

Anex

Deepcool PX850G

Lab ID#: DC85002136
Receipt Date: Jan 31, 2023
Test Date: Feb 20, 2023

Report: 23PS2136A
Report Date: Feb 20, 2023

DUT INFORMATION		DUT SPECIFICATIONS	
Brand	Deepcool	Rated Voltage (Vrms)	100-240
Manufacturer (OEM)	CWT	Rated Current (Arms)	10-5
Series	PXG	Rated Frequency (Hz)	50-60
Model Number	PX850G-FC	Rated Power (W)	850
Serial Number		Type	ATX12V
DUT Notes		Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12SF-Z)
		Semi-Passive Operation	✓ (selectable)
		Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P
Power Analyzers	RS HMC8015, N4L PPA1530, N4L PPA5530
Oscilloscopes	Picoscope 4444, Rigol DS7014, 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, Keithley 2015 - THD
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Isolation Transformer	4kVA

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX 3.0 Ready	✓

115V

Average Efficiency	88.638%
Efficiency With 10W (≤500W) or 2% (>500W)	76.788
Average Efficiency 5VSB	78.615%
Standby Power Consumption (W)	0.0161000
Average PF	0.988
Avg Noise Output	28.26 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	70.8	3	0.3
	Watts	120		849.6	15	3.6
Total Max. Power (W)		850				

HOLD-UP TIME & POWER OK SIGNAL (230V)

Hold-Up Time (ms)	17.4
AC Loss to PWR_OK Hold Up Time (ms)	16.4
PWR_OK Inactive to DC Loss Delay (ms)	1

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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	18AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (650mm)	3	3	18AWG	No
12+4 pin PCIe (650mm) (600W)	1	1	16-24AWG	No
SATA (500mm+150mm+150mm+150mm)	2	8	18AWG	No
4-pin Molex (500mm+150mm+150mm+150mm)	1	4	18AWG	No

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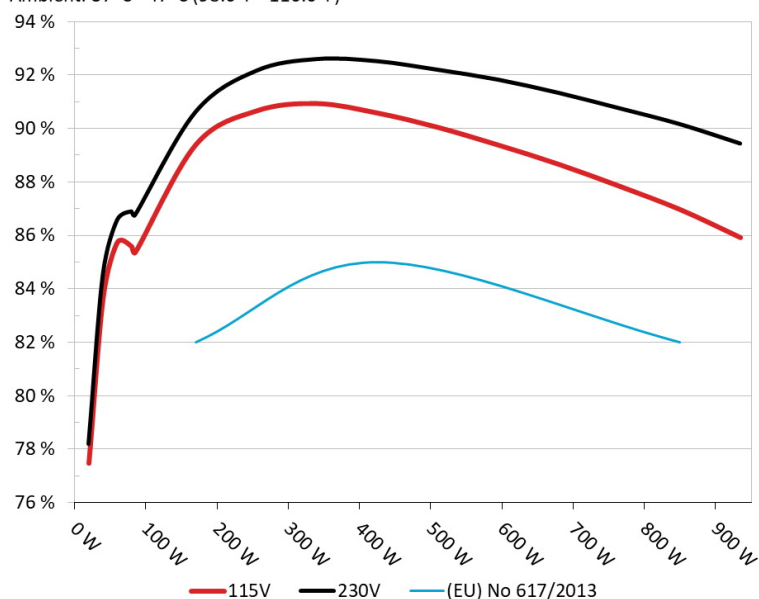
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Deepcool PX850G

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



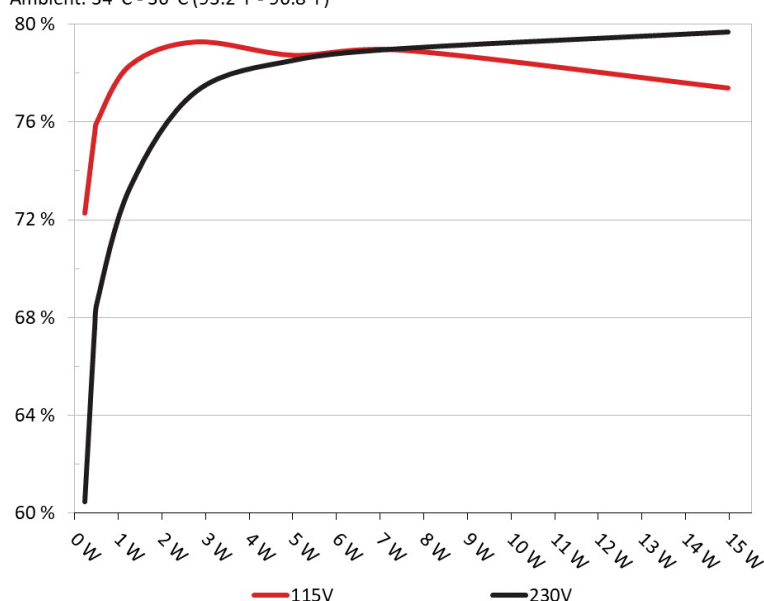
INFO

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 PX850G

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	0.228W	72.064%	0.03
	5.059V	0.316W		114.95V
2	0.09A	0.455W	75.347%	0.056
	5.058V	0.604W		114.94V
3	0.55A	2.776W	79.081%	0.264
	5.047V	3.51W		114.92V
4	1A	5.037W	78.528%	0.373
	5.036V	6.415W		114.93V
5	1.5A	7.537W	78.739%	0.422
	5.024V	9.572W		114.93V
6	3A	14.967W	77.191%	0.503
	4.989V	19.39W		114.91V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228W	60.269%	0.011
	5.059V	0.379W		229.9V
2	0.09A	0.455W	67.417%	0.019
	5.058V	0.675W		229.89V
3	0.55A	2.776W	77.044%	0.097
	5.047V	3.604W		229.89V
4	1A	5.037W	78.33%	0.163
	5.036V	6.432W		229.89V
5	1.5A	7.537W	78.806%	0.223
	5.024V	9.563W		229.89V
6	3A	14.967W	79.477%	0.32
	4.989V	18.831W		229.89V

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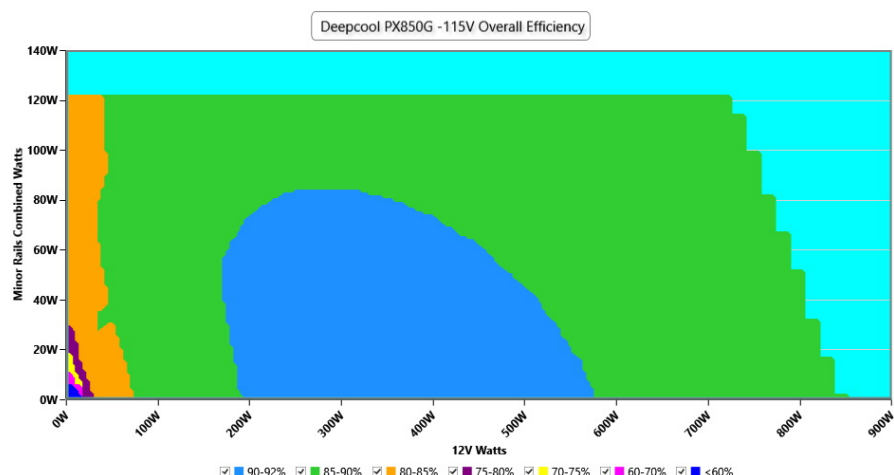
115V

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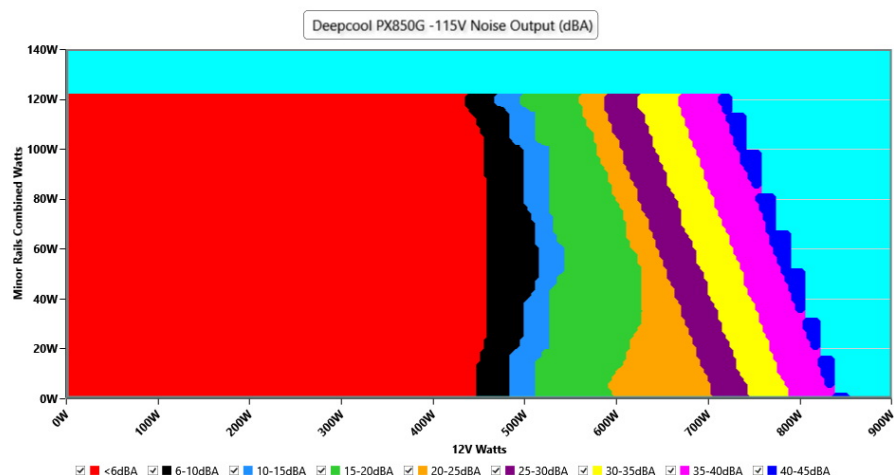
EFFICIENCY GRAPH 115V



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 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

Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.93 V	114.89 V	113.85 V	114.97 V	116.15 V	PASS
Mains Frequency:	60.01 Hz	59.99 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.14 %	0.12 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.016 W	0.014 W	N/A	0.018 W	N/A	N/A
Apparent Power:	10.625 W	10.601 W	N/A	10.651 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

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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10-110% 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
10%	5.210A	1.986A	2.005A	0.994A	85.008	85.367%	0	<6.0	44.86°C	0.971
	12.171V	5.034V	3.291V	5.031V	99.578				40.37°C	114.91V
20%	11.426A	2.98A	3.01A	1.195A	169.962	89.403%	0	<6.0	45.49°C	0.985
	12.170V	5.033V	3.289V	5.021V	190.109				40.68°C	114.9V
30%	18.009A	3.477A	3.514A	1.375A	254.978	90.671%	0	<6.0	46.63°C	0.989
	12.157V	5.033V	3.287V	5.091V	281.216				41.51°C	114.86V
40%	24.618A	3.973A	4.018A	1.573A	340.07	90.947%	0	<6.0	47.3°C	0.99
	12.140V	5.035V	3.285V	5.087V	373.917				41.67°C	114.84V
50%	30.894A	4.968A	5.028A	1.773A	425.001	90.592%	407	<6.0	42.41°C	0.99
	12.122V	5.033V	3.282V	5.077V	469.144				48.45°C	114.84V
60%	37.151A	5.963A	6.038A	1.974A	509.539	90.057%	631	14.2	42.97°C	0.991
	12.105V	5.032V	3.28V	5.067V	565.789				49.69°C	114.82V
70%	43.488A	6.957A	7.049A	2.176A	594.845	89.39%	877	24.4	43.5°C	0.992
	12.089V	5.032V	3.278V	5.057V	665.448				50.59°C	114.79V
80%	49.848A	7.954A	8.06A	2.278A	679.671	88.669%	1049	30.4	44.02°C	0.993
	12.072V	5.031V	3.275V	5.05V	766.523				52.09°C	114.77V
90%	56.610A	8.453A	8.556A	2.38A	765.101	87.845%	1365	39.3	44.62°C	0.994
	12.057V	5.029V	3.272V	5.042V	870.97				53.71°C	114.75V
100%	63.070A	8.953A	9.084A	2.988A	849.91	86.973%	1639	44.1	45.28°C	0.994
	12.053V	5.027V	3.269V	5.022V	977.217				55.32°C	114.71V
110%	69.402A	9.952A	10.194A	2.991A	934.486	85.925%	1984	51.9	46.56°C	0.995
	12.049V	5.026V	3.266V	5.016V	1087.57				57.5°C	114.69V
CL1	0.115A	14.344A	14.497A	0A	121.321	82.516%	504	7.8	44°C	0.981
	12.175V	5.035V	3.29V	5.042V	147.021				49.52°C	114.9V
CL2	0.115A	21.83A	0A	0A	111.428	80.886%	411	<6.0	42.99°C	0.98
	12.184V	5.04V	3.301V	5.049V	137.76				50.08°C	114.89V
CL3	0.115A	0A	22.079A	0A	73.986	75.491%	410	<6.0	41.98°C	0.972
	12.180V	5.059V	3.288V	5.044V	98.008				51.02°C	114.9V
CL4	70.467A	0A	0A	0A	849.611	87.784%	1500	42.4	46.51°C	0.994
	12.057V	5.052V	3.28V	5.102V	967.849				57.46°C	114.71V

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20-80W 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
20W	1.225A	0.495A	0.5A	0.198A	19.999	77.462%	0	<6.0	39.78°C	0.867
	12.121V	5.05V	3.3V	5.055V	25.818				36.64°C	114.93V
40W	2.696A	0.693A	0.7A	0.297A	40.001	83.687%	0	<6.0	40.78°C	0.937
	12.124V	5.051V	3.3V	5.051V	47.8				37.49°C	114.92V
60W	4.166A	0.892A	0.901A	0.396A	60.002	85.747%	0	<6.0	42.09°C	0.955
	12.128V	5.042V	3.295V	5.048V	69.974				38.34°C	114.92V
80W	5.614A	1.092A	1.102A	0.496A	79.956	85.591%	0	<6.0	42.39°C	0.969
	12.169V	5.037V	3.292V	5.044V	93.415				38.44°C	114.91V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	4.97mV	7.61mV	10.33mV	3.99mV	Pass
20% Load	5.32mV	6.49mV	9.41mV	4.14mV	Pass
30% Load	19.82mV	4.85mV	9.05mV	4.25mV	Pass
40% Load	13.07mV	6.18mV	9.05mV	4.61mV	Pass
50% Load	11.69mV	5.31mV	9.56mV	5.53mV	Pass
60% Load	11.38mV	5.62mV	9.56mV	6.14mV	Pass
70% Load	10.61mV	5.57mV	10.07mV	6.91mV	Pass
80% Load	10.67mV	15.22mV	21.17mV	6.70mV	Pass
90% Load	10.54mV	8.33mV	14.73mV	8.44mV	Pass
100% Load	16.75mV	7.08mV	13.12mV	9.50mV	Pass
110% Load	17.67mV	7.58mV	14.46mV	10.11mV	Pass
Crossload1	9.96mV	7.87mV	14.68mV	10.42mV	Pass
Crossload2	9.83mV	9.04mV	8.64mV	10.08mV	Pass
Crossload3	9.31mV	6.38mV	16.52mV	10.80mV	Pass
Crossload4	15.87mV	6.20mV	11.15mV	10.82mV	Pass

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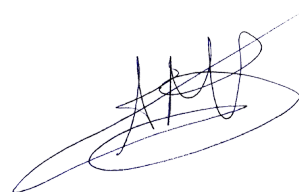


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Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

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