

Lab ID#: 60
Receipt Date: Jun 19, 2018
Test Date: Jun 30, 2018

Report:

Report Date: Jul 3, 2018

DUT INFORMATION

Brand	SilverStone
Manufacturer (OEM)	Sirfa / High Power
Series	SFX-L
Model Number	SX700-LPT
Serial Number	163391700PTW1F02004054
DUT Notes	Edited on 05/29/2018

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10
Rated Frequency (Hz)	50-60
Rated Power (W)	700
Type	SFX-L
Cooling	120mm Sleeve Bearing Fan (PY-12015H12S)
Semi-Passive Operation	✓
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	58.33	3	0.3
	Watts	120		700	15	3.6
Total Max. Power (W)		700				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (300mm)	1	1	18AWG
4+4 pin EPS12V (400mm)	1	1	16AWG
6+2 pin PCIe (550mm+150mm)	1	2	16-18AWG
6+2 pin PCIe (400mm+150mm)	1	2	16-18AWG
SATA (300mm+210mm+110mm)	2	6	18AWG
4 pin Molex (610mm+155mm+155mm)	1	3	18AWG
4 pin Molex (300mm+200mm+200mm)	1	3	18AWG
FDD Adapter (+105mm)	1	1	22AWG

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General Data	
Manufacturer (OEM)	Sirfa / High Power
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV, 1x CMD02X
Inrush Protection	-
Bridge Rectifier	GBU1506 (600 V, 15 A @ 100 °C)
APFC MOSFETS	2x Sigmachip SGF110N60W3 (630 V, 16 A @ 100 °C, 0.11 Ohm)
APFC Boost Diode	Infineon IDH08G65C5 (650 V, 8 A @ 145 °C)
Hold-up Cap	Rubycon (420 V, 390 uF, 3000 h @ 85 °C, USG)
Main Switchers	2x Infineon IPA50R140CP (550 V, 15 A @ 100 °C, 0.14 Ohm) Driver IC: Silicon Labs Si8233BD
APFC Controller	Infineon ICE3PCS01
Switching Controller	Infineon ICE2HS01G
Topology	Primary side: Half-Bridge & LLC Resonant Converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	6X 2x Toshiba TPHP85 04PL (SOP Advance Series, 40V, 150A @ 25C, 0.85 mΩ)
5V & 3.3V	DC-DC Converters: 4x Infineon BSC0902NS (30 V, 67 A @ 100 °C, 2.6 mOhm) PWM Controller: APW7159
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (105 °C, KY, KZE) Polymers: Nippon Chemi-Con
Supervisor IC	SITI PS223 (OVP, UVP, OCP, SCP, OTP)
Fan Model	PowerYear PY-12015H12S (120 mm, 12 V, 0.22 A, 1900 RPM, Sleeve Bearing)
5VSB Circuit	
Rectifier	2x Infineon IPD060N03L G (30 V, 50 A @ 100 °C, 6 mOhm)
Standby PWM Controller	Sanken STR-A6069H
-12V Circuit	
Regulator	KEC KIA7912PI

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	89.780%
Efficiency With 10W (≤500W) or 2% (>500W)	0.000
Average Efficiency 5VSB	79.039%
Standby Power Consumption (W)	0.0732422
Average PF	0.994
Avg Noise Output	30.13 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	S++

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	Brüel & Kjær 2250-L G4	
Microphone	Brüel & Kjær Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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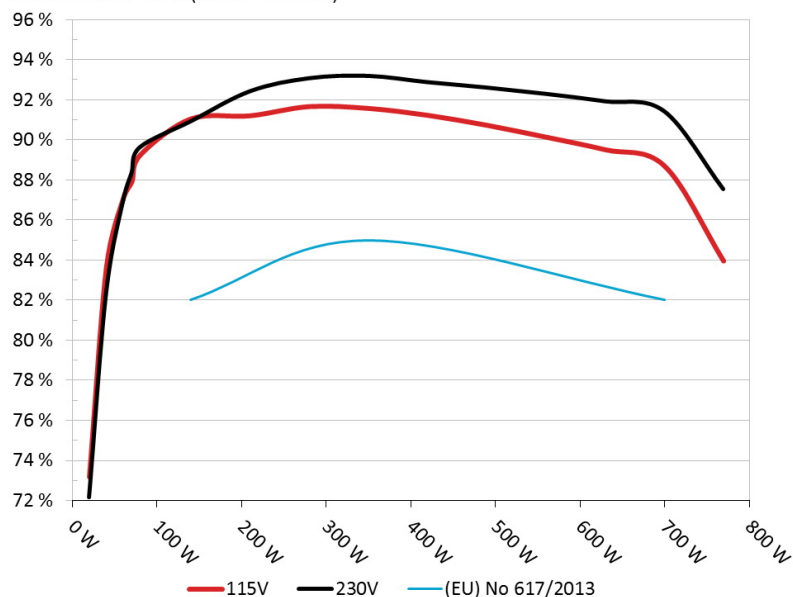
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: SilverStone SX700-LPT

Ambient: 36°C - 47°C (96.8°F - 116.6°F)



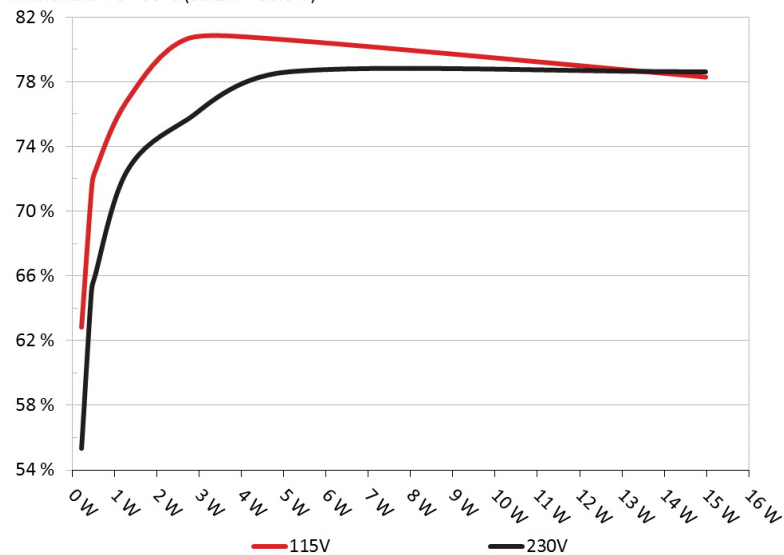
INFO

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 SX700-LPT

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	0.042A	0.213	62.832%	0.048
	5.121V	0.339		115.13V
2	0.087A	0.446	71.246%	0.086
	5.119V	0.626		115.13V
3	0.532A	2.713	80.648%	0.266
	5.101V	3.364		115.12V
4	3.002A	14.983	78.281%	0.380
	4.992V	19.140		115.11V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	55.352%	0.017
	5.121V	0.383		230.32V
2	0.087A	0.445	65.058%	0.029
	5.119V	0.684		230.32V
3	0.532A	2.712	75.670%	0.136
	5.100V	3.584		230.31V
4	3.002A	14.987	78.622%	0.317
	4.993V	19.062		230.30V

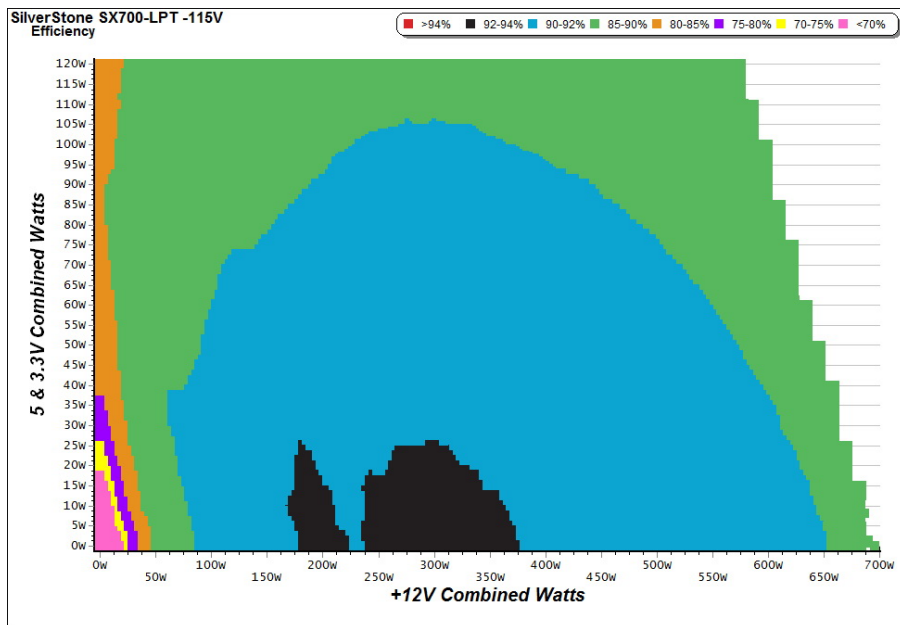
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115V

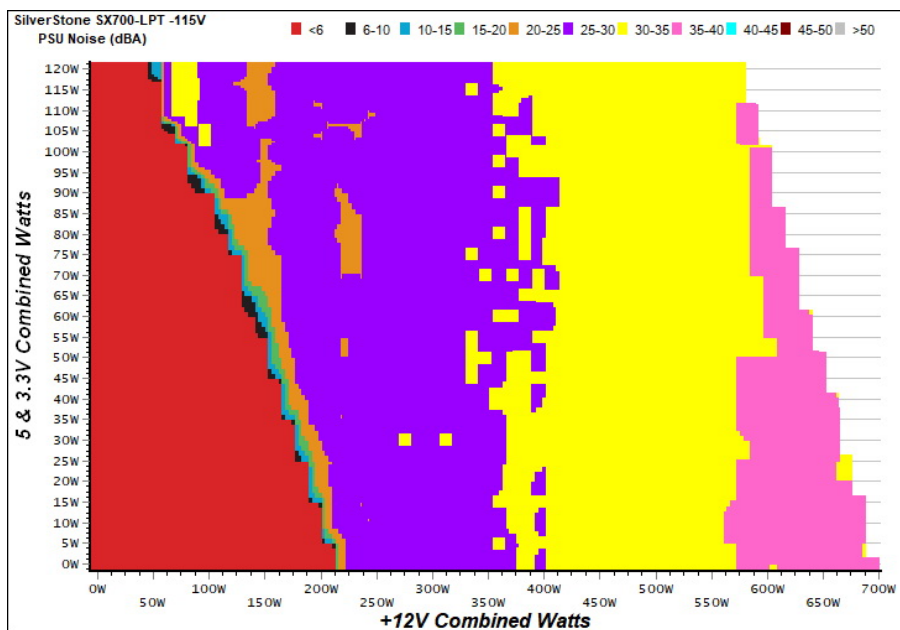
EFFICIENCY GRAPH 115V



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

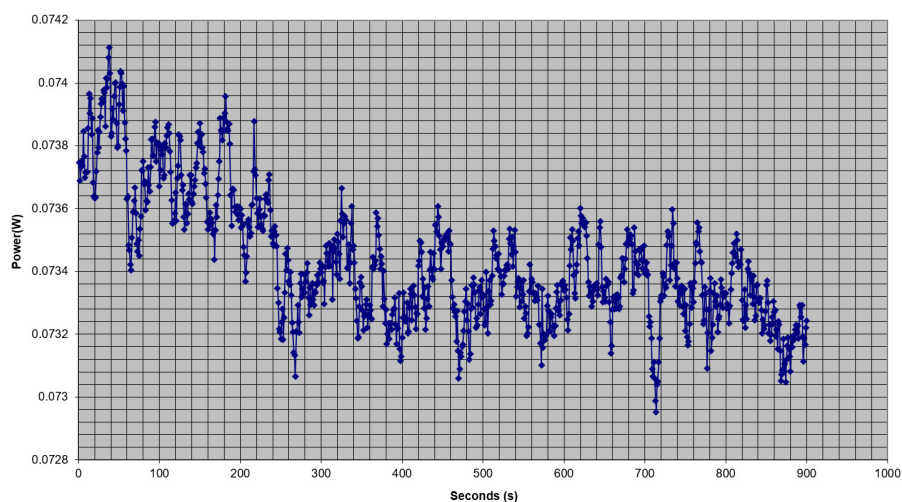
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - 163391700PTW1F02004054 - 05/03/2017 - 18:56



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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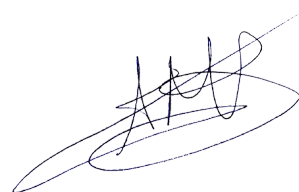
MODEL NO (型號) (型号) : **SST-SX700-LPT**
SWITCHING POWER SUPPLY
(開關電源供應器) (开关电源供应器)

AC INPUT (交流輸入) (交流输入)	100-240V~ / 10A / 50-60Hz				
DC OUTPUT (直流輸出) (直流输出)	+3.3V 22A	+5V 22A	+12V 58.4A	-12V 0.3A	+5Vsb 3A
MAX. POWER (最大總功率) (最大总功率)	120W		700W	3.6W	15W
	700W				

製造商 銀欣科技股份有限公司 G11227030

Power specifications table

CERTIFICATIONS 115V

Aris Mpitsiopoulos
Lab Director

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