Segotep

Segotep GM750W

SGMV7NA00069

Lab ID ST75002296

Certification ID 252296

Test Result Report ID: 23PS2296A

Certificate Issue Date: Nov 30, 2023

115V

Scheme: ETA-EMI PSU



115V



Scheme: LAMBDA PSU



Outside Validation Scope



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	Segotep
Model	GM750W
OEM/ODM	Huizhou Xinggu Technology
Serial Number	SGMV7NA00069
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	12-6

□□□□ (Hz)	47-63
□□□□ (W)	750
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	120mm Fluid Dynamic Bearing Fan (DF1202512RFLN)
□□□□□	✗
Cybenetics Testing Information	
Lab ID	ST75002296
Date of receipt	Nov 15, 2023
Testing Date	Nov 29, 2023
Report Issued Date	Nov 30, 2023
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□				
□□	□□□□	□□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (400mm)	1	1	16-18AWG	□
4+4 pin EPS 12V □□ (400mm)	2	2	16AWG	□
6+2pin PCIe□□ (400mm)	2	2	16AWG	□
12+4 pin PCIe (400mm) (600W)	1	1	16-26AWG	□
SATA□□ (400mm)	1	1	16AWG	□
4-pin Molex (400mm)	2	2	16AWG	□
AC Power Cord (1100mm) - C13 coupler	1	1	18AWG	-

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	16	15	62	2.5	0.3
	□	103		744	12.5	3.6
□□□□□ (W)		750				

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.0 Compliance	✓

Performance Summary 115V

Accredited	
□□□□ (>1450 load combinations)	90.136%
Average Noise Output (>1450 Load Combinations)	28.59dBA
PF□□□ (>1450 Load Combinations)	0.971
Efficiency With 10W (≤500W) or 2% (>500W) Load	64.938%
□□□□□□	0.1214W
Non-Accredited	
12V Ripple (Full Load)	19.09mV
5V Ripple (Full Load)	14.58mV
3.3V Ripple (Full Load)	16.78mV
5VSB Ripple (Full Load)	29.48mV
12V Load Regulation	0.98%
5V Load Regulation	0.85%
3.3V Load Regulation	2.39%

5VSB Load Regulation	3.28%
Inrush Current	34.660A

□□□□ & PG□□

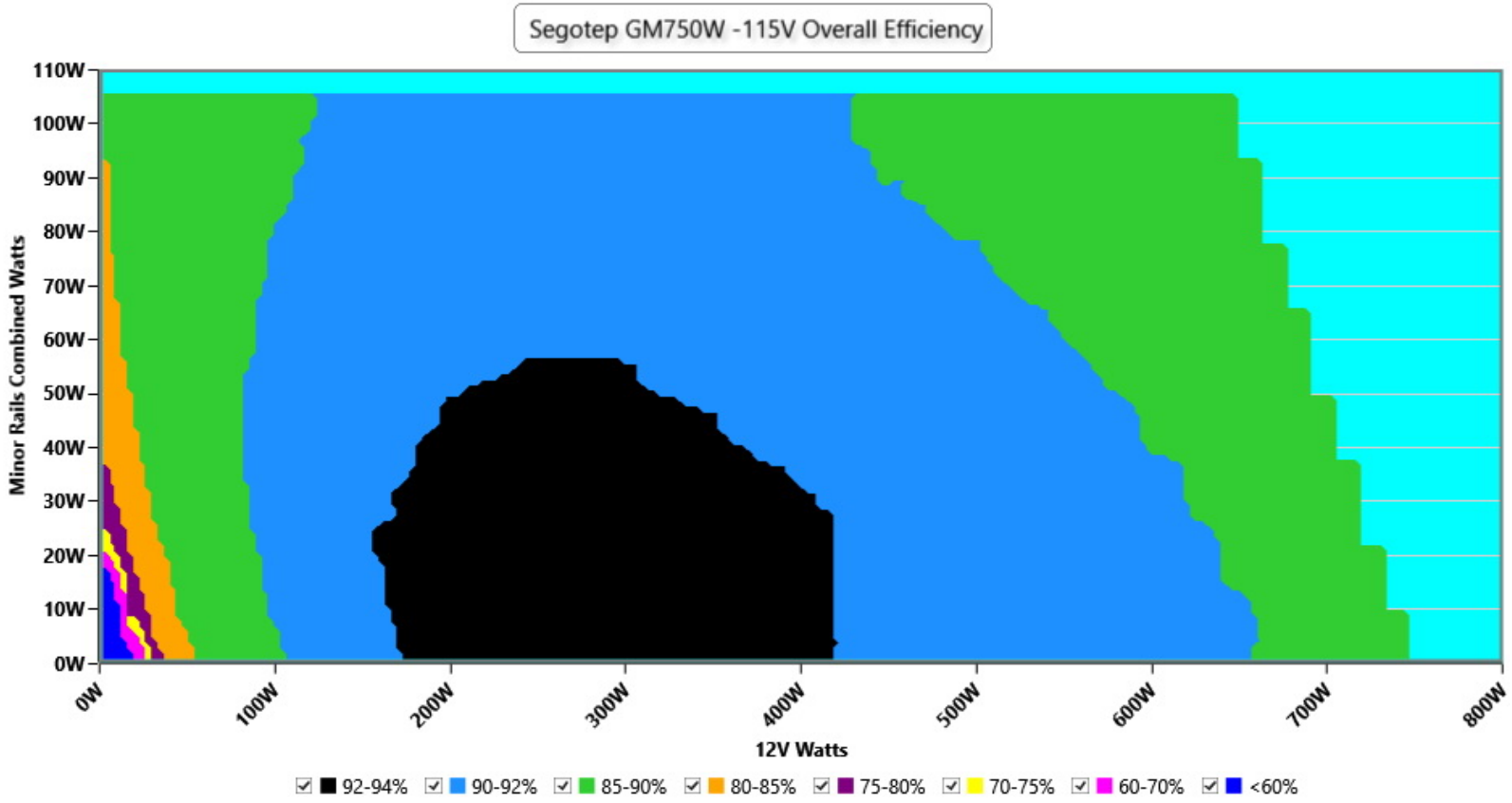
Hold-Up Time (ms)	20.7
AC Loss to PWR_OK Hold Up Time (ms)	18.3
PWR_OK Inactive to DC Loss Delay (ms)	2.4

□□□□

Tables 115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.94 V	114.90 V	113.85 V	114.98 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.02 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	0.20 %	2.00 %	PASS
Real Power:	0.121 W	0.105 W	N/A	0.137 W	N/A	N/A
Apparent Power:	1.501 W	1.478 W	N/A	1.525 W	N/A	N/A
Power Factor:	0.081	N/A	N/A	N/A	N/A	N/A

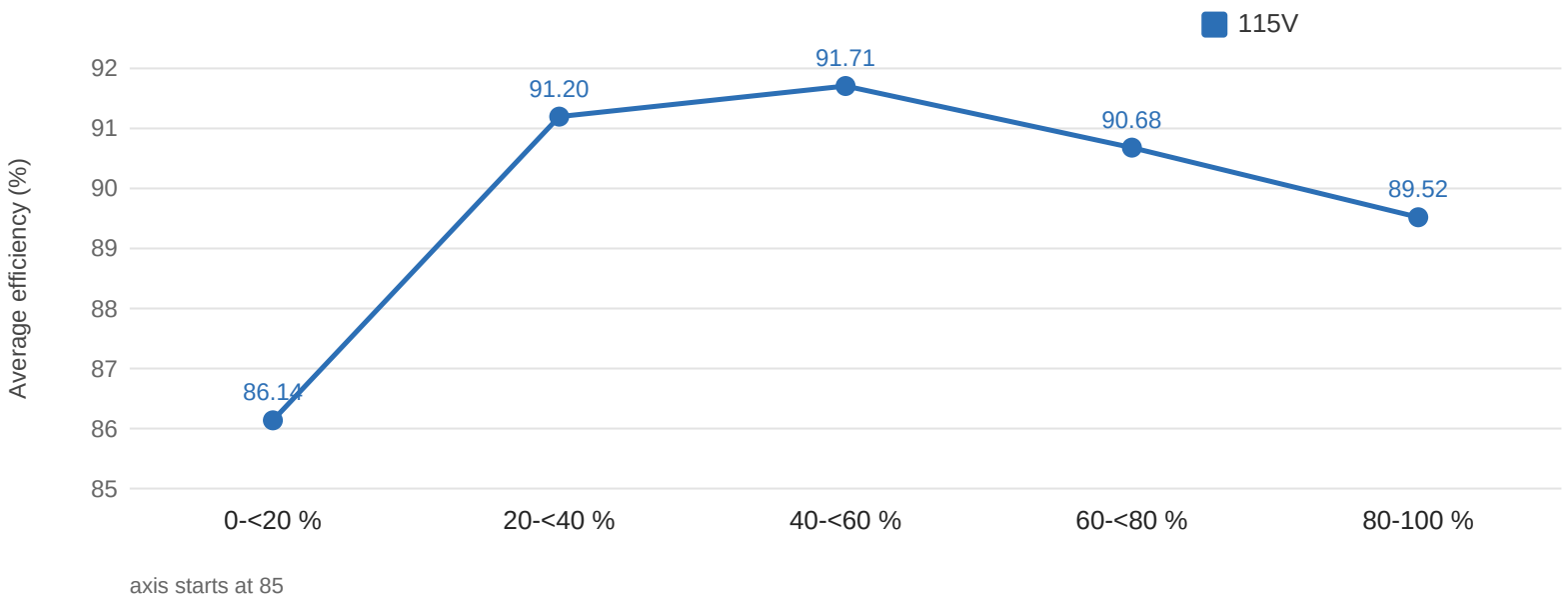
115V



□□

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

Efficiency and power factor by load range



axis starts at 85

Load range	Points	Efficiency 115V
0-<20 %	218	86.14%
20-<40 %	342	91.20%
40-<60 %	342	91.71%
60-<80 %	344	90.68%
80-100 %	352	89.52%
70-100 % (High-Load)	522	89.78%
All (published average)	1598	90.14%

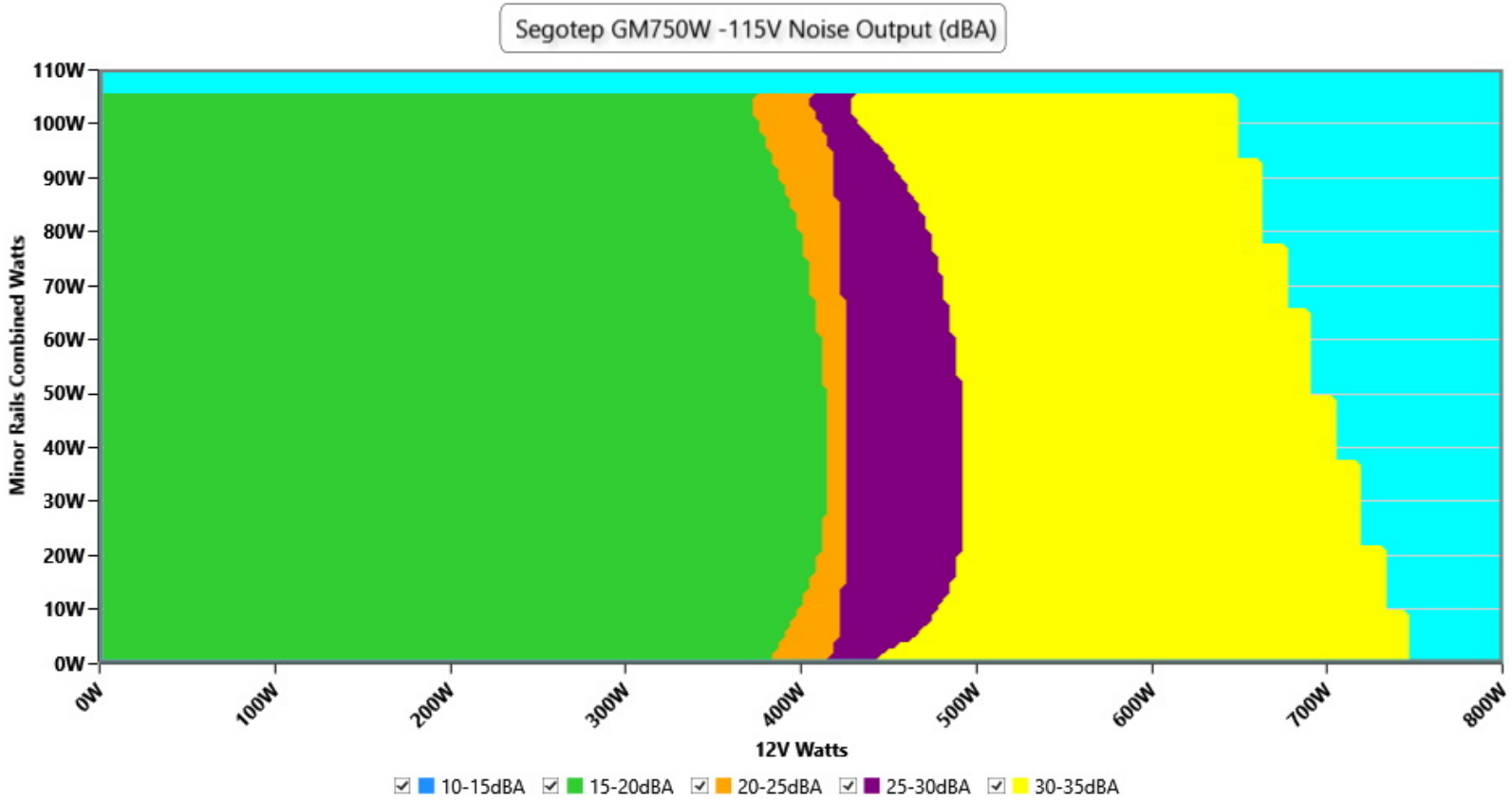
INFO

The average efficiency and power factor in five ranges of load. Calculated from the 1598 (115V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 750 W. These are plain averages of the valid readings, as for the ETA rating, so the ranges combined give back the published averages.

Informational. Not part of the ETA or LAMBDA rating.

□□□□□

115V



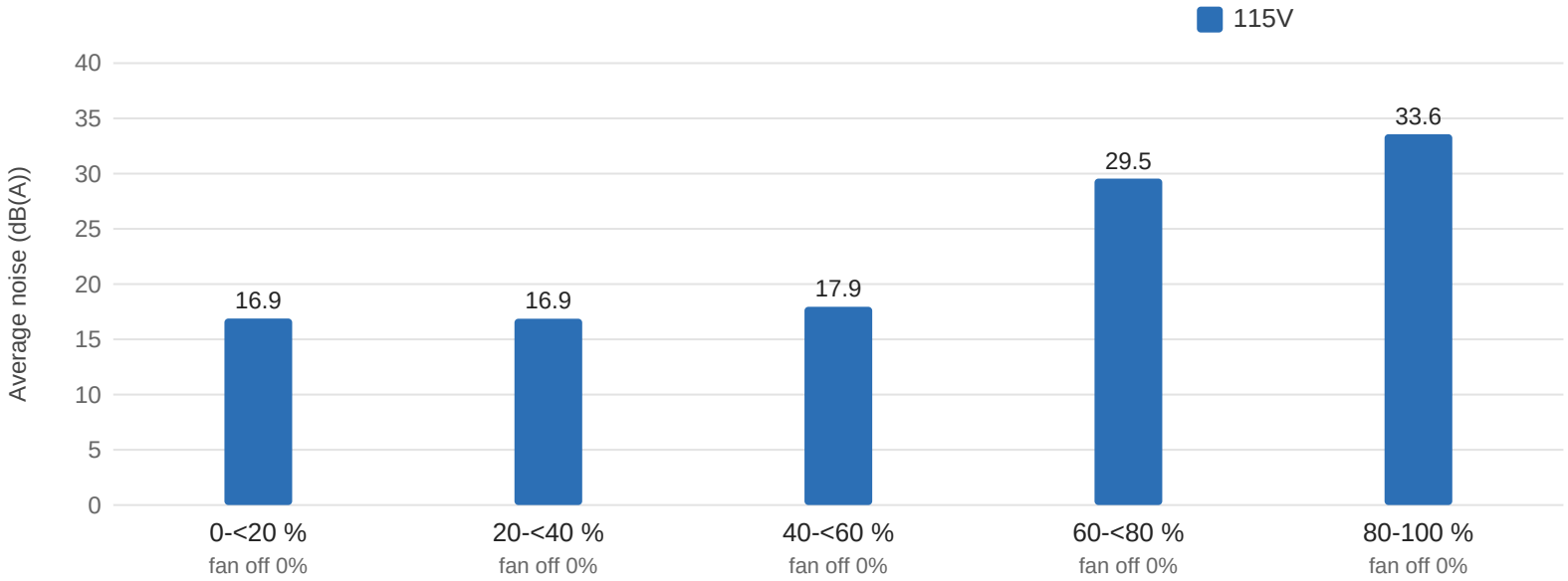
□□

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

Noise by load range

High-Load Index (70-100 % load)
Noise **33.0 dB(A)** at 115V · loudest point 33.7 dB(A)

Efficiency 89.78% (115V)



Load range	Noise 115V avg (loudest)	Fan off 115V
0-<20 %	16.9 (16.9)	0%
20-<40 %	16.9 (16.9)	0%
40-<60 %	17.9 (27.9)	0%
60-<80 %	29.5 (33.7)	0%
80-100 %	33.6 (33.7)	0%
70-100 % (High-Load)	33.0 (33.7)	0%
All (published average)	28.6 (33.7)	0%

INFO

The average noise in five ranges of load, the share of points with the fan stopped (semi-passive operation), and the High-Load Index: the same figures for all points at 70 % of the rated output and above. Calculated from the 1598 (115V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 750 W. Noise is averaged on the energy scale, as for LAMBDA, so the ranges combined give back the published average noise. Each load combination is held for about five seconds; the stabilized readings at fixed loads

are under "Noise under high ambient temperature".

Informational. Not part of the ETA or LAMBDA rating.

Noise under high ambient temperature (indicative)

115V

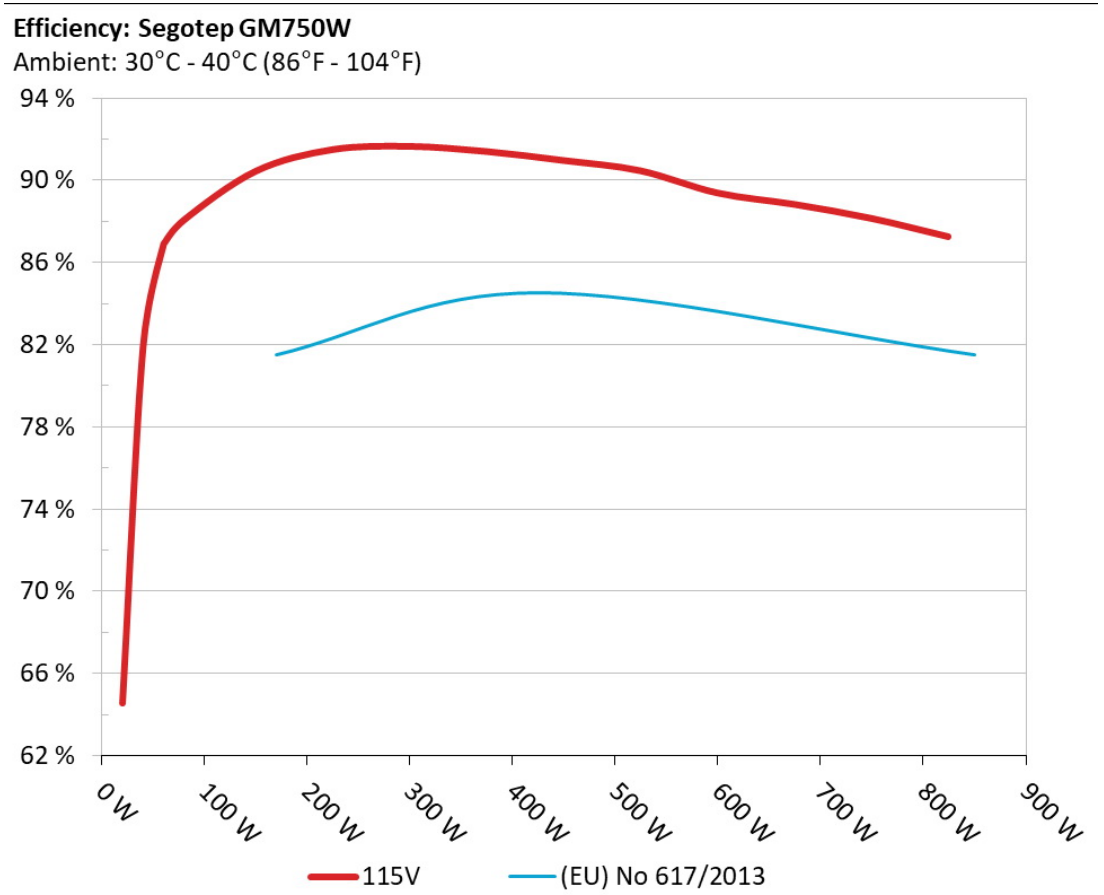
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	845 RPM · 16.7 dB(A) · 34.3 °C	845 RPM · 16.7 dB(A) · 34.3 °C	**+0.0 dB(A)**
20%	849 RPM · 16.9 dB(A) · 34.6 °C	849 RPM · 16.9 dB(A) · 34.6 °C	**+0.0 dB(A)**
50%	886 RPM · 17.8 dB(A) · 36.0 °C	886 RPM · 17.8 dB(A) · 36.0 °C	**+0.0 dB(A)**
100%	1514 RPM · 34.0 dB(A) · 39.3 °C	1514 RPM · 34.0 dB(A) · 39.3 °C	**+0.0 dB(A)**

INFO

Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); with the fan stopped, the intake sensor can read higher than the chamber air.

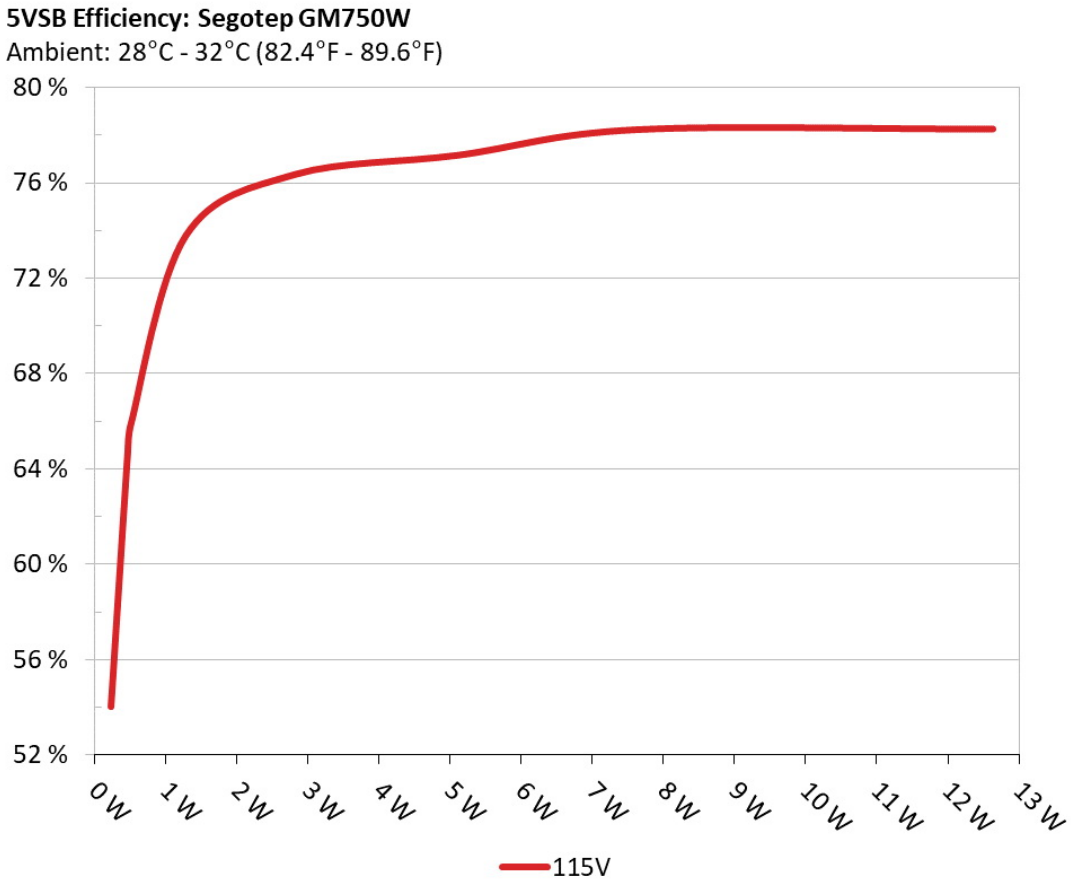
Informational. Not part of the ETA or LAMBDA rating.

Indicative Performance



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□□□□



□□

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

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC) 115V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.231W	54.524%	0.209
	5.144V	0.424W		114.93V

2	0.09A	0.463W	65.024%	0.267
	5.142V	0.712W		114.93V
3	0.55A	2.819W	76.849%	0.385
	5.126V	3.668W		114.93V
4	1A	5.109W	77.655%	0.409
	5.11V	6.58W		114.91V
5	1.5A	7.638W	78.731%	0.429
	5.092V	9.702W		114.92V
6	2.5A	12.636W	78.756%	0.453
	5.055V	16.045W		114.91V

Supplementary Tests (For Reference)

10-110%□□□□ 115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	4.368A	1.961A	1.952A	0.98A	75	87.386%	845	16.7	34.29°C	0.898
	12.227V	5.099V	3.381V	5.103V	85.827				38.52°C	114.89V
20%	9.744A	2.945A	2.935A	1.179A	149.939	90.935%	849	16.9	34.6°C	0.942
	12.216V	5.093V	3.373V	5.088V	164.136				39.21°C	114.44V
30%	15.477A	3.439A	3.431A	1.38A	224.949	91.985%	852	17.0	35.34°C	0.966
	12.205V	5.089V	3.366V	5.074V	244.551				40.38°C	114.7V
40%	21.228A	3.933A	3.929A	1.582A	300.046	92.139%	854	17.0	35.53°C	0.972
	12.193V	5.085V	3.36V	5.059V	325.051				41.07°C	114.56V
50%	26.600A	4.92A	4.924A	1.785A	374.518	91.893%	886	17.8	36.02°C	0.982
	12.181V	5.082V	3.351V	5.044V	407.559				42.03°C	114.8V
60%	32.020A	5.912A	5.924A	1.989A	449.44	91.456%	1232	27.9	36.7°C	0.987
	12.168V	5.076V	3.343V	5.028V	491.426				43.22°C	114.78V
70%	37.449A	6.906A	6.929A	2.195A	524.345	90.959%	1444	32.5	37.4°C	0.99
	12.156V	5.069V	3.335V	5.011V	574.875				44.47°C	114.48V
80%	42.957A	7.897A	7.939A	2.301A	599.552	89.876%	1511	33.9	37.75°C	0.992
	12.143V	5.065V	3.326V	4.999V	663.576				46.01°C	114.22V

90%	48.805A	8.396A	8.439A	2.406A	674.555	89.319%	1513	34.0	38.55°C	0.993
	12.131V	5.061V	3.318V	4.987V	751.108				47.61°C	114.16V
100%	54.668A	8.895A	8.972A	2.513A	749.676	88.638%	1514	34.0	39.34°C	0.994
	12.118V	5.059V	3.311V	4.975V	838.923				49.35°C	113.88V
110%	60.220A	9.888A	10.088A	2.517A	824.702	87.748%	1516	34.1	40.34°C	0.995
	12.104V	5.056V	3.301V	4.966V	939.856				51.25°C	114.64V
CL1	0.115A	12.185A	12.227A	0A	104.297	85.589%	878	17.6	31.19°C	0.916
	12.209V	5.088V	3.346V	5.129V	121.19				36.7°C	113.92V
CL2	0.113A	14.722A	0A	0A	76.38	85.104%	848	16.8	34.07°C	0.902
	12.221V	5.094V	3.374V	5.137V	89.748				41.53°C	114.89V
CL3	0.113A	0A	15.753A	0A	54.19	79.276%	849	16.9	33.71°C	0.88
	12.221V	5.096V	3.352V	5.136V	68.358				42.81°C	114.89V
CL4	61.763A	0A	0A	0A	749.516	89.501%	1501	33.7	36.72°C	0.994
	12.135V	5.073V	3.344V	5.082V	827.649				47.68°C	113.63V

The results above are not used in the certification process

20-80□□□□□ 115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.214A	0.49A	0.487A	0.195A	20.002	65.047%	828	16.1	29.74°C	0.752
	12.237V	5.102V	3.39V	5.138V	27.09				32.81°C	114.91V
40W	2.672A	0.686A	0.682A	0.292A	40.001	82.368%	836	16.4	31.34°C	0.849
	12.233V	5.102V	3.388V	5.133V	48.565				34.62°C	114.89V
60W	4.132A	0.882A	0.877A	0.39A	60	86.376%	839	16.5	32.24°C	0.881
	12.231V	5.101V	3.386V	5.127V	69.456				36.03°C	114.9V
80W	5.586A	1.078A	1.072A	0.488A	79.939	88.559%	843	16.6	33.41°C	0.902
	12.228V	5.1V	3.384V	5.122V	90.267				37.38°C	114.89V

The results above are not used in the certification process

□□□ 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	10.44mV	8.58mV	10.64mV	13.30mV	Pass
20% Load	11.56mV	10.32mV	12.28mV	14.78mV	Pass
30% Load	11.61mV	10.07mV	12.02mV	14.58mV	Pass
40% Load	11.31mV	9.76mV	11.97mV	15.34mV	Pass
50% Load	11.46mV	11.19mV	13.40mV	14.99mV	Pass
60% Load	12.13mV	10.68mV	12.33mV	16.37mV	Pass
70% Load	13.71mV	12.31mV	13.97mV	19.44mV	Pass
80% Load	13.86mV	12.62mV	15.30mV	19.39mV	Pass
90% Load	13.50mV	13.64mV	15.04mV	18.72mV	Pass
100% Load	19.09mV	14.58mV	16.78mV	29.48mV	Pass
110% Load	20.33mV	16.23mV	18.78mV	31.75mV	Pass
Crossload1	17.83mV	13.77mV	13.58mV	22.06mV	Pass
Crossload2	12.89mV	10.06mV	13.35mV	14.53mV	Pass
Crossload3	11.51mV	15.53mV	11.56mV	21.84mV	Pass
Crossload4	17.29mV	11.88mV	14.54mV	17.35mV	Pass

The results above are not used in the certification process





Segotep GM750W

Top side

Power specifications label

本测试报告中包含的所有数据和图表均可在以下条件下由任何人使用：使用过程需提及测试结果由Cybenetics提供。
在任何情况下都应提供原始测试结果文档的网站链接

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