

## Anex

SilverStone GM500 Silver

Lab ID#: SL50001971

Receipt Date: -

Test Date: Feb 2, 2022

Report: 22PS1971A

Report Date: Feb 7, 2022

### DUT INFORMATION

Brand	SilverStone
Manufacturer (OEM)	TC Sure Star Computer Co.
Series	Gemini
Model Number	SST-GM500-S
Serial Number	DXGM50SU21090201
DUT Notes	

### DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	8-4
Rated Frequency (Hz)	47-63
Rated Power (W)	500
Type	PS2
Cooling	40mm Magnetic Levitation Bearing Fan (MF40201VX-10000-A99)
Semi-Passive Operation	X
Cable Design	Fixed cables

### 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

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PAGE 1/11

## Anex

## SilverStone GM500 Silver

### RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	X
(EU) No 617/2013 Compliance	

### 230V

Average Efficiency	85.266%
Average Efficiency 5VSB	63.826%
Standby Power Consumption (W)	1.3072000
Average PF	0.910
Avg Noise Output	- dB(A)
Efficiency Rating (ETA)	SILVER
Noise Rating (LAMBDA)	None

### POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	NaN	NaN	41	3.5	0.8
	Watts	NaN		492	17.5	9.6
Total Max. Power (W)		500				

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

Hold-Up Time (ms)	19
AC Loss to PWR_OK Hold Up Time (ms)	15
PWR_OK Inactive to DC Loss Delay (ms)	4

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PAGE 2/11

**CABLES AND CONNECTORS**

Captive Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (490mm)	1	1	18-20AWG	No
8 pin EPS12V (490mm)	2	2	18AWG	No
6 pin PCIe (490mm)	1	1	18AWG	No
6 pin PCIe (430mm)	1	1	18AWG	No
4-pin Molex (490mm+150mm+150mm)	3	9	18AWG	No
4-pin Molex (490mm+150mm+150mm) / FDD (+150mm)	1	3 / 1	18-22AWG	No

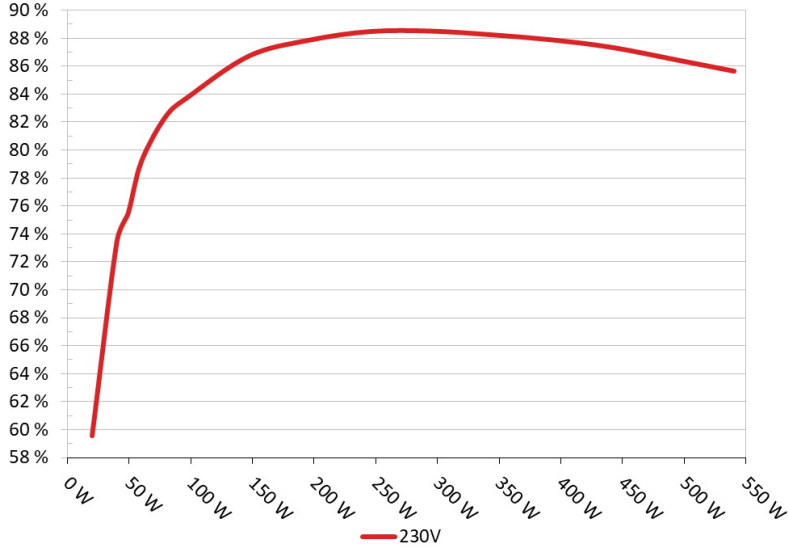
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### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

#### Efficiency: SilverStone GM500

Ambient: 33°C - 45°C (91.4°F - 113°F)



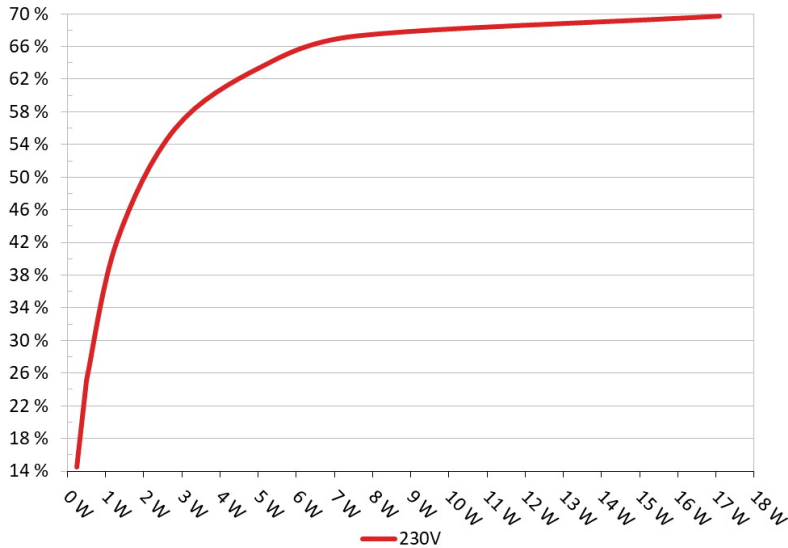
#### INFO

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 GM500

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.235W	14.46%	0.04
	5.219V	1.625W		230.35V
2	0.09A	0.468W	24.182%	0.047
	5.198V	1.935W		230.36V
3	0.55A	2.818W	55.969%	0.118
	5.124V	5.035W		230.34V
4	1A	5.083W	63.53%	0.178
	5.083V	8.001W		230.35V
5	1.5A	7.566W	67.285%	0.233
	5.044V	11.245W		230.35V
6	3.5A	17.094W	69.717%	0.369
	4.885V	24.519W		230.35V

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Anex

SilverStone GM500 Silver

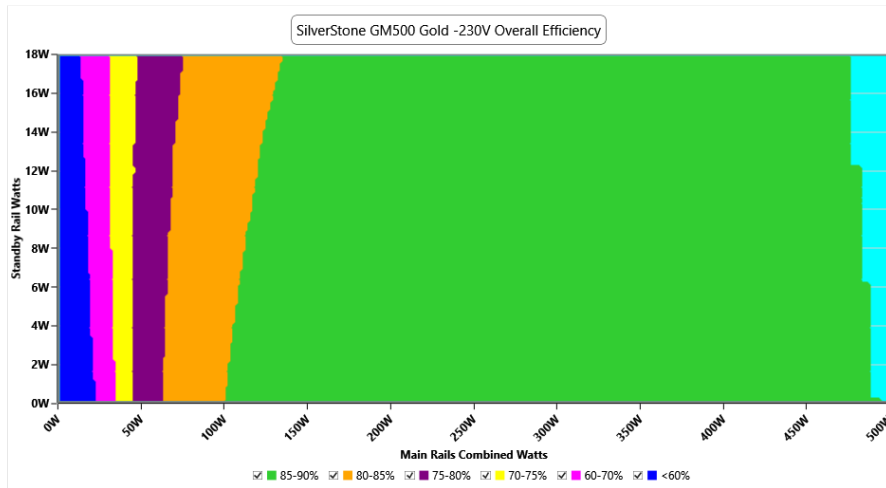
# 230V

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**PAGE 6/11**

### EFFICIENCY GRAPH 230V



#### INFO

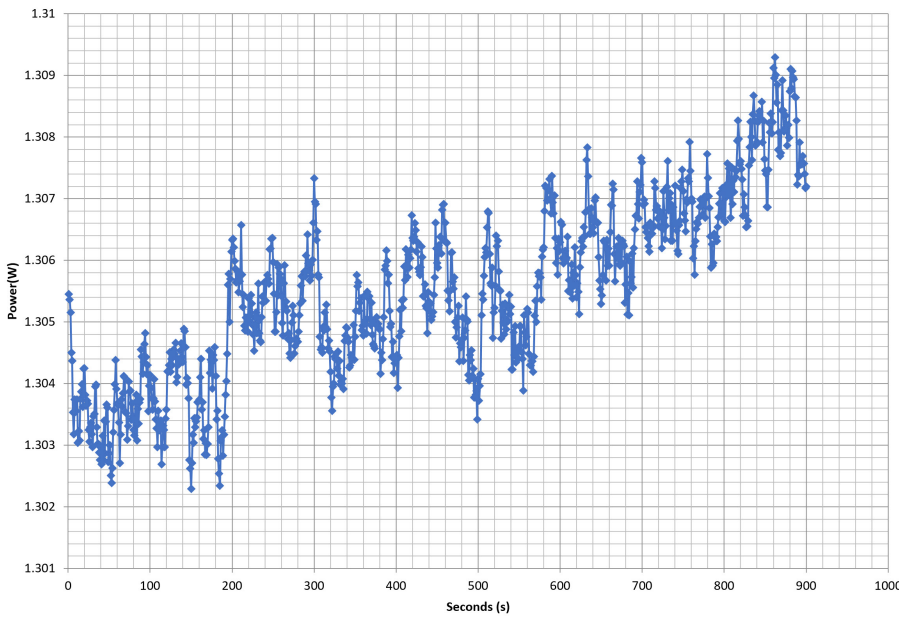
*This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations*

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**VAMPIRE POWER -230V**

Power - 28/01/2022 - 13:18



**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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### 10-110% LOAD TESTS 230V

Test	Main Rail	Standby Rail	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
10%	3.670A	0.984A	49.19	75.46%	37.22°C	0.73
	12.039V	5.081V	65.187		43.19°C	230.24V
20%	7.684A	1.186A	98.37	83.819%	37.58°C	0.824
	12.022V	5.057V	117.359		44.14°C	230.24V
30%	11.702A	1.391A	147.533	86.73%	38.66°C	0.886
	12.008V	5.033V	170.106		45.64°C	230.25V
40%	15.734A	1.596A	196.787	87.86%	39.24°C	0.922
	12.000V	5.013V	223.978		46.69°C	230.26V
50%	19.758A	1.804A	245.94	88.469%	39.96°C	0.947
	11.992V	4.988V	277.996		47.86°C	230.25V
60%	23.801A	2A	295.117	88.492%	40.57°C	0.958
	11.982V	4.966V	333.496		49.28°C	230.25V
70%	27.783A	2.224A	343.6	88.232%	41.19°C	0.969
	11.971V	4.945V	389.429		50.42°C	230.27V
80%	31.891A	2.33A	392.951	87.867%	42.06°C	0.974
	11.961V	4.933V	447.214		52.19°C	230.27V
90%	36.004A	2.438A	442.268	87.32%	42.85°C	0.976
	11.951V	4.92V	506.489		53.53°C	230.27V
100%	39.726A	3.625A	491.78	86.473%	43.43°C	0.978
	11.939V	4.826V	568.71		54.61°C	230.27V
110%	43.856A	3.631A	540.607	85.632%	44.5°C	0.98
	11.928V	4.819V	631.315		56.27°C	230.27V

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### 20-80W LOAD TESTS 230V

Test	Main Rail	Standby Rail	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
20W	1.576A	0.193A	19.987	59.556%	33.28°C	0.54
	12.047V	5.17V	33.56		36.38°C	230.23V
40W	3.196A	0.291A	39.992	73.417%	34.13°C	0.685
	12.042V	5.152V	54.473		38.08°C	230.23V
60W	4.818A	0.389A	59.99	79.187%	35.45°C	0.76
	12.036V	5.138V	75.757		39.94°C	230.23V
80W	6.436A	0.488A	79.913	82.42%	36.38°C	0.8
	12.029V	5.125V	96.959		41.29°C	230.23V

### RIPPLE MEASUREMENTS 230V

Test	12V	12VSB	Pass/Fail
10% Load	12.71mV	8.35mV	Pass
20% Load	14.58mV	9.01mV	Pass
30% Load	16.81mV	8.60mV	Pass
40% Load	19.75mV	11.74mV	Pass
50% Load	23.09mV	10.02mV	Pass
60% Load	27.44mV	10.98mV	Pass
70% Load	33.01mV	16.95mV	Pass
80% Load	37.62mV	19.99mV	Pass
90% Load	43.74mV	22.42mV	Pass
100% Load	52.14mV	27.91mV	Pass
110% Load	59.56mV	31.08mV	Pass

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**Anex**

SilverStone GM500 Silver



Top side



Power specifications label

**CERTIFICATIONS 230V**



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