CORSAIR

Corsair Vengeance 550M

Serial Number 15527103000013630556

Lab ID 114

Certification ID 25114

Test Result Report ID:

Certificate Issue Date: May 25, 2018

115V 230V

Scheme: ETA-EMI PSU

CYBENETICS SILVER

115V 230V

CYBENETICS STANDARD++

Scheme: LAMBDA PSU

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	Vengeance 550M
OEM/ODM	Channel Well Technology
Serial Number	15527103000013630556
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
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 Sleeve Bearing Fan (HA1225H12S-Z)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	114
Date of receipt	May 15, 2018
Testing Date	May 23, 2018
Report Issued Date	May 25, 2018
DUT Notes	CP-9020111
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
ATX connector 20+4 pin (610mm)	1	1	16-20AWG
4+4 pin EPS12V (590mm)	1	1	18AWG
Modular Cables			
6+2 pin PCIe (680mm+90mm)	1	2	16-18AWG
SATA (540mm+120mm)	1	2	18AWG
SATA (470mm+120mm+120mm)	1	3	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG

FDD Adapter (+100mm)	1	1	20AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	20	45.8	3	0.8
	Watts	120		549.6	15	9.6
Total Max. Power (W)		550				

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	✓

Performance Summary 115V

Accredited	
Average Efficiency (>1450 load combinations)	85.639%
Average Noise Output (>1450 Load Combinations)	30.98dBA
Average PF (>1450 Load Combinations)	0.994
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0403W
Non-Accredited	
12V Ripple (Full Load)	27.19mV
5V Ripple (Full Load)	14.96mV
3.3V Ripple (Full Load)	14.60mV
5VSB Ripple (Full Load)	25.68mV
12V Load Regulation	0.72%
5V Load Regulation	0.63%
3.3V Load Regulation	0.88%

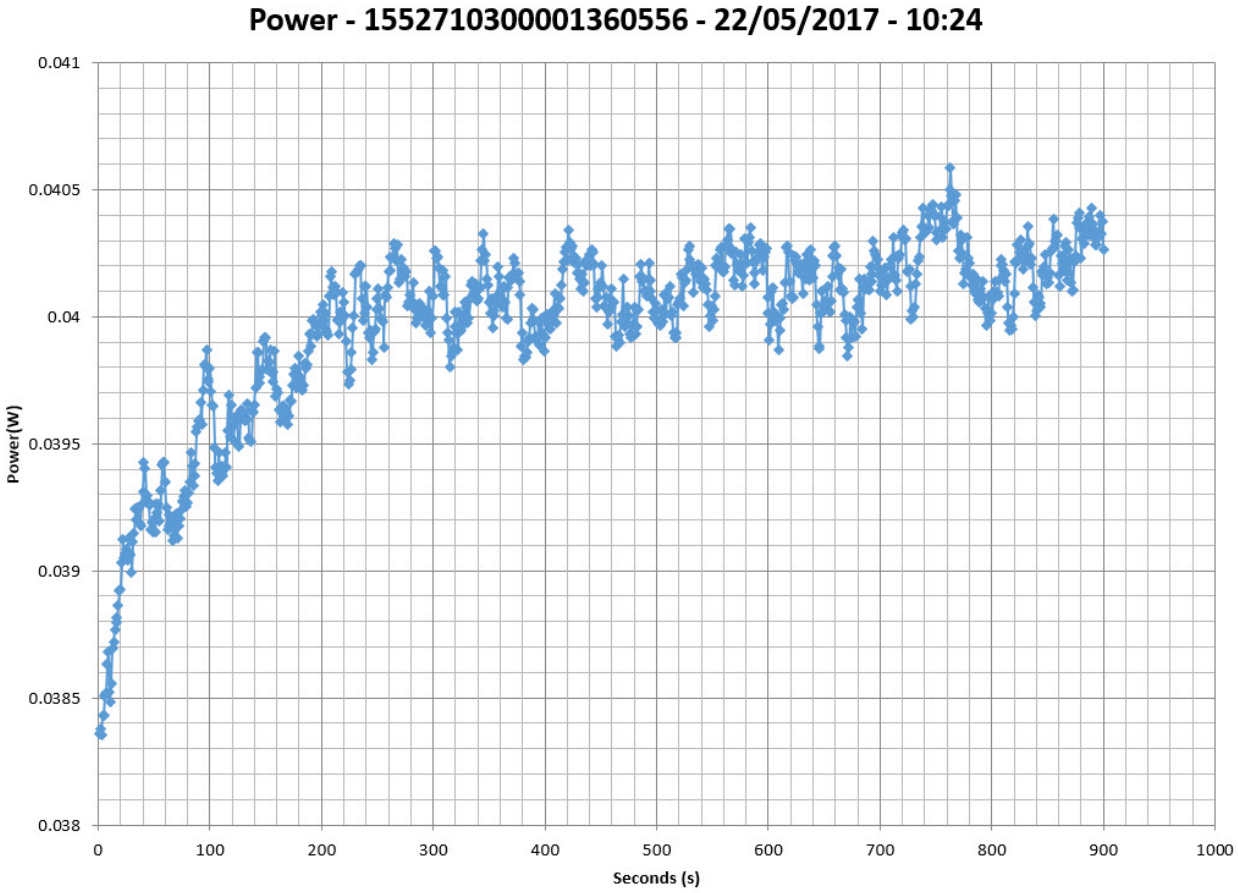
5VSB Load Regulation	2.86%
Inrush Current	20.275A

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	16.60
AC Loss to PWR_OK Hold Up Time (ms)	13.18
PWR_OK Inactive to DC Loss Delay (ms)	3.42

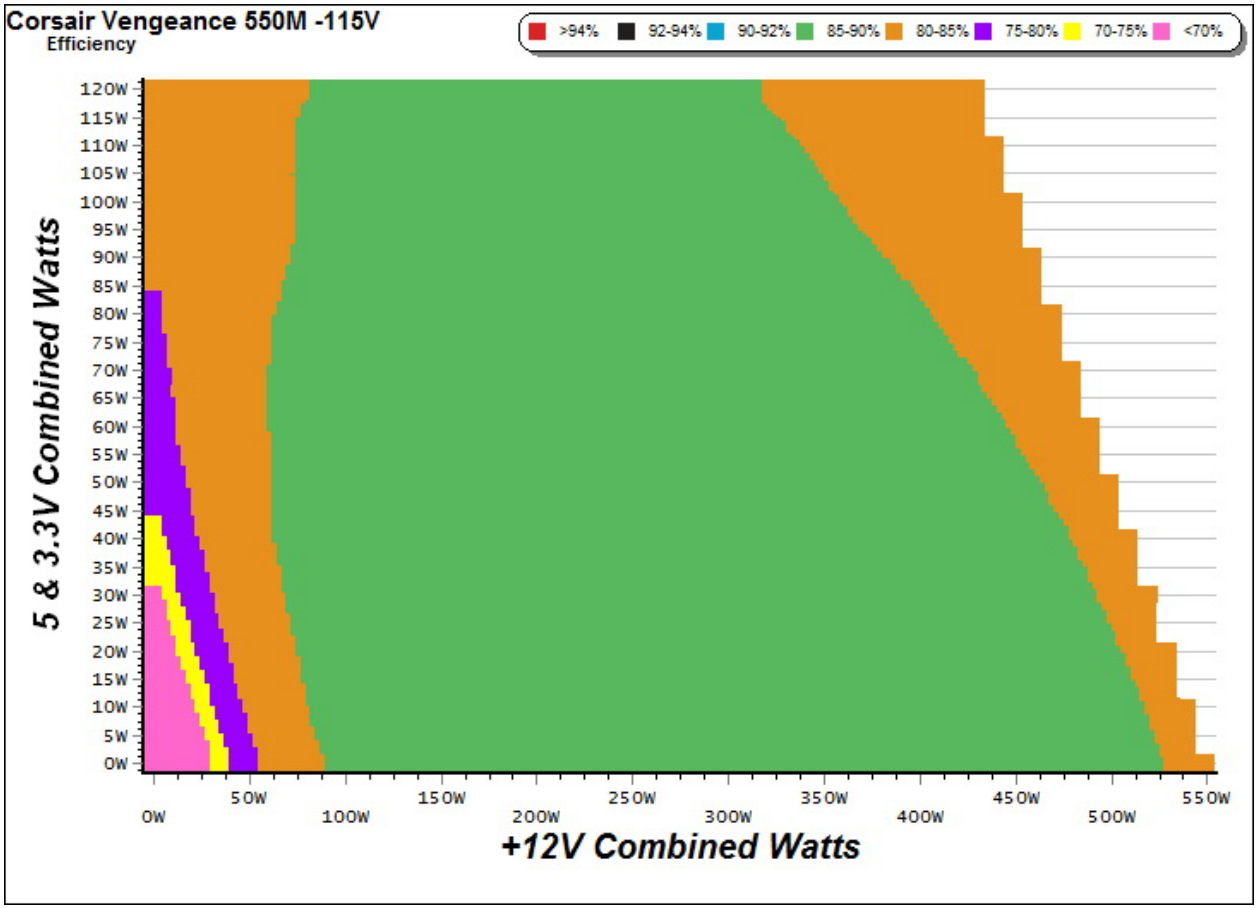
Vampire Power

Graphs 115V



Efficiency Graph

115V

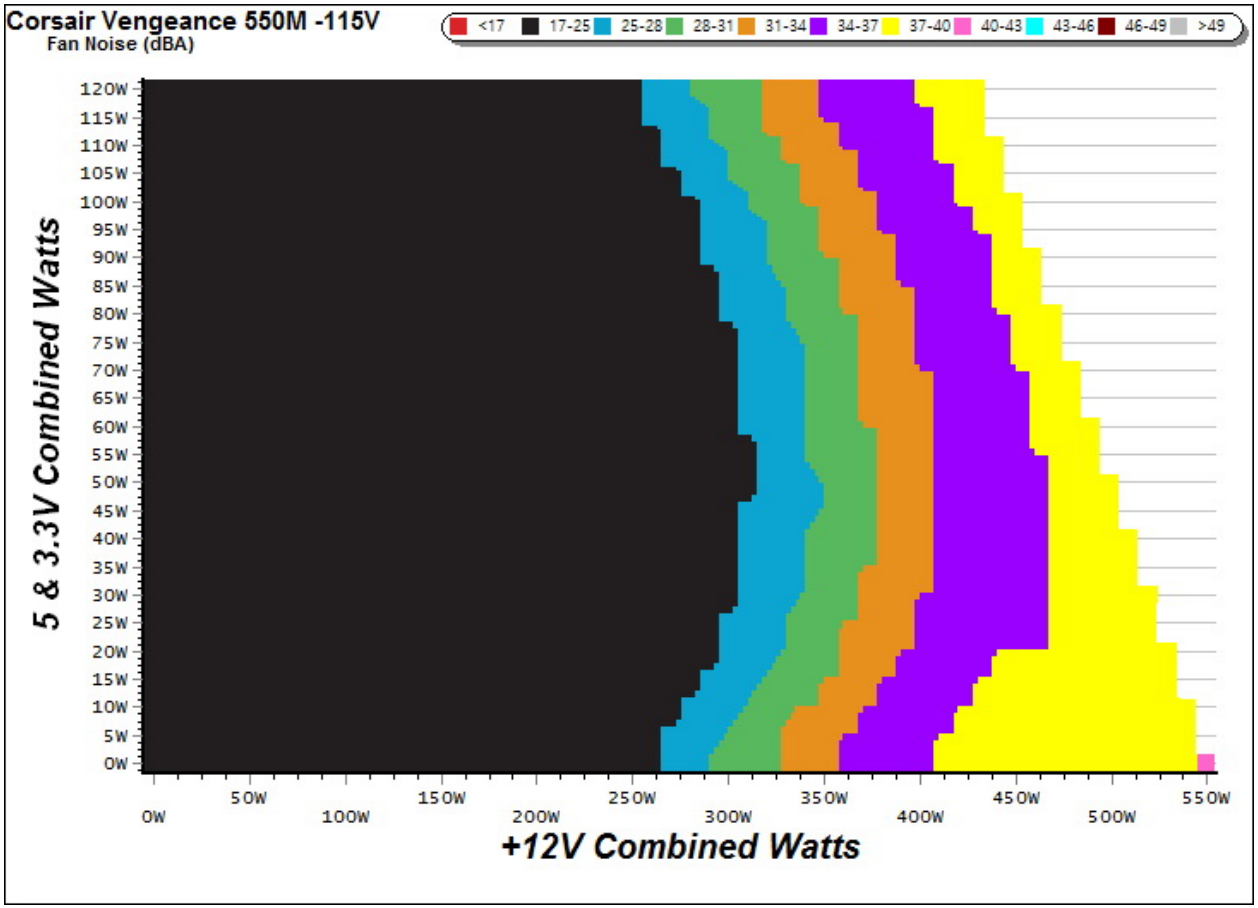


INFO

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.

Noise Graph

115V

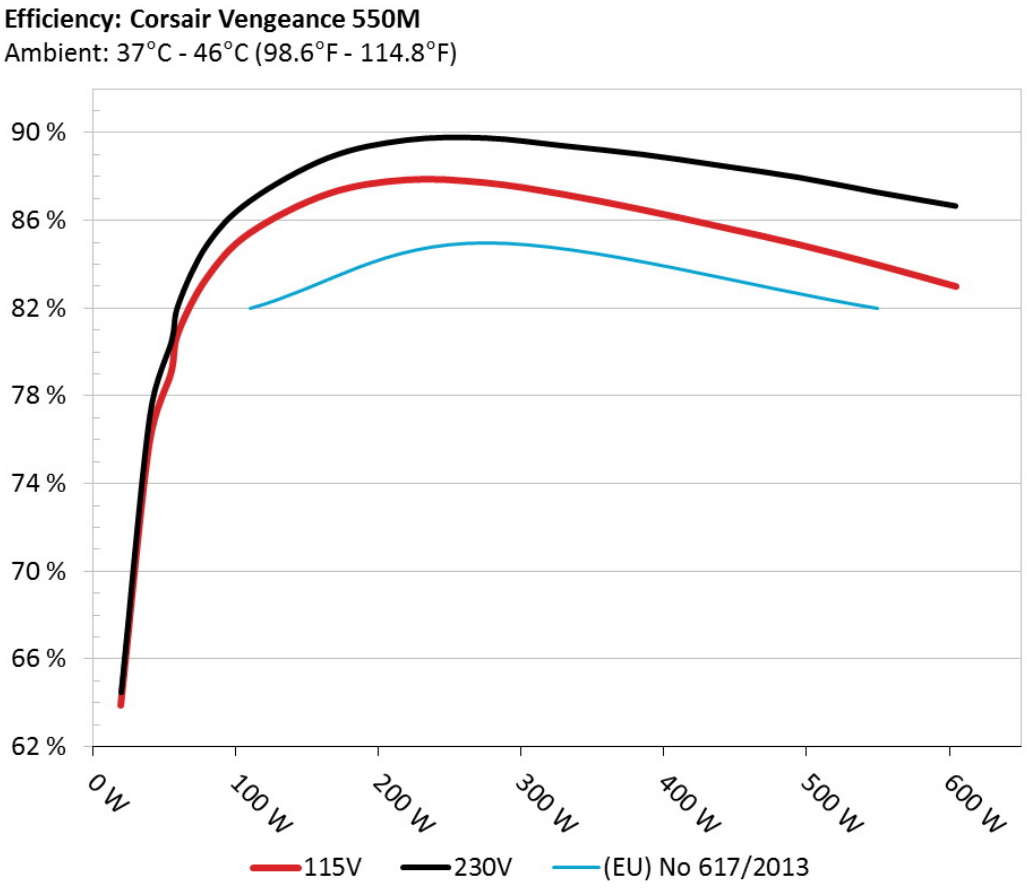


INFO

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.

Indicative Performance

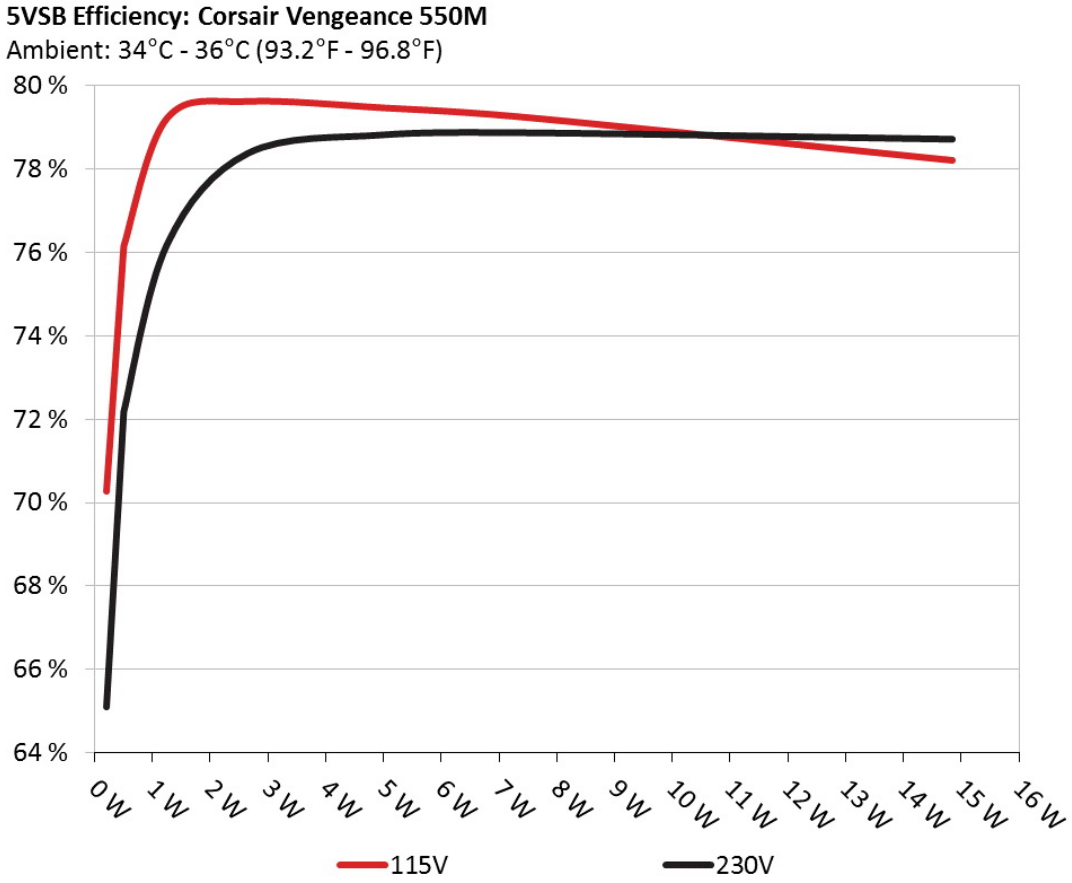
Efficiency under high ambient temperature



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	0.042A	0.208	70.270%	0.031
	5.008V	0.296		115.12V

2	0.087A	0.435	76.049%	0.059
	5.006V	0.572		115.13V
3	0.532A	2.658	79.629%	0.259
	4.998V	3.338		115.09V
4	1.002A	4.999	79.475%	0.350
	4.989V	6.290		115.09V
5	1.502A	7.476	79.245%	0.395
	4.979V	9.434		115.10V
6	3.001A	14.853	78.215%	0.454
	4.949V	18.990		115.11V

Supplementary Tests (For Reference)

Typical Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	2.726A	1.975A	2.013A	1.002A	54.763	79.027%	930	19.3	38.66°C	0.971
	12.180V	5.054V	3.275V	4.976V	69.297				44.02°C	115.12V
2	6.483A	2.967A	3.024A	1.207A	109.780	85.439%	930	19.3	38.85°C	0.989
	12.172V	5.050V	3.271V	4.965V	128.489				44.88°C	115.12V
3	10.590A	3.467A	3.545A	1.411A	164.886	87.240%	930	19.3	39.20°C	0.994
	12.163V	5.048V	3.270V	4.951V	189.003				46.25°C	115.14V
4	14.696A	3.964A	4.036A	1.616A	219.779	87.877%	930	19.3	39.66°C	0.996
	12.154V	5.044V	3.267V	4.940V	250.098				47.81°C	115.13V
5	18.470A	4.963A	5.053A	1.826A	274.810	87.746%	1000	20.1	40.36°C	0.997
	12.144V	5.042V	3.263V	4.928V	313.188				50.05°C	115.13V
6	22.248A	5.955A	6.069A	2.033A	329.752	87.212%	1290	27.0	41.02°C	0.997
	12.135V	5.038V	3.260V	4.912V	378.106				50.98°C	115.14V
7	26.033A	6.957A	7.091A	2.245A	384.757	86.514%	1570	31.8	41.91°C	0.996
	12.125V	5.034V	3.256V	4.898V	444.734				52.19°C	115.14V
8	29.823A	7.952A	8.113A	2.455A	439.667	85.730%	1830	36.8	42.75°C	0.997
	12.114V	5.031V	3.253V	4.885V	512.852				53.39°C	115.13V

9	34.046A	8.461A	8.643A	2.459A	494.766	84.919%	2055	39.8	43.69°C	0.997
	12.105V	5.029V	3.251V	4.876V	582.634				54.86°C	115.13V
10	38.024A	8.959A	9.139A	3.086A	549.632	83.997%	2165	41.5	44.96°C	0.997
	12.096V	5.025V	3.249V	4.855V	654.346				57.14°C	115.13V
11	42.603A	8.961A	9.145A	3.091A	604.586	83.008%	2165	41.5	45.80°C	0.997
	12.086V	5.023V	3.247V	4.847V	728.351				59.00°C	115.13V
CL1	0.098A	14.025A	14.004A	0.004A	117.495	81.539%	930	19.3	42.68°C	0.990
	12.162V	5.038V	3.258V	4.965V	144.097				52.23°C	115.13V
CL2	45.787A	1.004A	1.002A	1.000A	567.264	84.347%	2165	41.5	44.33°C	0.997
	12.100V	5.039V	3.263V	4.912V	672.537				56.24°C	115.13V

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)	Fan Noise (dB[A])	PF/AC Volts
1	1.200A	0.491A	0.486A	0.201A	19.708	63.890%	930	19.3	0.916
	12.188V	5.058V	3.279V	4.998V	30.847				115.12V
2	2.422A	0.980A	1.005A	0.401A	39.760	75.859%	885	19.0	0.958
	12.184V	5.057V	3.278V	4.991V	52.413				115.12V
3	3.648A	1.477A	1.526A	0.601A	59.890	80.894%	930	19.3	0.973
	12.180V	5.056V	3.276V	4.985V	74.035				115.12V
4	4.862A	1.975A	2.015A	0.801A	79.772	83.381%	950	19.5	0.983
	12.177V	5.054V	3.275V	4.977V	95.672				115.12V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.5 mV	8.9 mV	9.6 mV	11.2 mV	Pass
20% Load	7.7 mV	8.1 mV	9.4 mV	11.4 mV	Pass
30% Load	10.4 mV	9.4 mV	10.2 mV	12.5 mV	Pass
40% Load	10.4 mV	9.3 mV	10.3 mV	13.7 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	14.1 mV	10.2 mV	11.0 mV	14.7 mV	Pass
60% Load	17.1 mV	10.0 mV	11.3 mV	17.8 mV	Pass
70% Load	19.6 mV	10.5 mV	12.4 mV	20.3 mV	Pass
80% Load	22.9 mV	11.7 mV	12.3 mV	22.3 mV	Pass
90% Load	24.6 mV	12.1 mV	14.6 mV	23.6 mV	Pass
100% Load	27.2 mV	15.0 mV	14.6 mV	25.7 mV	Pass
110% Load	28.7 mV	14.7 mV	15.6 mV	27.2 mV	Pass
Crossload 1	9.7 mV	10.6 mV	11.2 mV	13.5 mV	Pass
Crossload 2	27.9 mV	15.2 mV	15.3 mV	24.8 mV	Pass

The results above are not used in the certification process

Corsair Vengeance 550M

Top side

Power specifications label

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

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

www.cybenetics.com - info@cybenetics.com