

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

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				

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	SIT1 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

RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
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)	S++

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)	S++

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	

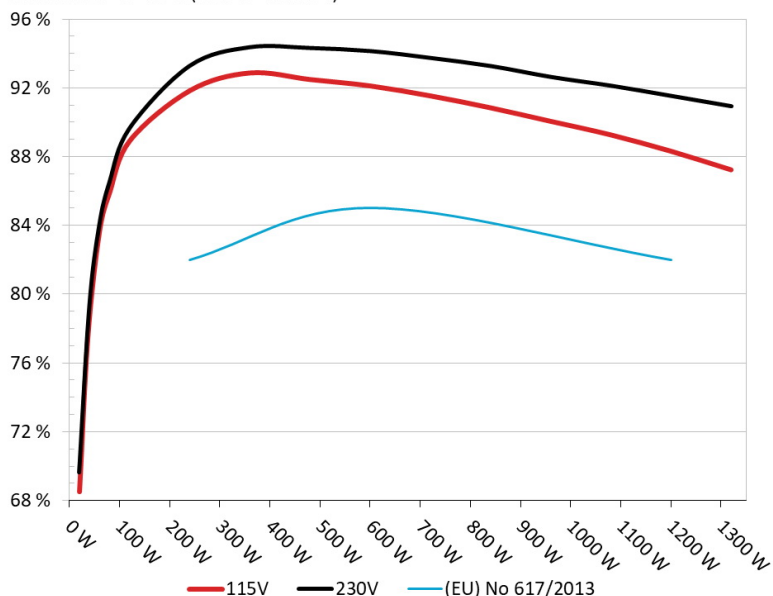
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: SilverStone ST1200-PTS

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



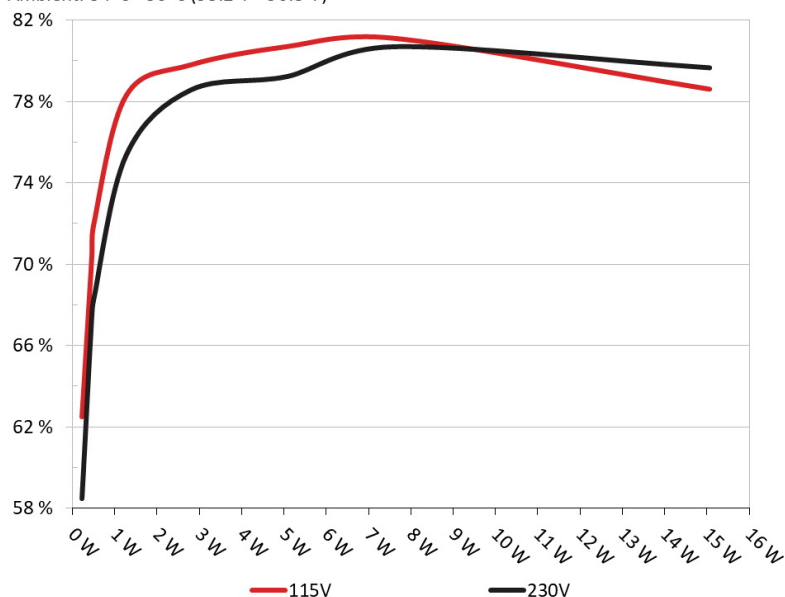
INFO

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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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)

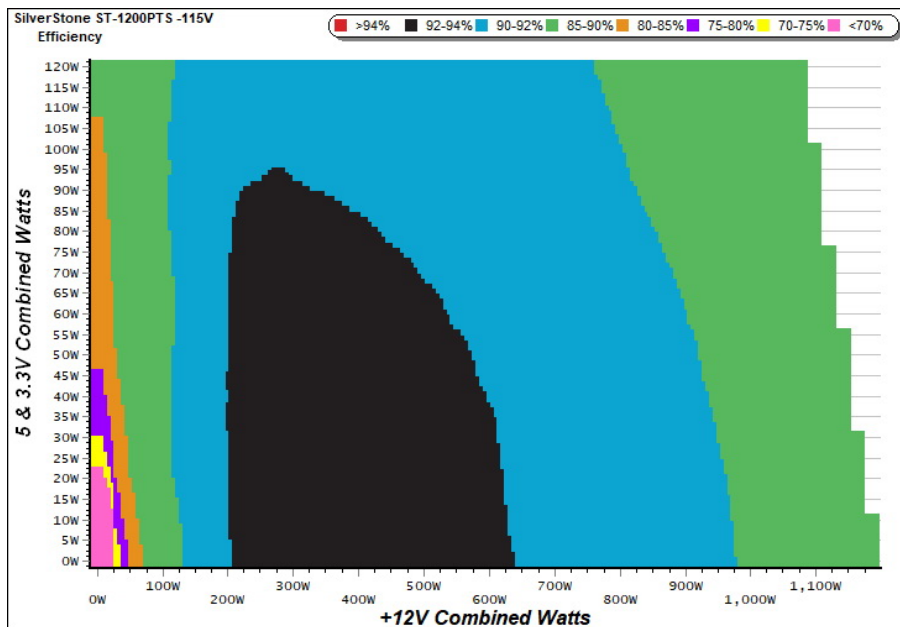
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231	58.481%	0.006
	5.113V	0.395		230.24V
2	0.090A	0.460	67.350%	0.010
	5.112V	0.683		230.24V
3	0.550A	2.804	78.587%	0.049
	5.097V	3.568		230.24V
4	1.000A	5.083	79.249%	0.087
	5.083V	6.414		230.24V
5	1.500A	7.601	80.716%	0.125
	5.067V	9.417	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

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115V

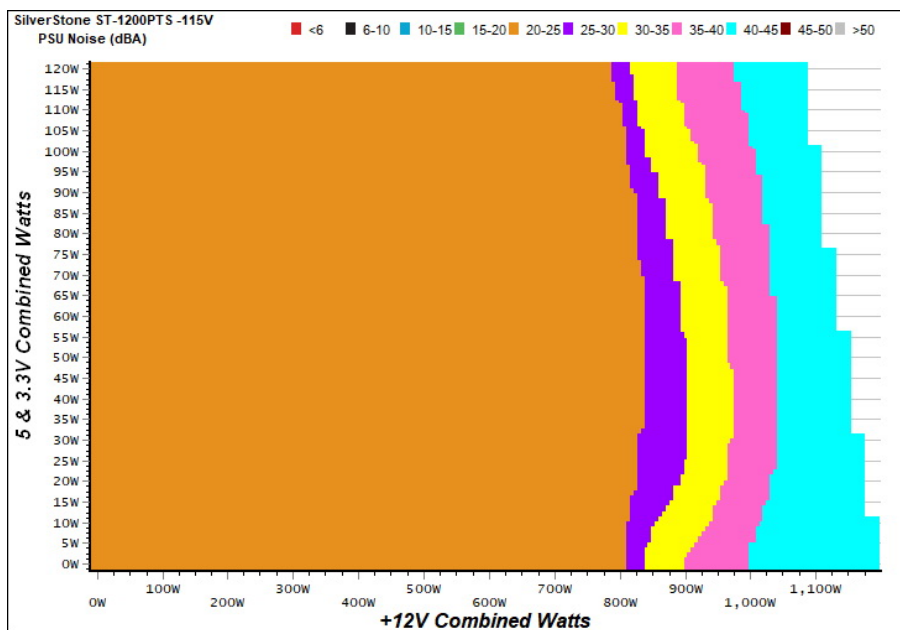
EFFICIENCY GRAPH 115V



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

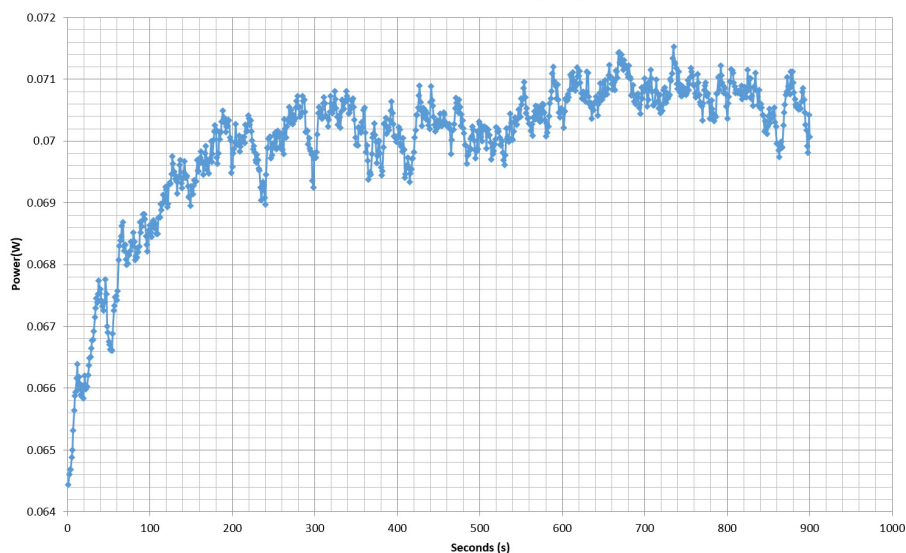
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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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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COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V

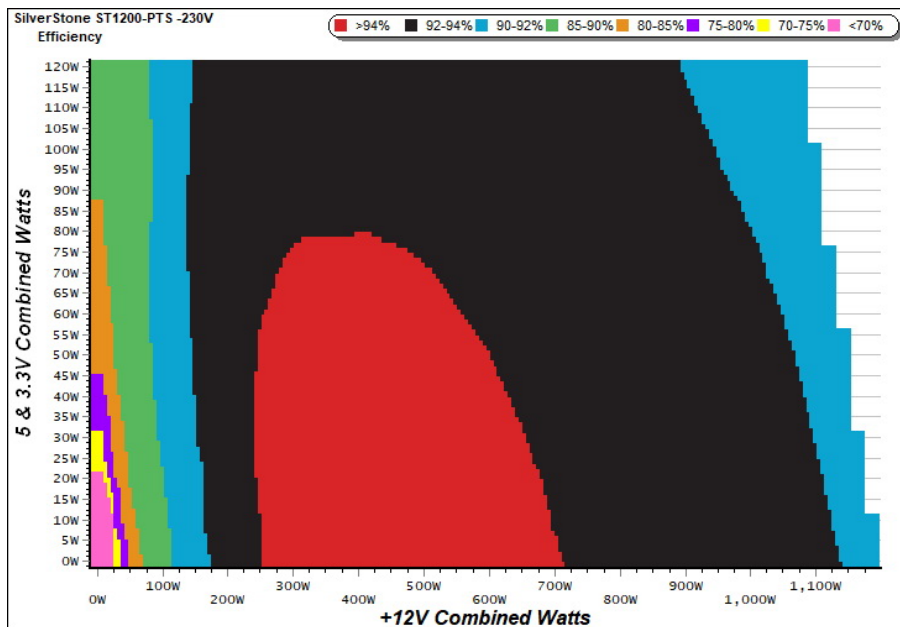
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230V

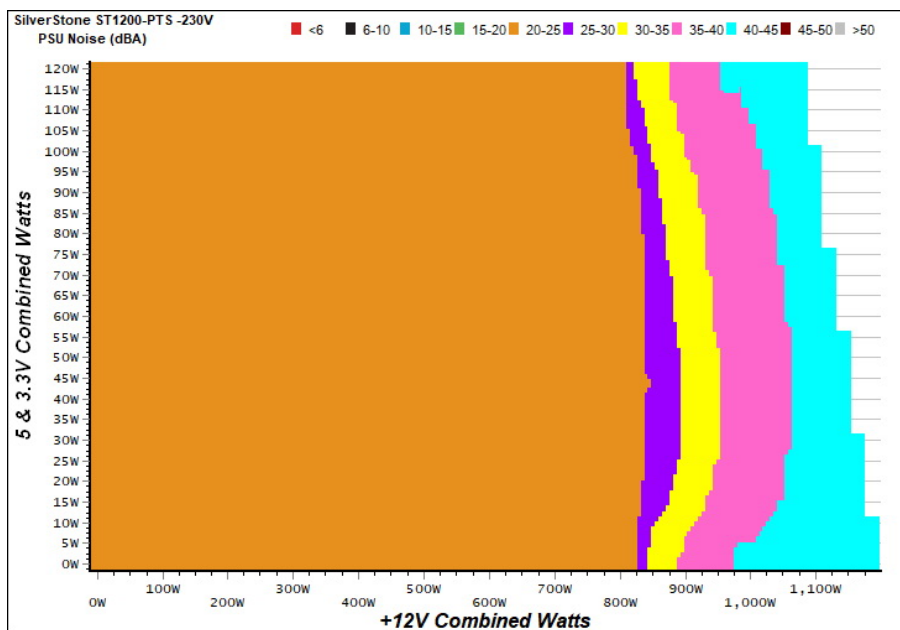
EFFICIENCY GRAPH 230V



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NOISE GRAPH 230V



INFO

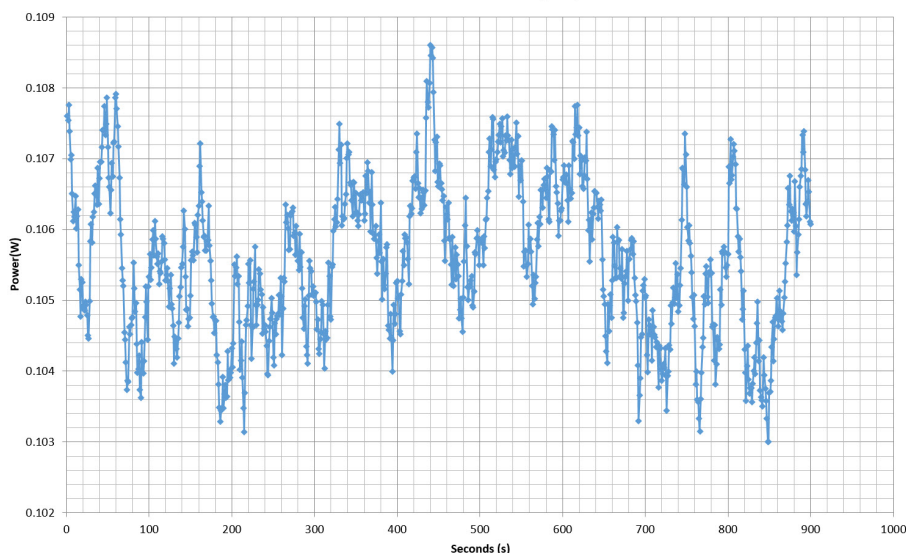
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EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

SilverStone Strider Platinum 1200W (#2)



Top side



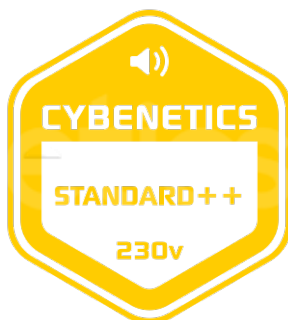
Power specifications label

CERTIFICATIONS 115V




Aris Mpitsiopoulos
Lab Director

CERTIFICATIONS 230V



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