EVGA

EVGA 700B

Serial Number 1603530715800787

Lab ID 171

Certification ID 25171

Test Result Report ID:

Certificate Issue Date: Nov 9, 2018

115V 230V

Scheme: ETA-EMI PSU

115V 230V

Scheme: LAMBDA 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	EVGA
Model	700B
OEM/ODM	HEC
Serial Number	1603530715800787
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-6
Rated Frequency (Hz)	50-60

Rated Power (W)	700
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fixed cables
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Sleeve Bearing Fan (EFS-12E12H)
Semi-Passive Operation	✗
Cybenetics Testing Information	
Lab ID	171
Date of receipt	Nov 3, 2018
Testing Date	Nov 7, 2018
Report Issued Date	Nov 9, 2018
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Captive Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (540mm)	1	1	18-20AWG
4+4 pin EPS12V (600mm)	1	1	18AWG
6+2 pin PCIe (550mm+120mm)	1	2	18AWG
SATA (450mm+120mm+120mm)	3	9	18AWG
4 pin Molex (450mm+120mm+120mm+120mm)+FDD (+120mm)	1	4 / 1	18-20AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	20	56	3	0.3
	Watts	150		672	15	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

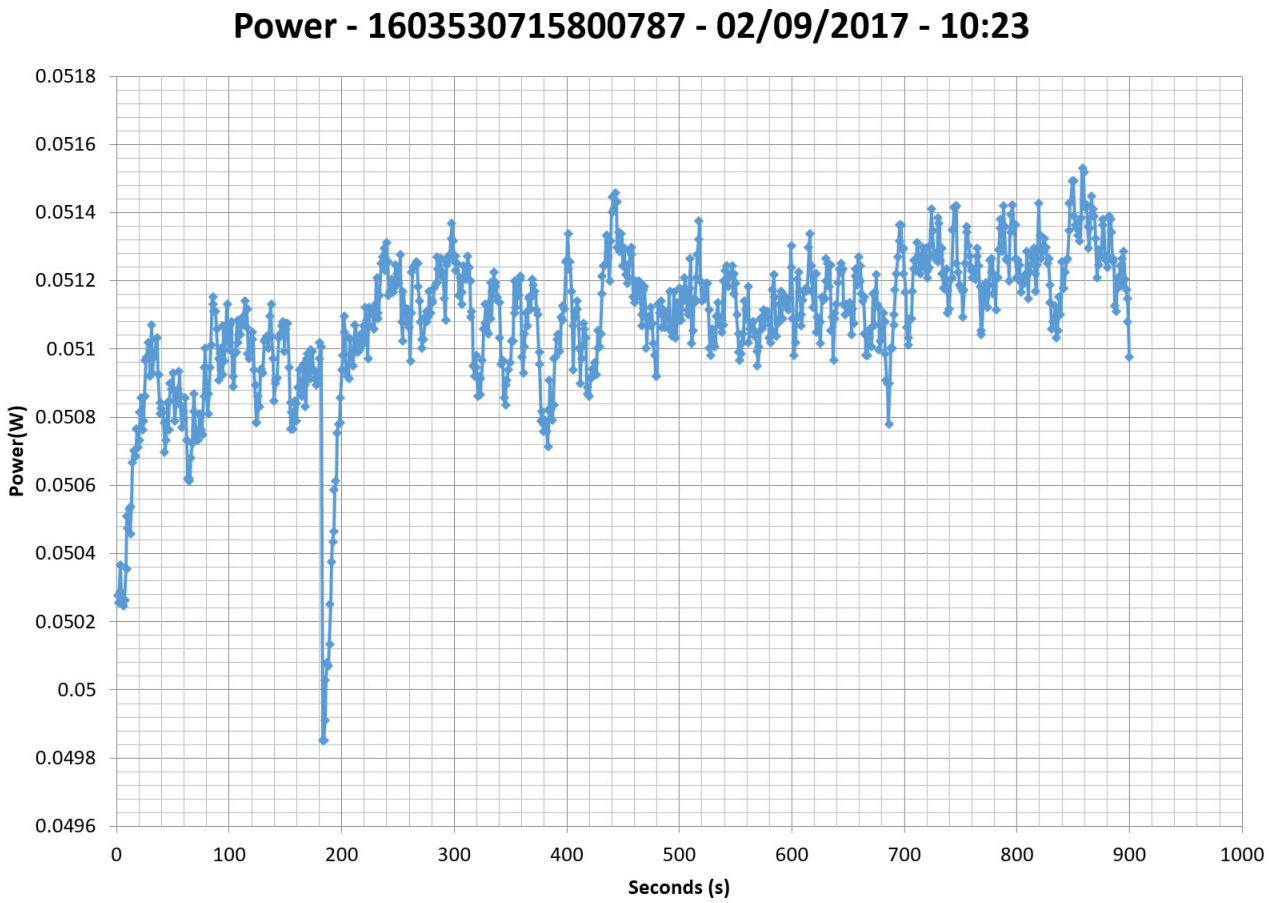
Accredited	
Average Efficiency (>1450 load combinations)	84.561%
Average Noise Output (>1450 Load Combinations)	34.88dBA
Average PF (>1450 Load Combinations)	0.986
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0510W
Non-Accredited	
12V Ripple (Full Load)	38.95mV
5V Ripple (Full Load)	39.06mV
3.3V Ripple (Full Load)	31.98mV
5VSB Ripple (Full Load)	27.07mV
12V Load Regulation	1.98%
5V Load Regulation	3.10%
3.3V Load Regulation	3.60%
5VSB Load Regulation	3.60%
Inrush Current	54.422A

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	17.04
AC Loss to PWR_OK Hold Up Time (ms)	14.48
PWR_OK Inactive to DC Loss Delay (ms)	2.56

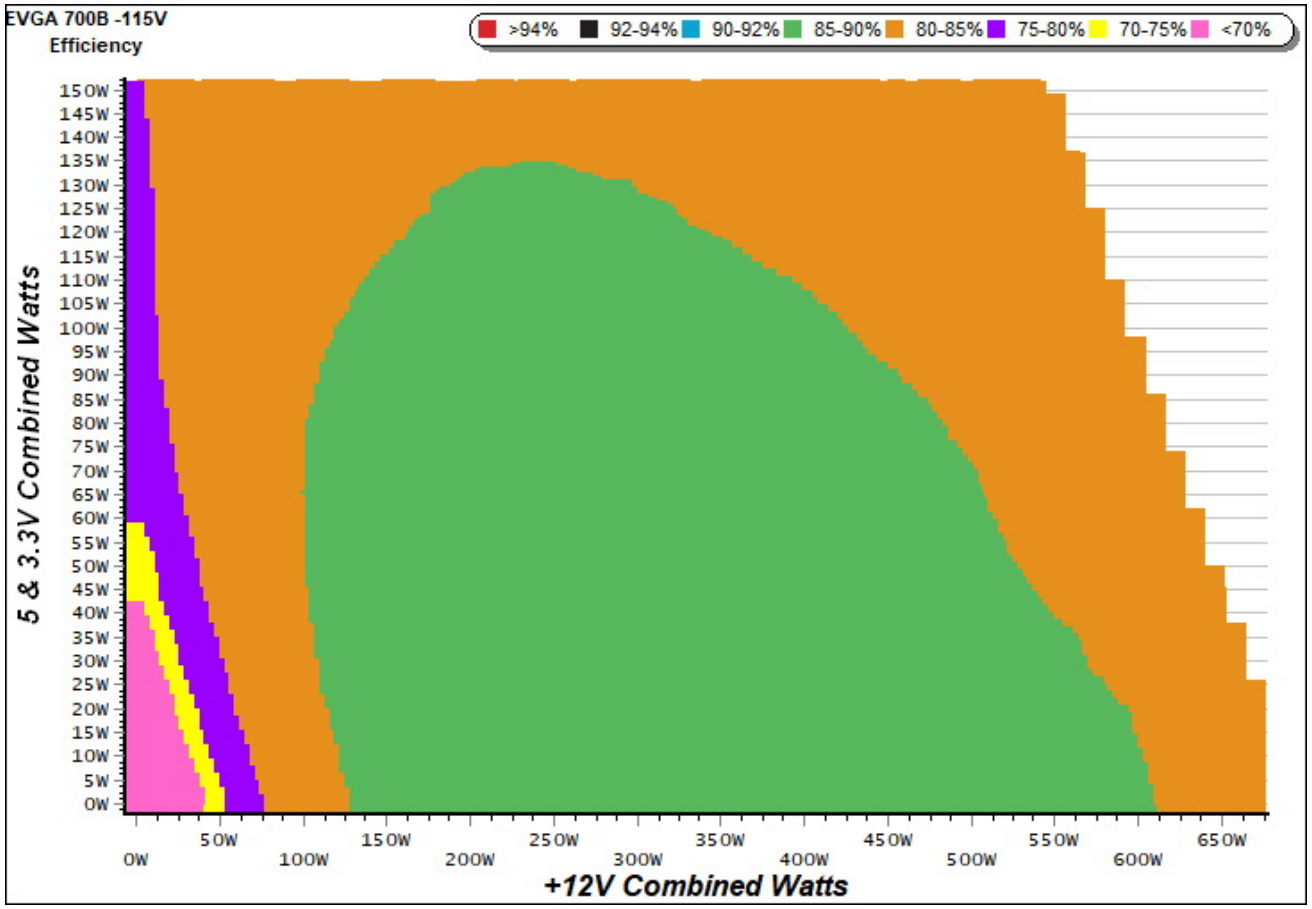
Vampire Power

Graphs 115V



Efficiency Graph

115V

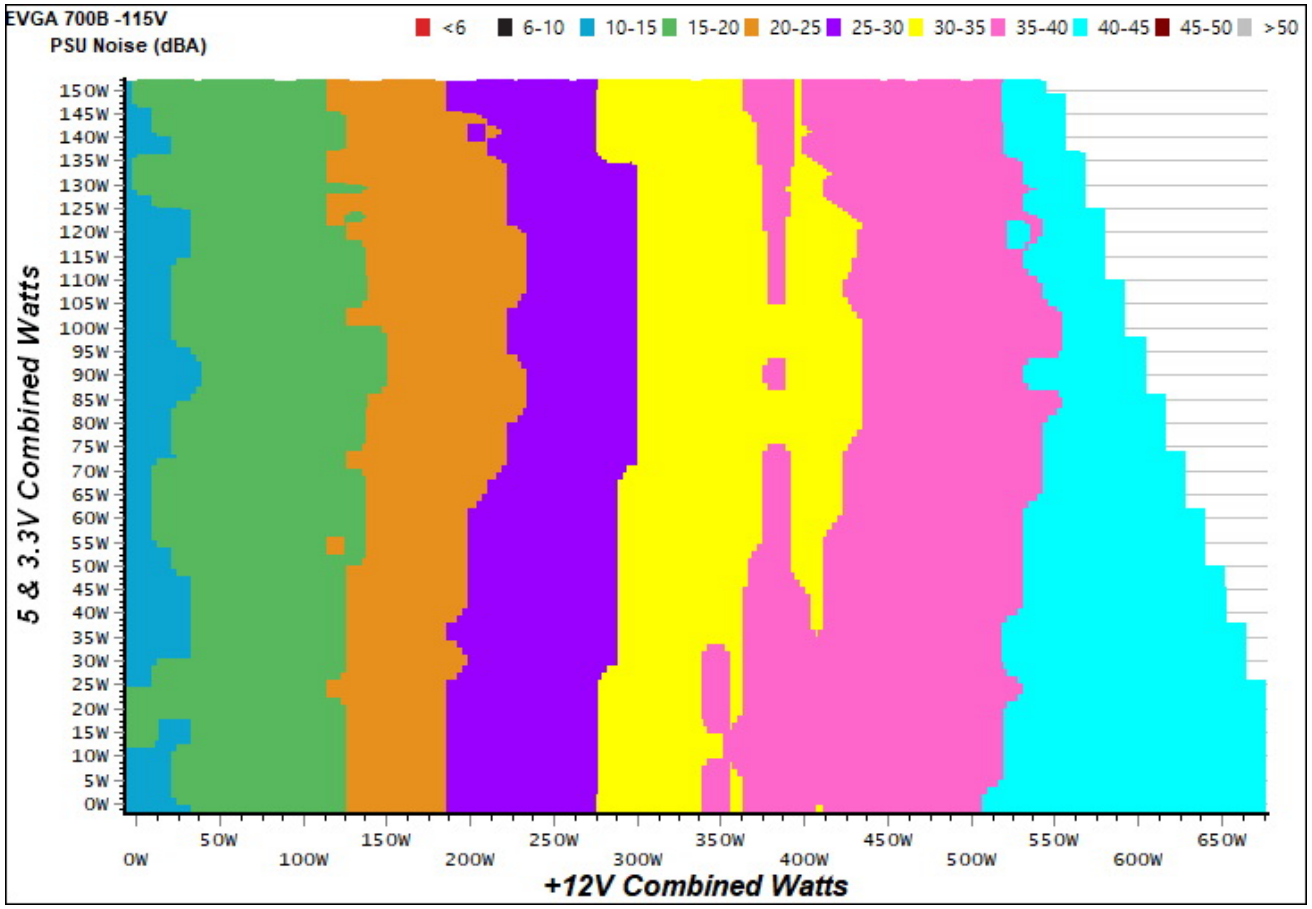


INFO

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

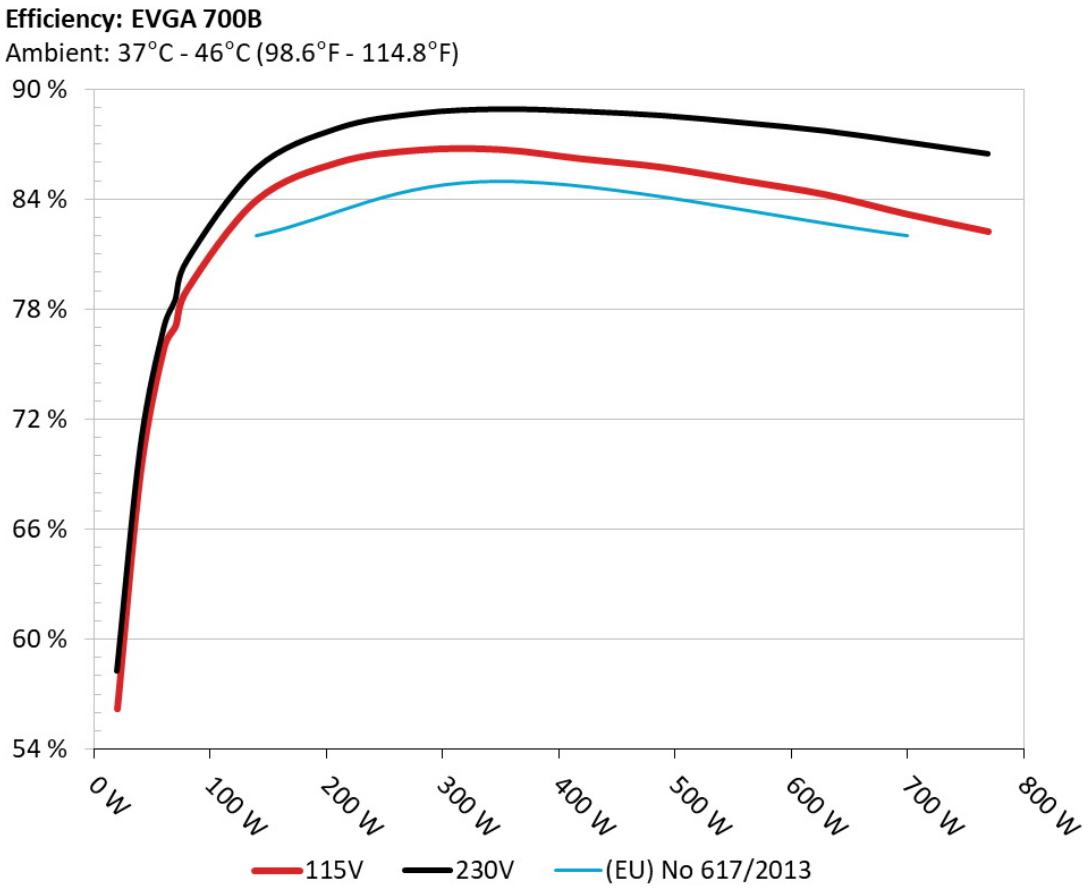


INFO

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.

Indicative Performance

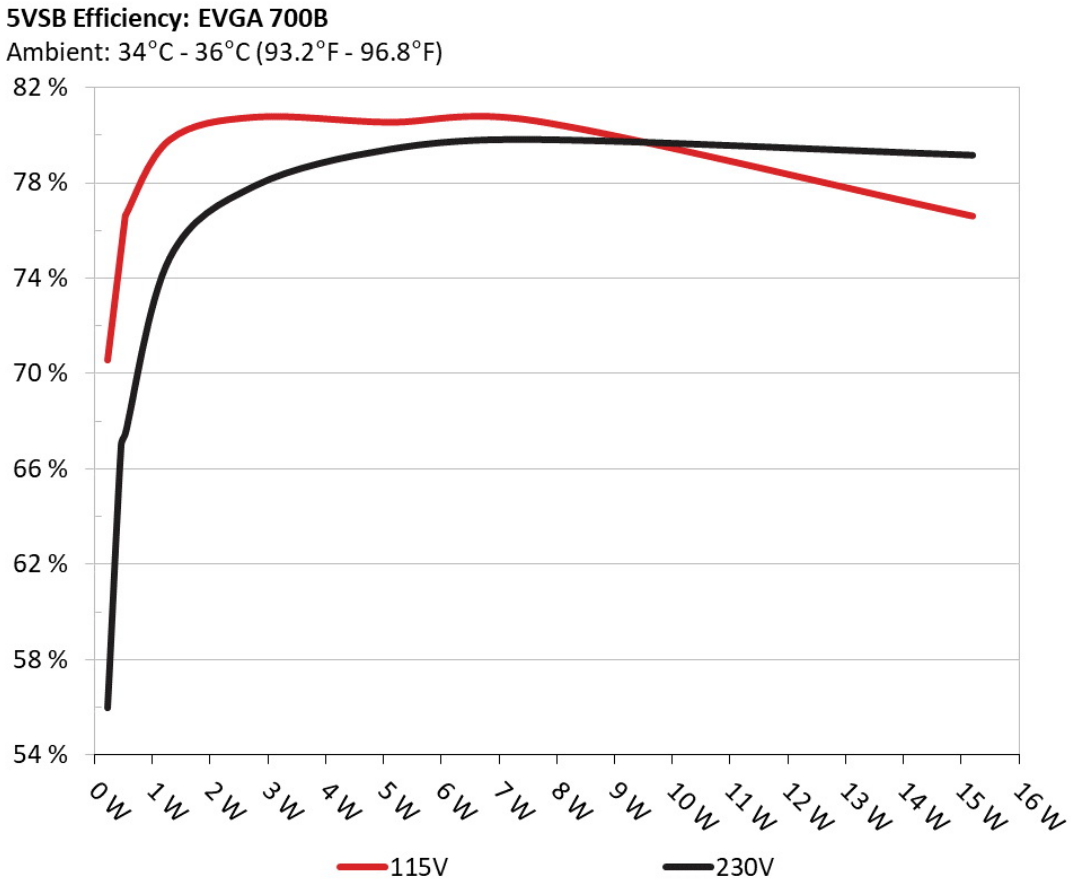
Efficiency under high ambient temperature



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) 115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.216	70.588%	0.044
	5.116V	0.306		115.11V

2	0.088A	0.449	76.621%	0.082
	5.115V	0.586		115.11V
3	0.542A	2.771	80.740%	0.291
	5.108V	3.432		115.11V
4	1.003A	5.113	80.520%	0.354
	5.099V	6.350		115.11V
5	1.502A	7.645	80.575%	0.387
	5.090V	9.488		115.12V
6	3.002A	15.202	76.604%	0.438
	5.064V	19.845		115.11V

Supplementary Tests (For Reference)

Typical 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
1	3.975A	1.975A	1.964A	0.981A	69.792	77.071%	1605	35.5	38.14°C	0.975
	12.129V	5.060V	3.360V	5.083V	90.556				41.75°C	115.14V
2	8.998A	2.969A	2.954A	1.181A	139.771	83.946%	1705	37.4	38.30°C	0.982
	12.106V	5.043V	3.347V	5.065V	166.502				42.40°C	115.14V
3	14.384A	3.482A	3.472A	1.385A	209.903	85.988%	1805	39.1	38.83°C	0.979
	12.084V	5.029V	3.336V	5.050V	244.107				43.46°C	115.14V
4	19.787A	3.986A	3.968A	1.586A	279.773	86.665%	1915	40.9	39.69°C	0.982
	12.059V	5.015V	3.324V	5.033V	322.821				44.88°C	115.13V
5	24.867A	5.000A	4.976A	1.791A	349.743	86.687%	1965	41.2	40.02°C	0.986
	12.035V	4.999V	3.313V	5.019V	403.455				46.19°C	115.13V
6	29.966A	6.027A	5.997A	1.997A	419.686	86.182%	1975	41.2	40.47°C	0.989
	12.010V	4.980V	3.300V	5.002V	486.978				47.98°C	115.13V
7	35.090A	7.050A	7.022A	2.206A	489.630	85.714%	1975	41.2	41.88°C	0.991
	11.985V	4.964V	3.288V	4.983V	571.237				50.59°C	115.13V
8	40.243A	8.093A	8.060A	2.416A	559.597	84.981%	1990	41.4	43.28°C	0.992
	11.957V	4.946V	3.274V	4.965V	658.493				53.59°C	115.13V

9	45.854A	8.627A	8.614A	2.420A	629.656	84.230%	1990	41.4	44.19°C	0.994
	11.930V	4.931V	3.262V	4.950V	747.547				55.64°C	115.13V
10	51.245A	9.161A	9.155A	3.045A	699.500	83.167%	1975	41.2	44.85°C	0.994
	11.900V	4.912V	3.244V	4.922V	841.076				57.13°C	115.15V
11	57.251A	9.189A	9.192A	3.055A	769.458	82.218%	1975	41.2	45.79°C	0.995
	11.873V	4.900V	3.231V	4.907V	935.873				59.16°C	115.14V
CL1	0.095A	18.029A	18.001A	0.005A	150.179	78.980%	1975	41.2	42.12°C	0.982
	12.071V	4.953V	3.317V	5.042V	190.148				50.70°C	115.18V
CL2	55.950A	1.003A	1.003A	1.002A	680.463	83.987%	1990	41.4	44.98°C	0.994
	11.925V	4.969V	3.268V	4.988V	810.202				56.29°C	115.14V

The results above are not used in the certification process

Light Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.110A	0.492A	0.473A	0.196A	19.678	56.194%	1480	33.7	0.934
	12.150V	5.076V	3.370V	5.106V	35.018				115.15V
2	2.429A	0.980A	0.980A	0.391A	39.746	69.108%	1440	32.2	0.966
	12.140V	5.069V	3.365V	5.099V	57.513				115.15V
3	3.663A	1.478A	1.484A	0.586A	59.894	75.875%	1520	34.4	0.973
	12.132V	5.063V	3.361V	5.092V	78.938				115.14V
4	4.885A	1.974A	1.964A	0.786A	79.806	79.061%	1585	35.4	0.975
	12.125V	5.058V	3.358V	5.085V	100.942				115.14V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.1 mV	13.0 mV	31.4 mV	10.1 mV	Pass
20% Load	10.5 mV	17.3 mV	30.7 mV	12.3 mV	Pass
30% Load	13.2 mV	19.0 mV	30.0 mV	13.3 mV	Pass
40% Load	15.3 mV	21.4 mV	38.0 mV	16.3 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	18.9 mV	23.5 mV	31.3 mV	15.0 mV	Pass
60% Load	22.0 mV	27.4 mV	34.9 mV	17.5 mV	Pass
70% Load	24.9 mV	30.2 mV	37.1 mV	18.0 mV	Pass
80% Load	28.3 mV	33.7 mV	37.1 mV	20.1 mV	Pass
90% Load	32.3 mV	35.0 mV	31.1 mV	22.4 mV	Pass
100% Load	39.0 mV	39.1 mV	32.0 mV	27.1 mV	Pass
110% Load	45.8 mV	43.1 mV	35.2 mV	27.4 mV	Pass
Crossload 1	17.4 mV	26.0 mV	41.5 mV	17.0 mV	Pass
Crossload 2	37.0 mV	36.8 mV	34.5 mV	20.3 mV	Pass

The results above are not used in the certification process

EVGA 700B

Top side

Power specifications label

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

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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