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

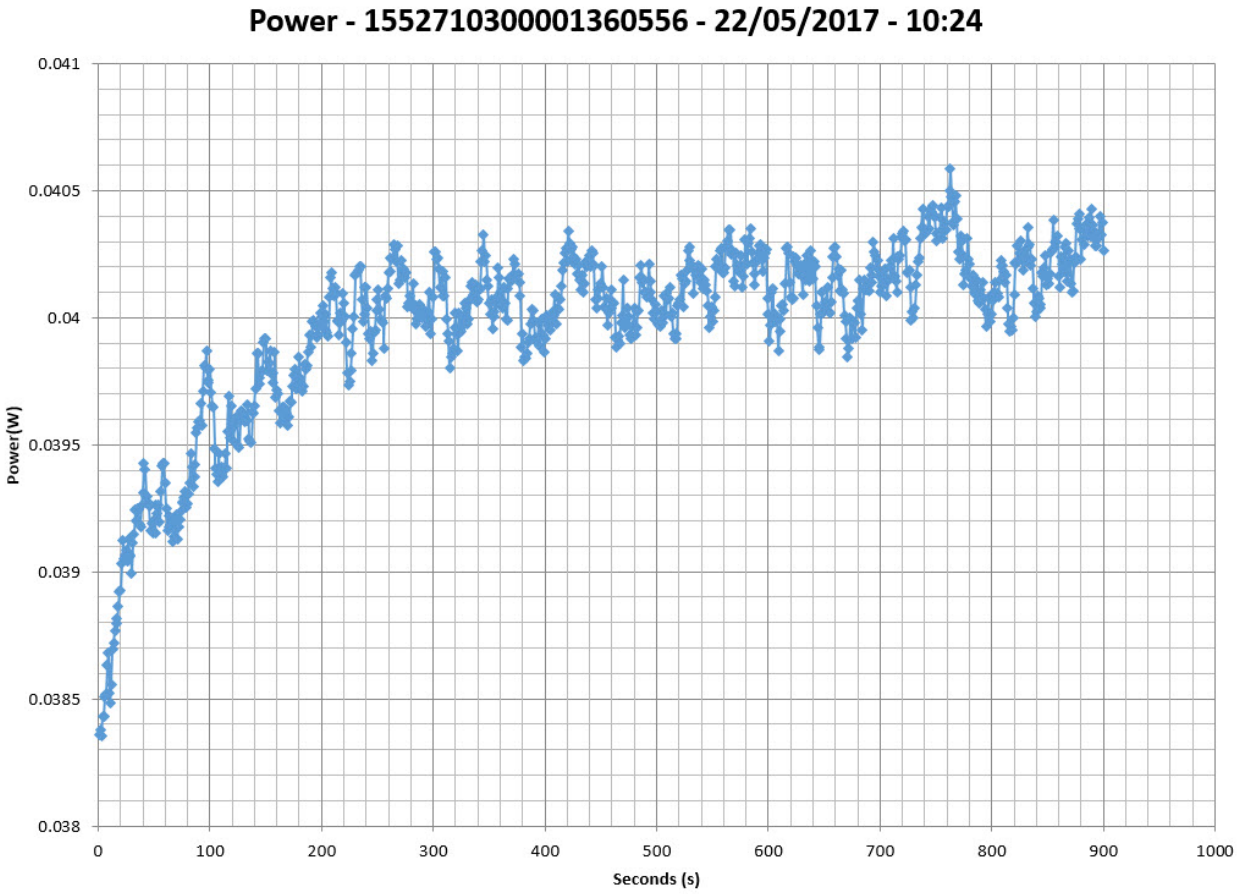
Accredited	
Average Efficiency (>1450 load combinations)	85.639%
Average Noise Output (>1450 Load Combinations)	30.98dBA
Average PF (>1450 Load Combinations)	0.994
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0403W
Non-Accredited	
12V Ripple (Full Load)	27.19mV
5V Ripple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

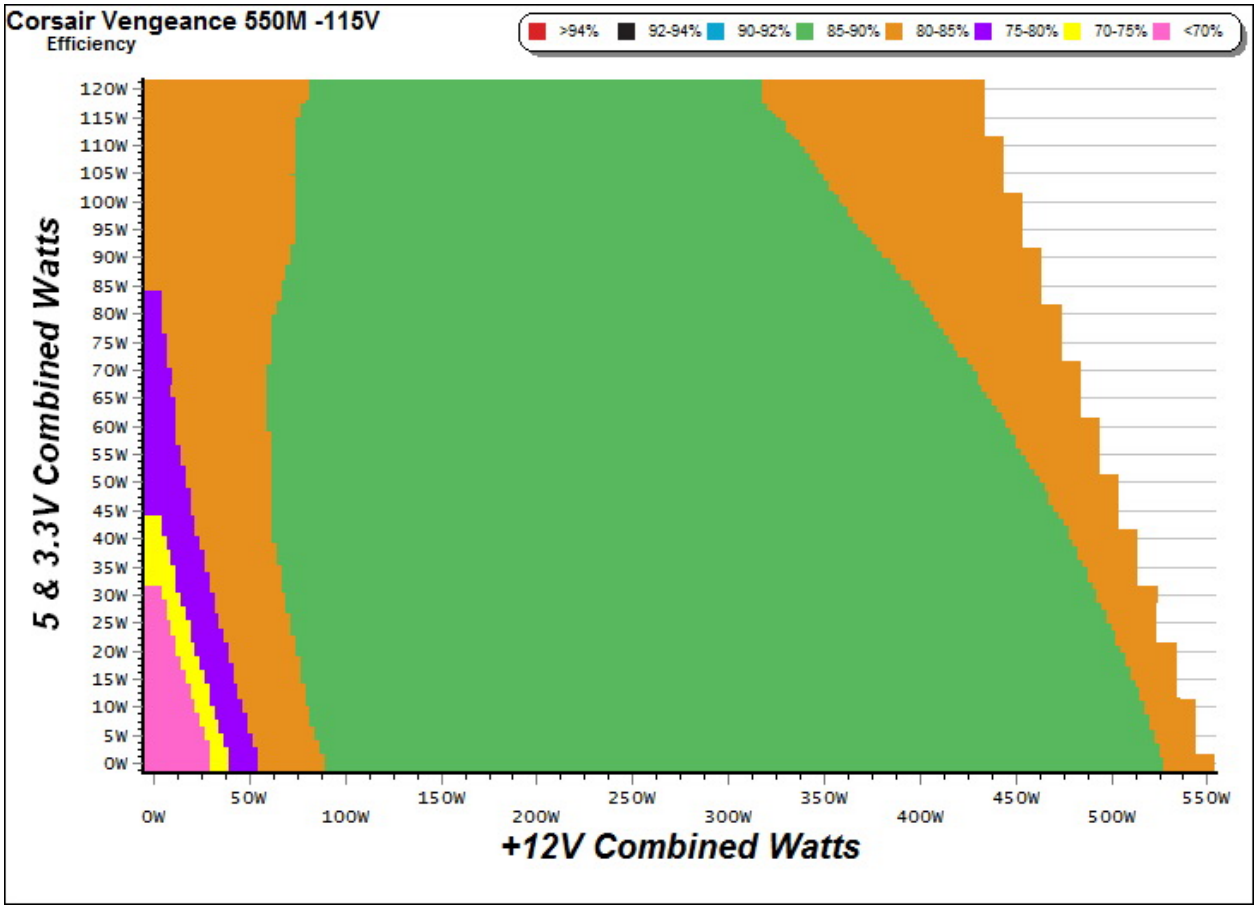
Hold-Up Time (ms)	16.60
AC Loss to PWR_OK Hold Up Time (ms)	13.18
PWR_OK Inactive to DC Loss Delay (ms)	3.42

Graphs 115V


Power - 1552710300001360556 - 22/05/2017 - 10:24
0.041
0.0405
0.04
0.0395
0.039
0.0385
0.038
Power(W)
0
100
200
300
400
500
600
700
800
900
1000
Seconds (s)

Efficiency Graph

115V

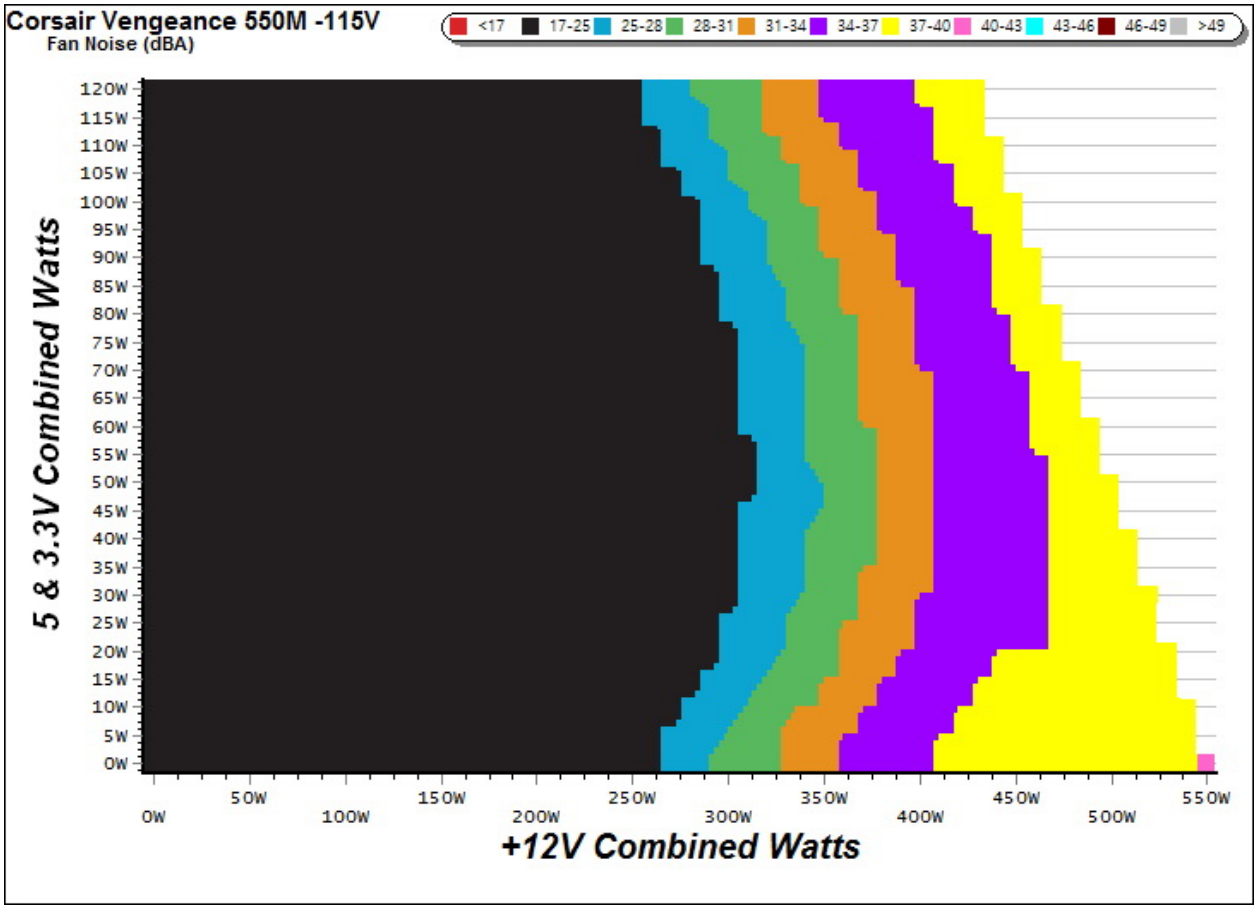


INFO

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

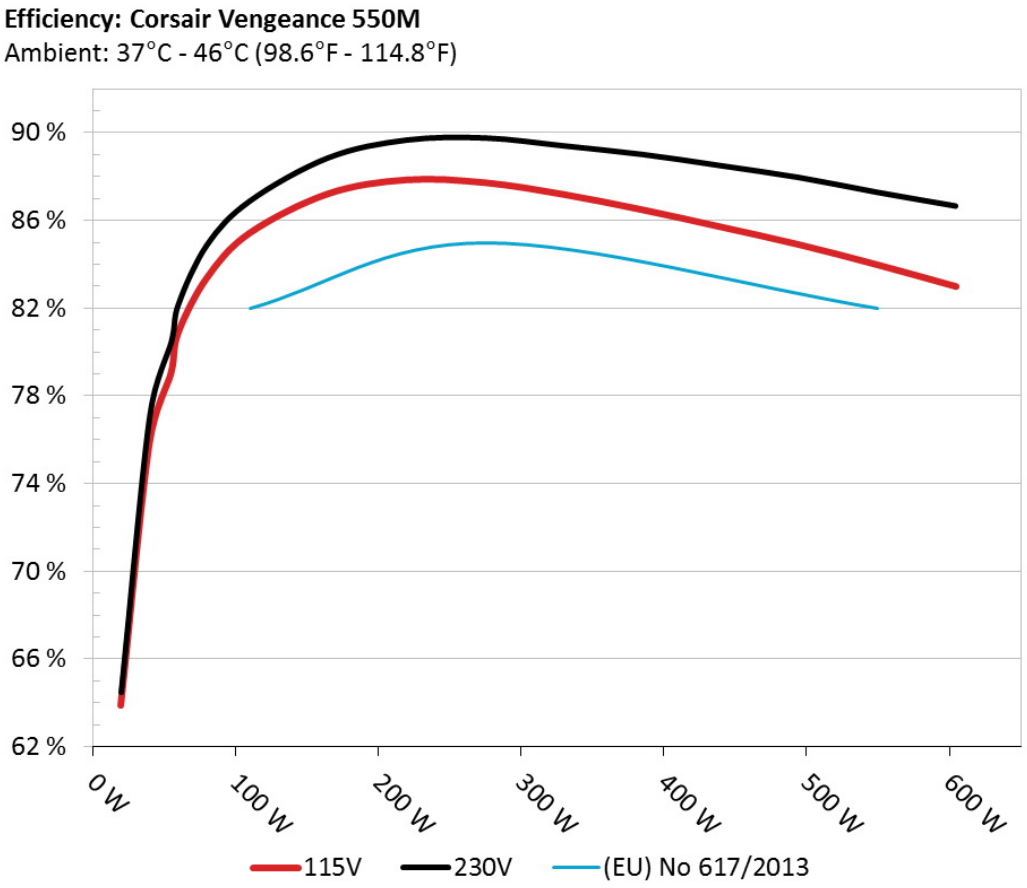


INFO

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

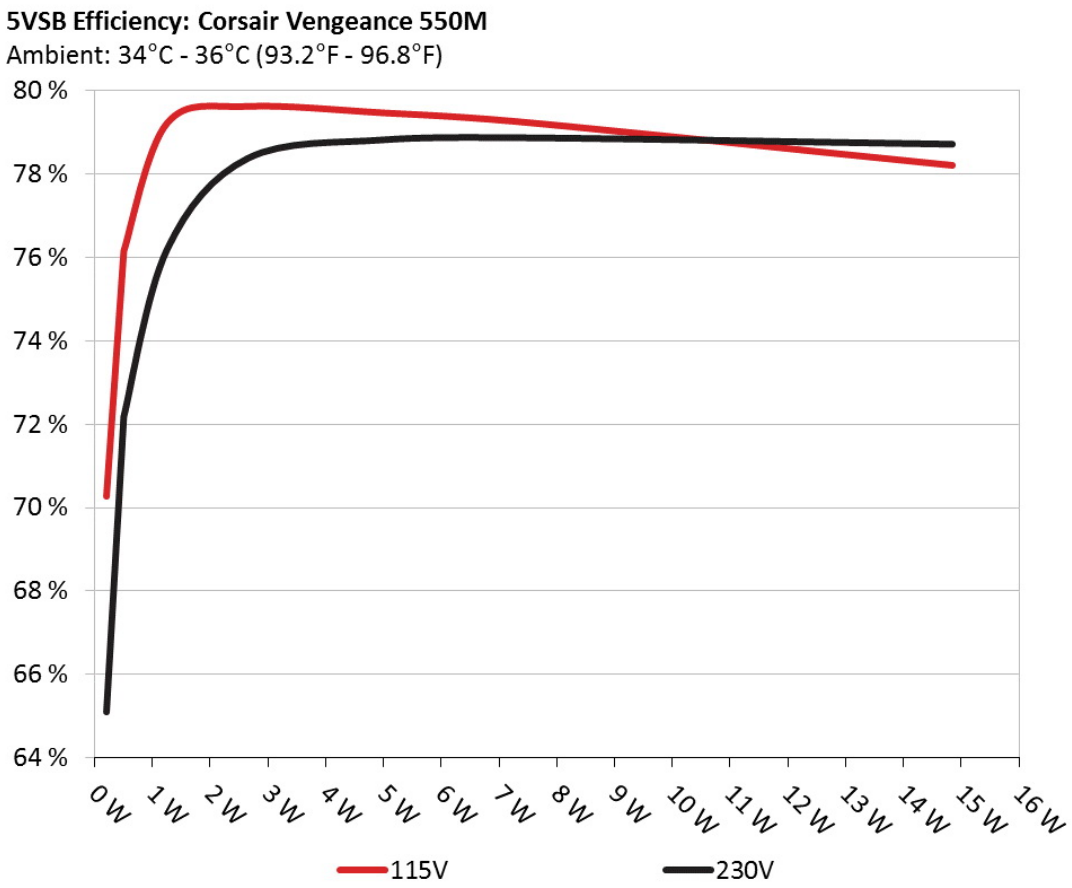
Efficiency under high ambient temperature



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

Cybenetics [redacted] ETA[redacted] LAMBDA[redacted] SAFE[redacted] DELTA[redacted] PHI[redacted]