

Lab ID#: CG10502176  
Receipt Date: May 4, 2023  
Test Date: May 15, 2023

Report: 23PS2176A

Report Date: May 16, 2023

## DUT INFORMATION

Brand	Cougar
Manufacturer (OEM)	XHY-Power
Series	Polar X2
Model Number	CGR PRX2-1050
Serial Number	12BC02PX10500098
DUT Notes	

## DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-7
Rated Frequency (Hz)	47-63
Rated Power (W)	1050
Type	ATX12V
Cooling	135mm Hydraulic Dynamic Bearing Fan (DWPH EFF-14E12H)
Semi-Passive Operation	✓
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 (+-2°C / +- 3.6°F)
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	90.182%
Efficiency With 10W (≤500W) or 2% (>500W)	67.679
Average Efficiency 5VSB	81.696%
Standby Power Consumption (W)	0.0536000
Average PF	0.979
Avg Noise Output	22.37 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

## POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	87.5	3	0.3
	Watts	100		1050	15	3.6
Total Max. Power (W)		1050				

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## CABLES AND CONNECTORS

### Modular Cables

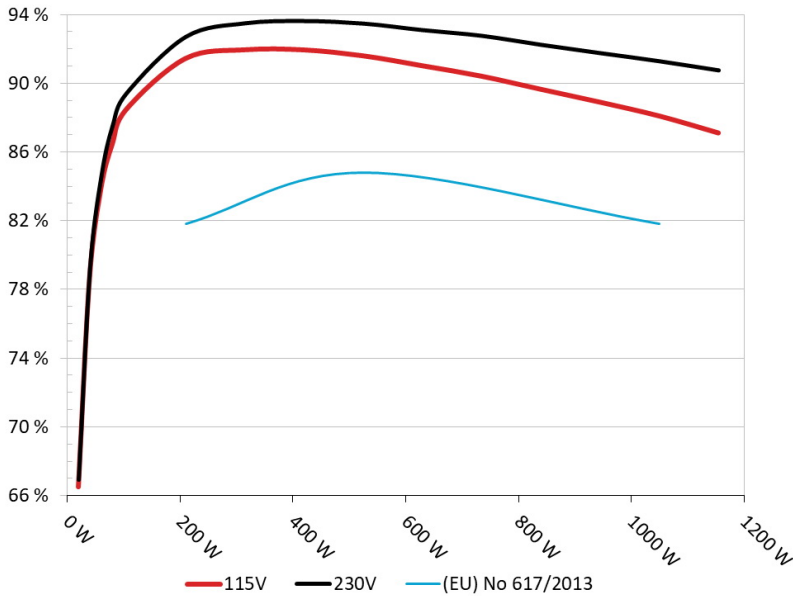
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (650mm)	1	1	18AWG	No
4+4 pin EPS12V (650mm)	1	1	16AWG	No
8 pin EPS12V (650mm)	1	1	16AWG	No
6+2 pin PCIe (650mm)	1	1	16AWG	No
6+2 pin PCIe (650mm+100mm)	3	6	16AWG	No
12+4 pin PCIe (750mm) (600W)	1	1	16-26AWG	No
SATA (500mm+110mm+110mm+110mm)	3	12	18AWG	No
4-pin Molex (500mm+120mm+120mm+120mm)	1	4	18AWG	No
AC Power Cord (1360mm) - C13 coupler	1	1	18AWG	-

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### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

**Efficiency: Cougar Polar X2 1050W**  
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

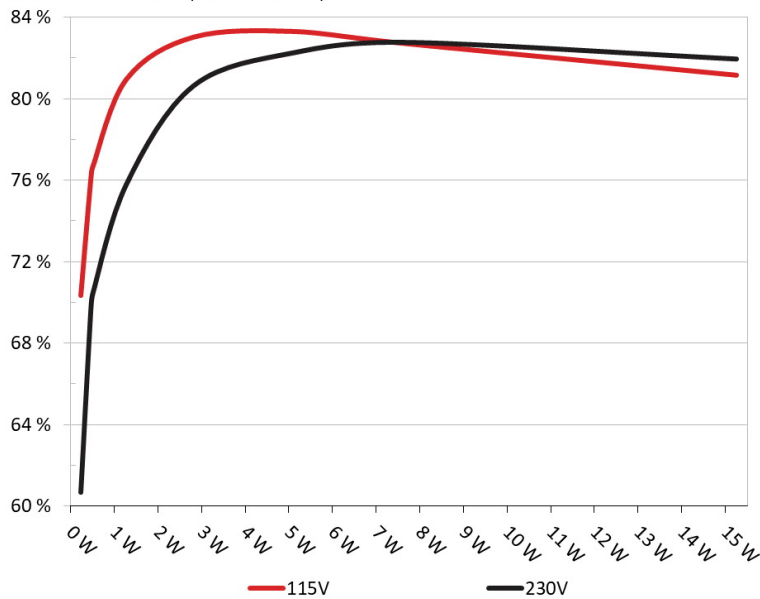


#### INFO

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: Cougar Polar X2 1050W**  
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	0.231W	69.858%	0.05
	5.135V	0.331W		114.89V
2	0.09A	0.462W	75.616%	0.09
	5.134V	0.611W		114.88V
3	0.55A	2.819W	82.525%	0.324
	5.126V	3.416W		114.88V
4	1A	5.118W	82.799%	0.395
	5.118V	6.181W		114.88V
5	1.5A	7.664W	82.207%	0.439
	5.11V	9.323W		114.87V
6	3A	15.244W	80.657%	0.492
	5.082V	18.9W		114.88V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	60.168%	0.017
	5.135V	0.385W		229.77V
2	0.09A	0.462W	69.2%	0.029
	5.134V	0.668W		229.78V
3	0.55A	2.819W	80.152%	0.141
	5.126V	3.517W		229.77V
4	1A	5.118W	81.772%	0.221
	5.118V	6.259W		229.78V
5	1.5A	7.664W	82.279%	0.274
	5.109V	9.315W		229.78V
6	3A	15.246W	81.462%	0.369
	5.083V	18.715W		229.77V

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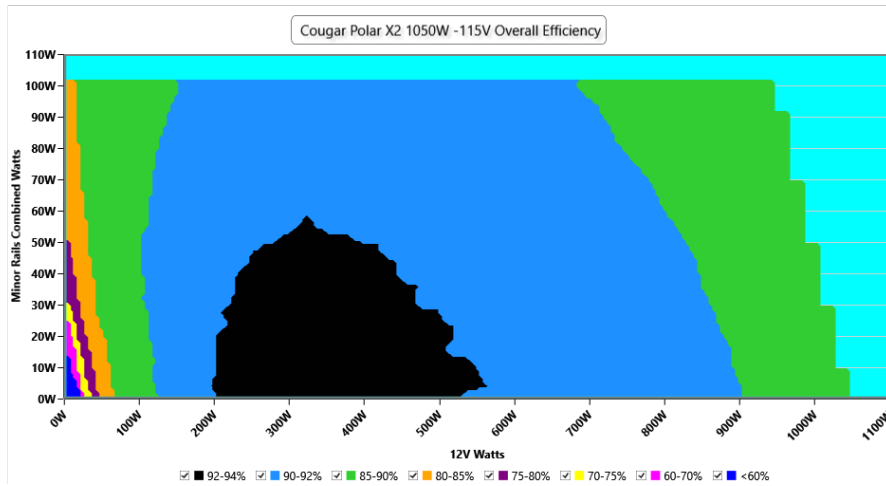
# 115V

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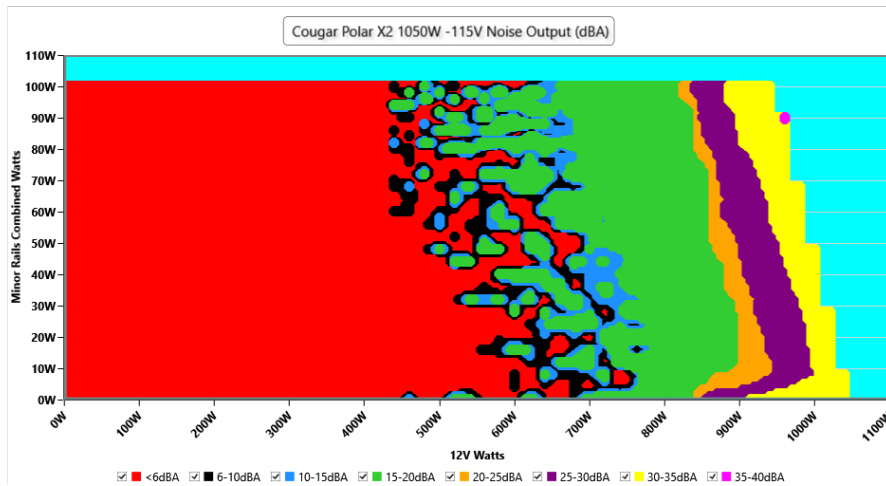
### EFFICIENCY GRAPH 115V



#### 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**

**Detailed Results**

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.88 V	114.81 V	113.85 V	114.95 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.97 Hz	59.40 Hz	60.03 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.419	1.417	1.340	1.421	1.490	PASS
Mains Voltage THD:	0.21 %	0.16 %	N/A	0.30 %	2.00 %	PASS
Real Power:	0.054 W	0.034 W	N/A	0.075 W	N/A	N/A
Apparent Power:	6.869 W	6.834 W	N/A	6.910 W	N/A	N/A
Power Factor:	0.009	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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**COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V**

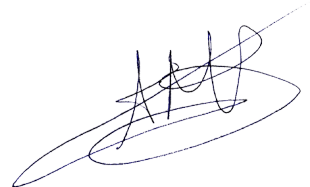
Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	6.838A	1.99A	1.98A	0.978A	104.926	88.69%	0	<6.0	44.32°C	0.957
	12.186V	5.025V	3.332V	5.114V	118.306				40.1°C	114.83V
20%	14.680A	2.985A	2.973A	1.175A	209.908	91.654%	0	<6.0	45.31°C	0.973
	12.194V	5.024V	3.33V	5.105V	229.02				40.68°C	114.78V
50%	38.902A	4.981A	4.967A	1.773A	524.753	91.808%	0	<6.0	48.41°C	0.981
	12.191V	5.019V	3.322V	5.078V	571.572				42.4°C	114.67V
100%	78.811A	8.976A	8.976A	2.984A	1049.707	88.304%	1711	45.3	45.16°C	0.99
	12.182V	5.013V	3.309V	5.026V	1188.746				55.25°C	114.48V

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## CERTIFICATIONS 115V

**Aristeidis Bitziopoulos**  
Lab Director

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