



Corsair AX860i

Serial Number 17019542001008320045

Lab ID 104

Certification ID 25104

Test Result Report ID:

Certificate Issue Date: May 5, 2018

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

A handwritten signature in blue ink, appearing to read "A. Bitziopoulos", enclosed within a large, loopy oval.

Aristeidis Bitziopoulos, Certification Body General Manager

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, 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
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Corsair
Model	AX860i
OEM/ODM	Flextronics
Serial Number	17019542001008320045
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	12-6
Rated Frequency (Hz)	50-60

Rated Power (W)	860
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120 mm Double Ball-Bearing Fan (D12BH-12)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	104
Date of receipt	Apr 21, 2018
Testing Date	May 2, 2018
Report Issued Date	May 5, 2018
DUT Notes	CP-9020037
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables			
Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (600mm)	1	1	16-22AWG
4+4 pin EPS12V (650mm)	2	2	18AWG
6+2 pin PCIe (600mm+150mm) / (600mm)	2 / 2	4 / 2	16-18 / 18AWG
SATA (400mm+95mm+95mm+95mm)	2	8	18AWG
SATA (550mm+95mm+95mm+95mm)	1	4	18AWG
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG
FDD Adapter (+100mm)	2	2	22AWG

C-Link USB Cable (800mm)	1	1	24-28AWG
C-Link I2C Cable (800mm)	2	2	29AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	71.6	3	0.8
	Watts	125		859.2	15	9.6
Total Max. Power (W)		860				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

Performance Summary 115V

Accredited	
Average Efficiency (>1450 load combinations)	90.052%
Average Noise Output (>1450 Load Combinations)	22.54dBA
Average PF (>1450 Load Combinations)	0.989
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0616W
Non-Accredited	
12V Ripple (Full Load)	21.51mV
5V Ripple (Full Load)	11.42mV
3.3V Ripple (Full Load)	10.81mV
5VSB Ripple (Full Load)	9.28mV
12V Load Regulation	0.28%
5V Load Regulation	0.68%

3.3V Load Regulation	0.58%
5VSB Load Regulation	1.86%
Inrush Current	25.255A

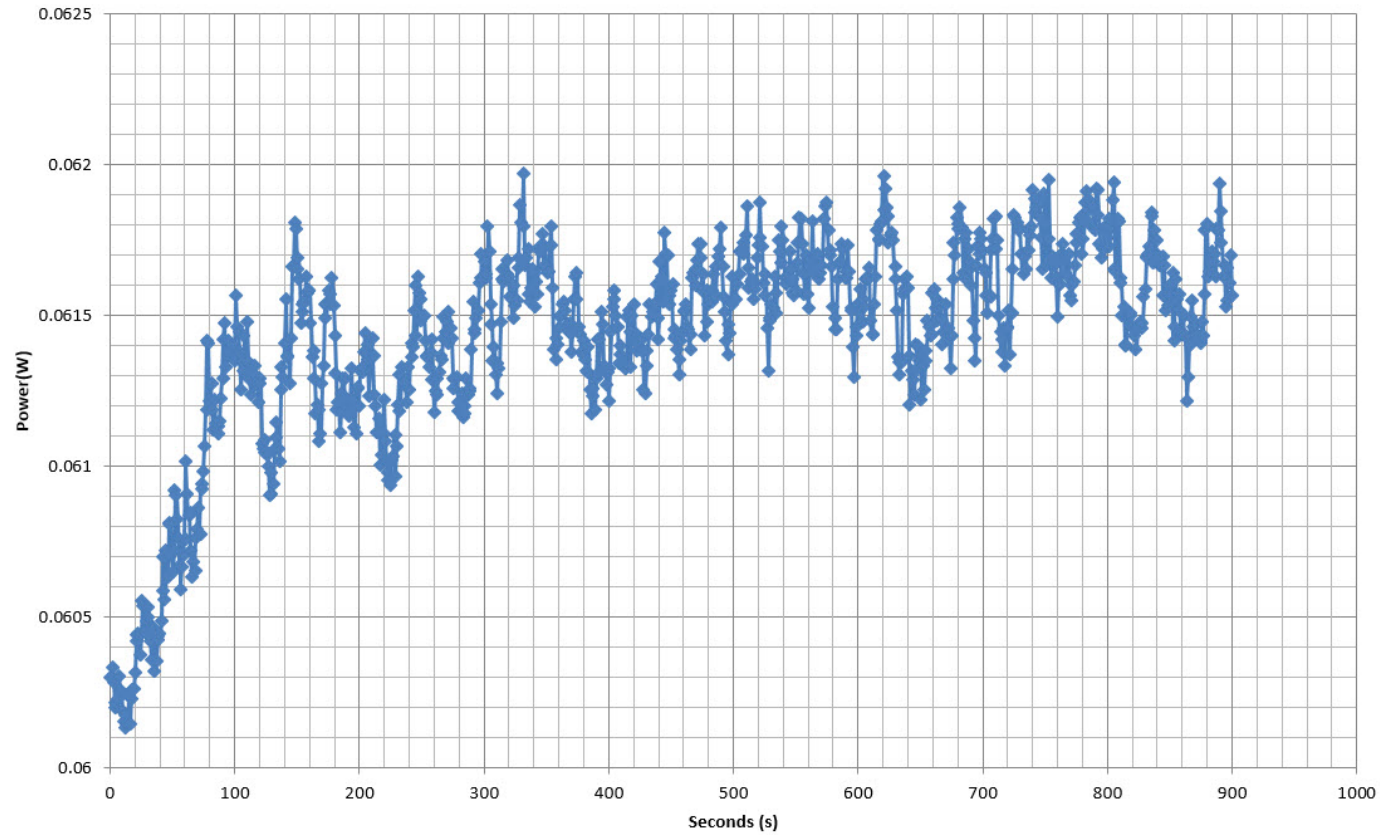
Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	24.014
AC Loss to PWR_OK Hold Up Time (ms)	18.220
PWR_OK Inactive to DC Loss Delay (ms)	5.794

Vampire Power

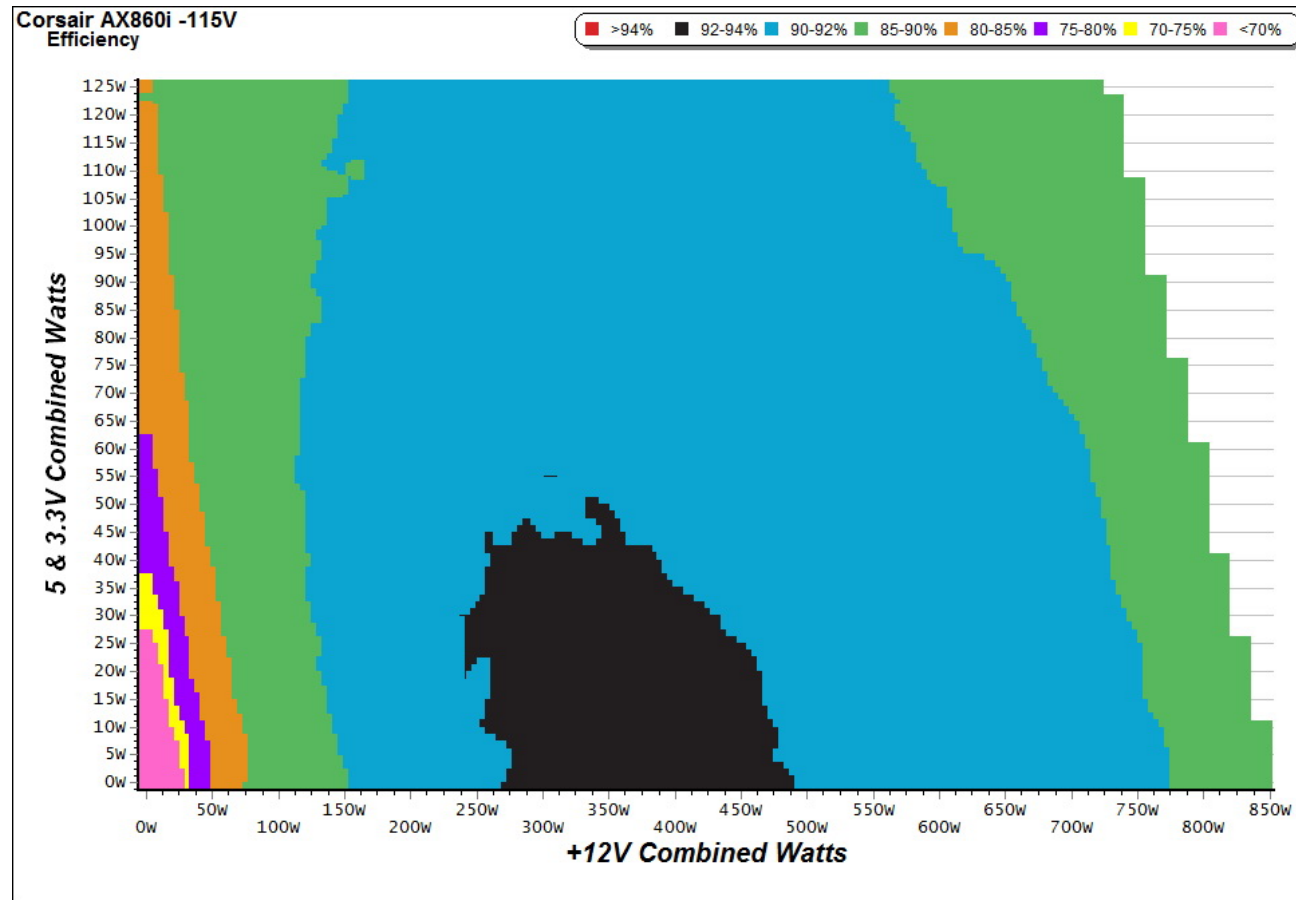
Graphs 115V

Power - 17019542001008320045 - 03/05/2017 - 09:19



Efficiency Graph

115V

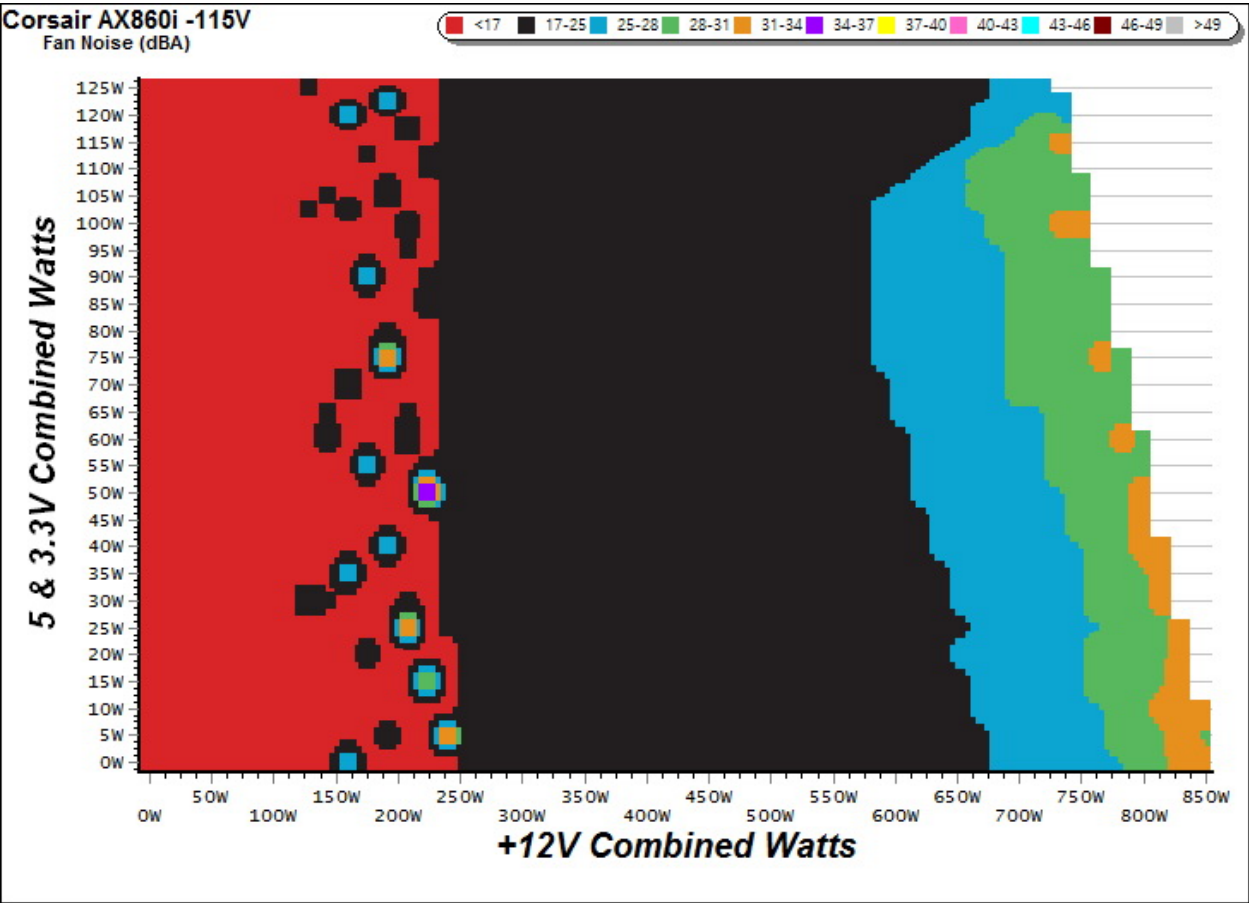


INFO

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

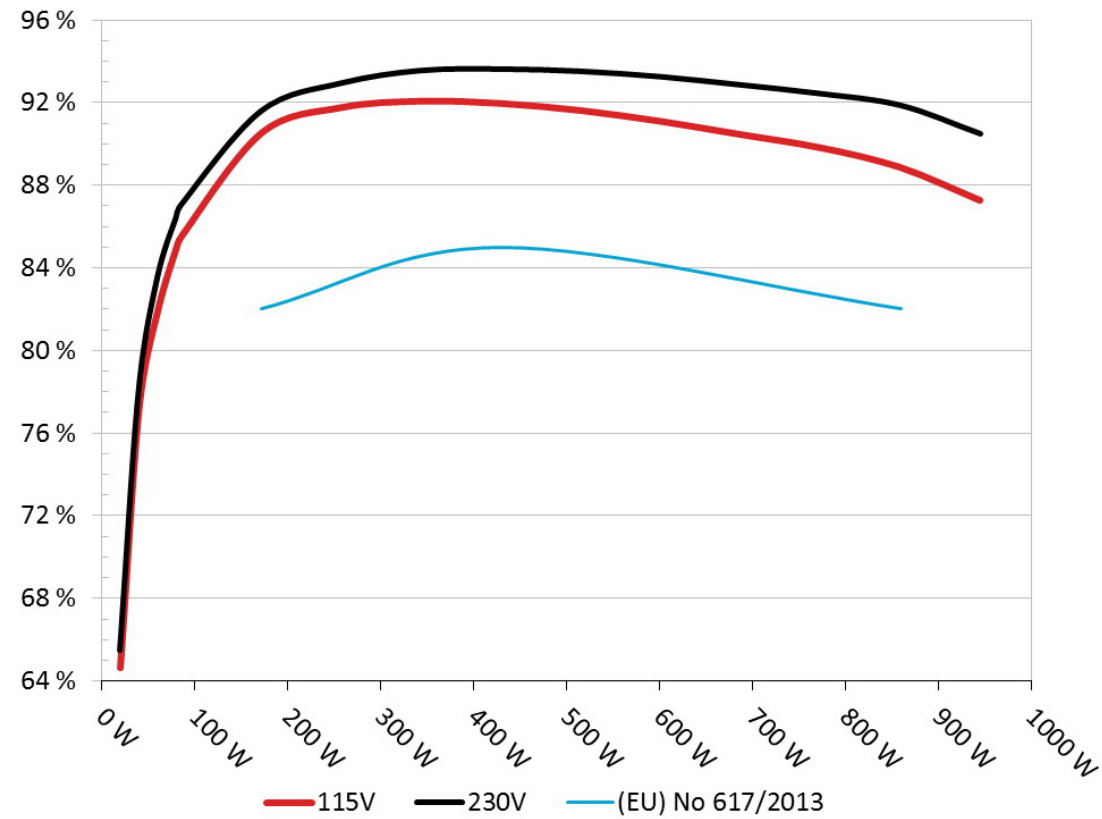
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Corsair AX860i

Ambient: 37°C - 46°C (98.6°F - 114.8°F)



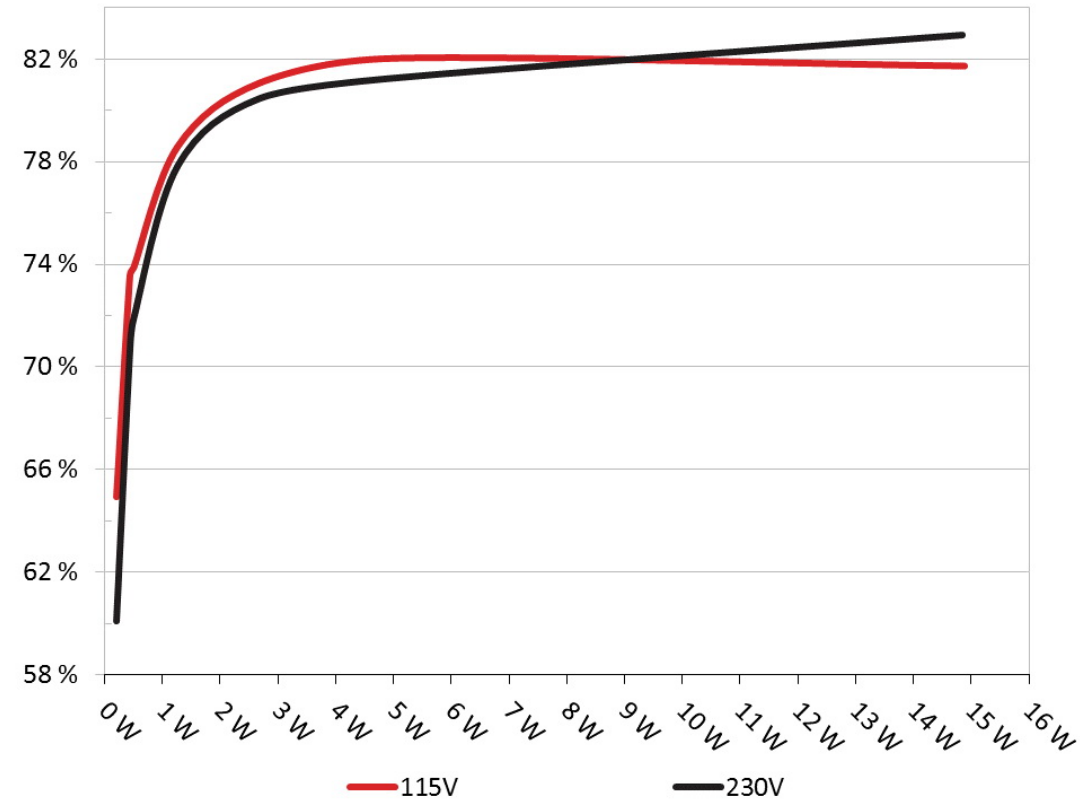
INFO

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 AX860i

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 (ERP LOT 3/6 & CEC) 115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.042A	0.211	64.923%	0.046
	5.048V	0.325		115.08V

2	0.088A	0.442	73.544%	0.083
	5.046V	0.601		115.09V
3	0.532A	2.676	78.892%	0.325
	5.031V	3.392		115.09V
4	3.001A	14.844	81.727%	0.527
	4.946V	18.163		115.08V

Supplementary Tests (For Reference)

Typical Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	5.340A	2.004A	2.001A	1.006A	85.820	85.542%	0	0	46.15°C	0.943
	12.024V	4.999V	3.294V	4.973V	100.325				42.79°C	115.12V
2	11.722A	3.002A	3.009A	1.205A	171.657	90.515%	300	17.5	41.43°C	0.982
	12.013V	4.988V	3.287V	4.960V	189.645				48.79°C	115.12V
3	18.425A	3.510A	3.519A	1.411A	257.934	91.749%	350	17.6	40.09°C	0.991
	12.039V	4.993V	3.293V	4.962V	281.129				50.02°C	115.13V
4	25.116A	4.007A	4.003A	1.611A	343.748	92.055%	418	17.7	40.18°C	0.995
	12.047V	4.993V	3.293V	4.958V	373.415				49.24°C	115.13V
5	31.486A	4.991A	5.014A	1.810A	429.631	91.947%	512	17.9	40.75°C	0.996
	12.043V	5.003V	3.289V	4.964V	467.256				50.80°C	115.13V
6	37.856A	6.007A	6.011A	2.014A	515.641	91.603%	656	18.4	41.39°C	0.997
	12.042V	4.996V	3.293V	4.953V	562.893				56.30°C	115.13V
7	44.226A	7.016A	7.008A	2.224A	601.563	91.081%	736	19.1	42.35°C	0.998
	12.040V	4.988V	3.296V	4.941V	660.467				54.97°C	115.13V
8	50.591A	8.016A	8.022A	2.426A	687.507	90.444%	1048	26.1	42.54°C	0.998
	12.040V	4.991V	3.290V	4.943V	760.148				53.87°C	115.14V
9	57.398A	8.527A	8.556A	2.429A	773.545	89.802%	1312	32.3	43.49°C	0.998
	12.038V	4.984V	3.284V	4.937V	861.394				54.51°C	115.14V
10	63.945A	9.054A	9.050A	3.049A	859.331	88.856%	1660	38.7	44.77°C	0.998
	12.036V	4.974V	3.280V	4.910V	967.103				56.01°C	115.15V

11	71.069A	9.058A	9.049A	3.054A	945.269	87.261%	1900	42.0	46.11°C	0.998
	12.038V	4.973V	3.282V	4.910V	1083.272				59.24°C	115.15V
CL1	0.099A	15.020A	15.003A	0.004A	125.684	84.900%	0	0	43.66°C	0.972
	12.013V	4.988V	3.303V	5.012V	148.037				54.26°C	115.14V
CL2	71.536A	1.003A	1.005A	1.001A	874.279	89.170%	1264	31.5	44.62°C	0.998
	12.036V	4.983V	3.290V	4.962V	980.466				57.29°C	115.16V

The results above are not used in the certification process

Light Load Tests 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	Fan Noise (dB[A])	PF/AC Volts
1	1.213A	0.493A	0.482A	0.195A	19.638	64.658%	0	0	0.777
	12.037V	5.011V	3.302V	5.003V	30.372				115.10V
2	2.455A	0.991A	1.000A	0.401A	39.805	77.192%	0	0	0.848
	12.033V	5.008V	3.299V	4.995V	51.566				115.11V
3	3.696A	1.488A	1.513A	0.601A	59.893	81.898%	0	0	0.904
	12.029V	5.004V	3.298V	4.988V	73.131				115.12V
4	4.928A	2.002A	1.999A	0.802A	79.855	84.931%	0	0	0.935
	12.026V	5.000V	3.295V	4.980V	94.023				115.12V

The results above are not used in the certification process

Ripple Measurements 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	4.4 mV	4.7 mV	7.1 mV	3.6 mV	Pass
20% Load	16.8 mV	5.1 mV	7.5 mV	4.4 mV	Pass
30% Load	8.1 mV	6.7 mV	7.2 mV	6.7 mV	Pass
40% Load	10.3 mV	10.2 mV	7.8 mV	8.9 mV	Pass
50% Load	11.5 mV	11.3 mV	7.5 mV	10.4 mV	Pass
60% Load	13.1 mV	13.1 mV	8.9 mV	12.3 mV	Pass
70% Load	15.9 mV	12.2 mV	8.3 mV	11.0 mV	Pass
80% Load	16.5 mV	9.2 mV	8.7 mV	7.3 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	19.6 mV	9.9 mV	9.4 mV	7.8 mV	Pass
100% Load	21.5 mV	11.4 mV	10.8 mV	9.3 mV	Pass
110% Load	26.3 mV	20.1 mV	12.9 mV	17.8 mV	Pass
Crossload 1	13.4 mV	5.8 mV	8.1 mV	4.5 mV	Pass
Crossload 2	22.2 mV	11.9 mV	11.3 mV	9.3 mV	Pass

The results above are not used in the certification process

Corsair AX860i



Top side

All data and graphs included in this test report can be used by any individual on the following conditions:

- › It should be mentioned that the test results are provided by Cybenetics
- › The link to the original test results document should be provided in any case

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Power specifications label

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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