

Lab ID#: CR85001666
Receipt Date: Jul 22, 2018
Test Date: Jun 12, 2020

Report: 20PS1666A
Report Date: Jun 26, 2020

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMx
Model Number	RPS0110
Serial Number	17477138000034450150
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	47-63
Rated Power (W)	850
Type	ATX12V
Cooling	135mm Rifle Bearing Fan (NR135L)
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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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	✓

115V

Average Efficiency	87.821%
Efficiency With 10W (≤500W) or 2% (>500W)	60.733
Average Efficiency 5VSB	77.472%
Standby Power Consumption (W)	0.0315069
Average PF	0.990
Avg Noise Output	19.12 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

230V

Average Efficiency	89.877%
Average Efficiency 5VSB	77.534%
Standby Power Consumption (W)	0.0480587
Average PF	0.967
Avg Noise Output	18.59 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	70.8	3	0.8
	Watts	150		850	15	9.6
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	Yes
4+4 pin EPS12V (650mm)	2	2	18AWG	Yes
6+2 pin PCIe (600mm+150mm)	3	6	18AWG	Yes
SATA (500mm+110mm+110mm+110mm)	1	4	18AWG	No
SATA (520mm+110mm+110mm)	2	6	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG	No
FDD Adapter (+100mm)	1	1	20AWG	No
AC Power Cord (1430mm) - C13 coupler	1	1	16AWG	-

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General Data	
Manufacturer (OEM)	CWT
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor & Relay
Bridge Rectifier(s)	2x GBU1506 (600V, 15A @ 100°C)
APFC MOSFETS	2x Infineon IPA60R125C6 (650V, 19A @ 100°C, 0.125 Ohm) 1x SPN5003 FET (for reduced no load consumption)
APFC Boost Diode	1x CREE C3D08060A (600V, 8A @ 152°C)
Hold-up Cap(s)	2x Nichicon (400V, 470uF each or 940uF combined, 2000h @ 105°C, GG)
Main Switchers	2x Infineon IPA60R190P6 (650V, 12.7A @ 100°C, 0.190 Ohm)
APFC Controller	Champion CM6500UNX
Switching Controller	Champion CM6901X
Fan Controller	PIC16F1503
Topology	Primary side: Half-Bridge & LLC Resonant Controller Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	6x International Rectifier IRFH7004TRPBF (40V, 164A @ 100°C, 1.4 mOhm)
5V & 3.3V	DC-DC Converters: 6x QM3006D (30V, 57A @ 100°C, 5.5 mOhm) PWM Controller: ANPEC APW7159
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (1-5,000 @ 105°C, KZE), Nippon Chemi-Con (4-10,000 @ 105°C, KY) Polymers: FPCAP
Supervisor IC	Weltrend WT7502 (OVP, UVP, SCP, PG) & LM393G
Fan Model	NR135L (12V, 0.22A, Rifle Bearing)
5VSB Circuit	
Rectifier	ISD04N65A, QM3004D, LS64 10L45 SBR
Step-Down Converter	AME5268
Standby PWM Controller	On-Bright OB5269CP

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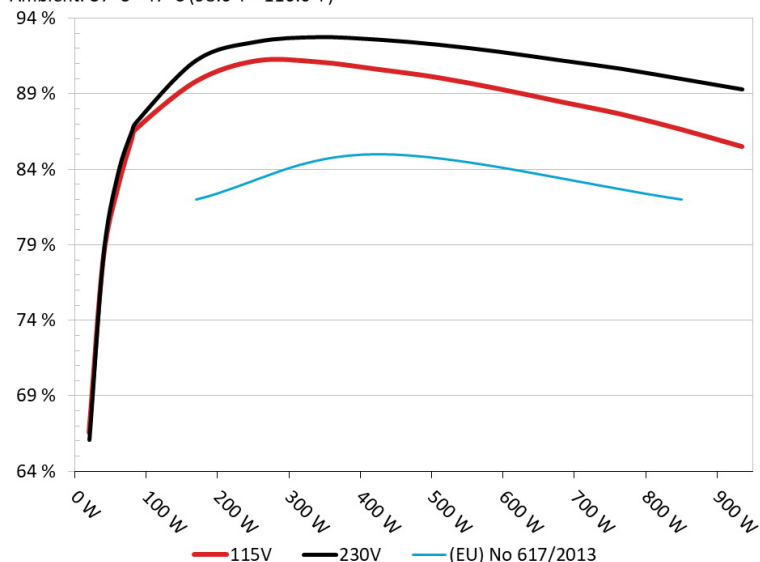
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair RM850x

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



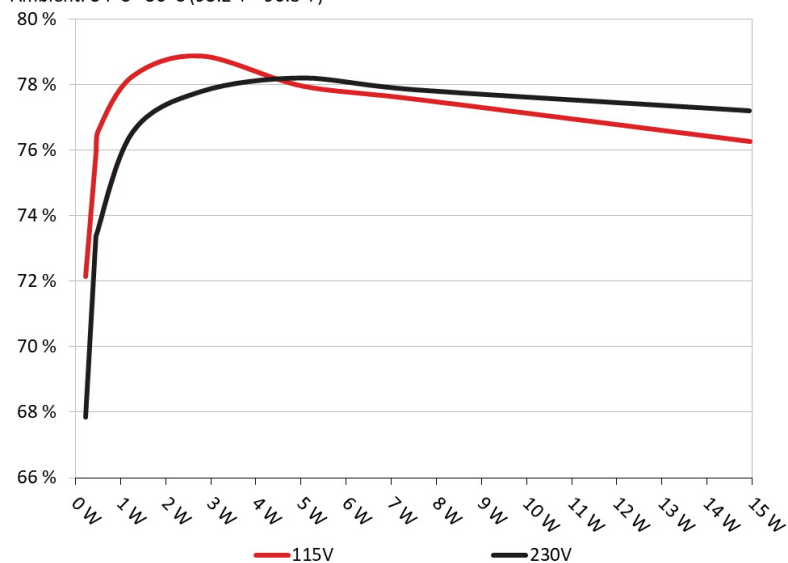
INFO

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 RM850x

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	0.228	72.152%	0.029
	5.069V	0.316		115.13V
2	0.090A	0.456	75.874%	0.059
	5.067V	0.601		115.13V
3	0.550A	2.780	78.865%	0.258
	5.053V	3.525		115.13V
4	1.000A	5.040	77.946%	0.347
	5.039V	6.466		115.14V
5	1.500A	7.540	77.548%	0.397
	5.026V	9.723		115.14V
6	3.000A	14.951	76.261%	0.463
	4.984V	19.605		115.13V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	67.857%	0.018
	5.025V	0.336		230.27V
2	0.090A	0.456	73.312%	0.019
	5.067V	0.622		230.27V
3	0.550A	2.780	77.784%	0.100
	5.053V	3.574		230.26V
4	1.000A	5.040	78.200%	0.165
	5.039V	6.445		230.27V
5	1.500A	7.539	77.842%	0.222
	5.026V	9.685		230.27V
6	3.000A	14.942	77.200%	0.321
	4.981V	19.355		230.27V

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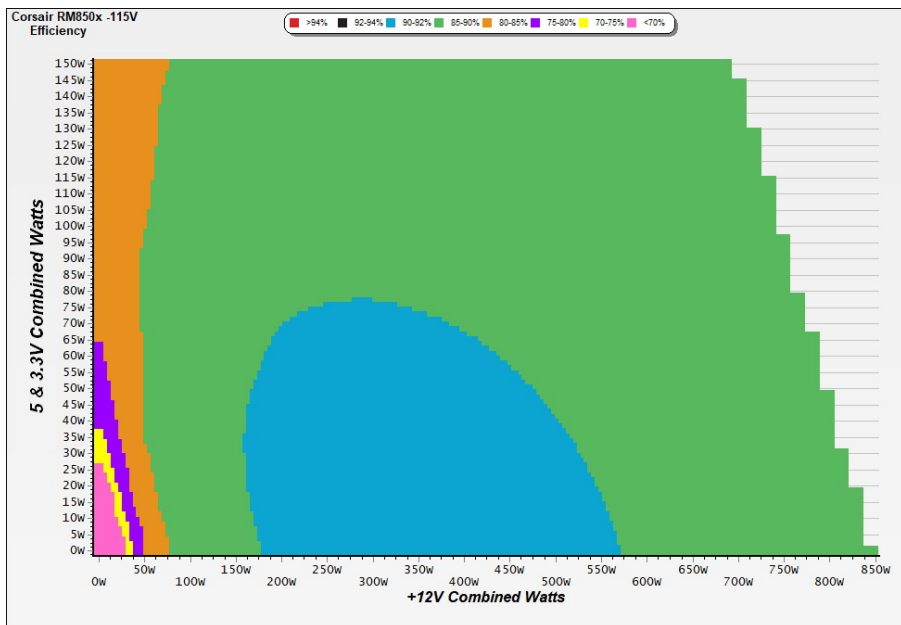
115V

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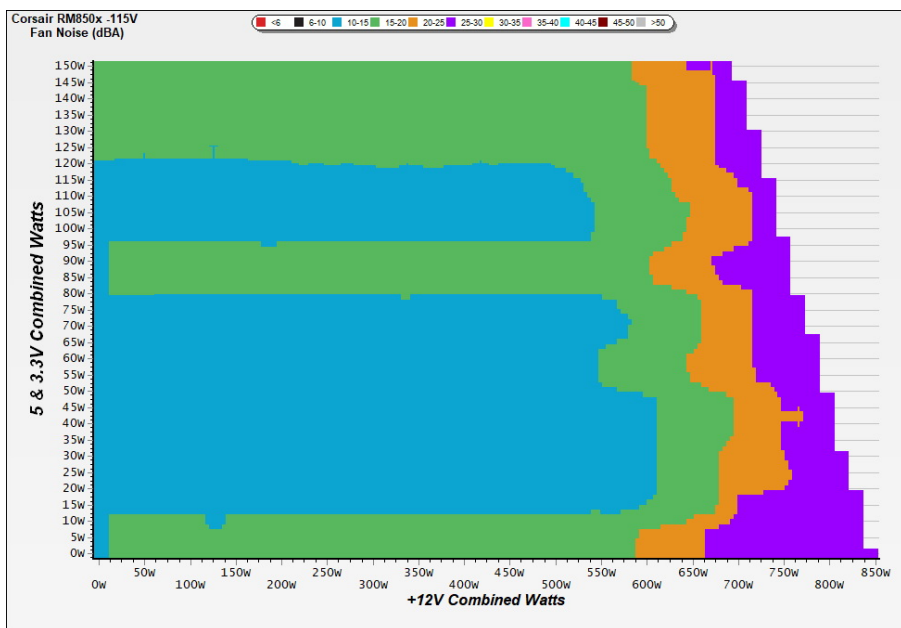
EFFICIENCY GRAPH 115V



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

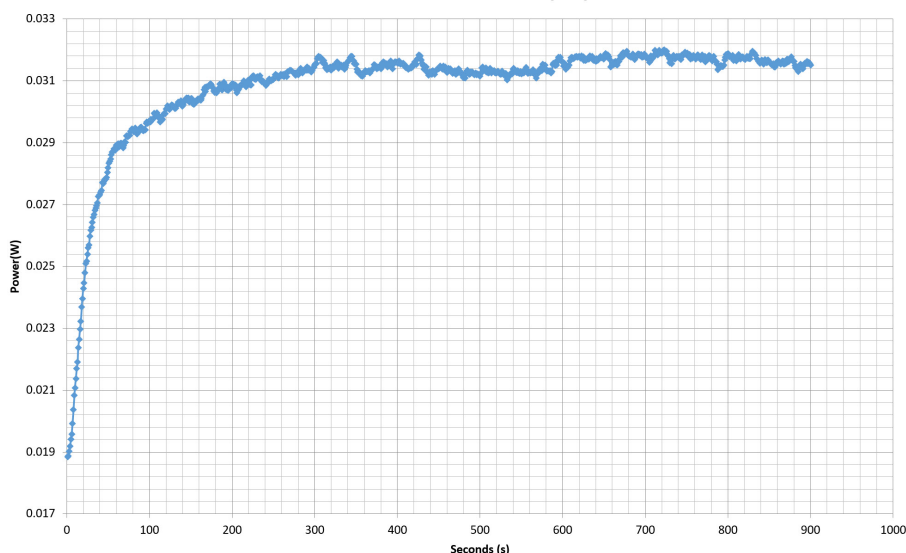
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - 17477138000034450150 - 10/06/2020 - 10:44



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
1	5.224A	1.993A	1.993A	1.000A	84.970	86.655%	0	<6.0	43.98°C	0.979
	12.130V	5.019V	3.312V	4.999V	98.055				40.09°C	115.12V
2	11.484A	2.989A	2.993A	1.202A	170.051	89.847%	0	<6.0	45.15°C	0.990
	12.118V	5.014V	3.308V	4.992V	189.267				40.67°C	115.12V
5	30.994A	5.000A	5.007A	1.812A	425.071	90.637%	650	12.6	42.01°C	0.990
	12.085V	5.001V	3.295V	4.970V	468.980				49.55°C	115.12V
10	63.273A	9.046A	9.076A	3.047A	850.010	86.651%	1435	38.5	45.18°C	0.995
	12.016V	4.976V	3.273V	4.924V	980.953				55.62°C	115.10V

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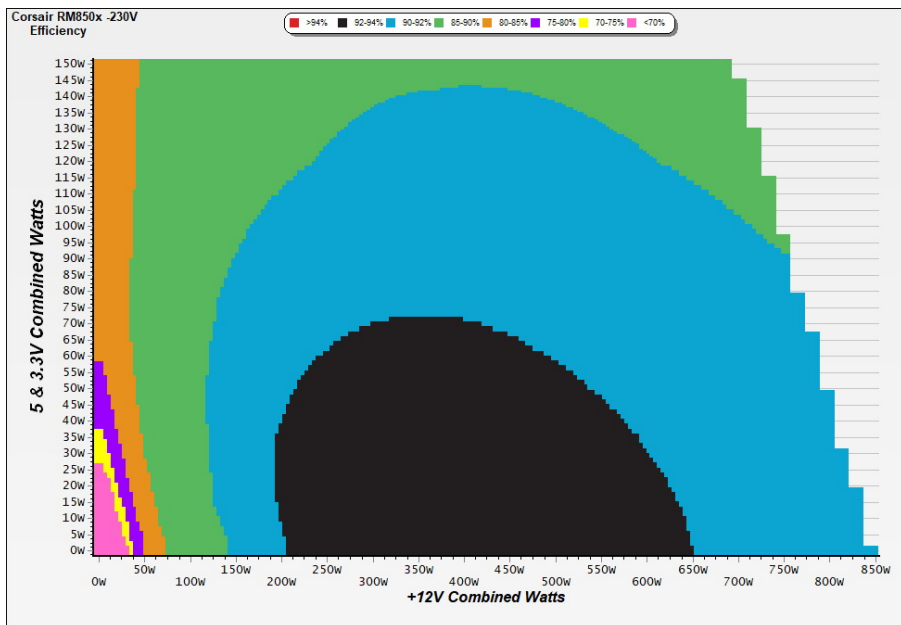
230V

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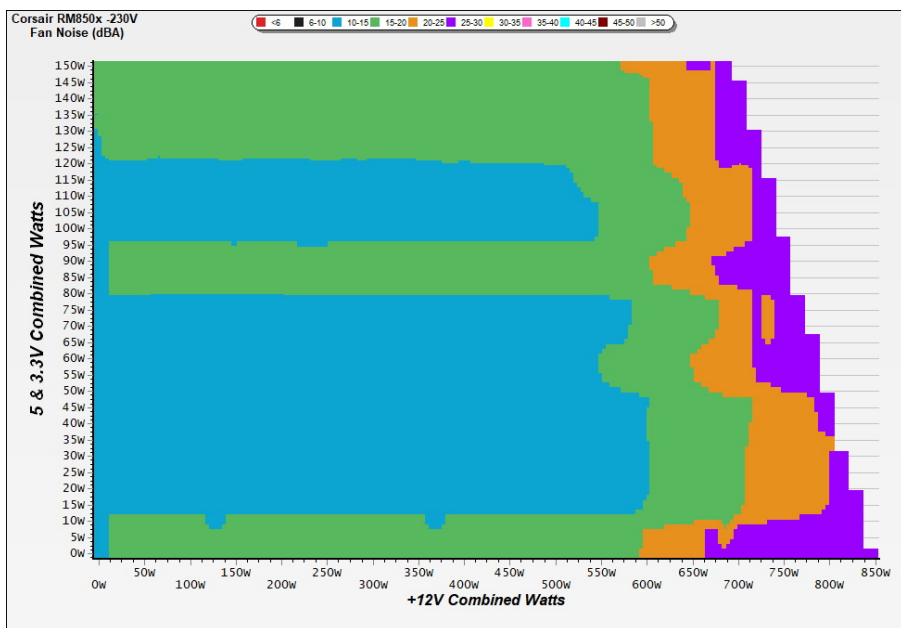
EFFICIENCY GRAPH 230V



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 230V



INFO

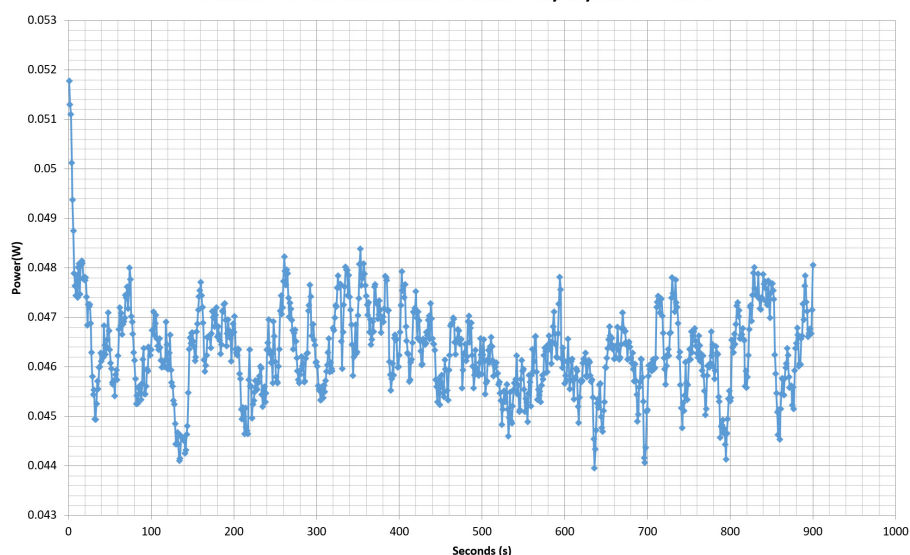
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COMMISSION REGULATION (EU) NO 617/2013 TESTING 230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	5.224A	1.992A	1.994A	1.000A	84.974	87.082%	0	<6.0	44.60°C	0.865
	12.131V	5.019V	3.312V	5.000V	97.579				40.03°C	230.28V
2	11.483A	2.992A	2.993A	1.202A	170.066	91.229%	0	<6.0	45.80°C	0.945
	12.119V	5.014V	3.308V	4.992V	186.416				40.63°C	230.27V
5	31.004A	5.003A	5.010A	1.813A	425.102	92.589%	651	12.6	42.16°C	0.981
	12.082V	4.998V	3.294V	4.967V	459.129				48.79°C	230.27V
10	63.286A	9.048A	9.075A	3.048A	850.040	89.981%	1438	38.6	45.60°C	0.989
	12.014V	4.976V	3.272V	4.923V	944.691				56.19°C	230.27V

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Top side

MODEL / 型号 / 型號 / 모델 : RPS0110					
POWER SUPPLY / 전원 공급 장치					
PART NUMBER: 75-003445					
交流輸入 AC INPUT	100V ~ 240V • 12A ~ 6A • 47Hz ~ 63Hz	中国仅使用220V- 6A 47Hz - 63Hz			
直流輸出 DC OUTPUT	+3.3V	+5V	+12V	-12V	+5Vsb
最大電流 MAX LOAD	25A	25A	70.8A	0.8A	3A
最大負荷 MAXIMUM COMBINED WATTAGE	150W	850W	9.6W	15W	
總功率 TOTAL POWER: 850W					

Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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