Make It Yours.

Cooler Master V550 Gold SFX (2021)

MPY5501SFHAGVEU1210500001

Lab ID CM55001834

Certification ID 251834

Test Result Report ID: 21PS1834A

Certificate Issue Date: Apr 21, 2021

Scheme: ETA-EMI PSU

115V



230V



Scheme: LAMBDA PSU

115V



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	Cooler Master
Model	V550 Gold SFX (2021)
OEM/ODM	Gospower
Serial Number	MPY5501SFHAGVEU1210500001
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	8-4
□□□□ (Hz)	50-60

□□□□ (W)	550
Operating Temperature (Continuous Full Load) (°C)	
□□	SFX
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	92mm Fluid Dynamic Bearing Fan (HA9215VH12FD-F00)
□□□□□	✓
Cybenetics Testing Information	
Lab ID	CM55001834
Date of receipt	Apr 5, 2021
Testing Date	Apr 16, 2021
Report Issued Date	Apr 21, 2021
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□ (Non-accredited measurements)

□□□□				
□□	□□□□	□□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (300mm)	1	1	18-22AWG	□
4+4 pin EPS 12V □□ (460mm)	1	1	18AWG	□
8 pin EPS 12V □□ (460mm)	1	1	18AWG	□
6+2pin PCIe□□ (400mm+120mm)	2	4	18AWG	□
SATA□□ (100mm+110mm+110mm+110mm)	2	8	18AWG	□
□ 4pin Molex□□ (100mm+110mm+110mm+110mm)	1	4	18AWG	□
AC Power Cord (1380mm) - C13 coupler	1	1	18AWG	-

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	20	20	45.8	3	0.3
	□	120		549.6	15	3.6
□□□□□ (W)		550				

Parts Description

General Data	-
Manufacturer (OEM)	Gospower
PCB Type	Double Sided
Primary Side	-
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV, 1x MPS HF81 (Discharge IC)
Inrush Protection	NTC Thermistor & Relay
Bridge Rectifier(s)	1x GBU2508 (800V, 25A @ 98°C)
APFC MOSFETs	2x STMicroelectronics STF33N60DM2 (650V, 15.5A @ 100°C, Rds(on): 0.13Ohm)
APFC Boost Diode	1x
Bulk Cap(s)	1x Nichicon (450V, 390uF, 2,000h @ 105°C, GM)
Main Switchers	2x Sanrise Tech SRC60R140BTFE (630V, 11.2A @ 125°C, Rds(on): 0.14Ohm)
APFC Controller	Champion CM6500UNX & CM03AX
Resonant Controller	Champion CU6901VAC
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	6x NCE Power NCEP40T15GU (40V, 106A @ 100°C, Rds(on): 1.35mOhm)
5V & 3.3V	DC-DC Converters: 6x On Semiconductor NTMFS4C022N (30V, 136A, Rds(on): 1.7mOhm) PWM Controller(s): ANPEC APW7159C
Filtering Capacitors	Electrolytic: 4x Rubycon (4-10,000h @ 105°C, YXF) Polymer: 29x FPCAP
Supervisor IC	-
Fan Model	Hong Hua HA9215VH12FD-F00 (92mm, 12V, 0.36A, Fluid Dynamic Bearing Fan)
5VSB Circuit	-

Standby PWM Controller	On-Bright OB2365SP

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓
ALPM (Alternative Low Power Mode) compatible	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	89.599%
Average Noise Output (>1450 Load Combinations)	30.50dBA
PF□□□ (>1450 Load Combinations)	0.985
Efficiency With 10W (≤500W) or 2% (>500W) Load	47.449%
□□□□□□	0.0430W
Non-Accredited	
12V Ripple (Full Load)	12.39mV
5V Ripple (Full Load)	10.42mV
3.3V Ripple (Full Load)	9.36mV
5VSB Ripple (Full Load)	15.14mV
12V Load Regulation	1.04%
5V Load Regulation	1.04%
3.3V Load Regulation	1.48%
5VSB Load Regulation	2.63%
Inrush Current	67.540A

230V

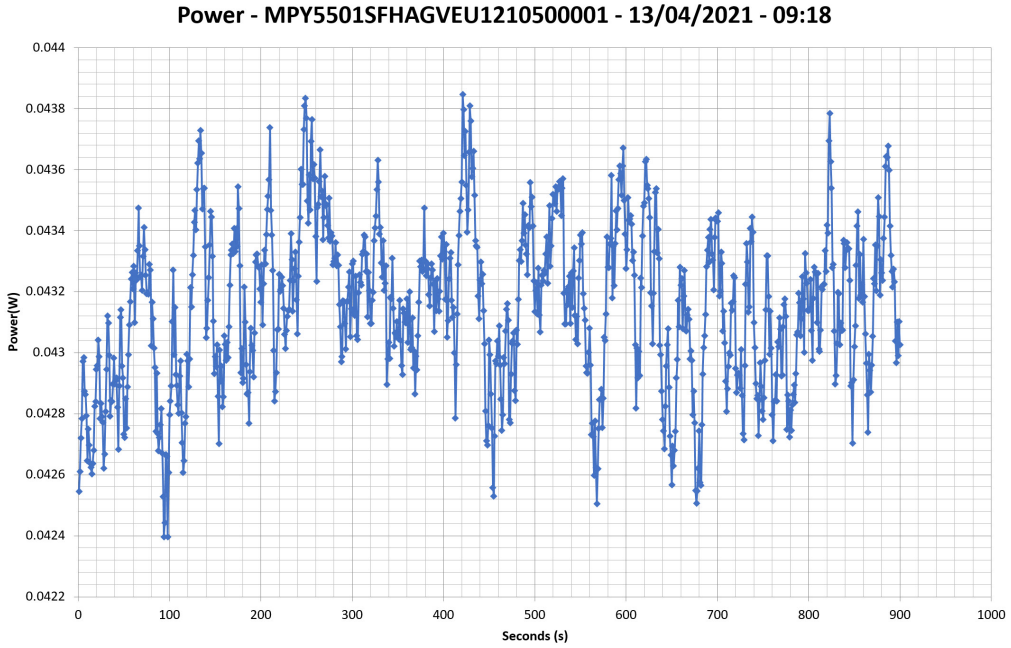
Accredited		
□□□□ (>1450 load combinations)		91.430%
Average Noise Output (>1450 Load Combinations)		31.87dBA
PF□□□ (>1450 Load Combinations)		0.946
Efficiency With 10W (≤500W) or 2% (>500W) Load		-
□□□□□□		0.0855W
Non-Accredited		
12V Ripple (Full Load)		14.20mV
5V Ripple (Full Load)		10.58mV
3.3V Ripple (Full Load)		9.41mV
5VSB Ripple (Full Load)		15.30mV
12V Load Regulation		0.97%
5V Load Regulation		1.02%
3.3V Load Regulation		1.42%
5VSB Load Regulation		2.61%
Inrush Current		90.680A
□□□□ & PG□□		20.80ms
AC Loss to PWR_OK Hold Up Time		15.60ms
PWR_OK Inactive to DC Loss Delay		5.20ms
PSU Timings: T1 (20% / 100%)	44.0ms	46.0ms
PSU Timings: T3 (20% / 100%)	128.0ms	126.0ms
OPP (25.07°C / 44.63°C)	119.95%	119.49%

□□□□ & PG□□

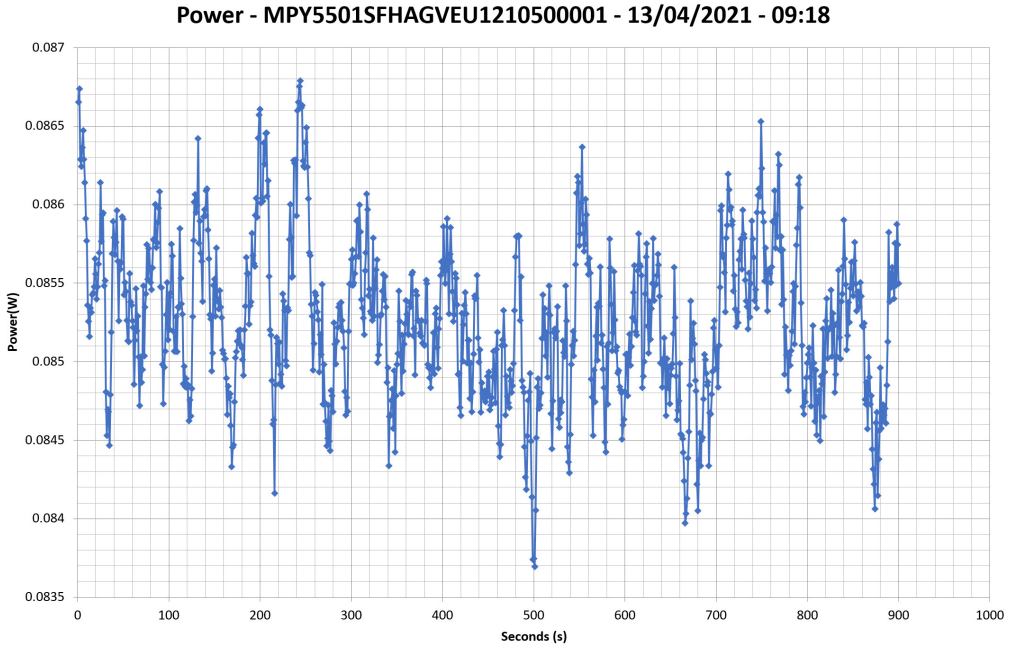
Hold-Up Time (ms)	20.8
AC Loss to PWR_OK Hold Up Time (ms)	15.6
PWR_OK Inactive to DC Loss Delay (ms)	5.2

Graphs

115V



230V



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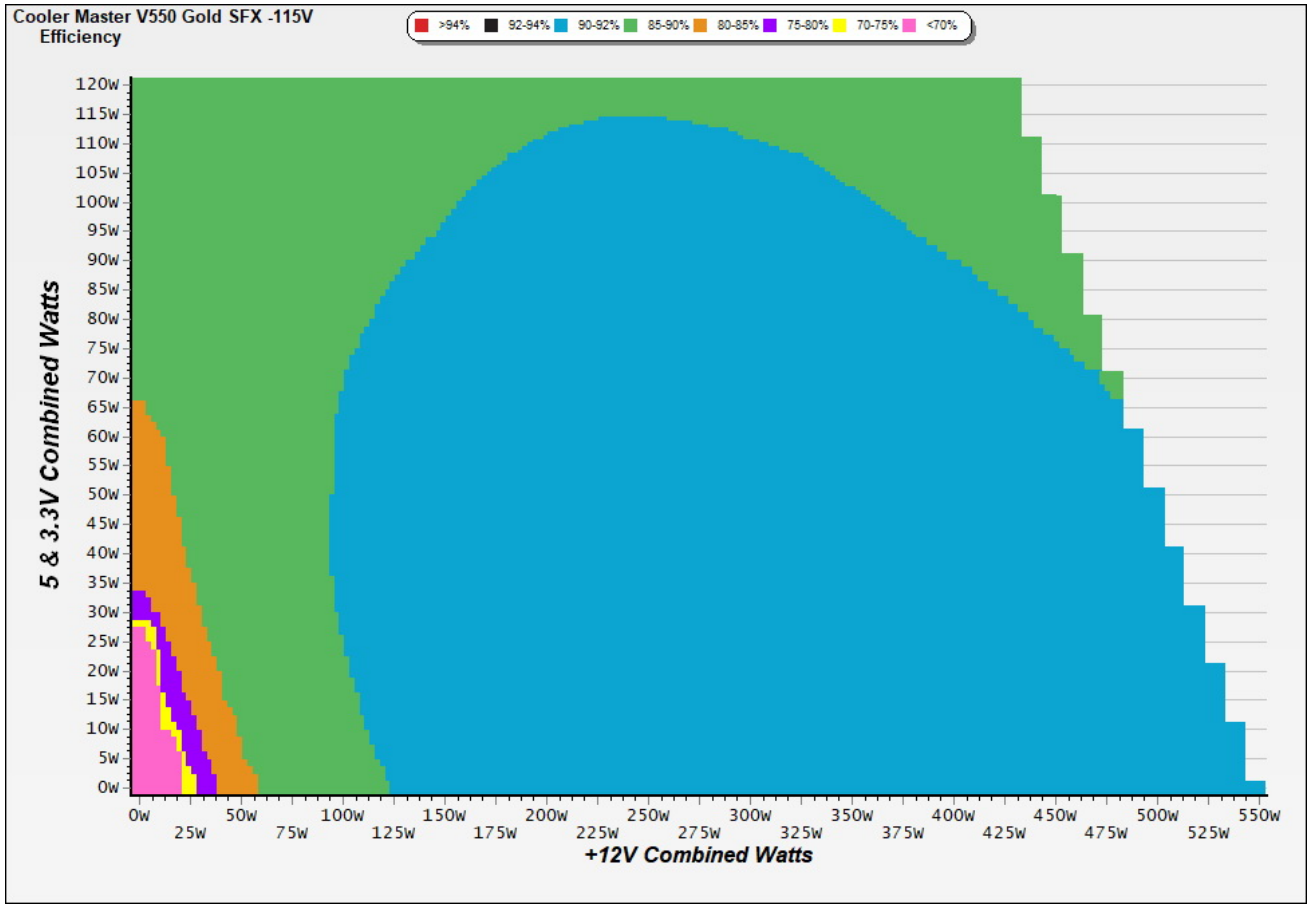
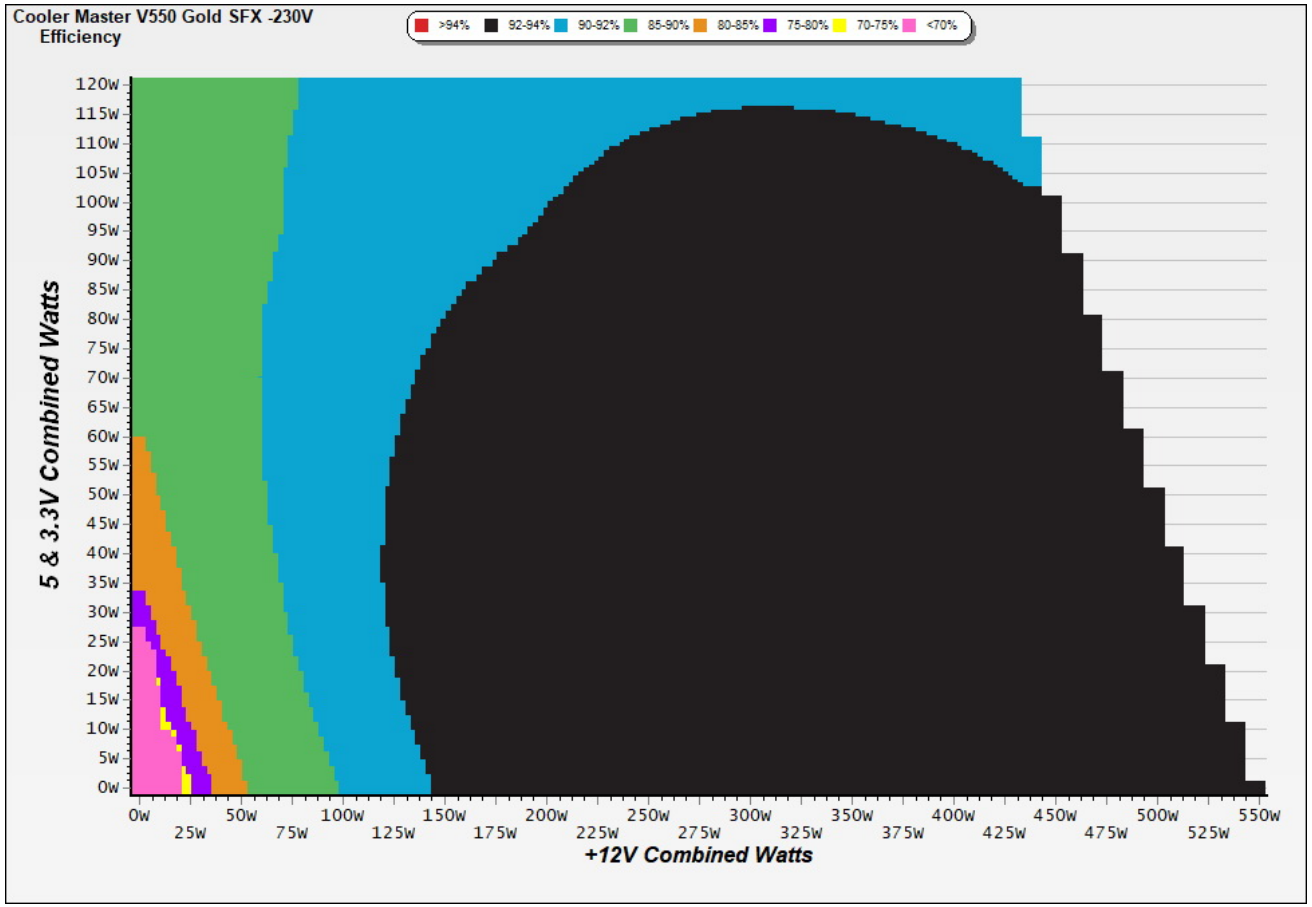
115V



□□

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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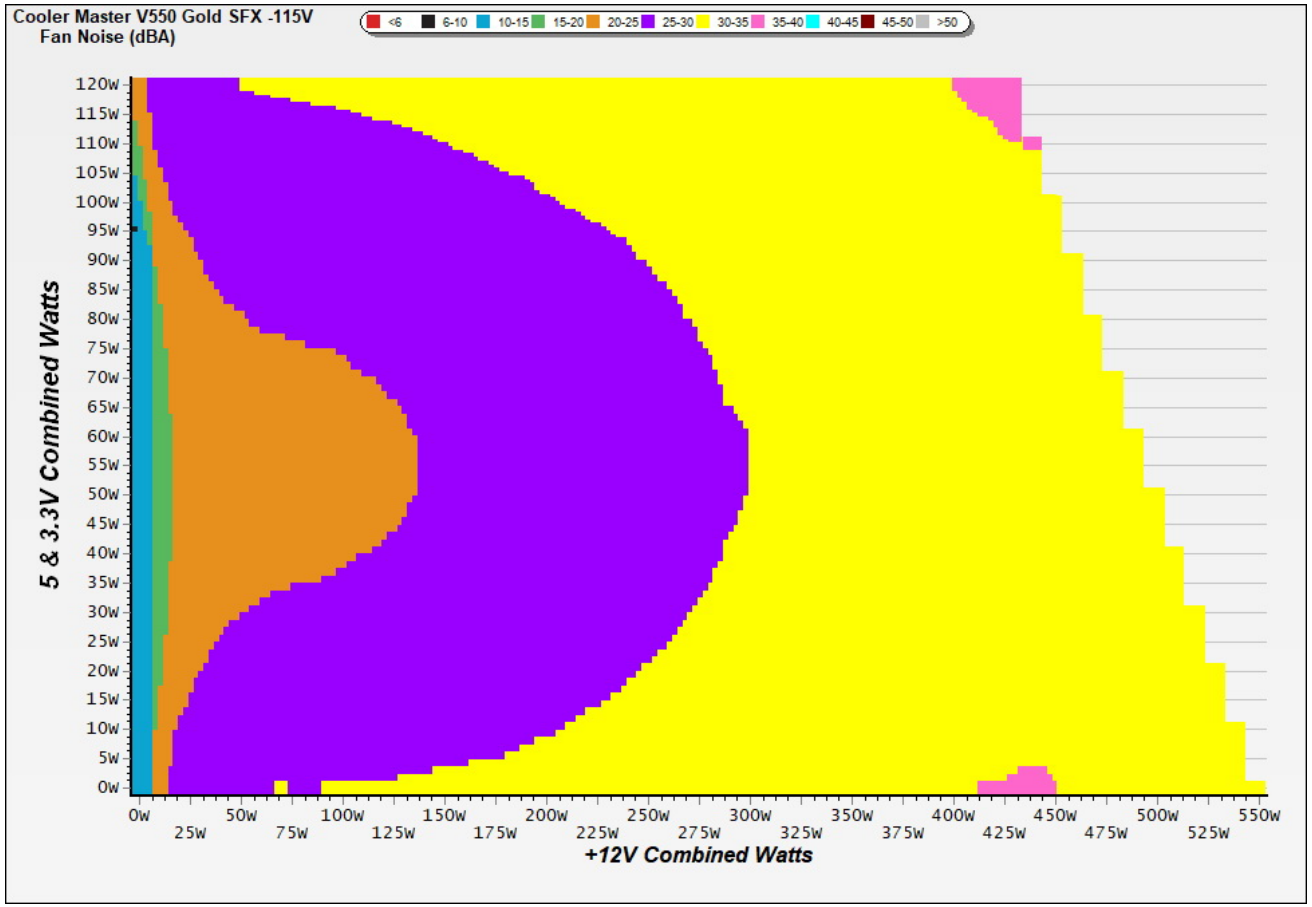
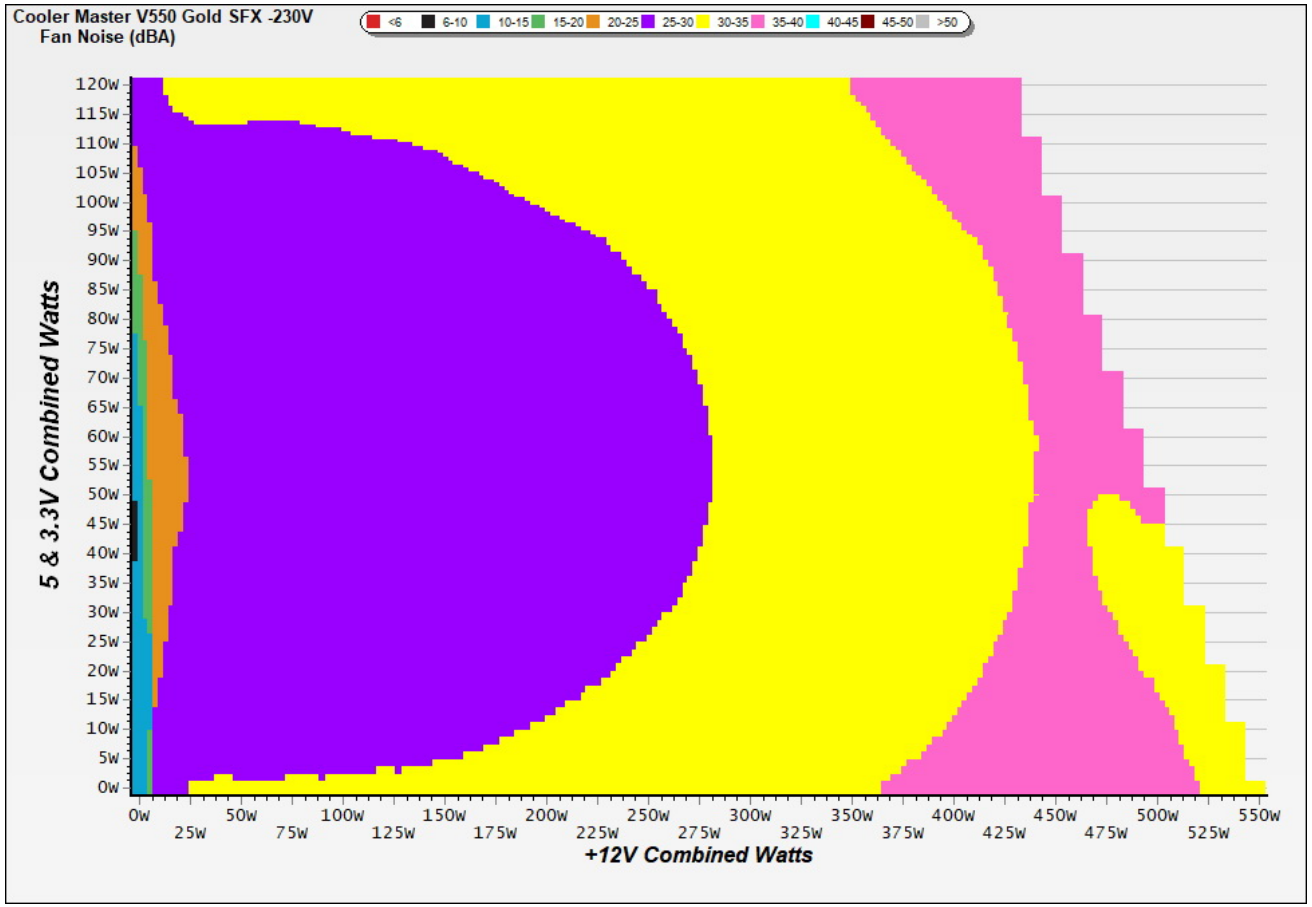
115V



□□

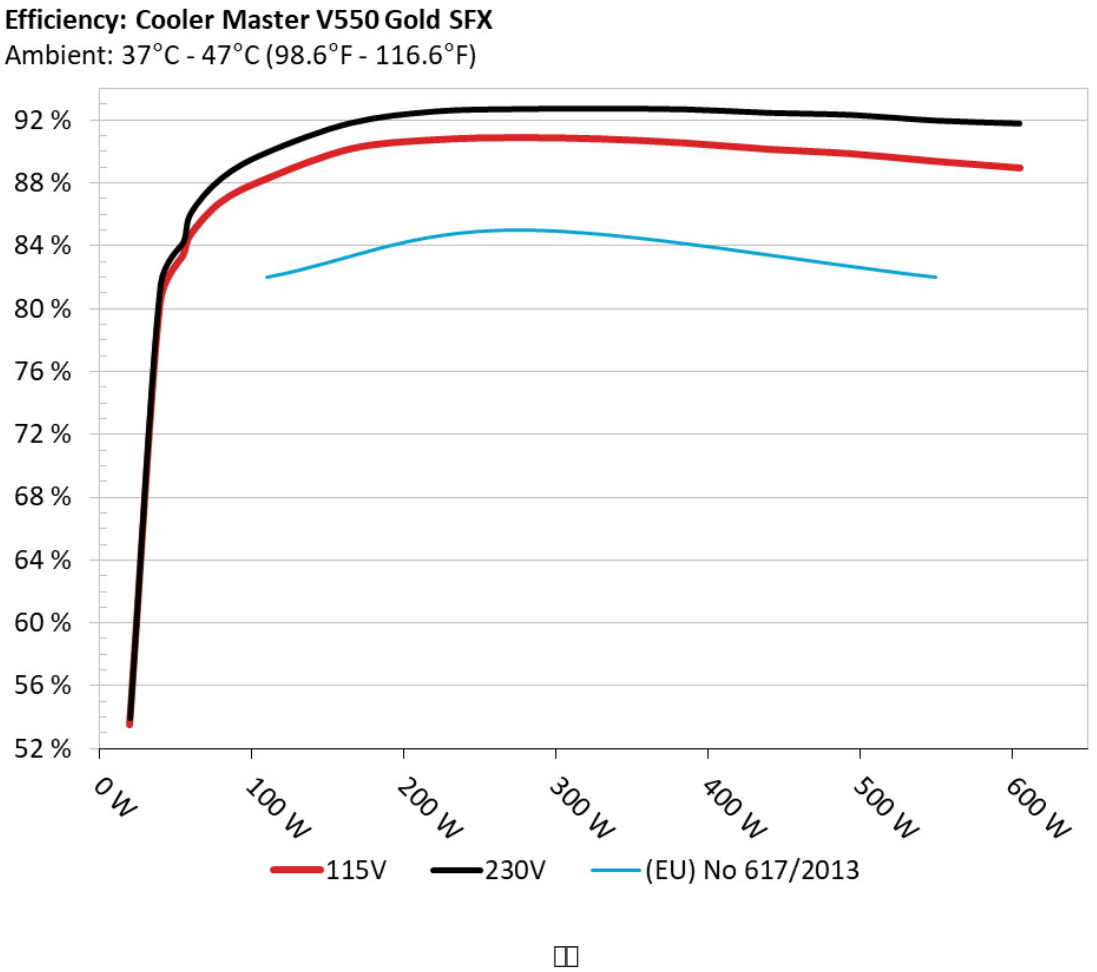
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

230V



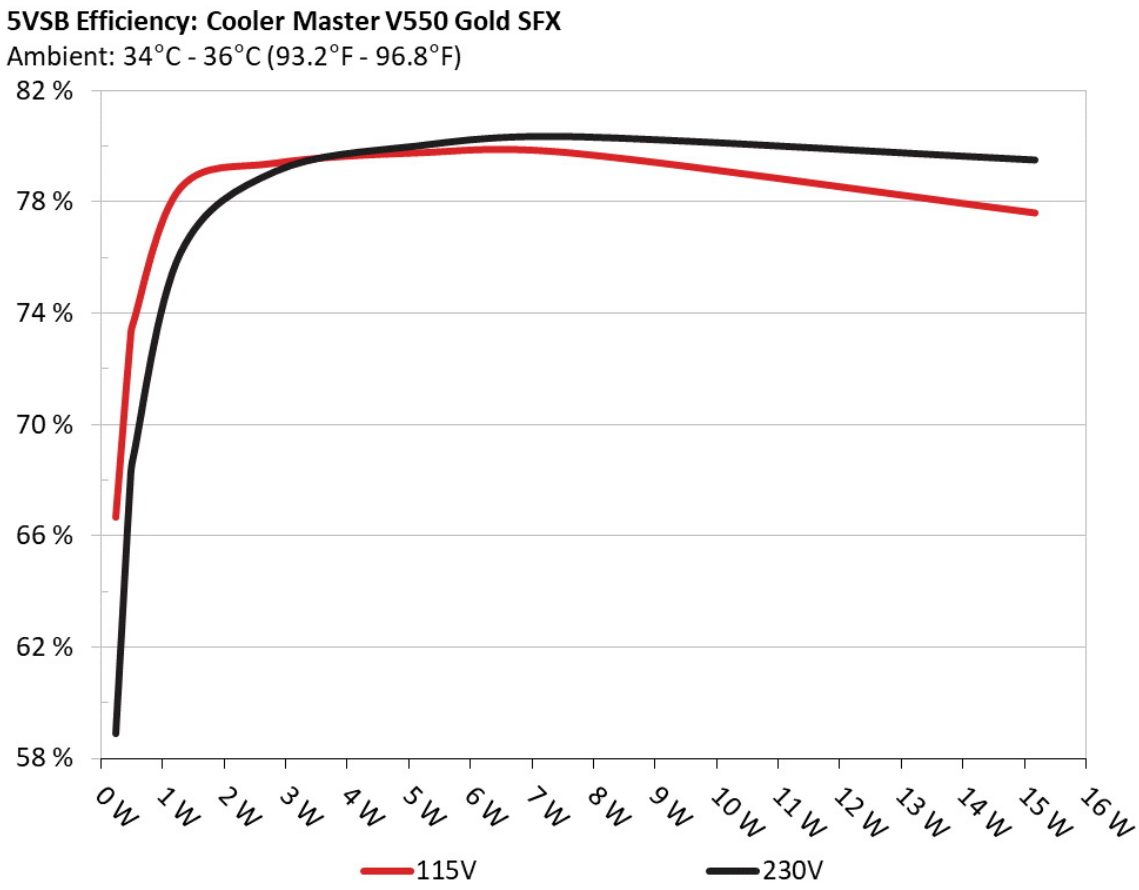
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance



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□□□□



□□

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

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC)

115V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.232	66.667%	0.041
	5.145V	0.348		115.16V
2	0.090A	0.463	72.913%	0.074
	5.144V	0.635		115.15V
3	0.550A	2.822	79.381%	0.295
	5.131V	3.555		115.15V
4	1.000A	5.119	79.748%	0.386
	5.118V	6.419		115.14V
5	1.500A	7.657	79.744%	0.433
	5.103V	9.602		115.14V
6	3.000A	15.179	77.594%	0.502
	5.060V	19.562		115.11V

230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.232	58.883%	0.014
	5.144V	0.394		230.34V
2	0.090A	0.463	67.789%	0.025
	5.143V	0.683		230.34V
3	0.550A	2.822	79.092%	0.119
	5.130V	3.568		230.30V
4	1.000A	5.118	80.006%	0.193
	5.117V	6.397		230.30V
5	1.500A	7.656	80.344%	0.253
	5.103V	9.529		230.30V
6	3.000A	15.177	79.507%	0.351
	5.059V	19.089		230.31V

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	2.749A	2.000A	1.955A	0.979A	54.962	83.354%	1911	32.8	40.19°C	0.973
	12.139V	4.998V	3.374V	5.108V	65.938				42.79°C	115.16V
2	6.528A	3.003A	2.939A	1.177A	110.028	88.254%	2123	35.6	40.72°C	0.980
	12.122V	4.993V	3.369V	5.098V	124.672				44.21°C	115.15V
3	10.651A	3.510A	3.432A	1.376A	165.024	90.151%	2148	36.2	40.73°C	0.988
	12.109V	4.987V	3.364V	5.088V	183.052				44.75°C	115.14V
4	14.783A	4.016A	3.929A	1.576A	220.026	90.732%	2310	38.2	41.39°C	0.980
	12.096V	4.982V	3.360V	5.077V	242.502				45.84°C	115.13V
5	18.576A	5.025A	4.920A	1.777A	275.018	90.869%	2360	38.8	42.20°C	0.982
	12.086V	4.976V	3.354V	5.066V	302.654				47.27°C	115.15V
6	22.380A	6.037A	5.914A	1.979A	330.011	90.787%	2459	40.1	42.41°C	0.986
	12.073V	4.971V	3.349V	5.054V	363.499				48.68°C	115.18V
7	26.196A	7.051A	6.911A	2.182A	385.092	90.527%	2544	41.2	43.01°C	0.989
	12.062V	4.965V	3.343V	5.043V	425.389				49.79°C	115.22V
8	30.016A	8.002A	7.910A	2.386A	439.803	90.131%	2730	42.9	43.52°C	0.991
	12.051V	4.959V	3.337V	5.030V	487.960				50.88°C	115.19V
9	34.234A	8.579A	8.400A	2.389A	494.646	89.842%	2781	42.9	44.20°C	0.993
	12.039V	4.954V	3.333V	5.025V	550.576				52.42°C	115.19V
10	38.260A	9.095A	8.926A	3.001A	549.860	89.361%	2852	43.7	45.53°C	0.994
	12.027V	4.948V	3.327V	5.001V	615.327				54.66°C	115.18V
11	42.895A	9.106A	8.938A	3.004A	605.097	88.942%	2965	45.3	46.71°C	0.995
	12.015V	4.943V	3.323V	4.994V	680.331				56.46°C	115.20V
CL1	0.117A	14.003A	13.999A	0.000A	118.150	84.690%	2678	42.4	42.96°C	0.985
	12.133V	4.984V	3.353V	5.114V	139.508				47.63°C	115.13V

CL2	45.845A	1.000A	1.000A	1.000A	564.284	89.995%	2656	41.6	45.90°C	0.994
	12.017V	4.954V	3.339V	5.073V	627.017				54.68°C	115.15V

The results above are not used in the certification process

230V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	2.747A	2.001A	1.956A	0.979A	54.963	84.198%	2071	34.9	40.12°C	0.815
	12.143V	4.999V	3.375V	5.108V	65.278				43.75°C	230.32V
2	6.528A	3.004A	2.938A	1.177A	110.029	89.926%	2058	34.6	40.74°C	0.908
	12.122V	4.993V	3.369V	5.097V	122.355				44.60°C	230.32V
3	10.652A	3.509A	3.434A	1.376A	165.025	91.795%	2166	36.4	41.50°C	0.937
	12.108V	4.987V	3.364V	5.087V	179.775				45.87°C	230.32V
4	14.784A	4.016A	3.927A	1.576A	220.028	92.528%	2246	37.3	42.11°C	0.952
	12.096V	4.982V	3.359V	5.077V	237.797				47.23°C	230.32V
5	18.579A	5.025A	4.920A	1.777A	275.023	92.683%	2540	41.1	42.85°C	0.959
	12.084V	4.977V	3.354V	5.066V	296.734				48.60°C	230.32V
6	22.375A	6.036A	5.914A	1.980A	330.016	92.710%	2562	41.2	43.04°C	0.965
	12.076V	4.971V	3.349V	5.053V	355.965				49.43°C	230.33V
7	26.198A	7.052A	6.912A	2.182A	385.099	92.665%	2573	41.1	43.69°C	0.967
	12.061V	4.965V	3.343V	5.043V	415.581				50.81°C	230.35V
8	30.020A	8.002A	7.911A	2.386A	439.823	92.444%	2700	42.6	43.87°C	0.970
	12.050V	4.959V	3.337V	5.030V	475.773				51.82°C	230.34V
9	34.241A	8.583A	8.403A	2.389A	494.674	92.307%	2733	42.9	44.07°C	0.973
	12.037V	4.953V	3.332V	5.025V	535.903				52.85°C	230.33V
10	38.269A	9.097A	8.926A	3.001A	549.899	91.954%	2877	44.2	45.55°C	0.975
	12.025V	4.948V	3.327V	5.000V	598.015				54.85°C	230.37V
11	42.914A	9.104A	8.938A	3.002A	605.103	91.764%	2927	44.8	46.54°C	0.976
	12.010V	4.943V	3.323V	4.998V	659.409				56.31°C	230.36V
CL1	0.117A	14.001A	14.001A	0.000A	118.146	86.188%	2685	42.4	42.29°C	0.917
	12.134V	4.984V	3.353V	5.113V	137.080				48.47°C	230.37V

CL2	45.845A	1.000A	1.000A	1.000A	564.241	92.663%	2629	41.3	45.44°C	0.974
	12.016V	4.954V	3.339V	5.073V	608.914				54.59°C	230.35V

The results above are not used in the certification process

20-80□□□□□

115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	PF/AC □□
1	1.221A	0.501A	0.487A	0.195A	19.992	53.489%	1638	28.1	0.940
	12.153V	5.002V	3.379V	5.136V	37.376				115.17V
2	2.442A	1.001A	0.976A	0.390A	39.981	80.356%	1670	28.7	0.961
	12.154V	5.000V	3.377V	5.128V	49.755				115.17V
3	3.673A	1.501A	1.466A	0.586A	60.011	84.687%	1848	31.9	0.976
	12.132V	4.998V	3.375V	5.120V	70.862				115.16V
4	4.894A	2.002A	1.957A	0.782A	79.960	86.776%	1887	32.3	0.978
	12.129V	4.996V	3.373V	5.113V	92.145				115.16V

The results above are not used in the certification process

230V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	PF/AC □□
1	1.221A	0.500A	0.489A	0.195A	19.992	53.965%	1770	30.5	0.682
	12.152V	5.002V	3.379V	5.136V	37.046				230.39V
2	2.442A	1.000A	0.977A	0.390A	39.981	81.497%	1856	31.9	0.757
	12.155V	5.000V	3.377V	5.127V	49.058				230.33V
3	3.672A	1.502A	1.466A	0.586A	60.011	86.072%	1842	31.7	0.826
	12.134V	4.998V	3.375V	5.120V	69.722				230.33V
4	4.894A	2.002A	1.957A	0.783A	79.960	88.276%	1942	33.2	0.867
	12.128V	4.996V	3.373V	5.112V	90.580				230.32V

The results above are not used in the certification process

□□□□

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	18.10mV	5.40mV	3.90mV	6.60mV	Pass
20% Load	10.70mV	6.10mV	4.50mV	8.20mV	Pass
30% Load	9.10mV	6.70mV	4.80mV	8.30mV	Pass
40% Load	9.10mV	7.40mV	5.20mV	9.10mV	Pass
50% Load	9.50mV	7.40mV	4.70mV	10.00mV	Pass
60% Load	8.40mV	7.70mV	4.80mV	10.60mV	Pass
70% Load	8.30mV	8.30mV	5.10mV	11.70mV	Pass
80% Load	8.90mV	8.30mV	9.00mV	13.00mV	Pass
90% Load	9.30mV	9.40mV	8.70mV	14.00mV	Pass
100% Load	12.40mV	10.40mV	9.40mV	15.10mV	Pass
110% Load	13.10mV	11.00mV	9.80mV	15.90mV	Pass
Crossload1	14.20mV	8.40mV	10.40mV	7.70mV	Pass
Crossload2	12.80mV	9.80mV	5.80mV	12.90mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	22.90mV	6.10mV	4.20mV	7.10mV	Pass
20% Load	12.80mV	6.30mV	4.40mV	8.20mV	Pass
30% Load	9.50mV	6.80mV	4.80mV	8.80mV	Pass
40% Load	9.80mV	7.80mV	4.30mV	8.70mV	Pass
50% Load	10.50mV	7.90mV	5.60mV	10.40mV	Pass
60% Load	9.90mV	7.80mV	5.30mV	11.10mV	Pass
70% Load	10.50mV	8.70mV	5.40mV	11.80mV	Pass
80% Load	9.50mV	8.60mV	9.00mV	12.90mV	Pass





Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	10.10mV	9.00mV	8.20mV	13.40mV	Pass
100% Load	14.20mV	10.60mV	9.40mV	15.30mV	Pass
110% Load	14.70mV	10.40mV	9.80mV	16.50mV	Pass
Crossload1	15.90mV	8.60mV	10.60mV	8.40mV	Pass
Crossload2	14.10mV	9.50mV	5.70mV	12.30mV	Pass

The results above are not used in the certification process

Cooler Master V550 Gold SFX (2021)

Top side

Power specifications label

本测试报告中包含的所有数据和图表均可在以下条件下由任何人使用：使用过程需提及测试结果由 Cybenetics提供。
在任何情况下都应提供原始测试结果文档的网站链接

Cybenetics 提供自愿性认证计划：电源方面有 ETA (效率)、 LAMBDA (噪声) 与 SAFE (安全与正确运行)；散热产品方面有 DELTA (机箱隔音) 与 PHI (风扇风量与静压)

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