

Lab ID#: CR85001995
Receipt Date: Mar 12, 2022
Test Date: Mar 30, 2022

Report: 22PS1995A

Report Date: Mar 30, 2022

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	HEC
Series	RMe
Model Number	RPS0157
Serial Number	C04659460
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	850
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (HA1225H12F-Z)
Semi-Passive Operation	✓
Cable Design	Fully Modular

TEST EQUIPMENT

Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

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PAGE 1/14

RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓

115V

Average Efficiency	88.207%
Efficiency With 10W (≤500W) or 2% (>500W)	75.230
Average Efficiency 5VSB	78.231%
Standby Power Consumption (W)	0.0536429
Average PF	0.980
Avg Noise Output	26.62 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

230V

Average Efficiency	90.481%
Average Efficiency 5VSB	77.669%
Standby Power Consumption (W)	0.0845382
Average PF	0.939
Avg Noise Output	26.48 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	70.8	3	0.3
	Watts	150		850	15	3.6
Total Max. Power (W)		850				

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CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-20AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
6+2 pin PCIe (600mm+150mm)	1	2	16-18AWG	No
6+2 pin PCIe (600mm)	1	1	16AWG	No
SATA (500mm+100mm+100mm)	1	3	18AWG	No
SATA (450mm+115mm+115mm+115mm)	1	4	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No
AC Power Cord (1370mm) - C13 coupler	1	1	18AWG	-

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PAGE 3/14

General Data	-
Manufacturer (OEM)	HEC
PCB Type	Double Sided
Primary Side	-
Transient Filter	4x Y caps, 3x X caps, 2x CM chokes, 1x MOV, 1x Power Integrations CAP200DG (Discharge IC)
Inrush Protection	NTC Thermistor SCK-037 (3 Ohm) & Relay
Bridge Rectifier(s)	2x GBU10K (800V, 10A @ 100°C)
APFC MOSFETs	2x Infineon IPA60R120P7 (600V, 16A @ 100°C, Rds(on): 0.12Ohm)
APFC Boost Diode	1x Infineon IDH06G65C6 (650V, 6A @ 145°C)
Bulk Cap(s)	1x Teapo (400V, 470uF, 2,000h @ 105°C, LG)
Main Switchers	2x Infineon IPA60R120P7 (600V, 16A @ 100°C, Rds(on): 0.12Ohm)
APFC Controller	Champion CM6500UN & CM03AX
Resonant Controller	Champion CM6901T6X
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	no info
5V & 3.3V	DC-DC Converters: 8x Potens Semiconductor PDD3906 (30V, 51A @ 100°C, Rds(on): 6mOhm) PWM Controller(s): 2x APEC APW7073
Filtering Capacitors	Electrolytic: 9x Teapo (1-3,000h @ 105°C, SC), 1x Nippon Chemi-Con (1-5,000h @ 105°C, KZE), 1x Elite (105°C, EM) Polymer: 2x Elite, 2x Teapo, 13x no info
Supervisor IC	Weltrend WT7527RT (OCP, OVP, UVP, SCP, PG)
Fan Model	Hong Hua HA1225H12F-Z (120mm, 12V, 0.58A, Rifle Bearing Fan)
5VSB Circuit	-
Rectifier	1x PS1060L SBR (60V, 10A)
Standby PWM Controller	Power Integrations TNY290PG

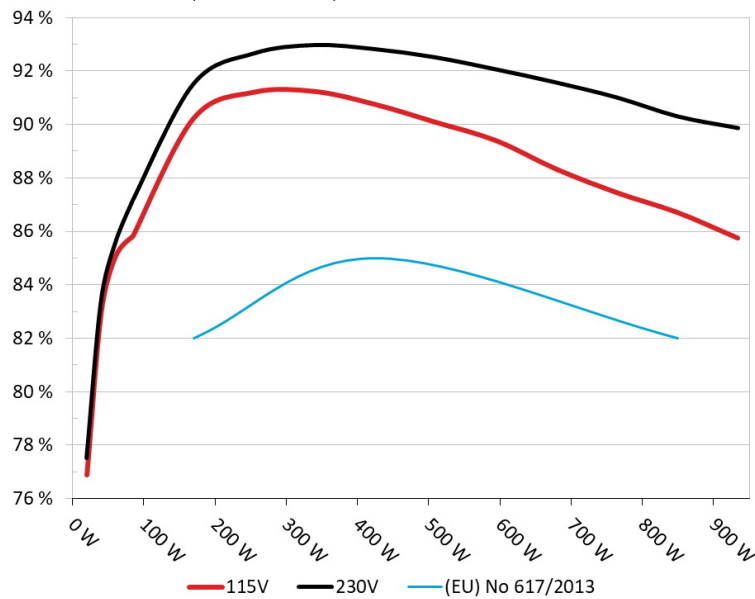
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair Mei RM850e

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



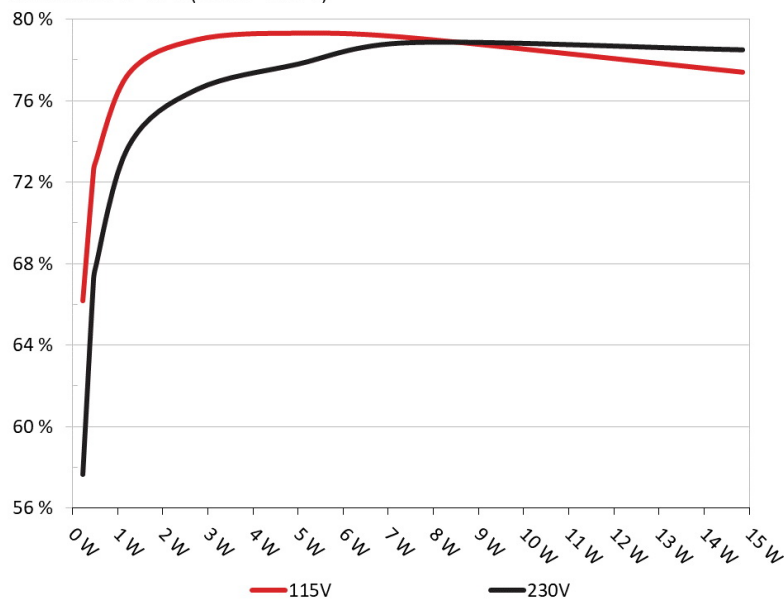
INFO

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: Corsair Mei RM850e

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

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.226W	66.18%	0.034
	5.015V	0.342W		115.16V
2	0.09A	0.451W	72.254%	0.062
	5.012V	0.624W		115.17V
3	0.55A	2.752W	79.013%	0.263
	5.004V	3.483W		115.16V
4	1A	4.994W	79.333%	0.356
	4.994V	6.295W		115.16V
5	1.5A	7.477W	79.109%	0.41
	4.985V	9.452W		115.16V
6	2.999A	14.856W	77.414%	0.479
	4.953V	19.191W		115.16V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.226W	57.662%	0.012
	5.019V	0.392W		230.34V
2	0.09A	0.451W	66.756%	0.02
	5.016V	0.676W		230.34V
3	0.55A	2.752W	76.554%	0.102
	5.004V	3.595W		230.34V
4	1A	4.995W	77.799%	0.168
	4.995V	6.42W		230.35V
5	1.5A	7.478W	78.855%	0.225
	4.985V	9.483W		230.35V
6	3A	14.859W	78.501%	0.329
	4.954V	18.928W		230.35V

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115V

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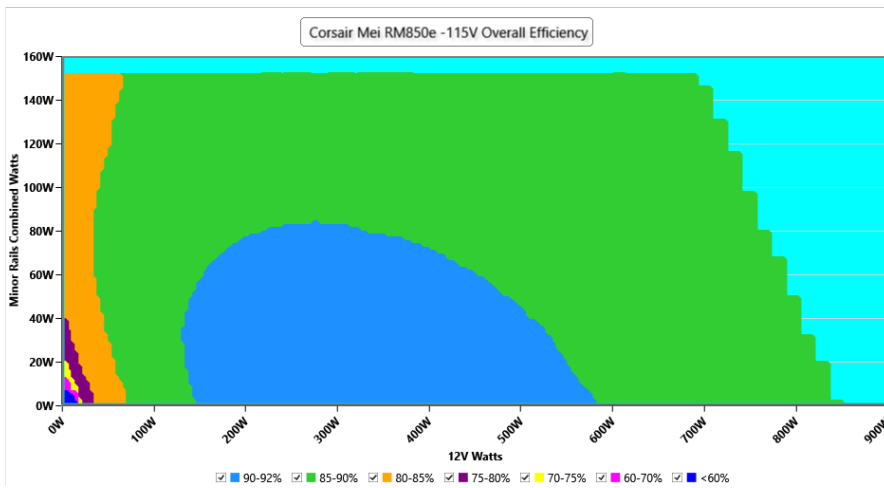
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PAGE 7/14

EFFICIENCY GRAPH 115V

INFO

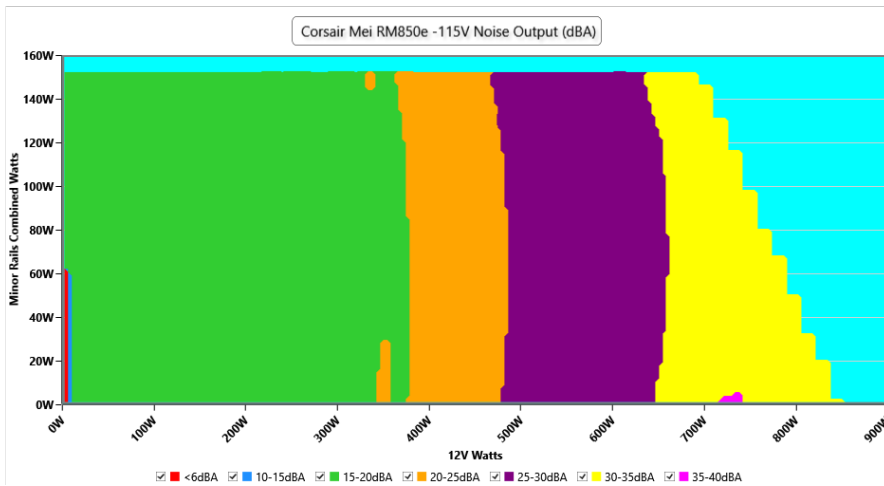
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



NOISE GRAPH 115V

INFO

The PSU's noise in its entire operational range and under 30-32 °C (+2 °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

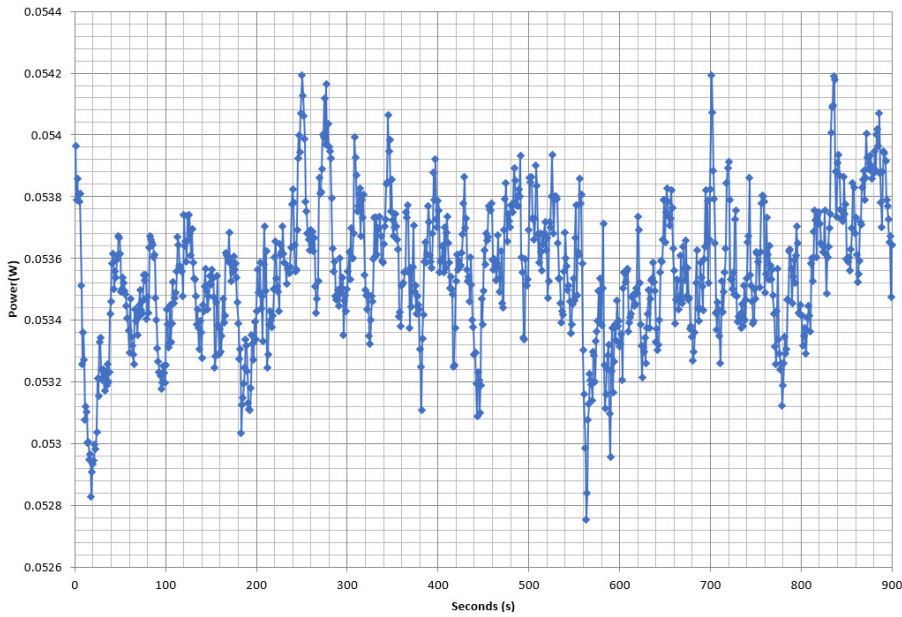


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VAMPIRE POWER -115V

Power - 22/03/2022 - 14:00



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	5.237A	1.995A	2.002A	1A	84.992	85.625%	864	20.1	40.18°C	0.966
	12.105V	5.013V	3.296V	5V	99.261				44.65°C	115.15V
20%	11.508A	2.994A	3.007A	1.202A	169.926	90.225%	866	20.2	40.51°C	0.972
	12.081V	5.01V	3.292V	4.993V	188.337				45.36°C	115.15V
50%	31.057A	4.999A	5.028A	1.81A	424.782	90.747%	1029	25.1	42.54°C	0.982
	12.052V	5.002V	3.282V	4.973V	468.093				48.89°C	115.14V
100%	63.160A	9.038A	9.091A	3.041A	849.601	86.705%	2076	44.9	45.92°C	0.991
	12.032V	4.978V	3.266V	4.932V	979.88				55.79°C	115.12V

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230V

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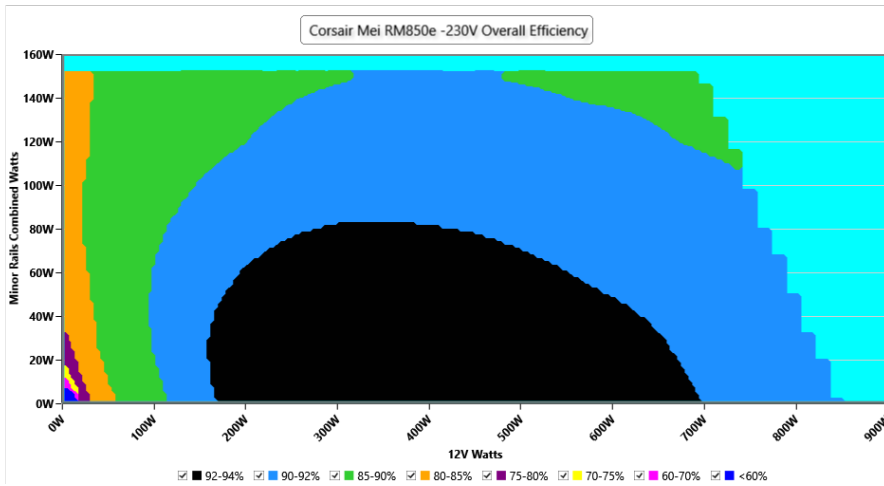
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PAGE 11/14

EFFICIENCY GRAPH 230V

INFO

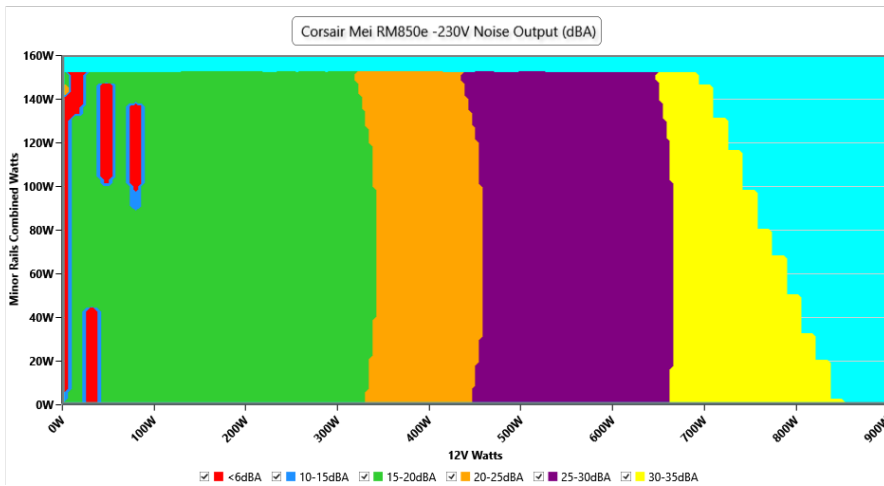
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NOISE GRAPH 230V

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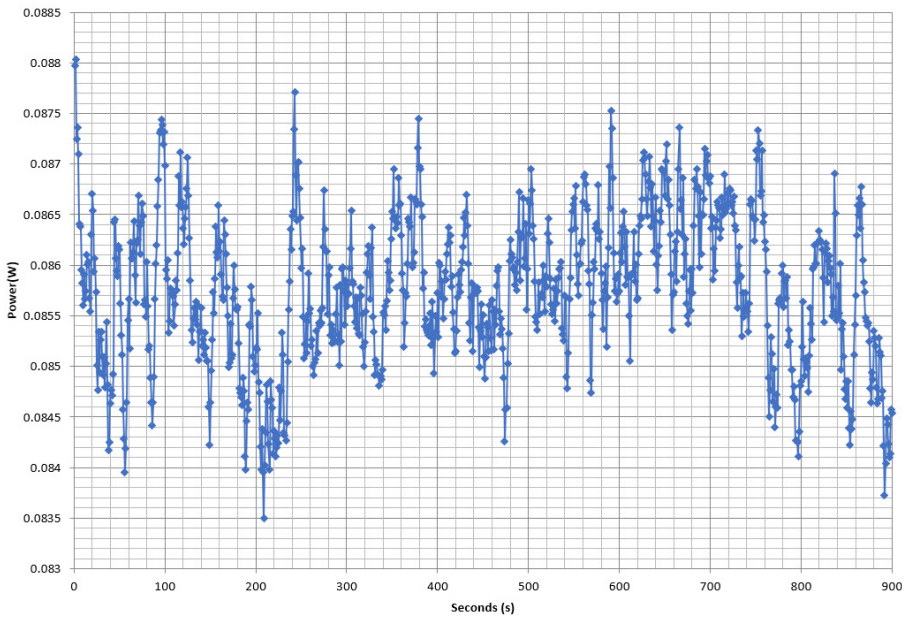


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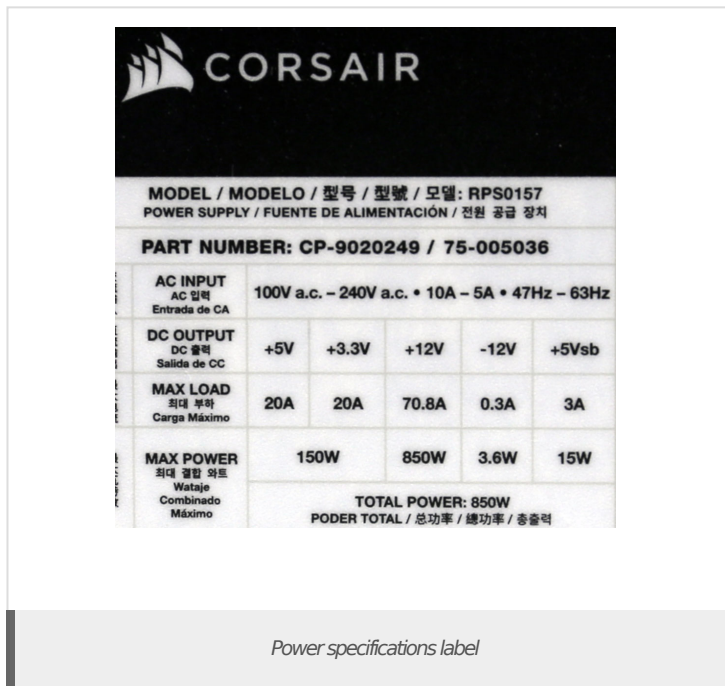
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COMMISSION REGULATION (EU) NO 617/2013 TESTING 230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	5.226A	1.997A	2.001A	1A	84.988	87.195%	843	19.3	40.35°C	0.823
	12.132V	5.007V	3.298V	5.001V	97.469				44.81°C	230.28V
20%	11.488A	2.998A	3.004A	1.201A	169.902	91.522%	839	19.3	41.01°C	0.902
	12.100V	5.004V	3.295V	4.993V	185.639				45.83°C	230.27V
50%	30.985A	5.006A	5.023A	1.81A	424.625	92.825%	966	23.4	42.43°C	0.952
	12.075V	4.994V	3.284V	4.973V	457.449				48.94°C	230.27V
100%	63.142A	9.038A	9.087A	3.039A	849.529	90.306%	2050	44.5	45.91°C	0.972
	12.034V	4.978V	3.267V	4.933V	940.725				55.68°C	230.26V

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CERTIFICATIONS 115V




Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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