



EVGA 600B

Serial Number 1603530615803629

Lab ID 177

Certification ID 25177

Test Result Report ID:

Certificate Issue Date: Sep 20, 2018

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

A handwritten signature in blue ink, appearing to read 'A. Bitziopoulos'.

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		600B
OEM/ODM		HEC
Serial Number		1603530615803629
Product Specifications		
Manufacturer-Provided Information		
Rated Voltage (Vrms)		100-240
Rated Current (Arms)		10-5
Rated Frequency (Hz)		50-60

Rated Power (W)	600
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	X
Cybenetics Testing Information	
Lab ID	177
Date of receipt	Sep 9, 2018
Testing Date	Sep 17, 2018
Report Issued Date	Sep 20, 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 (560)	1	1	18-20AWG
4+4 pin EPS12V (620mm)	1	1	18AWG
6+2 pin PCIe (570mm+120mm)	1	2	20AWG
SATA (470mm+120mm+120mm)	2	6	20AWG
4 pin Molex (470mm+120mm+120mm) / FDD (+120mm)	1	3 / 1	20-22AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	20	49	3	0.3
	Watts	130		588	15	3.6
Total Max. Power (W)		600				

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)	82.635%
Average Noise Output (>1450 Load Combinations)	27.94dBA
Average PF (>1450 Load Combinations)	0.972
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0571W
Non-Accredited	
12V Ripple (Full Load)	32.40mV
5V Ripple (Full Load)	28.75mV
3.3V Ripple (Full Load)	16.04mV
5VSB Ripple (Full Load)	25.02mV
12V Load Regulation	2.09%
5V Load Regulation	1.72%
3.3V Load Regulation	3.60%
5VSB Load Regulation	3.60%
Inrush Current	84.834A

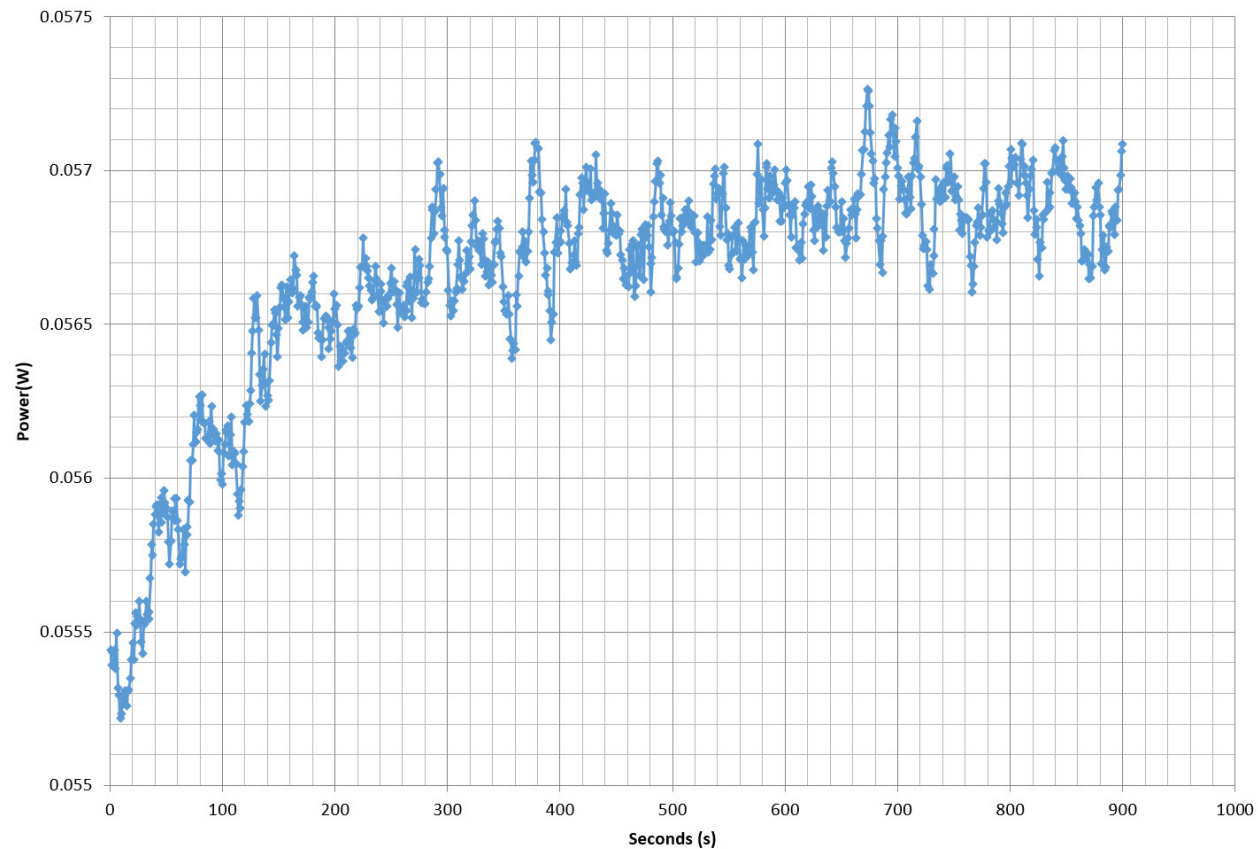
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	17.70
AC Loss to PWR_OK Hold Up Time (ms)	11.96
PWR_OK Inactive to DC Loss Delay (ms)	5.74

Vampire Power

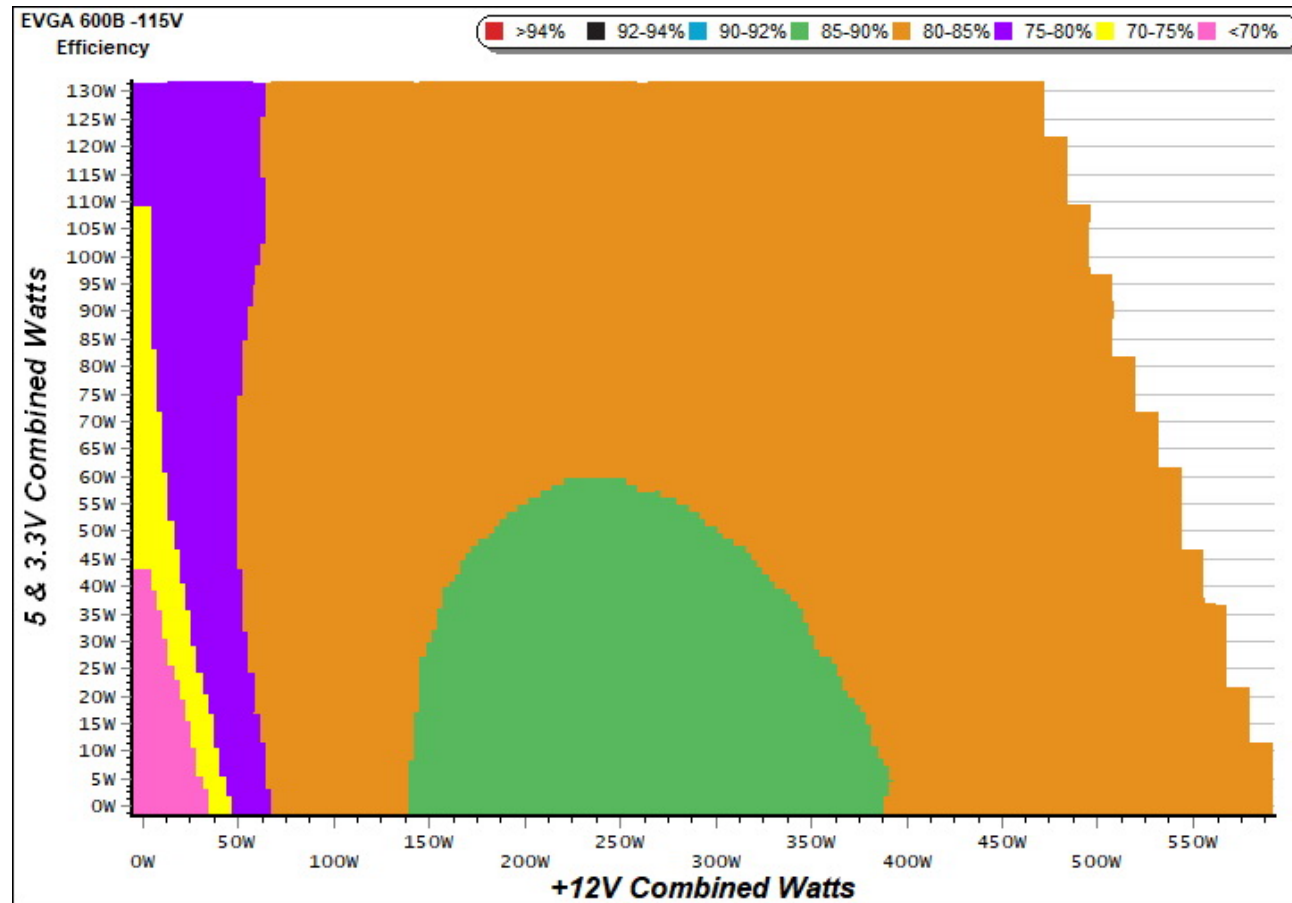
Graphs 115V

Power - 1603530615803629 - 15/09/2017 - 11:23



Efficiency Graph

115V

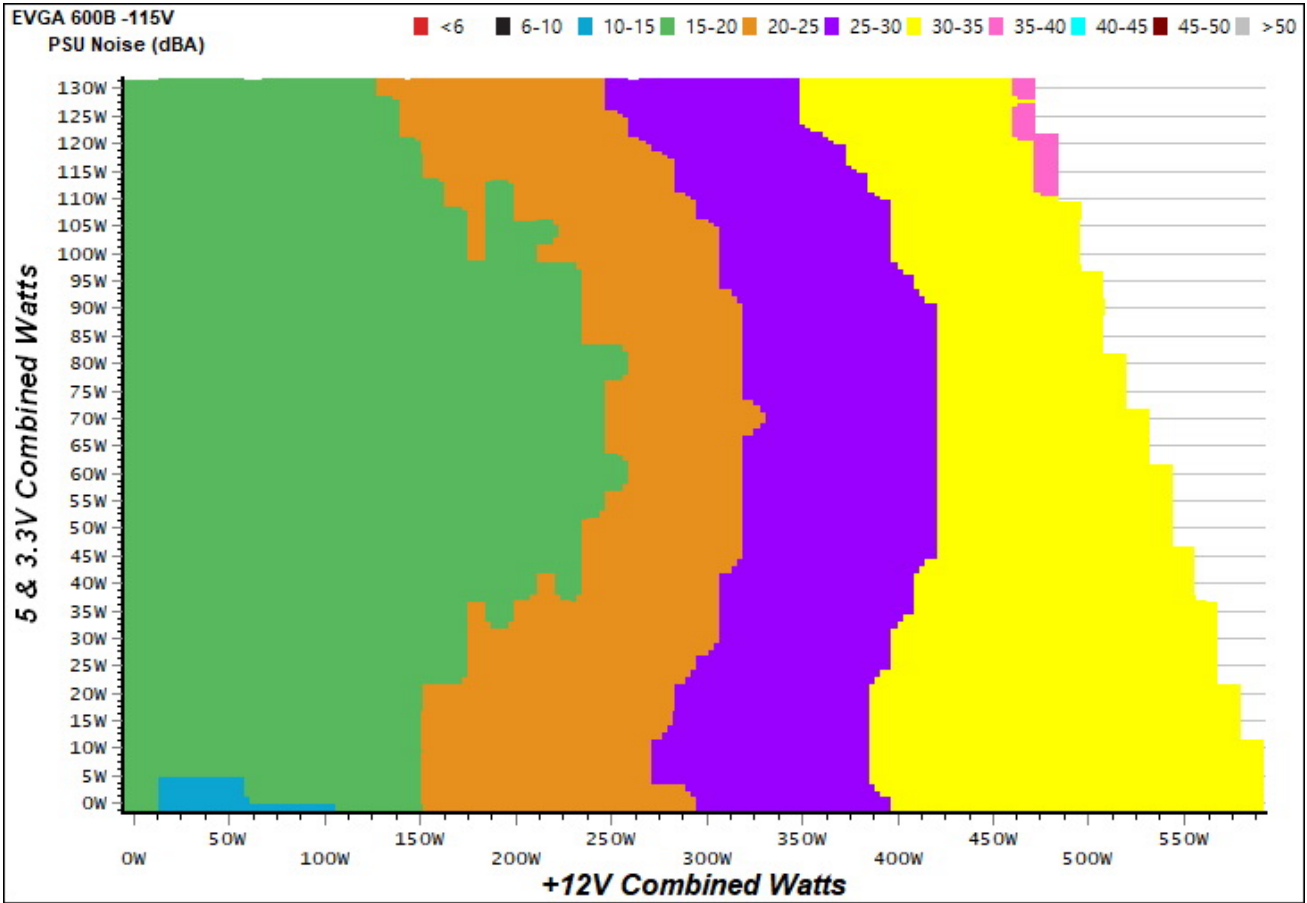


INFO

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

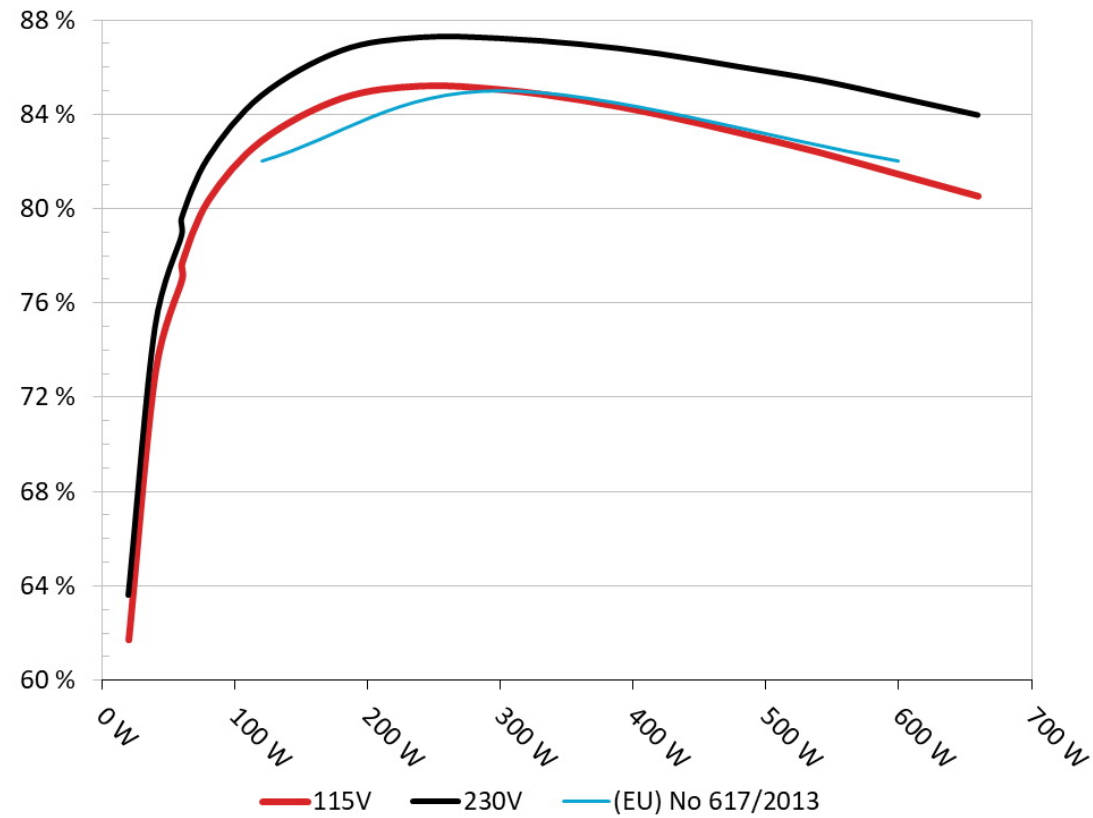
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: EVGA 600B

Ambient: 37°C - 46°C (98.6°F - 114.8°F)



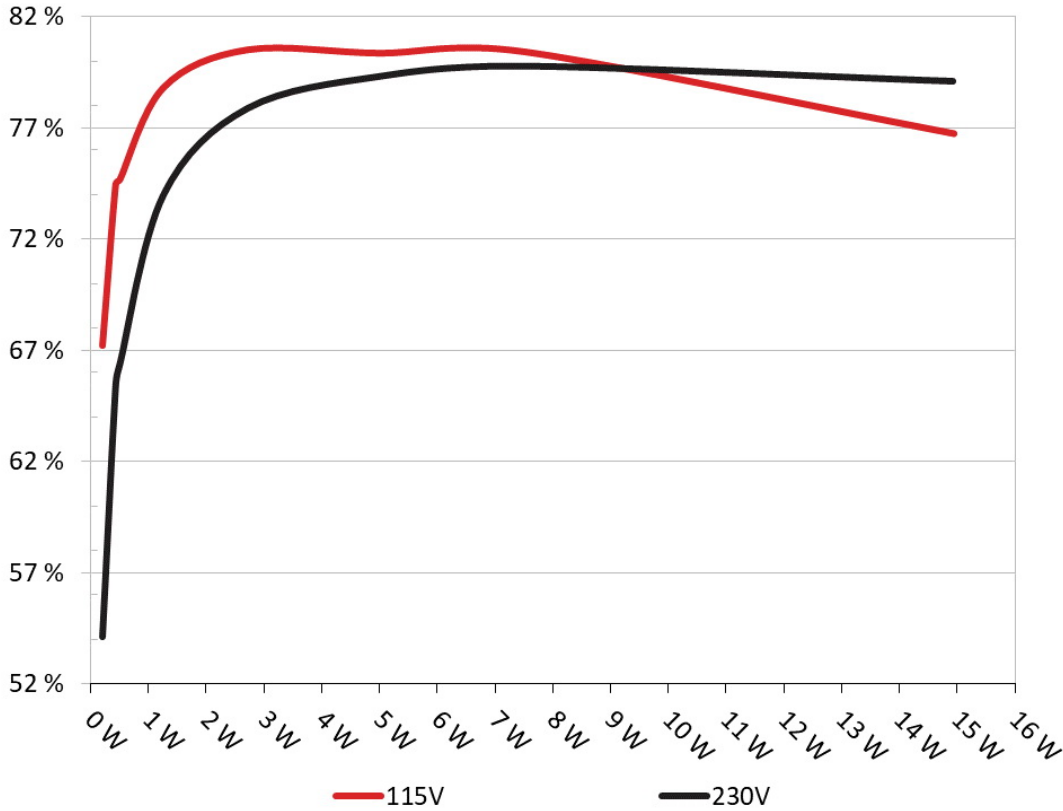
INFO

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: EVGA 600B

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	0.042A	0.209	67.203%	0.058
	5.032V	0.311		115.14V

2	0.087A	0.437	74.446%	0.104
	5.032V	0.587		115.14V
3	0.542A	2.722	80.509%	0.310
	5.022V	3.381		115.10V
4	1.002A	5.026	80.352%	0.362
	5.016V	6.255		115.22V
5	1.501A	7.515	80.417%	0.391
	5.005V	9.345		115.13V
6	3.002A	14.943	76.737%	0.437
	4.978V	19.473		115.13V

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	3.107A	1.965A	1.950A	1.001A	59.809	77.028%	787	15.6	38.13°C	0.916
	12.303V	5.088V	3.378V	4.993V	77.646				41.89°C	115.18V
2	7.243A	2.950A	2.938A	1.202A	119.794	82.898%	822	16.2	38.37°C	0.952
	12.280V	5.077V	3.365V	4.980V	144.507				43.18°C	115.18V
3	11.740A	3.447A	3.456A	1.405A	179.863	84.693%	873	17.4	38.87°C	0.963
	12.248V	5.076V	3.355V	4.967V	212.371				43.88°C	115.18V
4	16.253A	3.943A	3.945A	1.615A	239.769	85.220%	1040	22.8	39.29°C	0.969
	12.218V	5.074V	3.343V	4.950V	281.354				44.62°C	115.19V
5	20.440A	4.942A	4.949A	1.820A	299.743	85.066%	1240	27.6	39.70°C	0.975
	12.195V	5.062V	3.330V	4.934V	352.364				45.84°C	115.19V
6	24.643A	5.938A	5.969A	2.035A	359.708	84.629%	1450	32.1	41.06°C	0.980
	12.171V	5.051V	3.316V	4.910V	425.043				47.68°C	115.19V
7	28.865A	6.950A	6.993A	2.245A	419.697	84.001%	1630	35.9	41.89°C	0.983
	12.146V	5.039V	3.302V	4.896V	499.636				49.37°C	115.20V
8	33.107A	7.956A	8.027A	2.455A	479.604	83.231%	1795	38.5	42.64°C	0.985
	12.119V	5.028V	3.288V	4.882V	576.235				51.36°C	115.21V

9	37.822A	8.464A	8.573A	2.460A	539.682	82.402%	1938	40.5	44.40°C	0.986
	12.085V	5.026V	3.276V	4.869V	654.939				53.49°C	115.22V
10	42.322A	8.957A	9.101A	3.095A	599.492	81.473%	2015	41.4	45.64°C	0.986
	12.046V	5.024V	3.263V	4.842V	735.813				56.15°C	115.23V
11	47.459A	8.949A	9.132A	3.102A	659.451	80.540%	2015	41.4	46.36°C	0.986
	12.005V	5.031V	3.252V	4.831V	818.604				57.18°C	115.25V
CL1	0.098A	16.027A	16.004A	0.004A	129.078	74.742%	1960	40.8	45.75°C	0.959
	12.653V	4.664V	3.316V	4.952V	172.697				54.44°C	115.20V
CL2	48.961A	1.004A	1.002A	1.001A	595.062	81.696%	1980	41.1	46.38°C	0.986
	11.879V	5.219V	3.294V	4.909V	728.390				55.47°C	115.24V

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	1.187A	0.483A	0.468A	0.196A	19.640	61.707%	768	15.2	0.860
	12.295V	5.124V	3.390V	5.023V	31.828				115.18V
2	2.400A	0.966A	0.973A	0.396A	39.727	73.075%	787	15.6	0.893
	12.296V	5.112V	3.385V	5.012V	54.365				115.18V
3	3.614A	1.467A	1.476A	0.596A	59.875	77.714%	787	15.6	0.915
	12.292V	5.100V	3.380V	5.004V	77.045				115.18V
4	4.817A	1.966A	1.954A	0.801A	79.806	80.379%	787	15.6	0.932
	12.289V	5.093V	3.375V	4.997V	99.287				115.18V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.9 mV	15.5 mV	14.0 mV	18.7 mV	Pass
20% Load	13.8 mV	19.3 mV	17.6 mV	17.2 mV	Pass
30% Load	14.7 mV	20.7 mV	15.0 mV	17.5 mV	Pass
40% Load	15.8 mV	20.2 mV	15.3 mV	20.1 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	18.1 mV	21.4 mV	16.0 mV	20.2 mV	Pass
60% Load	20.9 mV	21.7 mV	17.7 mV	20.9 mV	Pass
70% Load	23.0 mV	23.3 mV	21.7 mV	23.4 mV	Pass
80% Load	25.2 mV	25.8 mV	24.3 mV	26.3 mV	Pass
90% Load	28.7 mV	25.8 mV	27.4 mV	25.2 mV	Pass
100% Load	32.4 mV	28.8 mV	26.0 mV	25.0 mV	Pass
110% Load	36.3 mV	26.5 mV	25.5 mV	26.3 mV	Pass
Crossload 1	34.3 mV	62.0 mV	16.3 mV	21.5 mV	Fail
Crossload 2	37.9 mV	20.0 mV	24.5 mV	23.4 mV	Pass

The results above are not used in the certification process

EVGA 600B



Top side

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 LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

CE FC RoHS 80 PLUS BRONZE AC Input DC Output Max Output, A Combined, W Output Power, P_{cont} +40°C ambient @ full load AC 100-240V~ 50-60Hz 10/5A +5V +3.3V +12V -12V +5Vsb 20 24 49 0.3 3.0 130 588 3.6 15 600W @ +40°C					
--	--	--	--	--	--

Power specifications label

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

www.cybenetics.com - info@cybenetics.com