CPS PCCooler YN750

GMYN02C4600005

Lab ID PL75002306

Certification ID 252306

Test Result Report ID: 23PS2306A

Certificate Issue Date: Dec 15, 2023

Scheme: ETA-EMI PSU

115V



230V



Scheme: LAMBDA PSU

115V



230V





Outside Validation Scope



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	CPS PCCooler
Model	YN750
OEM/ODM	Andyson
Serial Number	GMYN02C4600005
Product Specifications	
Manufacturer-Provided Information	
□□□□ (Vrms)	100-240
□□□□ (Arms)	9-4.5

□□□□ (Hz)	50-60
□□□□ (W)	750
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	135mm Fluid Dynamic Bearing Fan (HA13525M12F-Z)
□□□□□	✓ (selectable)
Cybenetics Testing Information	
Lab ID	PL75002306
Date of receipt	Dec 5, 2023
Testing Date	Dec 13, 2023
Report Issued Date	Dec 15, 2023
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□□ (Non-accredited measurements)

□□□□□				
□□	□□□□	□□□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (550mm)	1	1	18AWG	□
4+4 pin EPS 12V □□ (650mm)	2	2	18AWG	□
6+2pin PCIe□□ (500mm)	3	3	18AWG	□
12+4 pin PCIe (650mm) (600W)	1	1	16-26AWG	□
SATA□□ (450mm+120mm+120mm) / 4-pin Molex (+120mm)	2	6 / 2	20AWG	□
AC Power Cord (1370mm) - C13 coupler	1	1	18AWG	-

□□□□

□		3.3V	5V	12V	5VSB	-12V
□□□□	□□	20	20	62.5	3	0.3
	□	100		750	15	3.6
□□□□□ (W)		750				

Test Results

Temperature & Compliance Info

□□□□ (°C /°F)	28-32 / 82.4-89.6
□□ ErP Lot3/6□□	✓
□□ (EU) No 617/2013□□	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	88.343%
Average Noise Output (>1450 Load Combinations)	19.49dBA
PF□□□ (>1450 Load Combinations)	0.981
Efficiency With 10W (≤500W) or 2% (>500W) Load	72.785%
□□□□□□	0.0565W
Non-Accredited	
12V Ripple (Full Load)	16.81mV
5V Ripple (Full Load)	15.00mV
3.3V Ripple (Full Load)	22.14mV
5VSB Ripple (Full Load)	20.01mV
12V Load Regulation	0.59%

5V Load Regulation	0.78%
3.3V Load Regulation	1.03%
5VSB Load Regulation	3.78%
Inrush Current	37.110A

230V

Accredited		
□□□□ (>1450 load combinations)		90.345%
Average Noise Output (>1450 Load Combinations)		19.56dBA
PF□□□ (>1450 Load Combinations)		0.936
Efficiency With 10W (≤500W) or 2% (>500W) Load		70.495%
□□□□□□		0.1407W
Non-Accredited		
12V Ripple (Full Load)		19.17mV
5V Ripple (Full Load)		16.79mV
3.3V Ripple (Full Load)		23.98mV
5VSB Ripple (Full Load)		20.84mV
12V Load Regulation		0.58%
5V Load Regulation		0.68%
3.3V Load Regulation		1.03%
5VSB Load Regulation		3.84%
Inrush Current		69.970A
12V Transient Response (200%)		11.45V
5V Transient Response (200%)		4.962V
3.3V Transient Response (200%)		3.236V
5VSB Transient Response (200%)		4.929V
□□□□ & PG□□		26.60ms
AC Loss to PWR_OK Hold Up Time		21.90ms
PWR_OK Inactive to DC Loss Delay		4.70ms
PSU Timings: T1 (20% / 100%)	84.0ms	90.0ms
PSU Timings: T3 (20% / 100%)	120.0ms	121.0ms
OPP (27.33°C / 42.02°C)	138.81%	129.54%

□□□□ & PG□□

Hold-Up Time (ms)	26.6
AC Loss to PWR_OK Hold Up Time (ms)	21.9
PWR_OK Inactive to DC Loss Delay (ms)	4.7

□□□□

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.88 V	114.84 V	113.85 V	114.92 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.416	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.14 %	0.11 %	N/A	0.17 %	2.00 %	PASS
Real Power:	0.057 W	-0.001 W	N/A	0.093 W	N/A	N/A
Apparent Power:	10.591 W	10.562 W	N/A	10.630 W	N/A	N/A
Power Factor:	0.006	N/A	N/A	N/A	N/A	N/A

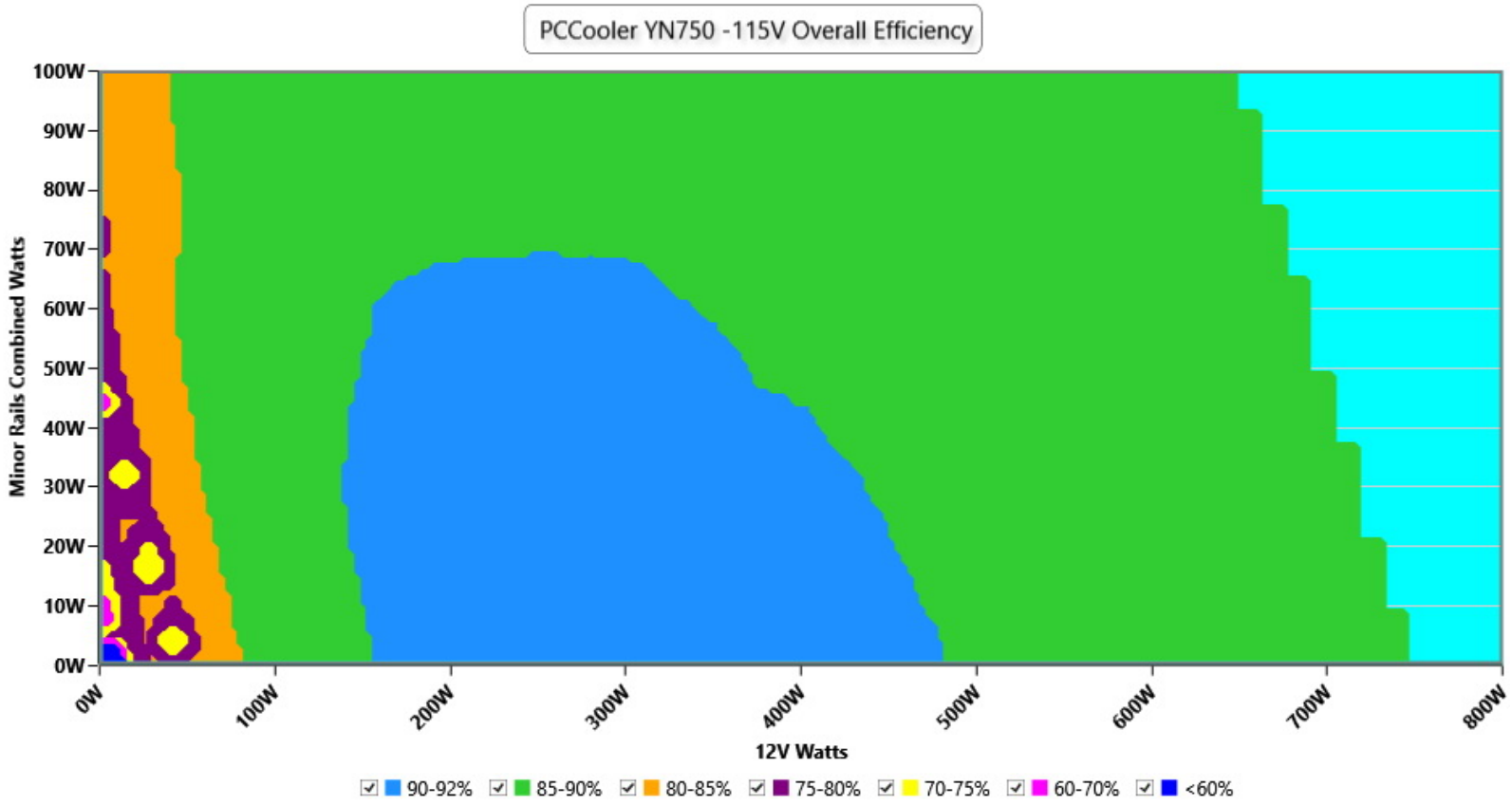
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.99 V	229.92 V	227.70 V	230.02 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	50.00 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.12 %	0.10 %	N/A	0.14 %	2.00 %	PASS
Real Power:	0.141 W	0.089 W	N/A	0.202 W	N/A	N/A
Apparent Power:	35.913 W	35.838 W	N/A	35.998 W	N/A	N/A

Power Factor:	0.004	N/A	N/A	N/A	N/A	N/A

□□□□□□

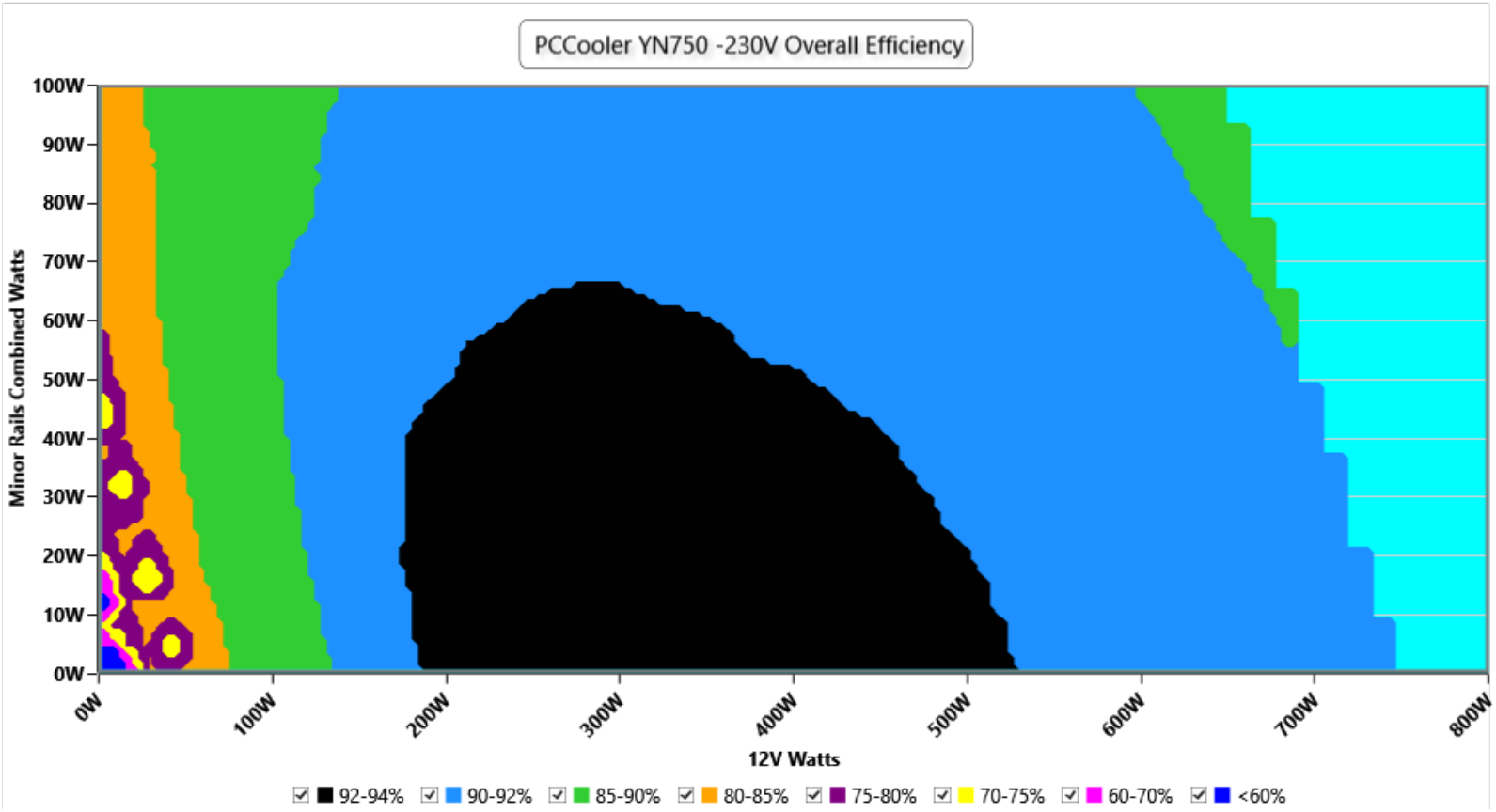
115V



□□

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



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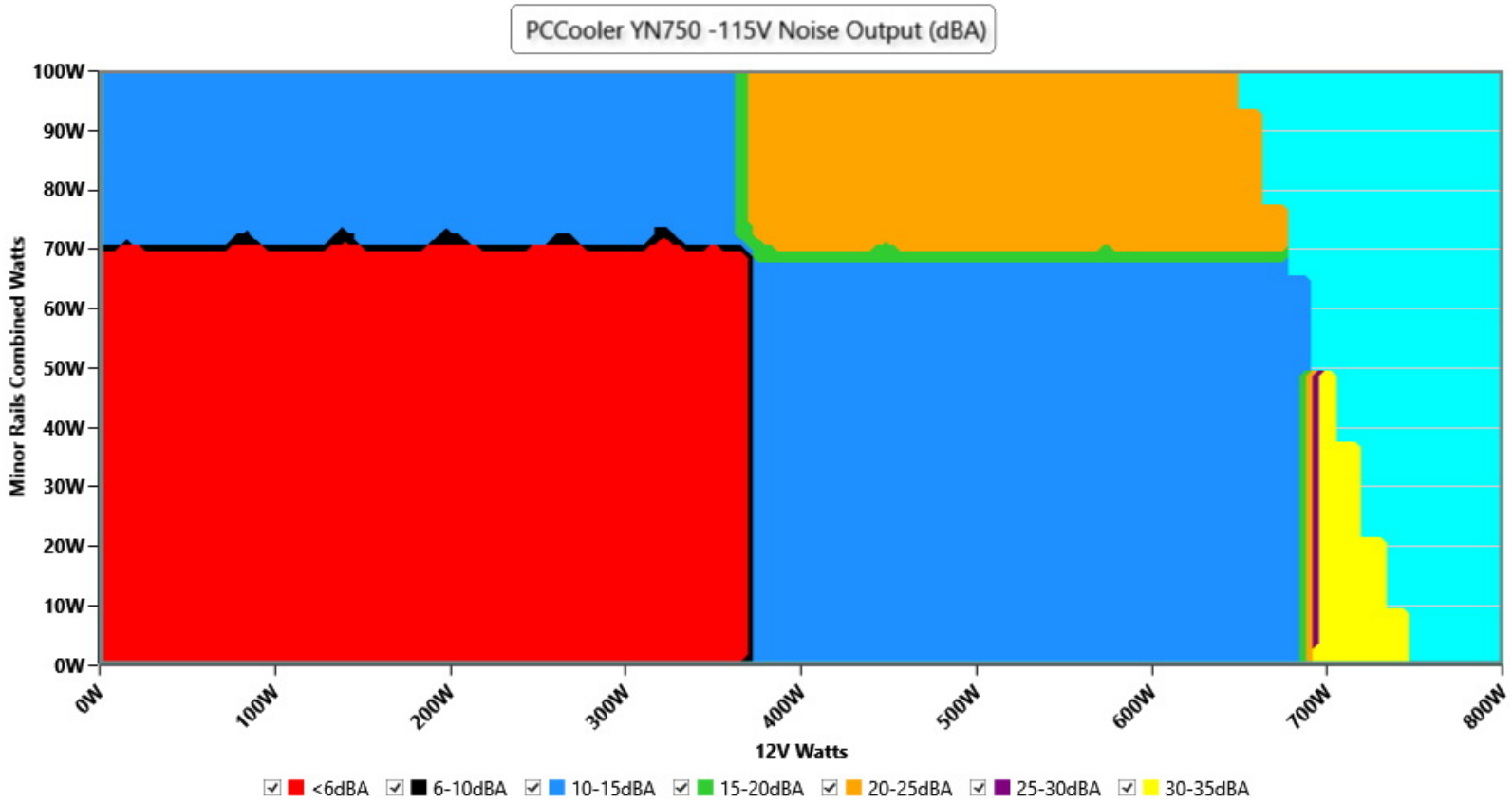
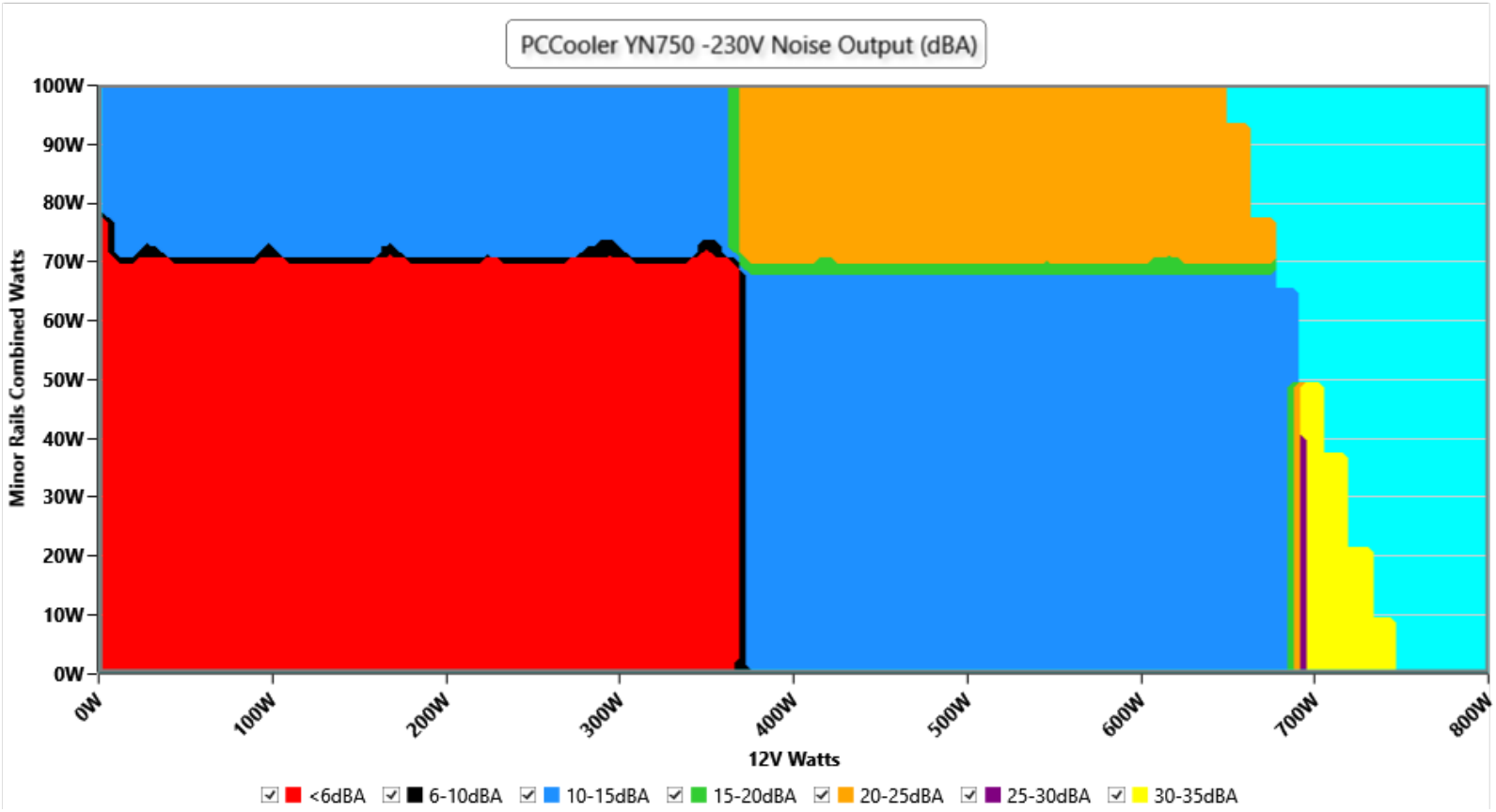
115V



□□

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



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

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.5 °C	0 RPM · <6.0 dB(A) · 44.5 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.2 °C	0 RPM · <6.0 dB(A) · 45.2 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 48.3 °C	0 RPM · <6.0 dB(A) · 48.3 °C	fan off in both
100%	850 RPM · 24.3 dB(A) · 44.9 °C	850 RPM · 24.3 dB(A) · 44.9 °C	**+0.0 dB(A)**

230V

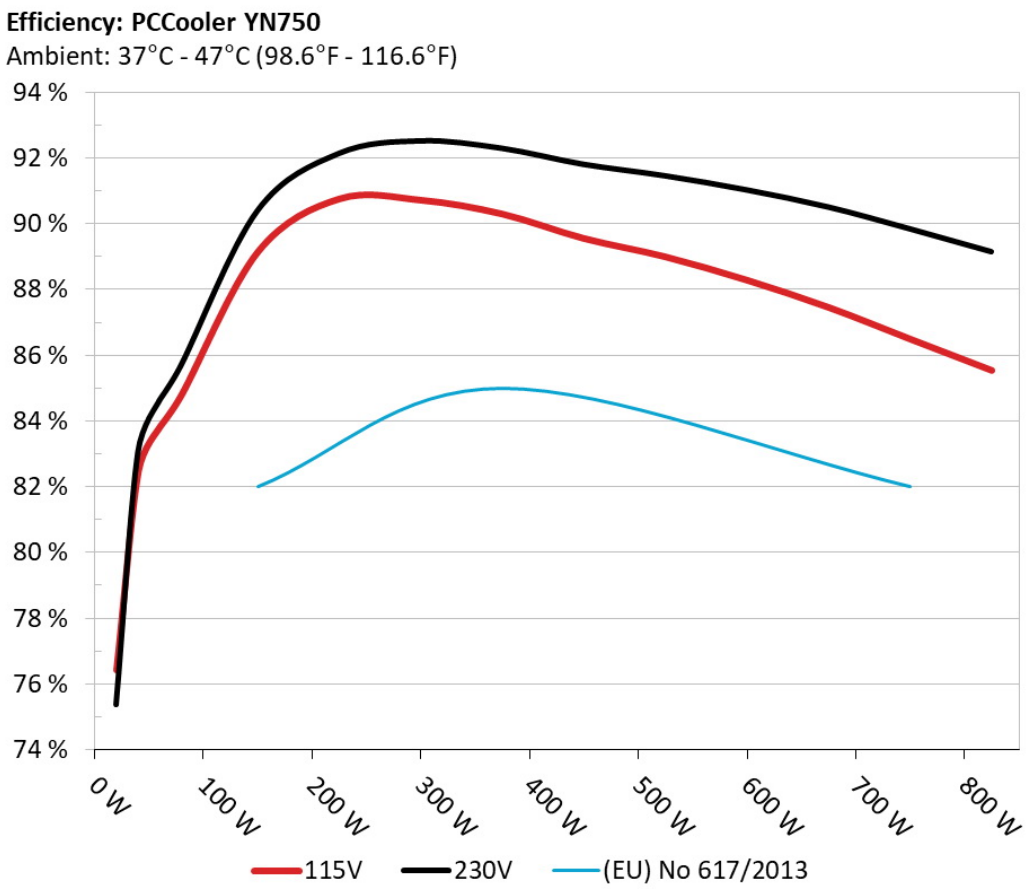
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.5 °C	0 RPM · <6.0 dB(A) · 44.5 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.2 °C	0 RPM · <6.0 dB(A) · 45.2 °C	fan off in both
50%	0 RPM · <6.0 dB(A) · 48.2 °C	0 RPM · <6.0 dB(A) · 48.2 °C	fan off in both
100%	852 RPM · 24.4 dB(A) · 45.4 °C	852 RPM · 24.4 dB(A) · 45.4 °C	**+0.0 dB(A)**

INFO

Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); with the fan stopped, the intake sensor can read higher than the chamber air.

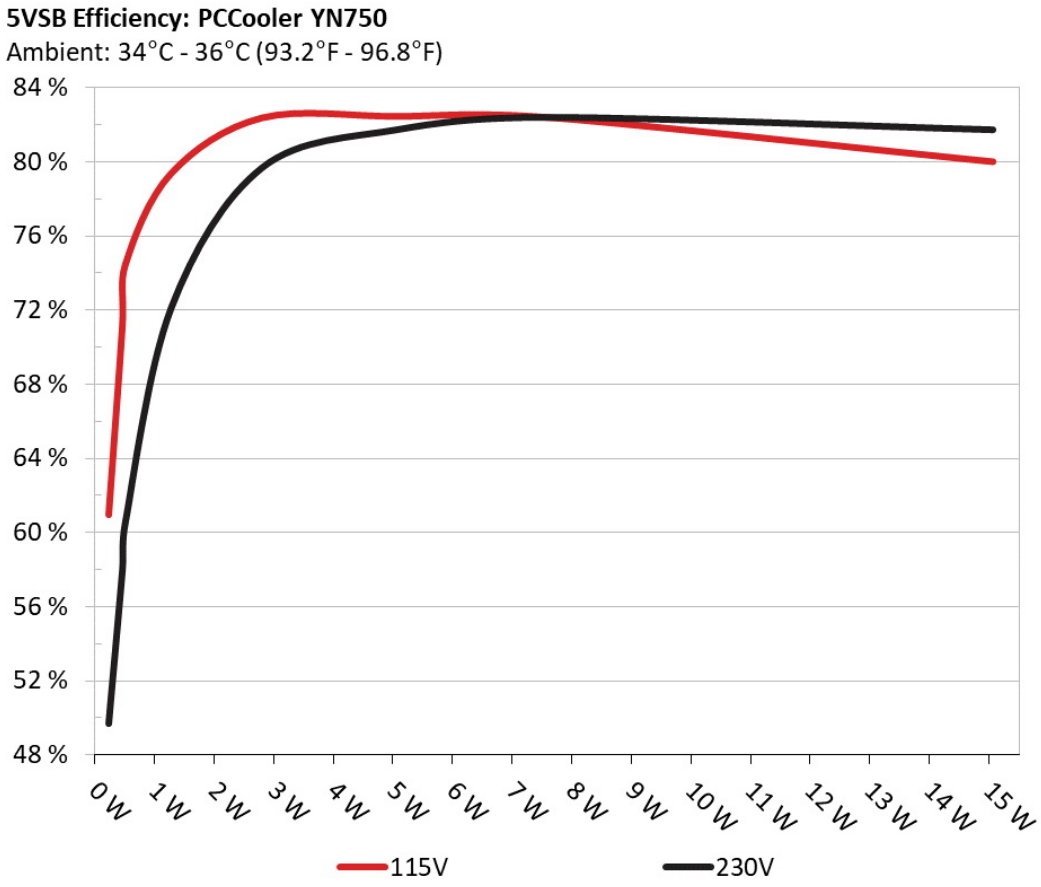
Informational. Not part of the ETA or LAMBDA rating.

Indicative Performance



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□□□□



□□

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

□□□□ □□ 5Vsb □□ (ErP Lot3/6 & CEC)

115V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.235W	60.952%	0.037
	5.122V	0.386W		114.86V
2	0.09A	0.463W	71.131%	0.062
	5.12V	0.651W		114.87V
3	0.55A	2.808W	82.385%	0.258
	5.105V	3.409W		114.87V
4	1A	5.091W	82.465%	0.361
	5.09V	6.174W		114.87V
5	1.5A	7.612W	82.405%	0.414
	5.074V	9.237W		114.87V
6	3A	15.073W	80.018%	0.488
	5.024V	18.836W		114.86V

230V

□□ #	5VSB	DC/AC (□)	□□	PF/AC □□
1	0.045A	0.231W	49.713%	0.013
	5.12V	0.464W		229.95V
2	0.09A	0.461W	58.036%	0.023
	5.118V	0.796W		229.95V
3	0.55A	2.807W	79.688%	0.097
	5.104V	3.522W		229.95V
4	1A	5.089W	81.742%	0.161
	5.089V	6.225W		229.95V
5	1.5A	7.61W	82.398%	0.219
	5.073V	9.235W		229.95V
6	3A	15.069W	81.728%	0.327
	5.023V	18.438W		229.95V

Supplementary Tests (For Reference)

10-110%□□□□

115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	4.432A	1.978A	1.977A	0.985A	74.989	83.832%	0	<6.0	44.45°C	0.95
	12.046V	5.055V	3.338V	5.077V	89.451				40.22°C	114.84V
20%	9.886A	2.969A	2.969A	1.186A	149.91	89.154%	0	<6.0	45.18°C	0.975
	12.039V	5.052V	3.335V	5.06V	168.149				40.61°C	114.82V
30%	15.720A	3.465A	3.467A	1.388A	224.916	90.77%	0	<6.0	46.51°C	0.983
	12.015V	5.05V	3.332V	5.044V	247.787				41.49°C	114.8V
40%	21.553A	3.963A	3.965A	1.591A	300.009	90.728%	0	<6.0	47.41°C	0.985
	12.008V	5.048V	3.329V	5.027V	330.669				41.9°C	114.77V
50%	26.991A	4.957A	4.961A	1.797A	374.422	90.308%	0	<6.0	48.31°C	0.986
	12.001V	5.044V	3.326V	5.01V	414.61				42.26°C	114.75V
60%	32.474A	5.957A	5.962A	2A	449.338	89.565%	863	24.8	42.6°C	0.987
	11.995V	5.036V	3.321V	4.994V	501.688				49.26°C	114.72V
70%	37.956A	6.958A	6.964A	2.209A	524.23	89.006%	861	24.7	43.2°C	0.988
	11.991V	5.031V	3.317V	4.979V	588.982				50.26°C	114.68V
80%	43.509A	7.956A	7.965A	2.315A	599.408	88.293%	858	24.6	43.89°C	0.989
	11.986V	5.028V	3.314V	4.966V	678.887				51.98°C	114.66V
90%	49.399A	8.454A	8.455A	2.422A	674.412	87.465%	854	24.5	44.21°C	0.99
	11.982V	5.026V	3.311V	4.953V	771.068				53.27°C	114.62V
100%	55.090A	8.955A	8.975A	3.046A	749.623	86.499%	850	24.3	44.93°C	0.991
	11.979V	5.024V	3.309V	4.924V	866.632				54.94°C	114.59V
110%	60.657A	9.96A	10.075A	3.052A	824.646	85.544%	1429	39.4	46.98°C	0.992
	11.975V	5.02V	3.305V	4.914V	964.007				57.89°C	114.56V
CL1	0.114A	11.958A	11.934A	0A	101.274	82.104%	873	25.2	40.8°C	0.966
	12.045V	5.034V	3.326V	5.089V	123.35				46.26°C	114.82V

CL2	0.114A	19.917A	0A	0A	101.346	80.455%	873	25.2	40.61°C	0.966
	12.046V	5.019V	3.339V	5.096V	125.967				47.63°C	114.83V
CL3	0.114A	0A	19.881A	0A	67.371	74.084%	1439	39.6	41.06°C	0.951
	12.042V	5.06V	3.32V	5.093V	90.937				50.15°C	114.84V
CL4	62.584A	0A	0A	0A	749.488	87.496%	1425	39.3	45.81°C	0.991
	11.975V	5.046V	3.32V	5.037V	856.601				56.79°C	114.6V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	4.432A	1.978A	1.977A	0.985A	74.987	84.647%	0	<6.0	44.51°C	0.762
	12.046V	5.055V	3.338V	5.077V	88.588				40.25°C	229.94V
20%	9.884A	2.968A	2.969A	1.185A	149.896	90.409%	0	<6.0	45.18°C	0.887
	12.040V	5.052V	3.334V	5.061V	165.797				40.66°C	229.93V
30%	15.716A	3.465A	3.467A	1.387A	224.886	92.152%	0	<6.0	46.37°C	0.93
	12.016V	5.05V	3.331V	5.045V	244.038				41.33°C	229.92V
40%	21.548A	3.962A	3.965A	1.59A	299.962	92.534%	0	<6.0	47.4°C	0.951
	12.009V	5.048V	3.329V	5.03V	324.166				41.86°C	229.91V
50%	26.981A	4.957A	4.962A	1.796A	374.307	92.309%	0	<6.0	48.21°C	0.961
	12.001V	5.044V	3.325V	5.011V	405.496				42.08°C	229.89V
60%	32.470A	5.957A	5.963A	2A	449.285	91.822%	865	24.9	42.63°C	0.968
	11.996V	5.037V	3.321V	4.993V	489.305				49.21°C	229.88V
70%	37.964A	6.958A	6.966A	2.211A	524.26	91.472%	864	24.9	43.43°C	0.973
	11.989V	5.032V	3.317V	4.976V	573.136				50.47°C	229.87V
80%	43.518A	7.955A	7.967A	2.316A	599.492	91.043%	860	24.7	44°C	0.976
	11.985V	5.029V	3.313V	4.965V	658.476				52.09°C	229.85V
90%	49.404A	8.452A	8.457A	2.423A	674.431	90.522%	857	24.6	44.13°C	0.978
	11.982V	5.028V	3.311V	4.952V	745.049				53.16°C	229.84V
100%	55.095A	8.953A	8.978A	3.047A	749.642	89.857%	852	24.4	45.35°C	0.979
	11.978V	5.026V	3.308V	4.923V	834.264				55.36°C	229.83V

110%	60.661A	9.956A	10.077A	3.053A	824.665	89.16%	1432	39.5	46.91°C	0.981
	11.974V	5.021V	3.304V	4.912V	924.927				57.84°C	229.82V
CL1	0.114A	11.953A	11.936A	0A	101.275	83.117%	874	25.3	40.64°C	0.836
	12.044V	5.036V	3.326V	5.089V	121.845				46.11°C	229.94V
CL2	0.114A	19.907A	0A	0A	101.351	81.561%	875	25.3	41.82°C	0.839
	12.045V	5.022V	3.339V	5.096V	124.262				48.92°C	229.94V
CL3	0.114A	0A	19.882A	0A	67.371	74.825%	1439	39.6	41.34°C	0.766
	12.042V	5.06V	3.319V	5.093V	90.038				50.35°C	229.94V
CL4	62.573A	0A	0A	0A	749.45	90.751%	1428	39.4	45.11°C	0.98
	11.977V	5.046V	3.32V	5.038V	825.829				56.09°C	229.83V

The results above are not used in the certification process

20-80□□□□□

115V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.240A	0.494A	0.493A	0.196A	19.992	76.417%	0	<6.0	39.81°C	0.753
	11.976V	5.063V	3.343V	5.11V	26.161				36.74°C	114.87V
40W	2.728A	0.691A	0.691A	0.294A	39.989	82.471%	0	<6.0	40.74°C	0.889
	11.979V	5.062V	3.342V	5.105V	48.487				37.43°C	114.86V
60W	4.194A	0.889A	0.889A	0.392A	59.987	81.512%	0	<6.0	42.24°C	0.935
	12.047V	5.061V	3.341V	5.1V	73.594				38.41°C	114.85V
80W	5.669A	1.087A	1.087A	0.491A	79.914	84.81%	0	<6.0	43.72°C	0.953
	12.046V	5.059V	3.34V	5.094V	94.228				39.75°C	114.85V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□□ (RPM)	□□□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
20W	1.238A	0.494A	0.494A	0.196A	19.984	75.377%	0	<6.0	39.8°C	0.407
	11.977V	5.06V	3.342V	5.112V	26.138				36.75°C	229.95V
40W	2.728A	0.692A	0.691A	0.294A	39.985	83.051%	0	<6.0	40.59°C	0.579
	11.979V	5.06V	3.341V	5.106V	48.144				37.24°C	229.95V
60W	4.194A	0.889A	0.889A	0.392A	59.985	82.265%	0	<6.0	41.54°C	0.706
	12.047V	5.059V	3.34V	5.1V	72.917				38.01°C	229.95V
80W	5.669A	1.087A	1.087A	0.491A	79.911	85.717%	0	<6.0	43.26°C	0.775
	12.045V	5.058V	3.339V	5.094V	93.225				39.43°C	229.94V

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□□□□

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	13.56mV	11.64mV	15.05mV	15.43mV	Pass
20% Load	13.87mV	12.73mV	15.46mV	14.97mV	Pass
30% Load	13.73mV	11.44mV	15.72mV	14.92mV	Pass
40% Load	10.16mV	12.16mV	14.58mV	14.97mV	Pass
50% Load	11.19mV	11.39mV	14.01mV	14.30mV	Pass
60% Load	11.98mV	12.52mV	15.51mV	17.08mV	Pass
70% Load	12.84mV	13.86mV	18.36mV	17.76mV	Pass
80% Load	13.25mV	14.07mV	18.62mV	17.96mV	Pass
90% Load	12.78mV	14.37mV	19.44mV	19.31mV	Pass
100% Load	16.81mV	15.00mV	22.14mV	20.01mV	Pass
110% Load	18.45mV	14.76mV	20.17mV	19.60mV	Pass
Crossload1	13.93mV	14.87mV	18.14mV	13.22mV	Pass
Crossload2	15.88mV	18.49mV	15.41mV	13.42mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	11.76mV	12.88mV	16.55mV	11.66mV	Pass
Crossload4	18.83mV	15.14mV	21.01mV	14.76mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.74mV	12.57mV	14.94mV	14.76mV	Pass
20% Load	12.74mV	13.70mV	16.39mV	15.54mV	Pass
30% Load	14.35mV	14.32mV	16.75mV	16.00mV	Pass
40% Load	11.86mV	14.27mV	16.81mV	16.46mV	Pass
50% Load	12.17mV	14.37mV	17.22mV	17.03mV	Pass
60% Load	10.26mV	11.90mV	15.20mV	15.38mV	Pass
70% Load	10.72mV	11.44mV	16.39mV	15.23mV	Pass
80% Load	14.18mV	15.09mV	18.15mV	17.50mV	Pass
90% Load	13.46mV	15.09mV	18.92mV	17.45mV	Pass
100% Load	19.17mV	16.79mV	23.98mV	20.84mV	Pass
110% Load	19.60mV	17.03mV	24.62mV	20.62mV	Pass
Crossload1	14.90mV	15.82mV	18.61mV	13.19mV	Pass
Crossload2	16.19mV	17.51mV	16.55mV	11.72mV	Pass
Crossload3	11.60mV	13.45mV	16.19mV	11.72mV	Pass
Crossload4	18.33mV	15.62mV	23.10mV	15.73mV	Pass

The results above are not used in the certification process

CPS PCCooler YN750

Top side

Power specifications label

本测试报告中包含的所有数据和图表均可在以下条件下由任何人使用：使用过程需提及测试结果由Cybenetics提供。
在任何情况下都应提供原始测试结果文档的网站链接

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