



Enermax Platimax D.F. 1200W

Serial Number

Lab ID 215

Certification ID 25215

Test Result Report ID:

Certificate Issue Date: Nov 13, 2018

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

A handwritten signature in blue ink, appearing to read "A. Bitziopoulos", is 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	Enermax
Model	Platimax D.F. 1200W
OEM/ODM	Channel Well Technology
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	14-7
Rated Frequency (Hz)	47-63

Rated Power (W)	1200
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Twister Bearing Fan (ED142512H-FA)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	215
Date of receipt	Nov 3, 2018
Testing Date	Nov 11, 2018
Report Issued Date	Nov 13, 2018
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 (600mm)	1	1	16-20AWG	No
4+4 pin EPS12V (700mm)	1	1	16AWG	No
8 pin EPS12V (700mm)	1	1	16AWG	No
6+2 pin PCIe (2x600mm)	3	6	16-20AWG	No
SATA (500mm+150mm+150mm+150mm)	3	12	18AWG	No
4 pin Molex (500mm+140mm+140mm+140mm)	1	4	18AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	18AWG	No

Power Specifications

Rail		3.3V	5V	12V1	12V2	12V3	12V4	5VSB	-12V
Max. Power	Amps	25	25	25	25	40	40	3	0.3
	Watts	130			1200			15	3.6
Total Max. Power (W)		1200							

Parts Description

General Data	
Manufacturer (OEM)	CWT
Primary Side	
Transient Filter	6x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor & Relay
Bridge Rectifier(s)	2x Vishay LVB2560 (600V, 25A @ 105°C)
APFC MOSFETS	2x Toshiba TK25A60X (600V, 25A @ 150°C, 0.105Ohm)
APFC Boost Diode	2x CREE C3D06060A (600V, 6A @ 154°C)
Hold-up Cap(s)	2x Nippon Chemi-Con (400V, 470uF, 2000h @ 105°C, KMR)
Main Switchers	4x B21N60EF
Driver ICs	2x Texas Instruments UCC21520
APFC Controller	Texas Instruments UCD3138A (31.25 MHz, 32-bit ARM7TDMI-S Processor, 32KB Flash, 4KB RAM, 3x Feedback loop control, 14-bit DAC, up to 2 MHz switching frequency)
LLC Resonant Controller	Champion CM6901T6X
Topology	Primary side: Interleaved PFC, Full-Bridge & LLC Resonant Controller Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	8x Infineon BSC014N06NS (60V, 100A @ 100°C, 1.45mOhm)
5V & 3.3V	DC-DC Converters: 2x UBIQ QM3016D (30V, 68A @ 100°C, 4mOhm) 2x UBIQ QM3006D (30V, 57A @ 100°C, 5.5mOhm) PWM Controller: 1x Anpec APW7159C
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (1-5,000 @ 105°C, KZE), Nippon Chemi-Con (4-10,000 @ 105°C, KY) Polymers: Su' scon, APAQ, Elite
Supervisor IC	Weltrend WT7518 (OCP, PG, SCP) & Weltrend WT751002 (OVP, UVP, PG) & LM358
Fan Model	Enermax ED142512H-FA (140mm, 12V, 0.46A, Twister Bearing)

5VSB Circuit	
Rectifiers	ISD04N65A (650V, 4A, 2.5Ohm), SPN5003 (N-Channel Enhancement Mode FET), & PS1045L SBR
Driver IC	Texas Instruments UCC27324
PWM Controller	On-Bright OB5282CP

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)	89.530%
Average Noise Output (>1450 Load Combinations)	32.33dBA
Average PF (>1450 Load Combinations)	0.993
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0376W
Non-Accredited	
12V Ripple (Full Load)	39.84mV
5V Ripple (Full Load)	24.97mV
3.3V Ripple (Full Load)	39.01mV
5VSB Ripple (Full Load)	33.01mV
12V Load Regulation	1.60%
5V Load Regulation	0.47%
3.3V Load Regulation	0.90%
5VSB Load Regulation	1.44%
Inrush Current	19.871A

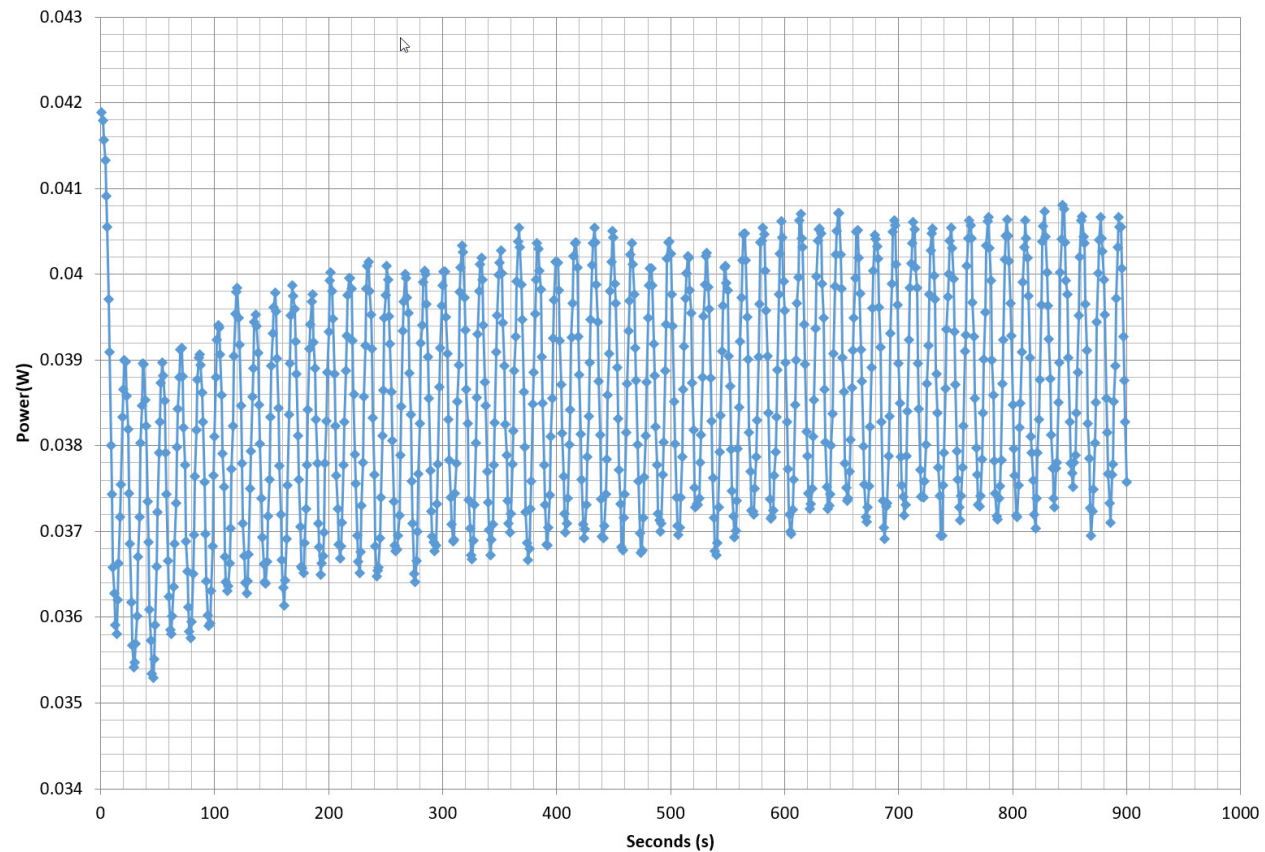
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	17.8
AC Loss to PWR_OK Hold Up Time (ms)	15.7
PWR_OK Inactive to DC Loss Delay (ms)	2.1

Vampire Power

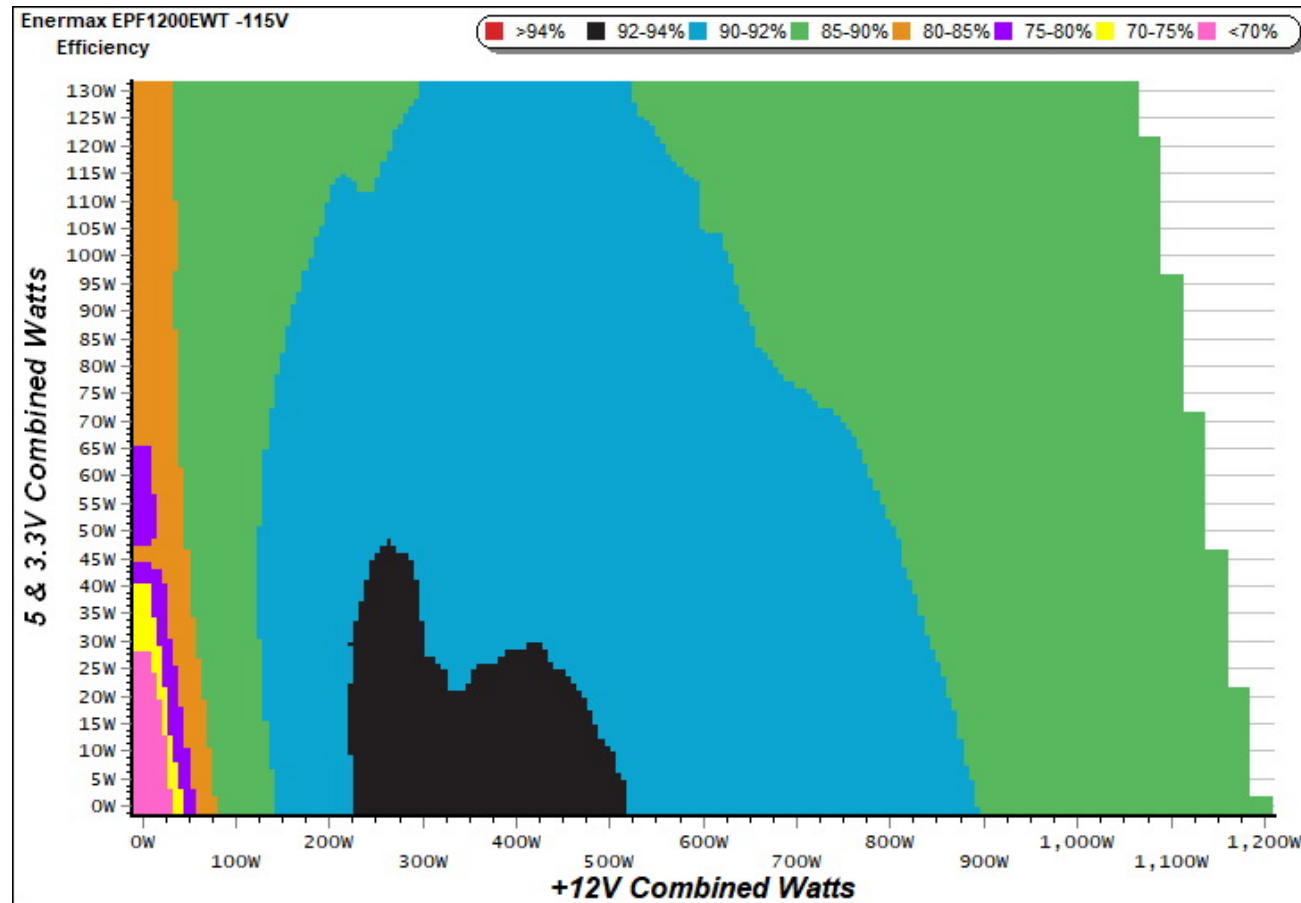
Graphs 115V

Power 11/11/2017 - 09:35



Efficiency Graph

115V

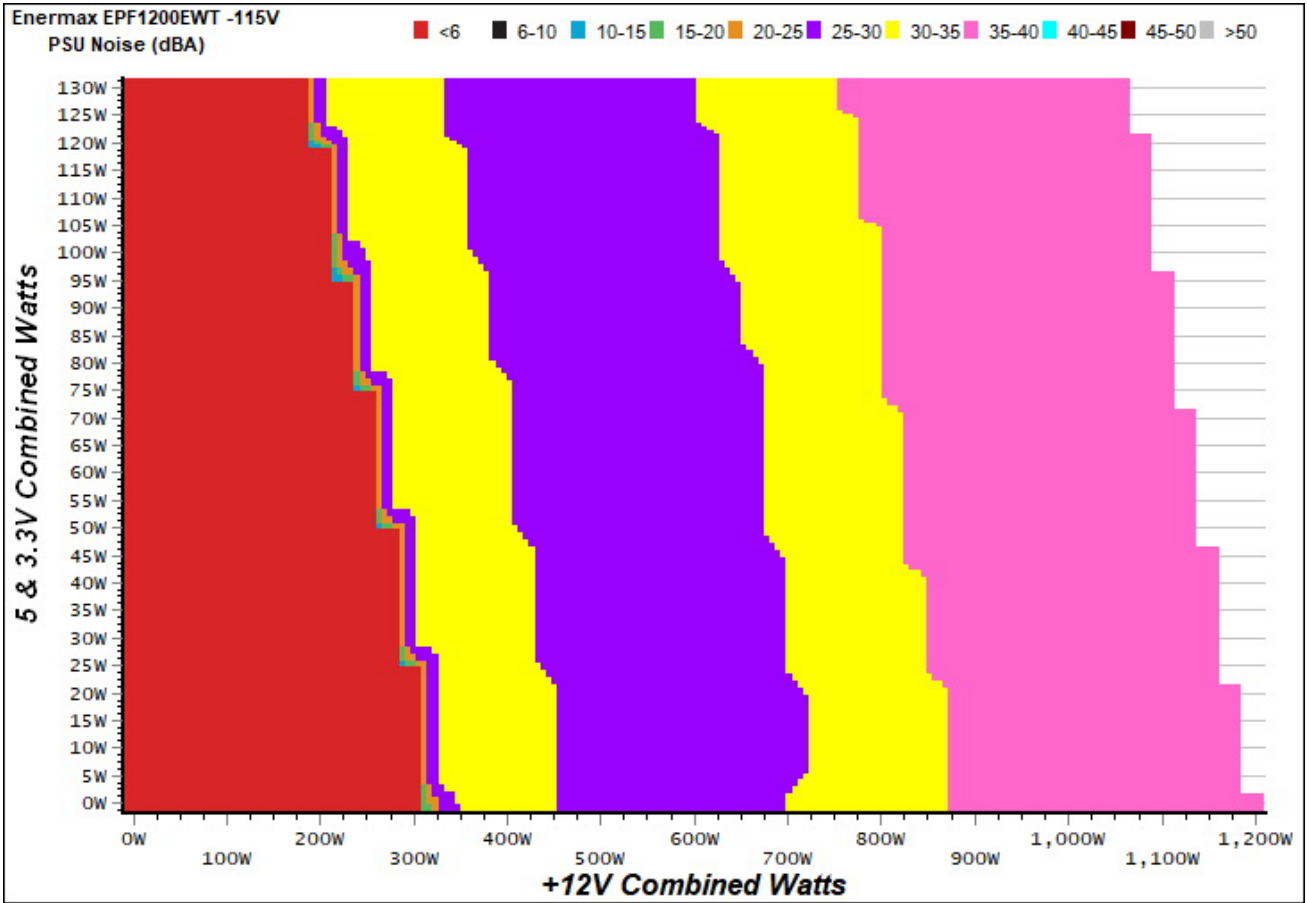


INFO

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

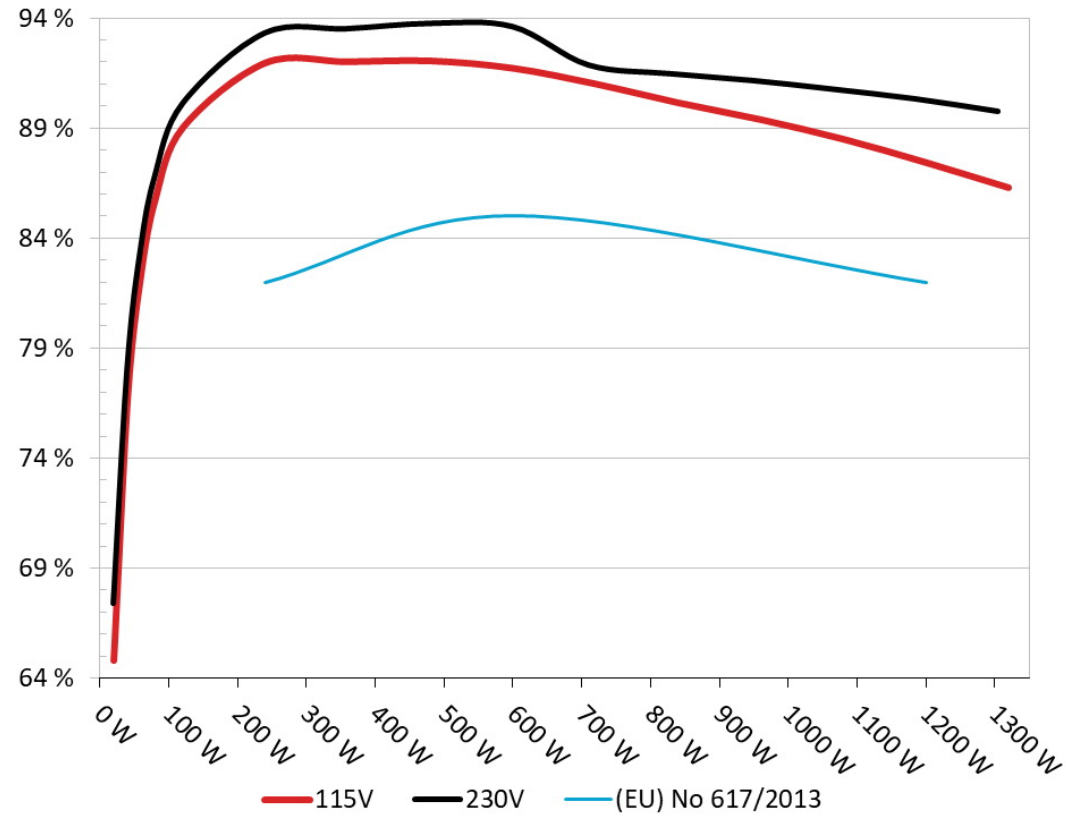
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Enermax EPF1200EWT

Ambient: 37°C - 48°C (98.6°F - 118.4°F)



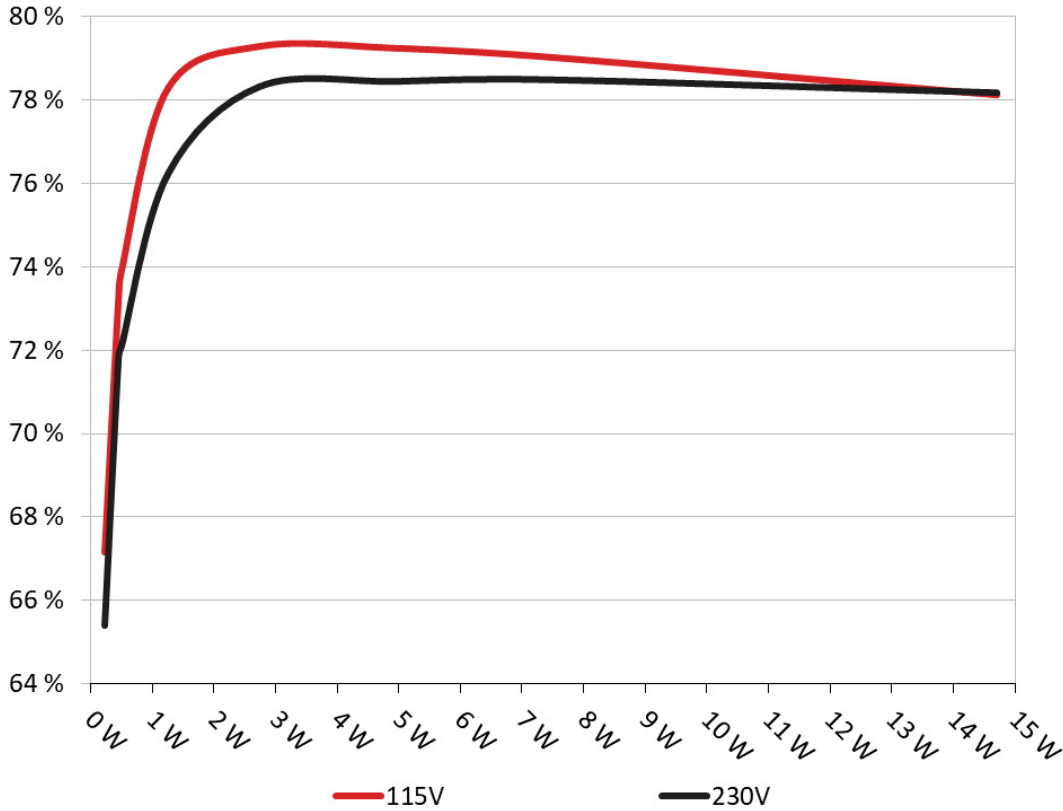
INFO

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: Enermax EPF1200EWT

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	0.225	67.164%	0.025
	4.992V	0.335		115.28V

2	0.090A	0.449	73.246%	0.045
	4.990V	0.613		115.27V
3	0.550A	2.737	79.287%	0.210
	4.976V	3.452		115.27V
4	1.000A	4.962	79.240%	0.303
	4.962V	6.262		115.27V
5	1.500A	7.420	79.029%	0.361
	4.947V	9.389		115.26V
6	3.000A	14.701	78.122%	0.436
	4.901V	18.818		115.26V

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	8.176A	1.968A	1.989A	0.989A	119.994	89.032%	0	<6.0	48.33°C	0.982
	12.035V	5.078V	3.318V	5.058V	134.776				38.18°C	115.22V
2	17.371A	2.955A	2.984A	1.188A	239.713	91.969%	0	<6.0	49.17°C	0.992
	12.021V	5.076V	3.315V	5.054V	260.645				38.54°C	115.05V
3	26.922A	3.450A	3.472A	1.387A	359.197	92.021%	1105	31.8	38.76°C	0.994
	12.005V	5.073V	3.311V	5.047V	390.344				49.81°C	114.98V
4	36.561A	3.945A	3.993A	1.587A	479.649	92.059%	1105	31.8	39.06°C	0.996
	11.992V	5.070V	3.308V	5.041V	521.022				50.49°C	114.85V
5	45.843A	4.934A	4.994A	1.788A	599.801	91.726%	1105	31.8	39.67°C	0.997
	11.982V	5.068V	3.304V	5.036V	653.908				51.40°C	114.74V
6	55.061A	5.923A	5.996A	1.988A	719.933	91.010%	1105	31.8	40.62°C	0.997
	11.989V	5.066V	3.302V	5.031V	791.044				54.33°C	114.66V
7	64.268A	6.914A	7.004A	2.189A	839.688	90.154%	1230	36.5	41.89°C	0.998
	11.990V	5.063V	3.299V	5.026V	931.393				57.89°C	114.48V
8	73.609A	7.906A	8.011A	2.391A	960.183	89.385%	1330	36.0	43.18°C	0.998
	11.979V	5.061V	3.296V	5.021V	1074.210				61.54°C	114.37V

9	83.291A	8.404A	8.504A	2.391A	1079.515	88.503%	1410	37.6	45.35°C	0.998
	11.970V	5.059V	3.293V	5.020V	1219.744				66.55°C	114.16V
10	92.846A	8.903A	9.028A	2.999A	1199.973	87.437%	1410	37.6	46.03°C	0.998
	11.958V	5.056V	3.290V	5.003V	1372.384				71.73°C	114.05V
11	102.952A	8.905A	9.037A	3.000A	1319.896	86.295%	1625	42.1	47.79°C	0.998
	11.949V	5.055V	3.287V	5.001V	1529.516				74.87°C	113.85V
CL1	0.744A	16.005A	15.999A	0.000A	143.069	83.059%	0	0	48.25°C	0.987
	12.031V	5.069V	3.312V	5.112V	172.249				46.09°C	115.15V
CL2	100.011A	1.001A	0.999A	1.000A	1210.027	87.632%	1430	37.1	47.23°C	0.998
	11.965V	5.062V	3.293V	5.038V	1380.807				72.93°C	114.07V

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	1.173A	0.491A	0.482A	0.197A	19.355	64.784%	0	<6.0	0.694
	12.157V	5.081V	3.321V	5.076V	29.876				115.34V
2	2.431A	0.983A	0.993A	0.395A	39.835	76.890%	0	<6.0	0.873
	12.152V	5.080V	3.320V	5.072V	51.808				115.31V
3	3.649A	1.475A	1.475A	0.592A	59.310	82.427%	0	<6.0	0.946
	12.037V	5.079V	3.319V	5.067V	71.955				115.28V
4	4.919A	1.968A	1.989A	0.790A	79.797	85.774%	0	<6.0	0.968
	12.035V	5.079V	3.319V	5.064V	93.032				115.26V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.9 mV	4.9 mV	5.3 mV	4.0 mV	Pass
20% Load	19.7 mV	6.0 mV	6.9 mV	5.6 mV	Pass
30% Load	28.2 mV	6.7 mV	16.5 mV	8.6 mV	Pass
40% Load	32.9 mV	7.7 mV	18.3 mV	10.5 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
50% Load	39.3 mV	8.4 mV	19.4 mV	12.9 mV	Pass
60% Load	29.5 mV	17.1 mV	25.7 mV	20.2 mV	Pass
70% Load	29.4 mV	9.4 mV	24.2 mV	14.7 mV	Pass
80% Load	32.8 mV	10.4 mV	24.9 mV	16.4 mV	Pass
90% Load	35.7 mV	14.0 mV	30.0 mV	21.2 mV	Pass
100% Load	39.8 mV	25.0 mV	39.0 mV	33.0 mV	Pass
110% Load	45.0 mV	27.5 mV	40.4 mV	48.5 mV	Pass
Crossload 1	15.7 mV	10.1 mV	18.8 mV	5.1 mV	Pass
Crossload 2	39.2 mV	27.4 mV	37.0 mV	34.6 mV	Pass

The results above are not used in the certification process

Enermax Platimax D.F. 1200W



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

 ENERMAX										 Platimax DF											
Model/型號/型号										EPF1200EWT											
Active PFC/主動式 PFC/主动式 PFC																					
AC Input 交流輸入/ 交流輸入		100-240VAC, 47-63Hz, 14A-7A																			
DC Output 直流輸出 直流輸出		+3.3V	+5V	+12V1	+12V2	+12V3	+12V4	-12V	+5Vsb	Total Power 總瓦數/ 总瓦数											
		25A	25A	25A	25A	40A	40A	0.3A	3A	1200W											
		130W		1200W (100A)					3.6W											15W	
       																					
Importer: Coolergiant Computers Handels GmbH / Address: Billbrookdeich 32, 22113, Hamburg, Germany Importer: Enerpoint Computers France / Address: 6 Avenue des Marguerites, Batiment 19 Trame, 94380 Bonneuil-Sur-Marne Manufacturer: ENERMAX Technology Corp. / Address: 15F-2, No.888, Jingguo Rd., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C.)																					
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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

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