Bitfenix Whisper 750W (#2)

713Q00321

Lab ID 205

Certification ID 25205

Test Result Report ID:

Certificate Issue Date: Oct 30, 2018

115V

Scheme: ETA-EMI PSU



115V



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	Bitfenix
Model	Whisper 750W (#2)
OEM/ODM	Channel Well Technology
Serial Number	713Q00321
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	10
□□□□ (Hz)	47-63

□□□□ (W)	750
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	135mm Hydro Dynamic Bearing Fan (DF1352512SEHN)
□□□□□	✗
Cybenetics Testing Information	
Lab ID	205
Date of receipt	Oct 17, 2018
Testing Date	Oct 27, 2018
Report Issued Date	Oct 30, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□			
□□	□□□□	□□□□□□	Gauge
ATX □□ 20+4 pin (610mm)	1	1	18AWG
4+4 pin EPS 12V □□ (650mm)	2	2	18AWG
6+2pin PCIe□□ (650mm+150mm)	2	4	18AWG
6+2pin PCIe□□ (650mm)	2	2	18AWG
SATA□□ (500mm+150mm+150mm+150mm)	3	12	18AWG
□ 4pin Molex□□ (500mm+150mm+150mm+150mm)	1	3	18AWG

		3.3V	5V	12V	12V	12V	12V	5VSB	-12V
		22	22	25	25	35	35	2.5	0.5
		120		750				12.5	6
	(W)	750							

Test Results

Temperature & Compliance Info

(°C /°F)	28-32 / 82.4-89.6
ErP Lot3/6	✓
(EU) No 617/2013	✓

Performance Summary 115V

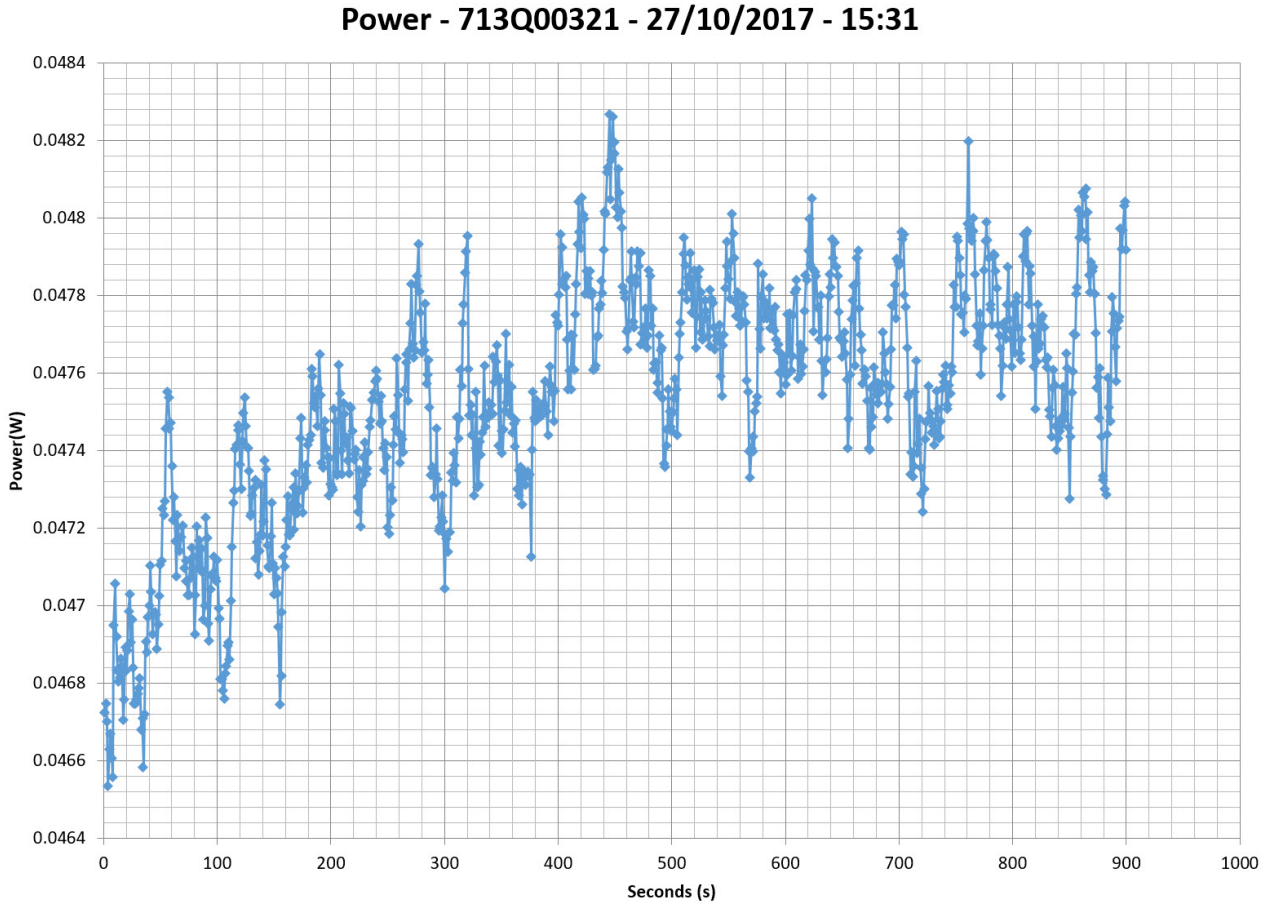
Accredited	
(>1450 load combinations)	89.296%
Average Noise Output (>1450 Load Combinations)	28.61dBA
PF (>1450 Load Combinations)	0.980
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
	0.0479W
Non-Accredited	
12V Ripple (Full Load)	14.77mV
5V Ripple (Full Load)	9.56mV
3.3V Ripple (Full Load)	6.60mV
5VSB Ripple (Full Load)	22.13mV
12V Load Regulation	0.58%
5V Load Regulation	0.34%
3.3V Load Regulation	0.51%
5VSB Load Regulation	1.34%
Inrush Current	43.395A

□□□□ & PG□□

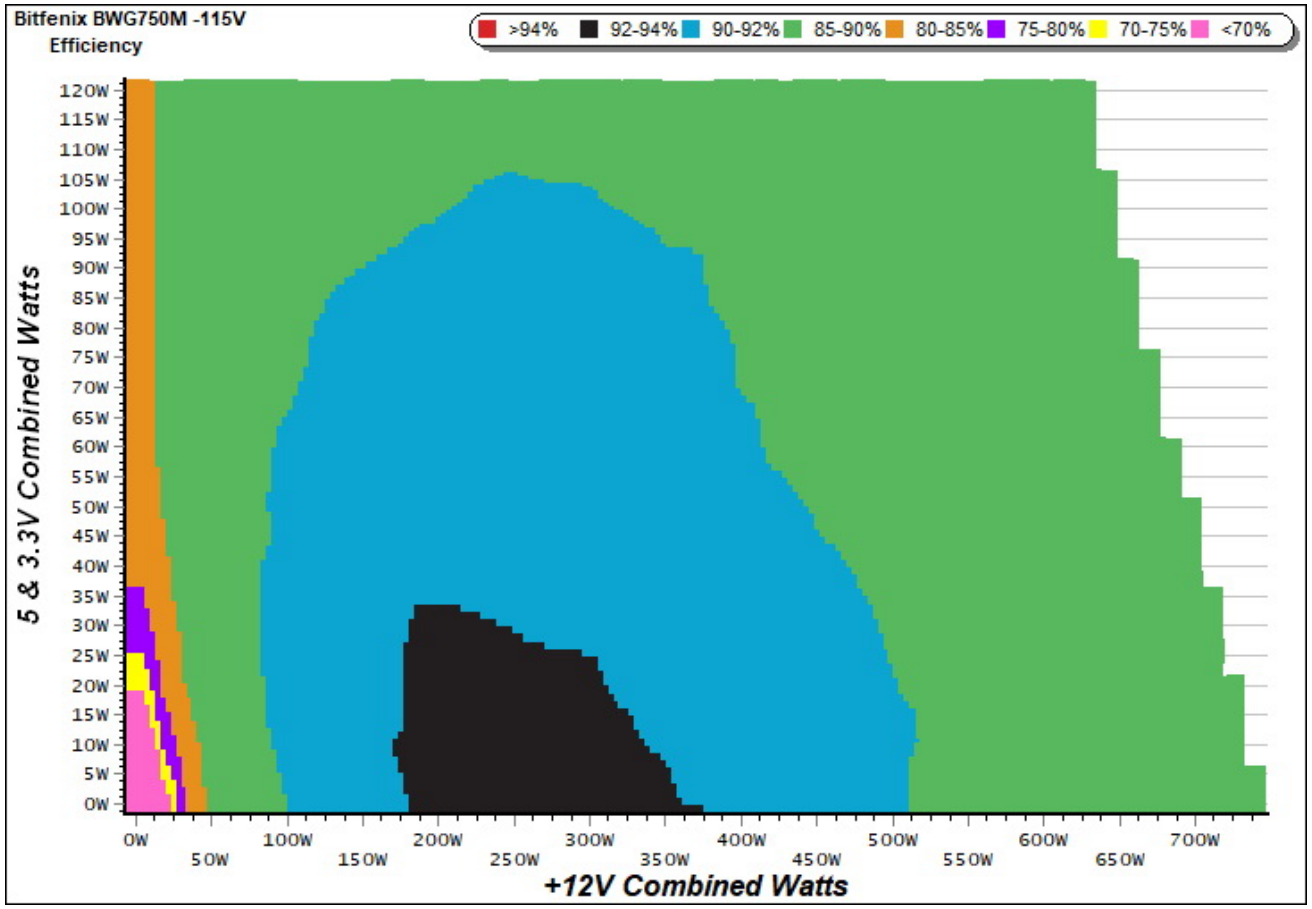
Hold-Up Time (ms)	16.5
AC Loss to PWR_OK Hold Up Time (ms)	14.1
PWR_OK Inactive to DC Loss Delay (ms)	2.4

□□□□

Graphs 115V



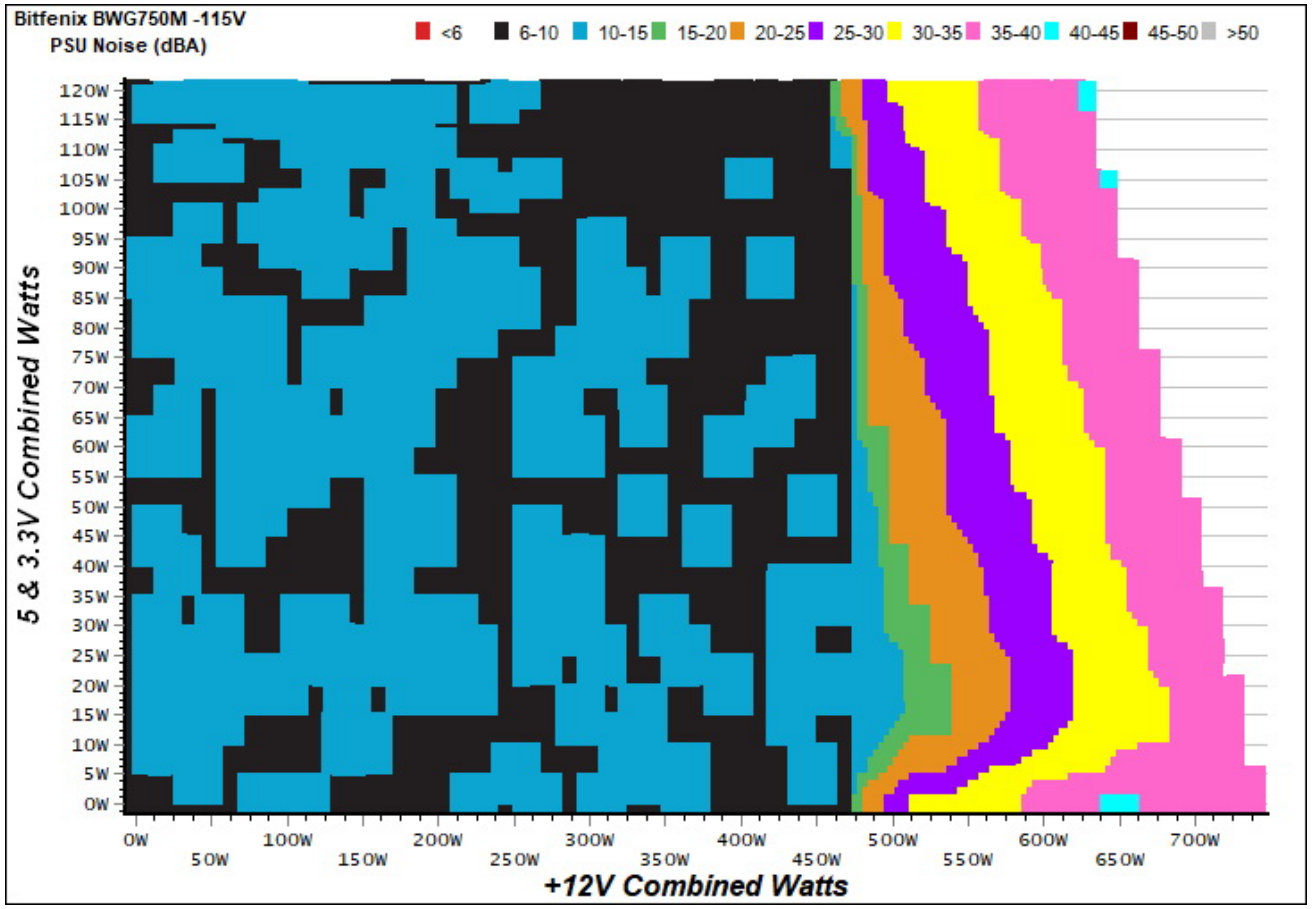
115V



□□

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.

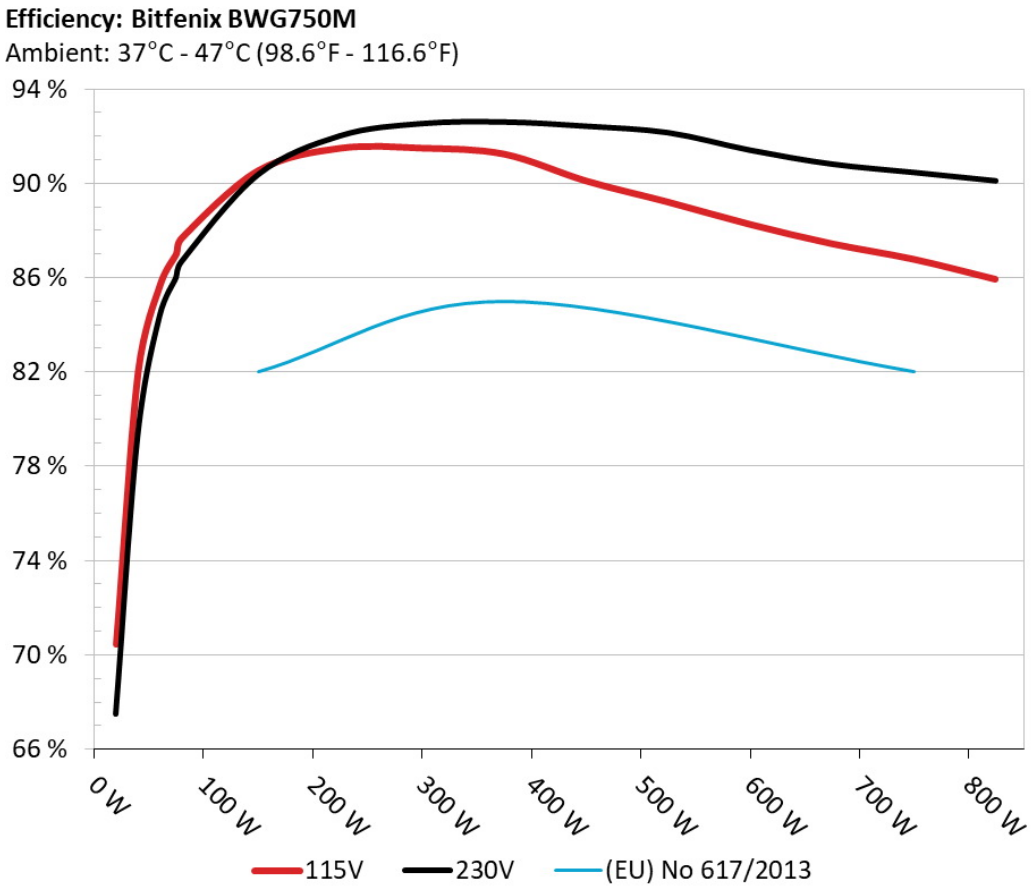
115V



□□

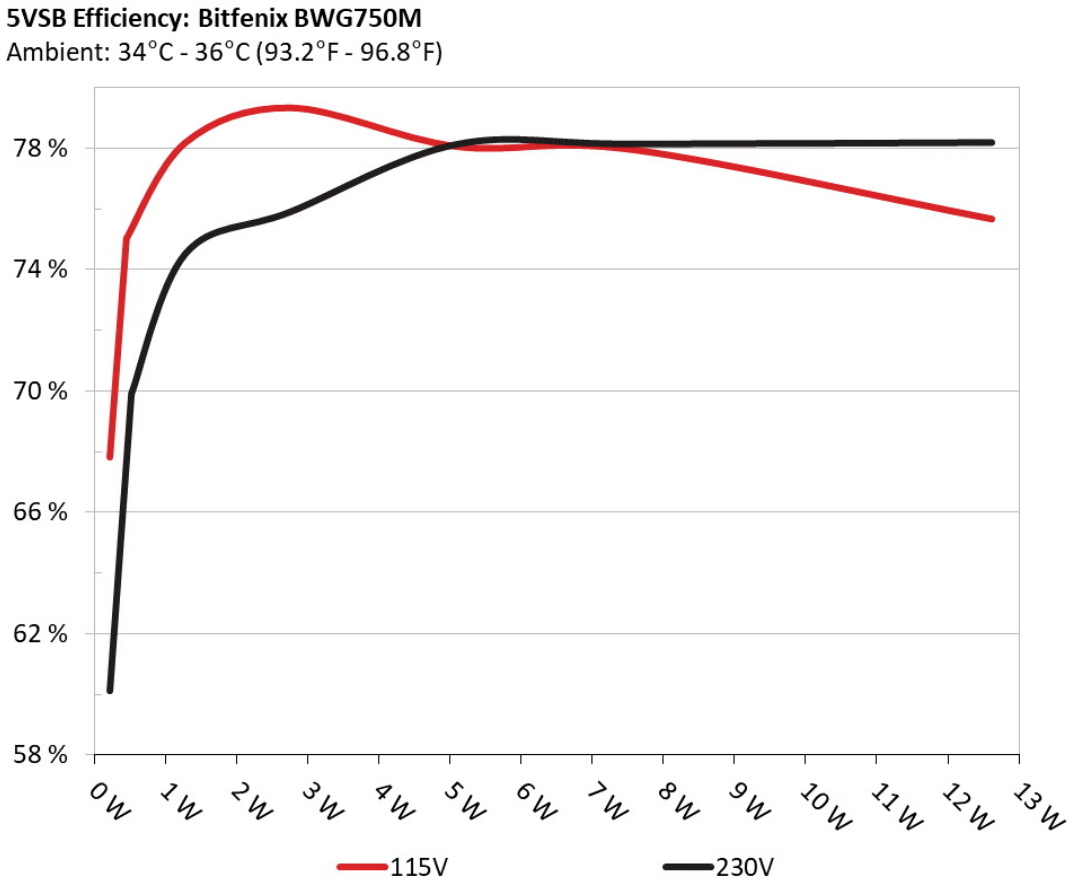
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

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	0.042A	0.213	67.834%	0.032
	5.098V	0.314		115.11V

2	0.087A	0.445	74.916%	0.059
	5.097V	0.594		115.11V
3	0.542A	2.757	79.338%	0.263
	5.086V	3.475		115.12V
4	1.002A	5.086	78.066%	0.361
	5.076V	6.515		115.12V
5	1.502A	7.607	77.949%	0.413
	5.065V	9.759		115.12V
6	2.501A	12.615	75.679%	0.463
	5.043V	16.669		115.11V

Supplementary Tests (For Reference)

10-110%□□□□ 115V

□□ #	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
1	4.391A	1.974A	1.968A	0.985A	74.810	87.021%	455	10.9	37.85°C	0.961
	12.123V	5.063V	3.346V	5.075V	85.968				44.18°C	115.08V
2	9.816A	2.960A	2.957A	1.181A	149.789	90.542%	455	10.9	38.27°C	0.977
	12.116V	5.062V	3.344V	5.069V	165.436				46.47°C	115.08V
3	15.594A	3.457A	3.469A	1.381A	224.893	91.490%	470	11.5	38.42°C	0.983
	12.108V	5.060V	3.343V	5.063V	245.811				50.06°C	115.08V
4	21.369A	3.952A	3.951A	1.580A	299.784	91.494%	455	10.9	39.31°C	0.983
	12.102V	5.058V	3.340V	5.057V	327.655				54.67°C	115.08V
5	26.808A	4.949A	4.939A	1.780A	374.749	91.243%	455	10.9	40.43°C	0.983
	12.095V	5.057V	3.339V	5.050V	410.715				56.51°C	115.08V
6	32.254A	5.932A	5.930A	1.981A	449.626	90.107%	627	16.1	41.32°C	0.982
	12.087V	5.055V	3.338V	5.044V	498.990				58.11°C	115.07V
7	37.713A	6.928A	6.924A	2.180A	524.616	89.214%	1165	33.0	42.33°C	0.983
	12.079V	5.053V	3.335V	5.038V	588.042				59.31°C	115.07V
8	43.174A	7.915A	7.919A	2.384A	599.572	88.269%	1603	41.1	42.92°C	0.984
	12.072V	5.052V	3.333V	5.031V	679.256				60.31°C	115.07V

9	49.068A	8.422A	8.434A	2.385A	674.636	87.446%	1800	44.4	44.11°C	0.986
	12.065V	5.050V	3.332V	5.030V	771.493				61.58°C	115.06V
10	54.933A	8.919A	8.917A	2.485A	749.531	86.788%	1800	44.4	45.37°C	0.987
	12.057V	5.048V	3.330V	5.025V	863.634				63.26°C	115.06V
11	61.177A	8.919A	8.922A	2.485A	824.383	85.942%	1800	44.4	47.36°C	0.989
	12.050V	5.047V	3.329V	5.024V	959.237				65.79°C	115.07V
CL1	0.100A	14.026A	14.005A	0.004A	118.993	84.604%	570	13.6	44.29°C	0.975
	12.103V	5.059V	3.342V	5.098V	140.647				58.95°C	115.10V
CL2	62.455A	1.003A	1.003A	1.002A	767.002	87.235%	1800	44.4	45.63°C	0.987
	12.065V	5.052V	3.334V	5.061V	879.237				60.97°C	115.08V

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	1.208A	0.491A	0.476A	0.196A	19.720	70.471%	455	10.9	0.863
	12.119V	5.066V	3.349V	5.093V	27.983				115.08V
2	2.434A	0.979A	0.983A	0.391A	39.756	82.000%	455	10.9	0.927
	12.127V	5.065V	3.347V	5.089V	48.483				115.08V
3	3.667A	1.476A	1.492A	0.590A	59.926	85.705%	455	10.9	0.953
	12.124V	5.064V	3.347V	5.083V	69.921				115.08V
4	4.885A	1.974A	1.968A	0.786A	79.785	87.689%	470	11.5	0.966
	12.122V	5.063V	3.345V	5.079V	90.986				115.08V

The results above are not used in the certification process

□□□□ 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	10.8 mV	5.6 mV	3.5 mV	4.5 mV	Pass
20% Load	14.1 mV	5.7 mV	3.7 mV	6.0 mV	Pass
30% Load	13.5 mV	5.9 mV	3.7 mV	6.0 mV	Pass
40% Load	13.3 mV	6.7 mV	4.2 mV	7.8 mV	Pass





Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	14.3 mV	6.6 mV	4.5 mV	9.0 mV	Pass
60% Load	14.7 mV	6.6 mV	4.3 mV	11.6 mV	Pass
70% Load	15.5 mV	6.8 mV	4.6 mV	18.1 mV	Pass
80% Load	15.0 mV	12.2 mV	6.0 mV	21.8 mV	Pass
90% Load	15.4 mV	22.4 mV	17.3 mV	23.7 mV	Pass
100% Load	14.8 mV	9.6 mV	6.6 mV	22.1 mV	Pass
110% Load	15.1 mV	9.1 mV	6.3 mV	17.0 mV	Pass
Crossload 1	14.4 mV	7.1 mV	4.8 mV	3.1 mV	Pass
Crossload 2	13.8 mV	8.5 mV	6.5 mV	17.0 mV	Pass

The results above are not used in the certification process

Bitfenix Whisper 750W (#2)

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

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