

## Anex

Cougar GX-F550

Lab ID#: 295

Receipt Date: -

Test Date: -

Report: 19PS295A

Report Date: Feb 22, 2018

DUT INFORMATION	
Brand	Cougar
Manufacturer (OEM)	HEC
Series	GX-F
Model Number	GX-F550
Serial Number	H1801006841
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	9-4
Rated Frequency (Hz)	47-63
Rated Power (W)	550
Type	ATX12V
Cooling	135mm Hydro Dynamic Bearing Fan (RL4Z S1352512H)
Semi-Passive Operation	X
Cable Design	Fully Modular

POWER SPECIFICATIONS						
Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	24	24	45.5	3	0.5
	Watts	130		546	15	6
Total Max. Power (W)		550				

CABLES AND CONNECTORS				
Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (580mm)	1	1	16-18AWG	No
4+4 pin EPS12V (700mm)	1	1	16AWG	No
6+2 pin PCIe (600mm+120mm)	2	4	18AWG	No
SATA (450mm+120mm+120mm)	2	6	18AWG	No
4 pin Molex (400mm+120mm+120mm)	1	3	18AWG	No
AC Power Cord (1700mm) - C13 coupler	1	1	18AWG	-

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### RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	88.810
Efficiency With 10W ( $\leq 500W$ ) or 2% ( $> 500W$ ) Load -115V	0.000
Average Efficiency 5VSB	76.344
Standby Power Consumption (W) -115V	0.0514631
Standby Power Consumption (W) -230V	0.1071730
Average PF	0.980
ErP Lot 3/6 Ready	ErP Lot 3/6 2010: ✓ ErP Lot 3/6 2013: ✓ ErP Lot 3/6 2014, CEC: Partially
(EU) No 617/2013 Compliance	✓
Avg Noise Output	28.71
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A-

### TEST EQUIPMENT

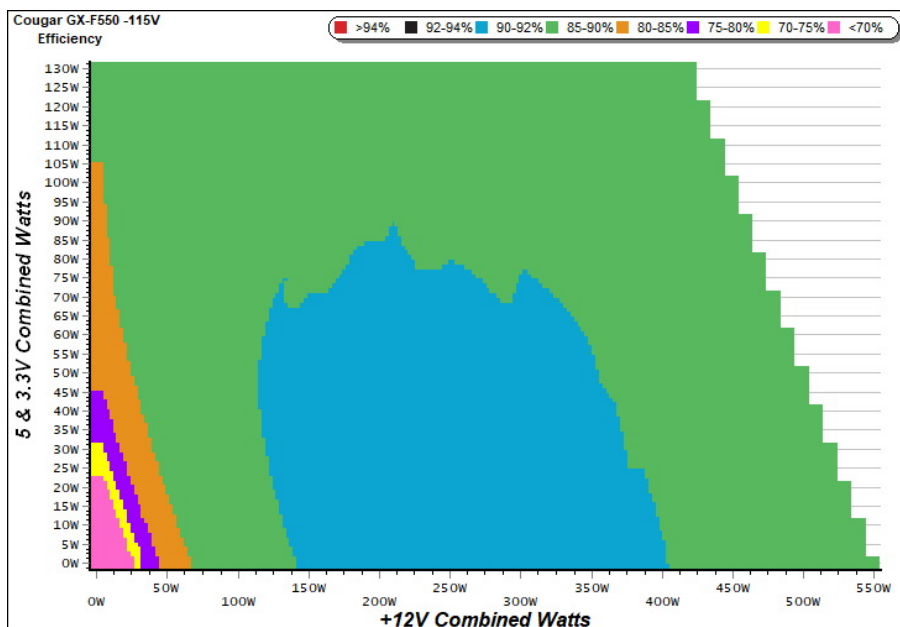
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 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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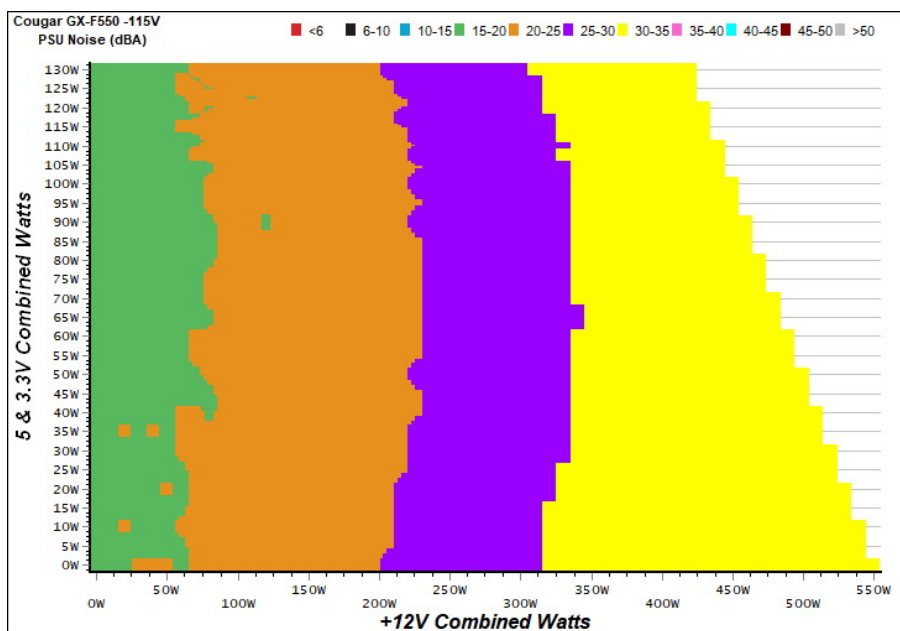
### EFFICIENCY GRAPH



#### 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



#### 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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### 5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

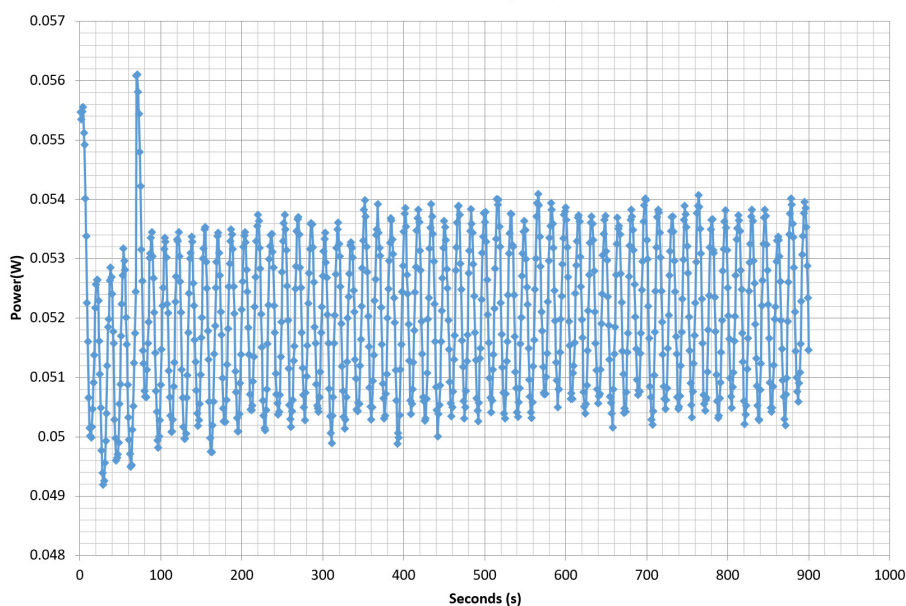
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231	66.571%	0.026
	5.131V	0.347		115.27V
2	0.090A	0.462	72.075%	0.048
	5.129V	0.641		115.27V
3	0.550A	2.816	77.533%	0.221
	5.120V	3.632		115.26V
4	1.000A	5.112	77.832%	0.314
	5.111V	6.568		115.26V
5	1.500A	7.654	76.311%	0.373
	5.102V	10.030		115.26V
6	3.000A	15.222	75.182%	0.445
	5.074V	20.247		115.25V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231	57.037%	0.010
	5.131V	0.405		230.82V
2	0.090A	0.462	65.532%	0.018
	5.130V	0.705		230.83V
3	0.550A	2.816	74.834%	0.090
	5.120V	3.763		230.82V
4	1.000A	5.112	75.521%	0.152
	5.112V	6.769		230.82V
5	1.500A	7.654	76.281%	0.206
	5.102V	10.034		230.82V
6	3.000A	15.222	75.826%	0.310
	5.074V	20.075		230.82V

### VAMPIRE POWER -115V

Power - H1801006841 - 13/02/2018 - 11:03



#### 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

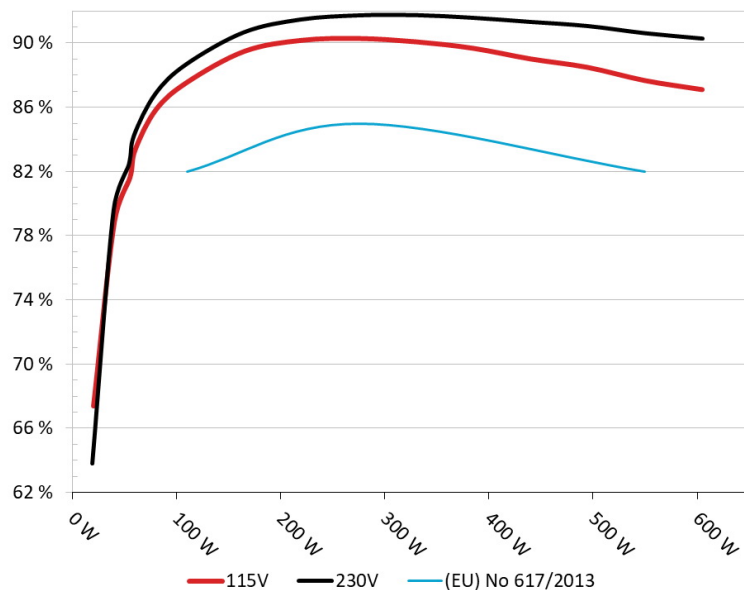
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### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

#### Efficiency: Cougar GX-F550

Ambient: 29°C - 39°C (84.2°F - 102.2°F)



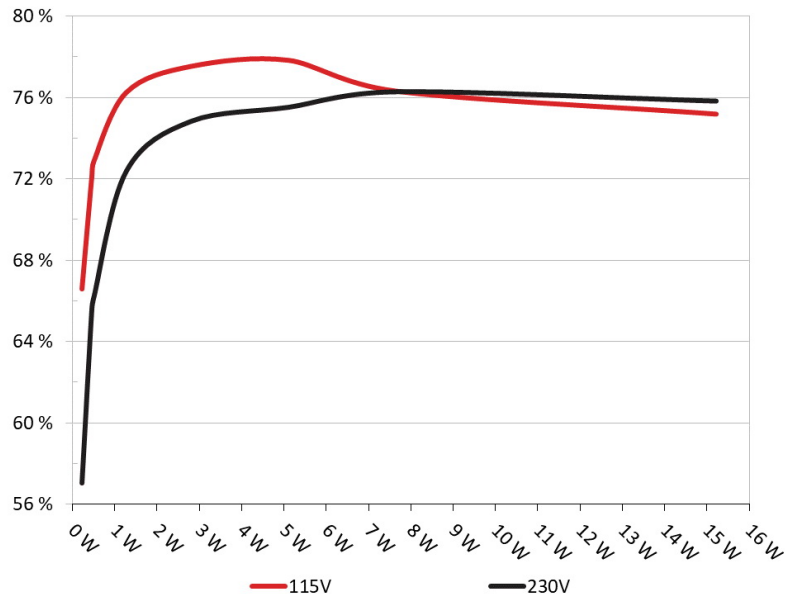
#### INFO

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 GX-F550

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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### 10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	2.748A	1.999A	1.977A	0.979A	54.962	81.616%	750	21.3	32.75°C	0.960
	12.139V	5.002V	3.341V	5.107V	67.342				35.26°C	115.29V
2	6.526A	3.003A	2.968A	1.177A	110.031	87.558%	770	22.4	32.92°C	0.976
	12.125V	4.996V	3.335V	5.099V	125.667				35.76°C	115.22V
3	10.644A	3.507A	3.469A	1.375A	165.031	89.484%	820	23.8	33.32°C	0.974
	12.117V	4.991V	3.330V	5.092V	184.425				36.38°C	115.15V
4	14.770A	4.012A	3.969A	1.574A	220.039	90.168%	860	24.7	34.21°C	0.976
	12.108V	4.986V	3.325V	5.084V	244.033				37.51°C	115.08V
5	18.557A	5.021A	4.972A	1.773A	275.033	90.278%	918	27.4	34.70°C	0.980
	12.099V	4.980V	3.320V	5.077V	304.652				38.22°C	115.05V
6	22.351A	6.032A	5.975A	1.973A	330.030	90.073%	1020	30.2	35.51°C	0.982
	12.090V	4.974V	3.314V	5.069V	366.402				39.26°C	115.03V
7	26.154A	7.046A	6.984A	2.174A	385.117	89.669%	1090	32.2	36.24°C	0.985
	12.082V	4.969V	3.309V	5.061V	429.486				40.35°C	114.94V
8	29.932A	8.062A	7.994A	2.376A	439.945	89.007%	1100	32.5	36.89°C	0.987
	12.079V	4.961V	3.302V	5.052V	494.280				41.27°C	114.86V
9	34.127A	8.574A	8.489A	2.377A	494.482	88.485%	1226	35.8	37.06°C	0.988
	12.072V	4.957V	3.298V	5.049V	558.830				41.88°C	114.78V
10	38.130A	9.087A	9.019A	2.980A	549.710	87.661%	1320	37.5	37.93°C	0.990
	12.064V	4.953V	3.293V	5.034V	627.088				43.58°C	114.79V
11	42.736A	9.095A	9.031A	2.982A	604.938	87.096%	1407	39.1	38.97°C	0.991
	12.056V	4.949V	3.289V	5.030V	694.561				45.27°C	114.70V
CL1	0.130A	16.002A	16.001A	0.000A	134.131	85.035%	1070	31.5	37.28°C	0.976
	12.111V	4.968V	3.316V	5.110V	157.737				41.81°C	115.17V
CL2	45.510A	1.002A	0.998A	1.000A	562.709	88.282%	1340	37.8	38.72°C	0.990
	12.071V	4.971V	3.304V	5.079V	637.397				44.01°C	114.77V

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Cougar GX-F550

## 20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.222A	0.499A	0.491A	0.195A	19.983	67.376%	680	17.3	0.869
	12.147V	5.005V	3.344V	5.124V	29.659				115.25V
2	2.444A	0.999A	0.988A	0.391A	39.976	78.862%	690	18.0	0.945
	12.141V	5.004V	3.343V	5.119V	50.691				115.32V
3	3.670A	1.501A	1.483A	0.587A	60.008	83.355%	725	20.2	0.966
	12.137V	5.002V	3.341V	5.114V	71.991				115.27V
4	4.893A	2.000A	1.977A	0.783A	79.963	85.850%	735	20.7	0.973
	12.132V	5.000V	3.339V	5.109V	93.143				115.26V

## RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	5.1 mV	6.6 mV	6.2 mV	5.7 mV	Pass
20% Load	6.0 mV	7.1 mV	6.3 mV	5.9 mV	Pass
30% Load	6.9 mV	7.5 mV	6.9 mV	6.9 mV	Pass
40% Load	7.6 mV	8.1 mV	7.6 mV	9.4 mV	Pass
50% Load	8.8 mV	8.6 mV	8.3 mV	8.2 mV	Pass
60% Load	10.7 mV	8.9 mV	8.9 mV	10.5 mV	Pass
70% Load	15.8 mV	9.5 mV	10.1 mV	10.5 mV	Pass
80% Load	10.4 mV	10.9 mV	13.7 mV	12.9 mV	Pass
90% Load	10.8 mV	12.0 mV	13.4 mV	13.1 mV	Pass
100% Load	11.2 mV	13.1 mV	14.7 mV	15.5 mV	Pass
110% Load	11.6 mV	14.3 mV	16.1 mV	16.7 mV	Pass
Crossload 1	7.1 mV	10.4 mV	12.7 mV	4.2 mV	Pass
Crossload 2	11.2 mV	10.5 mV	12.1 mV	12.0 mV	Pass

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

Hold-Up Time (ms)	21.40
AC Loss to PWR_OK Hold Up Time (ms)	17.30
PWR_OK Inactive to DC Loss Delay (ms)	4.10



Top side

MODEL NO. 型號 / 型号		CGR GD-550		80 PLUS GOLD
AC INPUT 交流輸入 / 交流輸入	AC100-240V~ 47-63Hz 9-4A			
DC OUTPUT 直流輸出 / 直流輸出	+3.3V	+5V	+12V	-12V +5Vsb
MAX. A 最大電流 / 最大電流	24A	24A	45.5A	0.5A 3A
COMBINED 最大瓦特數 / 最大瓦特數	130W		546W	
TOTAL MAX. OUTPUT POWER 總功率 / 總功率	550W GX-F550			
<div>        </div>				
<p>WARNING: Hazardous voltages contained within this power supply, not user serviceable. Return to service center for repair. 警告: 內有高压, 請勿開啟 / 警告: 內有高压, 請勿開啟</p> <p>此電源供應器之電源輸出非屬電力限制電源, 請連結使用具防火外殼 (V-1以上) 之週邊, 以避免火災發生 此電源供應器之電源輸出非屬電力限制電源, 請連結使用具防火外殼 (V-1以上) 之週邊, 以避免火災發生</p> <p>製造商: 偉創科技股份有限公司 製造商: 偉創科技股份有限公司 CompuCase Enterprise Co., Ltd. 交換式電源供應器 中國製造 開關電源供應器 中國製造 L501.003783 Made in China</p>				
REAL GEAR FOR REAL GAMERS				

Power specifications label

## CERTIFICATIONS



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