SILVERSTONE

SilverStone SFX 300W

Serial Number 162991300BR31F02001073

Lab ID 403

Certification ID 25403

Test Result Report ID:

Certificate Issue Date: Aug 6, 2018

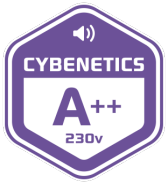
Scheme: ETA-EMI PSU

115V

230V

115V

230V



Scheme: LAMBDA PSU

Aristeidis Bitziopoulos, Certification Body General Manager

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, 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
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	SilverStone
Model	SFX 300W
OEM/ODM	Sirfa
Serial Number	162991300BR31F02001073
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	5.5
Rated Frequency (Hz)	50-60

Rated Power (W)	300
Operating Temperature (Continuous Full Load) (°C)	
Type	SFX
Cable Design	Fixed cables
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	92mm Duro Bearing Fan (RL4Z S0921512M)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	403
Date of receipt	Jul 30, 2018
Testing Date	Aug 3, 2018
Report Issued Date	Aug 6, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Captive Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (300mm)	1	1	20-22AWG	No
4+4 pin EPS12V (400mm)	1	1	20AWG	No
6+2 pin PCIe (400mm)	1	1	20AWG	No
SATA (300mm+200mm+100mm)	1	3	20AWG	No
4 pin Molex (300mm+200mm) / FDD(+200mm)	1	2 / 1	20-22AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	18AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	16	16	25	3	0.3
	Watts	90		300	15	3.6
Total Max. Power (W)		300				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	ErP Lot 6 2010: ✓ ErP Lot 6 2013: ✓ ErP Lot 3 2014 & CEC: Partially
(EU) No 617/2013 Compliance	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	84.575%
Average Noise Output (>1450 Load Combinations)	16.28dBA
Average PF (>1450 Load Combinations)	0.981
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0760W
Non-Accredited	
12V Ripple (Full Load)	34.46mV
5V Ripple (Full Load)	27.16mV
3.3V Ripple (Full Load)	27.06mV
5VSB Ripple (Full Load)	27.95mV
12V Load Regulation	0.74%

5V Load Regulation	1.35%
3.3V Load Regulation	1.52%
5VSB Load Regulation	2.67%
Inrush Current	86.748A

230V

Accredited		
Average Efficiency (>1450 load combinations)	86.497%	
Average Noise Output (>1450 Load Combinations)	14.02dBA	
Average PF (>1450 Load Combinations)	0.922	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.1841W	
Non-Accredited		
12V Ripple (Full Load)	33.10mV	
5V Ripple (Full Load)	27.77mV	
3.3V Ripple (Full Load)	33.85mV	
5VSB Ripple (Full Load)	23.00mV	
12V Load Regulation	0.74%	
5V Load Regulation	1.31%	
3.3V Load Regulation	1.49%	
5VSB Load Regulation	2.58%	
Inrush Current	53.585A	
Hold-Up Time & PWR_OK Signal	14.30ms	
AC Loss to PWR_OK Hold Up Time	13.20ms	
PWR_OK Inactive to DC Loss Delay	1.10ms	
OPP (0.00°C / 0.00°C)	-	-

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	14.3
AC Loss to PWR_OK Hold Up Time (ms)	13.2

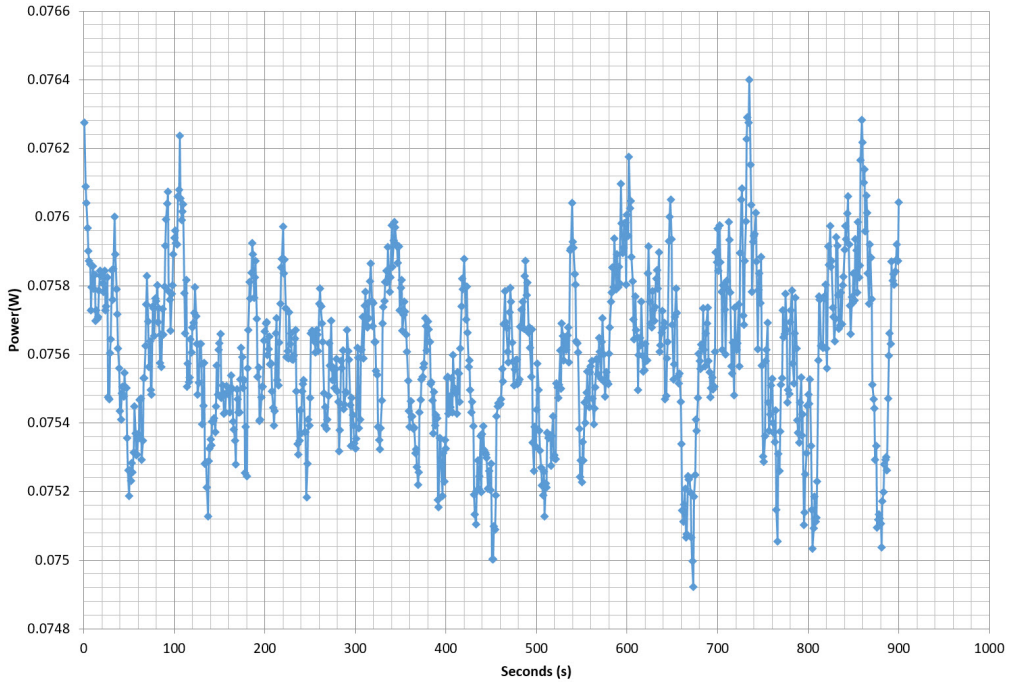
PWR_OK Inactive to DC Loss Delay (ms)	1.1

Vampire Power

Graphs

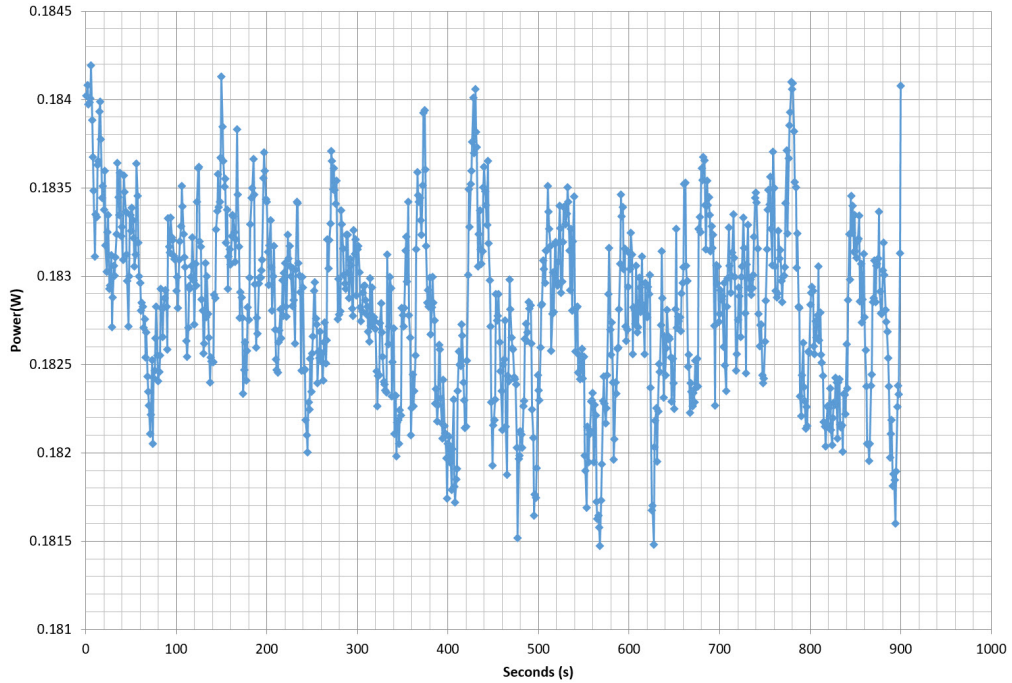
115V

Power - 162991300BR31F02001073 - 06/06/2018 - 11:55



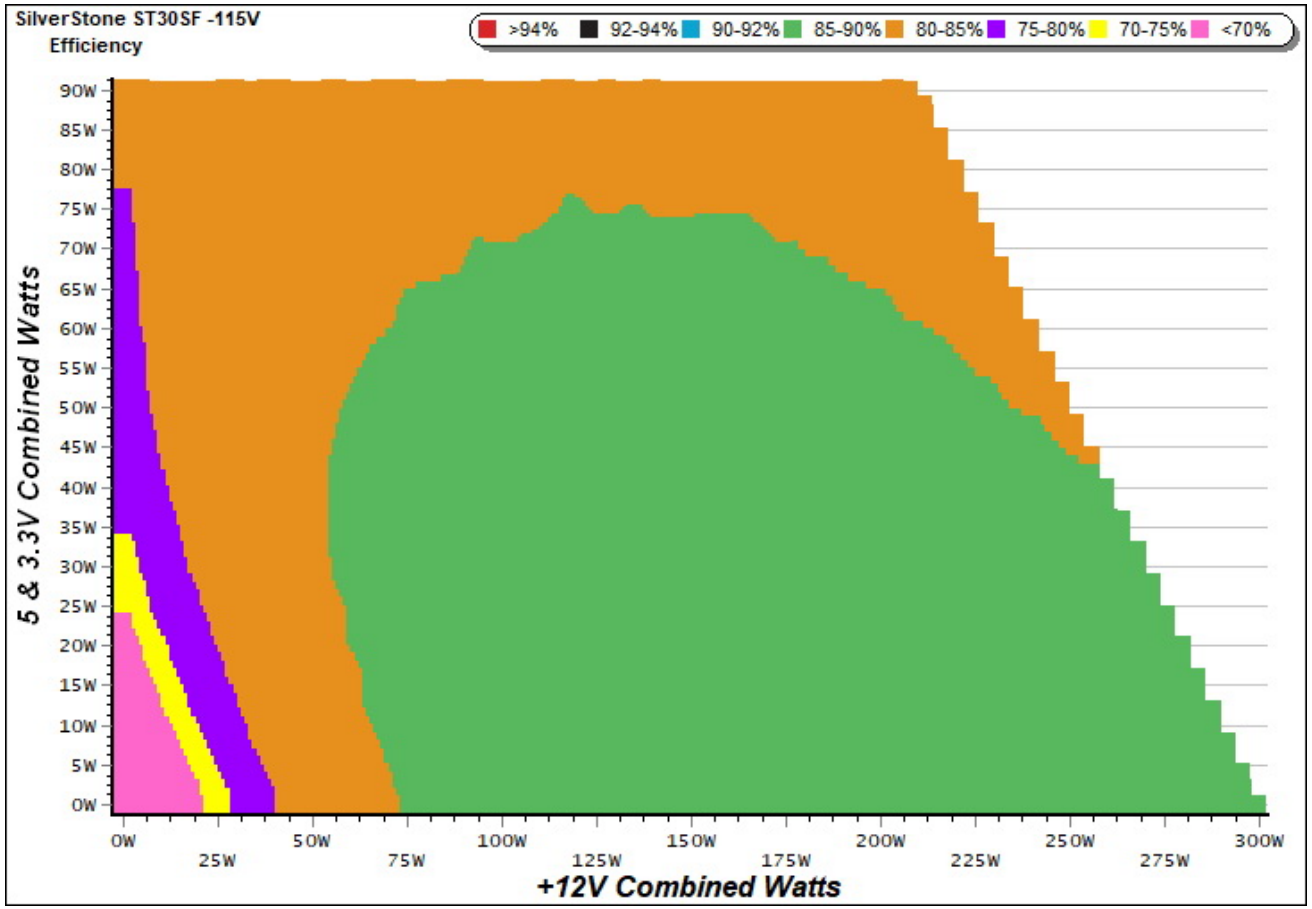
230V

Power - 162991300BR31F02001073 - 06/06/2018 - 11:55



Efficiency Graph

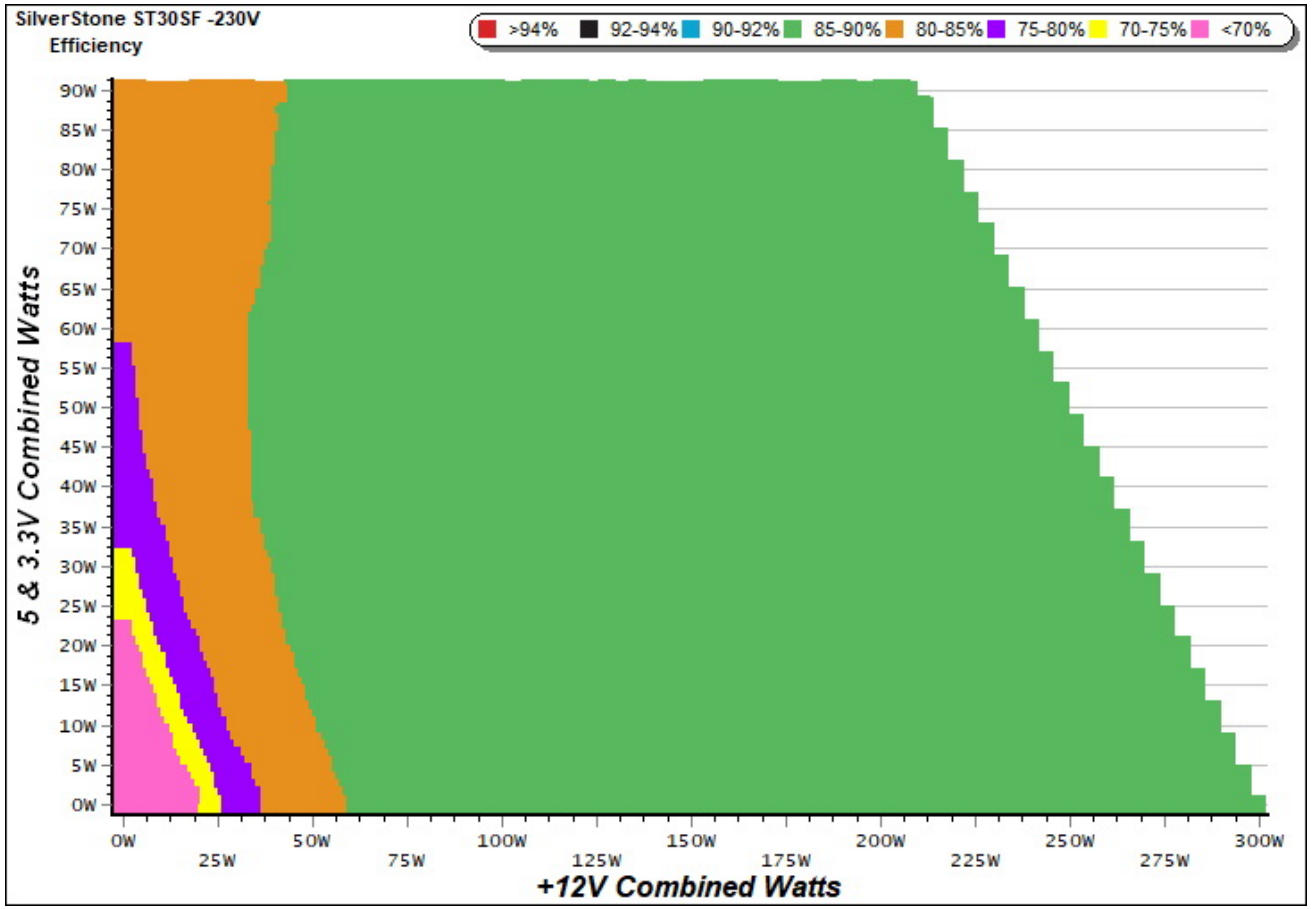
115V



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.

230V



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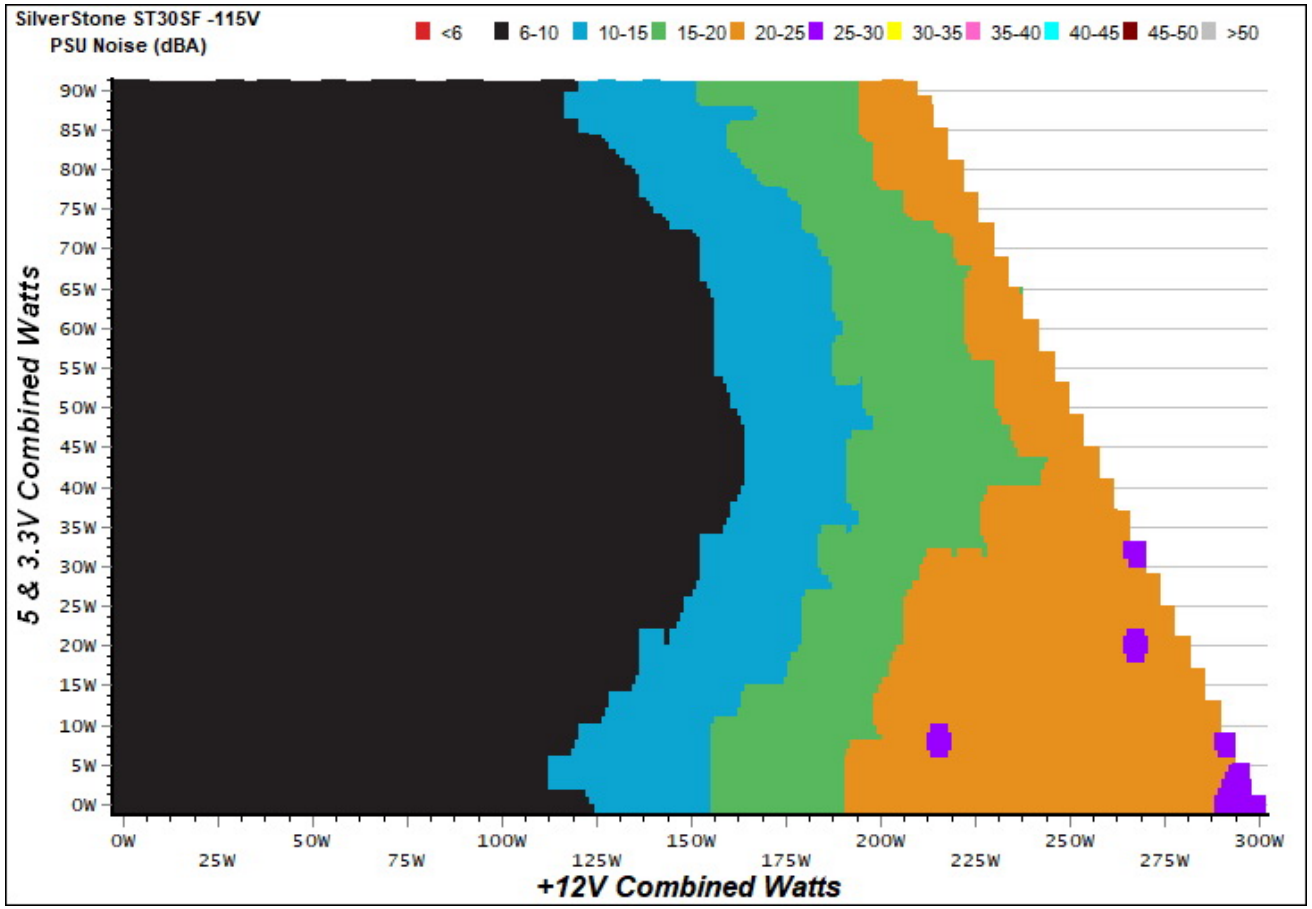
Noise Graph

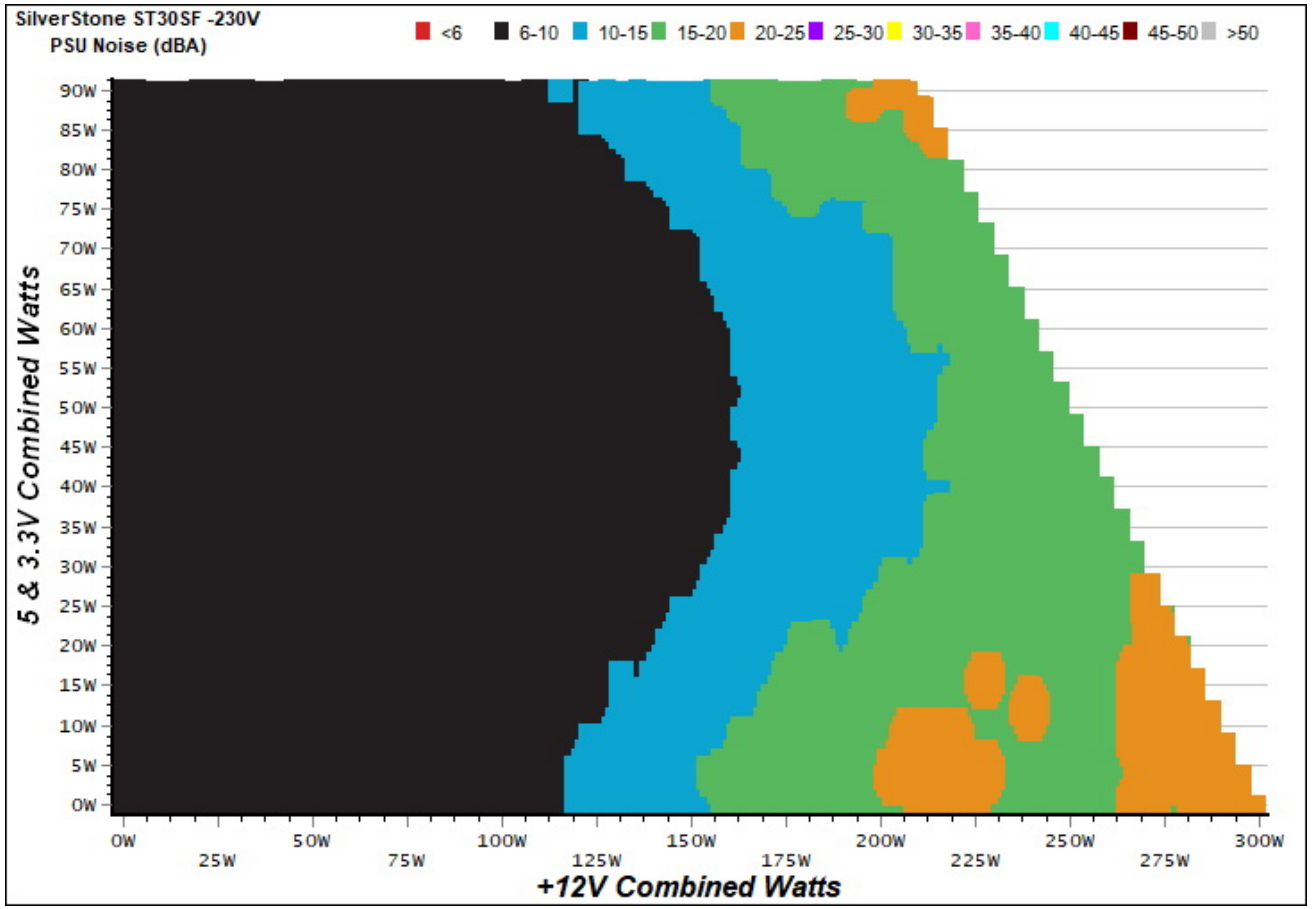
115V



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.

230V



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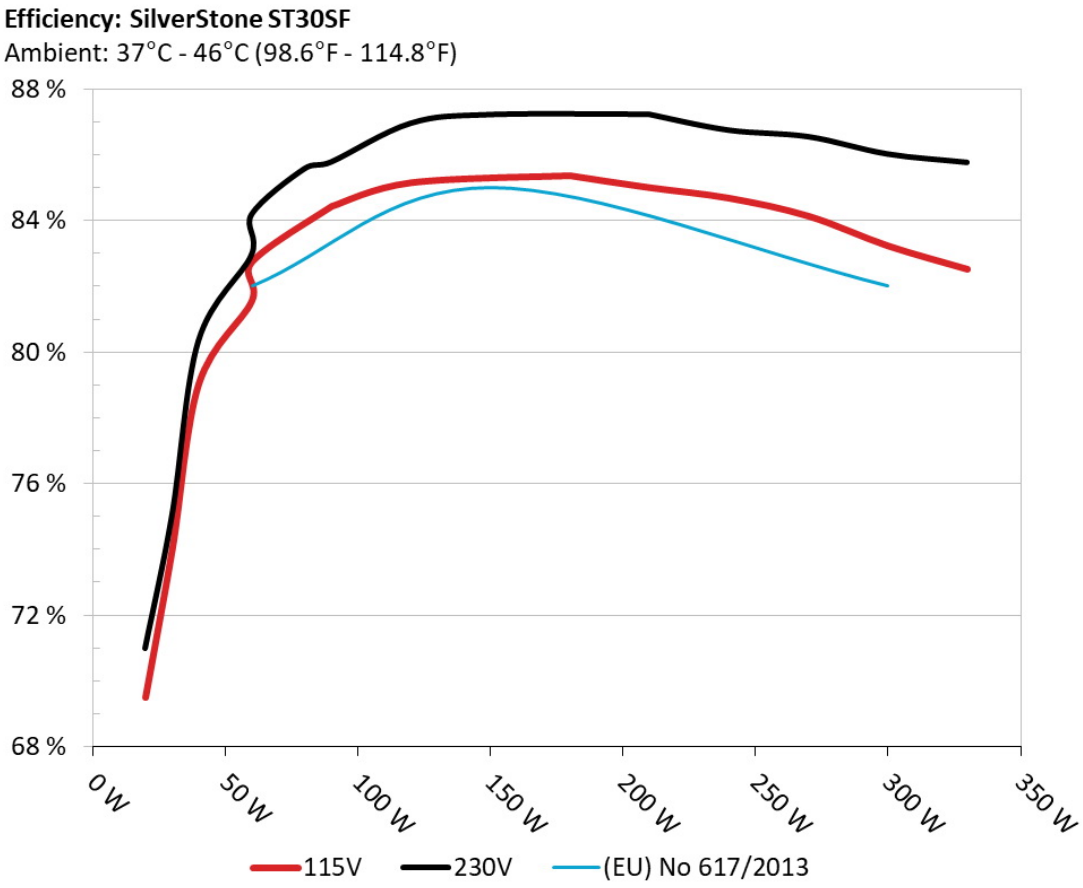
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

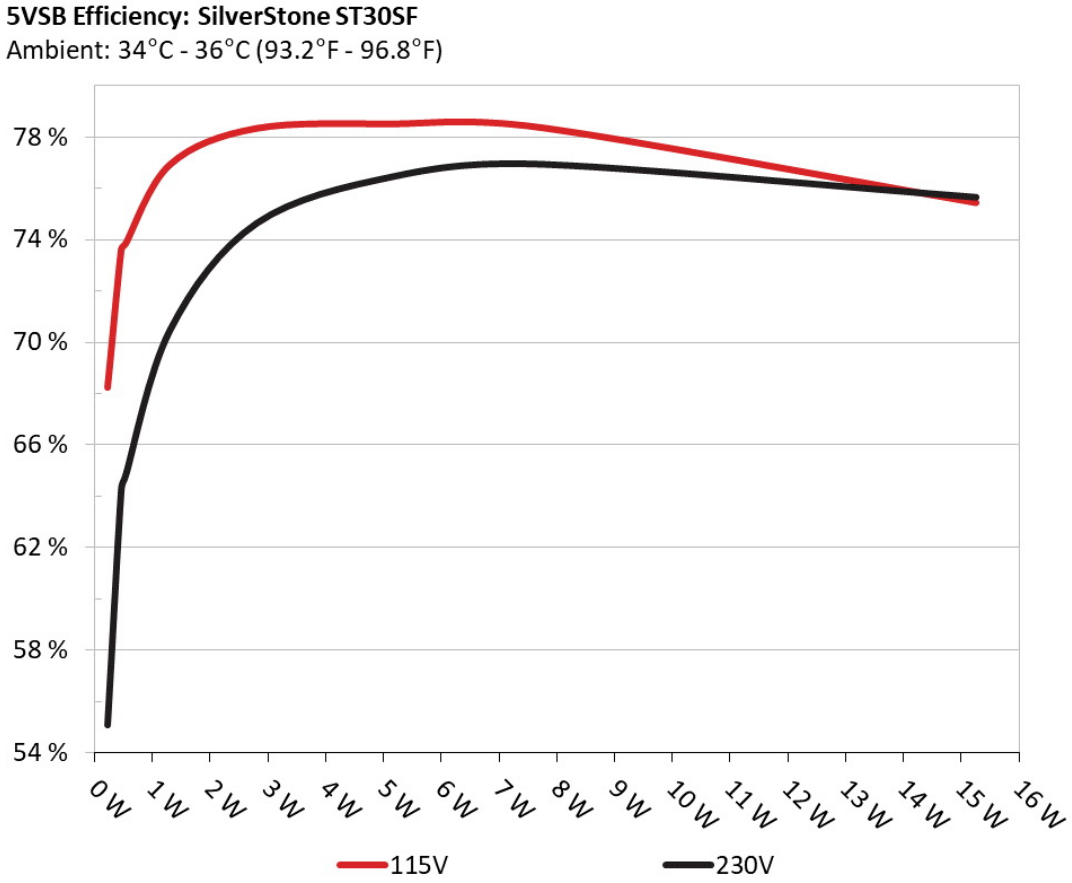
Efficiency under high ambient temperature



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



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input.

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.217	68.239%	0.054
	5.172V	0.318		115.09V
2	0.087A	0.452	73.616%	0.099
	5.172V	0.614		115.09V
3	0.542A	2.798	78.353%	0.307
	5.159V	3.571		115.26V
4	1.002A	5.157	78.529%	0.359
	5.145V	6.567		115.29V
5	1.502A	7.705	78.390%	0.386
	5.130V	9.829		115.10V
6	3.001A	15.259	75.454%	0.425
	5.084V	20.223		115.30V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.217	55.076%	0.020
	5.173V	0.394		230.23V
2	0.088A	0.453	64.255%	0.036
	5.172V	0.705		230.23V
3	0.543A	2.799	74.640%	0.162
	5.159V	3.750		230.23V
4	1.002A	5.158	76.460%	0.236
	5.146V	6.746		230.23V
5	1.502A	7.706	76.945%	0.282
	5.131V	10.015		230.23V
6	3.001A	15.265	75.659%	0.345
	5.086V	20.176		230.23V

Supplementary Tests (For Reference)

Typical 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	0.669A	1.985A	1.963A	0.971A	29.736	74.012%	795	7.1	40.18°C	0.943
	12.183V	5.045V	3.355V	5.134V	40.177				49.43°C	115.14V
2	2.376A	2.971A	2.953A	1.171A	59.771	81.547%	795	7.1	40.87°C	0.962
	12.172V	5.037V	3.349V	5.121V	73.296				50.52°C	115.15V
3	4.424A	3.478A	3.464A	1.366A	89.871	84.197%	830	7.2	41.08°C	0.970
	12.163V	5.031V	3.344V	5.110V	106.739				52.02°C	115.15V
4	6.468A	3.979A	3.950A	1.565A	119.765	85.135%	955	8.2	41.66°C	0.976
	12.152V	5.025V	3.340V	5.098V	140.676				52.86°C	115.15V
5	8.177A	4.981A	4.943A	1.765A	149.752	85.349%	1205	12.9	42.14°C	0.982
	12.143V	5.018V	3.335V	5.087V	175.459				53.77°C	115.16V
6	9.892A	5.986A	5.948A	1.969A	179.803	85.252%	1380	17.3	42.67°C	0.986
	12.133V	5.010V	3.329V	5.075V	210.907				54.63°C	115.15V
7	11.605A	7.003A	6.952A	2.170A	209.801	84.988%	1560	23.2	43.09°C	0.989
	12.123V	5.003V	3.321V	5.064V	246.861				55.63°C	115.15V
8	13.324A	8.012A	7.961A	2.374A	239.777	84.668%	1845	27.5	43.99°C	0.993
	12.112V	4.994V	3.315V	5.052V	283.198				56.89°C	115.14V
9	15.475A	8.522A	8.485A	2.375A	269.882	84.121%	2110	31.4	44.55°C	0.994
	12.103V	4.988V	3.311V	5.047V	320.827				57.72°C	115.13V
10	17.372A	9.040A	8.984A	2.984A	299.789	83.220%	2290	33.9	45.14°C	0.992
	12.093V	4.981V	3.305V	5.023V	360.237				58.77°C	115.12V
11	19.869A	9.051A	8.999A	2.986A	329.801	82.511%	2370	34.2	46.10°C	0.990
	12.083V	4.977V	3.300V	5.017V	399.706				60.31°C	115.11V
CL1	0.100A	11.018A	11.005A	0.005A	93.022	80.350%	1085	9.8	42.18°C	0.972
	12.156V	5.002V	3.332V	5.136V	115.771				53.38°C	115.18V

CL2	24.982A	1.003A	1.003A	1.002A	315.630	84.685%	2265	34.0	45.13°C	0.991
	12.095V	5.015V	3.325V	5.098V	372.709				58.90°C	115.11V

The results above are not used in the certification process

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	0.670A	1.985A	1.965A	0.971A	29.756	75.016%	795	7.1	40.11°C	0.677
	12.184V	5.045V	3.355V	5.134V	39.666				48.58°C	230.37V
2	2.380A	2.970A	2.954A	1.171A	59.822	82.969%	795	7.1	40.78°C	0.847
	12.174V	5.036V	3.349V	5.123V	72.102				49.98°C	230.34V
3	4.424A	3.478A	3.465A	1.366A	89.885	85.794%	820	7.2	41.11°C	0.905
	12.165V	5.031V	3.344V	5.111V	104.768				51.51°C	230.40V
4	6.474A	3.984A	3.950A	1.565A	119.880	86.971%	910	7.7	41.76°C	0.926
	12.155V	5.025V	3.339V	5.099V	137.839				52.89°C	230.37V
5	8.179A	4.980A	4.945A	1.766A	149.793	87.236%	1103	10.2	42.23°C	0.939
	12.145V	5.018V	3.334V	5.087V	171.710				53.59°C	230.29V
6	9.891A	5.986A	5.947A	1.968A	179.797	87.245%	1320	16.0	42.78°C	0.948
	12.135V	5.010V	3.328V	5.076V	206.082				54.63°C	230.34V
7	11.606A	7.003A	6.951A	2.171A	209.828	87.063%	1550	23.1	43.25°C	0.954
	12.124V	5.003V	3.321V	5.065V	241.006				55.79°C	230.28V
8	13.325A	8.011A	7.960A	2.373A	239.796	86.762%	1860	27.7	43.97°C	0.959
	12.114V	4.993V	3.315V	5.053V	276.384				56.85°C	230.27V
9	15.478A	8.522A	8.487A	2.375A	269.934	86.563%	2000	29.5	44.56°C	0.963
	12.104V	4.988V	3.310V	5.048V	311.837				57.85°C	230.28V
10	17.372A	9.042A	8.984A	2.984A	299.822	86.037%	2290	33.9	45.42°C	0.967
	12.094V	4.981V	3.305V	5.025V	348.481				59.05°C	230.28V
11	19.869A	9.052A	8.999A	2.985A	329.807	85.782%	2390	35.0	46.19°C	0.971
	12.083V	4.977V	3.300V	5.019V	384.473				60.71°C	230.28V
CL1	0.100A	11.018A	11.003A	0.005A	93.016	81.949%	1060	9.6	42.26°C	0.912
	12.157V	5.002V	3.332V	5.136V	113.505				54.20°C	230.26V

CL2	24.982A	1.002A	1.004A	1.002A	315.629	87.658%	2180	32.7	45.50°C	0.968
	12.095V	5.014V	3.325V	5.099V	360.069				59.00°C	230.28V

The results above are not used in the certification process

Light Load Tests

115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.199A	0.492A	0.473A	0.191A	19.674	69.512%	793	7.1	0.916
	12.187V	5.054V	3.360V	5.161V	28.303				115.14V
2	2.421A	0.989A	0.981A	0.386A	39.763	79.033%	793	7.1	0.952
	12.181V	5.049V	3.356V	5.151V	50.312				115.14V
3	3.648A	1.477A	1.488A	0.580A	59.835	82.734%	793	7.1	0.962
	12.174V	5.044V	3.354V	5.143V	72.322				115.20V
4	4.862A	1.986A	1.970A	0.775A	79.742	84.420%	798	7.1	0.968
	12.167V	5.039V	3.350V	5.134V	94.459				115.22V

The results above are not used in the certification process

230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.199A	0.493A	0.474A	0.191A	19.683	70.991%	793	7.1	0.483
	12.188V	5.053V	3.360V	5.162V	27.726				230.32V
2	2.424A	0.990A	0.981A	0.386A	39.810	80.353%	793	7.1	0.742
	12.182V	5.049V	3.356V	5.152V	49.544				230.32V
3	3.650A	1.475A	1.490A	0.581A	59.863	84.195%	793	7.1	0.843
	12.175V	5.044V	3.353V	5.144V	71.100				230.32V
4	4.866A	1.985A	1.970A	0.776A	79.809	85.591%	790	7.1	0.893
	12.171V	5.039V	3.348V	5.138V	93.245				230.32V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	11.2 mV	9.9 mV	14.8 mV	6.9 mV	Pass
20% Load	15.0 mV	11.8 mV	15.6 mV	8.7 mV	Pass
30% Load	15.6 mV	13.1 mV	16.8 mV	10.1 mV	Pass
40% Load	17.1 mV	14.6 mV	17.3 mV	11.0 mV	Pass
50% Load	19.9 mV	17.6 mV	18.3 mV	12.7 mV	Pass
60% Load	21.9 mV	18.7 mV	20.6 mV	14.7 mV	Pass
70% Load	24.7 mV	21.7 mV	22.6 mV	18.1 mV	Pass
80% Load	27.2 mV	23.6 mV	22.1 mV	19.9 mV	Pass
90% Load	30.9 mV	25.3 mV	24.2 mV	22.0 mV	Pass
100% Load	34.5 mV	27.2 mV	27.1 mV	28.0 mV	Pass
110% Load	39.6 mV	28.3 mV	28.2 mV	27.0 mV	Pass
Crossload 1	17.4 mV	24.9 mV	26.6 mV	23.8 mV	Pass
Crossload 2	35.6 mV	16.4 mV	22.6 mV	13.6 mV	Pass

The results above are not used in the certification process

230V

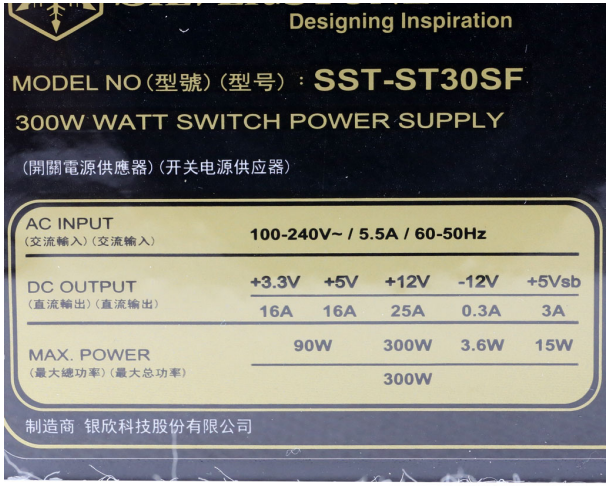
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.4 mV	10.8 mV	16.3 mV	7.2 mV	Pass
20% Load	14.1 mV	11.7 mV	17.2 mV	9.1 mV	Pass
30% Load	16.0 mV	13.3 mV	18.2 mV	10.0 mV	Pass
40% Load	18.4 mV	14.7 mV	18.6 mV	11.3 mV	Pass
50% Load	19.3 mV	16.7 mV	19.8 mV	12.3 mV	Pass
60% Load	21.9 mV	18.9 mV	22.4 mV	14.9 mV	Pass
70% Load	24.4 mV	21.0 mV	24.2 mV	16.8 mV	Pass
80% Load	26.7 mV	23.6 mV	25.0 mV	19.5 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	28.6 mV	25.3 mV	25.8 mV	20.4 mV	Pass
100% Load	33.1 mV	27.8 mV	33.9 mV	23.0 mV	Pass
110% Load	36.2 mV	28.5 mV	33.2 mV	24.1 mV	Pass
Crossload 1	19.2 mV	26.6 mV	29.0 mV	19.2 mV	Pass
Crossload 2	32.6 mV	15.5 mV	21.4 mV	11.2 mV	Pass

The results above are not used in the certification process

SilverStone SFX 300W

Top side



Power specifications label

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

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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