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

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%

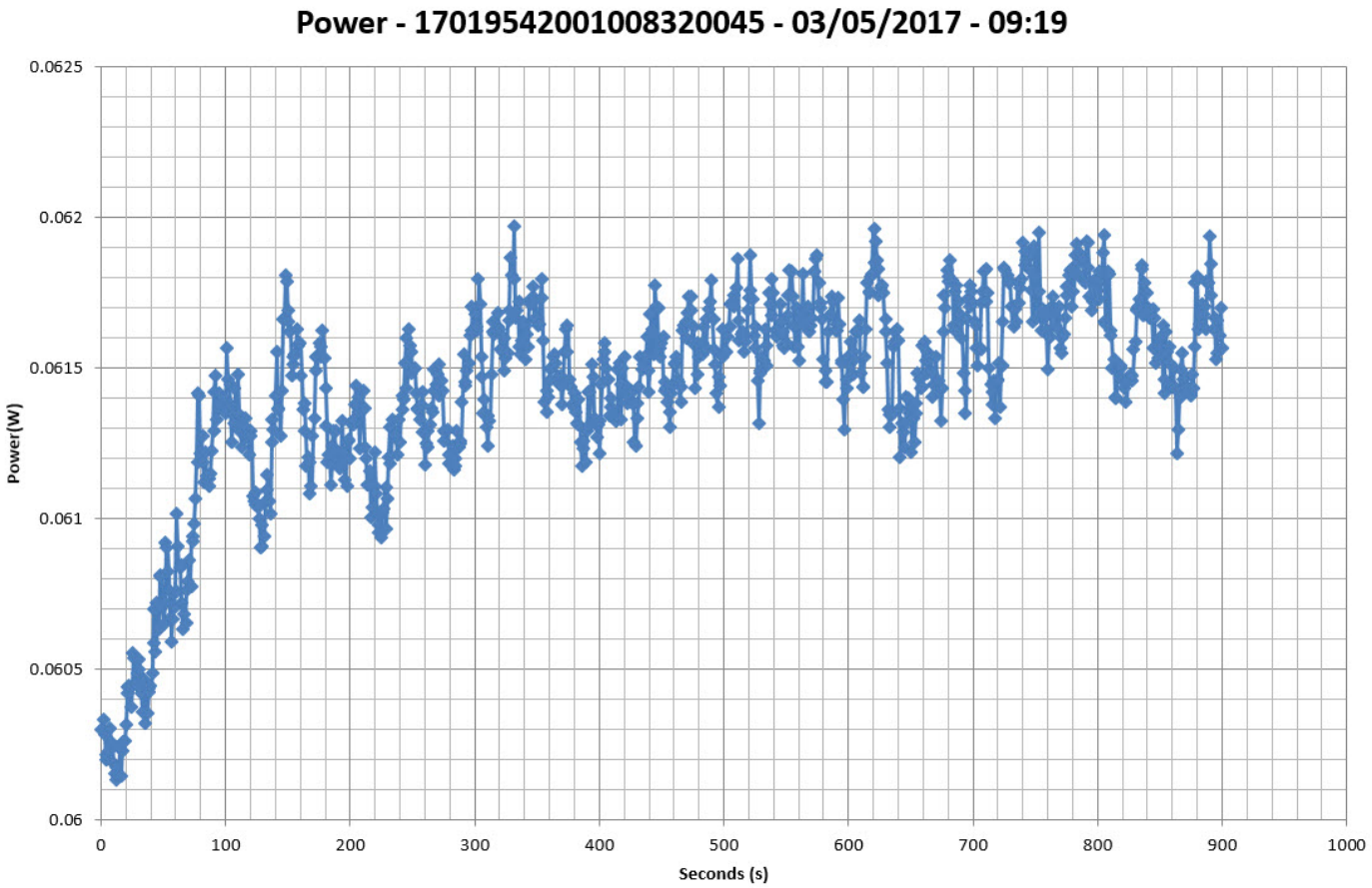
3.3V Load Regulation	0.58%
5VSB Load Regulation	1.86%
Inrush Current	25.255A

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

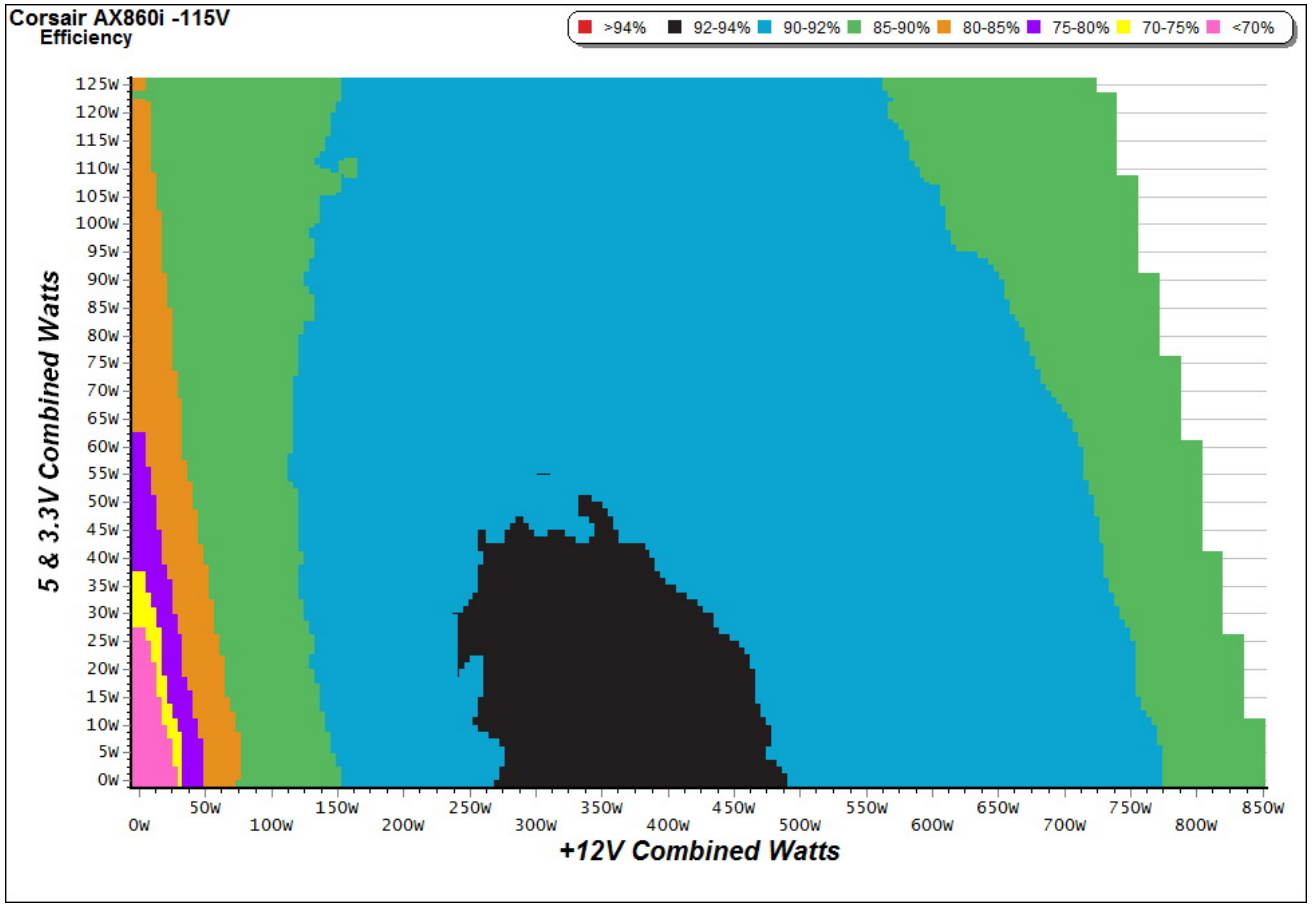
Stromverbrauch im Ruhezustand

Graphs 115V



Efficiency Graph

115V

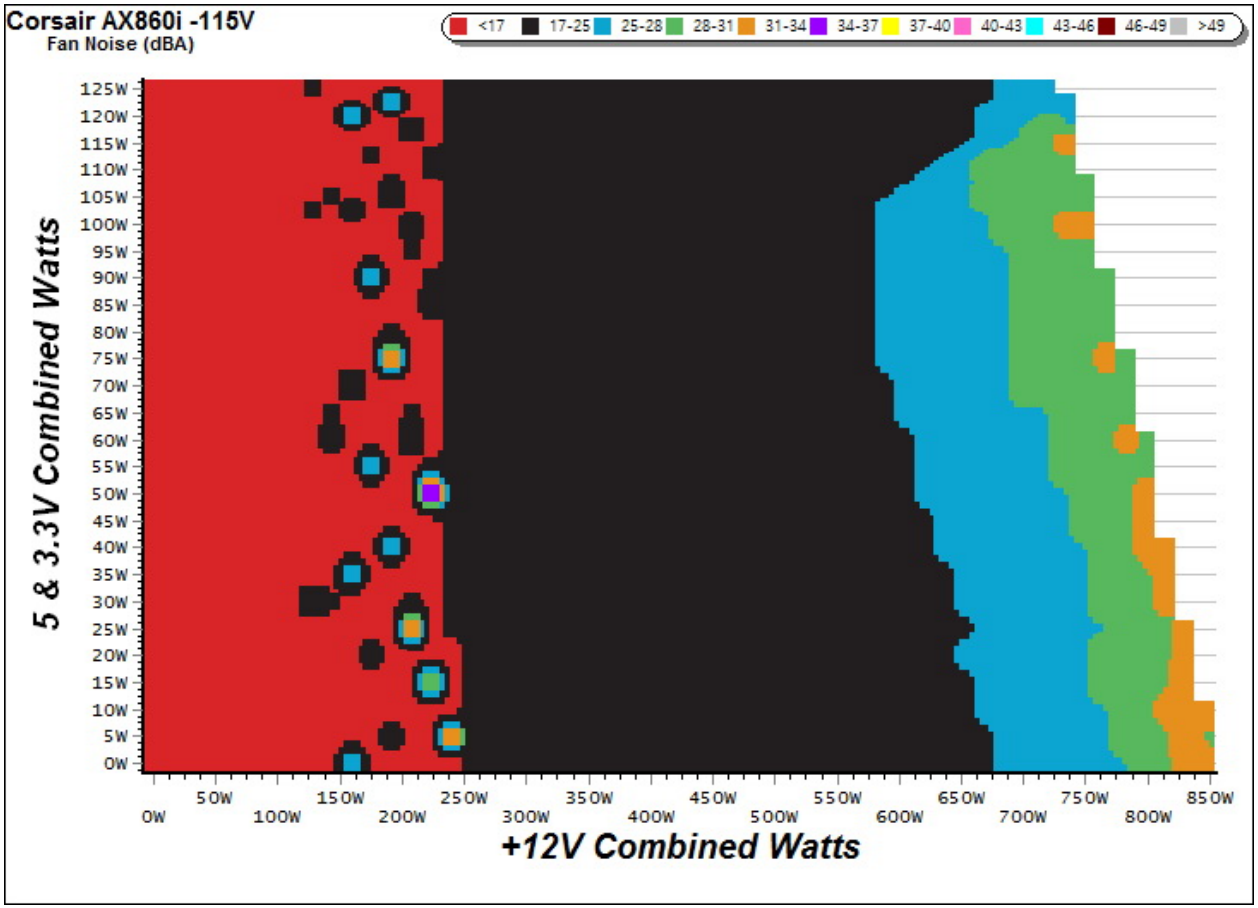


INFO

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

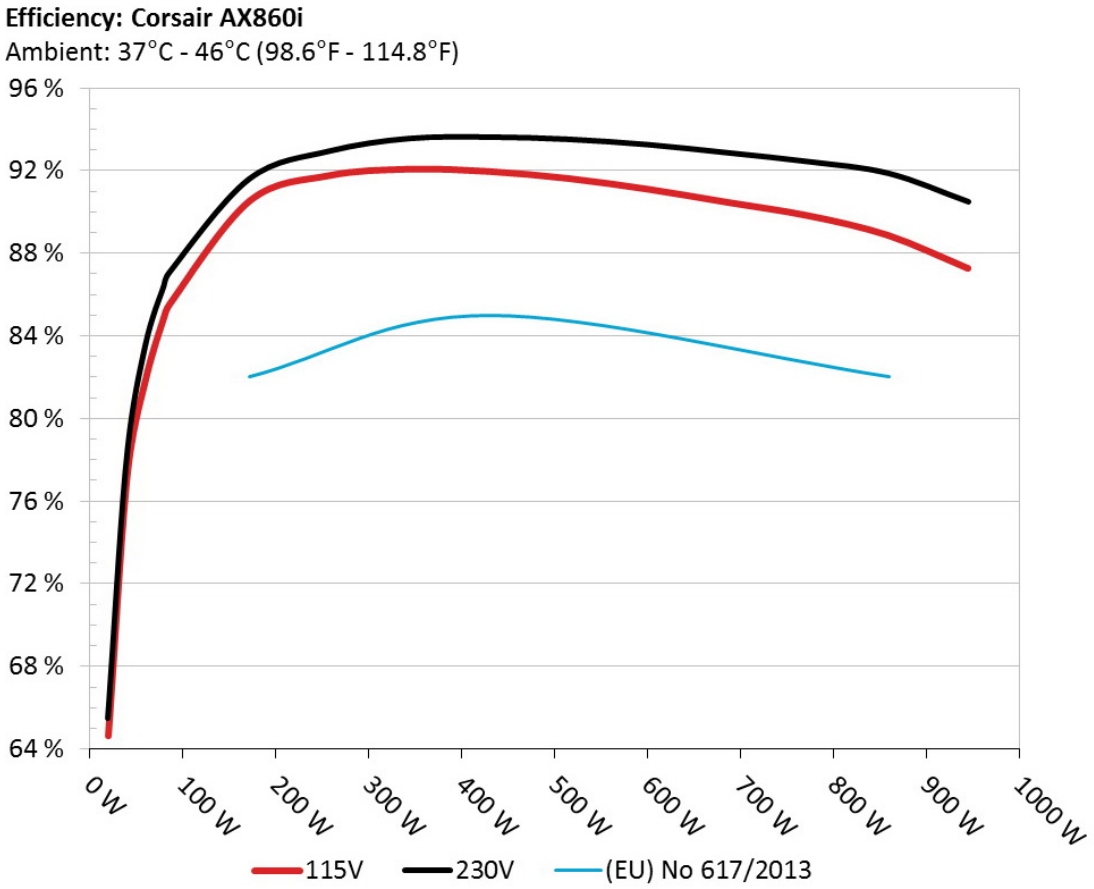


INFO

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

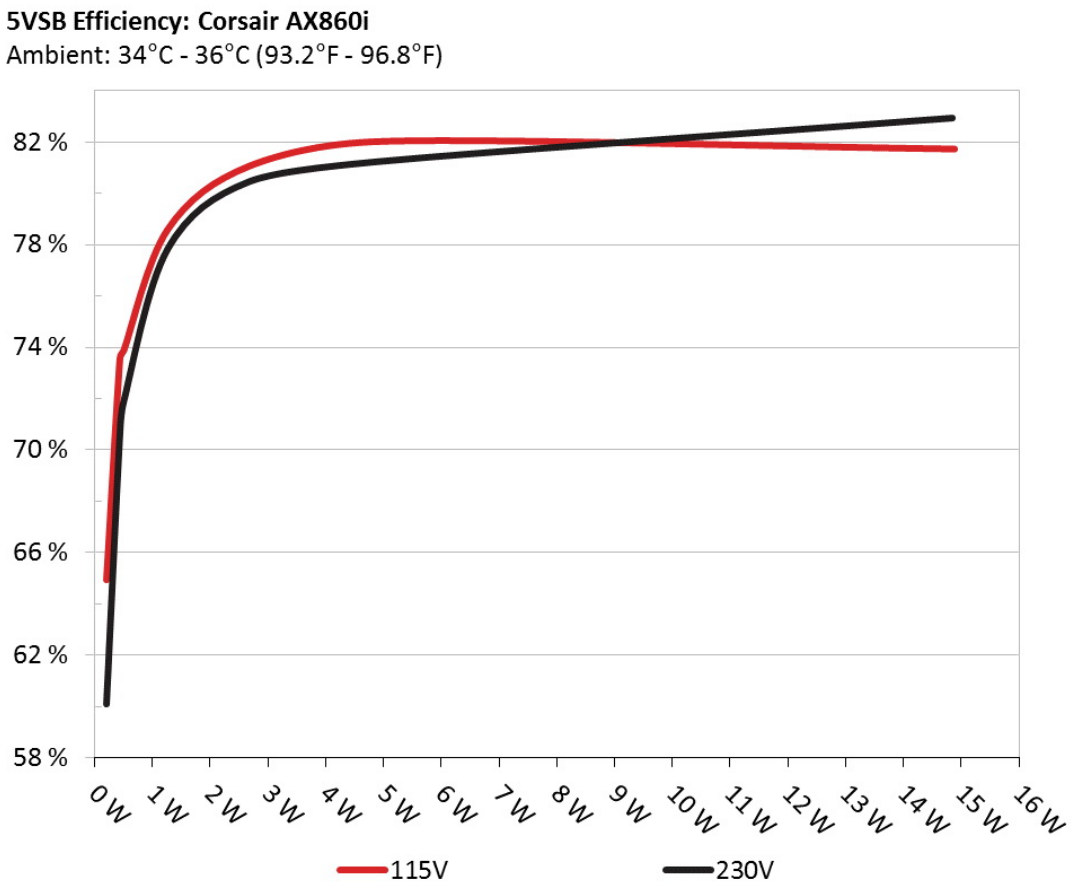
Efficiency under high ambient temperature



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.

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

Power specifications label

Cybenetics bietet freiwillige Zertifizierungsprogramme für Netzteile – ETA für Effizienz, LAMBDA für Lautstärke und SAFE für Sicherheit und korrekten Betrieb – sowie für Kühlprodukte mit DELTA für die Schalldämmung von Gehäusen und PHI für Luftstrom und statischen Druck von Lüftern

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