

Lab ID#: 523
Receipt Date: Oct 16, 2018
Test Date: Oct 27, 2018

Report:
Report Date: Oct 31, 2018

DUT INFORMATION	
Brand	DeepCool
Manufacturer (OEM)	Channel Well Technology
Series	DQ-M
Model Number	
Serial Number	DQ850M-20161804000205
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12
Rated Frequency (Hz)	47-63
Rated Power (W)	850
Type	ATX12V
Cooling	120mm Fluid Dynamic Bearing Fan (DF1202512CH-003)
Semi-Passive Operation	X
Cable Design	Fully Modular

POWER SPECIFICATIONS									
Rail		3.3V	5V	12V MBPH	12V CPU	12V VGA1	12V VGA2	5VSB	-12V
Max. Power	Amps	22	22	25	25	40	40	2.5	0.3
	Watts	120		850				12.5	3.6
Total Max. Power (W)		850							

CABLES AND CONNECTORS				
Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (550mm)	1	1	18AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (500mm+100mm)	2	4	18AWG	No
SATA (550mm+150mm+150mm) / 4-pin Molex (+150mm)	1	3 / 1	20AWG	No
SATA (450mm+150mm+150mm) / 4-pin Molex (+150mm)	1	3 / 1	20AWG	No
4-pin Molex (550mm+150mm) / SATA (+150mm+150mm)	1	2 / 2	20AWG	No
4-pin Molex (450mm+150mm) / SATA (+150mm+150mm)	1	2 / 2	20AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	18AWG	No

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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	88.955%
Efficiency With 10W (≤500W) or 2% (>500W)	67.347
Average Efficiency 5VSB	78.416%
Standby Power Consumption (W)	0.0485640
Average PF	0.980
Avg Noise Output	27.02 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

230V

Average Efficiency	90.854%
Average Efficiency 5VSB	77.909%
Standby Power Consumption (W)	0.0761723
Average PF	0.938
Avg Noise Output	26.03 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

TEST EQUIPMENT

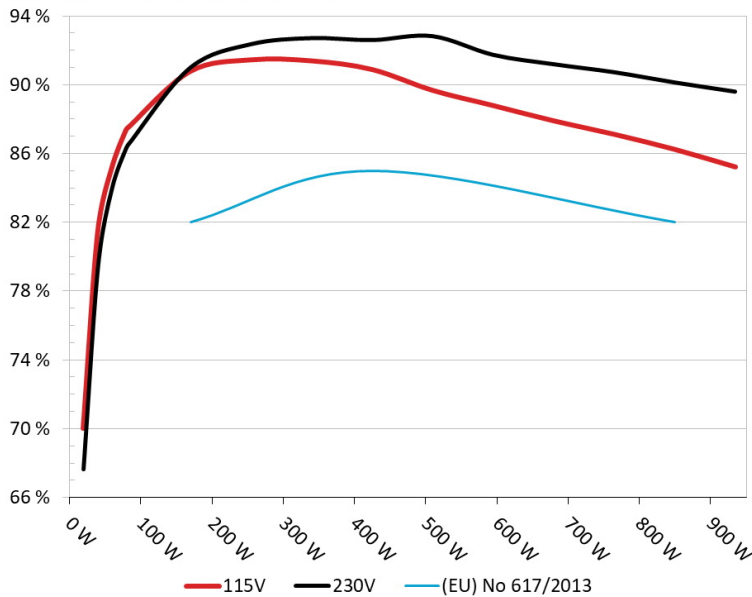
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Deepcool DQ850-M
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

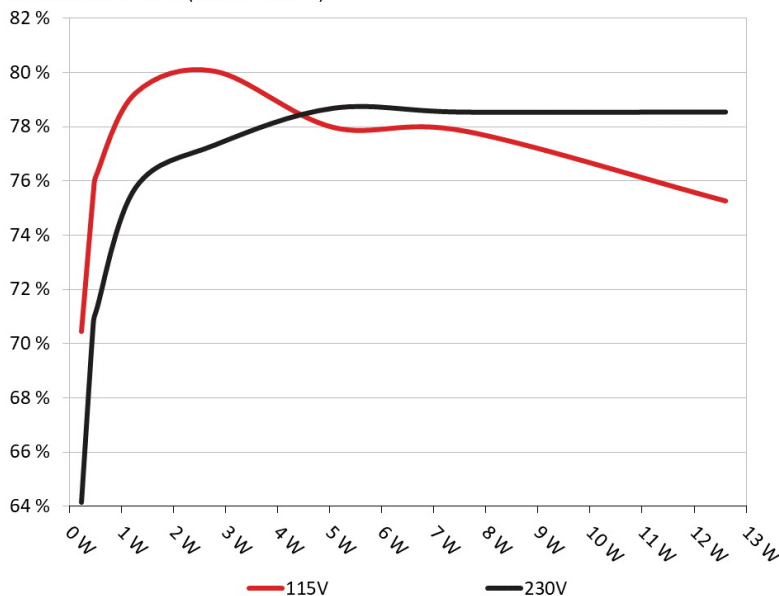


INFO

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: Deepcool DQ850-M
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	0.229	70.462%	0.033
	5.093V	0.325		115.12V
2	0.090A	0.458	75.578%	0.061
	5.092V	0.606		115.12V
3	0.550A	2.796	80.046%	0.267
	5.082V	3.493		115.12V
4	1.000A	5.074	77.978%	0.365
	5.073V	6.507		115.12V
5	1.500A	7.596	77.844%	0.418
	5.063V	9.758		115.12V
6	2.500A	12.610	75.270%	0.466
	5.043V	16.753		115.11V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229	64.146%	0.011
	5.093V	0.357		230.28V
2	0.090A	0.458	70.788%	0.020
	5.092V	0.647		230.27V
3	0.550A	2.796	77.323%	0.105
	5.082V	3.616		230.28V
4	1.000A	5.074	78.679%	0.172
	5.074V	6.449		230.28V
5	1.500A	7.595	78.534%	0.232
	5.063V	9.671		230.28V
6	2.500A	12.610	78.538%	0.310
	5.043V	16.056		230.28V

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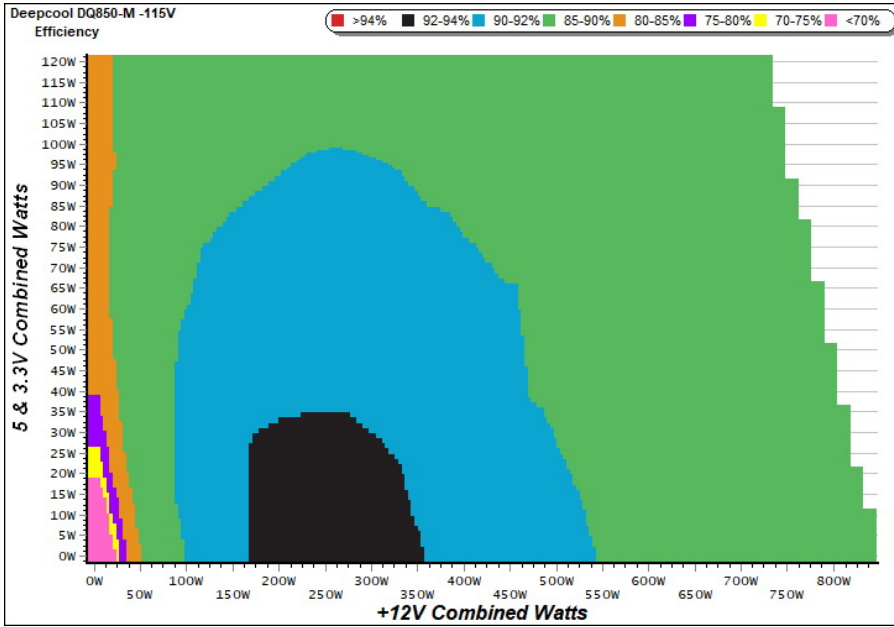
115V

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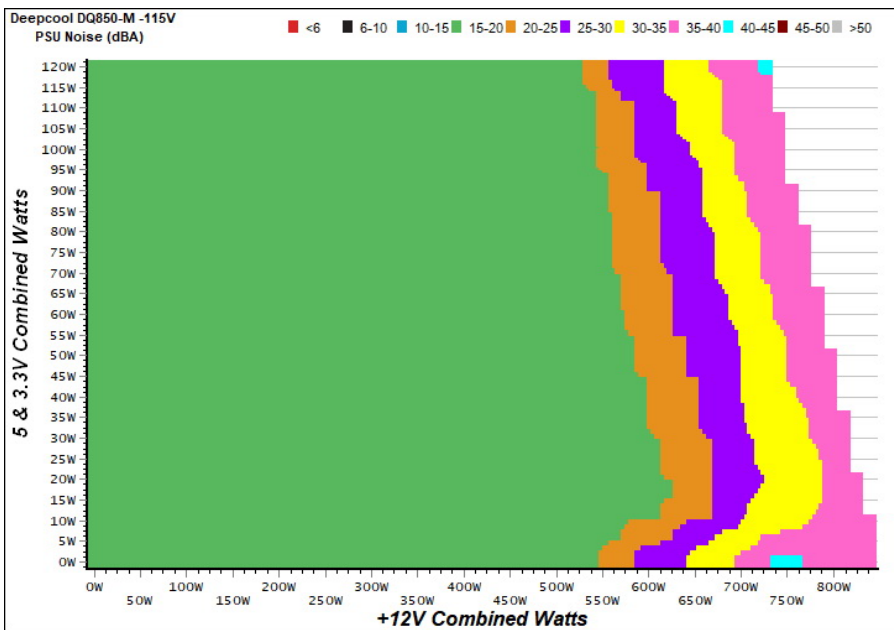
EFFICIENCY GRAPH 115V



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

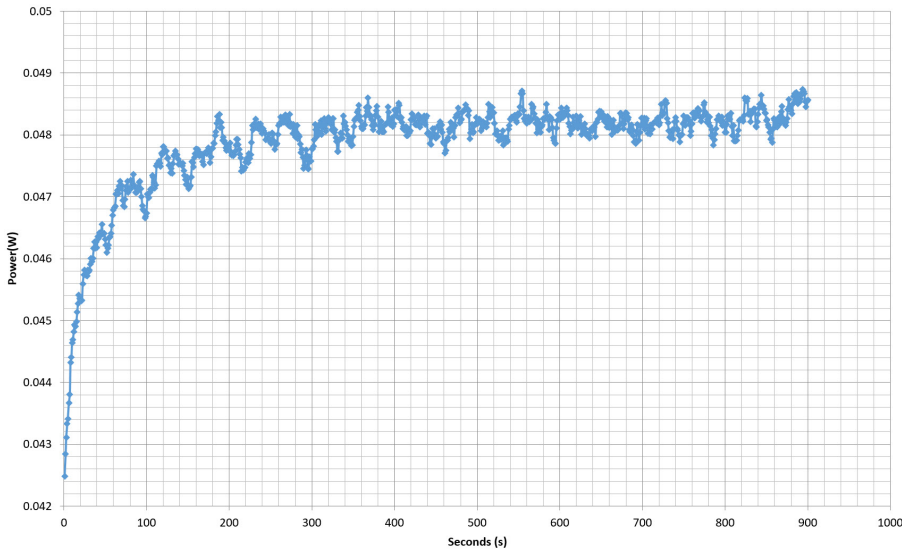
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - DQ850M-20161804000205 - 05/09/2018 - 14:35



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

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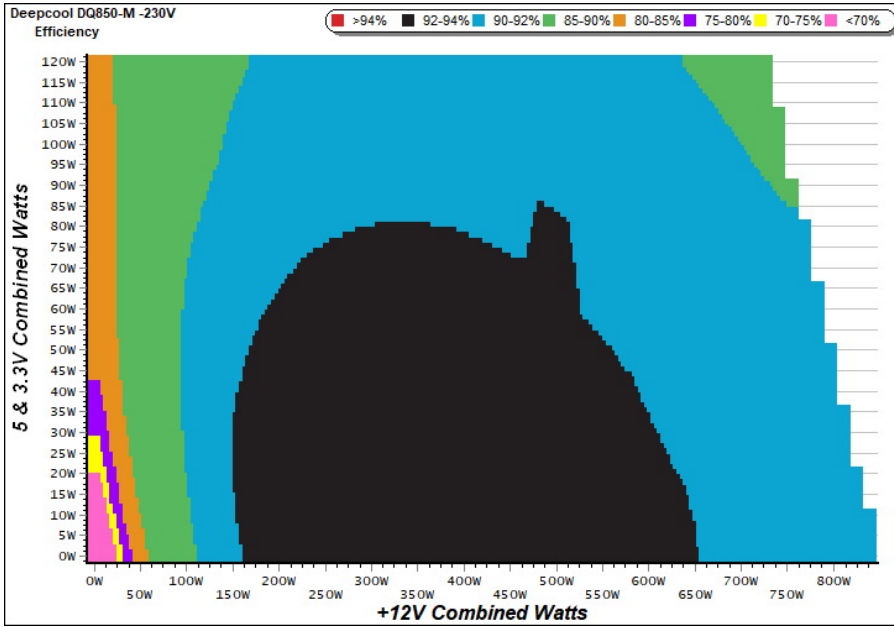
230V

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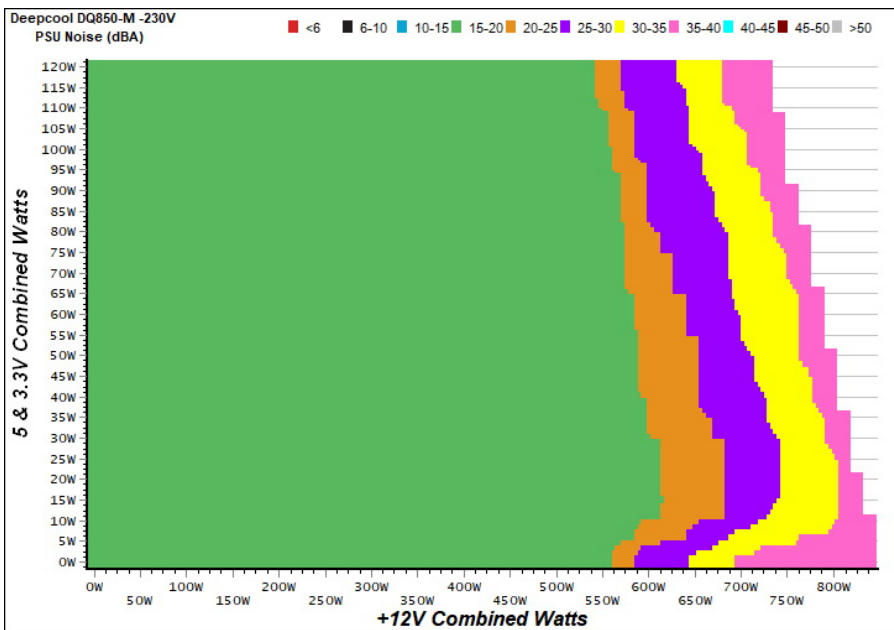
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NOISE GRAPH 230V



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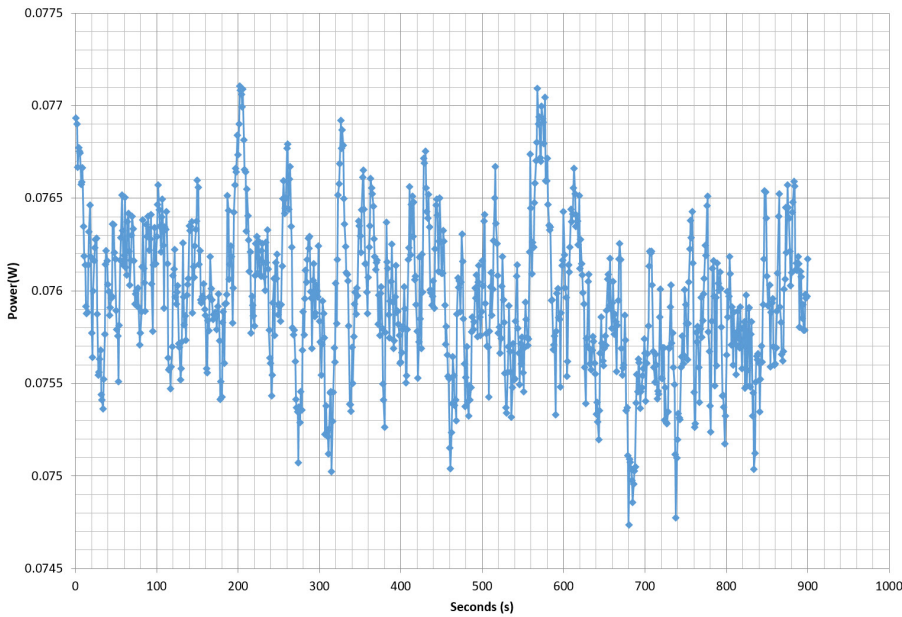
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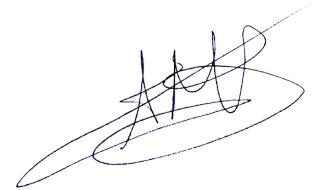


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Power specifications label

CERTIFICATIONS 115V

Aris Mpitsiopoulos
Lab Director

CERTIFICATIONS 230V



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