



Aerocool ACP-750FP7

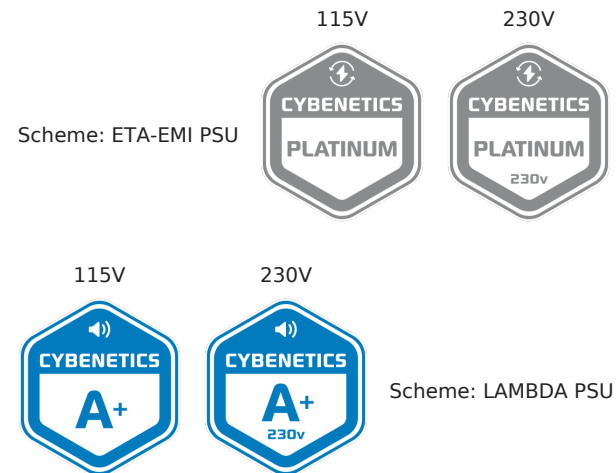
Serial Number D170500002

Lab ID 150

Certification ID 25150

Test Result Report ID: 19PS150A

Certificate Issue Date: Jul 31, 2018



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	Aerocool
Model	ACP-750FP7
OEM/ODM	Andyson
Serial Number	D170500002
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	50-60

Rated Power (W)	750
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Fluid Dynamic Bearing Fan (CD1425M12F)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	150
Date of receipt	Jul 15, 2018
Testing Date	Jul 27, 2018
Report Issued Date	Jul 31, 2018
DUT Notes	Retested on 7/11/17
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	16-20AWG
8 pin EPS12V (700mm)	1	1	16AWG
4+4 pin EPS12V (700mm)	1	1	16AWG
6+2 pin PCIe (600mm+150mm) / 6+2 pin PCIe (600mm)	2 / 2	4 / 2	18AWG
SATA (600mm+150mm+150mm+150)	2	8	18AWG
SATA (600mm+150mm) / 4 pin Molex (+150mm+150mm)	1	2 / 2	18AWG
4 pin Molex (600mm+150mm+150mm+150mm)	1	4	18AWG

FDD Adapter (+200mm)	1	1	20AWG
GRB DC Adapter (720mm+110mm)	1	2	28AWG

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	62	3	0.5
	Watts	120		744	15	6
Total Max. Power (W)		750				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	ErP Lot 3/6 2010: ✓ ErP Lot 3/6 2013: ✓ ErP Lot 3/6 2014, CEC: Partially
(EU) No 617/2013 Compliance	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.579%
Average Noise Output (>1450 Load Combinations)	17.22dBA
Average PF (>1450 Load Combinations)	0.988
Efficiency With 10W (≤500W) or 2% (>500W) Load	-
Standby Power Consumption	0.0727W
Non-Accredited	
12V Ripple (Full Load)	24.52mV
5V Ripple (Full Load)	12.30mV
3.3V Ripple (Full Load)	13.17mV

5VSB Ripple (Full Load)	22.95mV
12V Load Regulation	0.61%
5V Load Regulation	0.61%
3.3V Load Regulation	0.87%
5VSB Load Regulation	1.82%
Inrush Current	37.526A

230V

Accredited		
Average Efficiency (>1450 load combinations)	92.214%	
Average Noise Output (>1450 Load Combinations)	16.21dBA	
Average PF (>1450 Load Combinations)	0.953	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.1312W	
Non-Accredited		
12V Ripple (Full Load)	22.50mV	
5V Ripple (Full Load)	11.02mV	
3.3V Ripple (Full Load)	15.41mV	
5VSB Ripple (Full Load)	22.48mV	
12V Load Regulation	0.53%	
5V Load Regulation	0.45%	
3.3V Load Regulation	0.87%	
5VSB Load Regulation	1.76%	
Inrush Current	51.932A	
Hold-Up Time & PWR_OK Signal	17.90ms	
AC Loss to PWR_OK Hold Up Time	15.60ms	
PWR_OK Inactive to DC Loss Delay	2.30ms	
OPP (0.00°C / 0.00°C)	-	-

Hold-Up Time & PWR_OK Signal

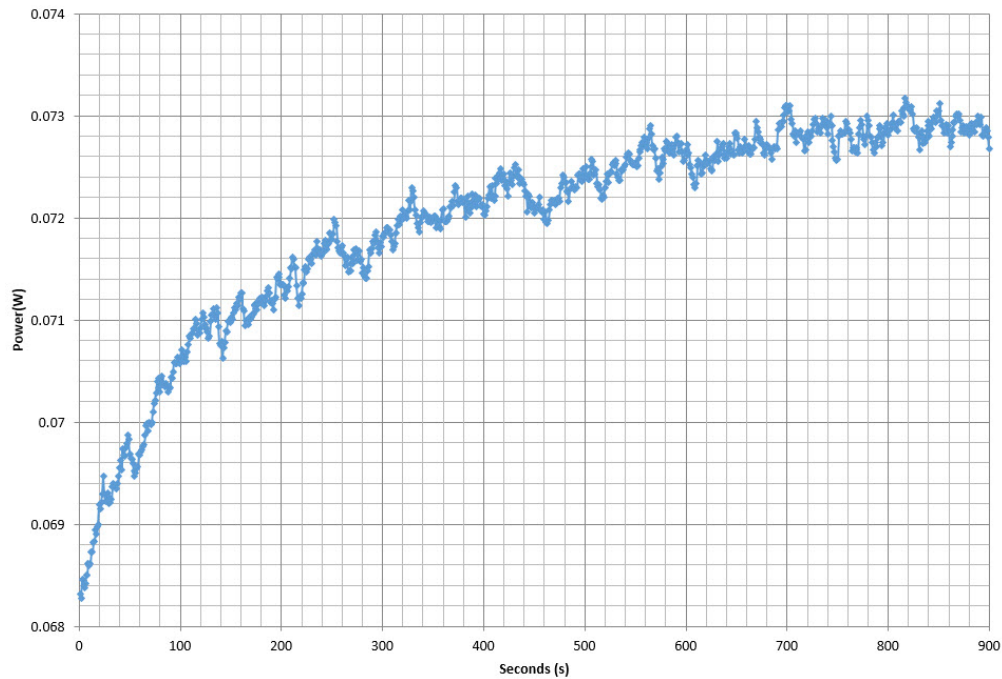
Hold-Up Time (ms)	17.9
AC Loss to PWR_OK Hold Up Time (ms)	15.6
PWR_OK Inactive to DC Loss Delay (ms)	2.3

Vampire Power

Graphs

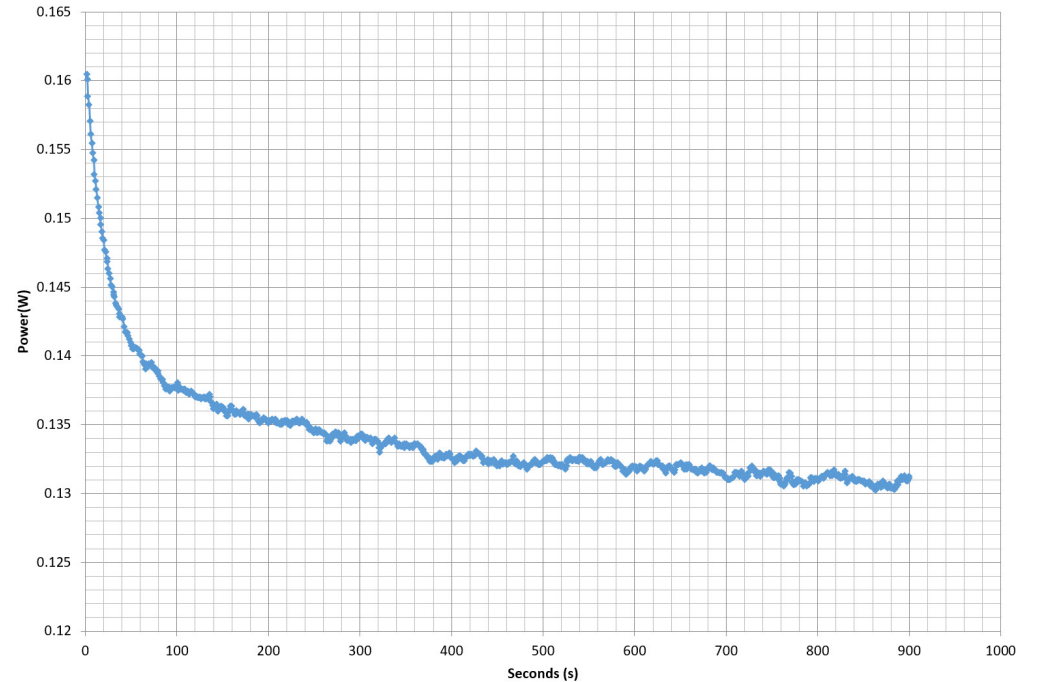
115V

Power - D170500002 - 11/07/2017 - 11:42



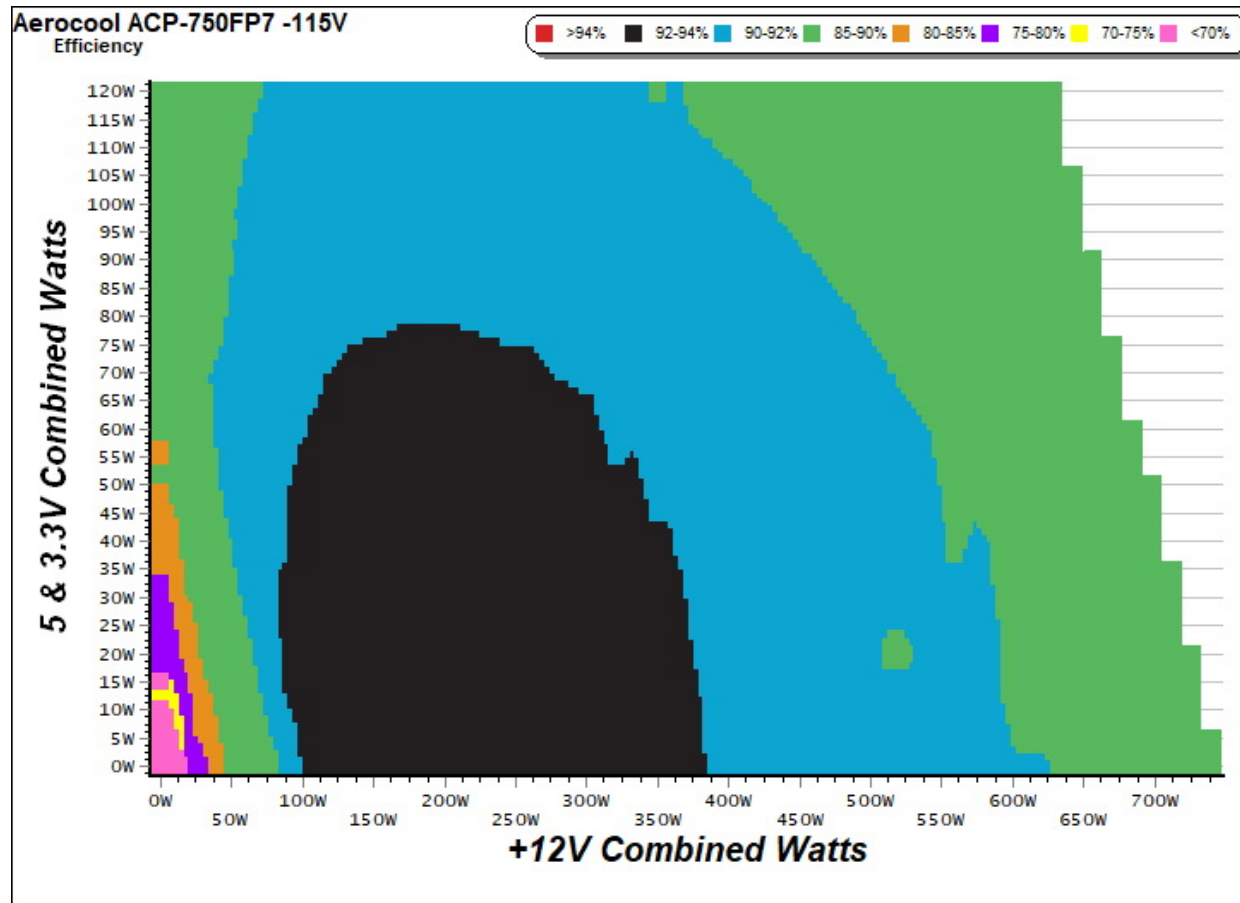
230V

Power - D170500002 - 11/07/2017 - 11:42



Efficiency Graph

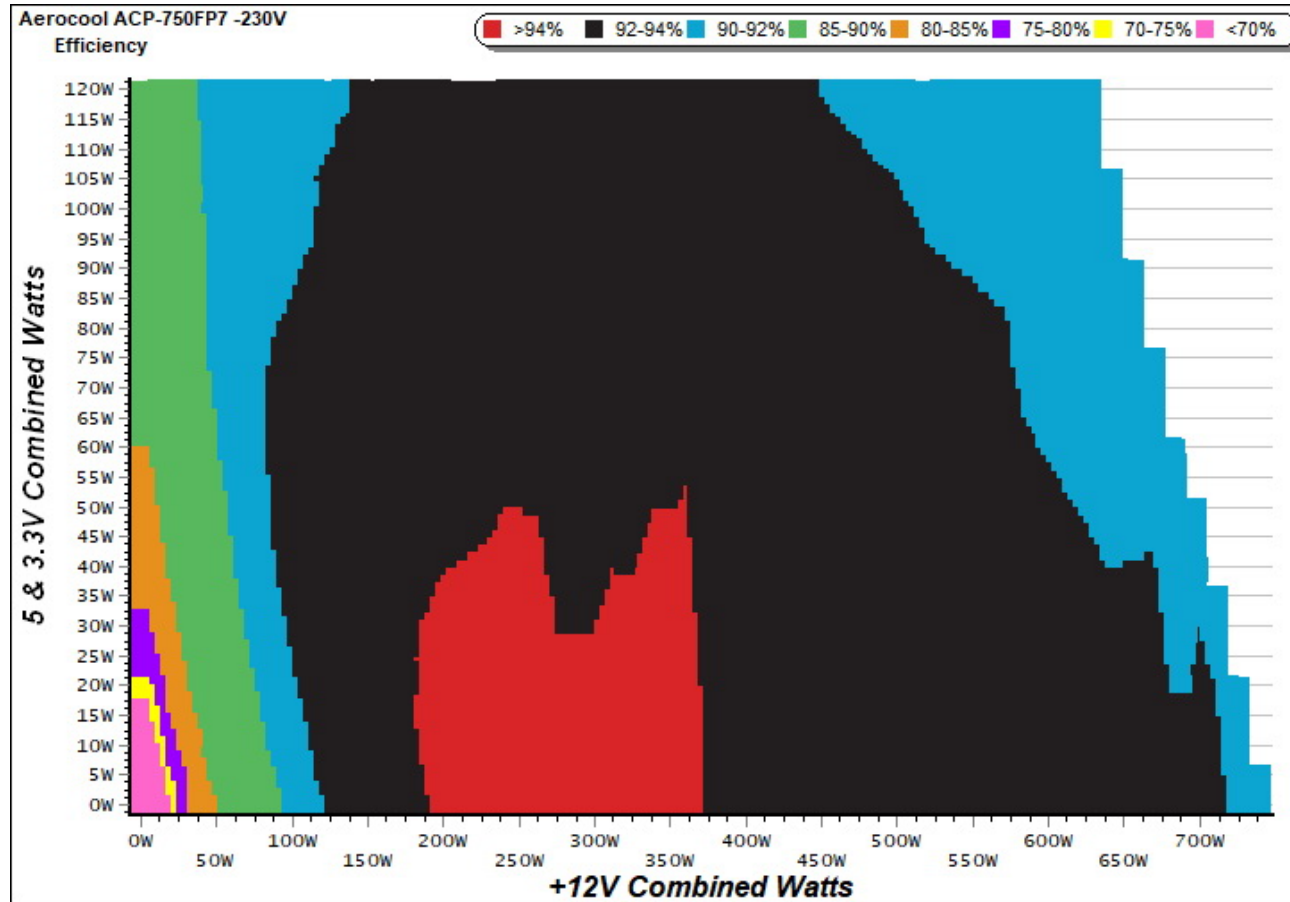
115V



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.

230V

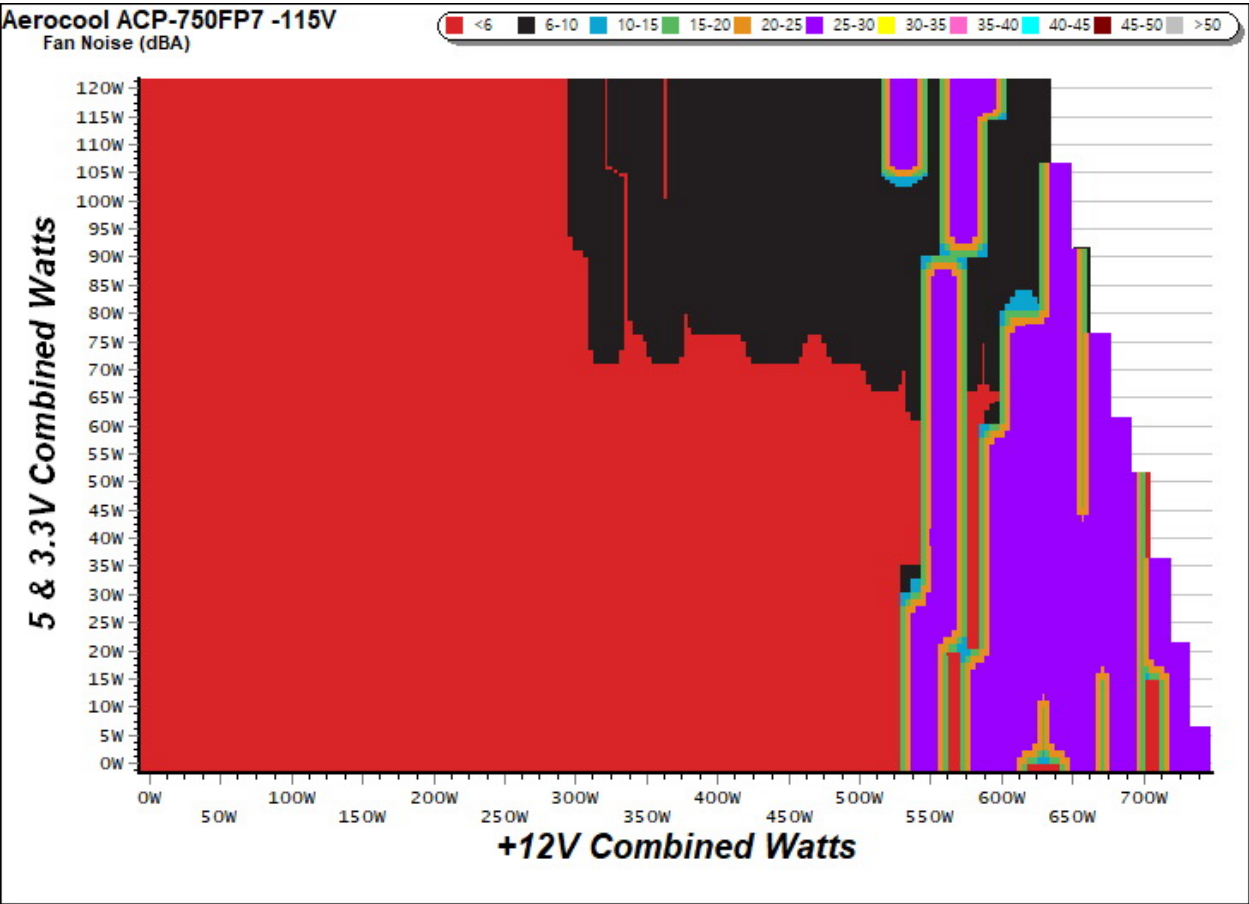


INFO

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

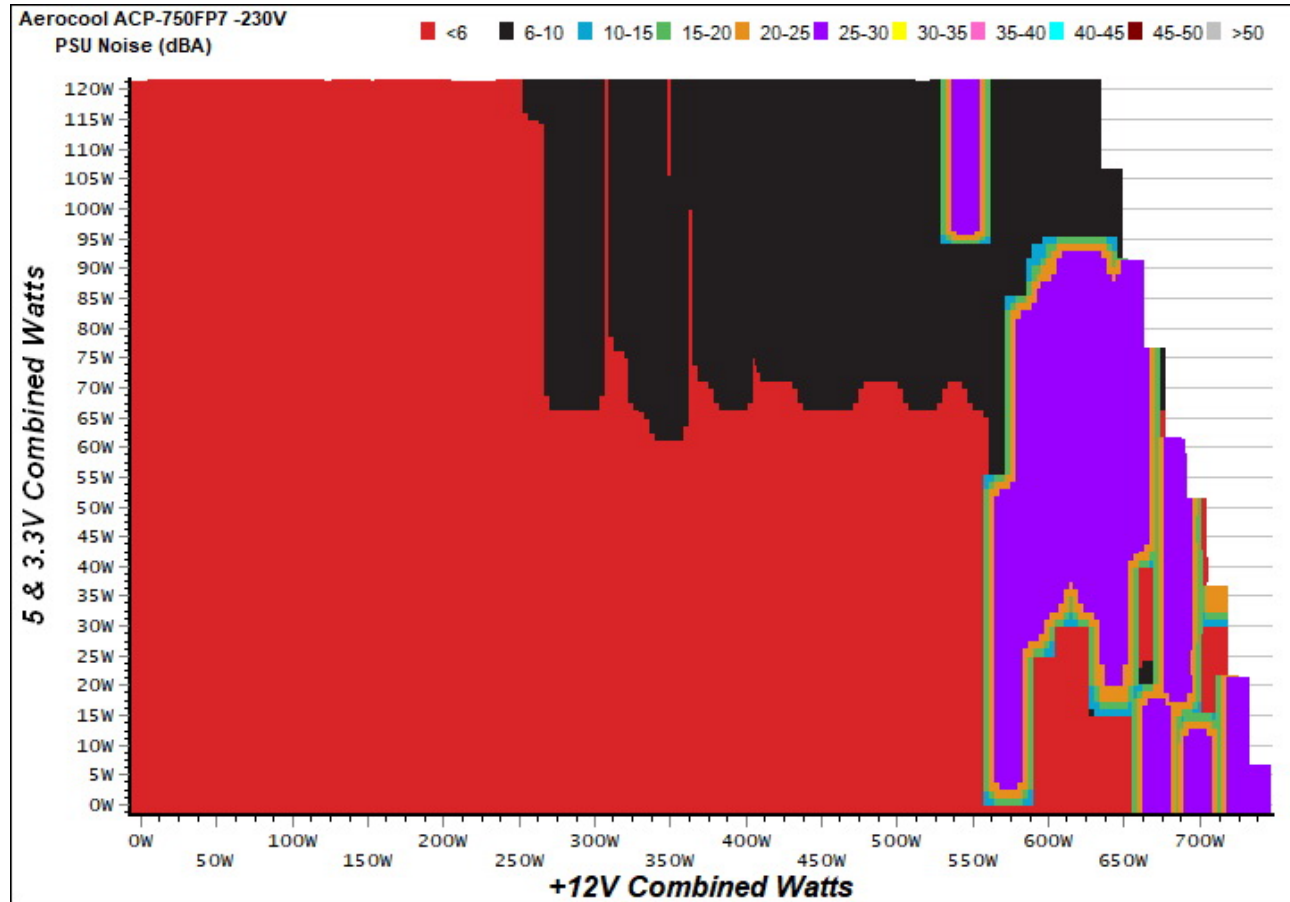
115V



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.

230V



INFO

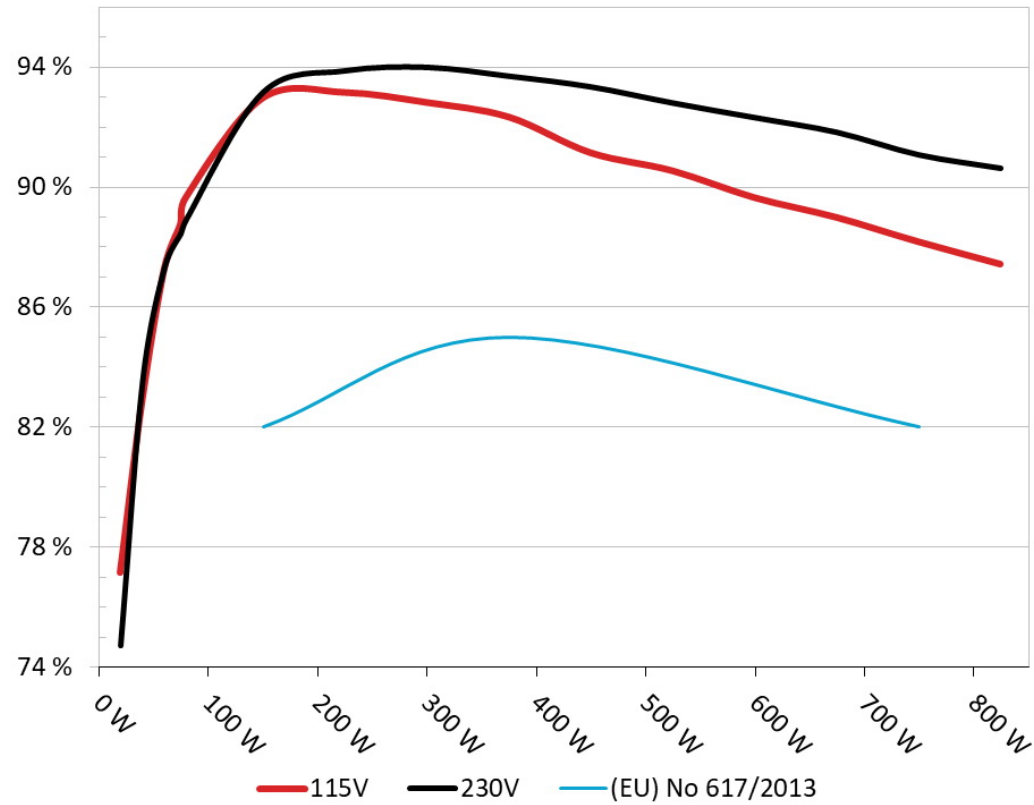
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Aerocool ACP-750FP7

Ambient: 38°C - 46°C (100.4°F - 114.8°F)



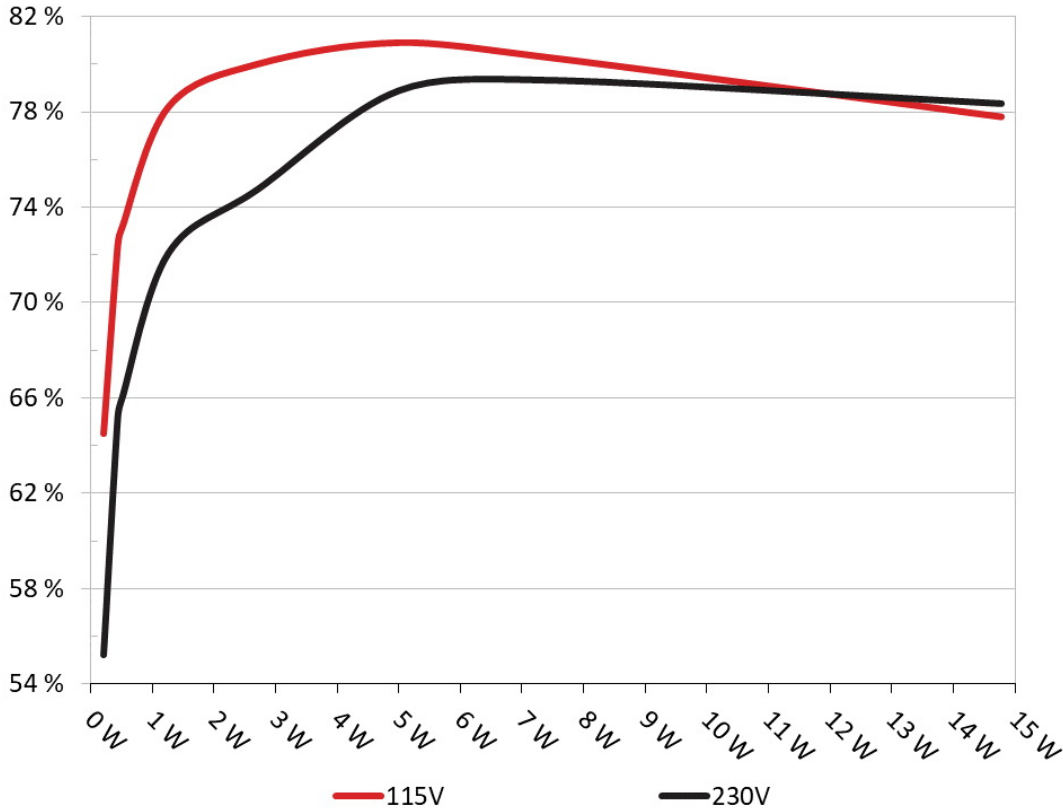
INFO

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: Aerocool ACP-750FP7

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	0.041A	0.207	64.486%	0.025
	5.031V	0.321		115.21V
2	0.086A	0.435	72.379%	0.047
	5.030V	0.601		115.21V
3	0.541A	2.713	80.029%	0.222
	5.013V	3.390		115.20V
4	1.001A	5.003	80.929%	0.323
	4.997V	6.182		115.20V
5	1.501A	7.475	80.290%	0.386
	4.980V	9.310		115.20V
6	3.001A	14.786	77.809%	0.467
	4.927V	19.003		115.20V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.041A	0.207	55.200%	0.009
	5.031V	0.375		230.48V
2	0.087A	0.435	65.120%	0.016
	5.029V	0.668		230.48V
3	0.541A	2.713	74.738%	0.083
	5.011V	3.630		230.48V
4	1.001A	5.003	78.874%	0.138
	4.996V	6.343		230.48V
5	1.501A	7.473	79.306%	0.192
	4.979V	9.423		230.47V
6	3.001A	14.782	78.328%	0.301
	4.926V	18.872		230.48V

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	4.359A	1.954A	1.968A	0.980A	74.725	88.784%	0	6	42.31°C	0.966
	12.194V	5.115V	3.351V	5.084V	84.165				38.14°C	115.21V
2	9.747A	2.929A	2.954A	1.180A	149.704	92.985%	0	6	43.41°C	0.983
	12.194V	5.110V	3.348V	5.078V	160.998				38.57°C	115.20V
3	15.490A	3.427A	3.464A	1.379A	224.837	93.174%	0	6	43.71°C	0.985
	12.186V	5.106V	3.345V	5.070V	241.309				38.74°C	115.20V
4	21.229A	3.915A	3.946A	1.579A	299.693	92.840%	0	6	44.08°C	0.985
	12.178V	5.104V	3.343V	5.062V	322.805				39.01°C	115.20V
5	26.641A	4.907A	4.938A	1.780A	374.731	92.356%	0	6	44.68°C	0.990
	12.170V	5.099V	3.340V	5.054V	405.745				39.46°C	115.21V
6	32.052A	5.884A	5.932A	1.979A	449.588	91.163%	395	6.5	40.82°C	0.992
	12.162V	5.097V	3.336V	5.049V	493.171				48.60°C	115.21V
7	37.479A	6.874A	6.931A	2.180A	524.590	90.559%	395	6.5	41.67°C	0.993
	12.153V	5.094V	3.333V	5.042V	579.283				49.83°C	115.22V
8	42.915A	7.860A	7.929A	2.380A	599.557	89.664%	1025	27.8	43.08°C	0.994
	12.144V	5.091V	3.329V	5.036V	668.674				51.35°C	115.22V
9	48.782A	8.357A	8.446A	2.380A	674.605	89.004%	1045	28.2	43.81°C	0.995
	12.136V	5.088V	3.325V	5.035V	757.945				52.33°C	115.22V
10	54.404A	8.855A	8.933A	2.991A	749.443	88.191%	1045	28.2	45.08°C	0.996
	12.127V	5.084V	3.323V	5.009V	849.795				54.30°C	115.22V
11	60.611A	8.861A	8.940A	2.995A	824.307	87.446%	1045	28.2	46.19°C	0.996
	12.120V	5.081V	3.321V	5.005V	942.652				56.50°C	115.22V
CL1	0.098A	14.029A	14.004A	0.000A	119.418	86.951%	395	6.5	44.44°C	0.977
	12.196V	5.097V	3.336V	5.154V	137.339				52.98°C	115.22V

CL2	61.934A	1.004A	1.001A	1.001A	764.956	88.462%	1045	28.2	45.68°C	0.996
	12.133V	5.091V	3.332V	5.060V	864.731				54.39°C	115.22V

The results above are not used in the certification process

230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	4.365A	1.953A	1.966A	0.981A	74.804	88.602%	0	<6.0	46.10°C	0.824
	12.197V	5.115V	3.350V	5.084V	84.427				38.93°C	365.12V
2	9.749A	2.927A	2.954A	1.181A	149.781	93.280%	0	<6.0	47.56°C	0.919
	12.199V	5.113V	3.348V	5.078V	160.572				39.66°C	230.24V
3	15.489A	3.425A	3.466A	1.380A	224.912	94.012%	0	<6.0	48.89°C	0.950
	12.191V	5.108V	3.345V	5.071V	239.238				40.63°C	230.23V
4	21.222A	3.911A	3.948A	1.580A	299.748	94.125%	0	<6.0	49.32°C	0.964
	12.185V	5.105V	3.343V	5.060V	318.456				40.86°C	230.23V
5	26.632A	4.896A	4.938A	1.780A	374.795	93.626%	395	6.5	41.85°C	0.971
	12.178V	5.104V	3.338V	5.055V	400.310				50.78°C	230.22V
6	32.038A	5.879A	5.934A	1.980A	449.678	93.304%	395	6.5	42.03°C	0.977
	12.170V	5.101V	3.335V	5.049V	481.947				51.33°C	230.22V
7	37.460A	6.866A	6.931A	2.180A	524.670	92.913%	395	6.5	43.48°C	0.978
	12.162V	5.098V	3.331V	5.042V	564.692				53.17°C	230.22V
8	42.881A	7.855A	7.931A	2.380A	599.575	92.177%	1025	27.8	44.80°C	0.980
	12.154V	5.096V	3.327V	5.035V	650.457				55.34°C	230.22V
9	48.754A	8.345A	8.454A	2.380A	674.712	91.751%	1025	27.8	45.28°C	0.982
	12.145V	5.095V	3.323V	5.035V	735.373				56.12°C	230.23V
10	54.364A	8.838A	8.940A	2.991A	749.549	91.221%	1025	27.8	46.25°C	0.984
	12.138V	5.092V	3.321V	5.010V	821.687				57.76°C	230.23V
11	60.566A	8.843A	8.949A	2.994A	824.482	90.735%	1025	27.8	46.93°C	0.985
	12.132V	5.090V	3.318V	5.007V	908.669				58.60°C	230.24V
CL1	0.102A	14.025A	14.004A	0.004A	119.662	86.933%	395	6.5	42.49°C	0.906
	12.191V	5.105V	3.342V	5.153V	137.648				51.86°C	230.25V

CL2	61.943A	1.000A	1.003A	1.002A	765.866	91.610%	1045	28.2	45.06°C	0.984
	12.146V	5.097V	3.326V	5.063V	836.011				55.41°C	230.22V

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	1.193A	0.482A	0.473A	0.195A	19.599	77.155%	0	6	0.856
	12.201V	5.112V	3.350V	5.102V	25.402				115.21V
2	2.415A	0.967A	0.982A	0.390A	39.685	82.903%	0	6	0.929
	12.198V	5.115V	3.352V	5.100V	47.869				115.21V
3	3.640A	1.459A	1.487A	0.585A	59.822	87.283%	0	6	0.961
	12.196V	5.115V	3.352V	5.096V	68.538				115.21V
4	4.849A	1.955A	1.968A	0.785A	79.754	89.683%	0	6	0.968
	12.202V	5.113V	3.350V	5.092V	88.929				115.21V

The results above are not used in the certification process

230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.200A	0.480A	0.475A	0.195A	19.682	75.396%	0	<6.0	0.453
	12.203V	5.110V	3.349V	5.102V	26.105				230.24V
2	2.418A	0.969A	0.983A	0.391A	39.749	83.561%	0	<6.0	0.671
	12.201V	5.116V	3.351V	5.101V	47.569				230.24V
3	3.643A	1.459A	1.489A	0.586A	59.880	87.486%	0	<6.0	0.777
	12.199V	5.116V	3.350V	5.097V	68.445				230.24V
4	4.859A	1.952A	1.969A	0.786A	79.847	89.096%	0	<6.0	0.836
	12.197V	5.115V	3.350V	5.092V	89.619				230.24V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.6 mV	6.4 mV	6.6 mV	8.4 mV	Pass
20% Load	9.1 mV	7.1 mV	7.6 mV	11.4 mV	Pass
30% Load	10.6 mV	7.3 mV	8.0 mV	13.2 mV	Pass
40% Load	12.0 mV	8.8 mV	8.5 mV	14.2 mV	Pass
50% Load	13.9 mV	8.6 mV	11.0 mV	15.0 mV	Pass
60% Load	16.0 mV	9.4 mV	8.6 mV	16.3 mV	Pass
70% Load	17.8 mV	9.6 mV	9.7 mV	17.4 mV	Pass
80% Load	20.1 mV	10.4 mV	11.7 mV	18.9 mV	Pass
90% Load	21.6 mV	11.1 mV	13.6 mV	20.0 mV	Pass
100% Load	24.5 mV	12.3 mV	13.2 mV	23.0 mV	Pass
110% Load	26.7 mV	13.3 mV	13.8 mV	23.9 mV	Pass
Crossload 1	11.5 mV	8.5 mV	9.5 mV	12.0 mV	Pass
Crossload 2	24.8 mV	11.7 mV	12.3 mV	22.3 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	7.9 mV	5.7 mV	9.5 mV	6.6 mV	Pass
20% Load	10.4 mV	6.8 mV	10.6 mV	9.1 mV	Pass
30% Load	10.7 mV	6.8 mV	10.3 mV	11.6 mV	Pass
40% Load	11.7 mV	6.7 mV	10.7 mV	13.1 mV	Pass
50% Load	13.0 mV	7.6 mV	12.0 mV	14.0 mV	Pass
60% Load	14.8 mV	7.9 mV	12.0 mV	15.8 mV	Pass
70% Load	16.7 mV	8.6 mV	13.3 mV	16.8 mV	Pass
80% Load	19.2 mV	9.4 mV	18.1 mV	18.4 mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	20.5 mV	9.7 mV	17.8 mV	19.9 mV	Pass
100% Load	22.5 mV	11.0 mV	15.4 mV	22.5 mV	Pass
110% Load	24.7 mV	11.5 mV	17.1 mV	23.4 mV	Pass
Crossload 1	25.4 mV	7.4 mV	11.8 mV	8.0 mV	Pass
Crossload 2	22.4 mV	10.1 mV	16.6 mV	21.6 mV	Pass

The results above are not used in the certification process

Aerocool ACP-750FP7



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

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

AC Input	100-240VAC 10/5A 50-60Hz				
DC Output Voltage	+3.3V	+5V	+12V	-12V	+5Vsb
Max. Output Current	20A	20A	62A	0.5A	3A
Max. Combined Output	120W	744W	6W	15W	
Total Output Watts	750W				
Model Name: ACP-750FP7					
Motherboard			Peripherals		
CPU			VGA		

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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