

Anex

SilverStone DA1000R Gold

Lab ID#: SL10002062
Receipt Date: Aug 30, 2022
Test Date: Sep 12, 2022

Report: 22PS2062A
Report Date: Sep 12, 2022

DUT INFORMATION		DUT SPECIFICATIONS	
Brand	SilverStone	Rated Voltage (Vrms)	100-240
Manufacturer (OEM)	High Power	Rated Current (Arms)	15-6.5
Series	HELA	Rated Frequency (Hz)	50-60
Model Number	SST-AX1000MCGD-A	Rated Power (W)	1000
Serial Number		Type	ATX12V
DUT Notes		Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12SF-Z)
		Semi-Passive Operation	✓ (selectable)
		Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

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

PAGE 1/16

Anex

SilverStone DA1000R Gold

RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.0 PSU Power Excursion	✓

115V

Average Efficiency	88.892%
Efficiency With 10W (≤500W) or 2% (>500W)	77.333
Average Efficiency 5VSB	79.233%
Standby Power Consumption (W)	0.0161000
Average PF	0.983
Avg Noise Output	35.84 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	Standard+

230V

Average Efficiency	91.072%
Average Efficiency 5VSB	78.492%
Standby Power Consumption (W)	0.0743000
Average PF	0.957
Avg Noise Output	35.48 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard+

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	83.5	3	0.3
	Watts	120		1000	15	3.6
Total Max. Power (W)		1000				

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

Hold-Up Time (ms)	16.8
AC Loss to PWR_OK Hold Up Time (ms)	14.3
PWR_OK Inactive to DC Loss Delay (ms)	2.5

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

PAGE 2/16

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16AWG	No
4+4 pin EPS12V (750mm)	2	2	16AWG	No
6+2 pin PCIe (600mm+150mm)	3	6	16-18AWG	No
12+4 pin PCIe (590mm) (600W)	1	1	16-24AWG	No
SATA (590mm+150mm+150mm+150mm)	3	12	18AWG	No
4-pin Molex (600mm+150mm+150mm)	1	3	18AWG	No
FDD Adapter (100m)	1	1	20AWG	No

All data and graphs included in this test report can be used by any individual on the following conditions:

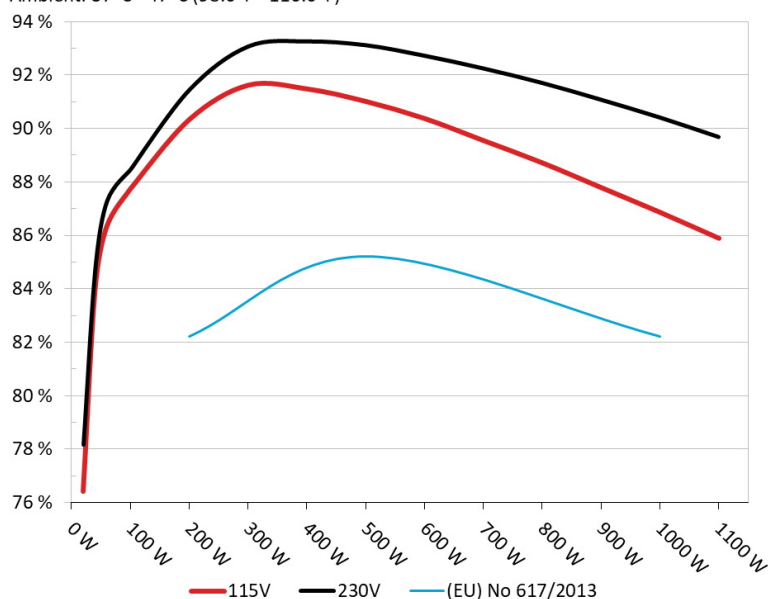
- › It should be mentioned that the test results are provided by Cybenetics
- › The link to the original test results document should be provided in any case

PAGE 3/16

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: SilverStone DA1000R Gold

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



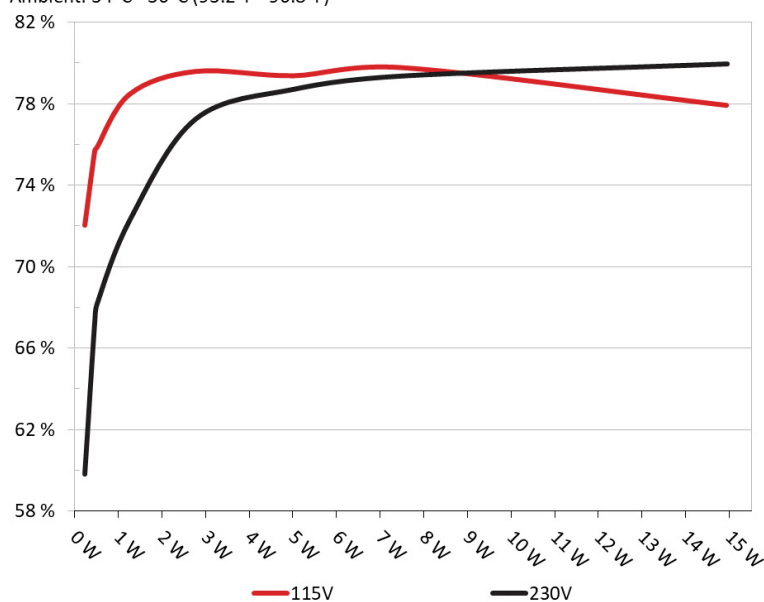
INFO

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 DA1000R Gold

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

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 DA1000R Gold

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227W	72.033%	0.03
	5.044V	0.315W		114.94V
2	0.09A	0.454W	75.686%	0.057
	5.043V	0.6W		114.93V
3	0.55A	2.769W	79.6%	0.264
	5.033V	3.479W		114.93V
4	1A	5.024W	79.387%	0.371
	5.023V	6.328W		114.94V
5	1.5A	7.52W	79.784%	0.422
	5.013V	9.426W		114.93V
6	3.001A	14.939W	77.931%	0.503
	4.979V	19.17W		114.92V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227W	59.824%	0.011
	5.046V	0.38W		229.89V
2	0.09A	0.454W	67.314%	0.019
	5.044V	0.675W		229.89V
3	0.55A	2.769W	77.273%	0.098
	5.033V	3.583W		229.89V
4	1A	5.025W	78.734%	0.164
	5.024V	6.382W		229.88V
5	1.5A	7.521W	79.384%	0.224
	5.013V	9.473W		229.88V
6	3.001A	14.941W	79.974%	0.324
	4.979V	18.683W		229.88V

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

PAGE 5/16

Anex

SilverStone DA1000R Gold

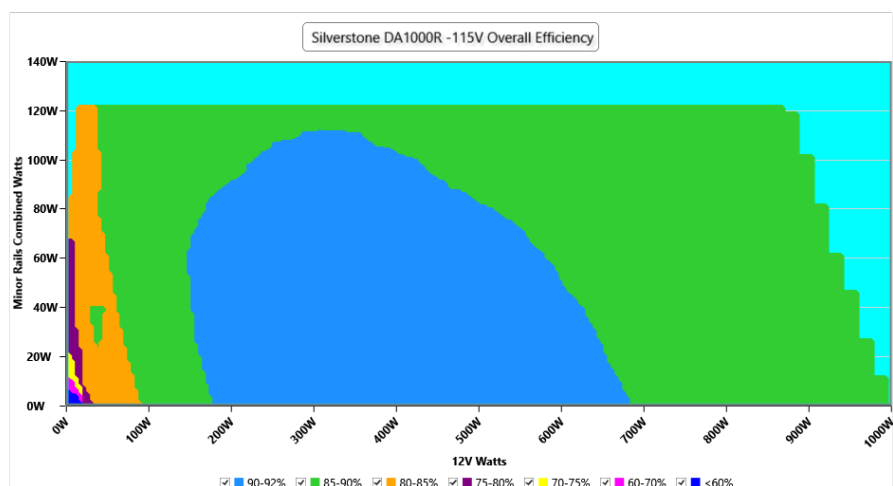
115V

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

PAGE 6/16

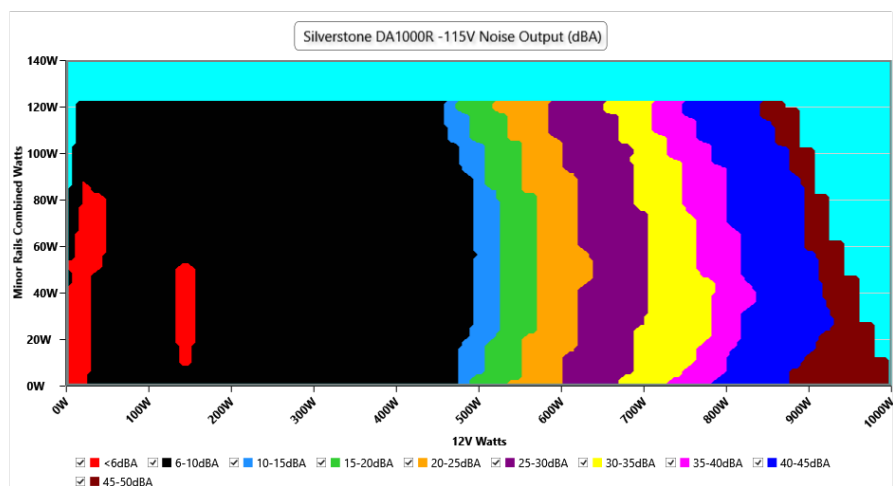
EFFICIENCY GRAPH 115V



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

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

VAMPIRE POWER -115V

Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.94 V	114.89 V	113.85 V	114.97 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.98 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.15 %	0.12 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.016 W	0.014 W	N/A	0.018 W	N/A	N/A
Apparent Power:	10.422 W	10.401 W	N/A	10.444 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

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

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

PAGE 8/16

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
10%	6.451A	1.988A	2.011A	0.996A	100.019	85.47%	0	<6.0	43.83°C	0.972
	12.156V	5.03V	3.282V	5.023V	117.023				39.61°C	114.9V
20%	13.909A	2.983A	3.019A	1.197A	199.978	90.126%	0	<6.0	45.56°C	0.983
	12.156V	5.028V	3.279V	5.013V	221.888				40.85°C	114.88V
30%	21.748A	3.481A	3.524A	1.377A	300.041	91.415%	0	<6.0	46.39°C	0.983
	12.139V	5.028V	3.277V	5.084V	328.216				41.34°C	114.85V
40%	29.578A	3.979A	4.031A	1.575A	399.76	91.279%	0	<6.0	47.41°C	0.983
	12.122V	5.027V	3.275V	5.079V	437.954				41.89°C	114.83V
50%	37.079A	4.976A	5.043A	1.775A	499.483	90.814%	626	17.1	42.11°C	0.985
	12.109V	5.024V	3.272V	5.07V	550.013				48.23°C	114.81V
60%	44.670A	5.973A	6.057A	1.977A	600.012	90.171%	819	26.0	42.45°C	0.987
	12.093V	5.023V	3.269V	5.06V	665.416				49.12°C	114.79V
70%	52.216A	6.97A	7.071A	2.179A	699.765	89.35%	1130	35.7	43.22°C	0.989
	12.078V	5.023V	3.267V	5.049V	783.171				50.26°C	114.76V
80%	59.854A	7.968A	8.085A	2.282A	799.784	88.516%	1491	43.4	44.25°C	0.99
	12.060V	5.022V	3.265V	5.041V	903.547				52.28°C	114.74V
90%	67.824A	8.468A	8.581A	2.385A	899.569	87.592%	1872	50.0	45.22°C	0.991
	12.047V	5.02V	3.263V	5.033V	1026.991				54.33°C	114.7V
100%	75.550A	8.968A	9.109A	2.993A	999.58	86.666%	2150	52.8	46.09°C	0.992
	12.044V	5.019V	3.261V	5.012V	1153.386				56.12°C	114.68V
110%	83.188A	9.967A	10.221A	2.997A	1100.206	85.691%	2150	52.8	46.83°C	0.993
	12.043V	5.018V	3.258V	5.006V	1283.919				57.71°C	114.63V
CL1	0.115A	14.384A	14.564A	0A	121.328	82.853%	589	15.0	42.25°C	0.982
	12.176V	5.021V	3.275V	5.038V	146.442				48.76°C	114.9V
CL2	0.115A	21.911A	0A	0A	111.43	81.179%	508	10.3	43.12°C	0.979
	12.182V	5.022V	3.287V	5.045V	137.269				50.17°C	114.9V
CL3	0.115A	0A	22.22A	0A	73.988	74.466%	439	8.2	44.33°C	0.97
	12.179V	5.037V	3.267V	5.039V	99.366				52.42°C	114.91V
CL4	83.015A	0A	0A	0A	1000.041	87.487%	2137	52.6	45.27°C	0.992
	12.046V	5.038V	3.271V	5.09V	1143.08				55.19°C	114.67V

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 DA1000R Gold

20-80W 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
20W	1.228A	0.495A	0.501A	0.198A	20.011	76.225%	0	<6.0	39.98°C	0.876
	12.095V	5.047V	3.291V	5.044V	26.252				36.87°C	114.93V
40W	2.702A	0.694A	0.702A	0.298A	40.01	83.751%	0	<6.0	41.29°C	0.944
	12.105V	5.047V	3.291V	5.041V	47.771				37.95°C	114.91V
60W	4.174A	0.893A	0.904A	0.397A	60.009	86.131%	0	<6.0	42.09°C	0.957
	12.109V	5.038V	3.286V	5.038V	69.673				38.36°C	114.92V
80W	5.645A	1.093A	1.106A	0.497A	79.969	87.535%	0	<6.0	43.39°C	0.97
	12.106V	5.033V	3.284V	5.035V	91.358				39.42°C	114.91V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.99mV	5.06mV	6.24mV	5.94mV	Pass
20% Load	5.58mV	5.41mV	6.85mV	6.91mV	Pass
30% Load	12.46mV	5.41mV	7.42mV	8.70mV	Pass
40% Load	10.57mV	5.72mV	7.31mV	8.60mV	Pass
50% Load	10.18mV	8.53mV	11.66mV	10.13mV	Pass
60% Load	10.13mV	6.44mV	7.82mV	11.51mV	Pass
70% Load	10.64mV	6.84mV	8.44mV	11.92mV	Pass
80% Load	11.05mV	7.51mV	10.02mV	13.36mV	Pass
90% Load	12.44mV	7.82mV	10.59mV	15.10mV	Pass
100% Load	18.14mV	9.69mV	13.19mV	16.18mV	Pass
110% Load	17.93mV	9.91mV	12.81mV	19.16mV	Pass
Crossload1	8.57mV	8.07mV	10.37mV	11.55mV	Pass
Crossload2	10.34mV	9.50mV	6.60mV	10.75mV	Pass
Crossload3	6.60mV	5.16mV	12.27mV	11.31mV	Pass
Crossload4	16.99mV	7.87mV	10.76mV	14.60mV	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

PAGE 10/16

Anex

SilverStone DA1000R Gold

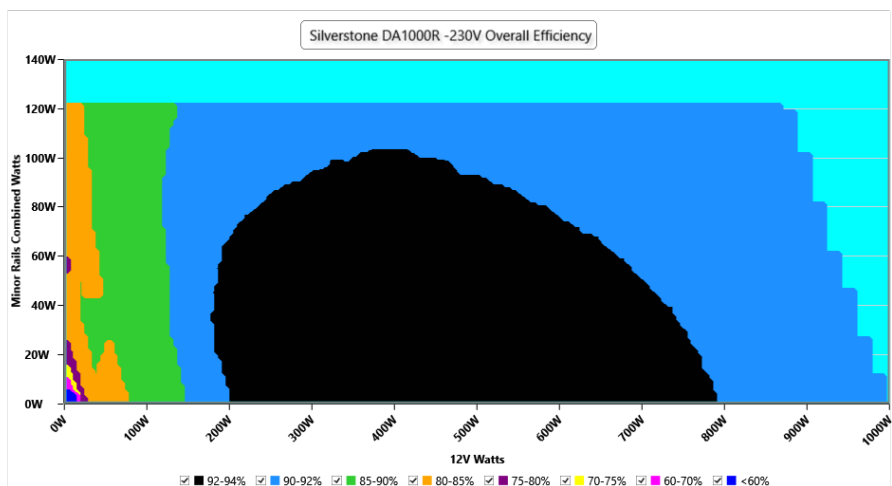
230V

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

PAGE 11/16

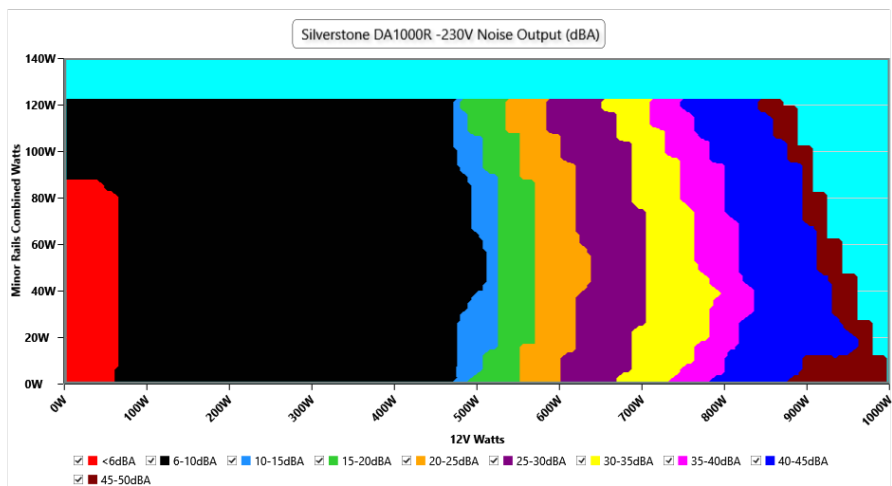
EFFICIENCY GRAPH 230V



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 230V



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

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

VAMPIRE POWER -230V

Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.88 V	229.83 V	227.70 V	229.95 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	50.00 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.15 %	0.13 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.074 W	0.064 W	N/A	0.091 W	N/A	N/A
Apparent Power:	35.156 W	35.134 W	N/A	35.180 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

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

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

PAGE 13/16

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
10%	6.450A	1.989A	2.011A	0.996A	100.013	86.507%	0	<6.0	44.52°C	0.883
	12.158V	5.028V	3.282V	5.022V	115.611				40.22°C	229.88V
20%	13.907A	2.984A	3.019A	1.197A	199.966	91.254%	0	<6.0	45.69°C	0.94
	12.157V	5.026V	3.279V	5.013V	219.129				40.97°C	229.87V
30%	21.748A	3.482A	3.524A	1.377A	300.023	92.88%	0	<6.0	46.65°C	0.958
	12.138V	5.025V	3.277V	5.083V	323.019				41.36°C	229.86V
40%	29.572A	3.98A	4.03A	1.575A	399.756	93.07%	457	8.6	41.87°C	0.968
	12.124V	5.025V	3.275V	5.079V	429.524				47.39°C	229.84V
50%	37.072A	4.978A	5.043A	1.775A	499.467	92.93%	634	17.5	42.51°C	0.972
	12.110V	5.022V	3.272V	5.07V	537.463				48.46°C	229.83V
60%	44.664A	5.976A	6.056A	1.977A	599.988	92.534%	874	28.1	42.61°C	0.975
	12.094V	5.021V	3.27V	5.06V	648.397				49.22°C	229.82V
70%	52.213A	6.973A	7.07A	2.179A	699.742	92.06%	1111	35.2	43.69°C	0.977
	12.078V	5.02V	3.268V	5.049V	760.09				50.73°C	229.81V
80%	59.849A	7.973A	8.085A	2.282A	799.763	91.518%	1481	43.3	43.72°C	0.979
	12.061V	5.019V	3.265V	5.041V	873.892				52.11°C	229.8V
90%	67.829A	8.473A	8.581A	2.385A	899.555	90.893%	1866	50.0	44.09°C	0.98
	12.046V	5.017V	3.263V	5.032V	989.687				53.13°C	229.79V
100%	75.564A	8.974A	9.108A	2.993A	999.57	90.227%	2150	52.8	45.28°C	0.981
	12.041V	5.016V	3.261V	5.012V	1107.835				55.35°C	229.77V
110%	83.180A	9.968A	10.22A	2.997A	1100.218	89.494%	2155	52.9	47.44°C	0.983
	12.045V	5.018V	3.258V	5.006V	1229.359				58.35°C	229.76V
CL1	0.115A	14.391A	14.563A	0A	121.324	83.577%	577	14.3	42.35°C	0.909
	12.177V	5.018V	3.275V	5.038V	145.16				48.89°C	229.87V
CL2	0.115A	21.926A	0A	0A	111.428	81.655%	438	8.2	43.49°C	0.903
	12.180V	5.018V	3.287V	5.044V	136.457				50.68°C	229.88V
CL3	0.115A	0A	22.22A	0A	73.988	75.419%	406	7.6	44.23°C	0.859
	12.175V	5.035V	3.267V	5.038V	98.109				52.72°C	229.88V
CL4	83.075A	0A	0A	0A	1000.05	90.879%	1991	50.9	45.84°C	0.981
	12.038V	5.037V	3.271V	5.088V	1100.422				55.81°C	229.77V

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

PAGE 14/16

Anex

SilverStone DA1000R Gold

20-80W 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
20W	1.228A	0.496A	0.501A	0.198A	20.009	77.973%	0	<6.0	39.88°C	0.495
	12.092V	5.044V	3.291V	5.044V	25.659				36.83°C	229.89V
40W	2.702A	0.694A	0.702A	0.298A	40.008	84.542%	0	<6.0	40.76°C	0.698
	12.101V	5.044V	3.291V	5.041V	47.325				37.46°C	229.88V
60W	4.174A	0.894A	0.904A	0.397A	60.007	87.09%	0	<6.0	41.48°C	0.79
	12.105V	5.034V	3.286V	5.038V	68.9				37.97°C	229.89V
80W	5.646A	1.093A	1.105A	0.497A	79.964	88.275%	0	<6.0	42.72°C	0.843
	12.104V	5.03V	3.284V	5.035V	90.58				38.96°C	229.88V

RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.63mV	4.95mV	6.29mV	5.63mV	Pass
20% Load	6.04mV	5.72mV	7.11mV	6.96mV	Pass
30% Load	14.25mV	5.51mV	7.57mV	8.55mV	Pass
40% Load	11.28mV	5.82mV	7.36mV	8.04mV	Pass
50% Load	10.21mV	7.87mV	11.76mV	9.31mV	Pass
60% Load	9.93mV	6.28mV	7.62mV	10.29mV	Pass
70% Load	10.44mV	6.59mV	8.23mV	10.69mV	Pass
80% Load	11.36mV	7.30mV	9.82mV	11.16mV	Pass
90% Load	11.82mV	7.97mV	11.40mV	11.21mV	Pass
100% Load	19.59mV	10.06mV	12.32mV	12.40mV	Pass
110% Load	20.07mV	9.72mV	13.04mV	13.68mV	Pass
Crossload1	12.74mV	8.08mV	10.82mV	11.10mV	Pass
Crossload2	10.28mV	9.50mV	6.39mV	10.64mV	Pass
Crossload3	6.60mV	5.31mV	12.58mV	11.00mV	Pass
Crossload4	18.11mV	7.82mV	9.96mV	12.62mV	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

PAGE 15/16

Anex

SilverStone DA1000R Gold



Top side

 SILVERSTONE DA	
Product Number : SST-DA1000R-GM MODEL (型號) (型号) : SST-AX1000MCGD- 1000W Active PFC SWITCH POWER SUPPLY	
AC INPUT (交流輸入) (交流输入)	100-240V~ / 15A-6.5A / 50-60Hz
DC OUTPUT (直流輸出) (直流输出)	+3.3V +5V +12V -12V +5VSB 22A 22A 83.5A 0.3A 3A
MAX. POWER (最大總功率) (最大总功率)	120W 1000W 3.6W 15W 1000W

Power specifications label

CERTIFICATIONS 115V




Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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

PAGE 16/16