Anex

Corsair AX1000 (Sample #2)

Lab ID#: 547
Receipt Date: -
Test Date: -

Report:
Report Date: Nov 22, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Seasonic
Series	AX
Model Number	AX1000 (Sample #2)
Serial Number	18437002000059610002
DUT Notes	CP-9020152

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 (HA13525M12F-Z)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	83	3	0.3
	Watts	125		996	15	3.6
Total Max. Power (W)		1000				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (610mm)	1	1	16-20AWG	Yes
4+4 pin EPS12V (650mm)	2	2	18AWG	Yes
6+2 pin PCIe (670mm+100mm)	4	8	16-18AWG	Yes
SATA (460mm+110mm+110mm+110mm)	4	16	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG	No
FDD Adapter (110mm)	1	1	22AWG	No
AC Power Cord (1400mm)	1	1	14AWG	-

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RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	92.166
Efficiency With 10W (≤500W) or 2% (>500W) Load -115V	75.500
Average Efficiency 5VSB	79.441
Standby Power Consumption (W) -115V	0.0486057
Standby Power Consumption (W) -230V	0.0794493
Average PF	0.851
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	21.66
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A

TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, 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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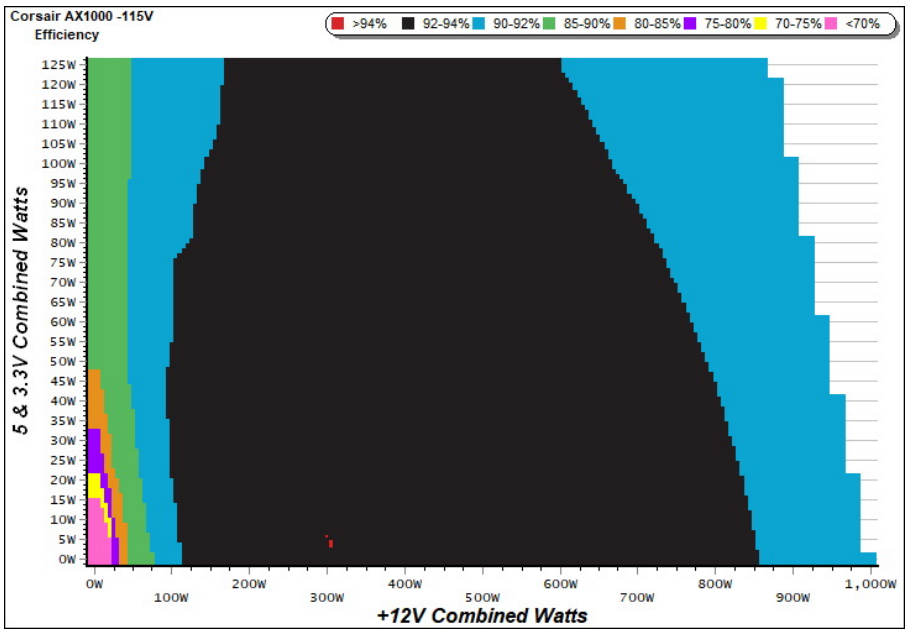
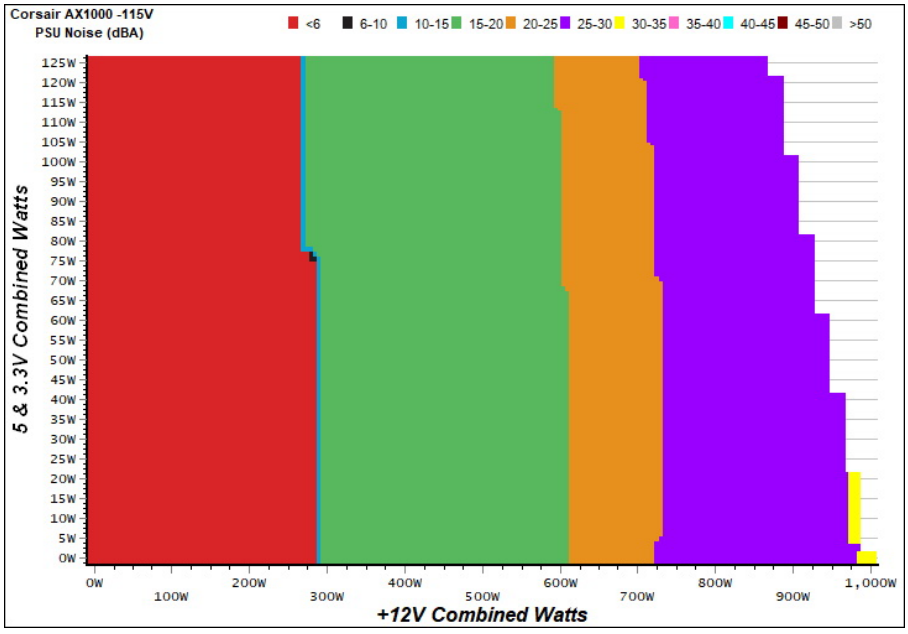
EFFICIENCY GRAPH



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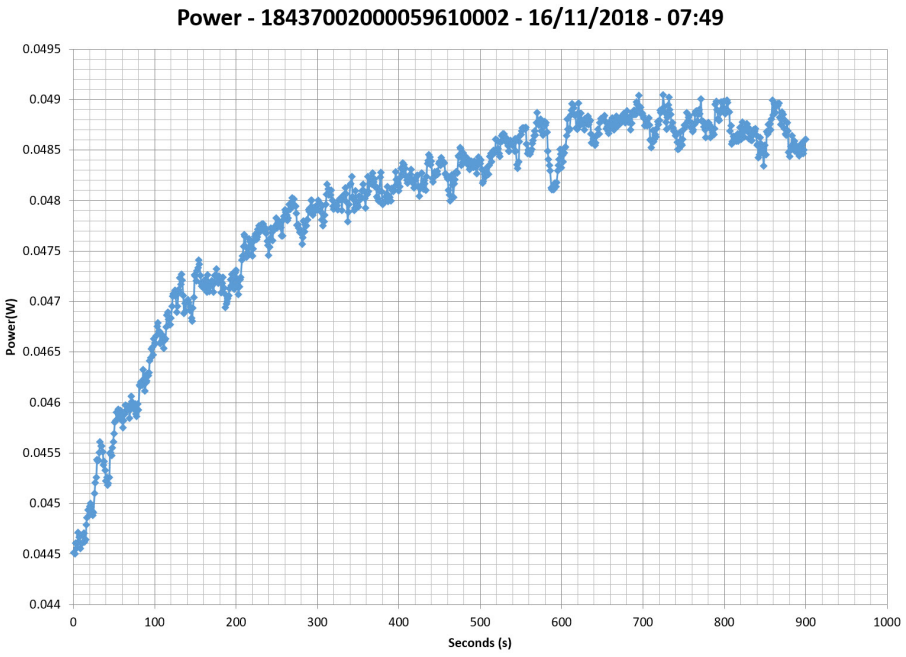
5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.224	67.267%	0.029
	4.973V	0.333		115.04V
2	0.090A	0.448	73.083%	0.054
	4.972V	0.613		115.04V
3	0.550A	2.730	79.801%	0.241
	4.963V	3.421		115.05V
4	1.000A	4.954	80.540%	0.338
	4.954V	6.151		115.05V
5	1.500A	7.413	79.633%	0.399
	4.941V	9.309		115.05V
6	3.000A	14.737	79.074%	0.476
	4.912V	18.637		115.04V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.224	60.054%	0.011
	4.973V	0.373		230.17V
2	0.090A	0.448	67.776%	0.018
	4.972V	0.661		230.18V
3	0.550A	2.729	77.265%	0.094
	4.962V	3.532		230.18V
4	1.000A	4.953	78.970%	0.156
	4.953V	6.272		230.18V
5	1.500A	7.414	79.549%	0.212
	4.942V	9.320		230.17V
6	3.000A	14.721	78.520%	0.320
	4.907V	18.748		230.17V

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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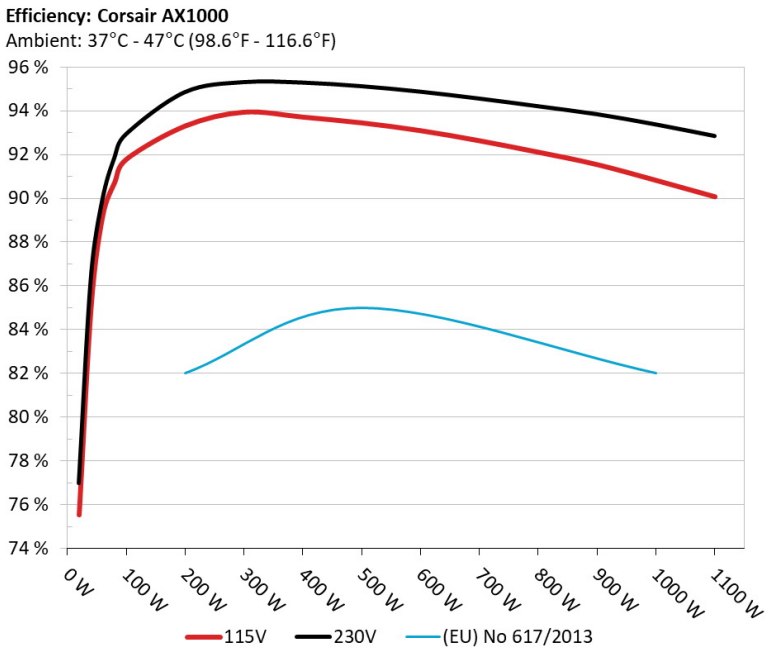
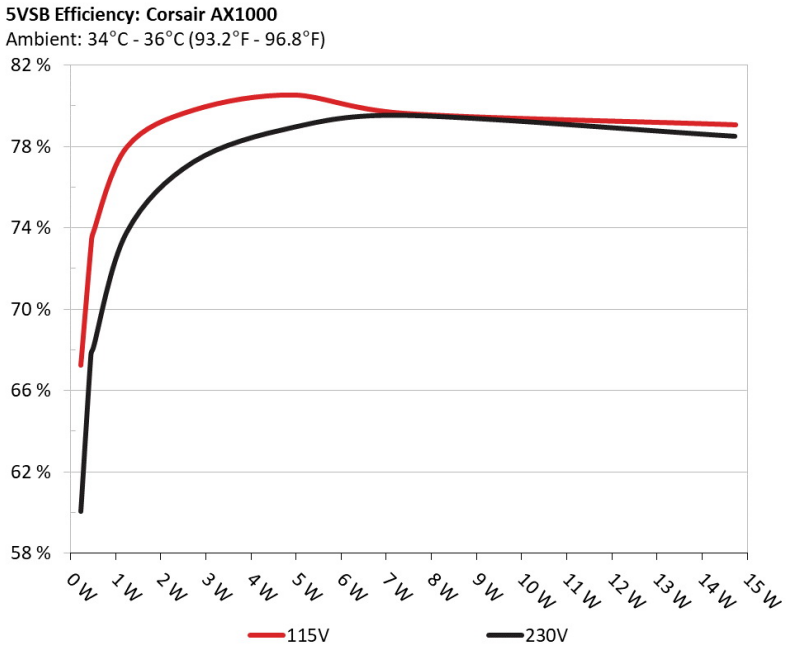
EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE



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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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	6.383A	1.978A	1.970A	0.993A	99.906	91.786%	0	<6.0	42.79°C	0.583
	12.271V	5.049V	3.347V	5.035V	108.847				39.61°C	115.04V
2	13.752A	2.971A	2.956A	1.192A	199.614	93.305%	0	<6.0	43.60°C	0.678
	12.269V	5.049V	3.346V	5.033V	213.937				40.10°C	115.05V
3	21.449A	3.466A	3.438A	1.392A	299.087	93.936%	0	<6.0	44.77°C	0.768
	12.266V	5.048V	3.344V	5.029V	318.395				40.74°C	115.07V
4	29.220A	3.963A	3.946A	1.592A	399.577	93.711%	714	19.1	41.03°C	0.849
	12.265V	5.047V	3.343V	5.026V	426.395				45.31°C	115.07V
5	36.634A	4.955A	4.935A	1.792A	499.704	93.447%	730	20.1	42.12°C	0.894
	12.262V	5.046V	3.342V	5.023V	534.744				47.78°C	115.07V
6	44.045A	5.948A	5.928A	1.992A	599.856	93.091%	815	24.6	42.69°C	0.922
	12.261V	5.046V	3.341V	5.021V	644.379				48.80°C	115.07V
7	51.432A	6.940A	6.919A	2.193A	699.625	92.629%	922	27.0	43.26°C	0.941
	12.259V	5.045V	3.339V	5.018V	755.301				50.22°C	115.07V
8	58.883A	7.930A	7.910A	2.393A	800.132	92.104%	984	29.5	43.80°C	0.955
	12.257V	5.044V	3.338V	5.015V	868.731				52.16°C	115.07V
9	66.667A	8.429A	8.390A	2.393A	899.444	91.542%	1054	31.9	44.61°C	0.964
	12.254V	5.043V	3.337V	5.015V	982.546				54.29°C	115.06V
10	74.285A	8.926A	8.907A	2.999A	999.865	90.818%	1409	40.4	46.09°C	0.971
	12.252V	5.043V	3.335V	5.004V	1100.956				56.37°C	115.06V
11	82.469A	8.929A	8.908A	2.999A	1099.886	90.070%	1729	45.4	46.91°C	0.976
	12.249V	5.042V	3.334V	5.003V	1221.152				58.84°C	115.05V
CL1	0.141A	15.000A	14.998A	0.000A	127.724	88.673%	855	25.7	42.10°C	0.615
	12.277V	5.052V	3.348V	5.080V	144.039				47.70°C	115.06V
CL2	83.013A	1.002A	1.001A	1.000A	1030.159	91.017%	1084	32.3	46.02°C	0.972
	12.248V	5.042V	3.335V	5.025V	1131.827				56.60°C	115.06V

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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	1.168A	0.494A	0.475A	0.198A	19.409	75.524%	0	<6.0	0.511
	12.262V	5.052V	3.349V	5.049V	25.699				115.04V
2	2.410A	0.988A	0.983A	0.396A	39.856	85.084%	0	<6.0	0.533
	12.272V	5.051V	3.349V	5.045V	46.843				115.04V
3	3.582A	1.483A	1.461A	5.042A	59.338	89.193%	0	<6.0	0.549
	12.272V	5.050V	3.348V	5.042V	66.528				115.04V
4	4.817A	1.980A	1.970A	0.794A	79.709	90.720%	0	<6.0	0.567
	12.272V	5.050V	3.348V	5.039V	87.863				115.04V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.3 mV	3.3 mV	2.9 mV	2.9 mV	Pass
20% Load	8.9 mV	3.7 mV	3.1 mV	2.9 mV	Pass
30% Load	6.6 mV	5.8 mV	4.9 mV	4.4 mV	Pass
40% Load	5.3 mV	4.2 mV	3.7 mV	3.2 mV	Pass
50% Load	6.3 mV	4.8 mV	3.8 mV	3.3 mV	Pass
60% Load	7.2 mV	5.0 mV	4.1 mV	3.5 mV	Pass
70% Load	7.6 mV	5.3 mV	4.3 mV	3.9 mV	Pass
80% Load	8.2 mV	5.7 mV	4.8 mV	4.4 mV	Pass
90% Load	8.1 mV	5.9 mV	5.2 mV	4.4 mV	Pass
100% Load	11.3 mV	6.6 mV	5.6 mV	5.2 mV	Pass
110% Load	11.6 mV	7.0 mV	6.2 mV	5.5 mV	Pass
Crossload 1	7.7 mV	5.9 mV	6.4 mV	3.8 mV	Pass
Crossload 2	11.5 mV	5.5 mV	3.5 mV	4.2 mV	Pass

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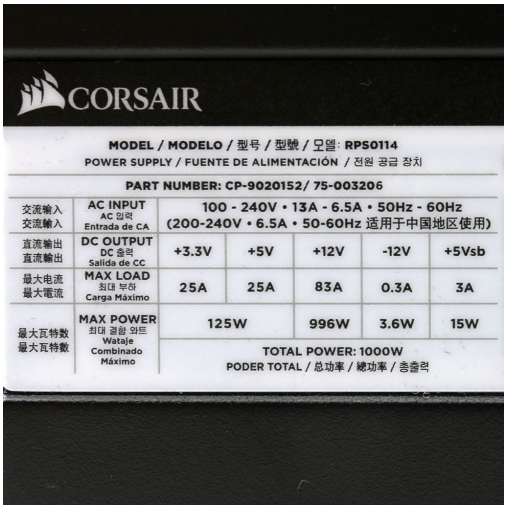
HOLD-UP TIME & POWER OK SIGNAL (230V)	
Hold-Up Time (ms)	19.6
AC Loss to PWR_OK Hold Up Time (ms)	18.0
PWR_OK Inactive to DC Loss Delay (ms)	1.6

Top side



Power specifications label

CERTIFICATIONS

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