Full Load)	55.54mV
5V Ripple (Full Load)	34.28mV
3.3V Ripple (Full Load)	31.24mV
5VSB Ripple (Full Load)	20.73mV
12V Load Regulation	1.64%
5V Load Regulation	0.95%
3.3V Load Regulation	3.29%
5VSB Load Regulation	3.27%
Inrush Current	28.830A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.248%
Average Noise Output (>1450 Load Combinations)	28.21dBA
Average PF (>1450 Load Combinations)	0.972
Efficiency With 10W (≤500W) or 2% (>500W) Load	78.022%
Standby Power Consumption	0.1378W
Non-Accredited	
12V Ripple (Full Load)	55.95mV
5V Ripple (Full Load)	33.77mV
3.3V Ripple (Full Load)	29.91mV

5VSB Ripple (Full Load)		19.50mV
12V Load Regulation		1.72%
5V Load Regulation		1.99%
3.3V Load Regulation		3.46%
5VSB Load Regulation		3.37%
Inrush Current		74.710A
12V Transient Response (200%)		11.33V
5V Transient Response (200%)		4.946V
3.3V Transient Response (200%)		3.139V
5VSB Transient Response (200%)		5.045V
Hold-Up Time & PWR_OK Signal		18.40ms
AC Loss to PWR_OK Hold Up Time		16.80ms
PWR_OK Inactive to DC Loss Delay		1.60ms
PSU Timings: T1 (20% / 100%)	66.0ms	60.0ms
PSU Timings: T3 (20% / 100%)	125.0ms	126.0ms
12V OCP (28.7°C / 42.9°C)	89.60A (126.50%), 11.947V	87.60A (123.68%), 11.944V
5V OCP (28.7°C / 42.9°C)	28.5A (142.50%), 5.093V *High Ripple (55.32mV)	27.6A (138.00%), 5.097V *High Ripple (54.66mV)
3.3V OCP (28.7°C / 42.9°C)	27.9A (139.50%), 3.268V	27.5A (137.50%), 3.269V
5VSB OCP (28.7°C / 42.9°C)	4.2A (140.00%), 5.074V	4.2A (140.00%), 5.073V
OPP (27.21°C / 41.93°C)	123.96%	120.79%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	18.4
AC Loss to PWR_OK Hold Up Time (ms)	16.8
PWR_OK Inactive to DC Loss Delay (ms)	1.6

Vampire Power

Tables

115V

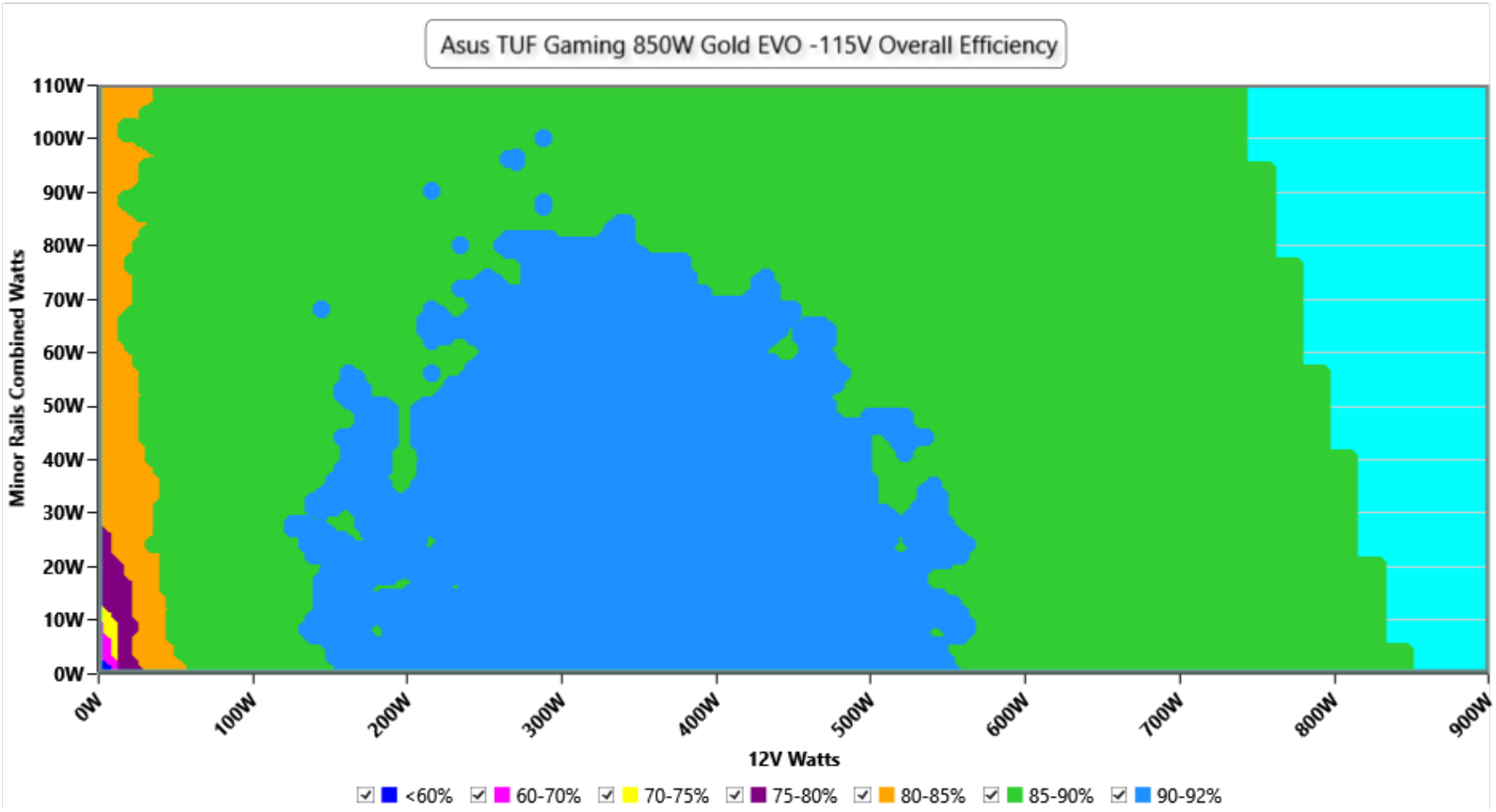
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.03 V	115.02 V	113.85 V	115.06 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.95 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.13 %	0.11 %	N/A	0.15 %	2.00 %	PASS
Real Power:	0.046 W	0.014 W	N/A	0.077 W	N/A	N/A
Apparent Power:	13.582 W	13.540 W	N/A	13.619 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.11 V	230.08 V	227.70 V	230.12 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:	0.138 W	0.101 W	N/A	0.191 W	N/A	N/A
Apparent Power:	44.953 W	44.920 W	N/A	44.987 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

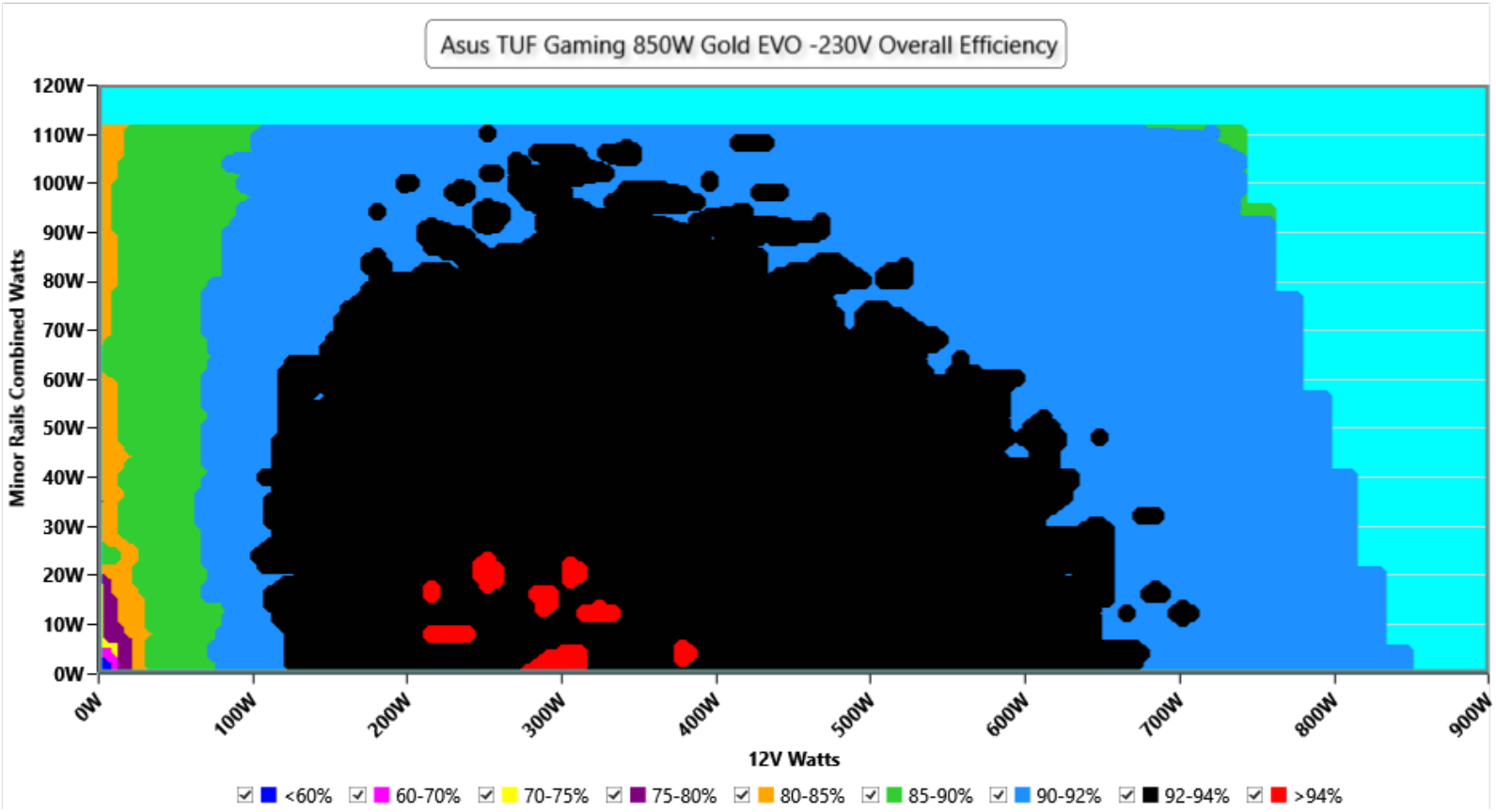
115V



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

230V



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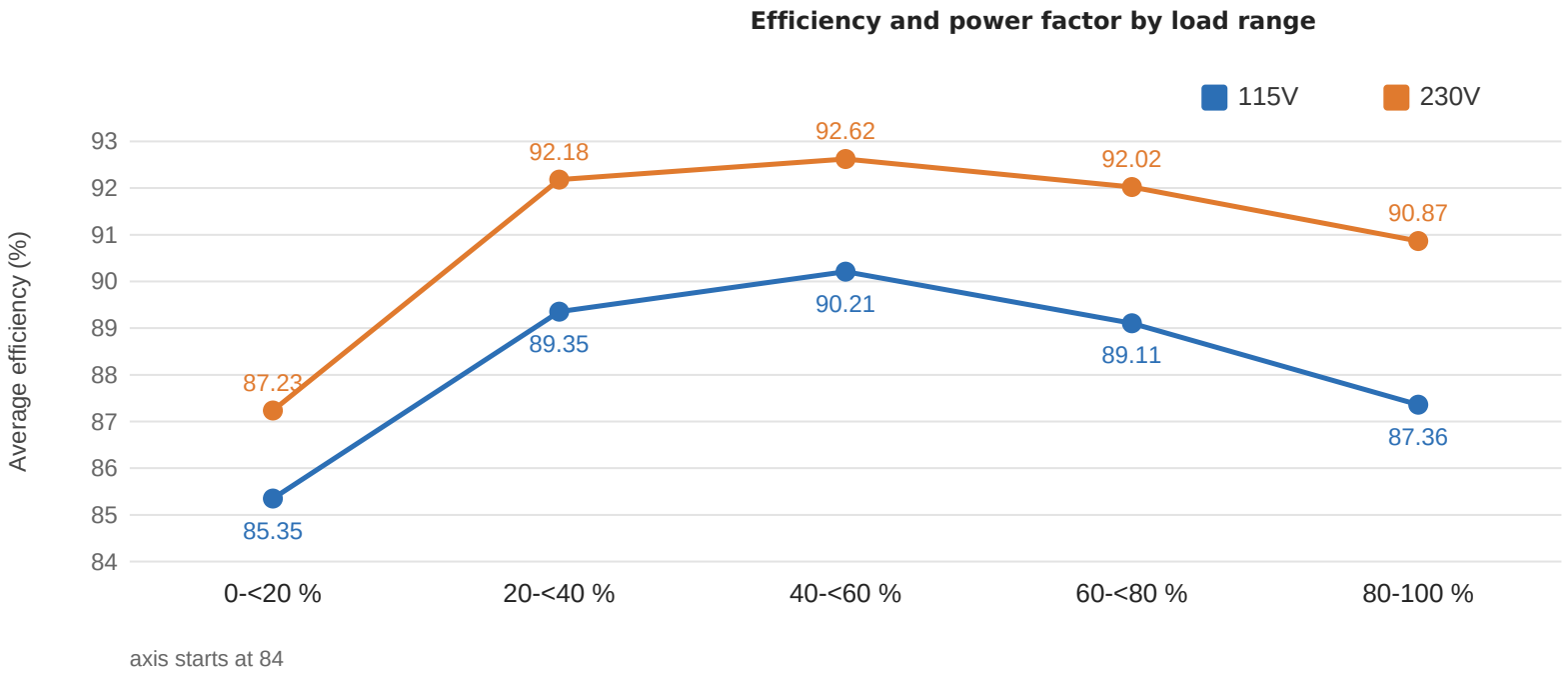
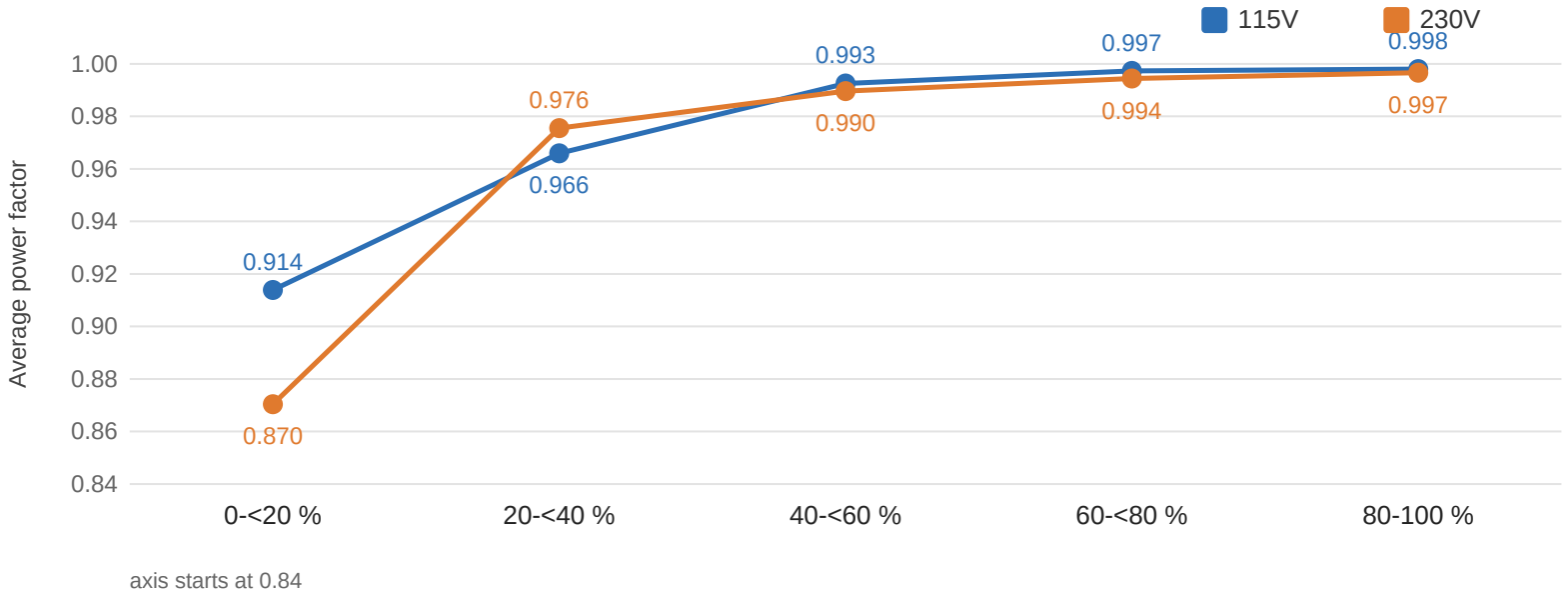


axis starts at 84



axis starts at 0.84

Load range	Points	Efficiency 115V	Efficiency 230V	PF 115V	PF 230V
0-<20 %	215 / 215	85.35%	87.23%	0.914	0.870
20-<40 %	320 / 320	89.35%	92.18%	0.966	0.976
40-<60 %	322 / 322	90.21%	92.62%	0.993	0.990
60-<80 %	320 / 320	89.11%	92.02%	0.997	0.994
80-100 %	330 / 330	87.36%	90.87%	0.998	0.997
70-100 % (High-Load)	492 / 492	87.81%	91.17%	0.998	0.996
All (published average)	1507 / 1507	88.48%	91.25%	0.978	0.972

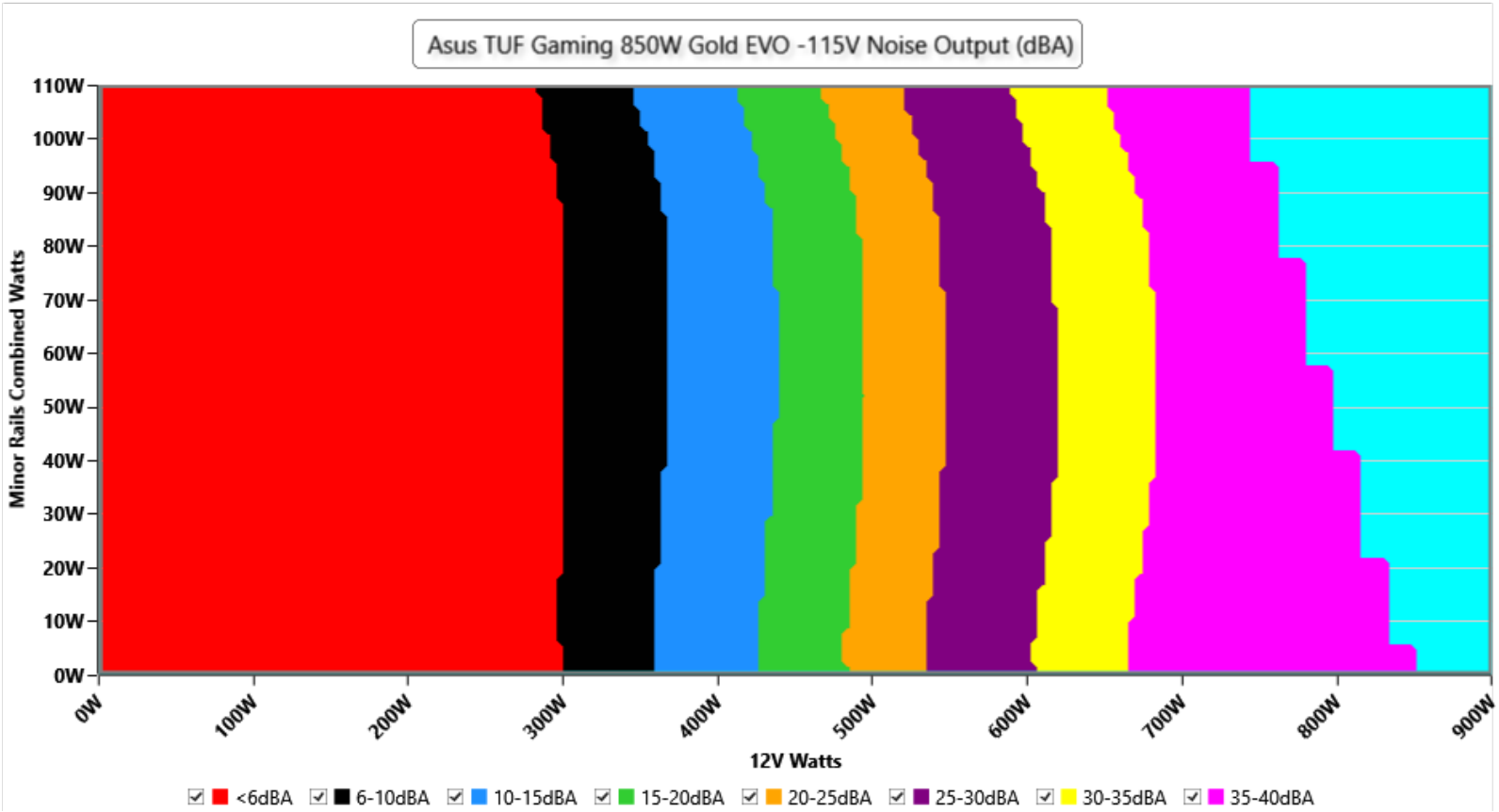
INFO

The average efficiency and power factor in five ranges of load. Calculated from the 1507 (115V) and 1507 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 850 W. These are plain averages of the valid readings, as for the ETA rating, so the ranges combined give back the published averages.

Informational. Not part of the ETA or LAMBDA rating.

Noise Graph

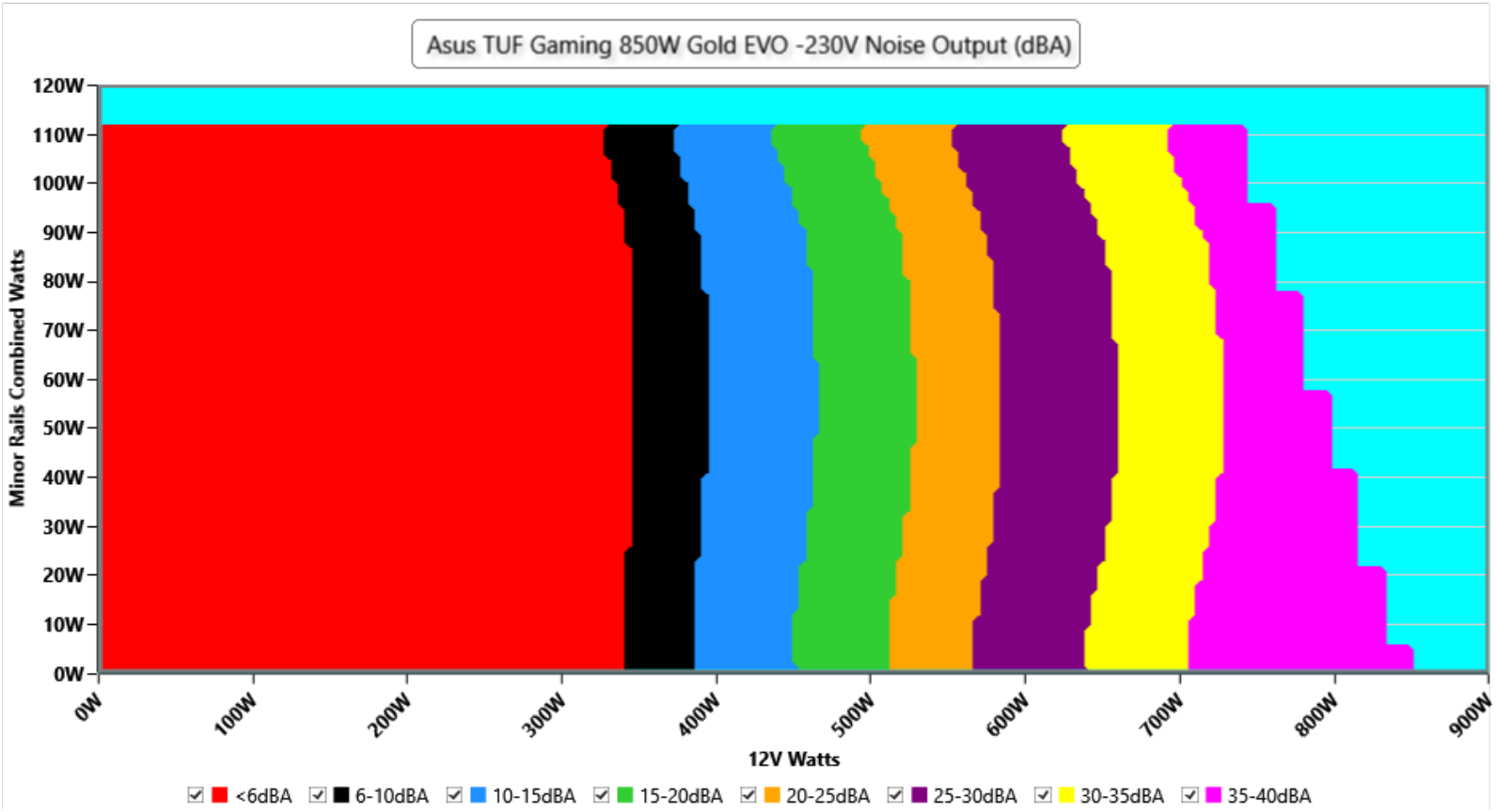
115V



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

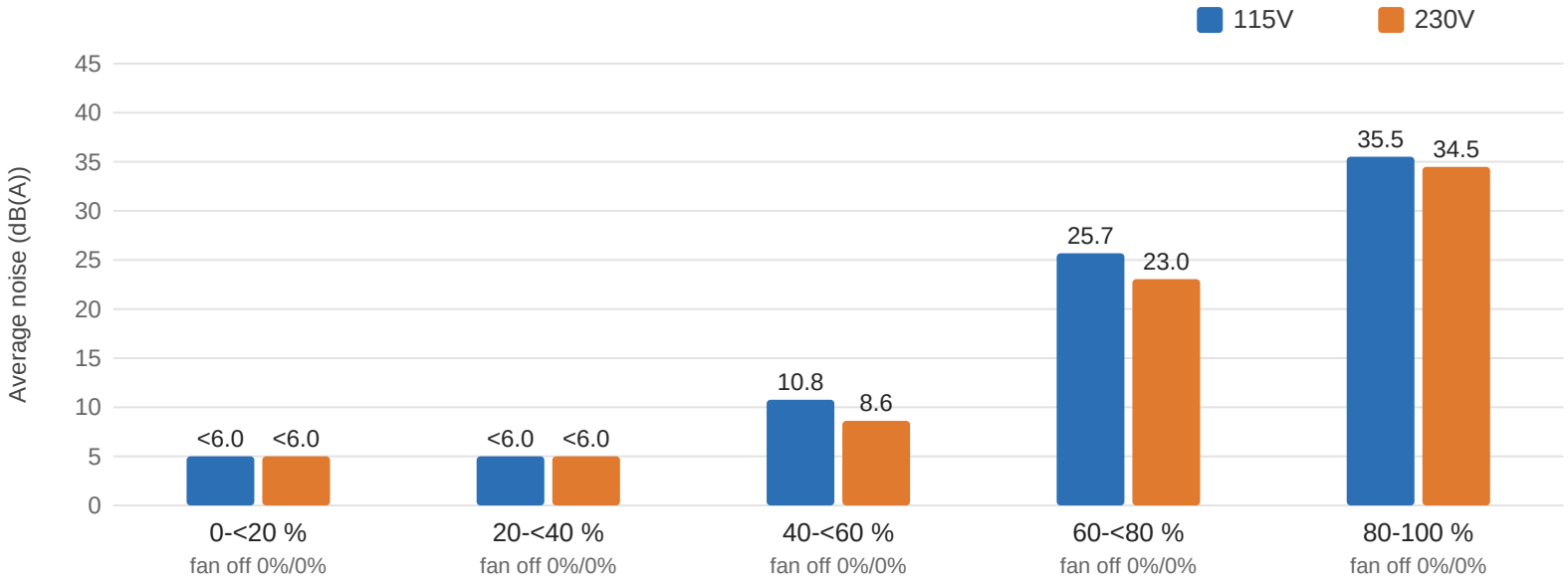
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Noise by load range

High-Load Index (70-100 % load)

Noise **34.1 dB(A)** at 115V and **33.0 dB(A)** at 230V · loudest point 37.9 dB(A)

Efficiency 87.81% / 91.17% · power factor 0.998 / 0.996 (115V / 230V)



Load range	Noise 115V avg (loudest)	Noise 230V avg (loudest)	Fan off 115V / 230V
0-<20 %	<6.0 (<6.0)	<6.0 (<6.0)	0% / 0%
20-<40 %	<6.0 (<6.0)	<6.0 (<6.0)	0% / 0%
40-<60 %	10.8 (21.1)	8.6 (18.9)	0% / 0%
60-<80 %	25.7 (33.7)	23.0 (32.4)	0% / 0%
80-100 %	35.5 (37.9)	34.5 (37.9)	0% / 0%
70-100 % (High-Load)	34.1 (37.9)	33.0 (37.9)	0% / 0%
All (published average)	29.4 (37.9)	28.2 (37.9)	0% / 0%

INFO

The average noise in five ranges of load, the share of points with the fan stopped (semi-passive operation), and the High-Load Index: the same figures for all points at 70 % of the rated output and above. Calculated from the 1507 (115V) and 1507 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 850 W. Noise is averaged on the energy scale, as for LAMBDA, so the ranges combined give back the published average noise. Each load combination is held for about five seconds; the stabilized readings at fixed loads are under "Noise under high ambient temperature". Below 6 dB(A), the floor of our sound meter, the table and the chart show <6.0. In the averages a stopped fan counts as 5 dB(A),

as in the published average.

Informational. Not part of the ETA or LAMBDA rating.

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	330 RPM · <6.0 dB(A) · 30.4 °C	364 RPM · <6.0 dB(A) · 40.4 °C	<6.0 in both
20%	323 RPM · <6.0 dB(A) · 30.6 °C	391 RPM · <6.0 dB(A) · 41.0 °C	<6.0 in both
50%	492 RPM · 9.7 dB(A) · 30.6 °C	699 RPM · 21.2 dB(A) · 42.0 °C	**+11.5 dB(A)**
100%	1099 RPM · 35.2 dB(A) · 31.0 °C	1546 RPM · 45.9 dB(A) · 45.2 °C	**+10.7 dB(A)**

230V

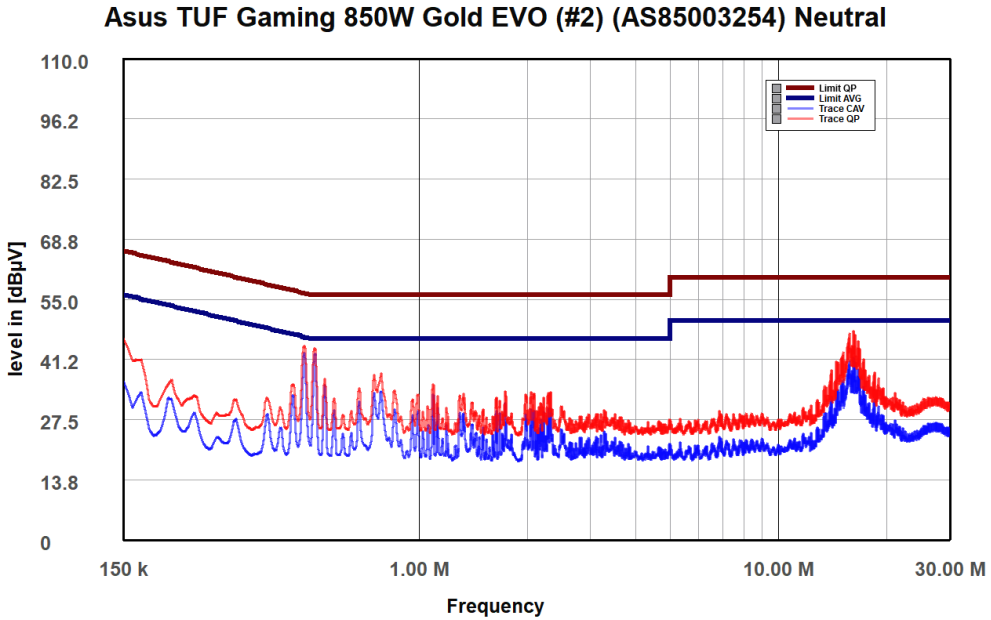
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	325 RPM · <6.0 dB(A) · 30.3 °C	336 RPM · <6.0 dB(A) · 40.5 °C	<6.0 in both
20%	326 RPM · <6.0 dB(A) · 30.4 °C	360 RPM · <6.0 dB(A) · 40.6 °C	<6.0 in both
50%	332 RPM · <6.0 dB(A) · 30.6 °C	692 RPM · 20.9 dB(A) · 42.1 °C	<6.0 → 20.9 dB(A)
100%	1169 RPM · 37.6 dB(A) · 30.4 °C	1558 RPM · 46.5 dB(A) · 45.9 °C	**+8.9 dB(A)**

INFO

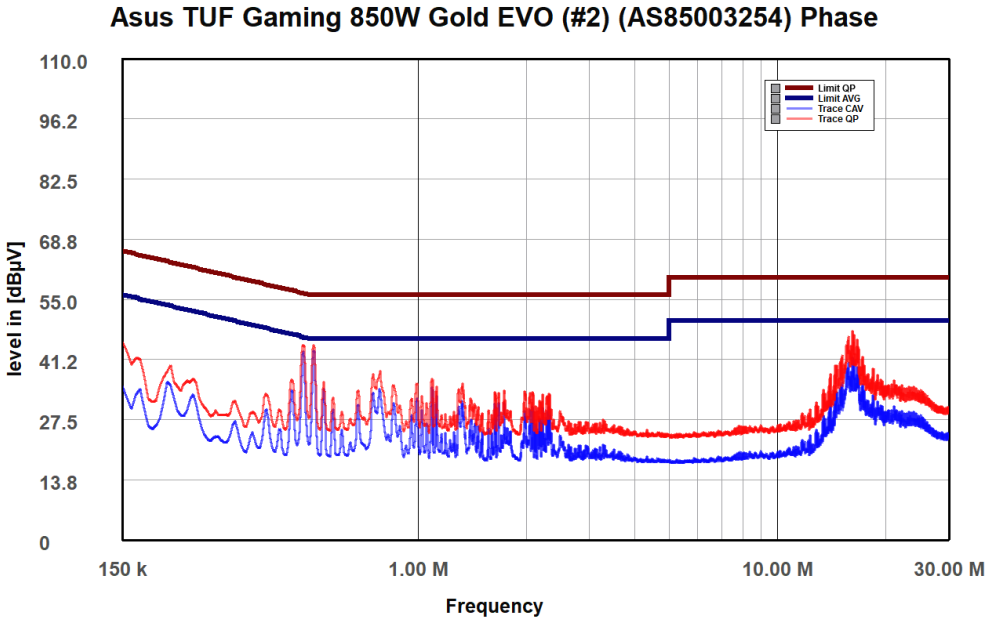
Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative 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.

Conducted Emissions EN 55032 & CISPR 32



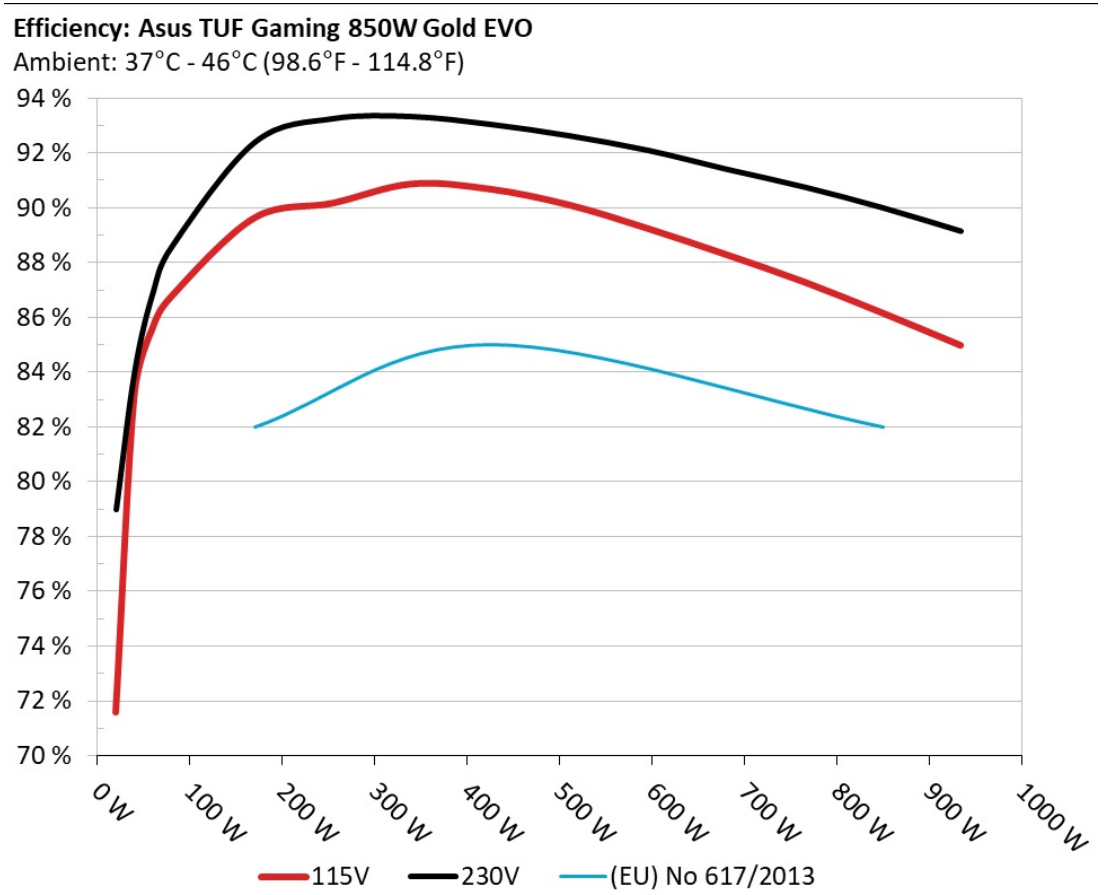
NEUTRAL



PHASE

Indicative Performance

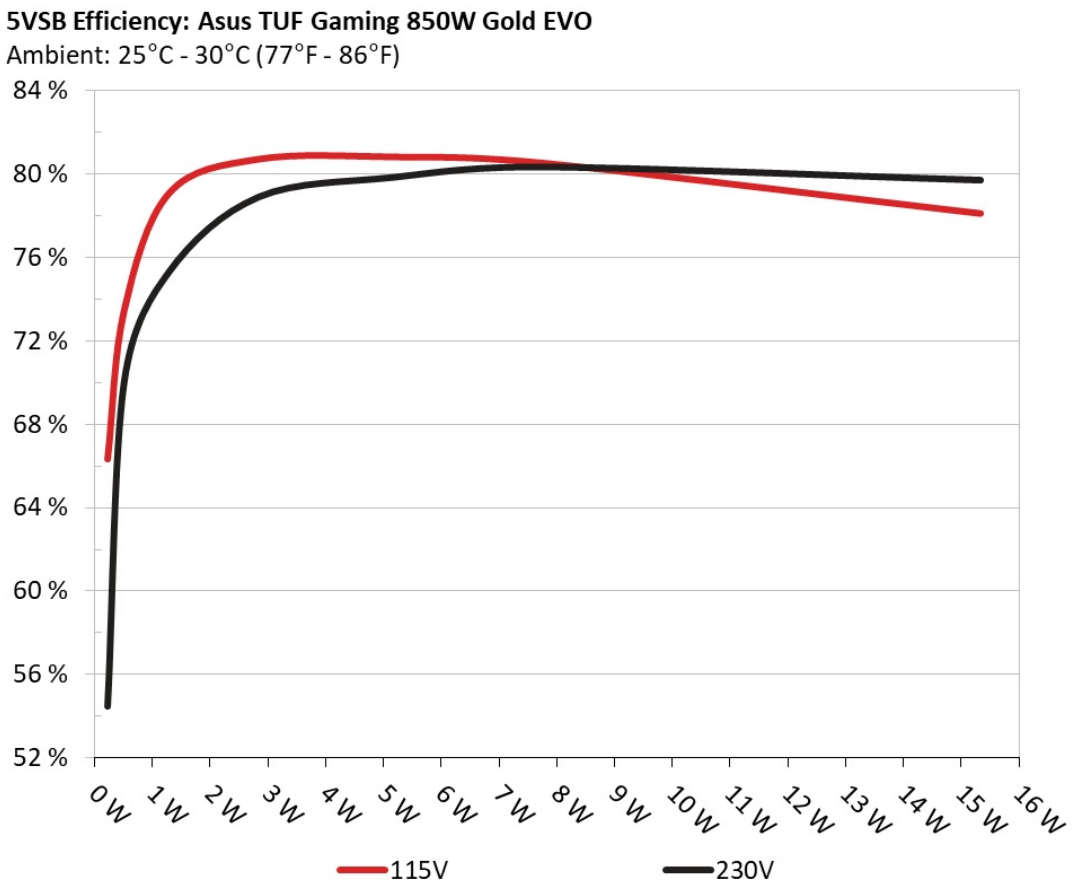
Efficiency under high ambient temperature



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**	0.234W	66.344%	0.026
	5.189V	0.353W		114.88V
2	**0.09A**	0.467W	73.194%	0.046
	5.188V	0.638W		114.89V
3	**0.55A**	2.847W	80.719%	0.22
	5.176V	3.527W		114.88V
4	**1A**	5.164W	80.825%	0.324
	5.164V	6.389W		114.88V
5	**1.5A**	7.726W	80.54%	0.386
	5.15V	9.593W		114.88V
6	**3A**	15.331W	78.115%	0.477
	5.11V	19.628W		114.88V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.234W	54.453%	0.009
	5.191V	0.43W		229.88V
2	**0.09A**	0.467W	66.85%	0.015
	5.188V	0.7W		229.88V
3	**0.55A**	2.847W	78.914%	0.075
	5.176V	3.608W		229.88V
4	**1A**	5.164W	79.851%	0.129
	5.163V	6.467W		229.9V
5	**1.5A**	7.726W	80.353%	0.18
	5.15V	9.617W		229.9V
6	**3A**	15.331W	79.721%	0.293
	5.11V	19.232W		229.89V

Protection Features

OCP (Normal @ 28.7°C)	12V: 89.6A (126.5%), 11.947V 5V: 28.5A (142.5%), 5.093V *High Ripple (55.32mV) 3.3V: 27.9A (139.5%), 3.268V 5VSB: 4.2A (140%), 5.074V
OCP (Hot @ 42.9°C)	12V: 87.6A (123.68%), 11.944V 5V: 27.6A (138%), 5.097V *High Ripple (54.66mV) 3.3V: 27.5A (137.5%), 3.269V 5VSB: 4.2A (140%), 5.073V
OPP (Normal @ 27.2°C)	1053.67W (123.96%)
OPP (Hot @ 41.9°C)	1026.69W (120.79%)
OTP	✓ (110°C @ 12V Heatsink)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
UVP (Full Load @ 90V)	✓
UVP (No Damage @ 80V)	✓
Conducted Emissions EN55032 & CISPR 32	✓
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%	**5.208A**	**1.955A**	**1.992A**	**0.97A**	85.007	86.421%	364	<6.0	40.42°C	0.908
	12.176V	5.115V	3.313V	5.155V	98.346				46.96°C	114.86V
20%	**11.438A**	**2.938A**	**2.998A**	**1.167A**	169.944	89.621%	391	<6.0	40.98°C	0.951
	12.156V	5.105V	3.302V	5.141V	189.461				51.01°C	114.73V
30%	**18.036A**	**3.434A**	**3.508A**	**1.365A**	254.952	90.163%	453	8.2	41.21°C	0.959
	12.137V	5.097V	3.293V	5.128V	279.158				55.76°C	113.5V
40%	**24.662A**	**3.931A**	**4.02A**	**1.565A**	340.039	90.864%	582	15	41.84°C	0.985
	12.117V	5.088V	3.283V	5.114V	374.239				59.22°C	114.77V
50%	**30.942A**	**4.923A**	**5.042A**	**1.765A**	424.838	90.676%	699	21.2	42.03°C	0.994
	12.098V	5.078V	3.273V	5.099V	468.558				61.24°C	114.73V
60%	**37.222A**	**5.92A**	**6.072A**	**1.967A**	509.374	90.107%	886	28.7	42.96°C	0.996
	12.078V	5.068V	3.261V	5.085V	564.781				64.41°C	114.62V
70%	**43.592A**	**6.921A**	**7.108A**	**2.17A**	594.694	89.249%	1046	43.2	43.31°C	0.998
	12.057V	5.058V	3.25V	5.07V	666.356				65.7°C	114.68V
80%	**49.984A**	**7.925A**	**8.15A**	**2.274A**	679.514	88.298%	1172	37.7	43.87°C	0.998
	12.036V	5.047V	3.239V	5.057V	769.603				66.53°C	114.63V
90%	**56.805A**	**8.436A**	**8.671A**	**2.379A**	764.938	87.288%	1387	41.7	44.18°C	0.998
	12.014V	5.037V	3.229V	5.046V	876.326				69.24°C	114.61V
100%	**63.385A**	**8.95A**	**9.227A**	**2.989A**	849.753	86.155%	1546	45.9	45.22°C	0.998
	11.991V	5.028V	3.218V	5.019V	984.573				71.86°C	114.4V
110%	**69.863A**	**9.966A**	**10.384A**	**2.995A**	934.326	84.974%	1680	46.4	46.41°C	0.999
	11.967V	5.017V	3.206V	5.009V	1099.451				75.17°C	114.53V
CL1	**0.115A**	**13.004A**	**13.323A**	**0A**	111.296	82.21%	710	21.4	40.23°C	0.929
	12.171V	5.091V	3.28V	5.166V	135.382				56.96°C	114.84V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	**0.114A**	**19.574A**	**0A**	**0A**	101.354	81.055%	549	13.4	40.89°C	0.924
	12.179V	5.107V	3.295V	5.172V	125.069				53.39°C	114.85V
CL3	**0.114A**	**0A**	**20.062A**	**0A**	67.38	75.827%	492	9.7	40.73°C	0.903
	12.179V	5.095V	3.289V	5.172V	88.853				51.46°C	114.86V
CL4	**70.864A**	**0A**	**0A**	**0A**	849.487	87.136%	1465	43.4	45.03°C	0.998
	11.988V	5.052V	3.248V	5.114V	974.885				69.09°C	114.57V

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%	**5.208A**	**1.955A**	**1.993A**	**0.97A**	85.01	88.352%	336	<6.0	40.46°C	0.871
	12.173V	5.114V	3.311V	5.154V	96.215				43.16°C	229.87V
20%	**11.442A**	**2.939A**	**3A**	**1.168A**	169.957	92.404%	360	<6.0	40.61°C	0.956
	12.153V	5.104V	3.3V	5.14V	183.94				44.82°C	229.86V
30%	**18.041A**	**3.435A**	**3.51A**	**1.366A**	254.969	93.267%	417	6.6	41.17°C	0.977
	12.134V	5.095V	3.29V	5.126V	273.363				47.41°C	229.85V
40%	**24.671A**	**3.933A**	**4.024A**	**1.565A**	340.064	93.342%	542	13.1	41.62°C	0.985
	12.114V	5.086V	3.281V	5.112V	364.321				49.63°C	229.84V
50%	**30.959A**	**4.926A**	**5.047A**	**1.766A**	424.896	93.058%	692	20.9	42.14°C	0.99
	12.093V	5.076V	3.27V	5.097V	456.575				51.09°C	229.82V
60%	**37.246A**	**5.924A**	**6.079A**	**1.969A**	509.43	92.646%	818	26.2	42.89°C	0.993
	12.072V	5.065V	3.258V	5.081V	549.887				51.69°C	229.8V
70%	**43.621A**	**6.927A**	**7.119A**	**2.172A**	594.75	92.115%	962	31.1	43.42°C	0.995
	12.050V	5.054V	3.245V	5.065V	645.669				52.1°C	229.79V
80%	**50.022A**	**7.932A**	**8.164A**	**2.277A**	679.574	91.429%	1203	37.9	43.85°C	0.996
	12.028V	5.042V	3.233V	5.052V	743.289				54.69°C	229.78V
90%	**56.855A**	**8.445A**	**8.688A**	**2.381A**	765	90.769%	1401	42	44.62°C	0.997
	12.004V	5.033V	3.223V	5.04V	842.852				56.15°C	229.76V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	**63.447A**	**8.96A**	**9.248A**	**2.993A**	849.817	90.011%	1558	46.5	45.89°C	0.997
	11.981V	5.022V	3.211V	5.013V	944.104				58.29°C	229.75V
110%	**69.952A**	**9.979A**	**10.412A**	**3A**	934.411	89.159%	1693	46.7	46.13°C	0.997
	11.953V	5.01V	3.198V	5.001V	1048.042				60.92°C	229.73V
CL1	**0.116A**	**13.009A**	**13.345A**	**0A**	111.305	84.535%	726	22.3	40.04°C	0.921
	12.166V	5.089V	3.274V	5.164V	131.662				53.45°C	229.87V
CL2	**0.115A**	**19.58A**	**0A**	**0A**	101.362	83.17%	591	15.6	41.28°C	0.911
	12.174V	5.105V	3.293V	5.171V	121.872				52.07°C	229.87V
CL3	**0.114A**	**0A**	**20.107A**	**0A**	67.384	77.159%	508	11.2	40.62°C	0.85
	12.175V	5.093V	3.282V	5.171V	87.32				50.4°C	229.88V
CL4	**70.931A**	**0A**	**0A**	**0A**	849.561	90.829%	1476	43.3	45.24°C	0.997
	11.978V	5.047V	3.244V	5.11V	935.374				54.91°C	229.75V

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	**1.219A**	**0.488A**	**0.496A**	**0.193A**	20.007	71.581%	356	<6.0	36.68°C	0.754
	12.188V	5.126V	3.324V	5.183V	27.984				45.41°C	114.86V
40W	**2.683A**	**0.683A**	**0.696A**	**0.29A**	40.004	83.164%	333	<6.0	37.63°C	0.841
	12.185V	5.123V	3.321V	5.179V	48.122				44.33°C	114.86V
60W	**4.148A**	**0.879A**	**0.895A**	**0.387A**	60.003	85.62%	343	<6.0	38.53°C	0.88
	12.181V	5.121V	3.319V	5.174V	70.1				45.23°C	114.86V
80W	**5.610A**	**1.074A**	**1.095A**	**0.484A**	79.946	86.748%	359	<6.0	39.58°C	0.904
	12.176V	5.118V	3.316V	5.17V	92.166				46.13°C	114.86V

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	**1.218A**	**0.488A**	**0.497A**	**0.193A**	20.003	78.995%	323	<6.0	36.53°C	0.408
	12.187V	5.122V	3.322V	5.182V	25.402				38.41°C	229.89V
40W	**2.684A**	**0.684A**	**0.696A**	**0.29A**	40.004	84.045%	326	<6.0	37.66°C	0.58
	12.183V	5.121V	3.319V	5.178V	47.64				39.18°C	229.89V
60W	**4.150A**	**0.879A**	**0.895A**	**0.387A**	60.004	86.943%	328	<6.0	38.95°C	0.786
	12.178V	5.118V	3.317V	5.173V	69.016				39.25°C	229.88V
80W	**5.612A**	**1.075A**	**1.095A**	**0.484A**	79.952	88.58%	328	<6.0	39.32°C	0.856
	12.174V	5.116V	3.315V	5.169V	90.266				40.74°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	24.11mV	29.36mV	23.65mV	16.93mV	Pass
20% Load	27.62mV	32.64mV	25.70mV	18.83mV	Pass
30% Load	41.94mV	35.16mV	27.96mV	21.14mV	Pass
40% Load	37.59mV	34.39mV	27.91mV	22.01mV	Pass
50% Load	37.39mV	35.25mV	27.45mV	19.34mV	Pass
60% Load	40.20mV	36.03mV	28.27mV	19.24mV	Pass
70% Load	45.52mV	30.85mV	26.94mV	18.73mV	Pass
80% Load	47.11mV	31.97mV	28.68mV	21.34mV	Pass
90% Load	52.53mV	32.69mV	29.40mV	20.06mV	Pass
100% Load	55.54mV	34.28mV	31.24mV	20.73mV	Pass
110% Load	63.37mV	37.82mV	33.50mV	22.63mV	Pass
Crossload1	30.28mV	36.70mV	32.94mV	19.09mV	Pass
Crossload2	46.85mV	45.98mV	27.75mV	18.73mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	38.41mV	26.12mV	34.12mV	19.19mV	Pass
Crossload4	56.82mV	31.87mV	28.17mV	19.70mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	31.15mV	27.56mV	22.16mV	15.91mV	Pass
20% Load	33.80mV	29.25mV	22.21mV	18.88mV	Pass
30% Load	36.24mV	29.30mV	21.85mV	15.75mV	Pass
40% Load	39.02mV	29.82mV	23.14mV	14.98mV	Pass
50% Load	36.31mV	32.13mV	23.91mV	16.47mV	Pass
60% Load	39.23mV	34.13mV	25.96mV	18.11mV	Pass
70% Load	40.81mV	29.15mV	25.86mV	16.68mV	Pass
80% Load	43.27mV	30.79mV	26.58mV	19.75mV	Pass
90% Load	48.69mV	30.38mV	28.47mV	18.88mV	Pass
100% Load	55.95mV	33.77mV	29.91mV	19.50mV	Pass
110% Load	63.98mV	35.98mV	32.68mV	20.58mV	Pass
Crossload1	26.29mV	31.46mV	28.78mV	16.06mV	Pass
Crossload2	38.46mV	41.93mV	24.32mV	15.80mV	Pass
Crossload3	36.93mV	24.02mV	31.71mV	16.62mV	Pass
Crossload4	55.39mV	28.43mV	26.11mV	19.39mV	Pass

The results above are not used in the certification process

ASUS TUF Gaming 850W Gold EVO



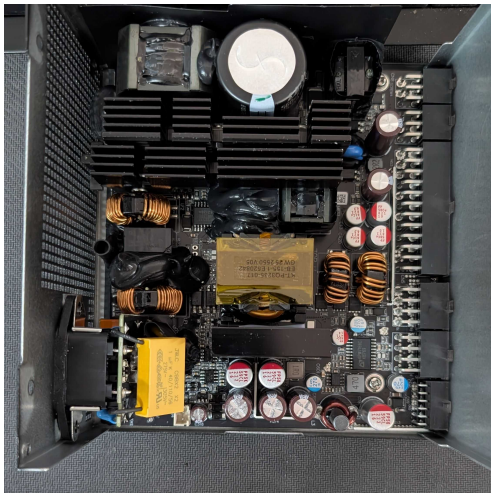
Top side



Power specifications label



Fan



PSU Internals

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

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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