

## Anex

## Super Flower Leadex VII XP 1000W

Lab ID#: SF10002194  
 Receipt Date: Jun 9, 2023  
 Test Date: Jun 14, 2023

Report: 23PS2194A  
 Report Date: Jun 15, 2023

DUT INFORMATION	
Brand	Super Flower
Manufacturer (OEM)	Super Flower
Series	Leadex VII
Model Number	SF-1000F14XP
Serial Number	
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15
Rated Frequency (Hz)	60-50
Rated Power (W)	1000
Type	ATX12V
Cooling	140mm Fluid Dynamic Bearing Fan (ZFF142512D)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P
Power Analyzers	RS HMC8015, N4L PPA1530, N4L PPA5530
Oscilloscopes	Picoscope 4444, Rigol DS7014, 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, Keithley 2015 - THD
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Isolation Transformer	4kVA

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### RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.0 PSU Power Excursion	✓

### 115V

Average Efficiency	90.573%
Efficiency With 10W (≤500W) or 2% (>500W)	71.308
Average Efficiency 5VSB	79.355%
Standby Power Consumption (W)	0.0640000
Average PF	0.989
Avg Noise Output	32.37 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard++

### 230V

Average Efficiency	92.347%
Average Efficiency 5VSB	78.202%
Standby Power Consumption (W)	0.1050000
Average PF	0.952
Avg Noise Output	33.13 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard++

### POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	83.3	3	0.5
	Watts	100		999.6	15	6
Total Max. Power (W)		1000				

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

Hold-Up Time (ms)	26.7
AC Loss to PWR_OK Hold Up Time (ms)	24.1
PWR_OK Inactive to DC Loss Delay (ms)	2.6

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### CABLES AND CONNECTORS

#### Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16-20AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (700mm)	4	4	16AWG	No
12+2 pin PCIe (700mm) (600W)	1	1	16-24AWG	No
SATA (550mm+130mm+130mm+130mm)	3	12	18AWG	No
4-pin Molex (550mm+150mm+150mm+150mm)	1	4	18AWG	No
AC Power Cord (1370mm) - C13 coupler	1	1	18AWG	-

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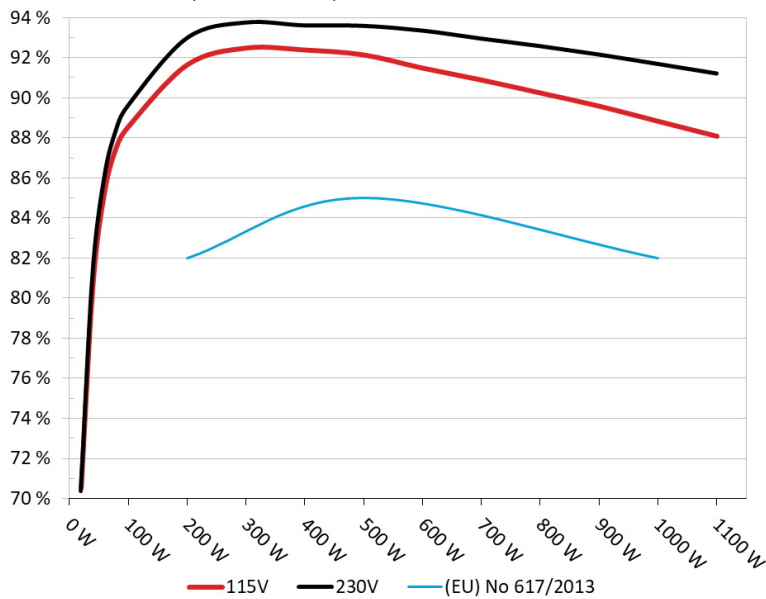
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## Super Flower Leadex VII XP 1000W

### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

#### Efficiency: Super Flower Leadex VII 1000W

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



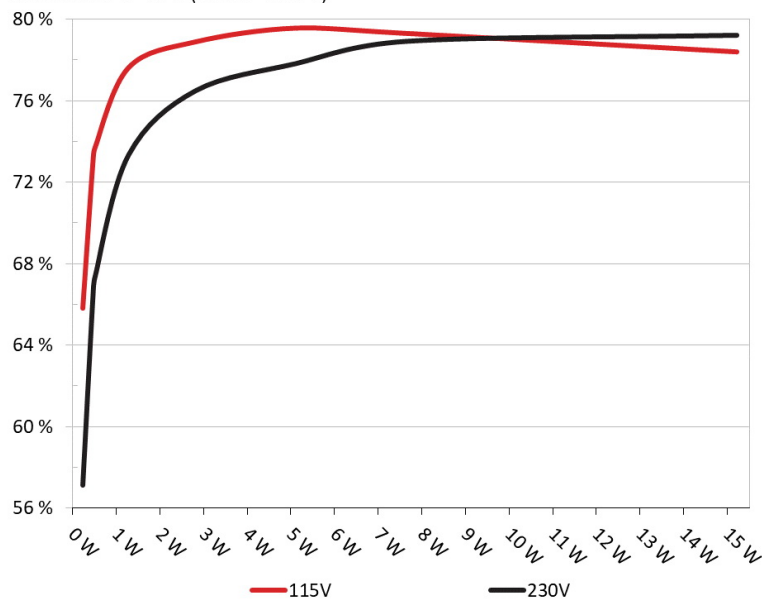
#### INFO

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: Super Flower Leadex VII 1000W

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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## Super Flower Leadex VII XP 1000W

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	66.325%	0.036
	5.125V	0.348W		114.87V
2	0.09A	0.461W	73.442%	0.063
	5.124V	0.628W		114.86V
3	0.55A	2.814W	79.365%	0.271
	5.116V	3.546W		114.86V
4	1A	5.108W	80.039%	0.359
	5.108V	6.382W		114.86V
5	1.5A	7.648W	79.777%	0.413
	5.099V	9.587W		114.86V
6	3A	15.213W	78.874%	0.479
	5.071V	19.288W		114.85V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	57.629%	0.012
	5.124V	0.401W		229.94V
2	0.09A	0.461W	66.815%	0.021
	5.124V	0.689W		229.94V
3	0.55A	2.814W	76.981%	0.106
	5.116V	3.656W		229.94V
4	1A	5.108W	78.311%	0.175
	5.108V	6.523W		229.94V
5	1.5A	7.648W	79.408%	0.23
	5.099V	9.631W		229.94V
6	3A	15.215W	79.703%	0.336
	5.072V	19.089W		229.94V

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Super Flower Leadex VII XP 1000W

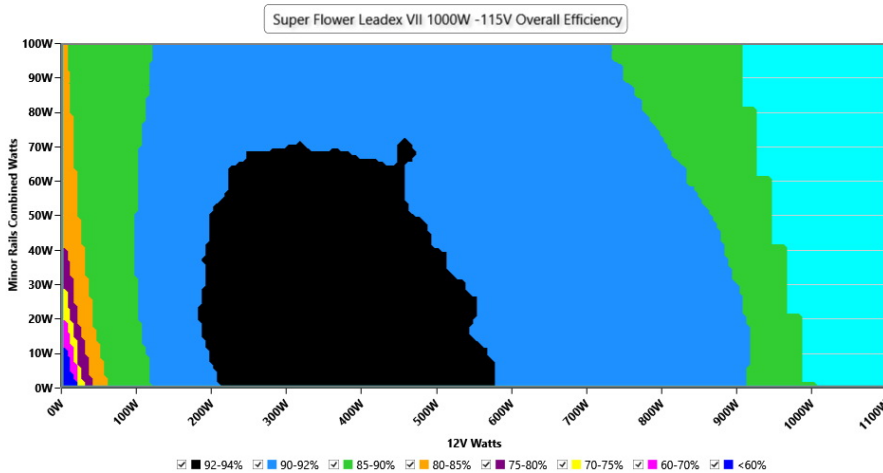
# 115V

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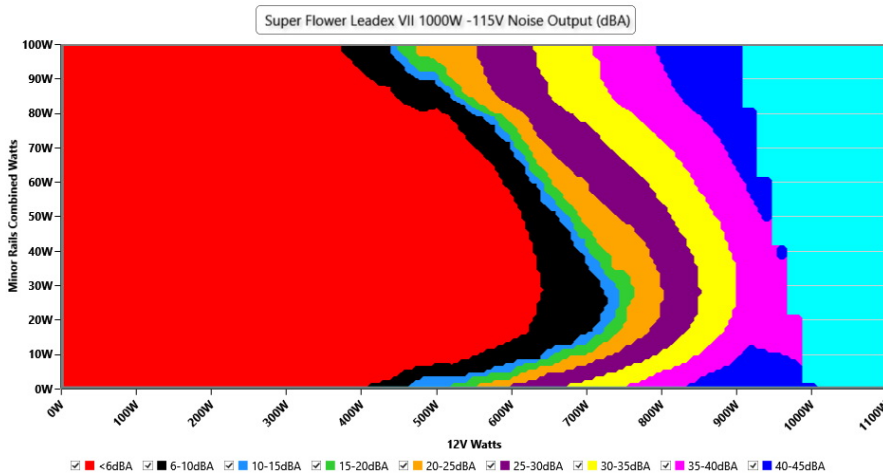
### EFFICIENCY GRAPH 115V



#### 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

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### VAMPIRE POWER -115V

#### Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.87 V	114.81 V	113.85 V	114.92 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.98 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.418	1.417	1.340	1.420	1.490	PASS
Mains Voltage THD:	0.15 %	0.09 %	N/A	0.25 %	2.00 %	PASS
Real Power:	0.064 W	0.043 W	N/A	0.084 W	N/A	N/A
Apparent Power:	9.841 W	9.813 W	N/A	9.874 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

#### 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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### 10-110% LOAD TESTS 115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	6.497A	1.987A	1.972A	0.981A	99.985	88.535%	0	<6.0	44.32°C	0.962
	12.065V	5.032V	3.347V	5.099V	112.934				40.07°C	114.84V
20%	14.019A	2.981A	2.959A	1.179A	199.929	91.62%	0	<6.0	45.16°C	0.984
	12.057V	5.033V	3.345V	5.089V	218.216				40.58°C	114.8V
30%	21.904A	3.476A	3.454A	1.378A	299.976	92.462%	0	<6.0	46.38°C	0.991
	12.049V	5.034V	3.344V	5.079V	324.434				41.29°C	114.76V
40%	29.756A	3.972A	3.948A	1.578A	399.535	92.367%	404	<6.0	41.81°C	0.993
	12.042V	5.036V	3.344V	5.069V	432.548				47.28°C	114.74V
50%	37.284A	4.965A	4.938A	1.779A	499.27	92.124%	421	<6.0	42.47°C	0.994
	12.036V	5.036V	3.342V	5.06V	541.96				48.55°C	114.69V
60%	44.889A	5.958A	5.928A	1.98A	599.803	91.465%	726	24.9	42.61°C	0.995
	12.029V	5.036V	3.34V	5.05V	655.778				49.22°C	114.66V
70%	52.441A	6.951A	6.92A	2.183A	699.543	90.872%	1058	36.6	43.39°C	0.995
	12.022V	5.036V	3.339V	5.04V	769.817				50.47°C	114.62V
80%	60.041A	7.945A	7.912A	2.286A	799.572	90.226%	1306	43.6	43.73°C	0.996
	12.020V	5.036V	3.337V	5.032V	886.188				52.01°C	114.58V
90%	67.965A	8.439A	8.397A	2.389A	899.346	89.571%	1501	46.2	44.56°C	0.996
	12.019V	5.036V	3.335V	5.024V	1004.057				53.59°C	114.54V
100%	75.707A	8.935A	8.911A	2.997A	999.389	88.818%	1694	48.5	45.65°C	0.996
	12.016V	5.037V	3.333V	5.006V	1125.226				55.66°C	114.49V
110%	83.390A	9.926A	9.996A	3.001A	1099.99	88.067%	1861	51.8	46.51°C	0.996
	12.012V	5.037V	3.331V	4.999V	1249.044				57.42°C	114.45V
CL1	0.116A	11.959A	11.855A	0A	101.303	83.733%	549	15.2	40.5°C	0.964
	12.070V	5.034V	3.349V	5.108V	120.996				45.99°C	114.83V
CL2	0.115A	19.877A	0A	0A	101.379	82.977%	405	<6.0	40.93°C	0.964
	12.072V	5.03V	3.356V	5.111V	122.178				47.95°C	114.84V
CL3	0.115A	0A	19.734A	0A	67.385	77.615%	715	24.3	41.1°C	0.955
	12.069V	5.042V	3.344V	5.109V	86.823				50.19°C	114.85V
CL4	83.234A	0A	0A	0A	999.952	89.585%	1521	47.2	45.53°C	0.996
	12.014V	5.037V	3.335V	5.069V	1116.214				56.49°C	114.51V

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## Super Flower Leadex VII XP 1000W

### 20-80W LOAD TESTS 115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.230A	0.497A	0.493A	0.195A	19.993	70.535%	0	<6.0	40.08°C	0.823
	12.071V	5.027V	3.346V	5.12V	28.345				36.97°C	114.88V
40W	2.708A	0.696A	0.69A	0.293A	39.993	80.67%	0	<6.0	40.8°C	0.917
	12.069V	5.028V	3.346V	5.117V	49.577				37.54°C	114.87V
60W	4.186A	0.895A	0.887A	0.391A	59.993	85.34%	0	<6.0	42.21°C	0.952
	12.068V	5.029V	3.346V	5.114V	70.295				38.47°C	114.86V
80W	5.661A	1.093A	1.085A	0.489A	79.932	87.525%	0	<6.0	43.98°C	0.956
	12.066V	5.03V	3.346V	5.11V	91.326				40°C	114.84V

### RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.63mV	6.34mV	9.31mV	13.57mV	Pass
20% Load	8.20mV	6.96mV	9.57mV	14.71mV	Pass
30% Load	8.15mV	7.83mV	10.08mV	14.61mV	Pass
40% Load	9.64mV	7.78mV	10.39mV	14.92mV	Pass
50% Load	9.74mV	8.24mV	10.45mV	14.91mV	Pass
60% Load	10.31mV	9.07mV	10.29mV	15.33mV	Pass
70% Load	10.31mV	9.99mV	10.71mV	15.59mV	Pass
80% Load	10.62mV	9.99mV	12.46mV	15.28mV	Pass
90% Load	10.98mV	11.03mV	12.10mV	17.19mV	Pass
100% Load	15.79mV	13.89mV	14.38mV	20.20mV	Pass
110% Load	16.69mV	14.66mV	14.58mV	20.98mV	Pass
Crossload1	12.24mV	9.77mV	12.60mV	29.94mV	Pass
Crossload2	8.92mV	10.67mV	10.60mV	27.05mV	Pass
Crossload3	7.84mV	9.17mV	13.50mV	26.63mV	Pass
Crossload4	15.63mV	11.99mV	13.97mV	29.34mV	Pass

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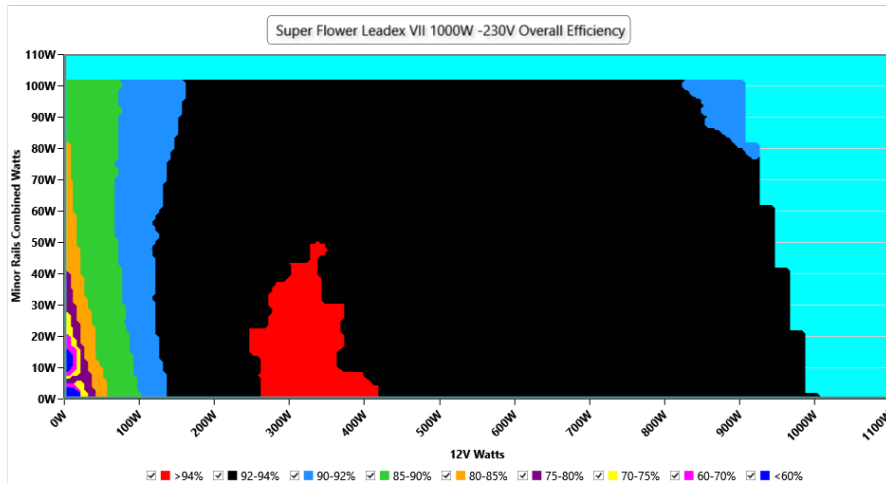
# 230V

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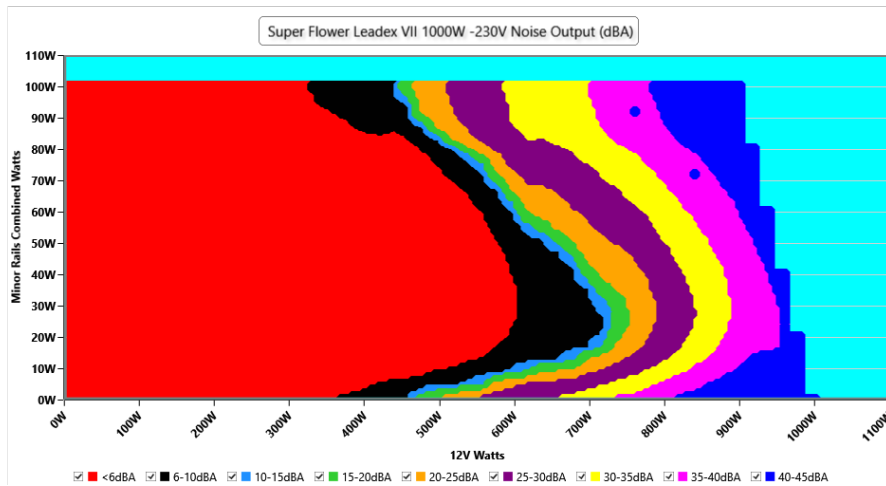
### EFFICIENCY GRAPH 230V



#### 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 230V



#### 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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### VAMPIRE POWER -230V

#### Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.96 V	229.89 V	227.70 V	230.01 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	50.00 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.105 W	0.059 W	N/A	0.162 W	N/A	N/A
Apparent Power:	33.123 W	33.078 W	N/A	33.177 W	N/A	N/A
Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

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### 10-110% LOAD TESTS 230V

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10%	6.496A	1.988A	1.972A	0.98A	99.978	89.608%	0	<6.0	44.59°C	0.837
	12.065V	5.03V	3.346V	5.099V	111.573				40.31°C	229.93V
20%	14.018A	2.982A	2.96A	1.179A	199.919	92.98%	0	<6.0	45.36°C	0.926
	12.056V	5.031V	3.345V	5.089V	215.015				40.78°C	229.91V
30%	21.902A	3.477A	3.454A	1.378A	299.962	93.764%	0	<6.0	46.43°C	0.958
	12.050V	5.033V	3.343V	5.08V	319.911				41.4°C	229.9V
40%	29.748A	3.973A	3.948A	1.578A	399.521	93.623%	368	<6.0	41.81°C	0.966
	12.045V	5.034V	3.343V	5.07V	426.729				47.29°C	229.88V
50%	37.280A	4.966A	4.938A	1.779A	499.241	93.599%	452	6.9	42.46°C	0.972
	12.037V	5.034V	3.341V	5.06V	533.374				48.47°C	229.86V
60%	44.888A	5.959A	5.928A	1.98A	599.773	93.362%	723	24.7	42.77°C	0.976
	12.029V	5.035V	3.34V	5.05V	642.429				49.31°C	229.84V
70%	52.438A	6.953A	6.921A	2.182A	699.495	92.962%	1108	38.5	43.27°C	0.979
	12.021V	5.035V	3.338V	5.04V	752.456				50.31°C	229.83V
80%	60.045A	7.947A	7.913A	2.285A	799.519	92.589%	1253	43.1	43.83°C	0.982
	12.018V	5.034V	3.336V	5.032V	863.513				52.01°C	229.81V
90%	67.967A	8.442A	8.397A	2.388A	899.307	92.167%	1449	46.7	44.53°C	0.984
	12.018V	5.034V	3.334V	5.024V	975.741				53.58°C	229.79V
100%	75.707A	8.938A	8.912A	2.996A	999.326	91.698%	1653	47.8	45.05°C	0.985
	12.016V	5.035V	3.333V	5.007V	1089.81				55.15°C	229.78V
110%	83.388A	9.93A	9.997A	3A	1099.931	91.22%	1852	51.9	46.82°C	0.986
	12.012V	5.035V	3.331V	5V	1205.799				57.73°C	229.76V
CL1	0.116A	11.96A	11.856A	0A	101.295	84.861%	517	13.5	40.9°C	0.85
	12.070V	5.033V	3.348V	5.108V	119.385				46.38°C	229.93V
CL2	0.115A	19.878A	0A	0A	101.369	84.151%	379	<6.0	40.04°C	0.852
	12.072V	5.03V	3.356V	5.111V	120.467				47.09°C	229.93V
CL3	0.114A	0A	19.735A	0A	67.381	78.529%	732	25.2	42.25°C	0.789
	12.069V	5.041V	3.344V	5.109V	85.805				51.27°C	229.93V
CL4	83.235A	0A	0A	0A	999.904	92.398%	1514	46.8	45.04°C	0.985
	12.013V	5.035V	3.335V	5.069V	1082.167				56.01°C	229.77V

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### 20-80W LOAD TESTS 230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.230A	0.497A	0.493A	0.195A	19.988	70.355%	0	<6.0	40.04°C	0.475
	12.072V	5.026V	3.346V	5.12V	28.506				36.92°C	229.96V
40W	2.708A	0.696A	0.69A	0.293A	39.988	81.23%	0	<6.0	41.13°C	0.643
	12.071V	5.027V	3.346V	5.117V	49.226				37.77°C	229.95V
60W	4.186A	0.895A	0.887A	0.391A	59.988	86.066%	0	<6.0	42.04°C	0.74
	12.069V	5.028V	3.346V	5.114V	69.702				38.48°C	229.94V
80W	5.660A	1.094A	1.085A	0.489A	79.925	88.411%	0	<6.0	42.99°C	0.799
	12.067V	5.029V	3.346V	5.11V	90.405				39.21°C	229.93V

### RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.80mV	7.16mV	10.96mV	14.25mV	Pass
20% Load	8.99mV	7.26mV	10.96mV	14.40mV	Pass
30% Load	11.82mV	9.07mV	11.27mV	14.40mV	Pass
40% Load	11.62mV	9.02mV	12.41mV	15.28mV	Pass
50% Load	10.72mV	9.43mV	12.05mV	15.53mV	Pass
60% Load	9.95mV	9.32mV	11.64mV	14.71mV	Pass
70% Load	11.24mV	9.94mV	11.64mV	16.36mV	Pass
80% Load	11.29mV	10.77mV	13.50mV	15.95mV	Pass
90% Load	11.14mV	11.69mV	12.36mV	16.57mV	Pass
100% Load	17.79mV	14.01mV	15.92mV	20.70mV	Pass
110% Load	18.27mV	14.92mV	16.00mV	21.41mV	Pass
Crossload1	12.76mV	10.62mV	13.67mV	28.47mV	Pass
Crossload2	9.13mV	11.08mV	12.15mV	27.82mV	Pass
Crossload3	7.94mV	9.94mV	14.17mV	26.33mV	Pass
Crossload4	17.44mV	12.68mV	15.66mV	29.19mV	Pass

All data and graphs included in this test report can be used by any individual on the following conditions:

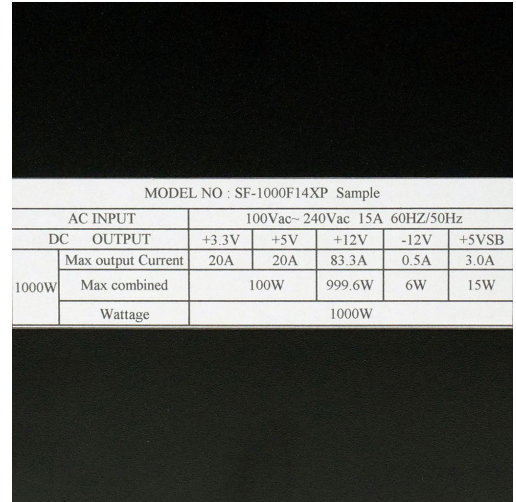
- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

**Anex**

**Super Flower Leadex VII XP 1000W**



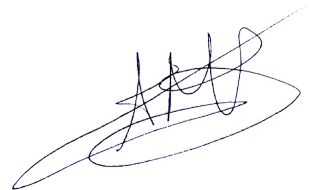
Top side



MODEL NO : SF-1000F14XP Sample						
AC INPUT		100Vac- 240Vac 15A 60HZ/50Hz				
DC	OUTPUT	+3.3V	+5V	+12V	-12V	+5VSB
1000W	Max output Current	20A	20A	83.3A	0.5A	3.0A
	Max combined	100W		999.6W	6W	15W
	Wattage	1000W				

Power specifications label

**CERTIFICATIONS 115V**

**Aristeidis Bitziopoulos**  
Lab Director

**CERTIFICATIONS 230V**



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- > The link to the original test results document should be provided in any case