CORSAIR

Corsair TX550M

Serial Number 21264857000089070008

Lab ID CR55001919

Certification ID 251919

Test Result Report ID: 21PS1918A

Certificate Issue Date: Oct 14, 2021

Scheme: ETA-EMI PSU

115V: CYBENETICS GOLD

230V: CYBENETICS GOLD 230v

Scheme: LAMBDA PSU

115V: CYBENETICS A

230V: CYBENETICS A- 230v

Aristeidis Bitziopoulos, Certification Body General Manager

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	Corsair
Model	TX550M
OEM/ODM	Great Wall
Serial Number	21264857000089070008
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	8-4
Rated Frequency (Hz)	47-63

Rated Power (W)	550
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Semi Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Rifle Bearing Fan (NR120L)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	CR55001919
Date of receipt	Sep 9, 2021
Testing Date	Oct 13, 2021
Report Issued Date	Oct 14, 2021
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Native Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Caps
ATX connector 20+4 pin (610mm)	1	1	18-20AWG	No
4+4 pin EPS12V (650mm)	1	1	18AWG	No
Modular Cables				
4+4 pin EPS12V (650mm)	1	1	18AWG	No
6+2 pin PCIe (600mm+150mm)	1	2	16-18AWG	No
SATA (500mm+95mm+95mm)	1	3	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	20	43	3	0.8
	Watts	120		516	15	9.6
Total Max. Power (W)		550				

Parts Description

General Data	-
Manufacturer (OEM)	Great Wall
PCB Type	Double Sided
Primary Side	-
Transient Filter	4x Y caps, 2x X caps, 3x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor SCK-2R58 (2.5Ohm) & Relay
Bridge Rectifier(s)	1x GBU1508 (800V, 15A @ 100°C)
APFC MOSFETs	1x STMicroelectronics STW34NM60N (600V, 18A @ 100°C, Rds(on): 0.11Ohm)
APFC Boost Diode	1x CREE C3D04060A (600V, 4A @ 155°C)
Bulk Cap(s)	2x Rubycon (450V, 270uF each or 540uF combined, 3,000h @ 105°C, MXG)
Main Switchers	2x STMicroelectronics STF24N60DM2 (600V, 11A @ 100°C, Rds(on): 0.2Ohm)
APFC Controller	Champion CM6500UNX & Champion CM03AX
Resonant Controller	Champion CU6901VPA
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	4x Advanced Power Electronics AP4N1R8CMT-A (45V, 180A, Rds(on): 1.8mOhm)
5V & 3.3V	DC-DC Converters: 6x Advanced Power Electronics D508 PWM Controllers: ANPEC APW7159C
Filtering Capacitors	Electrolytic: 1x Rubycon (6-10,000h @ 105°C, ZLH), 5x Rubycon (4-10,000h @ 105°C, YXJ), 1x Rubycon (3-6,000h @ 105°C, YXG), 1x Nippon Chemi-Con (4-10,000h @ 105°C, KY) Polymer: 9x Nippon Chemi-Con, 4x FPCAP
Supervisor IC	IN1S429I-SCG (OVP, UVP, OCP, SG, PGO)
Fan Model	Corsair NR120L (120mm, 12V, 0.22A, Rifle Bearing Fan)
5VSB Circuit	-

Rectifier	1x Diodes Incorporated SBR10E45P5 SBR (45V, 10A)
Standby PWM Controller	Power Integrations TNY278GN

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	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	88.840%
Average Noise Output (>1450 Load Combinations)	24.95dBA
Average PF (>1450 Load Combinations)	0.982
Efficiency With 10W (≤500W) or 2% (>500W) Load	67.802%
Standby Power Consumption	0.0477W
Non-Accredited	
12V Ripple (Full Load)	40.30mV
5V Ripple (Full Load)	19.41mV
3.3V Ripple (Full Load)	21.10mV
5VSB Ripple (Full Load)	28.60mV
12V Load Regulation	0.52%
5V Load Regulation	0.28%
3.3V Load Regulation	0.46%
5VSB Load Regulation	1.08%
Inrush Current	39.760A

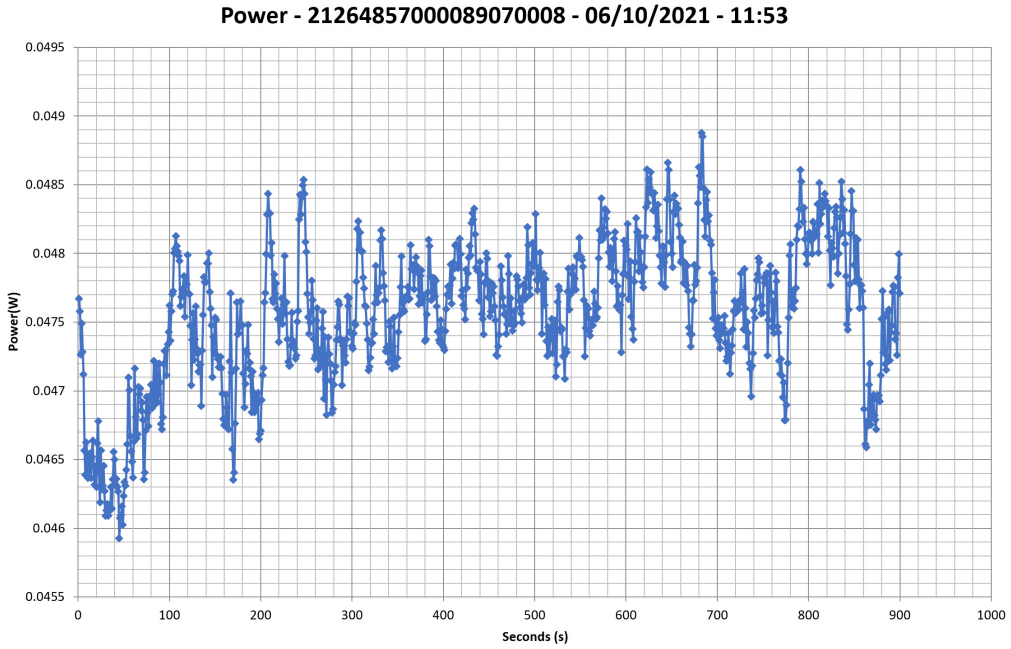
230V		
Accredited		
Average Efficiency (>1450 load combinations)		90.778%
Average Noise Output (>1450 Load Combinations)		25.22dBA
Average PF (>1450 Load Combinations)		0.951
Efficiency With 10W (≤500W) or 2% (>500W) Load		-
Standby Power Consumption		0.0834W
Non-Accredited		
12V Ripple (Full Load)		43.22mV
5V Ripple (Full Load)		20.45mV
3.3V Ripple (Full Load)		20.21mV
5VSB Ripple (Full Load)		26.68mV
12V Load Regulation		0.51%
5V Load Regulation		0.26%
3.3V Load Regulation		0.43%
5VSB Load Regulation		1.12%
Inrush Current		86.350A
Hold-Up Time & PWR_OK Signal		20.90ms
AC Loss to PWR_OK Hold Up Time		16.50ms
PWR_OK Inactive to DC Loss Delay		4.40ms
PSU Timings: T1 (20% / 100%)	39.0ms	40.0ms
PSU Timings: T3 (20% / 100%)	127.0ms	127.0ms
OPP (22.81°C / 42.57°C)	118.33%	118.35%

Hold-Up Time & PWR_OK Signal

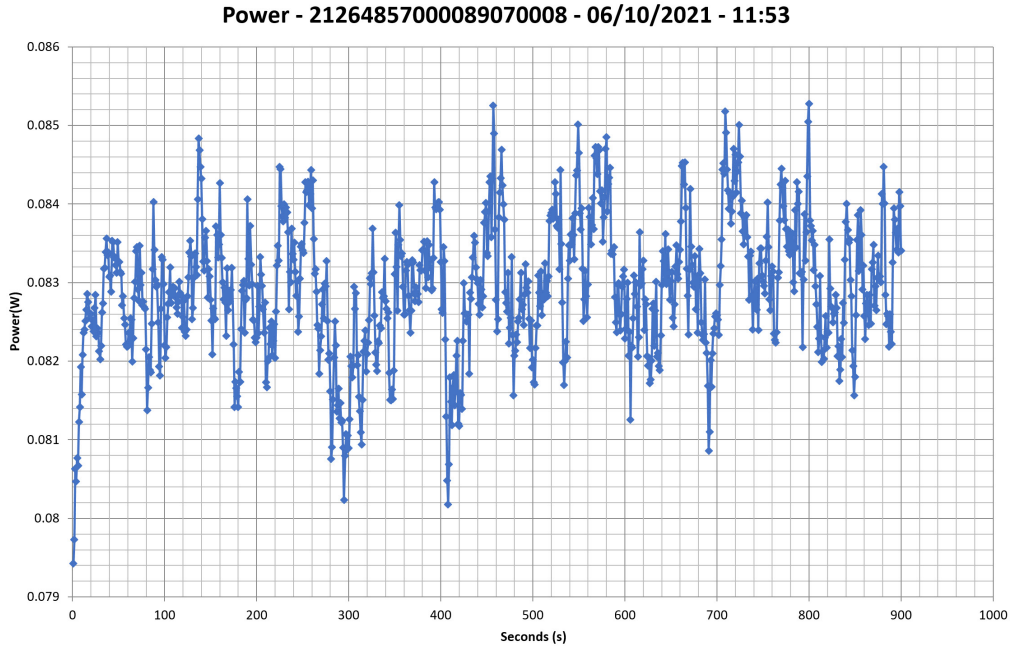
Hold-Up Time (ms)	20.9
AC Loss to PWR_OK Hold Up Time (ms)	16.5
PWR_OK Inactive to DC Loss Delay (ms)	4.4

Graphs

115V

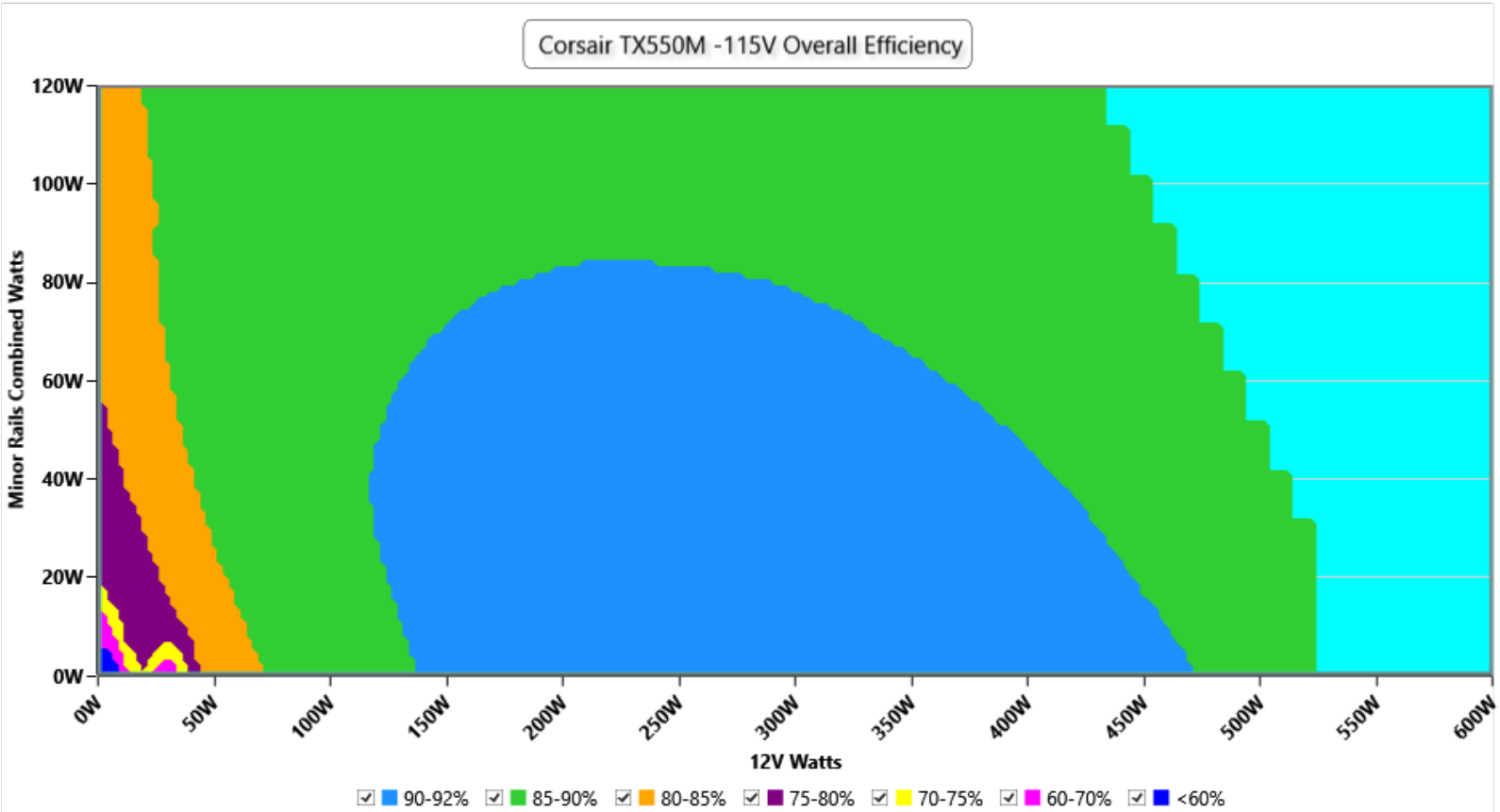


230V



Efficiency Graph

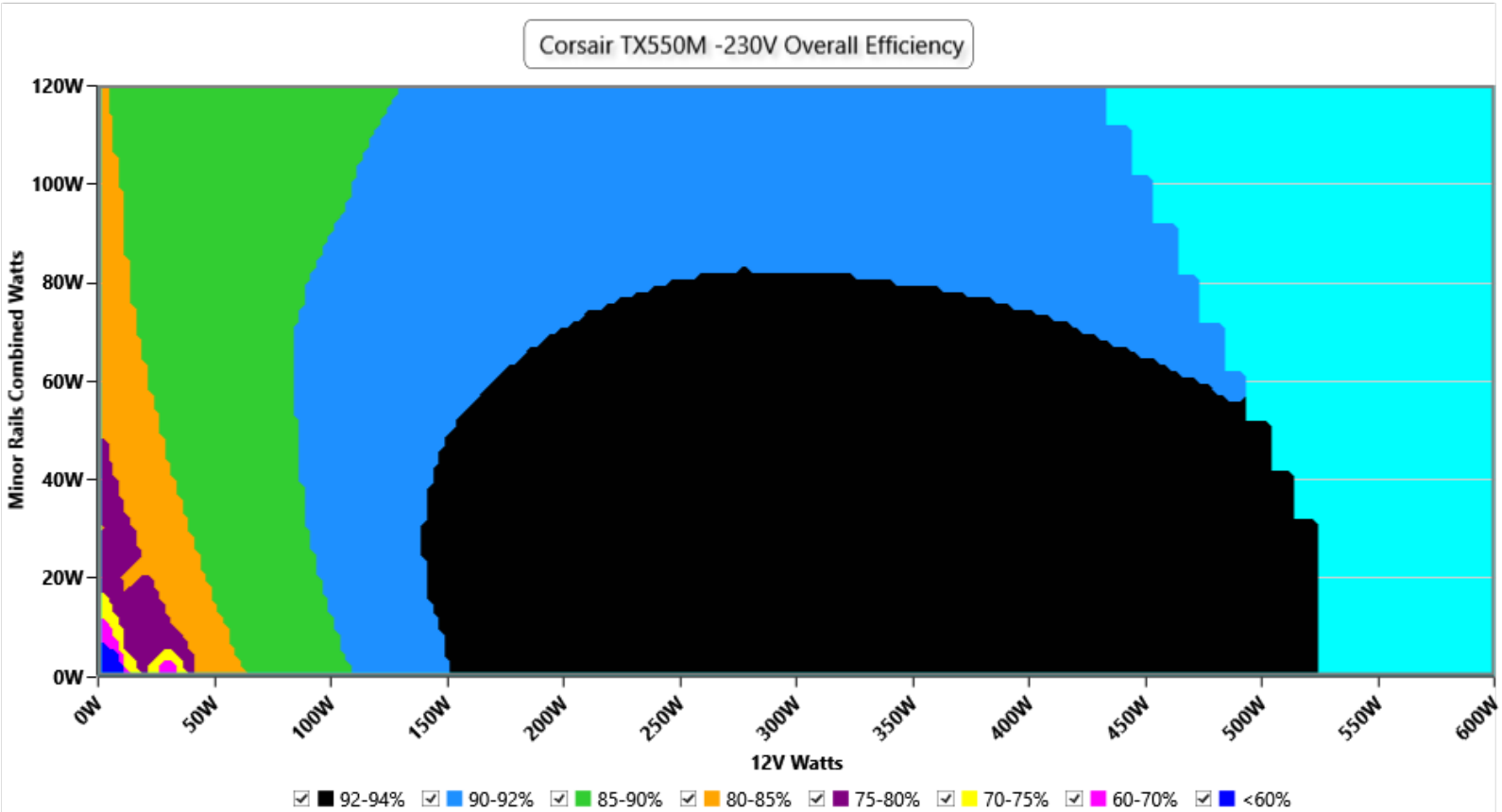
115V



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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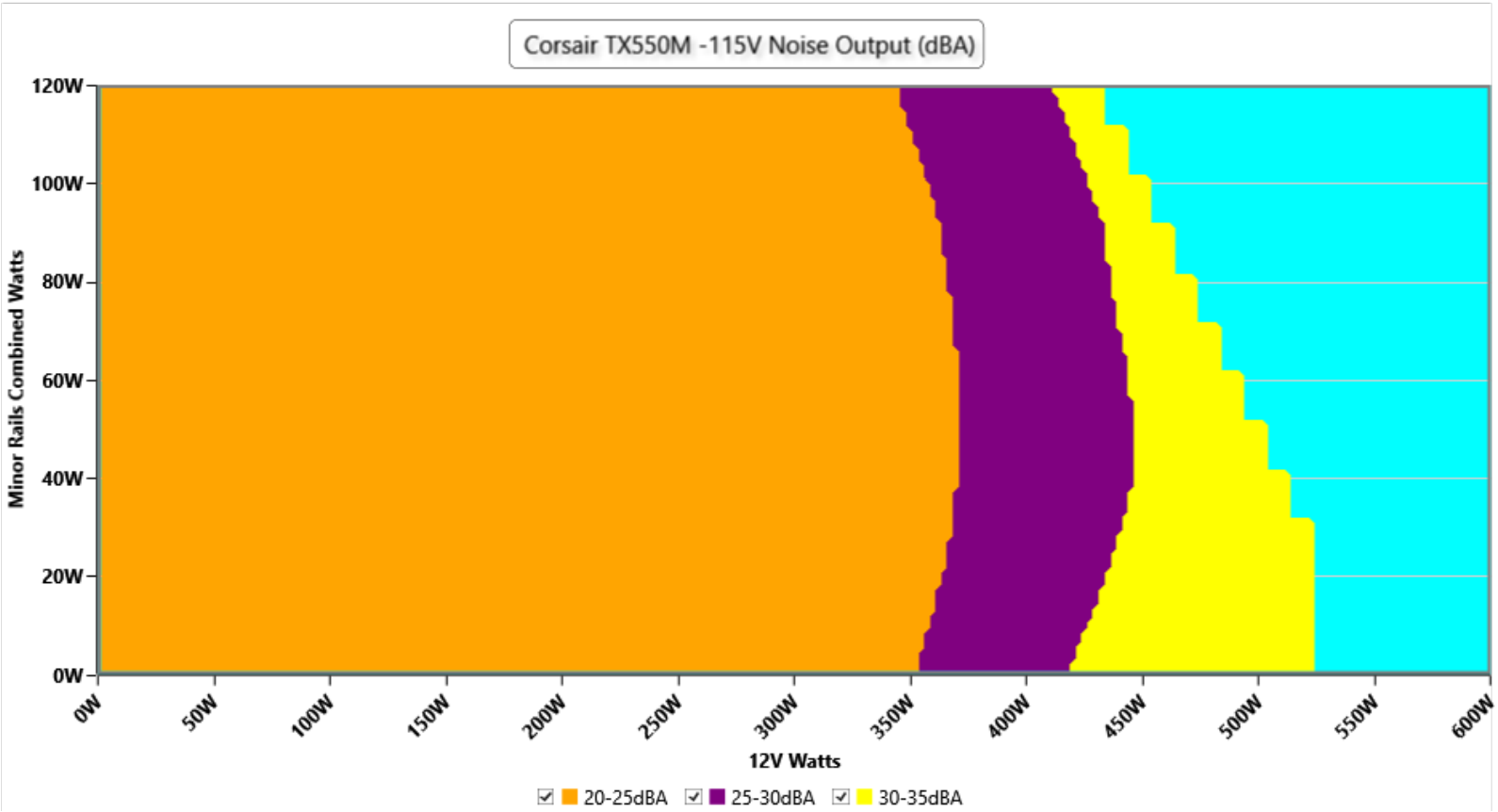
Noise Graph

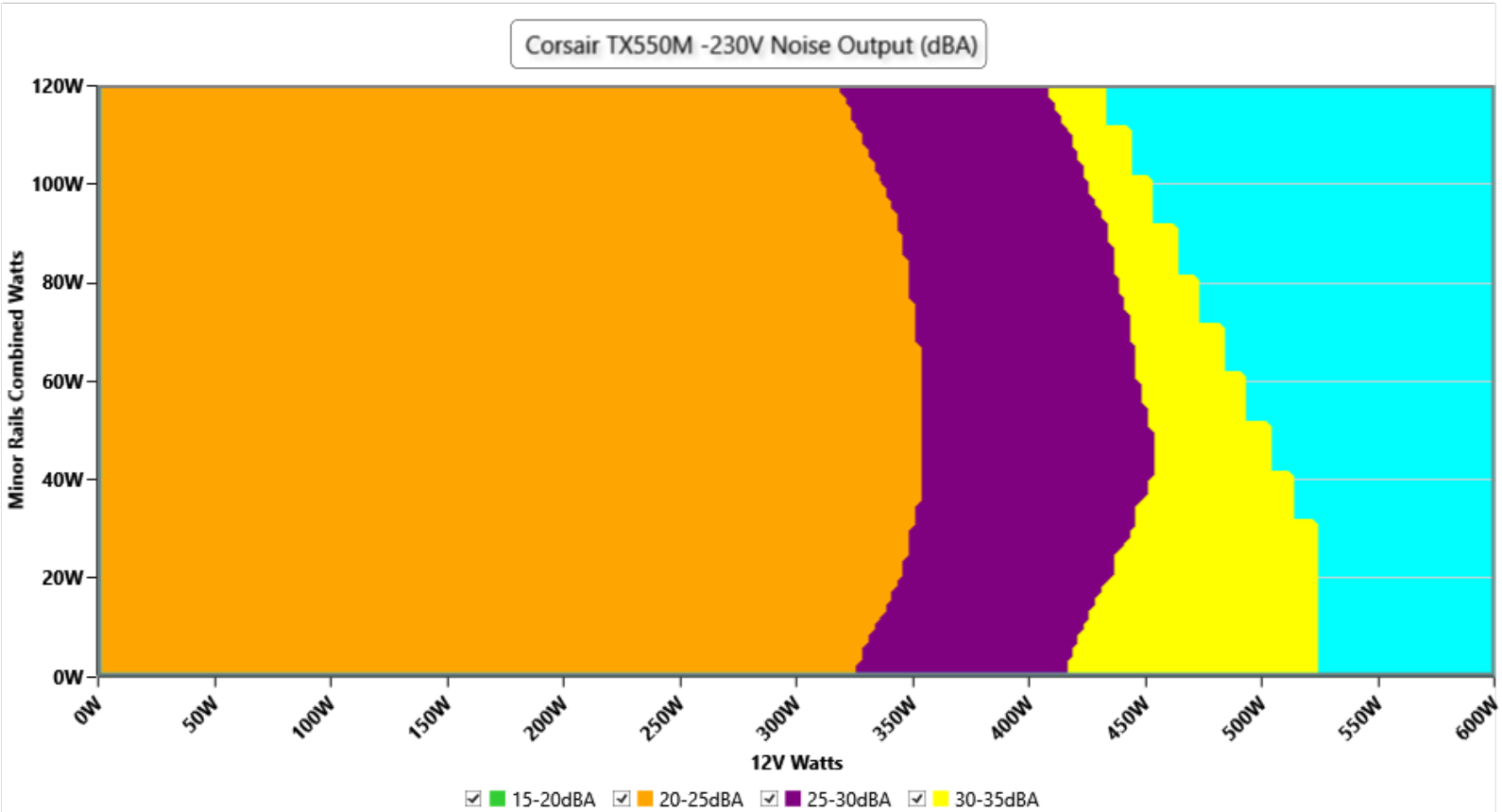
115V



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

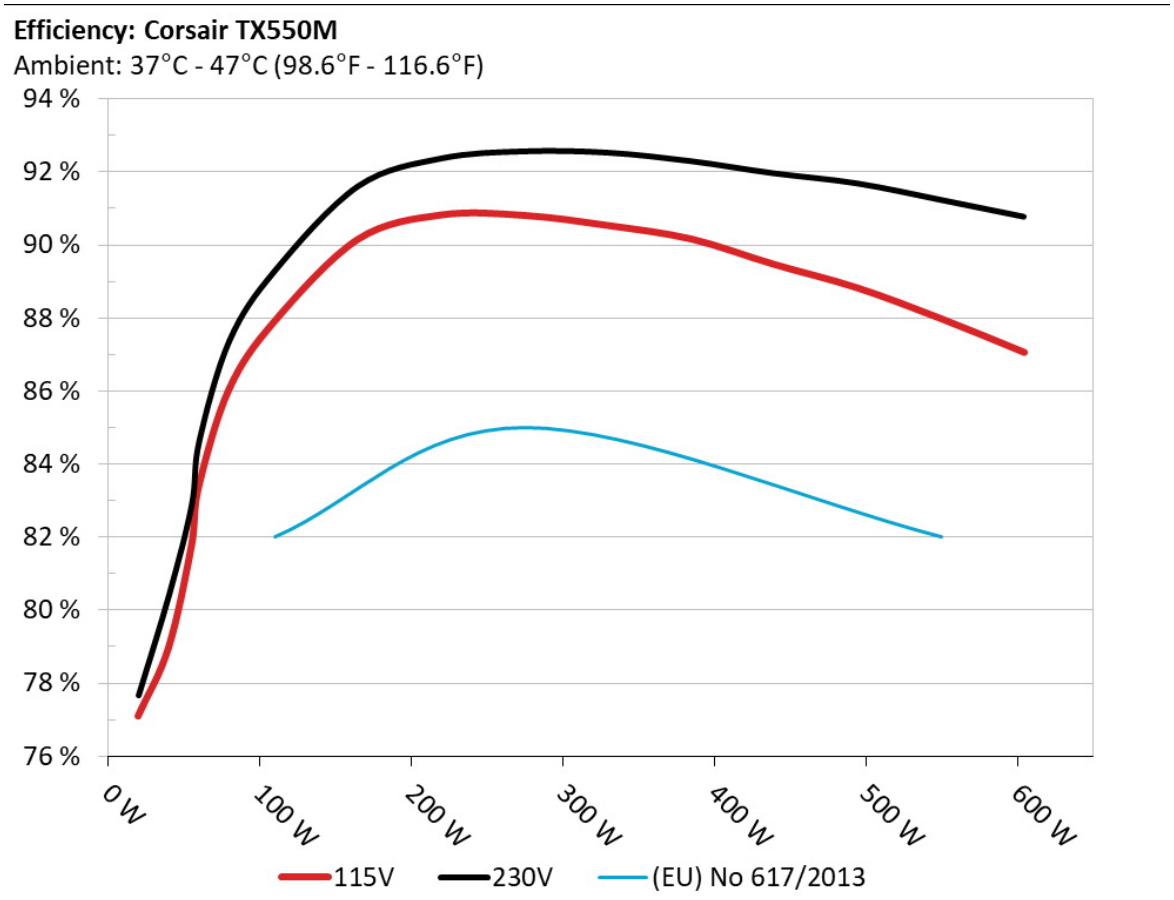


INFO

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

Indicative Performance

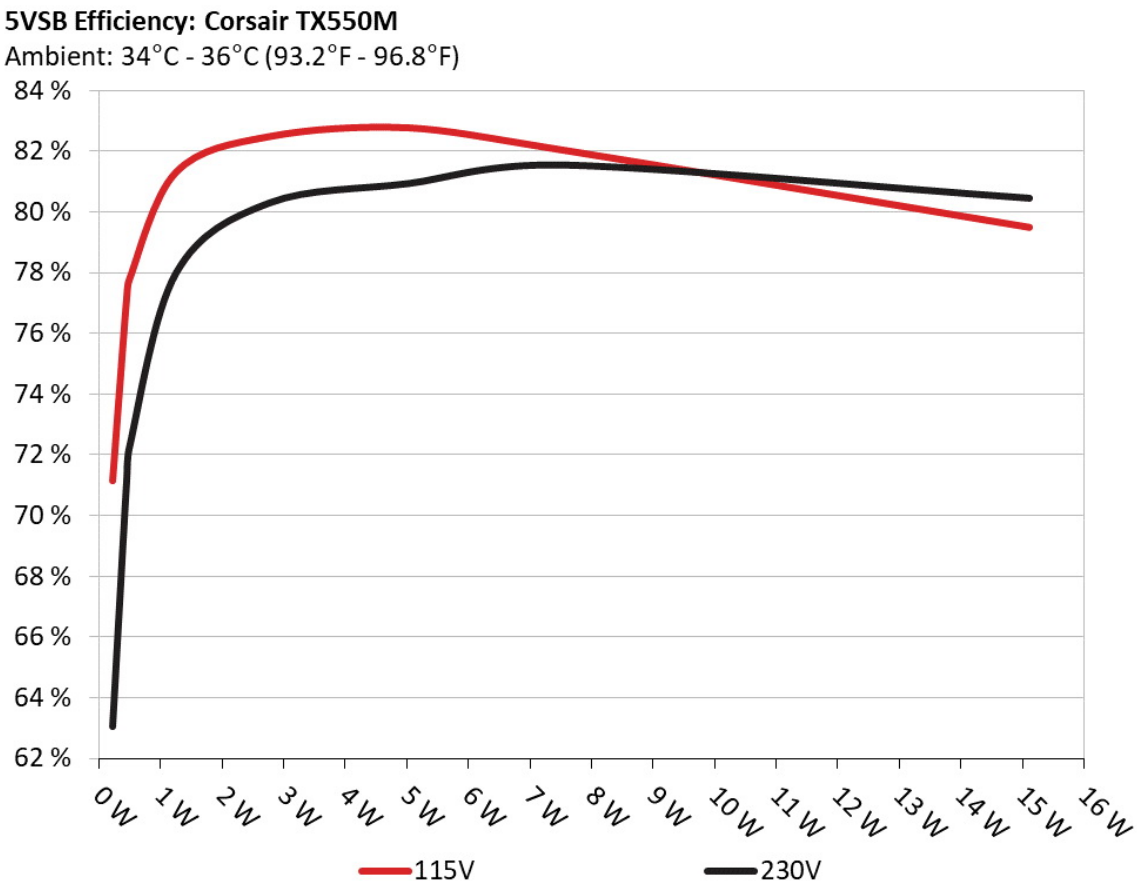
Efficiency under high ambient temperature



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	0.227W	71.153%	0.047
	5.046V	0.319W		115.19V
2	0.09A	0.454W	77.149%	0.085
	5.046V	0.588W		115.18V
3	0.55A	2.774W	82.472%	0.293
	5.045V	3.364W		115.18V
4	1A	5.043W	82.758%	0.359
	5.044V	6.094W		115.17V
5	1.5A	7.564W	82.018%	0.396
	5.043V	9.222W		115.16V
6	2.999A	15.113W	79.486%	0.449
	5.039V	19.014W		115.15V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227W	63.051%	0.016
	5.047V	0.36W		230.27V
2	0.09A	0.454W	71.133%	0.028
	5.047V	0.638W		230.27V
3	0.55A	2.774W	80.308%	0.137
	5.046V	3.454W		230.27V
4	1A	5.044W	80.948%	0.21
	5.044V	6.231W		230.27V
5	1.5A	7.564W	81.555%	0.26
	5.043V	9.275W		230.26V
6	2.999A	15.113W	80.461%	0.336
	5.04V	18.783W		230.26V

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%	2.783A	2.008A	2.008A	0.992A	54.991	81.733%	864	21.4	40.01°C	0.933
	11.997V	4.979V	3.287V	5.038V	67.281				45.39°C	115.15V
20%	6.589A	3.013A	3.013A	1.192A	109.919	87.913%	868	21.6	40.64°C	0.968
	11.992V	4.978V	3.286V	5.032V	125.032				46.36°C	115.15V
30%	10.749A	3.517A	3.516A	1.392A	164.907	90.159%	867	21.5	41.09°C	0.976
	11.988V	4.977V	3.285V	5.027V	182.907				47.38°C	115.14V
40%	14.939A	4.02A	4.02A	1.593A	219.98	90.829%	870	21.6	41.93°C	0.983
	11.967V	4.976V	3.283V	5.022V	242.191				48.48°C	115.14V
50%	18.766A	5.027A	5.028A	1.794A	274.966	90.815%	933	24.0	42.23°C	0.987
	11.961V	4.974V	3.282V	5.017V	302.777				49.44°C	115.14V
60%	22.594A	6.034A	6.036A	1.995A	329.952	90.54%	963	25.2	42.84°C	0.989
	11.956V	4.973V	3.28V	5.011V	364.428				50.67°C	115.14V
70%	26.435A	7.041A	7.046A	2.196A	384.915	90.169%	974	25.7	43.01°C	0.991
	11.947V	4.971V	3.278V	5.006V	426.884				51.38°C	115.15V
80%	30.261A	8.002A	8.053A	2.298A	439.105	89.48%	1169	31.2	43.81°C	0.992
	11.945V	4.97V	3.277V	5.001V	490.731				52.71°C	115.14V
90%	34.495A	8.552A	8.545A	2.401A	494.344	88.833%	1266	32.9	44.35°C	0.993
	11.940V	4.969V	3.276V	4.996V	556.49				53.85°C	115.13V
100%	38.526A	9.058A	9.067A	3.005A	549.551	87.99%	1402	36.2	45.93°C	0.993
	11.937V	4.967V	3.274V	4.99V	624.563				56.24°C	115.12V
110%	42.431A	10.067A	10.172A	3.008A	604.571	87.065%	1515	37.8	46.82°C	0.993
	11.932V	4.966V	3.273V	4.985V	694.392				57.69°C	115.12V
CL1	0.115A	14.508A	14.537A	0A	121.271	83.257%	1115	29.6	42.37°C	0.971
	11.991V	4.977V	3.281V	5.021V	145.659				49.27°C	115.14V

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	20.074A	0A	0A	101.377	82.481%	1007	27.0	43.17°C	0.967
	11.996V	4.982V	3.282V	5.03V	122.91				50.73°C	115.14V
CL3	0.114A	0A	25.103A	0A	83.867	76.627%	987	26.3	44.77°C	0.964
	11.991V	4.975V	3.286V	5.024V	109.45				53.57°C	115.14V
CL4	45.993A	0A	0A	0A	549.386	89.347%	1352	35.0	45.78°C	0.993
	11.945V	4.972V	3.281V	5.007V	614.896				55.93°C	115.12V

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%	2.783A	2.008A	2.007A	0.992A	54.989	82.864%	876	21.9	40.02°C	0.795
	11.999V	4.979V	3.287V	5.038V	66.361				45.71°C	230.28V
20%	6.588A	3.013A	3.013A	1.192A	109.918	89.291%	878	22.0	40.67°C	0.899
	11.994V	4.978V	3.286V	5.032V	123.102				46.85°C	230.28V
30%	10.747A	3.516A	3.516A	1.392A	164.906	91.608%	894	22.6	41.61°C	0.937
	11.990V	4.977V	3.285V	5.027V	180.014				48.26°C	230.28V
40%	14.937A	4.02A	4.02A	1.593A	219.978	92.371%	925	23.8	41.98°C	0.955
	11.969V	4.976V	3.283V	5.022V	238.146				49.06°C	230.29V
50%	18.762A	5.026A	5.028A	1.794A	274.965	92.563%	998	26.9	42.24°C	0.966
	11.963V	4.974V	3.282V	5.016V	297.058				49.99°C	230.29V
60%	22.592A	6.034A	6.037A	1.995A	329.955	92.528%	1074	28.0	42.51°C	0.972
	11.957V	4.973V	3.28V	5.011V	356.6				50.77°C	230.29V
70%	26.423A	7.041A	7.046A	2.197A	384.937	92.294%	1164	31.3	43.25°C	0.976
	11.953V	4.971V	3.279V	5.005V	417.079				51.89°C	230.29V
80%	30.251A	8.002A	8.053A	2.299A	439.117	91.965%	1255	32.5	43.45°C	0.98
	11.949V	4.971V	3.277V	5V	477.483				52.47°C	230.29V
90%	34.485A	8.552A	8.544A	2.401A	494.354	91.688%	1337	34.7	44.07°C	0.983
	11.943V	4.969V	3.276V	4.995V	539.172				53.38°C	230.29V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	38.522A	9.059A	9.068A	3.006A	549.592	91.237%	1451	37.3	45.84°C	0.984
	11.939V	4.967V	3.274V	4.988V	602.377				55.78°C	230.29V
110%	42.430A	10.068A	10.172A	3.01A	604.623	90.774%	1547	38.7	46.56°C	0.985
	11.933V	4.966V	3.273V	4.982V	666.077				57.33°C	230.3V
CL1	0.115A	14.508A	14.537A	0A	121.275	84.562%	1164	31.3	42.46°C	0.917
	11.992V	4.977V	3.281V	5.02V	143.417				49.75°C	230.32V
CL2	0.115A	20.075A	0A	0A	101.38	83.698%	1063	27.8	43.12°C	0.898
	11.997V	4.982V	3.282V	5.029V	121.127				51.15°C	230.32V
CL3	0.115A	0A	25.105A	0A	83.869	77.683%	1035	27.2	44.26°C	0.883
	11.992V	4.974V	3.286V	5.022V	107.963				53.79°C	230.32V
CL4	45.999A	0A	0A	0A	549.489	92.392%	1379	35.7	45.06°C	0.984
	11.946V	4.971V	3.28V	5.005V	594.734				55.76°C	230.33V

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	0.502A	0.502A	0.198A	19.993	77.106%	859	21.2	36.78°C	0.842
	11.989V	4.981V	3.289V	5.044V	25.93				39.84°C	115.15V
40W	2.724A	0.703A	0.703A	0.297A	39.991	78.968%	858	21.1	36.88°C	0.915
	11.998V	4.98V	3.288V	5.042V	50.642				40.74°C	115.16V
60W	4.211A	0.904A	0.903A	0.397A	59.991	83.393%	862	21.3	38.67°C	0.937
	11.997V	4.98V	3.288V	5.04V	71.937				42.85°C	115.15V
80W	5.694A	1.105A	1.104A	0.496A	79.93	86.052%	863	21.3	39.31°C	0.954
	11.996V	4.979V	3.287V	5.038V	92.886				43.85°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	1.238A	0.502A	0.502A	0.198A	19.985	77.661%	869	21.6	36.76°C	0.546
	11.988V	4.98V	3.288V	5.044V	25.734				39.88°C	230.27V
40W	2.723A	0.703A	0.703A	0.297A	39.987	80.4%	871	21.7	36.96°C	0.728
	11.999V	4.98V	3.288V	5.042V	49.735				40.77°C	230.27V
60W	4.211A	0.904A	0.903A	0.397A	59.988	84.625%	872	21.7	37.08°C	0.807
	11.999V	4.979V	3.287V	5.04V	70.886				41.34°C	230.27V
80W	5.693A	1.104A	1.104A	0.496A	79.926	87.376%	874	21.8	38.18°C	0.856
	11.997V	4.979V	3.287V	5.038V	91.474				42.99°C	230.28V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.41mV	6.15mV	7.13mV	15.74mV	Pass
20% Load	19.34mV	6.91mV	8.65mV	15.43mV	Pass
30% Load	32.68mV	12.30mV	12.79mV	15.63mV	Pass
40% Load	27.62mV	9.45mV	10.62mV	16.55mV	Pass
50% Load	25.90mV	11.64mV	13.50mV	17.96mV	Pass
60% Load	24.94mV	11.74mV	14.15mV	22.72mV	Pass
70% Load	27.22mV	12.81mV	13.14mV	20.59mV	Pass
80% Load	25.42mV	14.23mV	17.19mV	21.86mV	Pass
90% Load	25.26mV	13.52mV	17.29mV	21.66mV	Pass
100% Load	40.30mV	19.41mV	21.10mV	28.60mV	Pass
110% Load	42.71mV	21.46mV	21.48mV	29.44mV	Pass
Crossload1	15.76mV	16.79mV	17.02mV	20.31mV	Pass
Crossload2	19.29mV	14.08mV	9.71mV	18.57mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	12.45mV	10.67mV	18.00mV	14.62mV	Pass
Crossload4	39.59mV	15.04mV	15.91mV	21.22mV	Pass

The results above are not used in the certification process

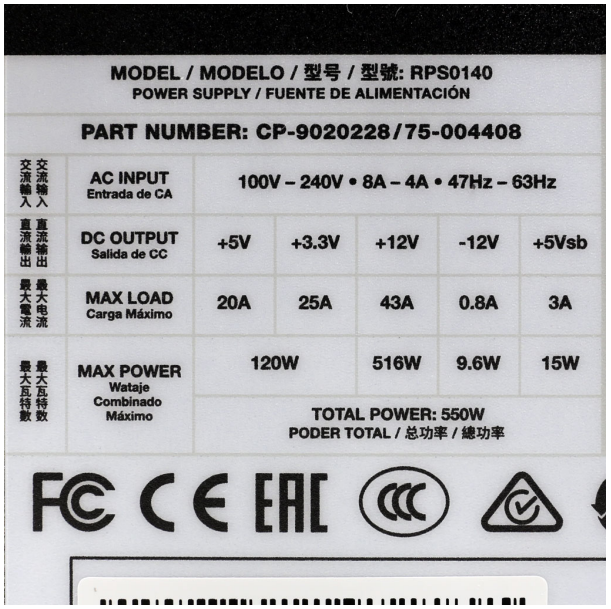
230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.81mV	5.64mV	7.43mV	13.51mV	Pass
20% Load	18.73mV	7.06mV	8.90mV	14.83mV	Pass
30% Load	35.42mV	11.89mV	12.49mV	14.32mV	Pass
40% Load	32.43mV	9.50mV	10.72mV	16.14mV	Pass
50% Load	28.89mV	14.38mV	15.57mV	17.26mV	Pass
60% Load	28.33mV	11.84mV	14.61mV	21.81mV	Pass
70% Load	28.79mV	12.20mV	13.04mV	19.93mV	Pass
80% Load	27.77mV	13.98mV	16.73mV	20.34mV	Pass
90% Load	27.27mV	13.42mV	17.29mV	20.19mV	Pass
100% Load	43.22mV	20.45mV	20.21mV	26.68mV	Pass
110% Load	44.73mV	20.49mV	20.19mV	27.06mV	Pass
Crossload1	15.27mV	16.04mV	15.97mV	19.20mV	Pass
Crossload2	19.95mV	13.47mV	9.30mV	16.14mV	Pass
Crossload3	11.29mV	10.98mV	18.60mV	13.61mV	Pass
Crossload4	42.07mV	14.04mV	15.19mV	20.64mV	Pass

The results above are not used in the certification process

Corsair TX550M

Top side



MODEL / MODELO / 型号 / 型號: RPS0140
POWER SUPPLY / FUENTE DE ALIMENTACIÓN

PART NUMBER: CP-9020228/75-004408

交流輸入 交流輸入	AC INPUT Entrada de CA	100V – 240V • 8A – 4A • 47Hz – 63Hz				
直流輸出 直流輸出	DC OUTPUT Salida de CC	+5V	+3.3V	+12V	-12V	+5Vsb
最大電流 最大电流	MAX LOAD Carga Máximo	20A	25A	43A	0.8A	3A
最大瓦特數 最大瓦特數	MAX POWER Wataje Combinado Máximo	120W		516W	9.6W	15W
		TOTAL POWER: 550W PODER TOTAL / 总功率 / 總功率				

Power specifications label