

Anex

Corsair HX1000i

Lab ID#: 99
Receipt Date: -
Test Date: -

Report: 19PS99A

Report Date: Apr 27, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	HXi
Model Number	HX1000i
Serial Number	16407148000014180073
DUT Notes	CP-9020074

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	13-6.5
Rated Frequency (Hz)	47-63
Rated Power (W)	1000
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (NR135P)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	83.3	3	0.8
	Watts	150		1000	15	9.6
Total Max. Power (W)		1000				

CABLES AND CONNECTORS

Modular Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (600mm)	1	1	16-18AWG
4+4 pin EPS12V (800mm) / (650mm)	1 / 1	1 / 1	18AWG
6+2 pin PCIe (600mm+150mm)	4	8	16-18AWG
SATA (550mm+100mm+100mm+100mm)	1	4	18AWG
SATA (500mm+100mm+100mm+100mm)	2	8	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	3	12	18AWG
FDD Adapter (+100mm)	2	2	22AWG
C-Link USB Cable (800mm) / C-Link I2C Cable (800mm)	1 / 1	1 / 1	24-28 / 29AWG

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	89.602
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$) Load -115V	0.000
Average Efficiency 5VSB	80.133
Standby Power Consumption (W) -115V	0.0438908
Standby Power Consumption (W) -230V	0.0767632
Average PF	0.993
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	20.05
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

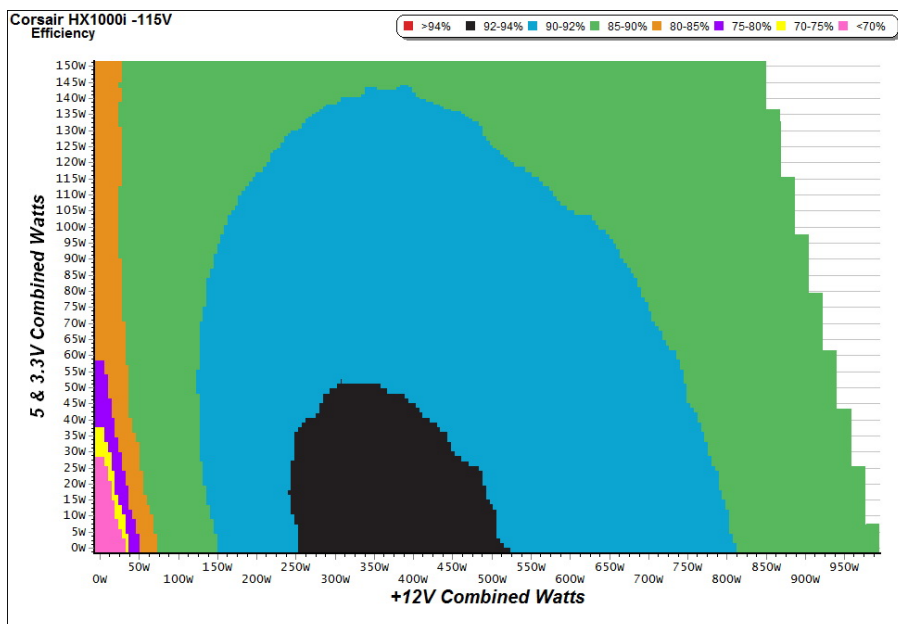
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

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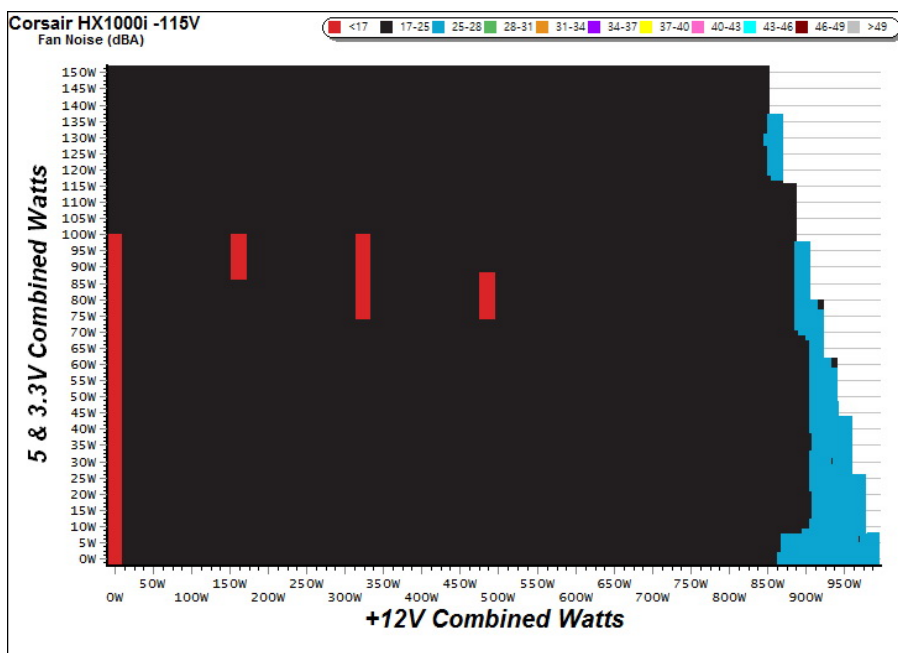
EFFICIENCY GRAPH



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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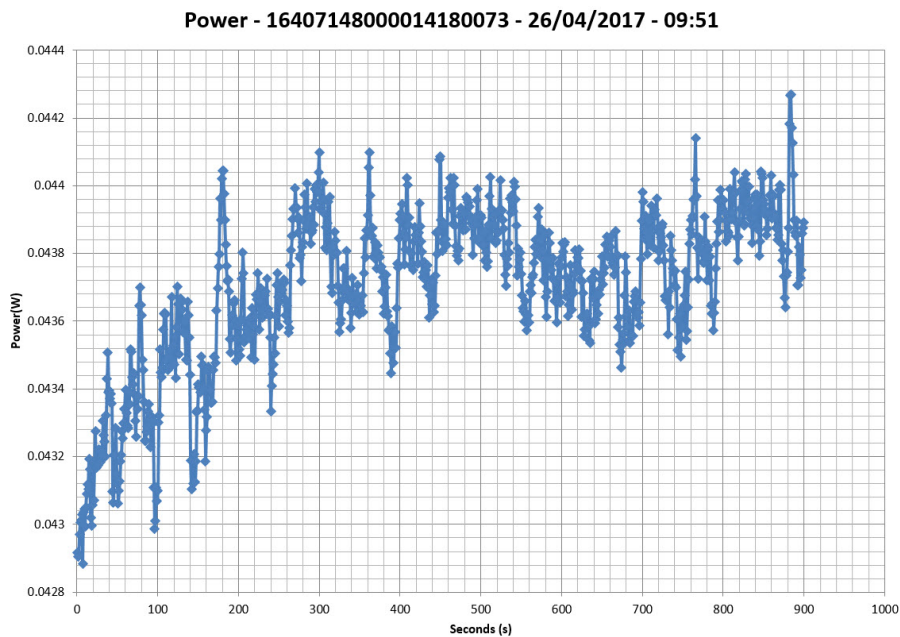
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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	69.508%	0.030
	5.057V	0.305		115.06V
2	0.087A	0.442	75.556%	0.058
	5.056V	0.585		115.07V
3	0.532A	2.686	80.806%	0.268
	5.047V	3.324		115.05V
4	3.001A	14.977	78.652%	0.529
	4.990V	19.042		115.06V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)				
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	61.272%	0.010
	5.057V	0.346		230.19V
2	0.087A	0.442	69.937%	0.019
	5.056V	0.632		230.20V
3	0.532A	2.685	78.947%	0.098
	5.046V	3.401		230.21V
4	3.002A	14.972	79.318%	0.357
	4.988V	18.876		230.18V

VAMPIRE POWER -115V



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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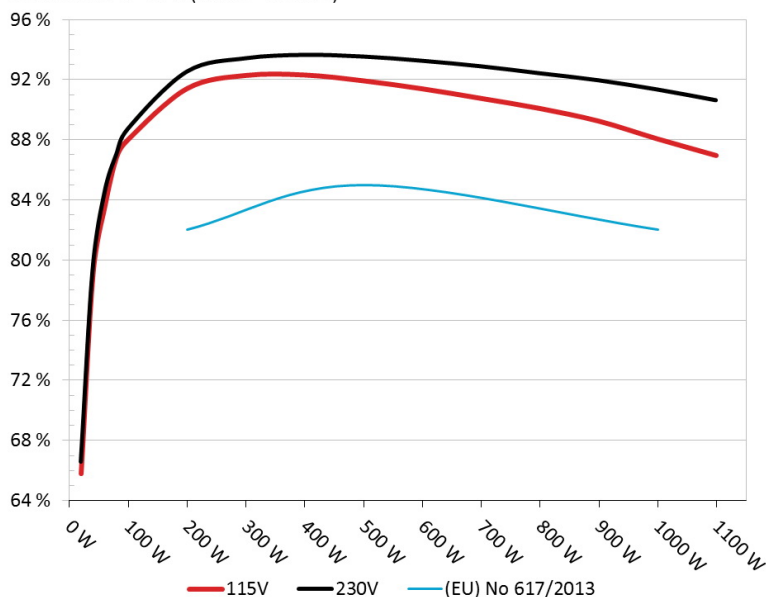
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair HX1000i

Ambient: 36°C - 47°C (96.8°F - 116.6°F)



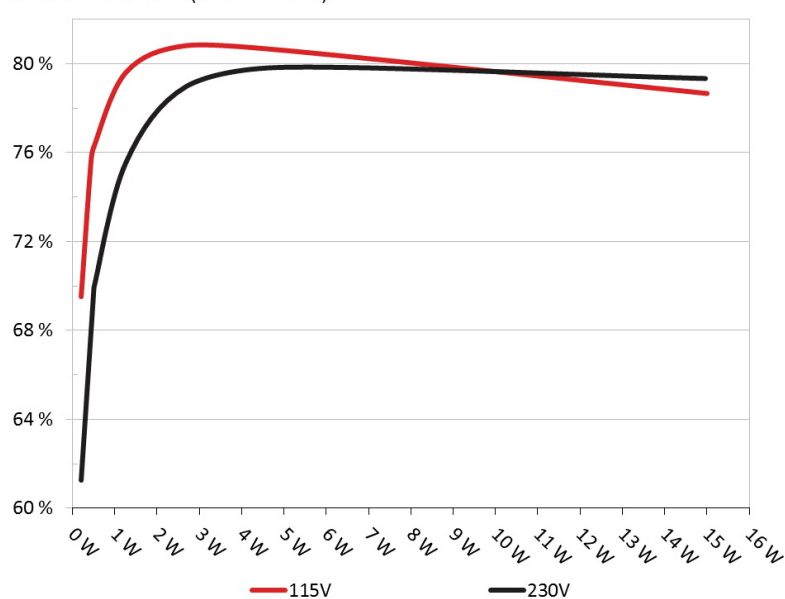
INFO

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: Corsair HX1000i

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)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	6.462A	1.995A	1.992A	1.000A	99.797	88.029%	0	0	45.85°C	0.979
	12.107V	5.005V	3.309V	4.985V	113.368				38.27°C	115.10V
2	13.962A	3.002A	2.994A	1.207A	199.687	91.410%	0	0	45.84°C	0.991
	12.090V	4.993V	3.305V	4.973V	218.451				38.77°C	115.10V
3	21.850A	3.508A	3.514A	1.405A	299.877	92.283%	0	0	47.40°C	0.994
	12.073V	4.991V	3.299V	4.968V	324.952				39.35°C	115.10V
4	29.741A	3.996A	4.000A	1.606A	399.625	92.310%	0	0	49.11°C	0.996
	12.052V	5.007V	3.296V	4.977V	432.914				40.12°C	115.10V
5	37.321A	4.975A	4.982A	1.801A	499.583	91.924%	0	0	48.15°C	0.997
	12.034V	5.021V	3.310V	4.993V	543.473				40.73°C	115.09V
6	44.915A	5.983A	5.965A	2.007A	599.525	91.392%	608	17.5	41.77°C	0.997
	12.017V	5.013V	3.318V	4.981V	655.991				53.67°C	115.09V
7	52.510A	7.002A	6.969A	2.211A	699.445	90.755%	788	19.6	42.18°C	0.997
	12.004V	5.003V	3.314V	4.970V	770.696				51.85°C	115.08V
8	60.147A	8.019A	7.977A	2.422A	799.266	90.084%	874	21.3	42.82°C	0.996
	11.985V	4.989V	3.309V	4.955V	887.245				52.64°C	115.08V
9	68.240A	8.533A	8.502A	2.424A	899.275	89.244%	960	22.3	43.99°C	0.996
	11.968V	4.980V	3.304V	4.948V	1007.663				54.44°C	115.07V
10	76.102A	9.064A	9.007A	3.044A	998.926	88.064%	1116	26.2	45.51°C	0.996
	11.947V	4.969V	3.298V	4.925V	1134.313				56.55°C	115.07V
11	84.602A	9.073A	9.020A	3.050A	1098.750	86.960%	1287	30.3	46.79°C	0.996
	11.927V	4.962V	3.291V	4.917V	1263.513				57.98°C	115.08V
CL1	0.098A	18.028A	18.002A	0.002A	151.586	83.494%	878	21.3	44.90°C	0.988
	12.074V	4.982V	3.365V	5.030V	181.553				53.64°C	115.12V
CL2	83.252A	1.003A	1.001A	1.001A	1007.857	88.429%	1156	27.0	45.83°C	0.996
	11.948V	4.950V	3.256V	4.933V	1139.730				55.72°C	115.02V

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20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	PF/AC Volts
1	1.205A	0.492A	0.482A	0.196A	19.665	65.809%	0	0	0.839
	12.129V	5.020V	3.313V	5.015V	29.882				115.10V
2	2.435A	0.991A	0.997A	0.396A	39.774	79.059%	0	0	0.925
	12.123V	5.016V	3.312V	5.006V	50.309				115.10V
3	3.667A	1.487A	1.510A	0.601A	59.892	83.563%	0	0	0.948
	12.117V	5.012V	3.312V	4.998V	71.673				115.10V
4	4.889A	1.995A	1.991A	0.801A	79.794	86.843%	0	0	0.977
	12.112V	5.007V	3.310V	4.991V	91.883				115.10V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.9 mV	5.9 mV	5.9 mV	5.0 mV	Pass
20% Load	14.1 mV	5.2 mV	6.1 mV	5.5 mV	Pass
30% Load	18.8 mV	5.9 mV	7.4 mV	6.9 mV	Pass
40% Load	24.1 mV	6.2 mV	8.6 mV	7.7 mV	Pass
50% Load	22.7 mV	7.6 mV	10.6 mV	9.1 mV	Pass
60% Load	24.8 mV	7.5 mV	11.4 mV	9.7 mV	Pass
70% Load	28.3 mV	8.4 mV	12.6 mV	11.3 mV	Pass
80% Load	32.6 mV	10.4 mV	13.8 mV	13.3 mV	Pass
90% Load	38.9 mV	10.7 mV	15.9 mV	14.8 mV	Pass
100% Load	47.7 mV	14.0 mV	19.0 mV	18.3 mV	Pass
110% Load	61.1 mV	14.6 mV	21.3 mV	19.9 mV	Pass
Crossload 1	16.4 mV	8.7 mV	11.9 mV	9.4 mV	Pass
Crossload 2	45.7 mV	10.8 mV	17.8 mV	15.0 mV	Pass

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

Hold-Up Time (ms)	18.92
AC Loss to PWR_OK Hold Up Time (ms)	16.72
PWR_OK Inactive to DC Loss Delay (ms)	2.20



Top side



Power specifications label

CERTIFICATIONS



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