

## Anex

Bitfenix BF550G (Sample #2)

Lab ID#: 203

Receipt Date: -

Test Date: -

Report:

Report Date: Oct 26, 2018

### DUT INFORMATION

Brand	Bitfenix
Manufacturer (OEM)	Channel Well Technology
Series	Formula Gold Series
Model Number	BF550G (Sample #2)
Serial Number	735Q00356
DUT Notes	Edited on 05/18/2018

### DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	8
Rated Frequency (Hz)	47-63
Rated Power (W)	550
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (DF1202512SELN)
Semi-Passive Operation	X
Cable Design	Fixed cables

### POWER SPECIFICATIONS

Rail		3.3V	5V	12V1	12V2	12V3	5VSB	-12V
Max. Power	Amps	20	20	25	25	30	2.5	0.3
	Watts	100		550			12.5	3.6
Total Max. Power (W)		550						

### CABLES AND CONNECTORS

Captive Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (660mm)	1	1	18-22AWG
4+4 pin EPS12V (660mm)	1	1	18AWG
6+2 pin PCIe (570mm+150mm)	1	2	18AWG
SATA (460mm+150mm+150mm)+4 pin Molex (+150mm)	2	6 / 2	18AWG

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PAGE 1/8

## Anex

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	89.576
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	77.901
Standby Power Consumption (W) -115V	0.0443326
Standby Power Consumption (W) -230V	0.0627212
Average PF	0.985
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	10.76
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A++

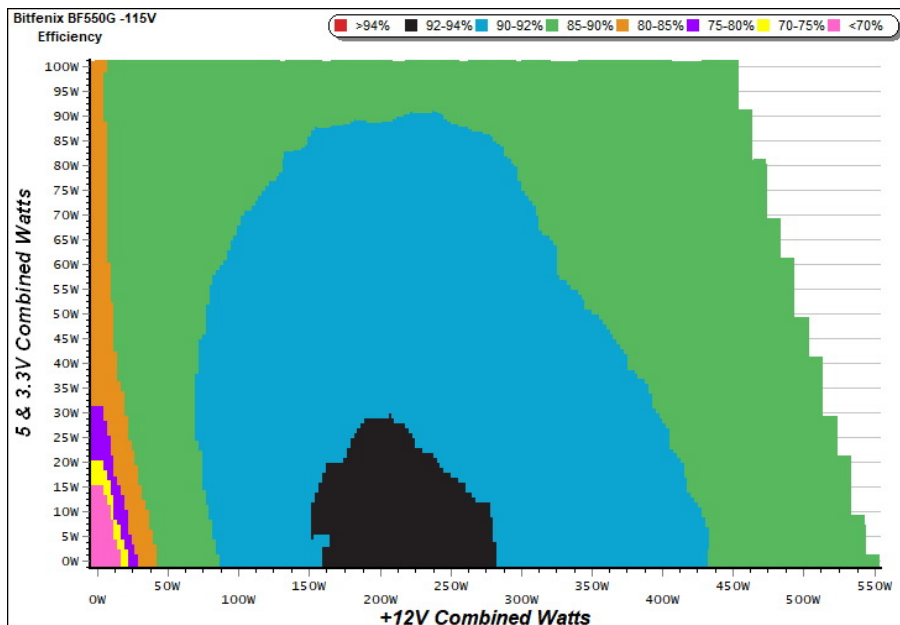
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 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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PAGE 2/8

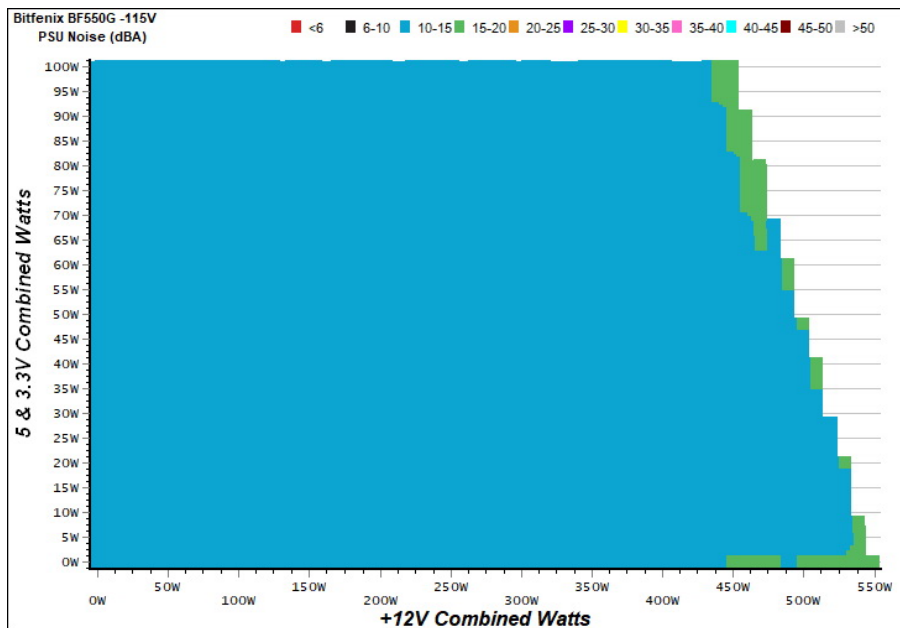
### EFFICIENCY GRAPH



#### 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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## Anex

Bitfenix BF550G (Sample #2)

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

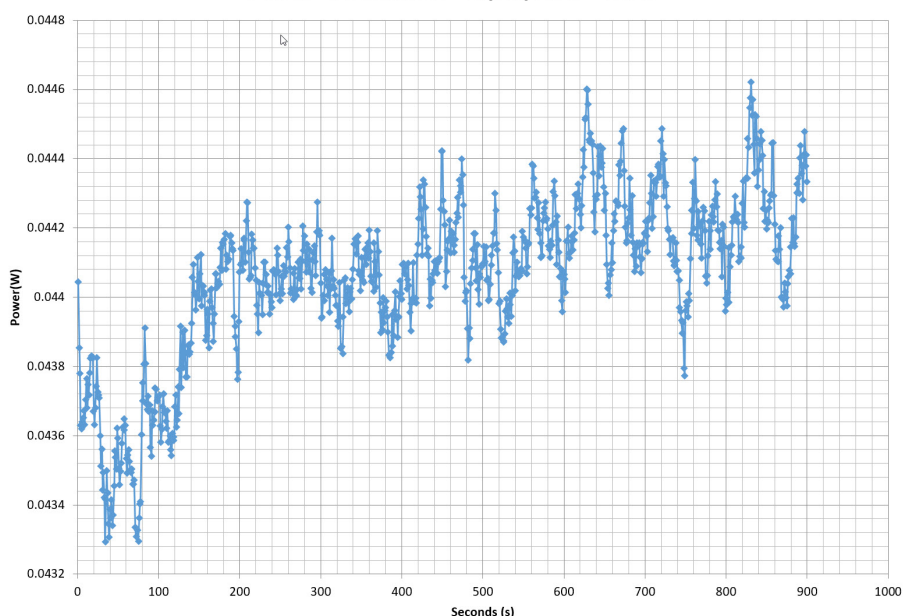
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.213	69.836%	0.031
	5.107V	0.305		115.11V
2	0.087A	0.445	75.939%	0.058
	5.107V	0.586		115.13V
3	0.542A	2.763	79.763%	0.271
	5.096V	3.464		115.11V
4	1.002A	5.094	77.664%	0.380
	5.085V	6.559		115.12V
5	1.501A	7.613	77.454%	0.437
	5.071V	9.829		115.12V
6	2.501A	12.614	75.470%	0.491
	5.044V	16.714		115.12V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.213	63.205%	0.010
	5.107V	0.337		230.31V
2	0.087A	0.446	71.935%	0.019
	5.106V	0.620		230.31V
3	0.542A	2.762	77.737%	0.102
	5.096V	3.553		230.31V
4	1.002A	5.094	78.345%	0.173
	5.084V	6.502		230.31V
5	1.501A	7.612	78.329%	0.234
	5.070V	9.718		230.31V
6	2.501A	12.614	77.927%	0.317
	5.044V	16.187		230.31V

### VAMPIRE POWER -115V

Power - 735Q00356 - 25/10/2017 - 15:29



#### 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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PAGE 4/8

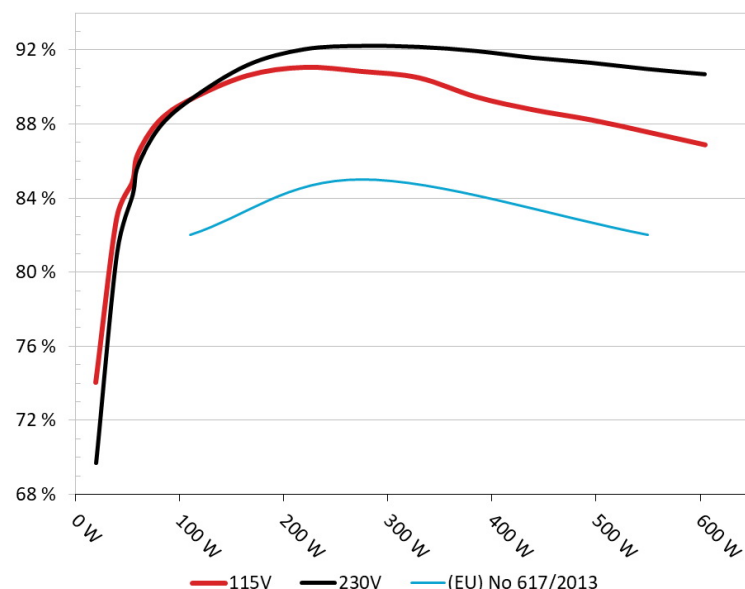
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Bitfenix BF550G (Sample #2)

### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

#### Efficiency: Bitfenix BF550G

Ambient: 37°C - 46°C (98.6°F - 114.8°F)



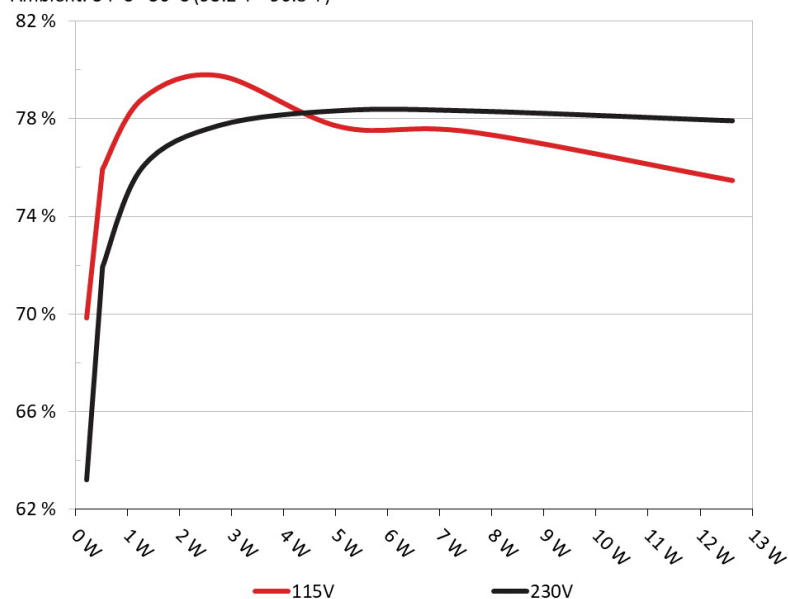
#### INFO

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: Bitfenix BF550G

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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PAGE 5/8

## Anex

Bitfenix BF550G (Sample #2)

### 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	2.745A	1.975A	1.968A	0.986A	54.791	84.881%	537	10.3	38.14°C	0.958
	12.095V	5.065V	3.348V	5.070V	64.550				45.38°C	115.11V
2	6.529A	2.959A	2.955A	1.185A	109.790	89.329%	537	10.3	38.47°C	0.981
	12.089V	5.063V	3.345V	5.059V	122.905				46.74°C	115.11V
3	10.660A	3.456A	3.465A	1.386A	164.878	90.638%	537	10.3	39.14°C	0.986
	12.083V	5.061V	3.344V	5.048V	181.908				48.51°C	115.11V
4	14.788A	3.953A	3.945A	1.586A	219.784	91.088%	537	10.3	39.40°C	0.989
	12.078V	5.059V	3.343V	5.036V	241.288				50.71°C	115.10V
5	18.578A	4.947A	4.936A	1.791A	274.785	90.869%	537	10.3	39.79°C	0.989
	12.072V	5.058V	3.341V	5.025V	302.398				53.38°C	115.10V
6	22.374A	5.933A	5.923A	1.995A	329.739	90.523%	537	10.3	40.41°C	0.991
	12.066V	5.056V	3.340V	5.010V	364.259				56.47°C	115.09V
7	26.167A	6.928A	6.915A	2.200A	384.721	89.490%	612	12.7	41.95°C	0.991
	12.062V	5.054V	3.339V	4.996V	429.904				59.15°C	115.08V
8	29.966A	7.916A	7.906A	2.406A	439.613	88.789%	854	21.2	43.49°C	0.991
	12.055V	5.052V	3.338V	4.984V	495.123				60.86°C	115.08V
9	34.208A	8.422A	8.421A	2.410A	494.774	88.251%	1182	31.1	43.99°C	0.991
	12.049V	5.049V	3.335V	4.977V	560.641				61.73°C	115.08V
10	38.399A	8.918A	8.907A	2.514A	549.568	87.586%	1317	33.9	45.25°C	0.991
	12.041V	5.048V	3.334V	4.969V	627.462				63.38°C	115.07V
11	42.978A	8.920A	8.911A	2.515A	604.523	86.898%	1630	39.4	46.30°C	0.992
	12.037V	5.047V	3.332V	4.965V	695.667				64.58°C	115.07V
CL1	0.102A	12.012A	12.004A	0.004A	102.126	84.663%	537	10.3	44.07°C	0.981
	12.084V	5.054V	3.346V	5.074V	120.627				60.40°C	115.10V
CL2	45.788A	1.001A	1.003A	1.002A	565.273	88.313%	1360	34.7	46.01°C	0.991
	12.052V	5.053V	3.338V	5.020V	640.078				62.59°C	115.07V

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PAGE 6/8

## Anex

Bitfenix BF550G (Sample #2)

### 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	1.207A	0.491A	0.476A	0.196A	19.688	74.051%	537	10.3	0.848
	12.101V	5.069V	3.350V	5.096V	26.587				115.12V
2	2.440A	0.980A	0.984A	0.391A	39.768	82.933%	537	10.3	0.934
	12.097V	5.068V	3.349V	5.090V	47.952				115.12V
3	3.672A	1.475A	1.489A	0.591A	59.870	86.381%	537	10.3	0.961
	12.094V	5.066V	3.348V	5.081V	69.309				115.12V
4	4.895A	1.975A	1.969A	0.785A	79.767	88.150%	537	10.3	0.973
	12.092V	5.065V	3.347V	5.074V	90.490				115.11V

### RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.3 mV	5.4 mV	4.4 mV	11.5 mV	Pass
20% Load	20.2 mV	6.3 mV	5.0 mV	11.9 mV	Pass
30% Load	22.2 mV	7.0 mV	5.8 mV	13.6 mV	Pass
40% Load	22.6 mV	7.8 mV	7.9 mV	12.5 mV	Pass
50% Load	23.7 mV	9.0 mV	10.4 mV	13.0 mV	Pass
60% Load	24.9 mV	9.9 mV	8.4 mV	14.0 mV	Pass
70% Load	26.9 mV	11.4 mV	10.5 mV	25.0 mV	Pass
80% Load	28.8 mV	12.6 mV	10.7 mV	18.5 mV	Pass
90% Load	30.5 mV	13.9 mV	11.0 mV	19.4 mV	Pass
100% Load	31.4 mV	17.8 mV	17.2 mV	16.6 mV	Pass
110% Load	32.2 mV	16.8 mV	18.7 mV	17.6 mV	Pass
Crossload 1	29.1 mV	12.1 mV	8.9 mV	8.2 mV	Pass
Crossload 2	23.3 mV	12.1 mV	17.7 mV	22.1 mV	Pass

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PAGE 7/8



## Anex

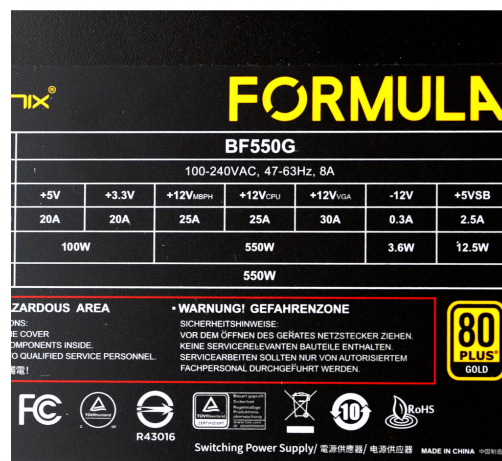
Bitfenix BF550G (Sample #2)

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

Hold-Up Time (ms)	17.02
AC Loss to PWR_OK Hold Up Time (ms)	14.98
PWR_OK Inactive to DC Loss Delay (ms)	2.04

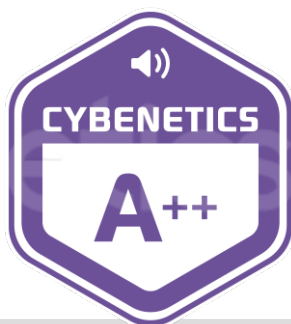


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Power specifications label

## CERTIFICATIONS



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PAGE 8/8