EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

Corsair AX1600i (Sample #2)

Lab ID#: 260
Receipt Date: Jan 24, 2018
Test Date: Jan 30, 2018

Report:
Report Date: Feb 1, 2018

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Flextronics
Series	AXi
Model Number	
Serial Number	17429560000049040160
DUT Notes	Balanced Profile

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	18-9
Rated Frequency (Hz)	50-60
Rated Power (W)	1600
Type	ATX12V
Cooling	140mm Fluid Dynamic Bearing Fan (NR140P)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	30	30	133.3	3.5	0.8
	Watts	180		1600	17.5	9.6
Total Max. Power (W)		1600				

CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16-22AWG	Yes
4+4 pin EPS12V (650mm)	2	2	16AWG	Yes
6+2 pin PCIe (650mm)	6	6	16-18AWG	Yes
6+2 pin PCIe (680mm+100mm)	2	4	16-18AWG	Yes
SATA (450mm+110mm+110mm+110mm)	3	12	18AWG	No
SATA (550mm+110mm)	2	4	18AWG	No
4 pin Molex (450mm+100mm+100mm)	3	9	18AWG	No
FDD Adapter (+105mm)	2	2	20AWG	No
USB Mini to Motherboard Header Cable (+800mm)	1	1	24-28AWG	No
AC Power Cord (1400mm) - C19 coupler	1	1	14AWG	No

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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	✓

115V

Average Efficiency	92.288%
Efficiency With 10W (≤500W) or 2% (>500W)	0.000
Average Efficiency 5VSB	81.676%
Standby Power Consumption (W)	0.0481594
Average PF	0.992
Avg Noise Output	23.70 dB(A)
Efficiency Rating (ETA)	TITANIUM
Noise Rating (LAMBDA)	A

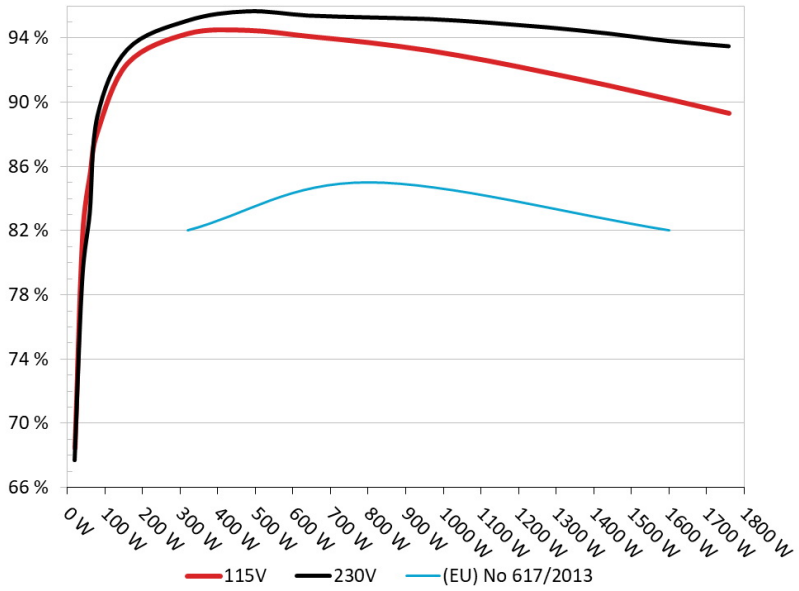
230V

Average Efficiency	94.209%
Average Efficiency 5VSB	81.291%
Standby Power Consumption (W)	0.0732974
Average PF	0.989
Avg Noise Output	23.41 dB(A)
Efficiency Rating (ETA)	TITANIUM
Noise Rating (LAMBDA)	A

TEST EQUIPMENT

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair AX1600i
Ambient: 37°C - 48°C (98.6°F - 118.4°F)

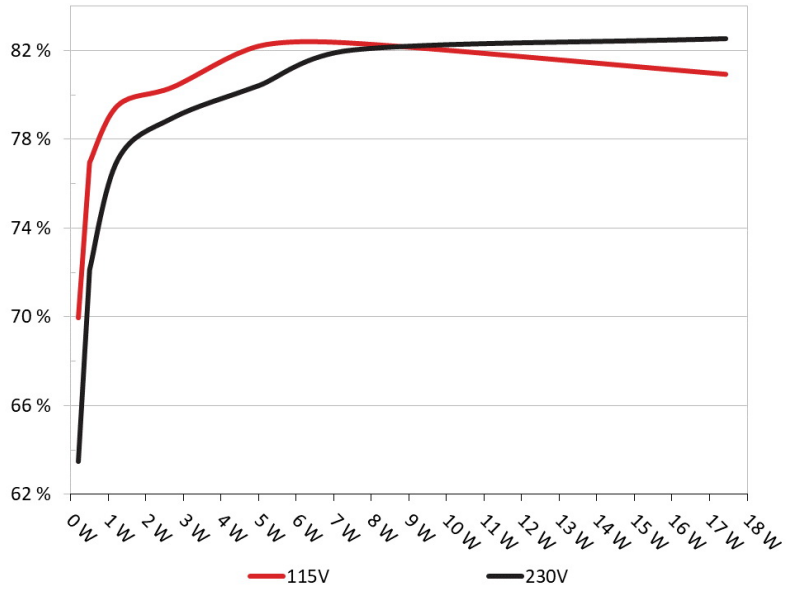


INFO

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 AX1600i
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

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	69.967%	0.018
	5.029V	0.303		115.03V
2	0.088A	0.441	76.963%	0.034
	5.029V	0.573		115.03V
3	0.543A	2.724	80.354%	0.187
	5.021V	3.390		115.03V
4	1.002A	5.026	82.205%	0.299
	5.014V	6.114		115.03V
5	1.502A	7.521	82.332%	0.384
	5.007V	9.135		115.03V
6	3.502A	17.431	80.931%	0.533
	4.978V	21.538		115.02V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.212	63.473%	0.006
	5.030V	0.334		230.14V
2	0.087A	0.440	72.131%	0.011
	5.029V	0.610		230.14V
3	0.542A	2.724	78.979%	0.061
	5.022V	3.449		230.13V
4	1.002A	5.027	80.445%	0.109
	5.015V	6.249		230.13V
5	1.502A	7.522	82.046%	0.154
	5.008V	9.168		230.13V
6	3.502A	17.433	82.554%	0.298
	4.978V	21.117		230.13V

115V

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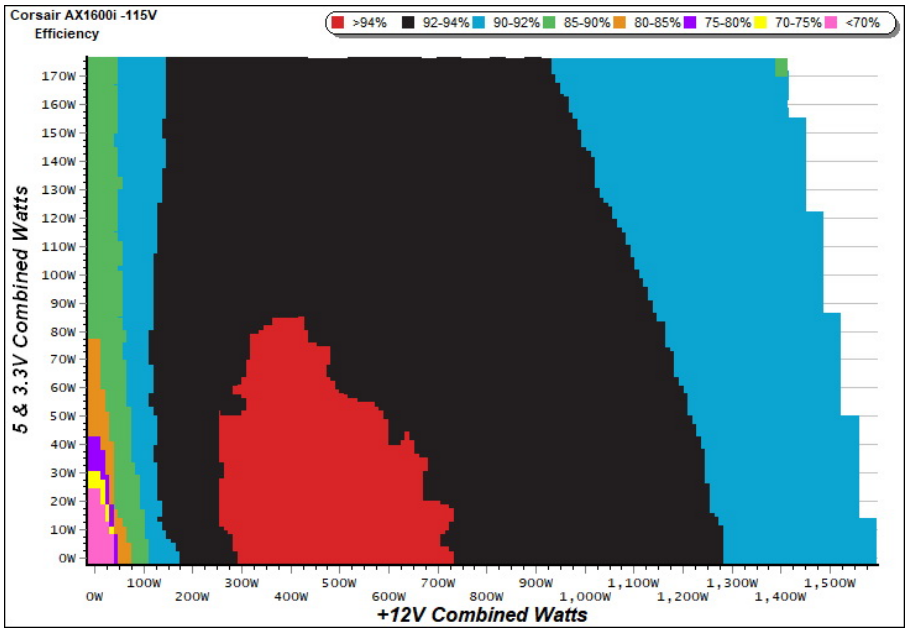
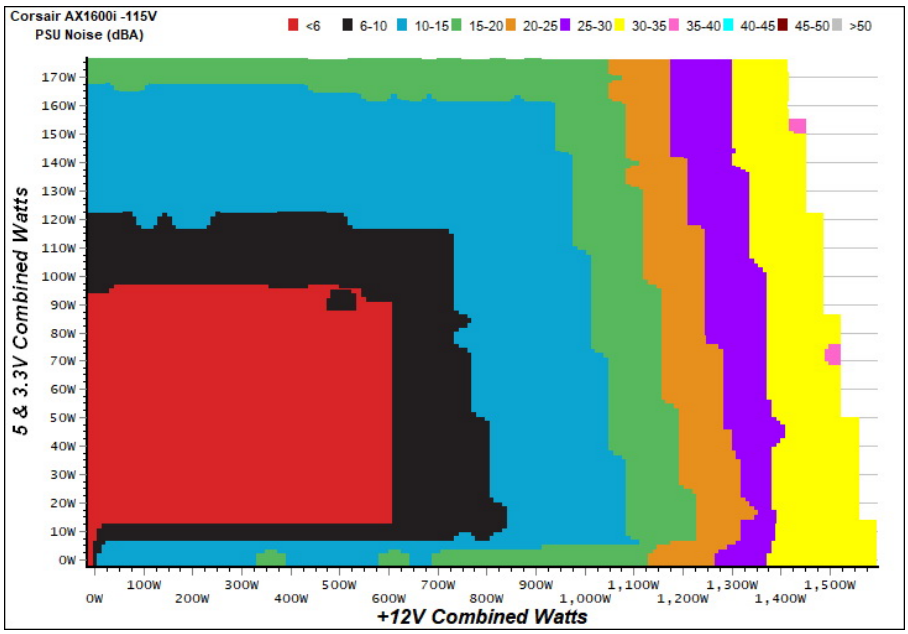
EFFICIENCY GRAPH 115V



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

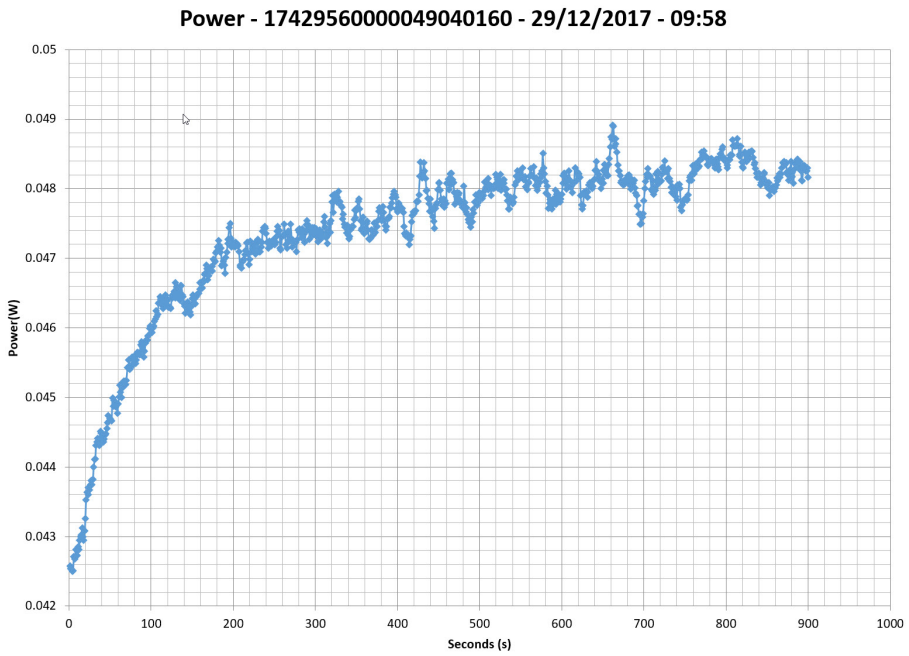
NOISE GRAPH 115V



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

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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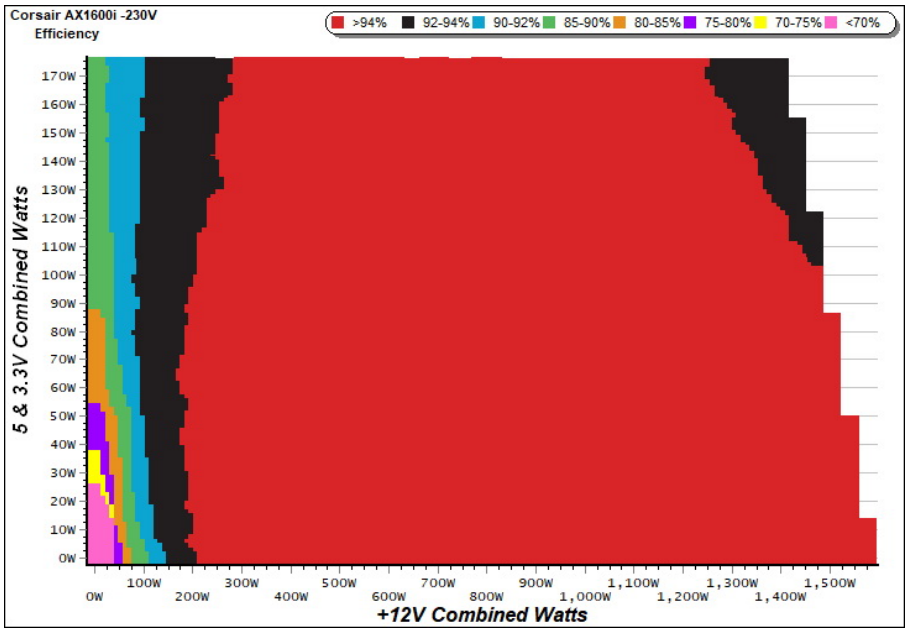
230V

EFFICIENCY GRAPH 230V



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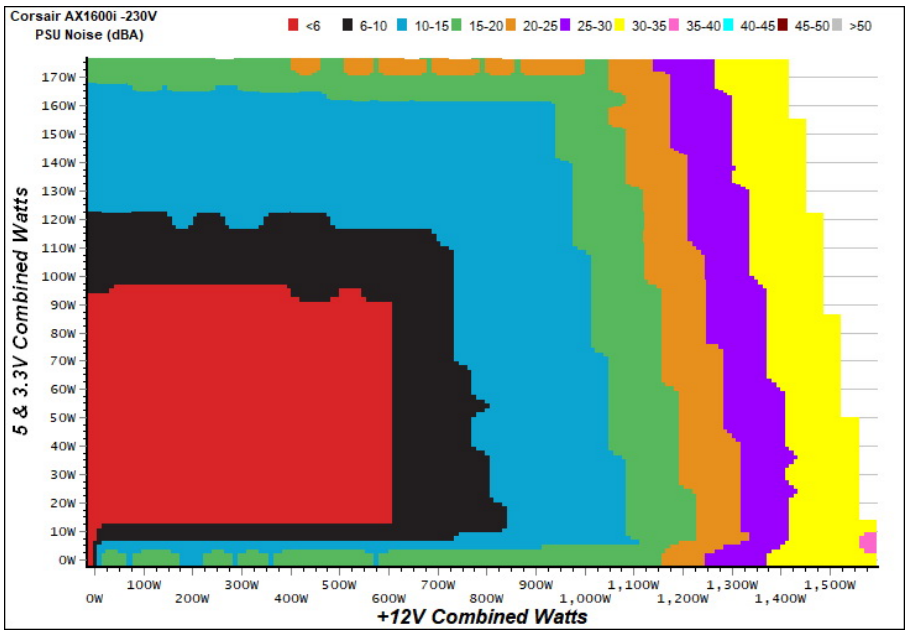
NOISE GRAPH 230V



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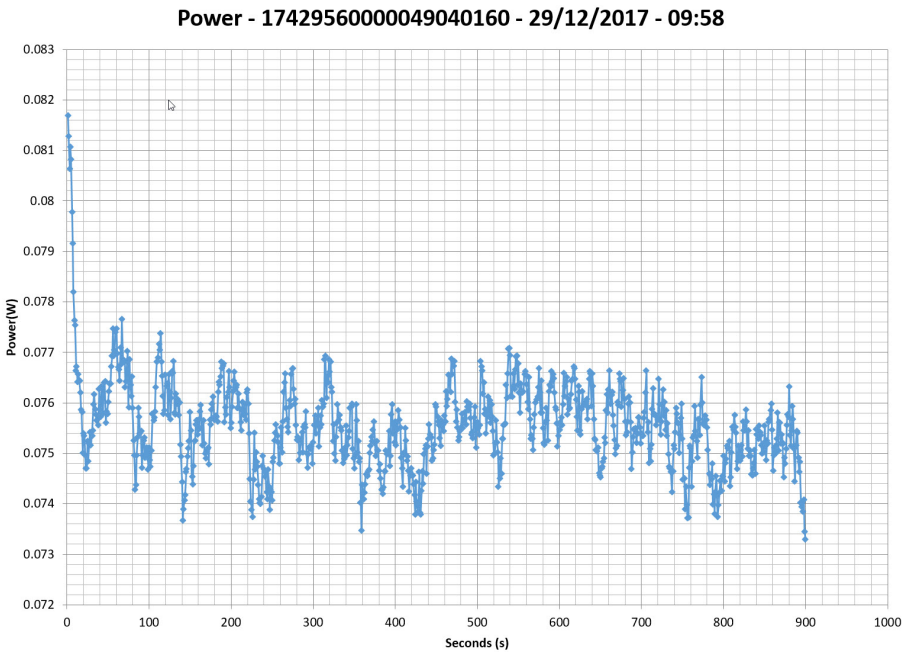
VAMPIRE POWER -230V



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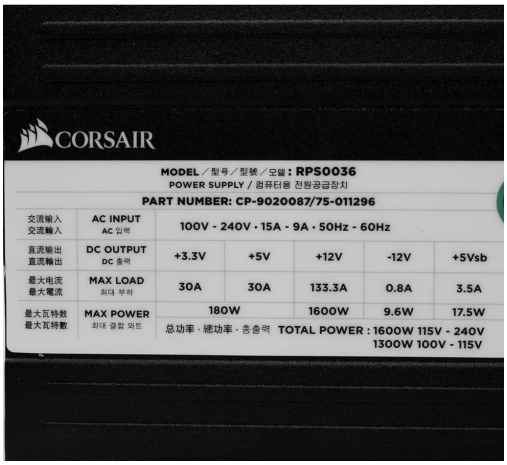
Top side



Power specifications label

CERTIFICATIONS 115V

CYBENETICS TITANIUM

CYBENETICS A

CERTIFICATIONS 230V

CYBENETICS TITANIUM 230v

CYBENETICS A 230v

Aris Mpitsiopoulos
Lab Director