

## Anex

## SilverStone Strider Platinum 1200W (#2)

Lab ID#: SL19120020  
 Receipt Date: Apr 4, 2019  
 Test Date: Apr 16, 2019

Report:  
 Report Date: Apr 23, 2019

DUT INFORMATION	
Brand	SilverStone
Manufacturer (OEM)	Enhance Electronics
Series	Strider Platinum
Model Number	ST1200-PTS
Serial Number	DBSTK20PTS18480090
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	50-60
Rated Power (W)	1200
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (D12SH-12)
Semi-Passive Operation	x
Cable Design	Fully Modular

TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, 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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### RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

### 115V

Average Efficiency	90.467%
Efficiency With 10W (≤500W) or 2% (>500W)	72.255
Average Efficiency 5VSB	79.462%
Standby Power Consumption (W)	0.0700644
Average PF	0.994
Avg Noise Output	33.38 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard++

### 230V

Average Efficiency	92.561%
Average Efficiency 5VSB	78.980%
Standby Power Consumption (W)	0.1060730
Average PF	0.966
Avg Noise Output	33.17 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard++

### POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	22	100	3	0.3
	Watts	120		1200	15	3.6
Total Max. Power (W)		1200				

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

Hold-Up Time (ms)	7.5
AC Loss to PWR_OK Hold Up Time (ms)	19.8
PWR_OK Inactive to DC Loss Delay (ms)	-12.3

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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	16-22AWG	No
4+4 pin EPS12V (750mm)	1	1	16AWG	No
4+4 pin EPS12V (550mm)	1	1	16AWG	No
6+2 pin PCIe (550mm+150mm)	4	8	16-18AWG	No
SATA (610mm+140mm+140mm+140mm)	2	8	18AWG	No
4 pin Molex (610mm+150mm+150mm) / FDD (+150mm)	2	6 / 2	18-22AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	16AWG	-

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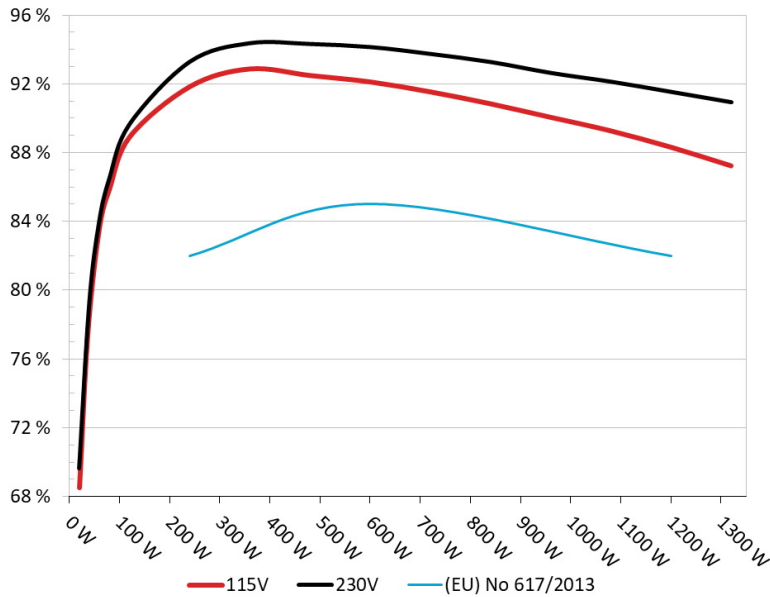
General Data	
Manufacturer (OEM)	Enhance Electronics
PCB Type	Double Sided
Primary Side	
Transient Filter	6x Y caps, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor & Relay
Bridge Rectifier(s)	1x RS2505M-U1 (600V, 25A @ 150°C)
APFC MOSFETS	4x Infineon IPP50R140CP (550V, 15A @ 100°C, 0.140hm)
APFC Boost Diode	2x CREE C3D08060A (600V, 8A @ 152°C)
Hold-up Cap(s)	2x Nippon Chemi-Con (450V, 560uF, 2000h @ 105°C, KMW)
Main Switchers	4x Infineon IPP50R140CP (550V, 15A @ 100°C, 0.140hm)
IC Driver	2x Silicon Labs Si8230BD
APFC Controller	ATK AT6101ZS & CM03X Green PFC Controller
Resonant Controllers	Champion CM6901T6
Topology	Primary side: Interleaved PFC, Full-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	8x Infineon BSC014N04LS (40V, 100A @ 100°C, 1.4mOhm)
5V & 3.3V	DC-DC Converters: 4x Infineon BSC018NE2LS (25V, 97A @ 100°C, 1.4mOhm) PWM Controllers: ANPEC APW7160A
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (4-10,000 @ 105°C, KY), Rubycon (3-6,000 @ 105°C, YXG), Rubycon (6-10000 @ 105°C, ZLH), Suncon (105°C) Polymers: Unicon (UPH)
Supervisor IC	SITI PS223 (OCP, OTP, OVP, UVP, SCP, PG)
Fan Model	Yate Loon D12SH (120mm, 12V, 0.30A, Rifle Bearing Fan)
5VSB Circuit	
Rectifier	1x PFR10V45CT SBR (45V, 10A)
Standby PWM Controller	ATK AT6002H

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### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: SilverStone ST1200-PTS  
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

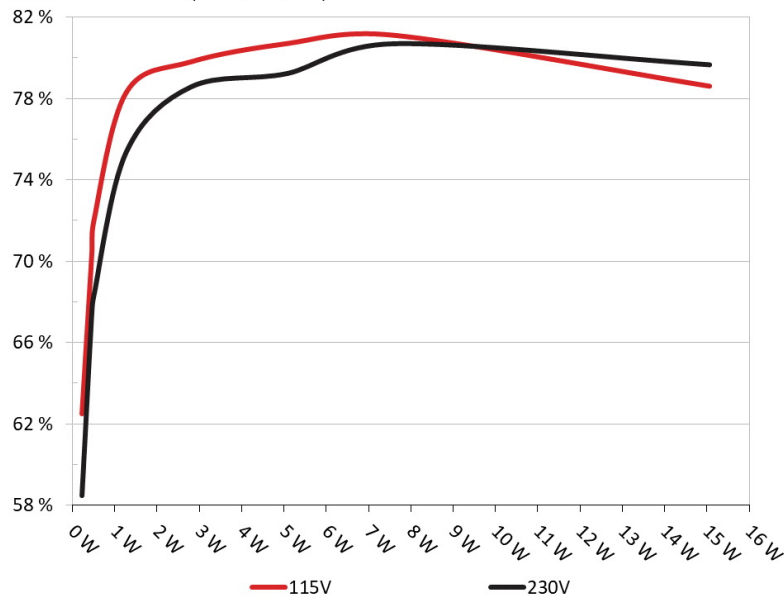


#### INFO

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: SilverStone ST1200-PTS  
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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## SilverStone Strider Platinum 1200W (#2)

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.230	62.500%	0.017
	5.113V	0.368		115.12V
2	0.090A	0.460	70.296%	0.075
	5.106V	0.654		115.12V
3	0.550A	2.804	79.795%	0.154
	5.097V	3.514		115.13V
4	1.000A	5.083	80.695%	0.252
	5.083V	6.299		115.13V
5	1.500A	7.601	81.103%	0.332
	5.067V	9.372		115.12V
6	3.000A	15.058	78.599%	0.469
	5.019V	19.158		115.12V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231	58.481%	0.006
	5.113V	0.395		230.24V
2	0.090A	0.460	67.350%	0.010
	5.112V	0.683		230.24V
3	0.550A	2.804	78.587%	0.049
	5.097V	3.568		230.24V
4	1.000A	5.083	79.249%	0.087
	5.083V	6.414		230.24V
5	1.500A	7.601	80.716%	0.125
	5.067V	9.417		230.25V
6	3.001A	15.060	79.678%	0.228
	5.019V	18.901		230.24V

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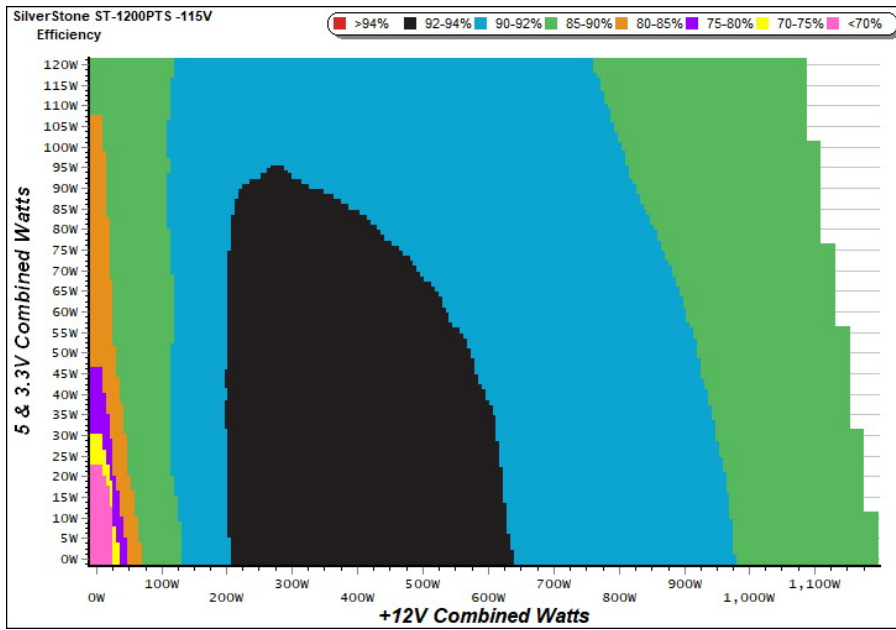
# 115V

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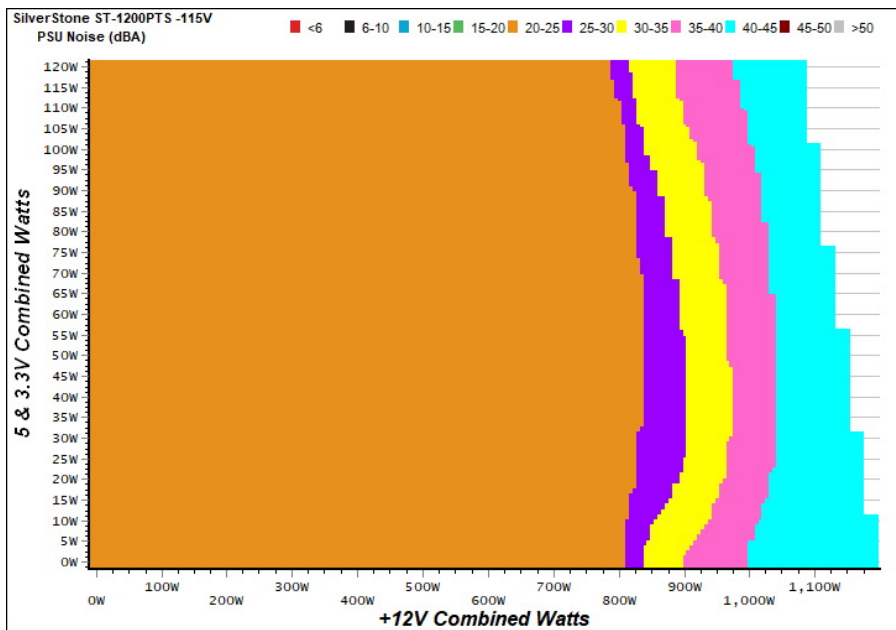
### EFFICIENCY GRAPH 115V



#### 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

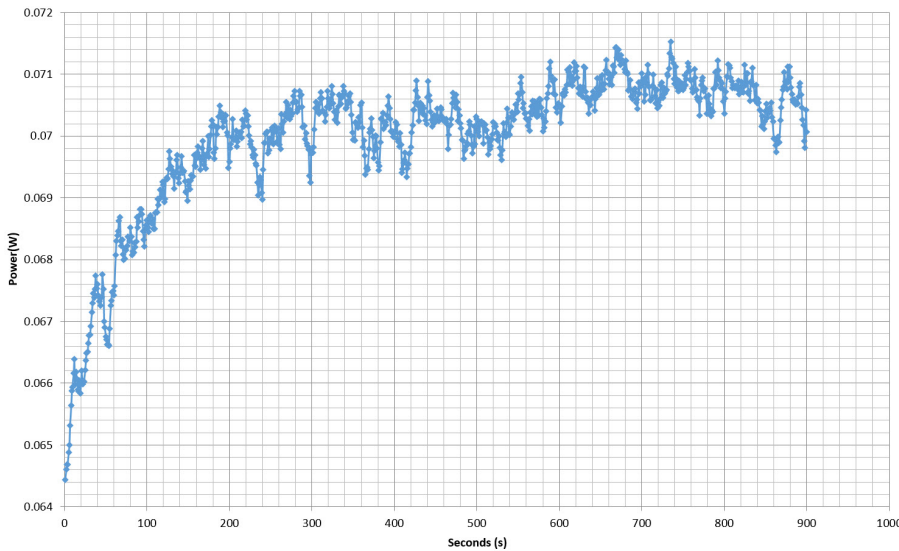
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**VAMPIRE POWER -115V**

Power - DBSTK20PTS18480090 - 04/04/2019 - 12:54



**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
1	8.232A	1.998A	1.986A	0.986A	120.132	88.929%	953	21.8	39.24°C	0.979
	11.969V	5.009V	3.320V	5.073V	135.088				43.60°C	115.13V
2	17.467A	3.001A	2.994A	1.187A	239.823	91.837%	955	22.0	40.55°C	0.993
	11.961V	4.997V	3.307V	5.057V	261.139				45.30°C	115.13V
3	27.067A	3.511A	3.488A	1.389A	359.354	92.863%	959	22.2	41.46°C	0.996
	11.946V	4.987V	3.297V	5.042V	386.972				46.75°C	115.13V
4	36.764A	4.023A	4.018A	1.592A	479.785	92.482%	963	22.3	41.94°C	0.998
	11.929V	4.977V	3.286V	5.026V	518.790				48.71°C	115.12V
5	46.122A	5.039A	5.040A	1.797A	599.923	92.110%	968	22.4	42.23°C	0.999
	11.912V	4.965V	3.273V	5.010V	651.308				49.92°C	115.13V
6	55.506A	6.061A	6.073A	2.004A	720.061	91.531%	997	23.5	42.77°C	0.999
	11.895V	4.952V	3.260V	4.993V	786.686				51.50°C	115.12V
7	64.884A	7.089A	7.117A	2.211A	839.808	90.837%	1825	38.0	43.41°C	0.999
	11.878V	4.939V	3.246V	4.976V	924.525				53.25°C	115.12V
8	74.355A	8.122A	8.168A	2.421A	960.280	90.048%	2219	43.0	43.95°C	0.999
	11.860V	4.927V	3.233V	4.959V	1066.409				54.55°C	115.11V
9	84.199A	8.649A	8.689A	2.426A	1079.613	89.263%	2238	43.4	44.26°C	0.999
	11.842V	4.917V	3.222V	4.949V	1209.480				55.29°C	115.11V
10	93.912A	9.176A	9.251A	3.051A	1200.049	88.313%	2243	43.5	45.71°C	0.999
	11.823V	4.906V	3.211V	4.918V	1358.865				57.74°C	115.10V
11	104.210A	9.191A	9.275A	3.057A	1320.026	87.231%	2241	43.4	46.95°C	0.999
	11.806V	4.898V	3.202V	4.909V	1513.248				59.85°C	115.09V
CL1	0.153A	14.004A	13.999A	0.000A	116.957	84.744%	1236	28.4	42.17°C	0.982
	11.971V	4.957V	3.265V	5.092V	138.012				49.66°C	115.14V
CL2	100.012A	1.003A	0.999A	1.000A	1196.247	88.670%	2238	43.4	45.58°C	0.999
	11.829V	4.944V	3.252V	4.997V	1349.099				57.69°C	115.08V

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## SilverStone Strider Platinum 1200W (#2)

### 20-80W LOAD TESTS 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.206A	0.498A	0.479A	0.196A	19.545	68.500%	937	21.4	0.734
	11.980V	5.020V	3.334V	5.107V	28.533				115.12V
2	2.175A	0.997A	0.990A	0.392A	36.353	77.561%	941	21.5	0.888
	11.979V	5.018V	3.331V	5.099V	46.870				115.12V
3	3.682A	1.496A	1.473A	0.590A	59.500	83.661%	940	21.5	0.933
	11.976V	5.014V	3.327V	5.090V	71.120				115.12V
4	4.954A	1.996A	1.985A	0.787A	79.917	85.927%	951	21.7	0.961
	11.974V	5.011V	3.323V	5.082V	93.006				115.13V

### RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.7 mV	10.3 mV	24.7 mV	15.5 mV	Pass
20% Load	14.0 mV	12.0 mV	29.5 mV	25.2 mV	Pass
30% Load	18.4 mV	12.6 mV	29.8 mV	18.5 mV	Pass
40% Load	22.2 mV	13.0 mV	31.8 mV	20.3 mV	Pass
50% Load	27.1 mV	14.4 mV	33.8 mV	20.8 mV	Pass
60% Load	32.1 mV	14.7 mV	36.3 mV	24.0 mV	Pass
70% Load	39.8 mV	18.6 mV	44.5 mV	24.5 mV	Pass
80% Load	45.4 mV	19.4 mV	47.8 mV	26.6 mV	Pass
90% Load	52.1 mV	17.5 mV	41.7 mV	31.5 mV	Pass
100% Load	53.8 mV	18.2 mV	30.5 mV	36.0 mV	Pass
110% Load	67.0 mV	21.5 mV	61.3 mV	37.5 mV	Fail
Crossload 1	8.8 mV	13.4 mV	27.4 mV	37.0 mV	Pass
Crossload 2	60.9 mV	17.9 mV	33.4 mV	34.6 mV	Pass

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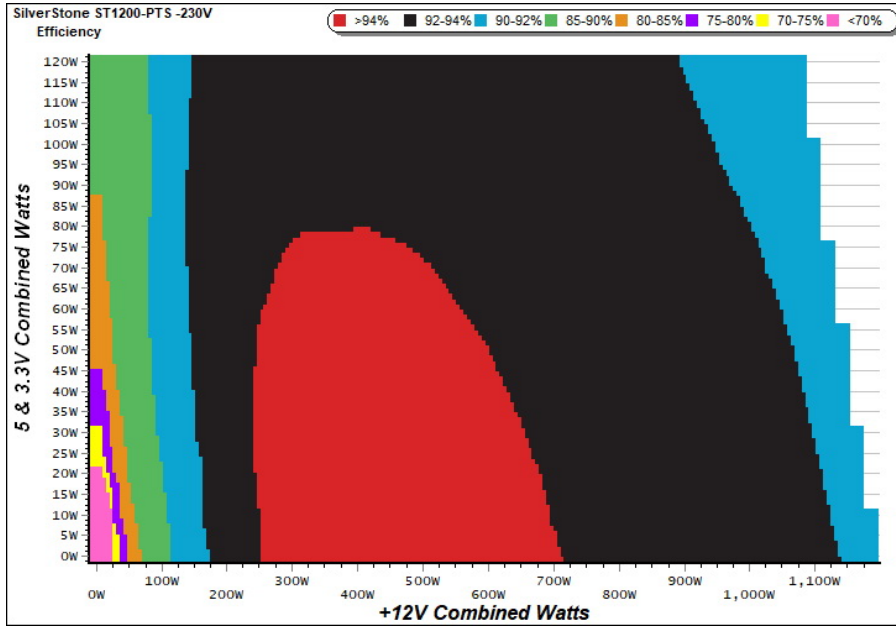
# 230V

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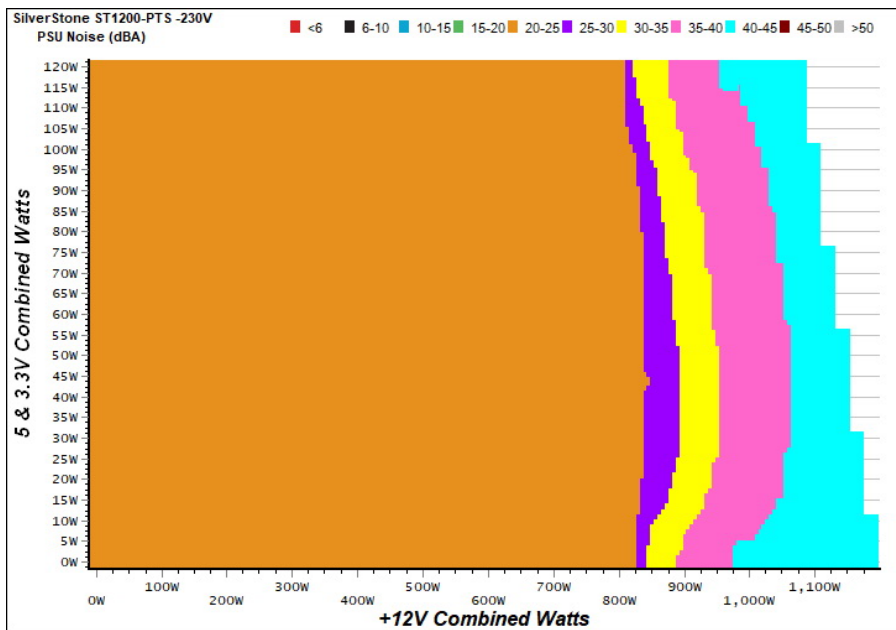
### EFFICIENCY GRAPH 230V



#### INFO

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### NOISE GRAPH 230V



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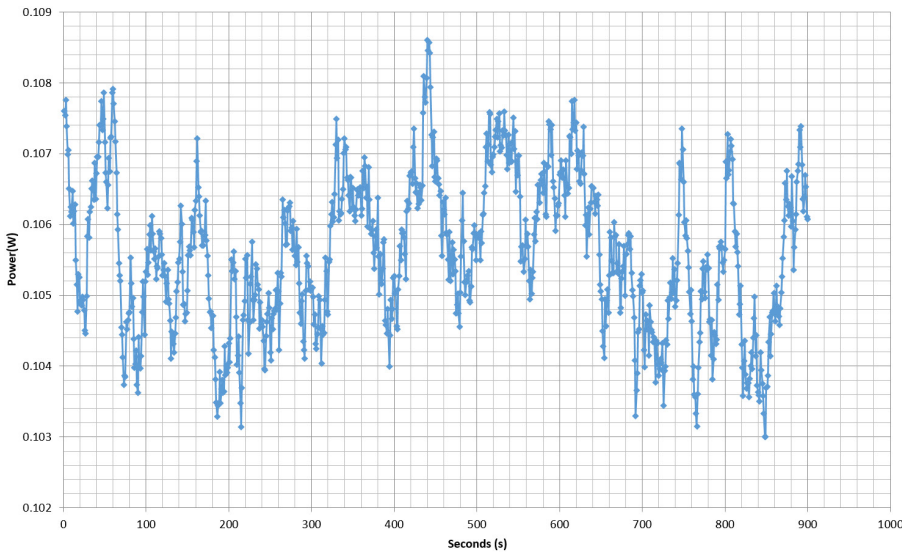
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### 10-110% LOAD TESTS 230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	8.229A	1.999A	1.987A	0.986A	120.095	89.644%	954	21.9	39.46°C	0.832
	11.968V	5.008V	3.320V	5.073V	133.969				43.57°C	230.27V
2	17.464A	3.003A	2.993A	1.187A	239.796	93.270%	956	22.0	40.20°C	0.945
	11.961V	4.997V	3.308V	5.057V	257.098				44.87°C	230.27V
3	27.064A	3.511A	3.489A	1.389A	359.295	94.353%	957	22.1	41.01°C	0.972
	11.945V	4.987V	3.297V	5.042V	380.798				46.33°C	230.27V
4	36.762A	4.020A	4.015A	1.592A	479.704	94.312%	959	22.2	41.55°C	0.984
	11.928V	4.977V	3.287V	5.026V	508.633				47.56°C	230.27V
5	46.118A	5.037A	5.039A	1.797A	599.867	94.132%	964	22.3	42.28°C	0.989
	11.912V	4.965V	3.274V	5.010V	637.260				48.77°C	230.27V
6	55.501A	6.059A	6.072A	2.003A	719.996	93.734%	980	22.6	42.86°C	0.993
	11.895V	4.953V	3.261V	4.993V	768.123				50.75°C	230.26V
7	64.877A	7.087A	7.114A	2.211A	839.726	93.264%	1622	35.0	43.32°C	0.994
	11.878V	4.941V	3.247V	4.976V	900.374				51.65°C	230.27V
8	74.350A	8.120A	8.165A	2.420A	960.215	92.628%	2200	42.7	43.90°C	0.996
	11.860V	4.928V	3.234V	4.960V	1036.641				53.13°C	230.27V
9	84.194A	8.646A	8.689A	2.425A	1079.555	92.120%	2241	43.4	44.20°C	0.996
	11.842V	4.918V	3.223V	4.950V	1171.898				54.76°C	230.28V
10	93.899A	9.174A	9.252A	3.050A	1199.990	91.526%	2245	43.5	45.61°C	0.997
	11.824V	4.907V	3.211V	4.919V	1311.088				57.04°C	230.27V
11	104.199A	9.187A	9.272A	3.056A	1319.988	90.925%	2246	43.5	46.64°C	0.998
	11.807V	4.899V	3.203V	4.910V	1451.738				59.07°C	230.26V
CL1	0.147A	14.004A	13.999A	0.000A	116.898	86.234%	1073	24.6	42.43°C	0.837
	11.971V	4.958V	3.265V	5.092V	135.559				48.82°C	230.27V
CL2	100.010A	1.001A	1.000A	1.000A	1196.217	91.934%	2246	43.5	45.50°C	0.997
	11.829V	4.945V	3.252V	4.997V	1301.165				57.31°C	230.24V

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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])	PF/AC Volts
1	1.210A	0.495A	0.480A	0.196A	19.585	69.648%	947	21.6	0.318
	11.982V	5.021V	3.334V	5.106V	28.120				230.27V
2	2.481A	0.996A	0.990A	0.392A	40.012	79.340%	948	21.6	0.516
	11.979V	5.018V	3.330V	5.098V	50.431				230.27V
3	3.683A	1.495A	1.474A	0.590A	59.510	83.968%	950	21.7	0.637
	11.976V	5.014V	3.327V	5.090V	70.872				230.27V
4	4.952A	1.996A	1.986A	0.787A	79.891	86.501%	952	21.8	0.732
	11.973V	5.011V	3.323V	5.082V	92.359				230.27V

### RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.5 mV	9.9 mV	25.7 mV	15.2 mV	Pass
20% Load	12.6 mV	11.1 mV	30.1 mV	17.3 mV	Pass
30% Load	16.4 mV	12.6 mV	32.7 mV	17.8 mV	Pass
40% Load	22.5 mV	12.9 mV	33.9 mV	18.7 mV	Pass
50% Load	26.1 mV	13.5 mV	32.6 mV	19.5 mV	Pass
60% Load	30.5 mV	14.9 mV	33.4 mV	20.9 mV	Pass
70% Load	35.8 mV	24.5 mV	48.6 mV	21.8 mV	Pass
80% Load	42.7 mV	19.4 mV	47.9 mV	25.0 mV	Pass
90% Load	48.6 mV	18.0 mV	39.2 mV	25.1 mV	Pass
100% Load	57.0 mV	20.5 mV	60.5 mV	30.1 mV	Fail
110% Load	62.7 mV	21.4 mV	65.5 mV	30.9 mV	Fail
Crossload 1	8.5 mV	13.8 mV	25.8 mV	35.0 mV	Pass
Crossload 2	57.5 mV	16.7 mV	32.1 mV	28.1 mV	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**

**SilverStone Strider Platinum 1200W (#2)**

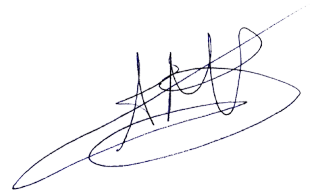


Top side



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