SILVERSTONE

SilverStone GM800 2U Gold

Serial Number DXGM802G21340050

Lab ID SL80001936

Certification ID 251936

Test Result Report ID: 21PS1936A

Certificate Issue Date: Nov 19, 2021

230V

Scheme: ETA-EMI 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	GM800 2U Gold
OEM/ODM	TC Sure Star Computer Co.
Serial Number	DXGM802G21340050
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6
Rated Frequency (Hz)	47-63

Rated Power (W)	800
Operating Temperature (Continuous Full Load) (°C)	
Type	2U
Cable Design	Fixed cables
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	40mm Double Ball Bearing Fan (04028DA-12S-AUG)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	SL80001936
Date of receipt	Sep 17, 2021
Testing Date	Nov 12, 2021
Report Issued Date	Nov 19, 2021
DUT Notes	SST-2M0800FCGD-A
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Power Specifications

Rail		12V	5VSB
Max. Power	Amps	66.5	3.5
	Watts	798	17.5
Total Max. Power (W)		800	

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6

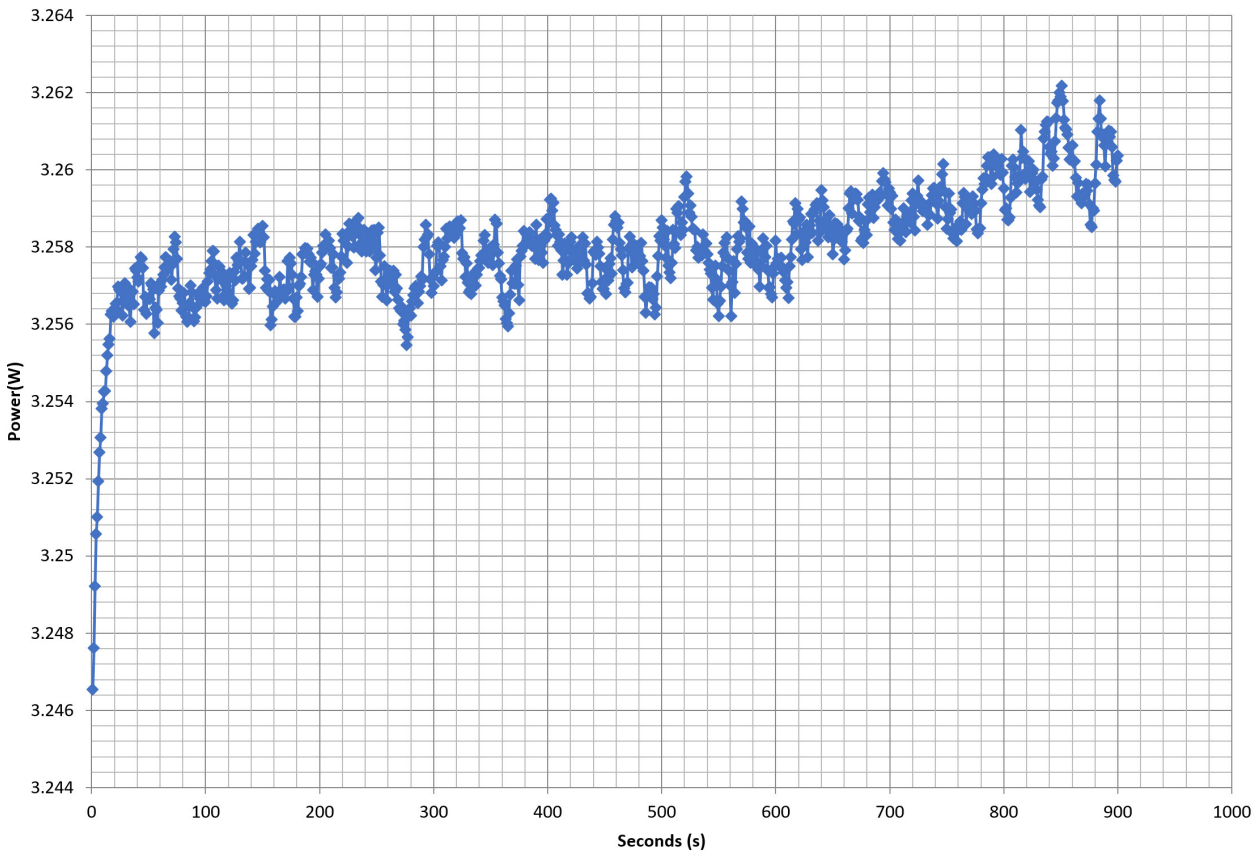
Performance Summary 230V

Accredited		
Average Efficiency (>1450 load combinations)		89.527%
Average PF (>1450 Load Combinations)		0.932
Efficiency With 10W (≤500W) or 2% (>500W) Load		-
Standby Power Consumption		3.2604W
Non-Accredited		
12V Ripple (Full Load)		599.70mV
5VSB Ripple (Full Load)		55.87mV
12V Load Regulation		3.07%
5VSB Load Regulation		6.75%
Inrush Current		92.270A
Hold-Up Time & PWR_OK Signal		1.50ms
AC Loss to PWR_OK Hold Up Time		10.70ms
PWR_OK Inactive to DC Loss Delay		-9.20ms
PSU Timings: T1 (20% / 100%)	186.0ms	186.0ms
PSU Timings: T3 (20% / 100%)	258.0ms	257.0ms

Hold-Up Time & PWR_OK Signal

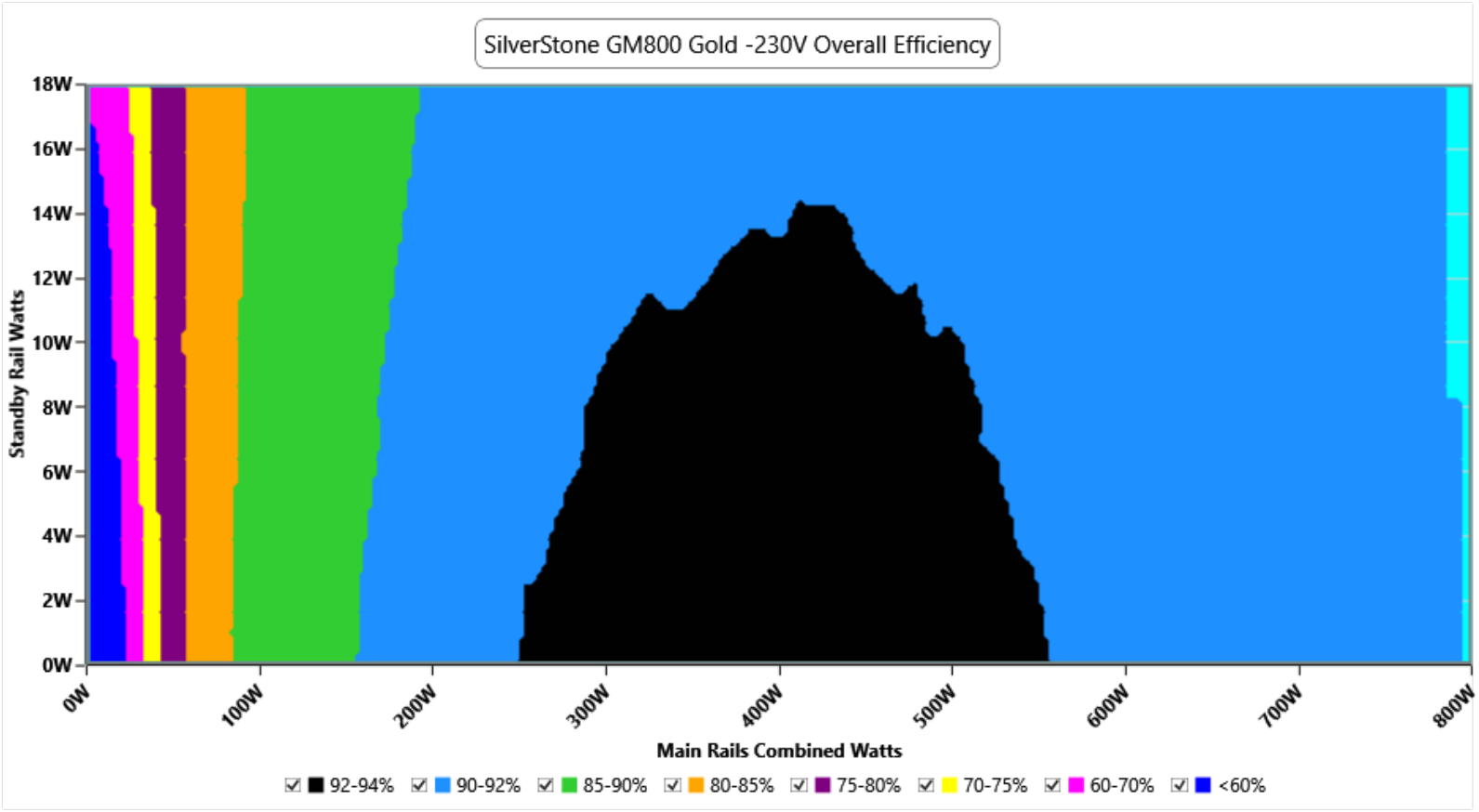
Hold-Up Time (ms)	1.5
AC Loss to PWR_OK Hold Up Time (ms)	10.7
PWR_OK Inactive to DC Loss Delay (ms)	-9.2

Graphs 230V


Power - DXGM802G21340050 - 10/11/2021 - 13:21
Power(W)
3.264
3.262
3.26
3.258
3.256
3.254
3.252
3.25
3.248
3.246
3.244
0
100
200
300
400
500
600
700
800
900
1000
Seconds (s)

Efficiency Graph

230V

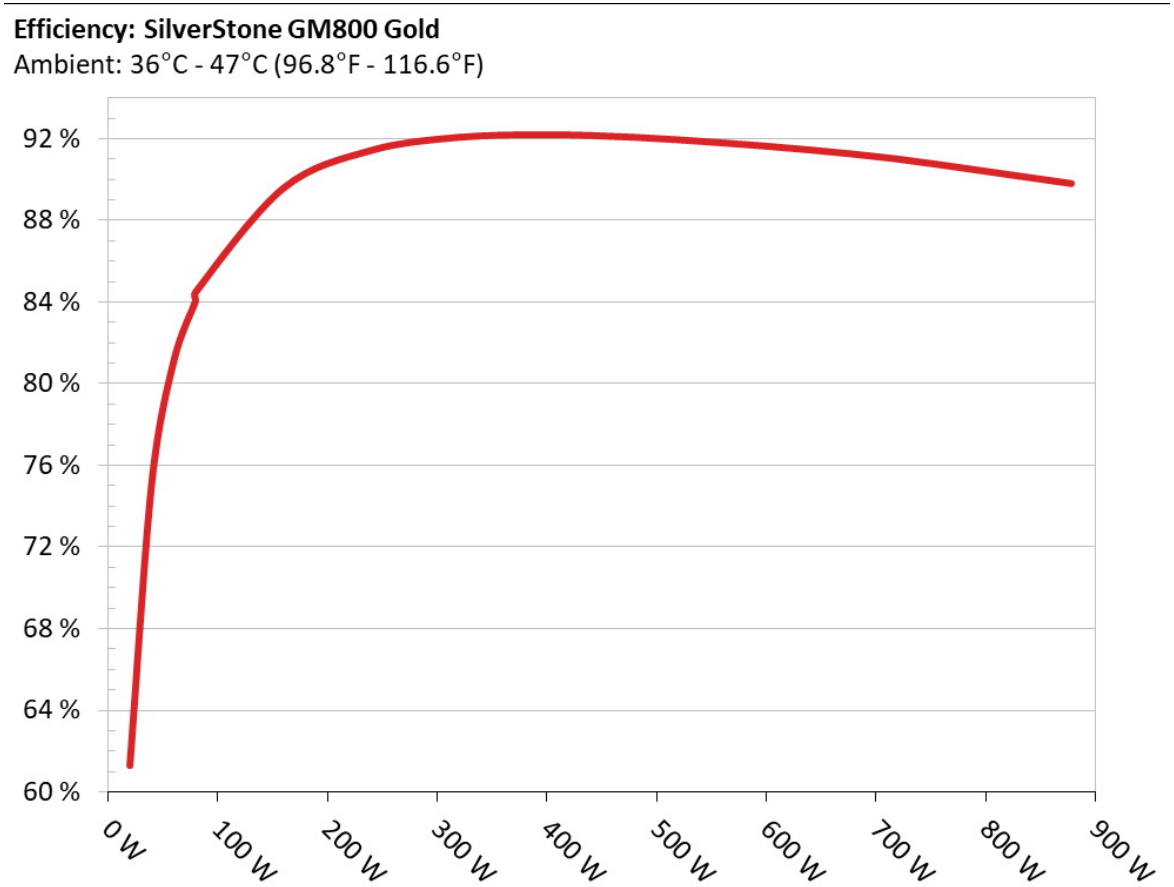


INFO

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

Indicative Performance

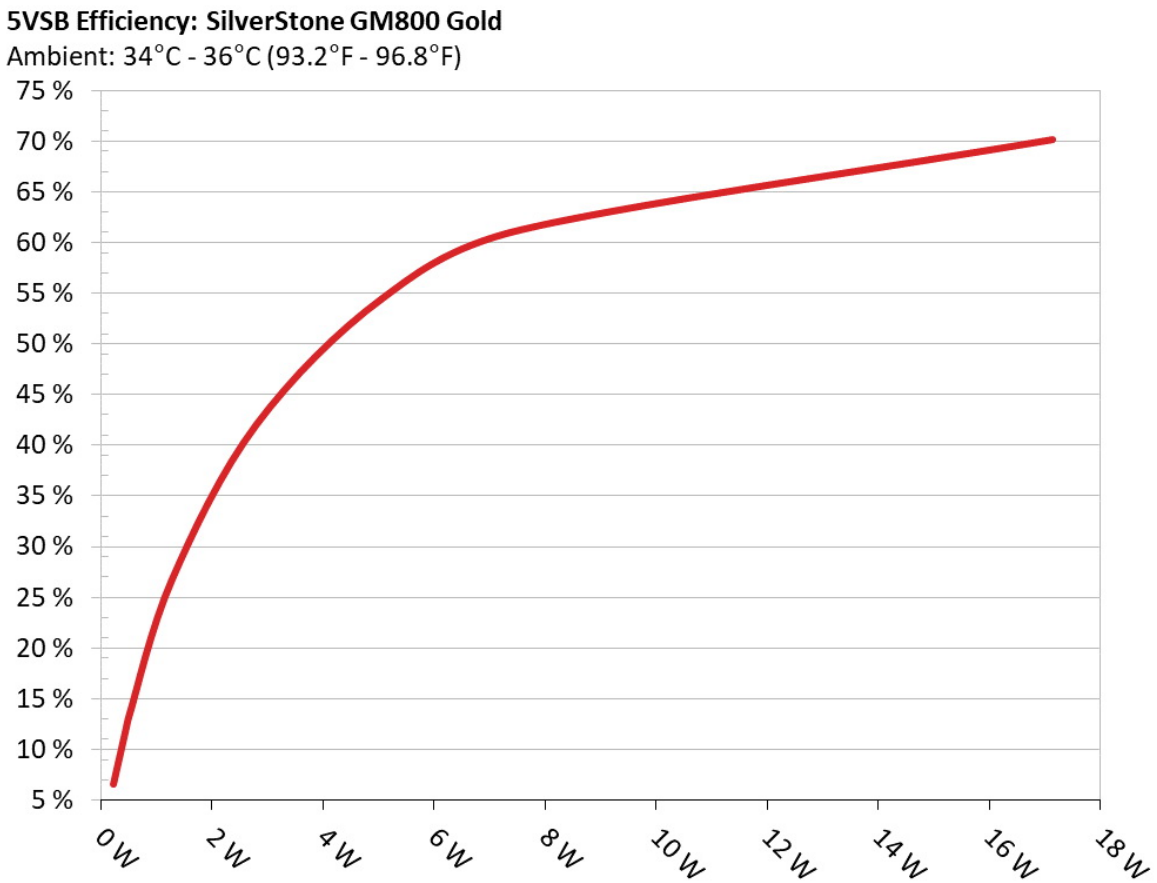
Efficiency under high ambient temperature



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) 230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.233W	6.602%	0.085
	5.193V	3.529W		230.26V

2	0.09A	0.465W	12.228%	0.091
	5.172V	3.803W		230.26V
3	0.55A	2.804W	42.043%	0.144
	5.101V	6.67W		230.25V
4	1A	5.069W	54.473%	0.181
	5.07V	9.306W		230.25V
5	1.5A	7.564W	61.242%	0.212
	5.044V	12.352W		230.25V
6	3.499A	17.13W	70.128%	0.276
	4.896V	24.427W		230.25V

Supplementary Tests (For Reference)

Typical Load Tests 230V

Test	Main Rail	Standby Rail	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
10%	6.157A	0.992A	79.777	84.063%	38.46°C	0.847
	12.145V	5.04V	94.902		42.28°C	230.28V
20%	12.667A	1.196A	159.572	89.583%	39.28°C	0.908
	12.124V	5.018V	178.127		43.73°C	230.27V
30%	19.199A	1.394A	239.376	91.443%	40.45°C	0.933
	12.104V	5.02V	261.777		45.24°C	230.27V
40%	25.745A	1.601A	319.182	92.089%	41.76°C	0.947
	12.087V	4.997V	346.601		46.85°C	230.27V
50%	32.279A	1.809A	398.388	92.217%	42.27°C	0.958
	12.063V	4.975V	432.013		47.67°C	230.27V
60%	38.988A	2A	478.535	92.097%	42.87°C	0.964
	12.020V	4.955V	519.6		48.68°C	230.27V
70%	45.704A	2.229A	558.061	91.826%	43.45°C	0.969
	11.970V	4.932V	607.738		49.73°C	230.26V
80%	52.572A	2.337A	637.826	91.482%	44.28°C	0.974
	11.914V	4.918V	697.218		51.18°C	230.26V

90%	59.519A	2.445A	717.594	91.04%	44.85°C	0.977
	11.855V	4.906V	788.217		52.49°C	230.26V
100%	66.125A	3.634A	797.574	90.442%	45.49°C	0.979
	11.797V	4.814V	881.864		53.56°C	230.25V
110%	73.312A	3.639A	877.636	89.823%	46.78°C	0.982
	11.733V	4.807V	977.075		55.58°C	230.25V

The results above are not used in the certification process

Light Load Tests 230V

Test	Main Rail	Standby Rail	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
10W	1.562A	0.195A	19.994	61.271%	35.89°C	0.577
	12.159V	5.139V	32.632		37.23°C	230.31V
20W	3.167A	0.293A	39.995	75.154%	36.24°C	0.727
	12.156V	5.116V	53.217		38.16°C	230.3V
30W	4.773A	0.392A	59.992	81.112%	37.1°C	0.802
	12.150V	5.103V	73.962		39.36°C	230.29V
40W	6.374A	0.491A	79.917	84.498%	37.59°C	0.846
	12.145V	5.087V	94.579		40.25°C	230.28V

The results above are not used in the certification process

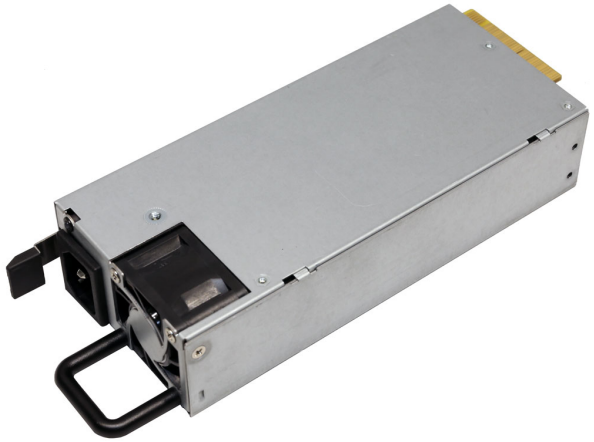
Ripple Measurements 230V

Test	Main Rail	Standby Rail	Pass/Fail
10% Load	24.3 mV	15.0 mV	Pass
20% Load	35.0 mV	17.1 mV	Pass
30% Load	49.3 mV	30.2 mV	Pass
40% Load	66.1 mV	31.9 mV	Pass
50% Load	127.4 mV	36.0 mV	Fail
60% Load	183.5 mV	43.5 mV	Fail
70% Load	200.0 mV	43.1 mV	Fail
80% Load	200.0 mV	45.8 mV	Fail

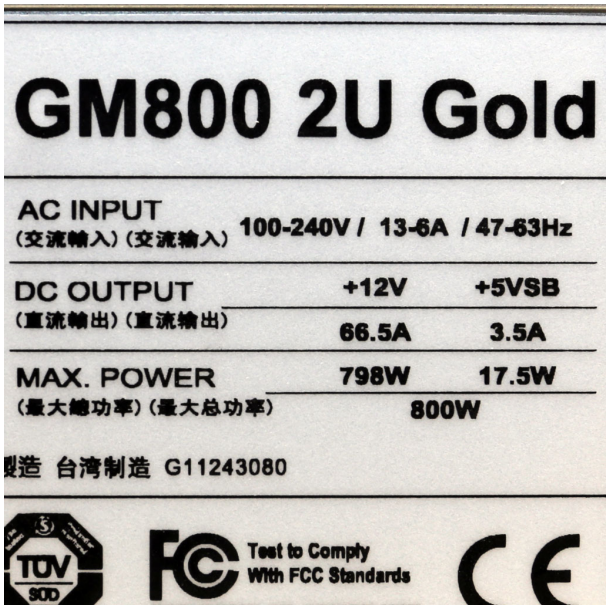
90% Load	200.0 mV	47.9 mV	Fail
100% Load	599.7 mV	55.9 mV	Fail
110% Load	693.2 mV	57.1 mV	Fail

The results above are not used in the certification process

SilverStone GM800 2U Gold



Top side



Power specifications label