EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Anex

Bitfenix BF550G

Lab ID#: 158
Receipt Date: -
Test Date: -

Report: 20PS158A
Report Date: Oct 8, 2000

DUT INFORMATION

Brand	Bitfenix
Manufacturer (OEM)	Channel Well Technology
Series	Formula Gold Series
Model Number	BF550G
Serial Number	
DUT Notes	

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	✗
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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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	89.151
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	0.000
Average Efficiency 5VSB	77.992
Standby Power Consumption (W) -115V	0.0441648
Standby Power Consumption (W) -230V	0.0617670
Average PF	0.986
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	10.75
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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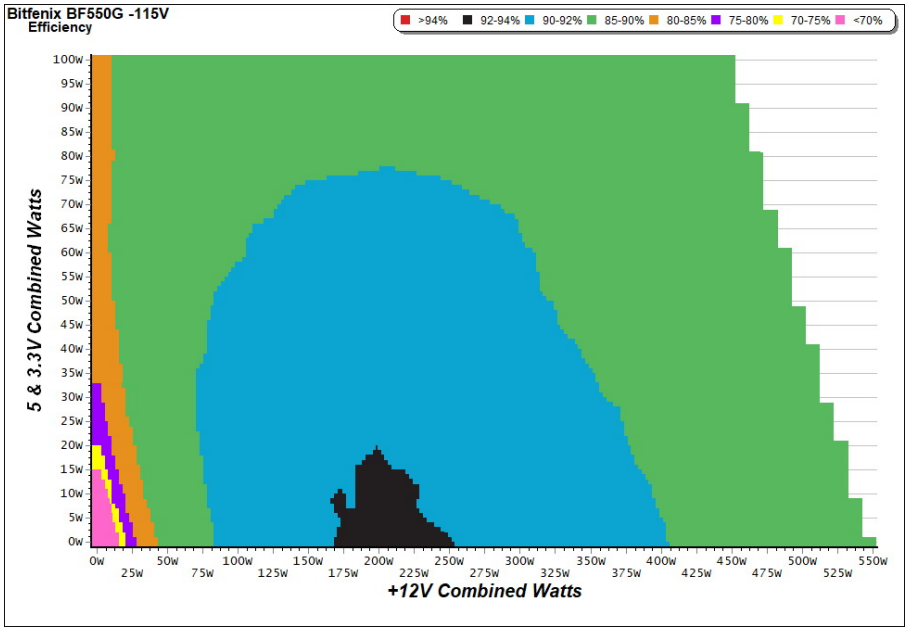
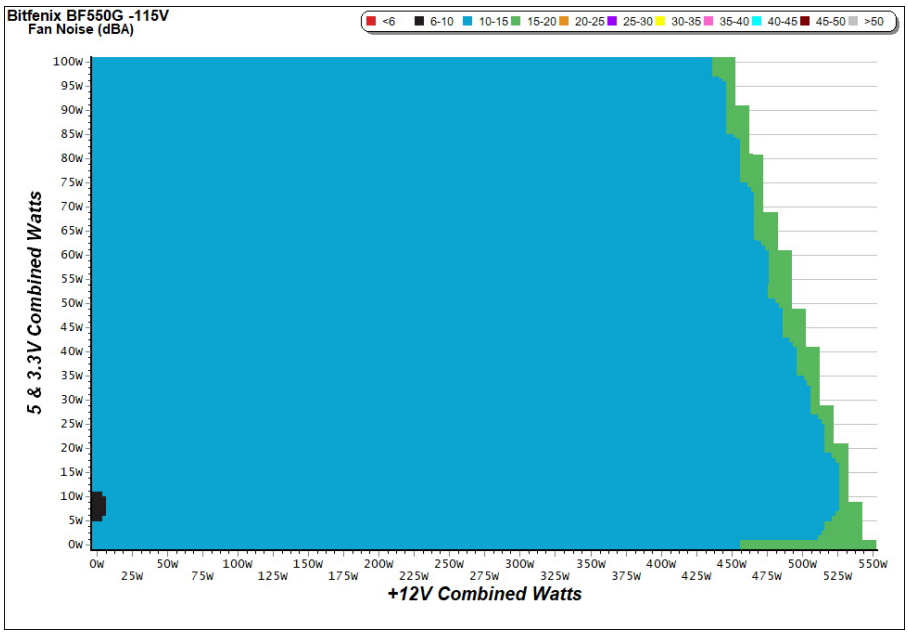
EFFICIENCY GRAPH



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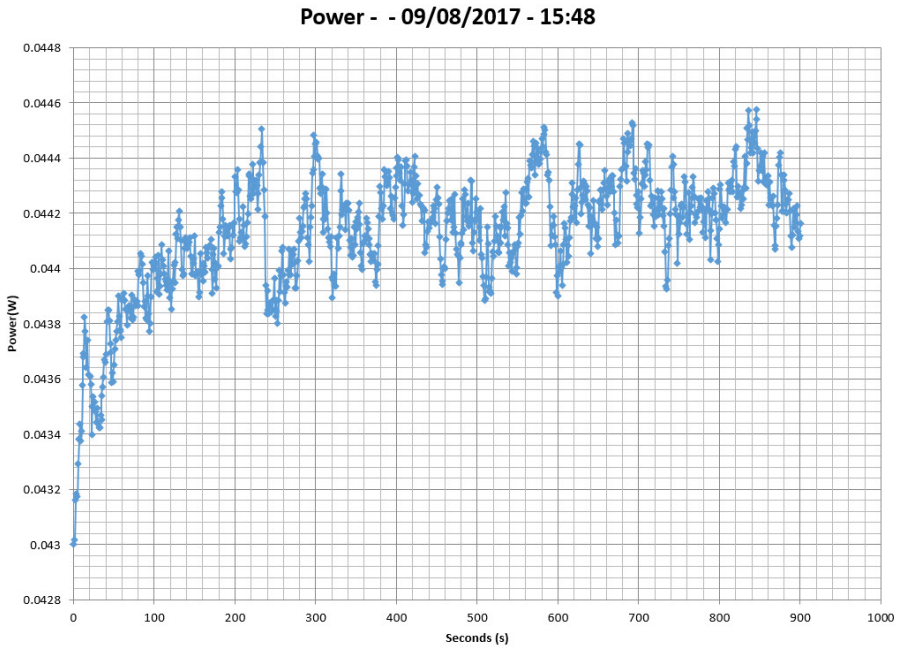
5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.211	70.100%	0.030
	5.080V	0.301		115.18V
2	0.087A	0.441	75.773%	0.057
	5.079V	0.582		115.18V
3	0.542A	2.747	79.831%	0.264
	5.067V	3.441		115.16V
4	1.002A	5.066	78.251%	0.371
	5.056V	6.474		115.17V
5	1.501A	7.574	78.018%	0.428
	5.045V	9.708		115.17V
6	2.501A	12.556	75.657%	0.484
	5.020V	16.596		115.17V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.211	63.554%	0.010
	5.080V	0.332		230.44V
2	0.087A	0.441	71.244%	0.018
	5.079V	0.619		230.44V
3	0.542A	2.746	76.193%	0.102
	5.067V	3.604		230.44V
4	1.002A	5.066	78.494%	0.169
	5.056V	6.454		230.44V
5	1.502A	7.574	78.446%	0.230
	5.044V	9.655		230.44V
6	2.501A	12.553	78.407%	0.311
	5.019V	16.010		230.43V

VAMPIRE POWER -115V



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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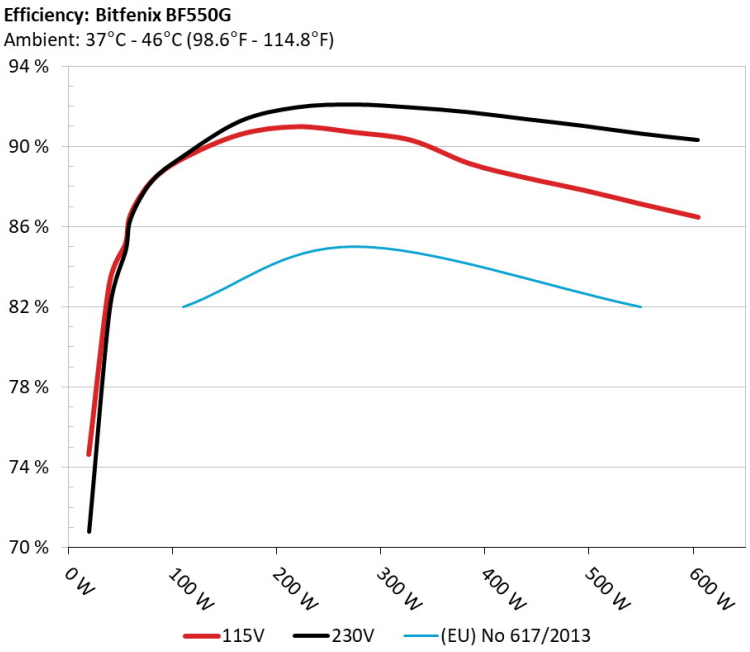
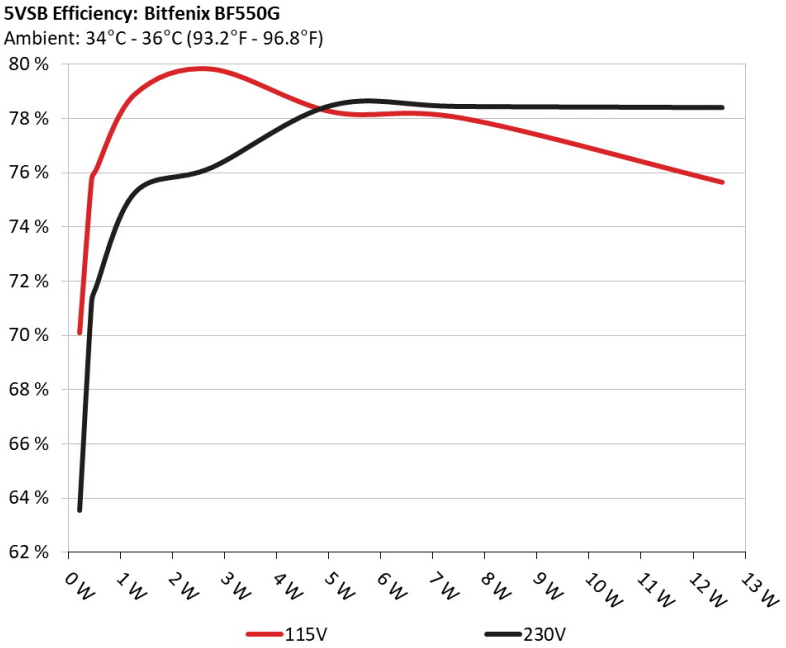
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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

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10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	2.736A	1.966A	1.962A	0.991A	54.735	85.126%	537	10.3	38.25°C	0.952
	12.121V	5.080V	3.355V	5.047V	64.299				43.75°C	115.21V
2	6.513A	2.949A	2.949A	1.191A	109.747	89.397%	537	10.3	38.65°C	0.982
	12.113V	5.078V	3.352V	5.033V	122.763				44.70°C	115.21V
3	10.638A	3.448A	3.458A	1.390A	164.831	90.609%	537	10.3	38.97°C	0.988
	12.105V	5.075V	3.349V	5.020V	181.914				46.13°C	115.20V
4	14.762A	3.945A	3.941A	1.595A	219.749	90.995%	537	10.3	39.51°C	0.991
	12.096V	5.073V	3.347V	5.006V	241.495				47.61°C	115.20V
5	18.548A	4.938A	4.932A	1.801A	274.742	90.710%	537	10.3	40.18°C	0.991
	12.089V	5.069V	3.344V	4.992V	302.880				49.38°C	115.20V
6	22.347A	5.924A	5.926A	2.005A	329.707	90.312%	537	10.3	41.04°C	0.992
	12.079V	5.065V	3.340V	4.977V	365.077				51.97°C	115.19V
7	26.138A	6.919A	6.919A	2.214A	384.672	89.161%	597	13.3	42.28°C	0.992
	12.073V	5.062V	3.338V	4.963V	431.470				53.56°C	115.20V
8	29.947A	7.904A	7.916A	2.424A	439.583	88.438%	854	21.2	43.64°C	0.992
	12.062V	5.058V	3.334V	4.947V	497.051				56.02°C	115.19V
9	34.180A	8.415A	8.432A	2.426A	494.658	87.824%	1182	31.1	44.23°C	0.992
	12.055V	5.055V	3.332V	4.940V	563.235				57.96°C	115.19V
10	38.378A	8.911A	8.921A	2.533A	549.514	87.135%	1278	32.8	45.30°C	0.993
	12.046V	5.053V	3.329V	4.930V	630.650				59.21°C	115.19V
11	42.969A	8.918A	8.925A	2.537A	604.466	86.473%	1493	37.0	46.22°C	0.993
	12.038V	5.050V	3.326V	4.921V	699.021				60.15°C	115.19V
CL1	0.098A	12.014A	12.006A	0.004A	102.120	84.083%	545	10.9	42.92°C	0.982
	12.099V	5.063V	3.339V	5.042V	121.452				55.63°C	115.21V
CL2	45.783A	1.004A	1.002A	1.001A	565.745	87.943%	1317	33.9	45.21°C	0.993
	12.064V	5.063V	3.341V	4.984V	643.308				58.48°C	115.19V

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20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	PF/AC Volts
1	1.202A	0.491A	0.474A	0.196A	19.662	74.621%	537	10.3	0.800
	12.129V	5.085V	3.359V	5.072V	26.349				115.21V
2	2.431A	0.981A	0.982A	0.391A	39.736	83.238%	537	10.3	0.920
	12.125V	5.081V	3.356V	5.065V	47.738				115.20V
3	3.664A	1.468A	1.486A	0.590A	59.839	86.624%	537	10.3	0.956
	12.121V	5.080V	3.355V	5.057V	69.079				115.20V
4	4.884A	1.964A	1.966A	0.790A	79.742	88.263%	537	10.3	0.971
	12.118V	5.079V	3.354V	5.049V	90.346				115.20V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.2 mV	6.6 mV	7.8 mV	12.5 mV	Pass
20% Load	19.2 mV	7.6 mV	7.9 mV	11.3 mV	Pass
30% Load	22.6 mV	8.3 mV	8.7 mV	14.9 mV	Pass
40% Load	23.0 mV	9.5 mV	10.0 mV	13.9 mV	Pass
50% Load	24.4 mV	10.0 mV	9.2 mV	14.9 mV	Pass
60% Load	26.0 mV	10.3 mV	9.3 mV	15.6 mV	Pass
70% Load	27.5 mV	11.5 mV	10.0 mV	24.9 mV	Pass
80% Load	30.7 mV	13.3 mV	10.7 mV	23.7 mV	Pass
90% Load	31.0 mV	13.2 mV	17.7 mV	24.8 mV	Pass
100% Load	32.7 mV	16.9 mV	22.0 mV	21.5 mV	Pass
110% Load	32.7 mV	18.5 mV	23.9 mV	22.0 mV	Pass
Crossload 1	27.7 mV	13.5 mV	8.8 mV	10.7 mV	Pass
Crossload 2	26.0 mV	17.8 mV	21.8 mV	24.0 mV	Pass

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HOLD-UP TIME & POWER OK SIGNAL (230V)	
Hold-Up Time (ms)	16.72
AC Loss to PWR_OK Hold Up Time (ms)	14.66
PWR_OK Inactive to DC Loss Delay (ms)	2.06

Top side

Power specifications label

CERTIFICATIONS

CYBENETICS PLATINUM

CYBENETICS A++

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