



Seasonic Prime Fanless TX-700 (#2)

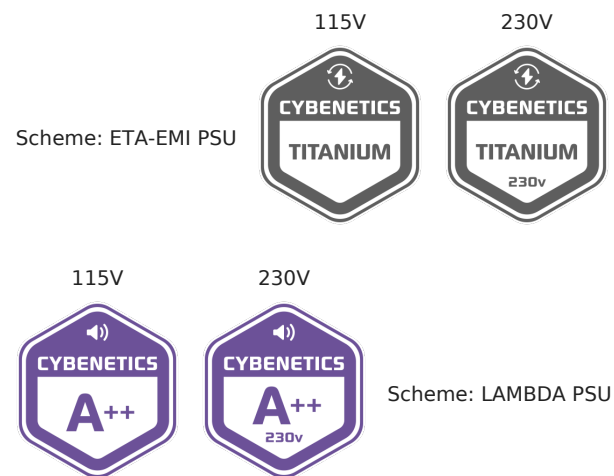
Serial Number

Lab ID SS70001926

Certification ID 251926

Test Result Report ID: 21PS1926A

Certificate Issue Date: Oct 27, 2021



A handwritten signature in black ink, appearing to read 'A. Bitziopoulos', written over a faint circular stamp.

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	Seasonic
Model	Prime Fanless TX-700 (#2)
OEM/ODM	Seasonic
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	9.5-4.5
Rated Frequency (Hz)	50-60

Rated Power (W)	700
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	-
Semi-Passive Operation	X
Cybenetics Testing Information	
Lab ID	SS70001926
Date of receipt	Oct 8, 2021
Testing Date	Oct 27, 2021
Report Issued Date	Oct 27, 2021
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (620mm)	1	1	18-22AWG	Yes
4+4 pin EPS12V (660mm)	2	2	18AWG	No
6+2 pin PCIe (760mm)	4	4	18AWG	No
SATA (410mm+150mm+150mm+150mm)	1	4	18AWG	No
SATA (450mm+120mm+120mm+120mm)	1	4	18AWG	No
SATA (300mm+160mm)	1	2	18AWG	No
4 pin Molex (450mm+125mm+125mm)	1	3	18AWG	No
4 pin Molex (360mm+125mm)	1	2	18AWG	No

4 pin Molex to SATA 3.3 Adapter (150mm+150mm)	1	2	18AWG	No
AC Power Cord (1420mm) - C13 coupler	1	1	16AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	58	2.5	0.3
	Watts	100		696	12.5	3.6
Total Max. Power (W)		700				

Test Results

Temperature & Compliance Info

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

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	91.974%
Average Noise Output (>1450 Load Combinations)	6.00dBA
Average PF (>1450 Load Combinations)	0.989
Efficiency With 10W (≤500W) or 2% (>500W) Load	72.508%
Standby Power Consumption	0.0564W
Non-Accredited	
12V Ripple (Full Load)	23.90mV
5V Ripple (Full Load)	15.10mV
3.3V Ripple (Full Load)	12.43mV
5VSB Ripple (Full Load)	12.25mV

12V Load Regulation	0.16%
5V Load Regulation	1.58%
3.3V Load Regulation	2.47%
5VSB Load Regulation	3.49%
Inrush Current	26.400A

230V

Accredited		
Average Efficiency (>1450 load combinations)	93.511%	
Average Noise Output (>1450 Load Combinations)	6.00dBA	
Average PF (>1450 Load Combinations)	0.943	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.0978W	
Non-Accredited		
12V Ripple (Full Load)	24.39mV	
5V Ripple (Full Load)	15.48mV	
3.3V Ripple (Full Load)	12.66mV	
5VSB Ripple (Full Load)	11.89mV	
12V Load Regulation	0.15%	
5V Load Regulation	1.62%	
3.3V Load Regulation	2.56%	
5VSB Load Regulation	3.54%	
Inrush Current	93.540A	
Hold-Up Time & PWR_OK Signal	31.90ms	
AC Loss to PWR_OK Hold Up Time	27.00ms	
PWR_OK Inactive to DC Loss Delay	4.90ms	
PSU Timings: T1 (20% / 100%)	139.0ms	87.0ms
PSU Timings: T3 (20% / 100%)	329.0ms	328.0ms
OPP (25.93°C / 46.32°C)	139.33%	139.33%

Hold-Up Time & PWR_OK Signal

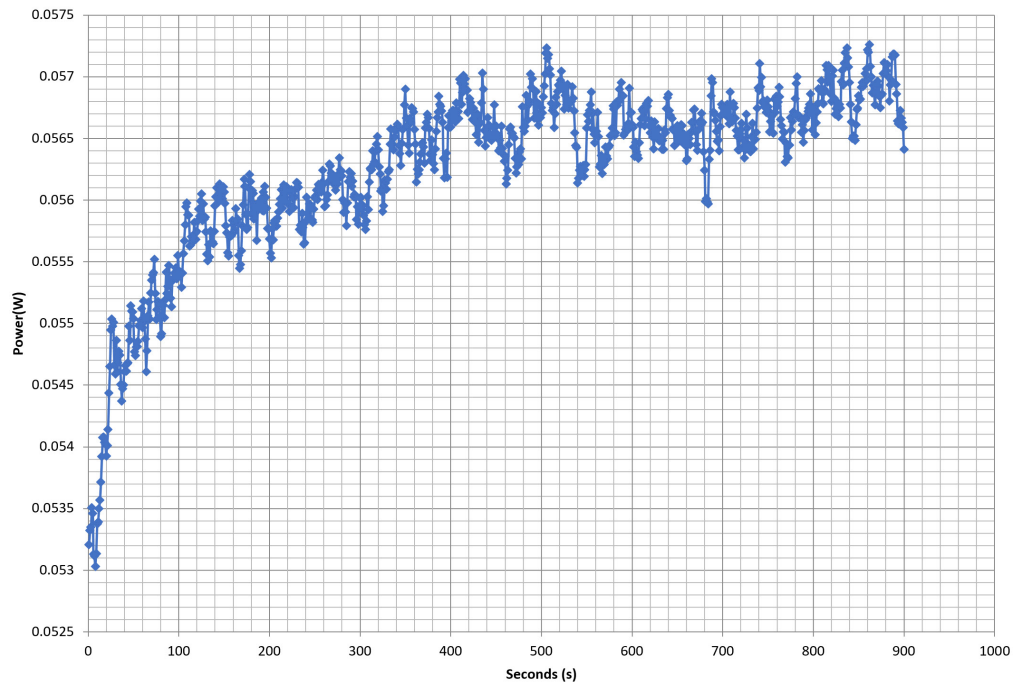
Hold-Up Time (ms)	31.9
AC Loss to PWR_OK Hold Up Time (ms)	27
PWR_OK Inactive to DC Loss Delay (ms)	4.9



Graphs

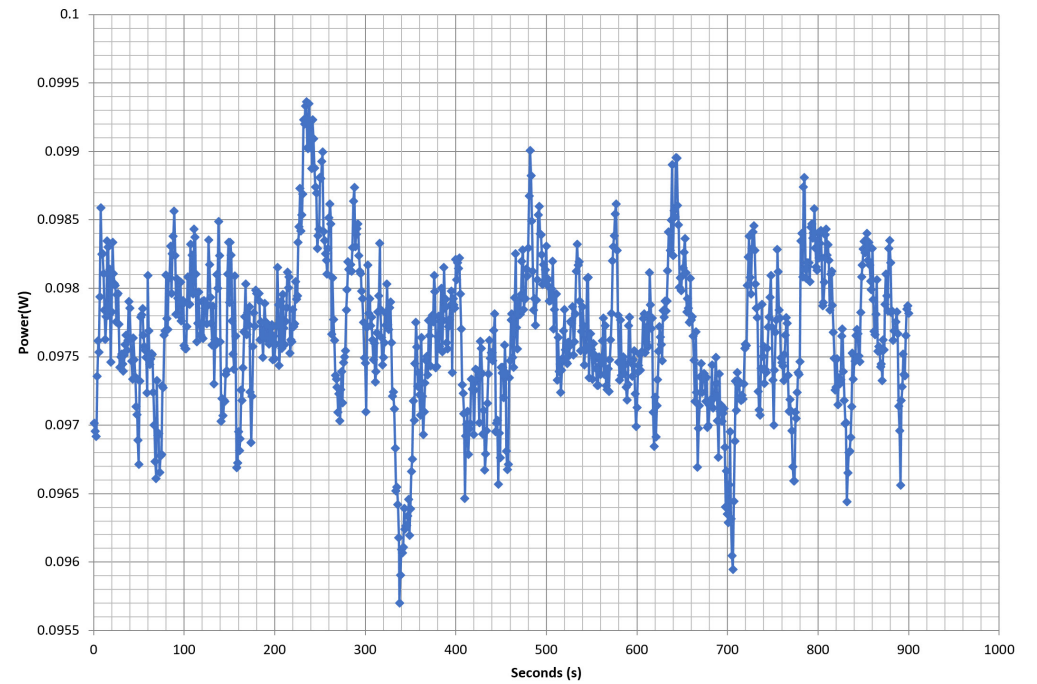
115V

Power - 22/10/2021 - 15:16



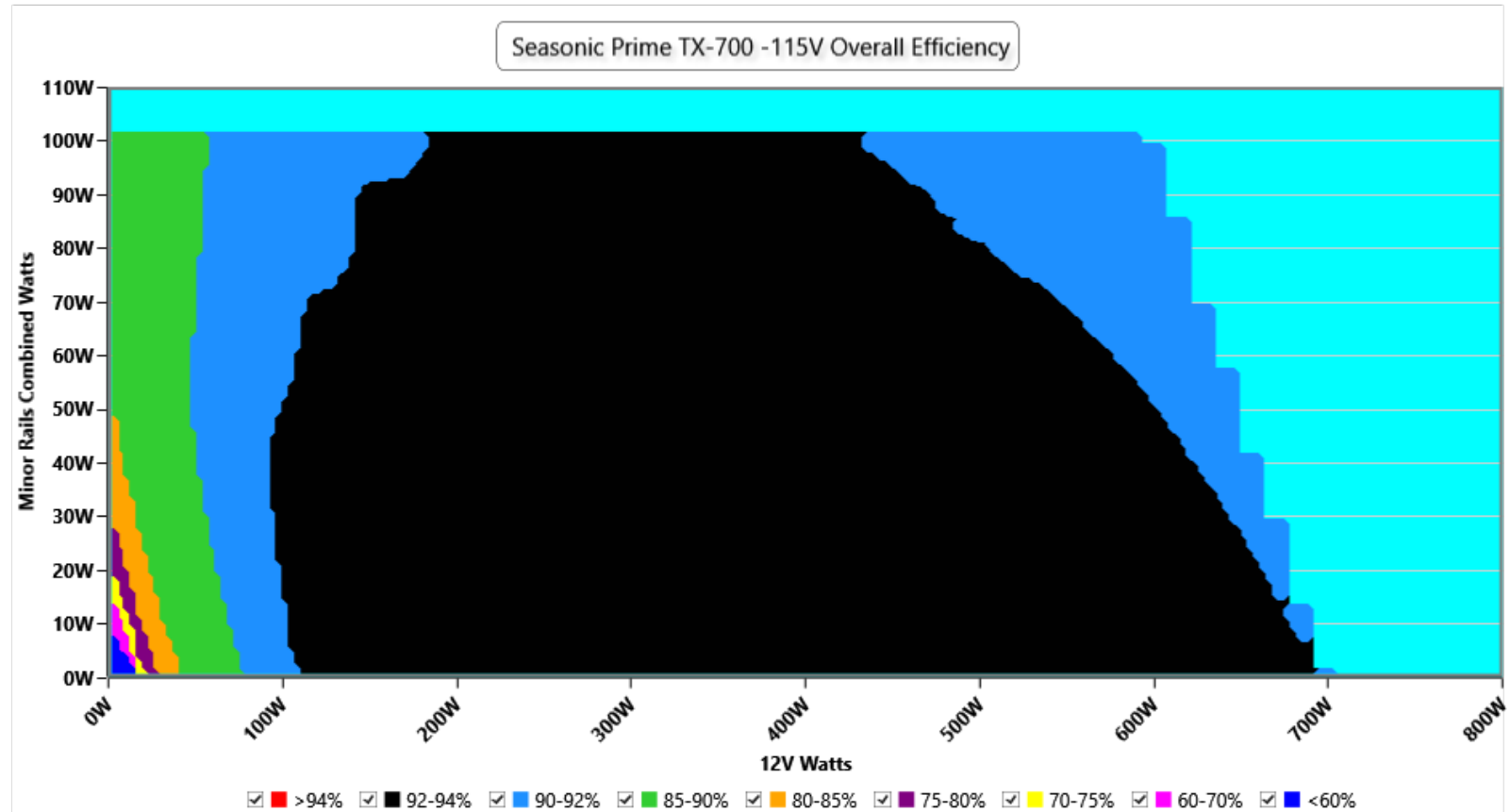
230V

Power - 22/10/2021 - 15:16



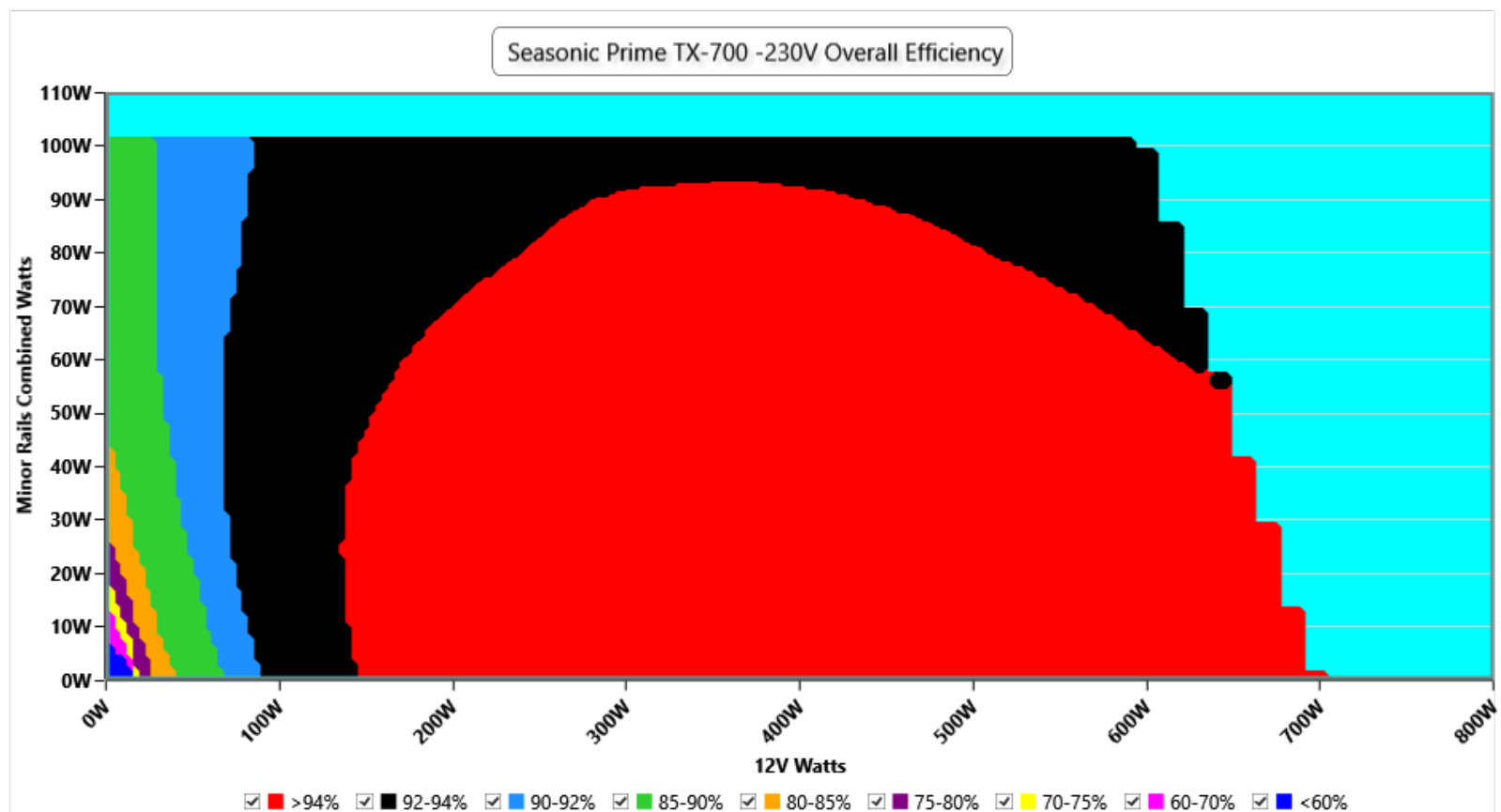
Efficiency Graph

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



INFO

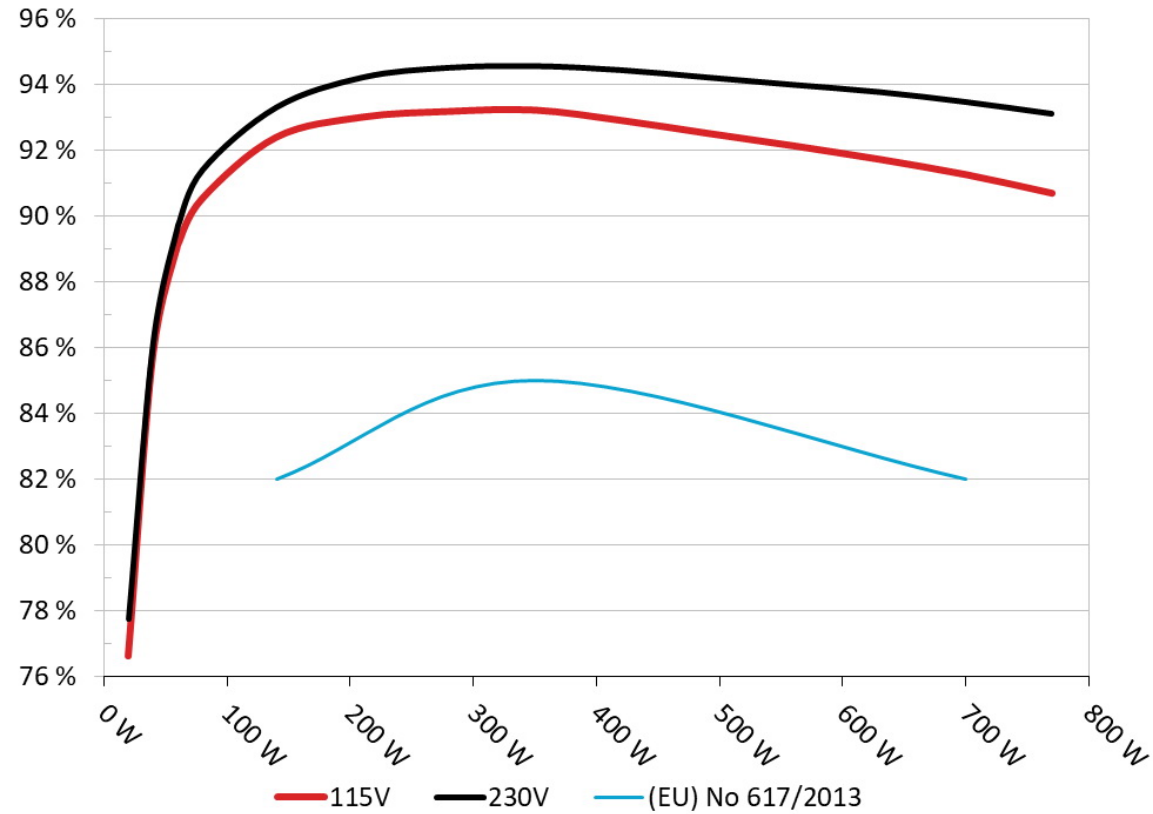
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Seasonic Prime Fanless TX-700

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



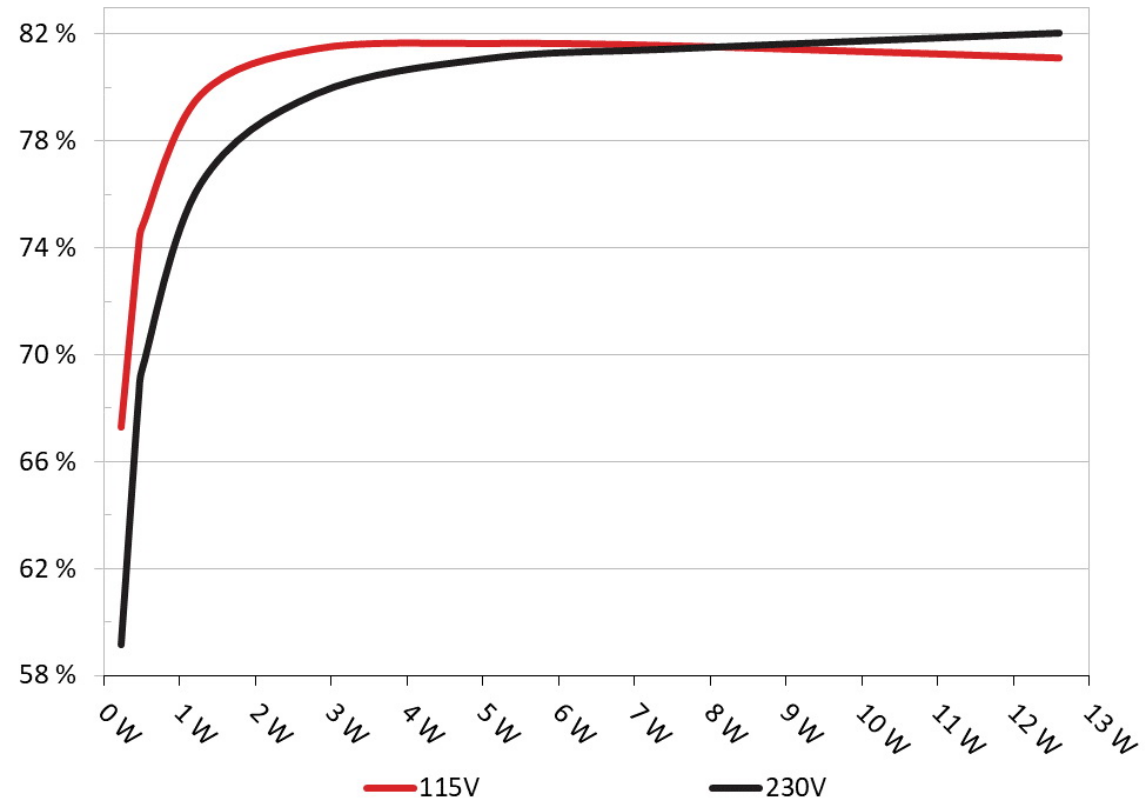
INFO

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: Seasonic Prime Fanless TX-700

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

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

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	67.286%	0.033
	5.103V	0.342W		115.17V
2	0.09A	0.459W	74.048%	0.059
	5.101V	0.62W		115.17V
3	0.55A	2.8W	81.46%	0.257
	5.09V	3.437W		115.17V
4	1A	5.079W	81.66%	0.355
	5.078V	6.22W		115.17V
5	1.5A	7.599W	81.566%	0.412
	5.065V	9.316W		115.17V
6	2.501A	12.602W	81.118%	0.468
	5.04V	15.535W		115.16V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.23W	59.144%	0.011
	5.103V	0.389W		230.36V
2	0.09A	0.459W	68.369%	0.02
	5.101V	0.671W		230.36V
3	0.55A	2.8W	79.758%	0.098
	5.089V	3.511W		230.36V
4	1A	5.079W	81.087%	0.163
	5.078V	6.264W		230.36V
5	1.5A	7.599W	81.457%	0.221
	5.065V	9.329W		230.36V
6	2.501A	12.6W	82.035%	0.299
	5.039V	15.359W		230.36V

Supplementary Tests (For Reference)

Typical Load Tests

115V								
Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
10%	3.976A	1.968A	1.966A	1.005A	69.999	89.1%	46.22°C	0.955
	12.174V	5.083V	3.357V	4.977V	78.562		40.84°C	115.15V
20%	8.951A	2.956A	2.955A	1.21A	139.946	92.382%	46.84°C	0.982
	12.183V	5.075V	3.35V	4.962V	151.486		41.16°C	115.16V
30%	14.279A	3.454A	3.455A	1.415A	209.987	92.996%	47.64°C	0.989
	12.181V	5.068V	3.343V	4.947V	225.803		41.32°C	115.16V
40%	19.610A	3.952A	3.956A	1.622A	280.04	93.171%	49.14°C	0.993
	12.179V	5.061V	3.336V	4.932V	300.567		42.26°C	115.16V
50%	24.595A	4.948A	4.957A	1.831A	349.999	93.211%	49.58°C	0.997
	12.177V	5.054V	3.329V	4.916V	375.492		42.3°C	115.16V
60%	29.589A	5.947A	5.966A	2.001A	419.805	92.898%	50.52°C	0.995
	12.173V	5.046V	3.319V	4.9V	451.897		42.74°C	115.16V
70%	34.593A	6.951A	6.978A	2.254A	490.129	92.505%	51.72°C	0.996
	12.170V	5.037V	3.311V	4.881V	529.841		43.18°C	115.17V
80%	39.595A	7.958A	7.995A	2.363A	559.74	92.124%	52.82°C	0.996
	12.169V	5.028V	3.302V	4.867V	607.591		43.78°C	115.17V
90%	45.000A	8.47A	8.501A	2.473A	629.976	91.711%	54.61°C	0.997
	12.166V	5.019V	3.293V	4.853V	686.914		44.75°C	115.18V
100%	50.405A	8.985A	9.041A	2.584A	700.314	91.244%	56.31°C	0.997
	12.163V	5.009V	3.285V	4.838V	767.516		45.72°C	115.18V
110%	55.420A	10.005A	10.173A	2.592A	769.721	90.683%	58.46°C	0.998
	12.160V	4.998V	3.273V	4.824V	848.805		46.72°C	115.19V
CL1	0.115A	11.882A	11.917A	0A	101.309	88.219%	49.38°C	0.974
	12.174V	5.067V	3.331V	4.987V	114.838		42.77°C	115.19V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
CL2	0.115A	19.688A	0A	0A	101.399	87.244%	50.98°C	0.974
	12.176V	5.079V	3.339V	5.019V	116.225		43.77°C	115.19V
CL3	0.115A	0A	19.768A	0A	67.392	82.31%	52.8°C	0.958
	12.165V	5.057V	3.339V	4.977V	81.876		44.72°C	115.19V
CL4	57.565A	0A	0A	0A	700.165	92.061%	55.39°C	0.997
	12.163V	5.02V	3.306V	4.929V	760.546		45.64°C	115.18V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
10%	3.976A	1.968A	1.966A	1.005A	70.002	89.725%	45.62°C	0.748
	12.171V	5.082V	3.357V	4.975V	78.018		40.74°C	230.4V
20%	8.954A	2.957A	2.957A	1.21A	139.952	93.323%	46.28°C	0.887
	12.179V	5.073V	3.348V	4.96V	149.965		40.93°C	230.39V
30%	14.283A	3.455A	3.458A	1.416A	209.989	94.234%	47.43°C	0.936
	12.177V	5.066V	3.34V	4.945V	222.839		41.38°C	230.4V
40%	19.615A	3.955A	3.96A	1.623A	280.033	94.531%	48.34°C	0.958
	12.176V	5.058V	3.333V	4.929V	296.234		41.83°C	230.4V
50%	24.600A	4.952A	4.963A	1.832A	349.986	94.58%	49.75°C	0.97
	12.174V	5.05V	3.325V	4.913V	370.041		42.56°C	230.41V
60%	29.585A	5.952A	5.971A	2A	419.705	94.459%	50.86°C	0.976
	12.171V	5.041V	3.316V	4.897V	444.323		43.14°C	230.41V
70%	34.588A	6.956A	6.985A	2.255A	490.031	94.235%	52.23°C	0.981
	12.170V	5.033V	3.307V	4.879V	520.01		43.83°C	230.42V
80%	39.594A	7.964A	8.003A	2.364A	559.656	94.011%	52.93°C	0.984
	12.167V	5.024V	3.298V	4.864V	595.308		44.21°C	230.42V
90%	44.996A	8.474A	8.509A	2.474A	629.875	93.789%	54.2°C	0.987
	12.165V	5.016V	3.29V	4.851V	671.59		44.6°C	230.42V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
100%	50.408A	8.989A	9.05A	2.585A	700.244	93.486%	56.41°C	0.988
	12.162V	5.006V	3.281V	4.835V	749.036		45.71°C	230.43V
110%	55.421A	10.01A	10.18A	2.592A	769.653	93.129%	58.31°C	0.99
	12.158V	4.995V	3.271V	4.823V	826.435		46.56°C	230.43V
CL1	0.115A	11.883A	11.917A	0A	101.3	89.044%	49.54°C	0.84
	12.173V	5.066V	3.331V	4.986V	113.765		42.9°C	230.41V
CL2	0.115A	19.689A	0A	0A	101.395	88.079%	50.34°C	0.842
	12.175V	5.079V	3.338V	5.017V	115.119		43.09°C	230.4V
CL3	0.115A	0A	19.767A	0A	67.387	83.023%	52.45°C	0.758
	12.164V	5.057V	3.339V	4.977V	81.167		44.22°C	230.4V
CL4	57.561A	0A	0A	0A	700.084	94.36%	55.33°C	0.988
	12.163V	5.019V	3.305V	4.928V	741.93		45.91°C	230.42V

The results above are not used in the certification process

Light Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
20W	1.220A	0.491A	0.49A	0.2A	19.997	76.602%	39.62°C	0.794
	12.177V	5.088V	3.366V	5.007V	26.105		36.5°C	115.14V
40W	2.684A	0.688A	0.687A	0.3A	39.996	85.771%	41.31°C	0.908
	12.176V	5.086V	3.364V	5.002V	46.631		37.52°C	115.14V
60W	4.150A	0.885A	0.883A	0.4A	59.995	89.013%	43.26°C	0.946
	12.174V	5.085V	3.362V	4.997V	67.401		38.95°C	115.15V
80W	5.608A	1.082A	1.08A	0.501A	79.947	90.515%	45.13°C	0.963
	12.180V	5.084V	3.359V	4.991V	88.325		40.1°C	115.15V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Temps (In/Out)	PF/AC Volts
20W	1.220A	0.491A	0.49A	0.2A	20.003	77.731%	40.14°C	0.447
	12.171V	5.087V	3.365V	5.006V	25.734		36.86°C	230.4V
40W	2.686A	0.688A	0.687A	0.3A	40.002	86.196%	40.1°C	0.612
	12.171V	5.085V	3.363V	5.001V	46.408		37.34°C	230.4V
60W	4.152A	0.885A	0.884A	0.401A	60.001	89.59%	41.19°C	0.71
	12.170V	5.084V	3.361V	4.995V	66.973		37.89°C	230.4V
80W	5.612A	1.082A	1.081A	0.501A	79.966	91.416%	43.07°C	0.776
	12.177V	5.083V	3.358V	4.99V	87.475		39.33°C	230.41V

The results above are not used in the certification process

Ripple Measurements**115V**

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.00mV	8.13mV	5.99mV	7.14mV	Pass
20% Load	19.04mV	8.49mV	5.48mV	6.63mV	Pass
30% Load	20.62mV	9.87mV	5.84mV	7.44mV	Pass
40% Load	18.22mV	9.77mV	5.73mV	7.39mV	Pass
50% Load	12.19mV	10.38mV	6.09mV	8.36mV	Pass
60% Load	10.50mV	11.55mV	6.40mV	8.87mV	Pass
70% Load	10.98mV	12.12mV	6.40mV	8.26mV	Pass
80% Load	12.72mV	12.58mV	11.21mV	9.94mV	Pass
90% Load	13.74mV	13.25mV	11.15mV	9.28mV	Pass
100% Load	23.90mV	15.10mV	12.43mV	12.25mV	Pass
110% Load	25.55mV	16.38mV	13.08mV	13.60mV	Pass
Crossload1	21.21mV	10.58mV	12.88mV	7.20mV	Pass
Crossload2	18.48mV	10.79mV	6.60mV	6.83mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	17.06mV	12.58mV	20.93mV	10.45mV	Pass
Crossload4	23.60mV	14.50mV	7.18mV	13.70mV	Pass

The results above are not used in the certification process

230V

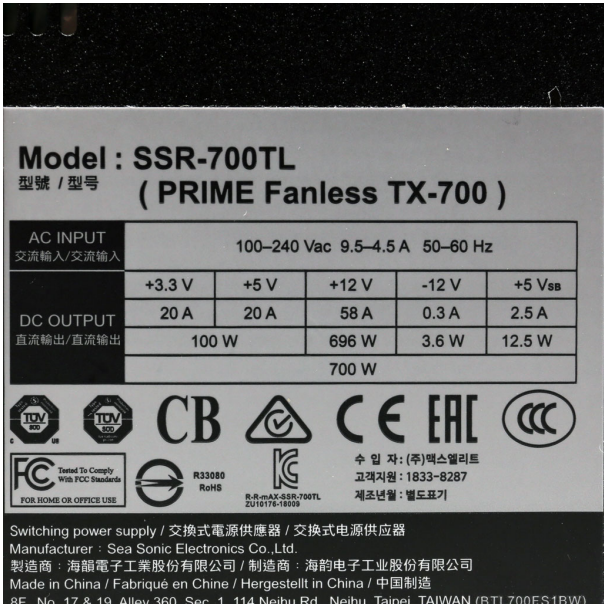
Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	19.94mV	7.88mV	5.84mV	7.24mV	Pass
20% Load	20.67mV	8.49mV	5.84mV	6.83mV	Pass
30% Load	21.28mV	9.26mV	5.89mV	6.88mV	Pass
40% Load	17.86mV	9.87mV	6.20mV	7.09mV	Pass
50% Load	11.84mV	10.53mV	6.45mV	8.01mV	Pass
60% Load	9.89mV	11.71mV	7.06mV	7.85mV	Pass
70% Load	11.39mV	12.17mV	7.21mV	8.87mV	Pass
80% Load	12.21mV	12.68mV	11.36mV	9.07mV	Pass
90% Load	14.29mV	13.65mV	11.57mV	9.53mV	Pass
100% Load	24.39mV	15.48mV	12.66mV	11.89mV	Pass
110% Load	26.03mV	16.03mV	13.21mV	12.75mV	Pass
Crossload1	23.07mV	10.93mV	12.76mV	7.23mV	Pass
Crossload2	20.26mV	11.04mV	6.65mV	7.19mV	Pass
Crossload3	21.08mV	12.63mV	21.80mV	10.15mV	Pass
Crossload4	24.69mV	13.89mV	7.21mV	13.00mV	Pass

The results above are not used in the certification process

Seasonic Prime Fanless TX-700 (#2)



Top side



Power specifications label

Cybenetics [REDACTED]

ETA [REDACTED]

LAMBDA [REDACTED]

SAFE [REDACTED]

DELTA [REDACTED]

PHI [REDACTED]

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

www.cybenetics.com - info@cybenetics.com