

Anex

SilverStone ST1300-TI

Lab ID#: 208

Receipt Date: -

Test Date: -

Report:

Report Date: Feb 11, 2018

DUT INFORMATION		DUT SPECIFICATIONS	
Brand	SilverStone	Rated Voltage (Vrms)	100-240
Manufacturer (OEM)	Enhance Electronics	Rated Current (Arms)	15-7.5
Series	Strider Titanium Series	Rated Frequency (Hz)	50-60
Model Number	ST1300-TI	Rated Power (W)	1300
Serial Number	DB17250295STK30TI0	Type	ATX12V
DUT Notes		Cooling	140mm Double Ball-Bearing Fan (D14BH-12)
		Semi-Passive Operation	✓
		Cable Design	Fully Modular

POWER SPECIFICATIONS						
Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	22	108	3	0.3
	Watts	120		1300	15	3.6
Total Max. Power (W)		1300				

CABLES AND CONNECTORS				
Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (550mm)	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)	8	8	16AWG	No
SATA (600mm+140mm+140mm+140mm)	4	16	18AWG	No
4 pin Molex (600mm+150mm+150mm)	2	6	18AWG	No
FDD Adapter (+120mm)	1	1	22AWG	No

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	91.565
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$) Load -115V	0.000
Average Efficiency 5VSB	79.361
Standby Power Consumption (W) -115V	0.1094680
Standby Power Consumption (W) -230V	0.1497420
Average PF	0.982
ErP Lot 3/6 Ready	ErP Lot 3/6 2010: ✓ ErP Lot 3/6 2013: ✓ ErP Lot 3/6 2014, CEC: Partially
(EU) No 617/2013 Compliance	✓
Avg Noise Output	42.52
Efficiency Rating (ETA)	TITANIUM
Noise Rating (LAMBDA)	Standard

TEST EQUIPMENT

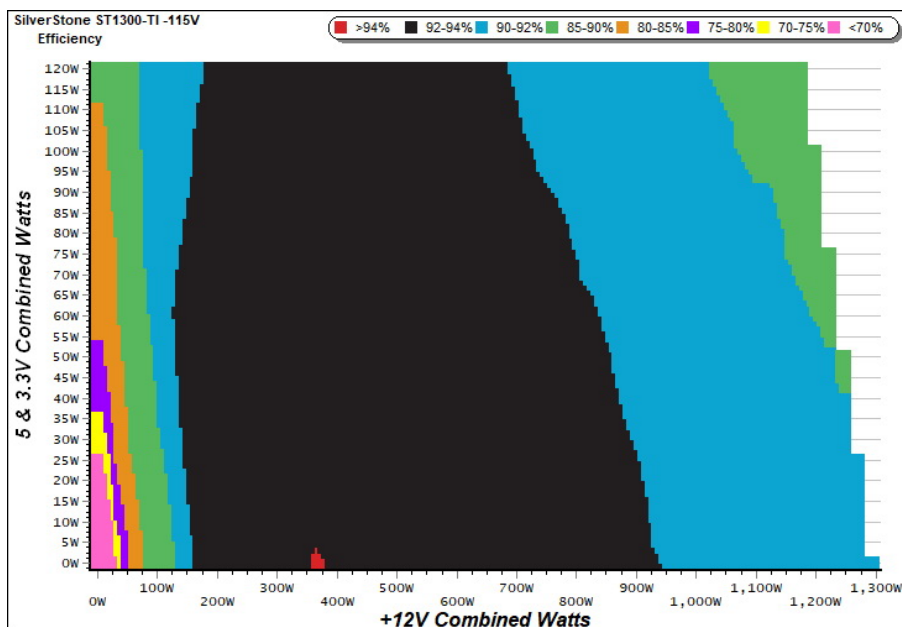
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 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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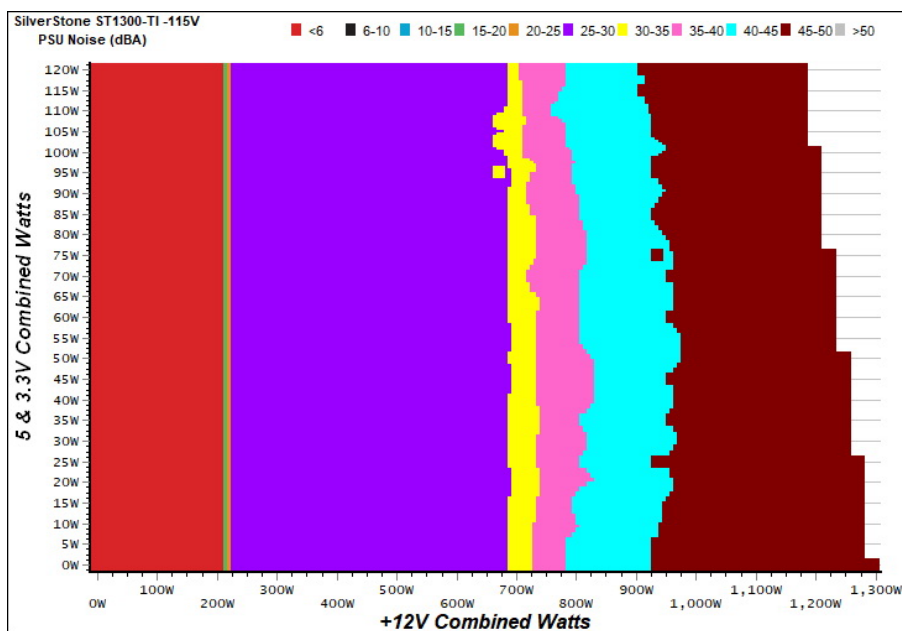
EFFICIENCY GRAPH



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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SilverStone ST1300-TI

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

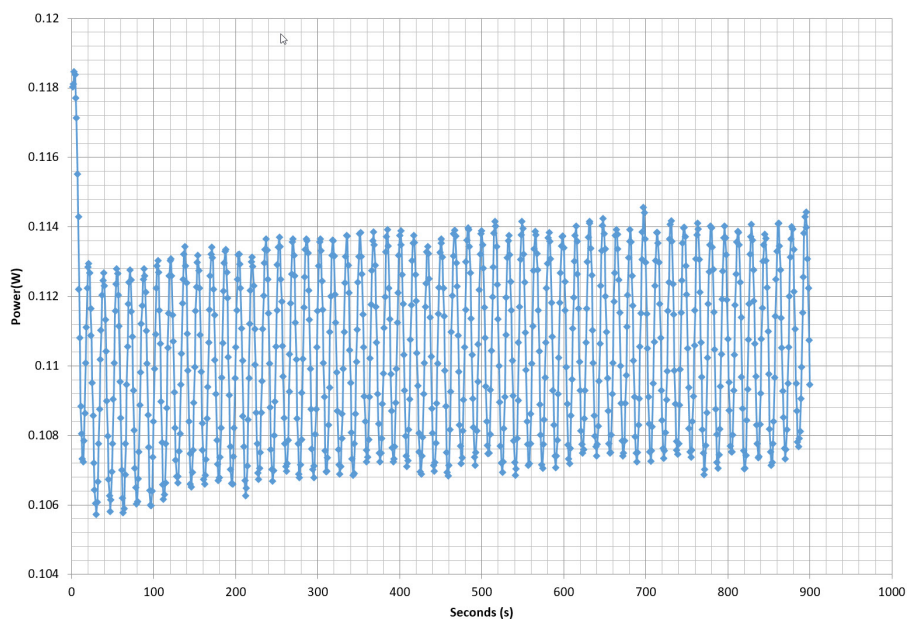
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.225	57.841%	0.019
	5.005V	0.389		115.29V
2	0.090A	0.450	67.568%	0.032
	5.003V	0.666		115.28V
3	0.550A	2.740	77.686%	0.160
	4.983V	3.527		115.28V
4	1.000A	4.963	81.227%	0.253
	4.963V	6.110		115.26V
5	1.500A	7.412	82.237%	0.333
	4.941V	9.013		115.27V
6	3.000A	14.615	79.451%	0.470
	4.872V	18.395		115.26V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.225	48.283%	0.007
	5.005V	0.466		230.86V
2	0.090A	0.450	58.594%	0.011
	5.003V	0.768		230.86V
3	0.550A	2.740	72.391%	0.055
	4.983V	3.785		230.76V
4	1.000A	4.963	76.366%	0.093
	4.963V	6.499		230.76V
5	1.500A	7.412	80.926%	0.128
	4.941V	9.159		230.76V
6	3.000A	14.623	79.776%	0.232
	4.874V	18.330		230.86V

VAMPIRE POWER -115V

Power - DB17250295STK30TI0 - 01/11/2017 - 09:57



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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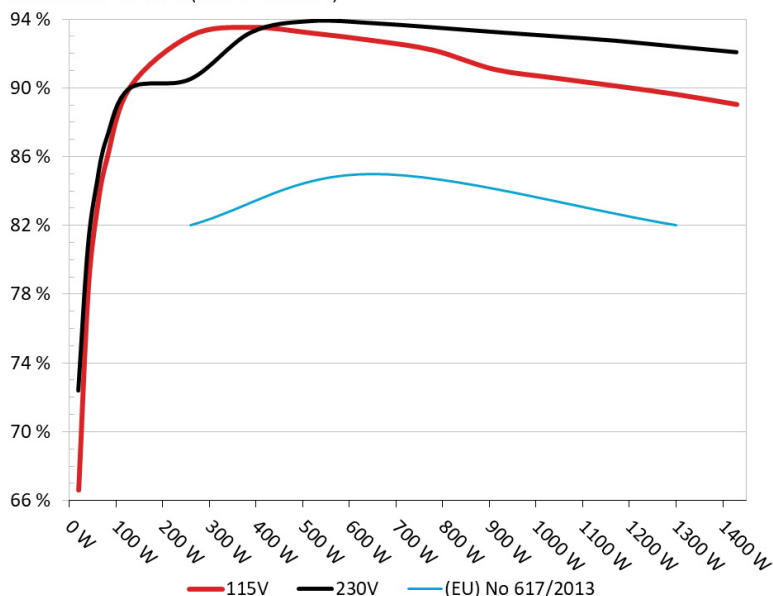
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: SilverStone ST1300-TI

Ambient: 37°C - 48°C (98.6°F - 118.4°F)



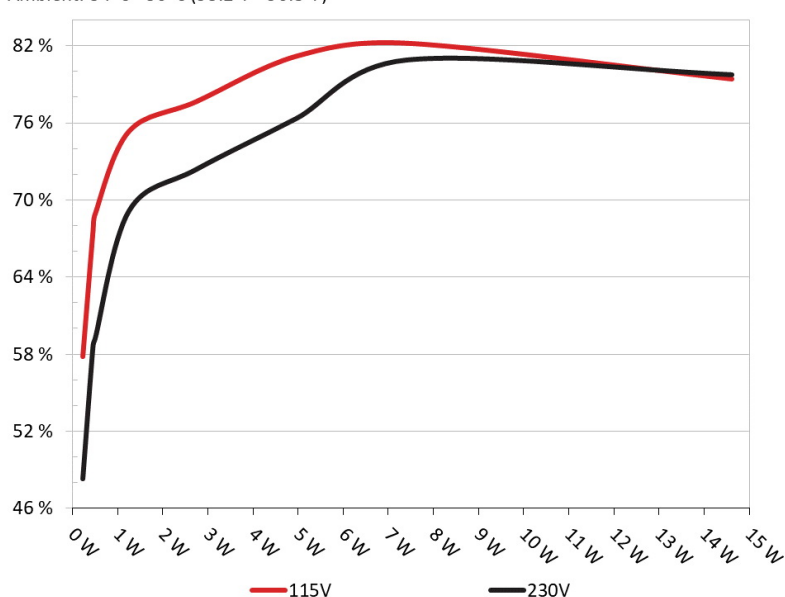
INFO

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 ST1300-TI

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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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	8.934A	1.966A	1.979A	0.990A	129.626	90.071%	0	<6.0	42.67°C	0.949
	12.091V	5.089V	3.335V	5.051V	143.915				38.08°C	115.21V
2	18.955A	2.956A	2.983A	1.193A	259.748	93.065%	1015	28.1	38.36°C	0.976
	12.073V	5.074V	3.320V	5.031V	279.105				43.58°C	115.14V
3	29.344A	3.458A	3.475A	1.397A	389.661	93.547%	1015	28.1	38.82°C	0.982
	12.052V	5.062V	3.309V	5.013V	416.542				44.37°C	114.96V
4	39.764A	3.960A	4.003A	1.602A	519.685	93.209%	1294	35.2	39.03°C	0.986
	12.033V	5.052V	3.297V	4.995V	557.551				45.00°C	114.88V
5	49.880A	4.963A	5.024A	1.809A	649.814	92.780%	1704	42.0	39.38°C	0.988
	12.015V	5.039V	3.283V	4.977V	700.382				45.58°C	114.70V
6	60.015A	5.969A	6.058A	2.017A	779.980	92.212%	2056	45.9	40.45°C	0.989
	12.000V	5.026V	3.268V	4.959V	845.857				46.98°C	114.62V
7	70.109A	6.984A	7.099A	2.227A	910.063	91.102%	2275	49.0	41.20°C	0.990
	11.995V	5.012V	3.254V	4.940V	998.955				47.82°C	114.42V
8	80.121A	8.002A	8.146A	2.439A	1040.189	90.596%	2275	49.0	42.71°C	0.992
	12.004V	5.000V	3.241V	4.922V	1148.156				49.80°C	114.31V
9	90.453A	8.520A	8.671A	2.443A	1169.942	90.136%	2283	49.1	44.62°C	0.993
	12.022V	4.990V	3.229V	4.913V	1297.968				52.50°C	114.08V
10	100.510A	9.039A	9.232A	3.078A	1299.969	89.644%	2283	49.1	46.15°C	0.993
	12.041V	4.980V	3.218V	4.875V	1450.139				54.42°C	113.97V
11	111.105A	9.053A	9.255A	3.083A	1429.995	89.057%	2283	49.1	47.59°C	0.994
	12.063V	4.973V	3.210V	4.867V	1605.702				56.49°C	113.75V
CL1	0.745A	14.003A	14.000A	0.000A	125.239	83.461%	2275	49.0	44.40°C	0.949
	12.094V	5.027V	3.274V	5.094V	150.057				48.57°C	115.28V
CL2	108.362A	1.002A	0.999A	1.000A	1320.882	89.891%	2283	49.1	46.34°C	0.993
	12.067V	5.025V	3.266V	4.980V	1469.430				51.90°C	113.96V

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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	1.187A	0.490A	0.477A	0.196A	19.452	66.598%	0	<6.0	0.809
	12.095V	5.102V	3.350V	5.094V	29.208				115.35V
2	2.448A	0.980A	0.987A	0.394A	39.905	78.225%	0	<6.0	0.883
	12.093V	5.098V	3.346V	5.084V	51.013				115.32V
3	3.640A	1.472A	1.466A	0.592A	59.411	83.034%	0	<6.0	0.913
	12.091V	5.094V	3.342V	5.073V	71.550				115.29V
4	4.901A	1.964A	1.977A	0.790A	79.847	85.874%	0	<6.0	0.923
	12.089V	5.091V	3.338V	5.063V	92.982				115.27V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	46.0 mV	6.5 mV	8.7 mV	3.6 mV	Pass
20% Load	23.5 mV	8.4 mV	10.0 mV	4.4 mV	Pass
30% Load	20.7 mV	8.9 mV	11.3 mV	5.1 mV	Pass
40% Load	20.2 mV	8.5 mV	13.0 mV	4.6 mV	Pass
50% Load	18.2 mV	9.6 mV	13.5 mV	4.6 mV	Pass
60% Load	20.4 mV	10.7 mV	16.0 mV	5.2 mV	Pass
70% Load	19.6 mV	11.6 mV	16.4 mV	5.9 mV	Pass
80% Load	20.0 mV	12.5 mV	21.1 mV	6.4 mV	Pass
90% Load	18.4 mV	12.7 mV	22.5 mV	6.4 mV	Pass
100% Load	20.5 mV	14.3 mV	22.1 mV	7.3 mV	Pass
110% Load	22.1 mV	15.2 mV	20.8 mV	7.4 mV	Pass
Crossload 1	49.5 mV	11.8 mV	15.6 mV	4.4 mV	Pass
Crossload 2	20.4 mV	11.7 mV	14.0 mV	6.6 mV	Pass

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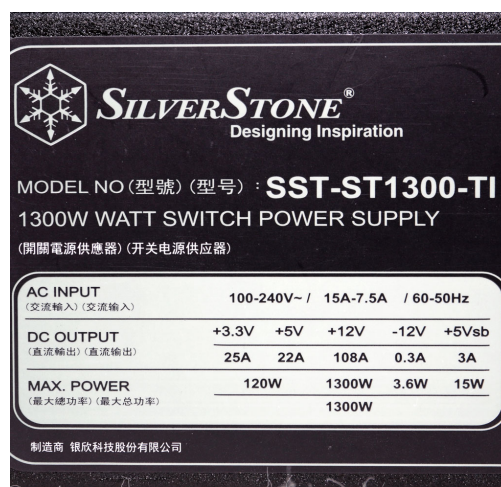
SilverStone ST1300-TI

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

Hold-Up Time (ms)	11.30
AC Loss to PWR_OK Hold Up Time (ms)	12.90
PWR_OK Inactive to DC Loss Delay (ms)	-1.60



Top side



Power specifications label

CERTIFICATIONS



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