

Anex

Corsair Vengeance 750M (2018)

Lab ID#: 417

Receipt Date: -

Test Date: -

Report:

Report Date: Jun 25, 2018

DUT INFORMATION	
Brand	Corsair
Manufacturer (OEM)	HEC
Series	Vengeance
Model Number	Vengeance 750M (2018)
Serial Number	
DUT Notes	CP-9020176

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	47-63
Rated Power (W)	750
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (NR120L)
Semi-Passive Operation	✓
Cable Design	Semi Modular

POWER SPECIFICATIONS						
Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	20	62.5	3	0.3
	Watts	120		750	15	3.6
Total Max. Power (W)		750				

CABLES AND CONNECTORS				
Captive Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (630mm)	1	1	18-22AWG	Yes
4+4 pin EPS12V (660mm)	1	1	18-22AWG	Yes
6+2 pin PCIe (660mm+100mm)	1	2	18AWG	Yes
Modular Cables				
4+4 pin EPS12V (650mm)	1	1	18AWG	No
6+2 pin PCIe (650mm+100mm)	2	4	16-18AWG	No
SATA (470mm+120mm+120mm)	1	3	18AWG	No
SATA (540mm+120mm)	1	2	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG	No
FDD Adapter (+105mm)	1	1	20AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	16AWG	-

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	87.626
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	64.008
Average Efficiency 5VSB	79.178
Standby Power Consumption (W) -115V	0.0498680
Standby Power Consumption (W) -230V	0.0912818
Average PF	0.983
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	19.58
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

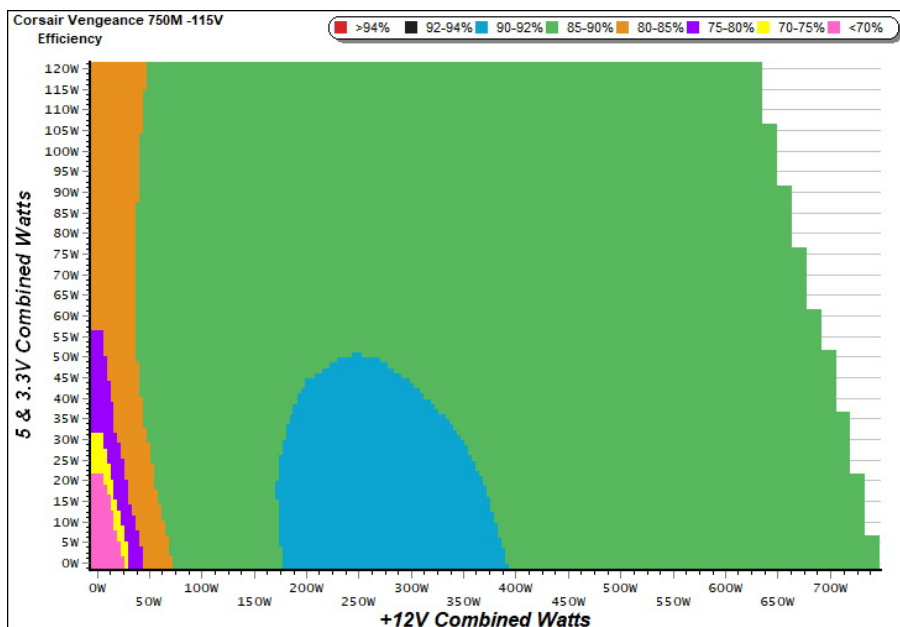
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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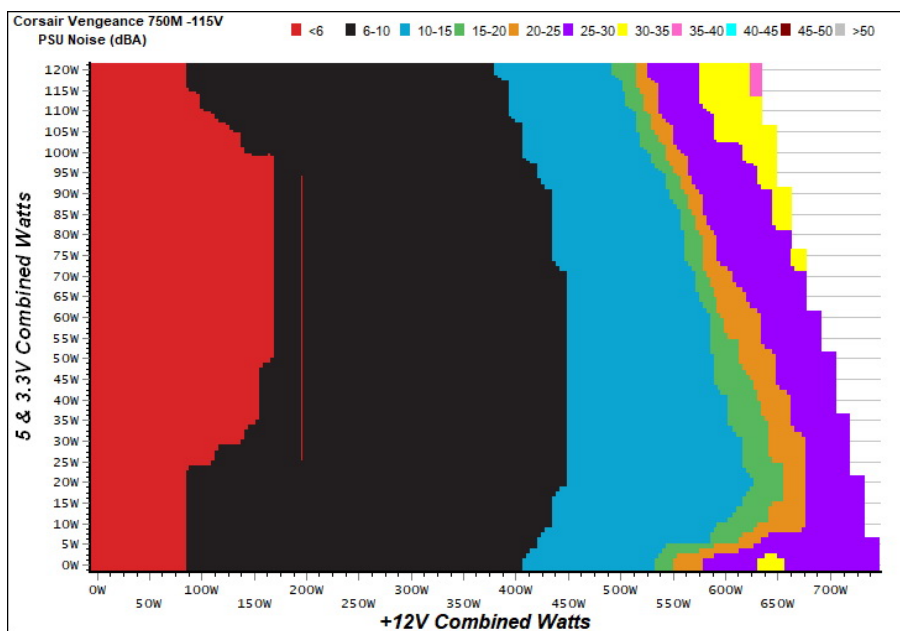
EFFICIENCY GRAPH



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



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

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

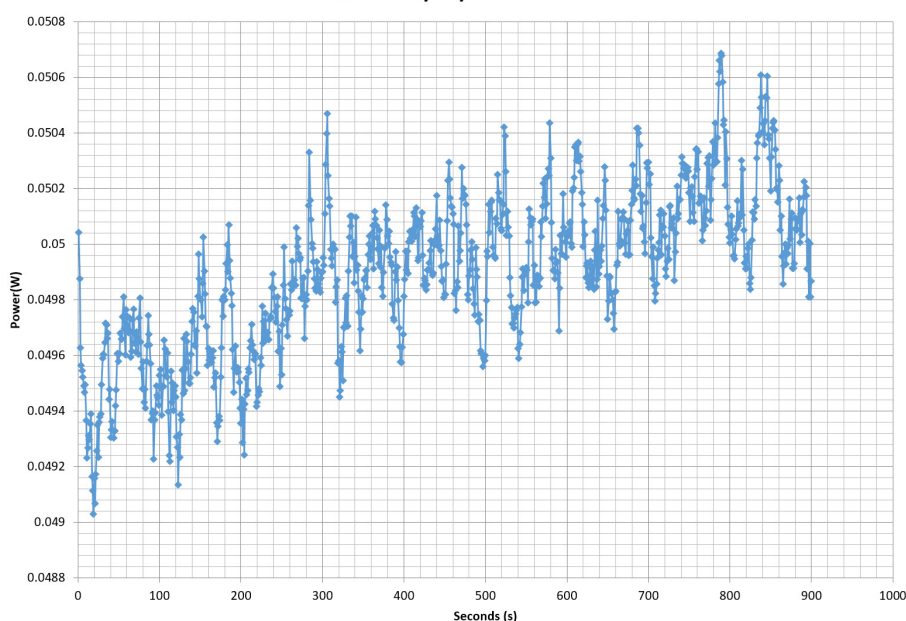
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	69.419%	0.040
	5.030V	0.327		115.15V
2	0.090A	0.453	74.752%	0.073
	5.029V	0.606		157.58V
3	0.550A	2.762	79.780%	0.292
	5.019V	3.462		115.15V
4	1.000A	5.012	79.949%	0.379
	5.011V	6.269		115.14V
5	1.500A	7.504	79.821%	0.425
	5.002V	9.401		115.15V
6	3.000A	14.924	76.687%	0.482
	4.974V	19.461		115.14V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.226	60.916%	0.014
	5.030V	0.371		230.28V
2	0.090A	0.453	69.372%	0.024
	5.029V	0.653		230.28V
3	0.550A	2.762	78.133%	0.121
	5.020V	3.535		230.28V
4	1.000A	5.013	79.044%	0.195
	5.012V	6.342		230.28V
5	1.500A	7.506	79.758%	0.253
	5.003V	9.411		230.28V
6	3.000A	14.927	77.879%	0.352
	4.975V	19.167		230.28V

VAMPIRE POWER -115V

Power - 19/06/2018 - 09:19



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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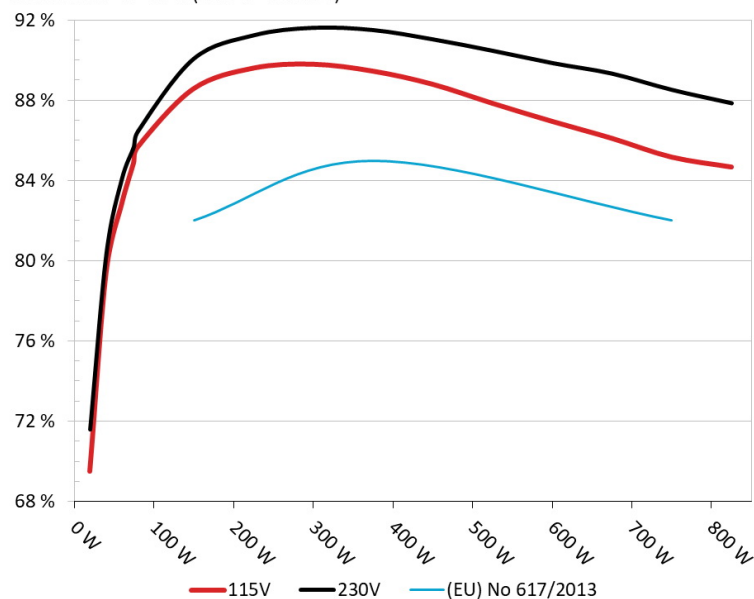
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair Vengeance 750M

Ambient: 37°C - 47°C (98.6°F - 116.6°F)



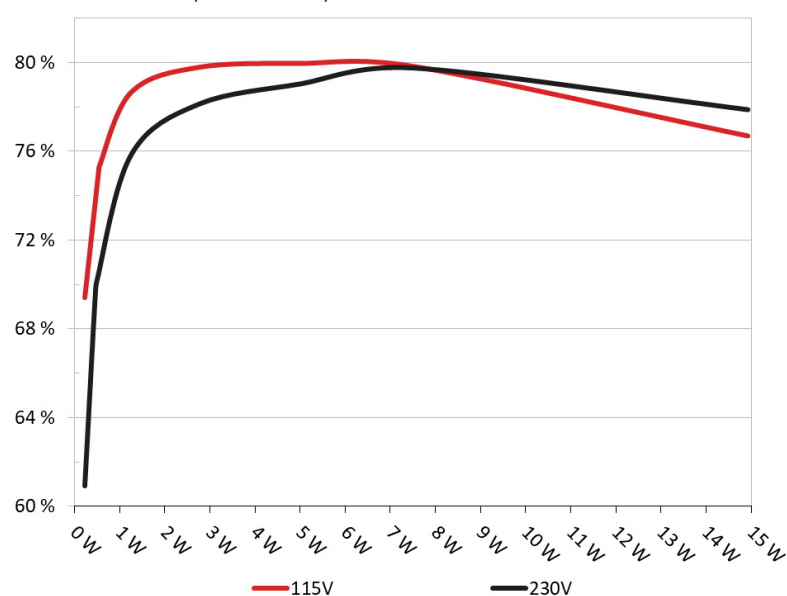
INFO

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

5VSB Efficiency: Corsair Vengeance 750M

Ambient: 34°C - 36°C (93.2°F - 96.8°F)



INFO

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

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10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	4.322A	2.005A	1.981A	0.998A	74.442	84.867%	0	<6.0	49.32°C	0.980
	12.227V	4.987V	3.330V	5.011V	87.716				40.10°C	115.13V
2	9.695A	3.015A	2.974A	1.199A	149.316	88.570%	0	<6.0	51.30°C	0.973
	12.214V	4.977V	3.327V	5.004V	168.585				40.79°C	115.12V
3	15.476A	3.520A	3.458A	1.401A	224.817	89.608%	440	7.7	41.18°C	0.981
	12.201V	4.970V	3.325V	4.998V	250.889				52.10°C	115.12V
4	21.202A	4.032A	3.971A	1.603A	299.629	89.804%	442	7.7	41.90°C	0.986
	12.189V	4.962V	3.322V	4.990V	333.648				53.01°C	115.11V
5	26.617A	5.049A	4.971A	1.806A	374.542	89.461%	468	8.1	42.26°C	0.987
	12.174V	4.953V	3.319V	4.983V	418.664				54.16°C	115.11V
6	32.043A	6.069A	5.971A	2.010A	449.450	88.809%	611	8.9	42.78°C	0.989
	12.160V	4.944V	3.316V	4.976V	506.085				55.34°C	115.11V
7	37.519A	7.095A	6.976A	2.214A	524.778	87.855%	755	10.9	43.22°C	0.990
	12.145V	4.934V	3.312V	4.968V	597.325				56.07°C	115.10V
8	43.007A	8.124A	7.978A	2.420A	600.114	86.949%	1062	22.3	43.74°C	0.990
	12.131V	4.924V	3.308V	4.960V	690.192				57.44°C	115.10V
9	48.861A	8.646A	8.468A	2.421A	674.647	86.109%	1483	32.3	44.53°C	0.990
	12.119V	4.916V	3.306V	4.957V	783.484				58.49°C	115.10V
10	54.729A	9.170A	8.992A	2.525A	749.760	85.170%	1810	37.4	45.20°C	0.992
	12.106V	4.908V	3.303V	4.952V	880.311				59.63°C	115.10V
11	60.956A	9.184A	8.996A	2.525A	824.836	84.676%	1727	35.1	46.51°C	0.993
	12.101V	4.900V	3.302V	4.951V	974.104				61.44°C	115.09V
CL1	0.130A	13.999A	13.999A	0.000A	117.191	82.406%	440	7.7	43.49°C	0.972
	12.213V	4.944V	3.314V	5.018V	142.211				56.40°C	115.11V
CL2	62.508A	1.002A	0.998A	1.000A	770.408	85.912%	1550	33.6	45.46°C	0.992
	12.113V	4.941V	3.315V	4.990V	896.737				59.56°C	115.09V

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20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.187A	0.502A	0.478A	0.199A	19.630	69.499%	0	<6.0	0.838
	12.239V	4.997V	3.334V	5.029V	28.245				115.15V
2	2.433A	1.002A	0.990A	0.398A	40.070	79.419%	0	<6.0	0.942
	12.235V	4.994V	3.332V	5.024V	50.454				115.15V
3	3.605A	1.505A	1.470A	0.598A	59.499	82.816%	0	<6.0	0.963
	12.231V	4.989V	3.331V	5.020V	71.845				115.15V
4	4.845A	2.007A	1.981A	0.798A	79.845	85.681%	0	<6.0	0.987
	12.227V	4.986V	3.330V	5.015V	93.189				115.14V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.3 mV	7.1 mV	10.8 mV	7.6 mV	Pass
20% Load	8.4 mV	7.8 mV	13.8 mV	9.4 mV	Pass
30% Load	12.4 mV	8.9 mV	13.8 mV	11.0 mV	Pass
40% Load	11.6 mV	9.6 mV	13.9 mV	12.7 mV	Pass
50% Load	13.4 mV	10.6 mV	14.6 mV	20.2 mV	Pass
60% Load	14.7 mV	11.9 mV	15.8 mV	18.3 mV	Pass
70% Load	17.6 mV	12.9 mV	15.9 mV	18.7 mV	Pass
80% Load	19.5 mV	14.5 mV	19.6 mV	23.2 mV	Pass
90% Load	29.1 mV	24.7 mV	38.4 mV	34.9 mV	Pass
100% Load	29.7 mV	24.0 mV	35.6 mV	35.7 mV	Pass
110% Load	41.2 mV	31.5 mV	61.0 mV	51.5 mV	Fail
Crossload 1	12.4 mV	20.4 mV	24.5 mV	13.2 mV	Pass
Crossload 2	36.1 mV	29.5 mV	47.3 mV	38.9 mV	Pass

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HOLD-UP TIME & POWER OK SIGNAL (230V)

Hold-Up Time (ms)	13.40
AC Loss to PWR_OK Hold Up Time (ms)	11.90
PWR_OK Inactive to DC Loss Delay (ms)	1.50



Top side

CORSAIR					
MODEL / MODELO / 型号 / 型號 / 모델 : RPS0106 POWER SUPPLY / FUENTE DE ALIMENTACIÓN / 전원 공급 장치					
PART NUMBER: CP-9020176/75-003441					
交流電 輸入	AC INPUT AC 입력 Entrada de CA	100V ~ 240V • 12A ~ 6A • 47Hz ~ 63Hz			
直流電 輸出	DC OUTPUT DC 출력 Salida de CC	+5V	+3.3V	+12V	-12V +5Vsb
最大電流	MAX LOAD 최대 부하 Carga Máximo	20A	25A	62.5A	0.3A 3A
最大瓦特數	MAX POWER 최대 결합 출력 Wattaje Combinado Máximo	120W	750W	3.6W	15W
TOTAL POWER: 750W PODER TOTAL / 总功率 / 總功率 / 총출력					
					

Power specifications label

CERTIFICATIONS



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