EFFICIENCY AND NOISE LEVEL CERTIFICATIONS

Anex

Deepcool PX1000G

Lab ID#: DC10002135
Receipt Date: Jan 31, 2023
Test Date: Feb 17, 2023

Report: 23PS2135A
Report Date: Feb 17, 2023

DUT INFORMATION

Brand	Deepcool
Manufacturer (OEM)	CWT
Series	PXG
Model Number	PXA00G-FC
Serial Number	
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6.5
Rated Frequency (Hz)	50-60
Rated Power (W)	1000
Type	ATX12V
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 v3.0 PSU Power Excursion	✓

115V

Average Efficiency	88.958%
Efficiency With 10W (≤500W) or 2% (>500W)	79.094
Average Efficiency 5VSB	79.008%
Standby Power Consumption (W)	0.0139000
Average PF	0.982
Avg Noise Output	32.53 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard++

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	83.3	3	0.3
	Watts	120		999.6	15	3.6
Total Max. Power (W)		1000				

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

Hold-Up Time (ms)	18.2
AC Loss to PWR_OK Hold Up Time (ms)	15.9
PWR_OK Inactive to DC Loss Delay (ms)	2.3

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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	16AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (650mm)	3	3	16AWG	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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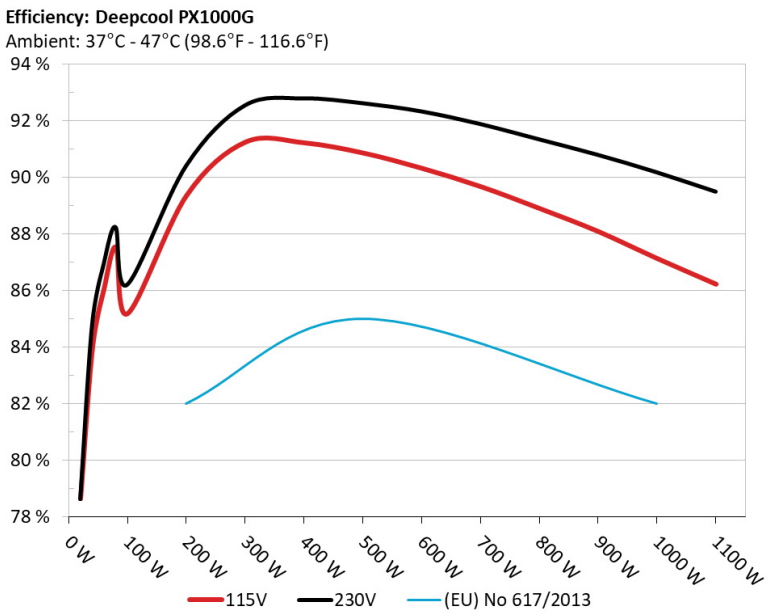
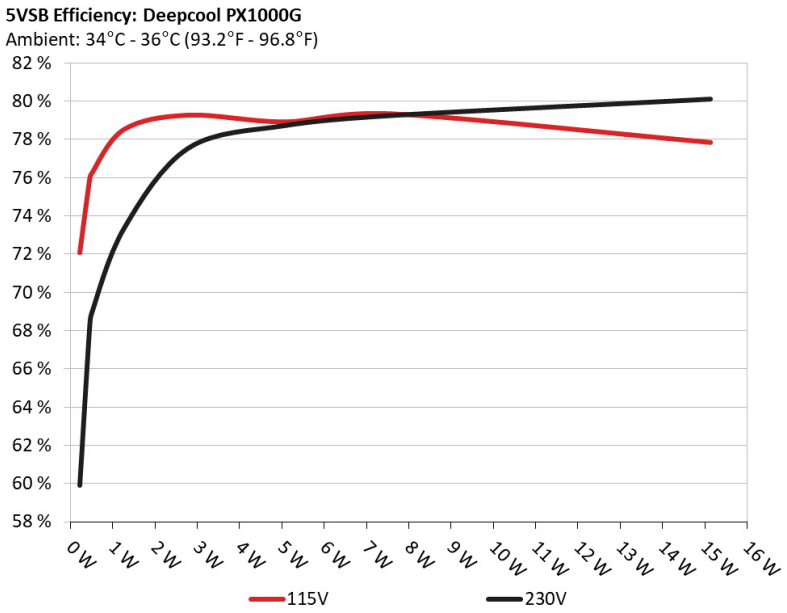
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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



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	0.229W	72.081%	0.031
	5.098V	0.318W		115.08V
2	0.09A	0.459W	75.885%	0.058
	5.097V	0.605W		115.08V
3	0.55A	2.799W	79.282%	0.269
	5.089V	3.53W		115.08V
4	1A	5.082W	78.926%	0.372
	5.081V	6.439W		115.08V
5	1.5A	7.609W	79.349%	0.425
	5.072V	9.589W		115.08V
6	3A	15.138W	77.852%	0.495
	5.045V	19.445W		115.08V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.229W	59.921%	0.011
	5.097V	0.382W		230.22V
2	0.09A	0.459W	68.124%	0.019
	5.096V	0.674W		230.22V
3	0.55A	2.799W	77.556%	0.099
	5.089V	3.609W		230.22V
4	1A	5.081W	78.731%	0.166
	5.081V	6.454W		230.22V
5	1.5A	7.609W	79.256%	0.225
	5.072V	9.599W		230.22V
6	3A	15.137W	80.113%	0.331
	5.047V	18.894W		230.22V

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115V

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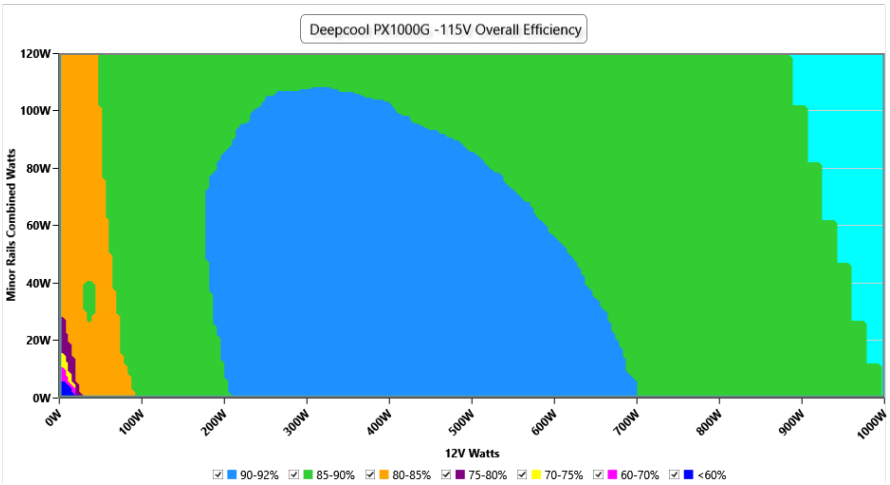
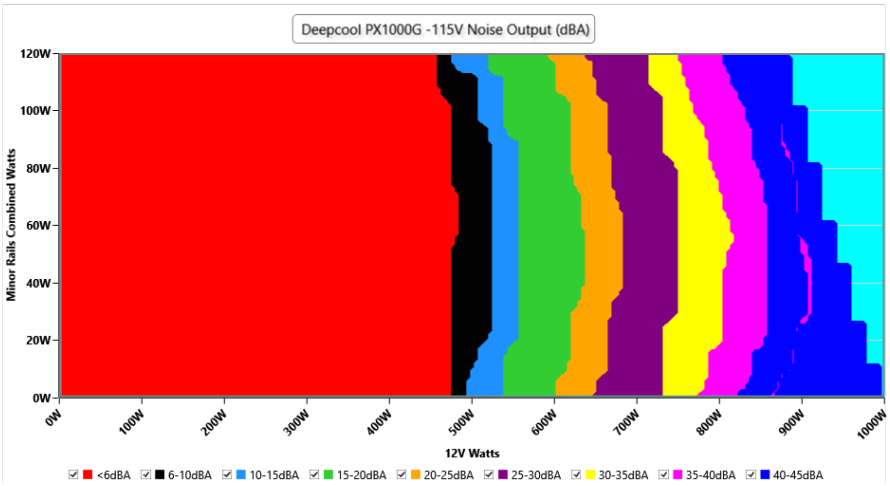
EFFICIENCY GRAPH 115V



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:	115.09 V	115.05 V	113.85 V	115.13 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.97 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.014 W	0.009 W	N/A	0.018 W	N/A	N/A
Apparent Power:	10.176 W	10.146 W	N/A	10.212 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%	6.444A	1.983A	2.004A	0.986A	100.007	85.196%	0	<6.0	44.42°C	0.968
	12.166V	5.044V	3.294V	5.072V	117.382				40.14°C	115.07V
20%	13.896A	2.976A	3.008A	1.185A	199.953	89.368%	0	<6.0	45.69°C	0.978
	12.165V	5.042V	3.292V	5.062V	223.739				40.79°C	115.04V
30%	21.732A	3.472A	3.51A	1.363A	299.997	91.261%	0	<6.0	46.34°C	0.982
	12.145V	5.041V	3.291V	5.137V	328.725				41.12°C	115.01V
40%	29.533A	3.969A	4.013A	1.559A	399.475	91.237%	501	7.8	41.2°C	0.984
	12.131V	5.04V	3.29V	5.132V	437.845				47.21°C	114.98V
50%	37.036A	4.964A	5.02A	1.756A	499.183	90.879%	634	14.4	42.41°C	0.985
	12.114V	5.037V	3.287V	5.124V	549.286				48.89°C	114.95V
60%	44.629A	5.96A	6.028A	1.955A	599.702	90.336%	816	22.8	42.51°C	0.987
	12.097V	5.035V	3.285V	5.117V	663.864				49.64°C	114.92V
70%	52.181A	6.955A	7.036A	2.153A	699.427	89.69%	1046	30.0	43.11°C	0.988
	12.080V	5.033V	3.284V	5.109V	779.832				50.92°C	114.88V
80%	59.805A	7.952A	8.039A	2.254A	799.414	88.916%	1396	39.0	43.79°C	0.99
	12.064V	5.032V	3.282V	5.102V	899.07				52.51°C	114.85V
90%	67.766A	8.449A	8.532A	2.355A	899.19	88.101%	1752	46.4	44.89°C	0.991
	12.053V	5.03V	3.28V	5.096V	1020.635				54.29°C	114.81V
100%	75.483A	8.951A	9.055A	2.952A	999.205	87.147%	2087	50.8	46.06°C	0.992
	12.050V	5.027V	3.278V	5.08V	1146.584				55.95°C	114.76V
110%	83.133A	9.95A	10.16A	2.956A	1099.781	86.233%	2132	50.9	47.28°C	0.993
	12.047V	5.025V	3.276V	5.075V	1275.365				58.18°C	114.73V
CL1	0.115A	14.307A	14.486A	0A	121.274	82.665%	637	14.4	43.3°C	0.971
	12.162V	5.046V	3.292V	5.079V	146.707				45.61°C	115.06V
CL2	0.113A	21.743A	0A	0A	111.376	80.566%	502	7.8	42.18°C	0.969
	12.170V	5.059V	3.295V	5.085V	138.242				44.89°C	115.06V
CL3	0.113A	0A	22.003A	0A	73.966	75.612%	404	<6.0	41.07°C	0.96
	12.170V	5.052V	3.299V	5.079V	97.824				44.4°C	115.07V
CL4	82.973A	0A	0A	0A	999.939	87.487%	2129	50.9	45.28°C	0.992
	12.051V	5.042V	3.287V	5.138V	1142.958				47.04°C	114.77V

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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	1.232A	0.494A	0.499A	0.196A	19.994	78.644%	0	<6.0	40.18°C	0.86
	12.044V	5.062V	3.303V	5.091V	25.423				37.07°C	115.09V
40W	2.714A	0.691A	0.699A	0.295A	39.991	83.944%	0	<6.0	41.31°C	0.917
	12.042V	5.062V	3.304V	5.088V	47.64				37.92°C	115.08V
60W	4.194A	0.891A	0.901A	0.393A	59.991	86.084%	0	<6.0	42.41°C	0.949
	12.046V	5.052V	3.298V	5.085V	69.686				38.75°C	115.08V
80W	5.673A	1.09A	1.102A	0.492A	79.957	87.538%	0	<6.0	43.62°C	0.951
	12.044V	5.047V	3.295V	5.082V	91.338				39.63°C	115.07V

RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.85mV	10.97mV	6.27mV	9.87mV	Pass
20% Load	9.01mV	11.48mV	7.38mV	9.87mV	Pass
30% Load	15.06mV	10.67mV	8.75mV	10.12mV	Pass
40% Load	13.54mV	10.82mV	8.19mV	11.23mV	Pass
50% Load	11.65mV	10.72mV	8.34mV	10.47mV	Pass
60% Load	11.44mV	13.11mV	16.63mV	10.57mV	Pass
70% Load	12.78mV	10.77mV	9.81mV	11.54mV	Pass
80% Load	12.41mV	11.48mV	11.33mV	11.64mV	Pass
90% Load	12.15mV	11.18mV	11.37mV	11.59mV	Pass
100% Load	18.05mV	6.36mV	12.21mV	12.95mV	Pass
110% Load	18.43mV	6.54mV	13.22mV	13.09mV	Pass
Crossload1	7.37mV	5.80mV	10.52mV	13.75mV	Pass
Crossload2	9.31mV	6.61mV	7.68mV	13.00mV	Pass
Crossload3	9.77mV	10.11mV	12.84mV	13.51mV	Pass
Crossload4	16.76mV	5.13mV	10.04mV	14.30mV	Pass

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Top side

Power specifications label

CERTIFICATIONS 115V

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CYBENETICS STANDARD++

Aristeidis Bitziopoulos
Lab Director