



Raijintek Cratos 1200W

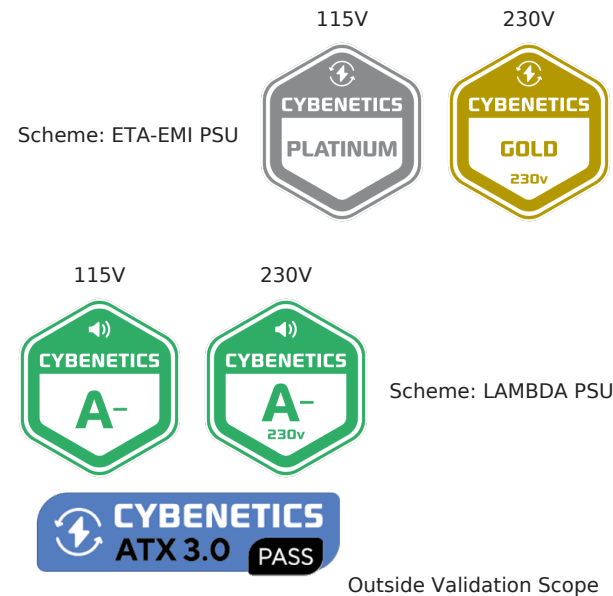
Serial Number RJK1200W23060050

Lab ID RJ12002238

Certification ID 252238

Test Result Report ID: 23PS2238A

Certificate Issue Date: Sep 18, 2023



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	Raijintek
Model	Cratos 1200W
OEM/ODM	SANR
Serial Number	RJK1200W23060050
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-7

Rated Frequency (Hz)	47-63
Rated Power (W)	1200
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Fluid Dynamic Bearing Fan (CF-D12025H12M)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	RJ12002238
Date of receipt	Aug 17, 2023
Testing Date	Sep 15, 2023
Report Issued Date	Sep 18, 2023
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	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-22AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
6+2 pin PCIe (650mm+150mm)	1	2	18AWG	No
6+2 pin PCIe (550mm)	2	2	18AWG	No
12+4 pin PCIe (600mm) (600W)	1	1	16-26AWG	No
SATA (450mm+150mm+150mm+150mm)	2	8	18AWG	No
4-pin Molex (500mm+150mm+150mm)	1	3	18AWG	No

FDD Adapter (100mm)	1	1	18AWG	No
AC Power Cord (1100mm) - C13 coupler	1	1	18AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	100	3	0.3
	Watts	130		1200	15	3.6
Total Max. Power (W)		1200				

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	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.0 Compliance	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	89.050%
Average Noise Output (>1450 Load Combinations)	29.12dBA
Average PF (>1450 Load Combinations)	0.984
Efficiency With 10W (≤500W) or 2% (>500W) Load	70.570%
Standby Power Consumption	0.0834W
Non-Accredited	
12V Ripple (Full Load)	27.31mV
5V Ripple (Full Load)	27.64mV

3.3V Ripple (Full Load)	25.65mV
5VSB Ripple (Full Load)	55.18mV
12V Load Regulation	0.34%
5V Load Regulation	0.34%
3.3V Load Regulation	0.85%
5VSB Load Regulation	1.59%
Inrush Current	49.620A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.354%
Average Noise Output (>1450 Load Combinations)	28.03dBA
Average PF (>1450 Load Combinations)	0.951
Efficiency With 10W ($\leq$ 500W) or 2% (>500W) Load	70.782%
Standby Power Consumption	0.1903W
Non-Accredited	
12V Ripple (Full Load)	27.85mV
5V Ripple (Full Load)	27.77mV
3.3V Ripple (Full Load)	25.04mV
5VSB Ripple (Full Load)	56.75mV
12V Load Regulation	0.38%
5V Load Regulation	0.34%
3.3V Load Regulation	0.85%
5VSB Load Regulation	1.57%
Inrush Current	64.840A
12V Transient Response (200%)	11.12V
5V Transient Response (200%)	4.934V
3.3V Transient Response (200%)	3.181V
5VSB Transient Response (200%)	4.826V
Hold-Up Time & PWR_OK Signal	22.40ms
AC Loss to PWR_OK Hold Up Time	21.00ms
PWR_OK Inactive to DC Loss Delay	1.40ms

PSU Timings: T1 (20% / 100%)	107.0ms	103.0ms
PSU Timings: T3 (20% / 100%)	121.0ms	123.0ms
OPP (31.75°C / 0.00°C)	140.17%	-

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	22.4
AC Loss to PWR_OK Hold Up Time (ms)	21
PWR_OK Inactive to DC Loss Delay (ms)	1.4

Vampire Power

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.88 V	114.82 V	113.85 V	114.92 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.98 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.419	1.417	1.340	1.421	1.490	PASS
Mains Voltage THD:	0.15 %	0.08 %	N/A	0.26 %	2.00 %	PASS
Real Power:	0.083 W	0.065 W	N/A	0.102 W	N/A	N/A
Apparent Power:	10.860 W	10.839 W	N/A	10.882 W	N/A	N/A
Power Factor:	0.008	N/A	N/A	N/A	N/A	N/A

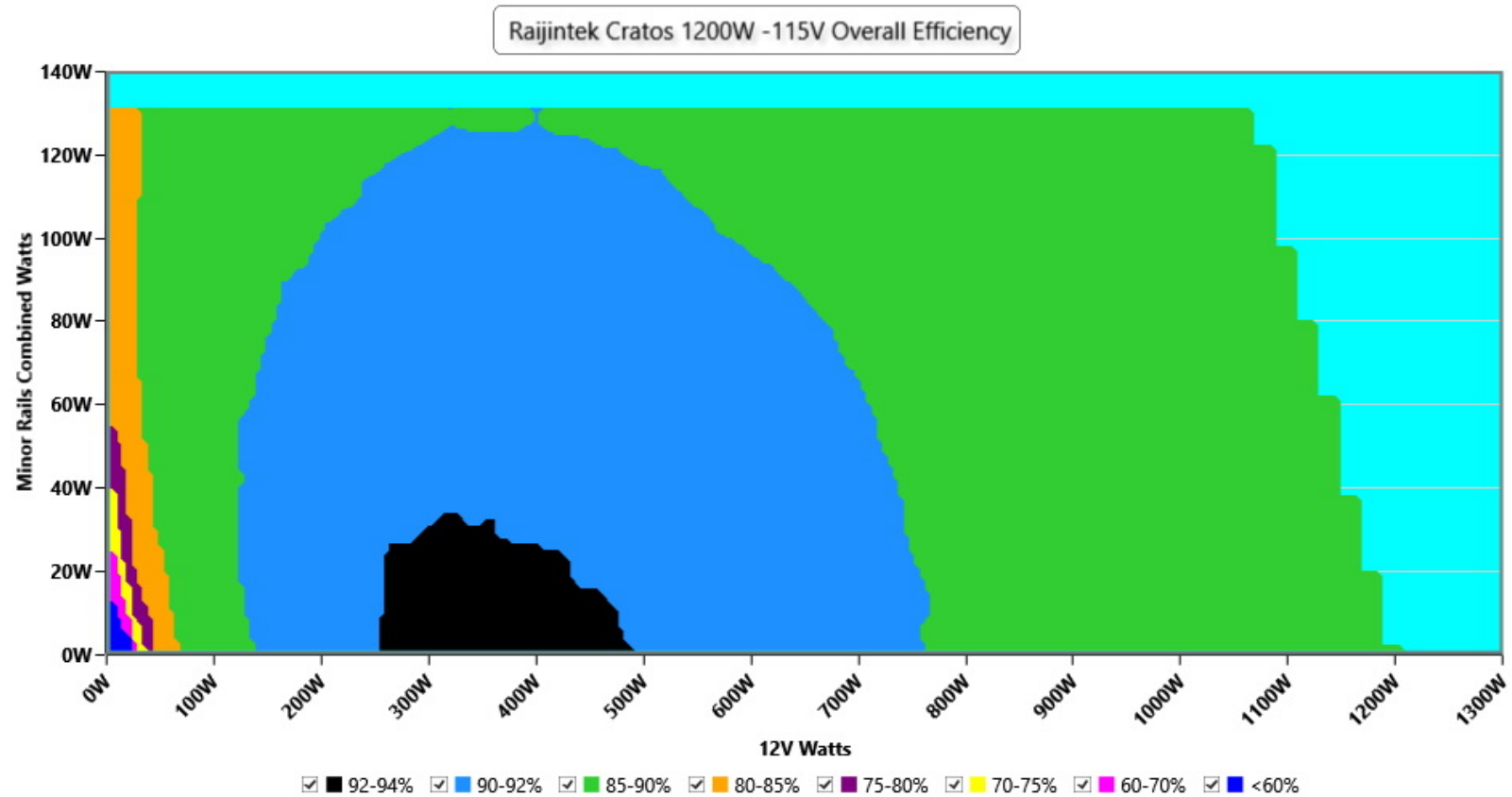
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.95 V	229.88 V	227.70 V	230.01 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS

Mains Voltage CF:	1.417	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.08 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.210 W	0.166 W	N/A	0.267 W	N/A	N/A
Apparent Power:	37.149 W	37.111 W	N/A	37.187 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

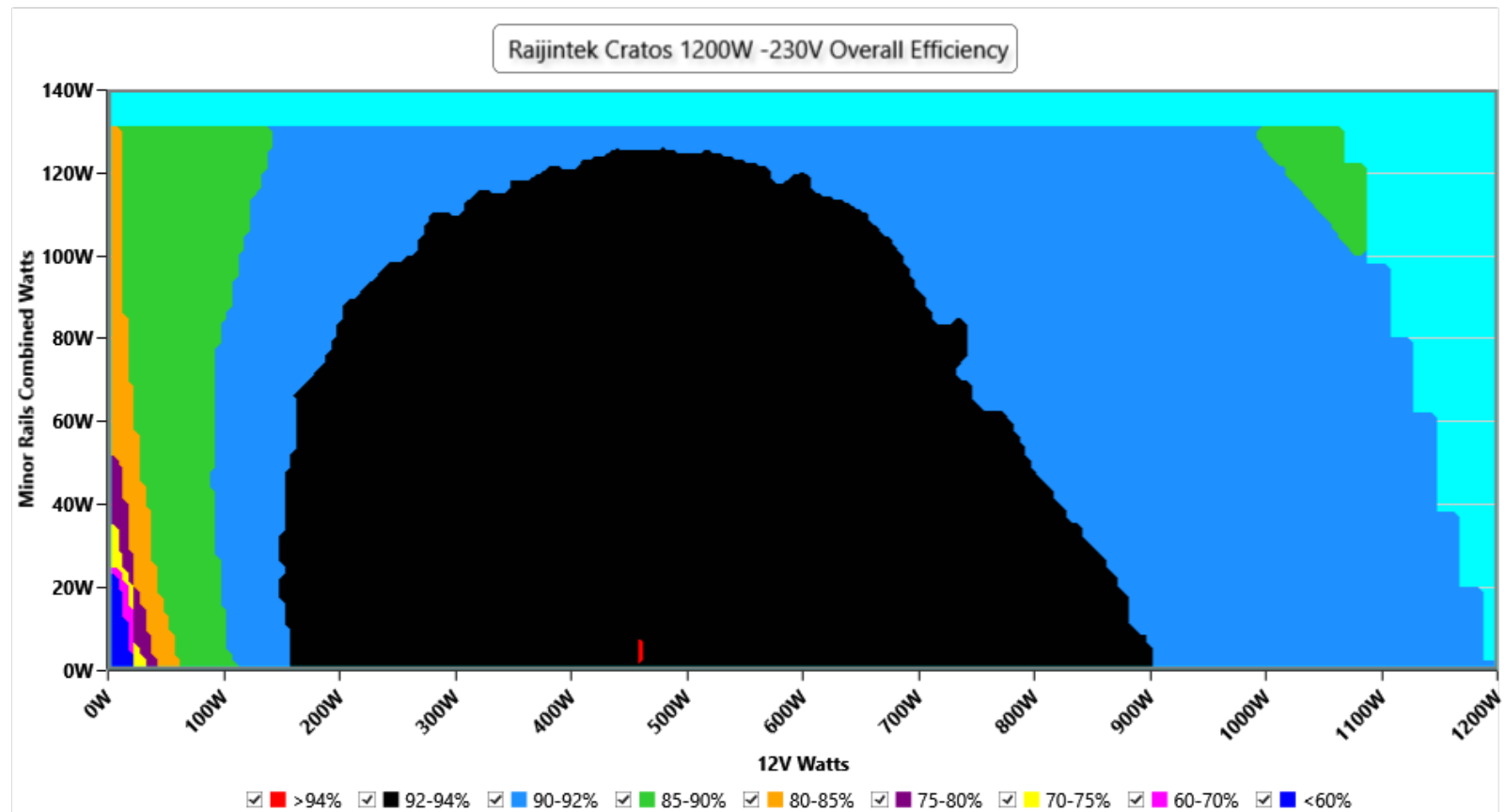
Efficiency Graph

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

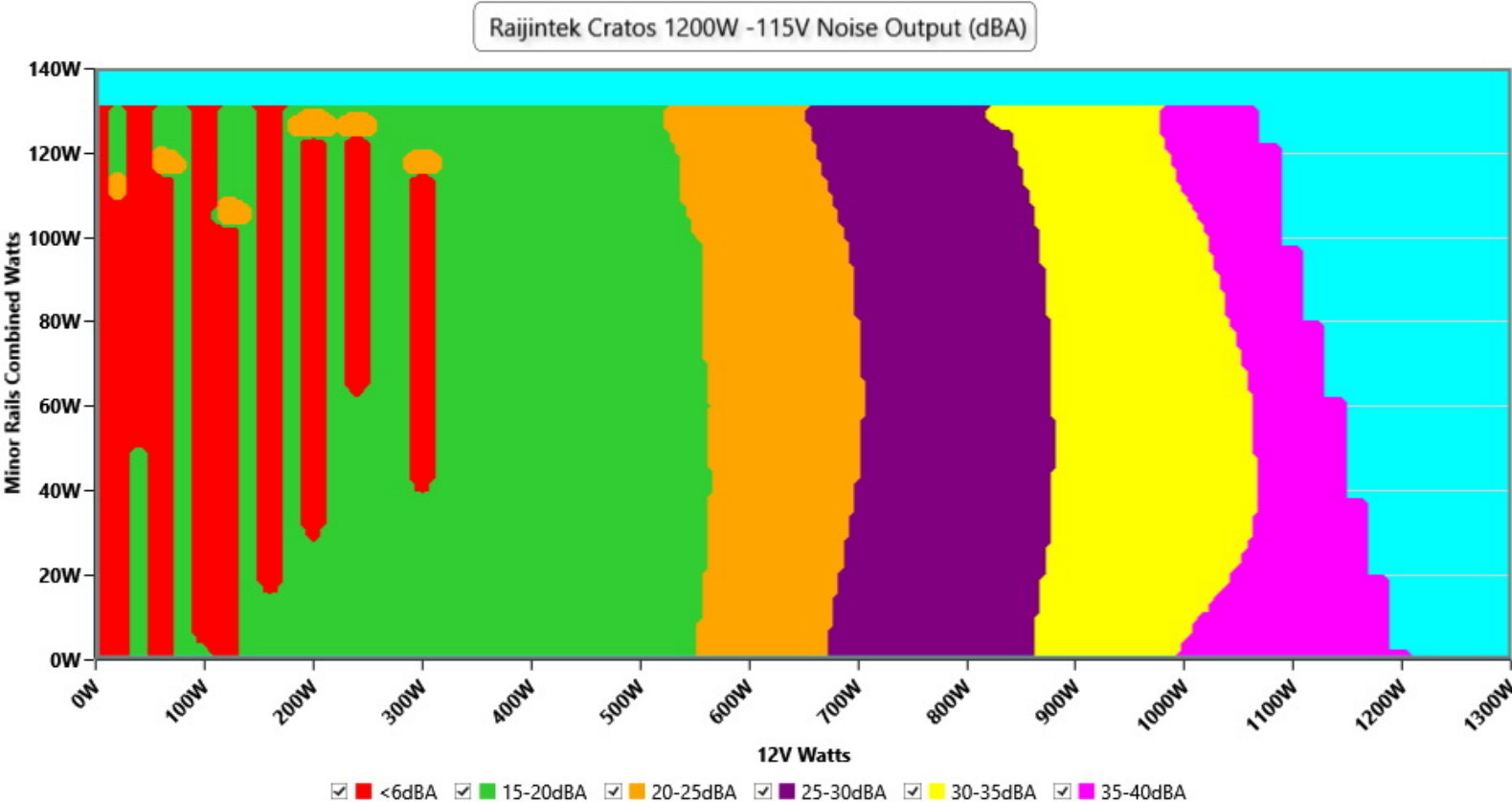


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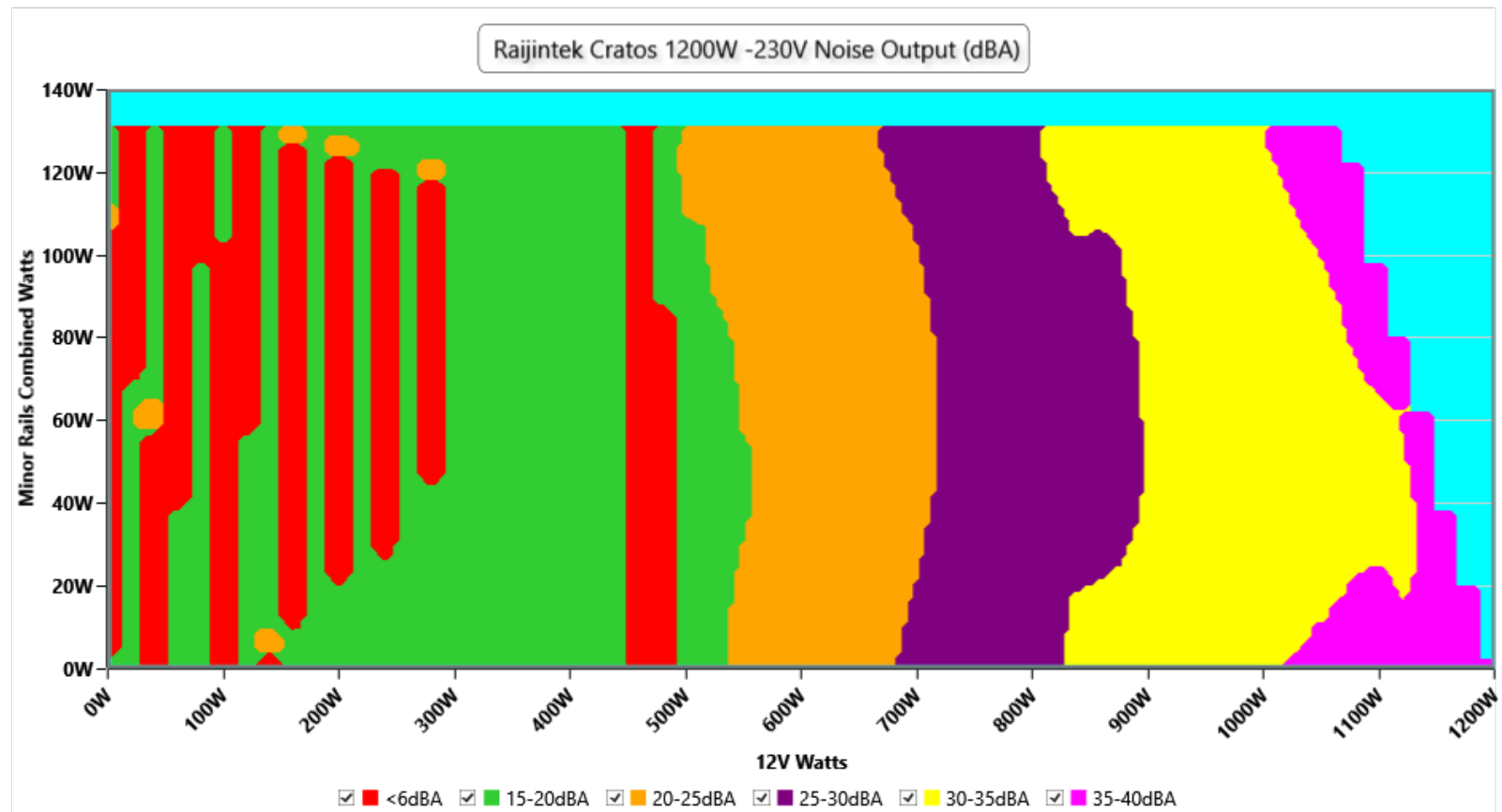
Noise Graph

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



INFO

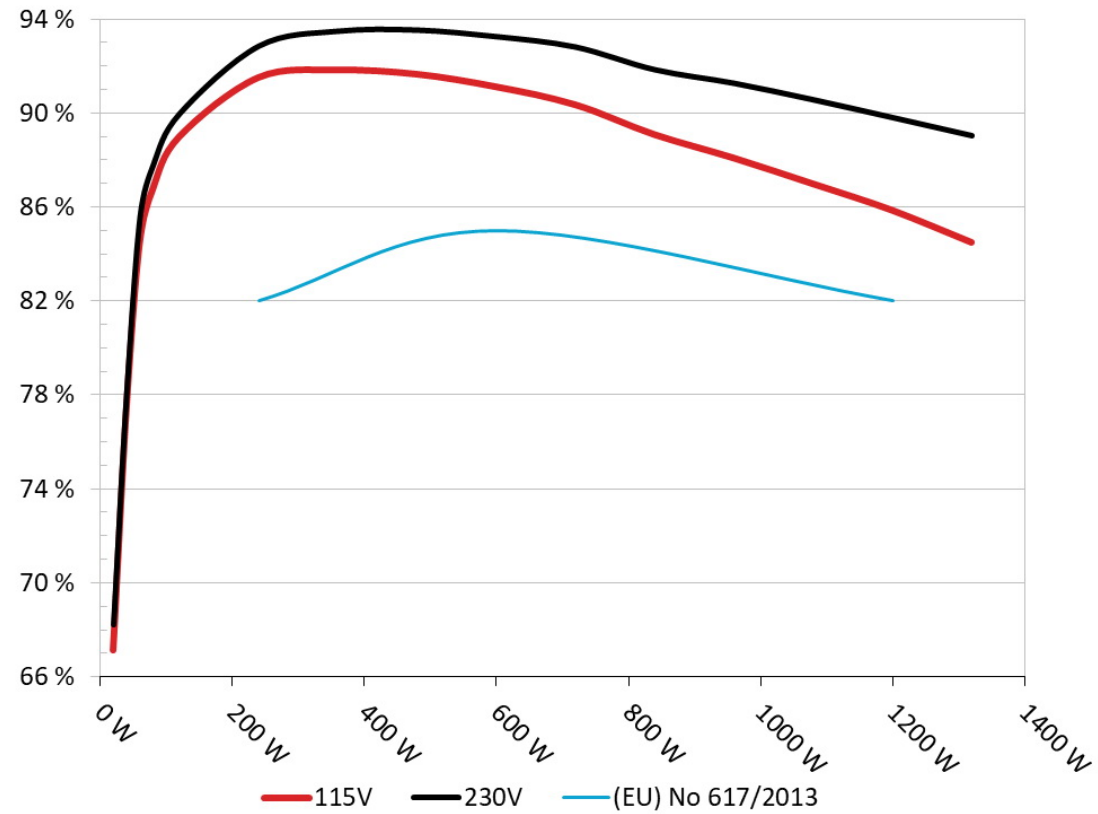
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Raijintek Cratos 1200W

Ambient: 37°C - 47°C (98.6°F - 116.6°F)



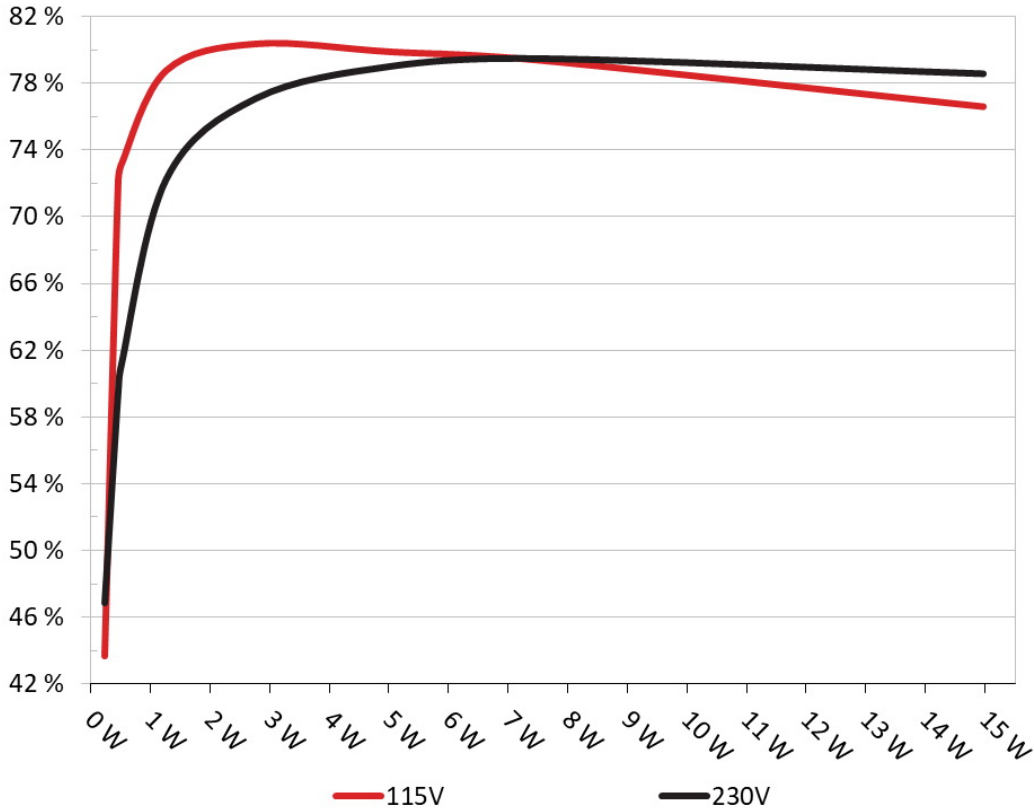
INFO

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: Raijintek Cratos 1200W

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	0.045A	0.227W	43.189%	0.022
	5.042V	0.227W		114.87V
2	0.09A	0.454W	71.75%	0.06
	5.042V	0.633W		114.87V
3	0.55A	2.768W	79.887%	0.275
	5.033V	3.465W		114.87V
4	1A	5.025W	79.405%	0.397
	5.026V	6.328W		114.86V
5	1.5A	7.525W	78.899%	0.47
	5.017V	9.537W		114.87V
6	3A	14.97W	76.12%	0.549
	4.99V	19.666W		114.86V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227W	46.339%	0.014
	5.043V	0.49W		229.94V
2	0.09A	0.454W	59.054%	0.022
	5.041V	0.769W		229.94V
3	0.55A	2.768W	76.589%	0.1
	5.033V	3.614W		229.94V
4	1A	5.025W	78.504%	0.168
	5.026V	6.401W		229.94V
5	1.5A	7.525W	78.97%	0.233
	5.017V	9.529W		229.94V
6	3A	14.97W	78.061%	0.353
	4.99V	19.177W		229.94V

Supplementary Tests (For Reference)

Typical Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	8.151A	1.985A	1.978A	0.993A	119.977	88.981%	0	<6.0	44.58°C	0.975
	12.070V	5.038V	3.337V	5.033V	134.824				40.37°C	114.84V
20%	17.325A	2.978A	2.969A	1.193A	239.928	91.502%	0	<6.0	45.36°C	0.972
	12.065V	5.036V	3.334V	5.027V	262.207				40.84°C	114.79V
30%	26.783A	3.476A	3.467A	1.394A	359.099	91.821%	924	20.2	41.14°C	0.978
	12.062V	5.035V	3.331V	5.021V	391.042				46.23°C	114.75V
40%	36.351A	3.974A	3.965A	1.595A	479.46	91.647%	986	21.8	41.63°C	0.984
	12.056V	5.033V	3.329V	5.014V	523.162				47.21°C	114.71V
50%	45.531A	4.969A	4.96A	1.797A	599.225	91.111%	1089	24.7	42.3°C	0.988
	12.052V	5.031V	3.327V	5.008V	657.688				48.27°C	114.67V
60%	54.778A	5.965A	5.958A	1.999A	719.755	90.346%	1199	27.8	42.81°C	0.99
	12.048V	5.03V	3.324V	5.002V	796.671				49.36°C	114.62V
70%	63.954A	6.963A	6.958A	2.202A	839.497	89.077%	1352	31.2	43.22°C	0.993
	12.046V	5.027V	3.321V	4.995V	942.439				50.29°C	114.57V
80%	73.215A	7.96A	7.958A	2.304A	959.51	88.078%	1666	37.5	43.85°C	0.994
	12.042V	5.026V	3.317V	4.99V	1089.375				51.88°C	114.52V
90%	82.823A	8.459A	8.447A	2.407A	1079.31	86.981%	2046	43.2	44.14°C	0.994
	12.035V	5.024V	3.315V	4.985V	1240.86				53.17°C	114.48V
100%	92.245A	8.96A	8.967A	3.017A	1199.354	85.853%	2123	44.1	45.03°C	0.995
	12.029V	5.022V	3.312V	4.971V	1396.977				55.08°C	114.42V
110%	101.596A	9.959A	10.063A	3.019A	1319.964	84.483%	2125	44.1	46.68°C	0.996
	12.025V	5.021V	3.309V	4.967V	1562.133				57.62°C	114.37V
CL1	0.115A	15.59A	15.518A	0A	131.292	81.748%	2100	43.8	41.53°C	0.977
	12.082V	5.022V	3.325V	5.049V	160.614				47.04°C	114.83V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.114A	19.915A	0A	0A	101.37	81.277%	969	21.3	40.73°C	0.972
	12.085V	5.021V	3.339V	5.052V	124.727				47.76°C	114.84V
CL3	0.114A	0A	19.871A	0A	67.376	77.406%	931	20.3	40.59°C	0.959
	12.080V	5.04V	3.321V	5.049V	87.042				49.63°C	114.85V
CL4	99.798A	0A	0A	0.002A	1199.93	86.735%	1292	30.3	45.83°C	0.994
	12.023V	5.032V	3.32V	5.03V	1383.468				56.79°C	114.43V

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
10%	8.149A	1.985A	1.978A	0.993A	119.979	89.985%	910	19.6	40.29°C	0.859
	12.073V	5.038V	3.337V	5.033V	133.329				44.54°C	229.92V
20%	17.324A	2.978A	2.969A	1.193A	239.928	92.864%	915	19.8	40.57°C	0.927
	12.066V	5.036V	3.334V	5.027V	258.365				45.17°C	229.91V
30%	26.786A	3.476A	3.467A	1.394A	359.095	93.499%	923	20.2	41.35°C	0.948
	12.060V	5.035V	3.332V	5.021V	384.07				46.39°C	229.89V
40%	36.357A	3.974A	3.965A	1.595A	479.511	93.547%	981	21.7	41.92°C	0.96
	12.055V	5.034V	3.329V	5.014V	512.59				47.42°C	229.87V
50%	45.532A	4.968A	4.96A	1.797A	599.263	93.272%	1078	24.6	42.13°C	0.966
	12.052V	5.032V	3.327V	5.008V	642.483				48.14°C	229.84V
60%	54.778A	5.965A	5.958A	1.999A	719.783	92.825%	1191	24.8	42.52°C	0.972
	12.048V	5.03V	3.324V	5.002V	775.397				49.07°C	229.83V
70%	63.951A	6.962A	6.957A	2.202A	839.505	91.86%	1333	31.1	43.37°C	0.977
	12.047V	5.028V	3.321V	4.995V	913.896				50.45°C	229.8V
80%	73.216A	7.96A	7.957A	2.304A	959.507	91.283%	1609	36.5	43.79°C	0.979
	12.041V	5.026V	3.318V	4.991V	1051.136				51.82°C	229.78V
90%	82.823A	8.459A	8.446A	2.406A	1079.322	90.582%	1987	42.4	44.27°C	0.981
	12.035V	5.024V	3.315V	4.986V	1191.512				53.32°C	229.76V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	92.239A	8.959A	8.966A	3.017A	1199.361	89.821%	2121	44.1	45.93°C	0.983
	12.030V	5.023V	3.312V	4.971V	1335.306				55.99°C	229.75V
110%	101.594A	9.958A	10.062A	3.019A	1319.974	89.049%	2119	44.1	46.63°C	0.985
	12.025V	5.021V	3.309V	4.968V	1482.295				57.53°C	229.71V
CL1	0.116A	15.59A	15.518A	0A	131.293	82.824%	2095	43.8	40.82°C	0.881
	12.088V	5.022V	3.325V	5.049V	158.527				46.31°C	229.93V
CL2	0.114A	19.912A	0A	0A	101.354	82.337%	937	20.4	40.75°C	0.846
	12.084V	5.021V	3.339V	5.052V	123.088				47.83°C	229.93V
CL3	0.114A	0A	19.871A	0A	67.375	78.27%	934	20.3	40.52°C	0.768
	12.081V	5.041V	3.321V	5.049V	86.079				49.59°C	229.93V
CL4	99.787A	0A	0A	0.002A	1199.931	90.634%	2036	43.2	45.29°C	0.982
	12.025V	5.032V	3.32V	5.03V	1323.928				56.24°C	229.74V

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)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.230A	0.496A	0.494A	0.198A	19.988	67.111%	0	<6.0	39.85°C	0.846
	12.061V	5.039V	3.34V	5.05V	29.786				36.78°C	114.87V
40W	2.709A	0.695A	0.692A	0.297A	39.989	77.389%	0	<6.0	40.63°C	0.923
	12.064V	5.039V	3.339V	5.048V	51.669				37.4°C	114.86V
60W	4.187A	0.893A	0.889A	0.396A	59.992	84.453%	0	<6.0	41.84°C	0.941
	12.067V	5.037V	3.339V	5.045V	71.033				38.06°C	114.86V
80W	5.659A	1.091A	1.087A	0.496A	79.93	86.749%	0	<6.0	43.69°C	0.959
	12.070V	5.038V	3.338V	5.043V	92.137				39.7°C	114.85V

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
20W	1.230A	0.496A	0.494A	0.198A	19.993	68.209%	0	<6.0	39.86°C	0.46
	12.067V	5.04V	3.34V	5.049V	29.319				36.8°C	229.94V
40W	2.708A	0.694A	0.692A	0.297A	39.992	78.128%	0	<6.0	40.36°C	0.627
	12.070V	5.04V	3.339V	5.047V	51.19				37.14°C	229.94V
60W	4.184A	0.893A	0.89A	0.396A	59.992	85.563%	0	<6.0	41.57°C	0.716
	12.076V	5.039V	3.338V	5.045V	70.116				38.04°C	229.93V
80W	5.656A	1.091A	1.087A	0.496A	79.931	87.789%	908	19.6	39.37°C	0.782
	12.076V	5.039V	3.338V	5.042V	91.049				43.24°C	229.93V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	20.28mV	10.66mV	10.65mV	8.36mV	Pass
20% Load	19.04mV	13.29mV	12.00mV	10.48mV	Pass
30% Load	12.67mV	13.14mV	10.55mV	10.84mV	Pass
40% Load	18.32mV	15.15mV	13.65mV	15.07mV	Pass
50% Load	18.84mV	17.36mV	15.00mV	17.81mV	Pass
60% Load	18.88mV	18.85mV	16.75mV	23.90mV	Pass
70% Load	17.34mV	24.68mV	19.86mV	25.96mV	Pass
80% Load	16.93mV	25.55mV	20.58mV	26.53mV	Pass
90% Load	17.08mV	25.09mV	21.98mV	30.66mV	Pass
100% Load	27.31mV	27.64mV	25.65mV	55.18mV	Pass
110% Load	29.11mV	30.75mV	28.07mV	62.70mV	Pass
Crossload1	25.54mV	17.09mV	19.37mV	11.74mV	Pass
Crossload2	20.64mV	18.50mV	18.36mV	10.68mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	16.31mV	12.88mV	13.91mV	8.11mV	Pass
Crossload4	26.78mV	25.00mV	22.00mV	31.22mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	24.14mV	11.13mV	10.50mV	8.21mV	Pass
20% Load	19.87mV	13.50mV	12.26mV	10.63mV	Pass
30% Load	18.22mV	14.79mV	13.34mV	12.18mV	Pass
40% Load	18.94mV	14.99mV	13.65mV	13.52mV	Pass
50% Load	19.82mV	17.98mV	14.89mV	16.93mV	Pass
60% Load	19.40mV	18.70mV	16.08mV	23.12mV	Pass
70% Load	18.78mV	24.06mV	20.11mV	22.76mV	Pass
80% Load	17.80mV	24.58mV	20.22mV	26.27mV	Pass
90% Load	17.18mV	23.39mV	21.05mV	26.84mV	Pass
100% Load	27.85mV	27.77mV	25.04mV	56.75mV	Pass
110% Load	29.72mV	28.77mV	26.89mV	61.91mV	Pass
Crossload1	25.56mV	16.45mV	19.61mV	11.04mV	Pass
Crossload2	22.70mV	18.03mV	18.20mV	9.14mV	Pass
Crossload3	19.20mV	12.21mV	14.12mV	8.36mV	Pass
Crossload4	28.05mV	23.68mV	21.59mV	31.20mV	Pass

The results above are not used in the certification process

Raijintek Cratos 1200W



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



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

www.cybenetics.com - info@cybenetics.com