



Corsair RM1200x Shift (ATX v3.0)

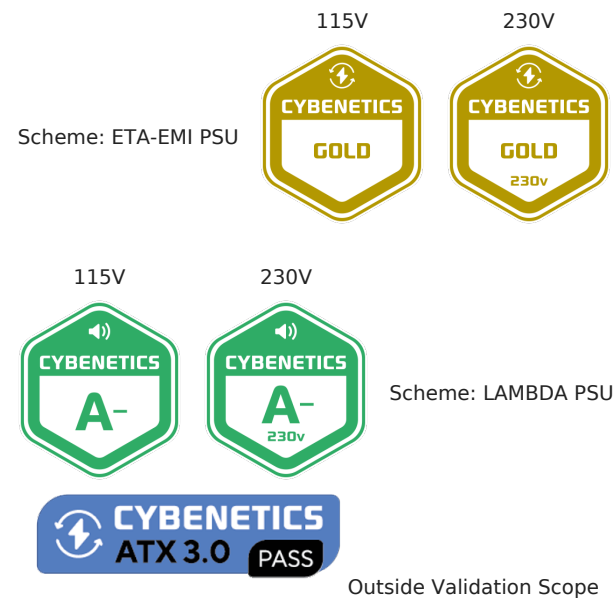
22177117000051930187

Lab ID CR12002030

Certification ID 252030

Test Result Report ID: 22PS2030A

Certificate Issue Date: Jun 20, 2022



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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		RM1200x Shift (ATX v3.0)
OEM/ODM		CWT
Serial Number		22177117000051930187
Product Specifications		
Manufacturer-Provided Information		
 (Vrms)	100-240	
 (Arms)	15-7.5	

□□□□ (Hz)	47-63
□□□□ (W)	1200
Operating Temperature (Continuous Full Load) (°C)	
□□	ATX12V
□□□□	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
□□	140mm Fluid Dynamic Bearing Fan (NR140P)
□□□□	✓
Cybenetics Testing Information	
Lab ID	CR12002030
Date of receipt	Jun 10, 2022
Testing Date	Jun 20, 2022
Report Issued Date	Jun 20, 2022
□□□□	CP-9020254
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

□□□□ (Non-accredited measurements)

□□□□				
□□	□□□□	□□□□	Gauge	In Cable Capacitors
ATX □□ 20+4 pin (610mm)	1	1	16-18AWG	□
4+4 pin EPS 12V □□ (650mm)	2	2	18AWG	□
12 pin PCIe (660mm)	1	1	16AWG	□
6+2pin PCIe□□ (660mm)	4	4	16AWG	□
6+2pin PCIe□□ (660mm+100mm)	2	4	16-18AWG	□
SATA□□ (460mm+110mm+110mm+110mm)	4	16	18AWG	□

4pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG	
AC Power Cord (1400mm) - C13 coupler	1	1	16AWG	-

		3.3V	5V	12V	5VSB	-12V
		20	20	100	3	0
		150		1200	15	0
	(W)	1200				

Parts Description

General Data	-
Manufacturer (OEM)	CWT
PCB Type	Double Sided
Primary Side	-
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK25150 (15 Ohm) & Relay
Bridge Rectifier(s)	2x LVB2560 (600V, 25A @ 105°C)
APFC MOSFETs	3x Infineon IPA60R099P6 (600V, 24A @ 100°C, Rds(on): 0.099Ohm) & 1x Sync Power SPN5003 FET (for reduced no-load consumption)
APFC Boost Diode	2x On Semiconductor FFSP0865A (650V, 8A @ 155°C)
Bulk Cap(s)	2x Nippon Chemi-Con (400V, 560uF & 680uF each or 1,240uF compined, 2,000h @ 105°C, KMR)
Main Switchers	4x Infineon IPA60R125P6 (600V, 19A @ 100°C, Rds(on): 0.125Ohm)
Driver IC(s)	Champion CM6500UN
Digital Controllers	Champion CU6901VAC
Topology	Primary side: APFC, Full-bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	8x Infineon BSC014N06NS (60V, 152A @ 100°C, Rds(on): 1.45mOhm)
5V & 3.3V	DC-DC Converters: 4x UBIQ QN3107M6N (30V, 70A @ 100°C, Rds(on): 2.6mOhm) PWM Controllers: UPI-Semi uP3861P
Filtering Capacitors	Electrolytic: 4x Nichicon (2-5,000h @ 105°C, HD), 1x Nichicon (5-6,000h @ 105°C, HV), 1x Nippon Chemi-Con (1-5,000h @ 105°C, KZE), 1x Nippon Chemi-Con (4-10,000h @ 105°C, KYA), 4x Nichicon (4-10,000h @ 105°C, HE) Polymer: 29x FPCAP, 11x Nippon Chemi-Con

Supervisor IC	Weltrend WT7502R
Fan controller	Microchip PIC16F1503
Fan Model	Corsair NR140P (140mm, 12V, 0.22A, Fluid Dynamic Bearing Fan)
5VSB Circuit	-
Rectifier	1x PS1045L SBR (45V, 10A)
Standby PWM Controller	On-Bright OB2365T

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 v3.0 Compliance	✓

Performance Summary

115V

Accredited	
□□□□ (>1450 load combinations)	88.139%
Average Noise Output (>1450 Load Combinations)	29.40dBA
PF□□□ (>1450 Load Combinations)	0.989
Efficiency With 10W (≤500W) or 2% (>500W) Load	76.635%
□□□□□	0.0211W
Non-Accredited	
12V Ripple (Full Load)	29.51mV
5V Ripple (Full Load)	19.76mV
3.3V Ripple (Full Load)	22.42mV
5VSB Ripple (Full Load)	21.07mV

12V Load Regulation	0.72%
5V Load Regulation	0.42%
3.3V Load Regulation	1.19%
5VSB Load Regulation	1.68%
Inrush Current	13.720A

230V

Accredited		
THD (%) (>1450 load combinations)	89.941%	
Average Noise Output (>1450 Load Combinations)	29.36dBA	
PF (%) (>1450 Load Combinations)	0.963	
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.701%	
THD (%)	0.0929W	
Non-Accredited		
12V Ripple (Full Load)	30.25mV	
5V Ripple (Full Load)	19.30mV	
3.3V Ripple (Full Load)	23.32mV	
5VSB Ripple (Full Load)	20.38mV	
12V Load Regulation	0.82%	
5V Load Regulation	0.46%	
3.3V Load Regulation	1.16%	
5VSB Load Regulation	1.66%	
Inrush Current	25.760A	
12V Transient Response (200%)	11.27V	
5V Transient Response (200%)	4.923V	
3.3V Transient Response (200%)	3.151V	
5VSB Transient Response (200%)	4.960V	
THD (%) & PG (%)	23.80ms	
AC Loss to PWR_OK Hold Up Time	21.00ms	
PWR_OK Inactive to DC Loss Delay	2.80ms	
PSU Timings: T1 (20% / 100%)	54.0ms	54.0ms
PSU Timings: T3 (20% / 100%)	136.0ms	136.0ms

OPP (30.36°C / 41.73°C)	124.12%	124.12%
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|||| & PG||

Hold-Up Time (ms)	23.8
AC Loss to PWR_OK Hold Up Time (ms)	21
PWR_OK Inactive to DC Loss Delay (ms)	2.8

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Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.13 V	115.10 V	113.85 V	115.18 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	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.021 W	0.016 W	N/A	0.026 W	N/A	N/A
Apparent Power:	12.577 W	12.536 W	N/A	12.619 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

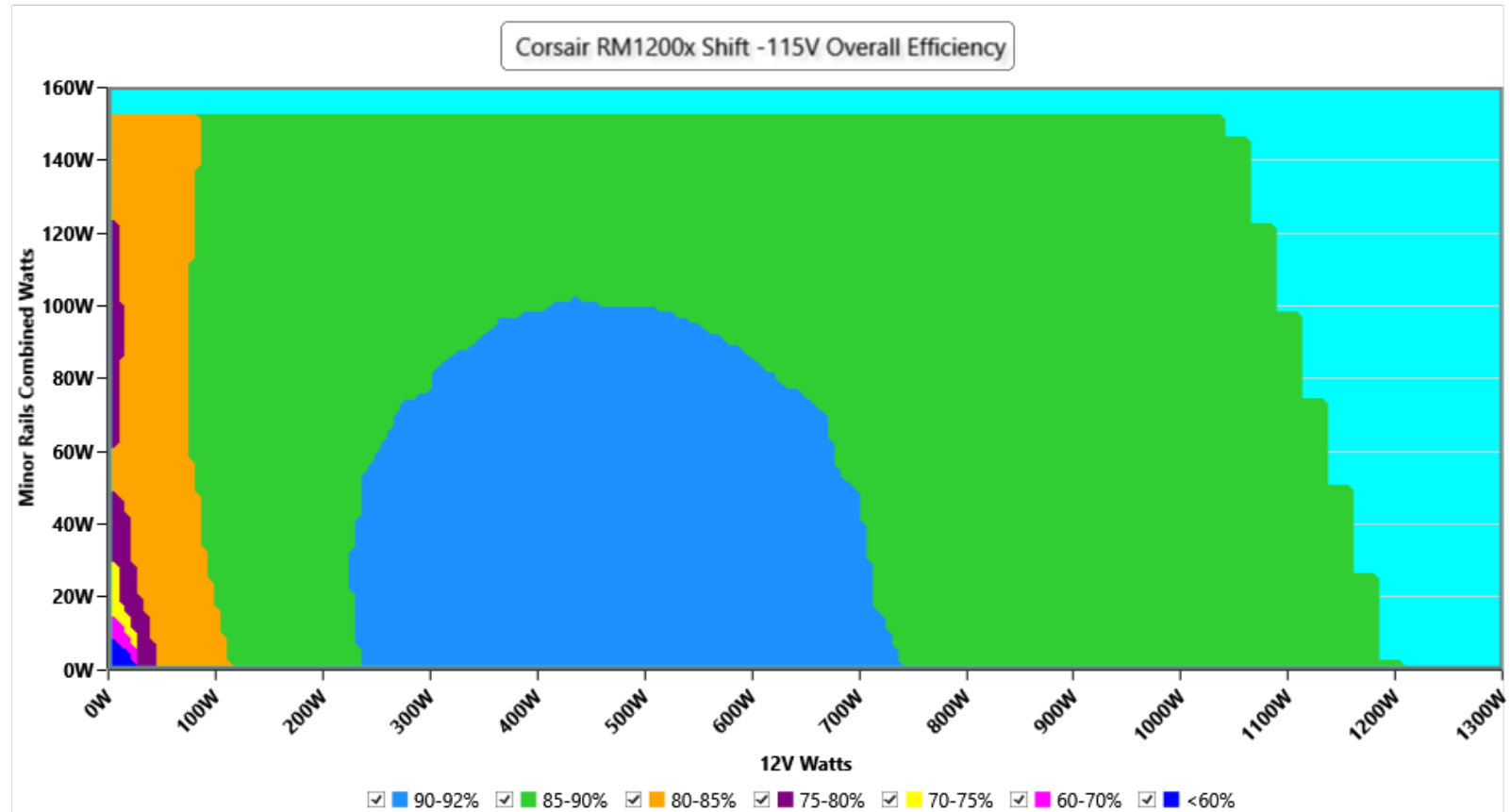
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	230.29 V	230.17 V	227.70 V	230.35 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:	1.416	1.415	1.340	1.417	1.490	PASS
Mains Voltage THD:	0.13 %	0.10 %	N/A	0.22 %	2.00 %	PASS

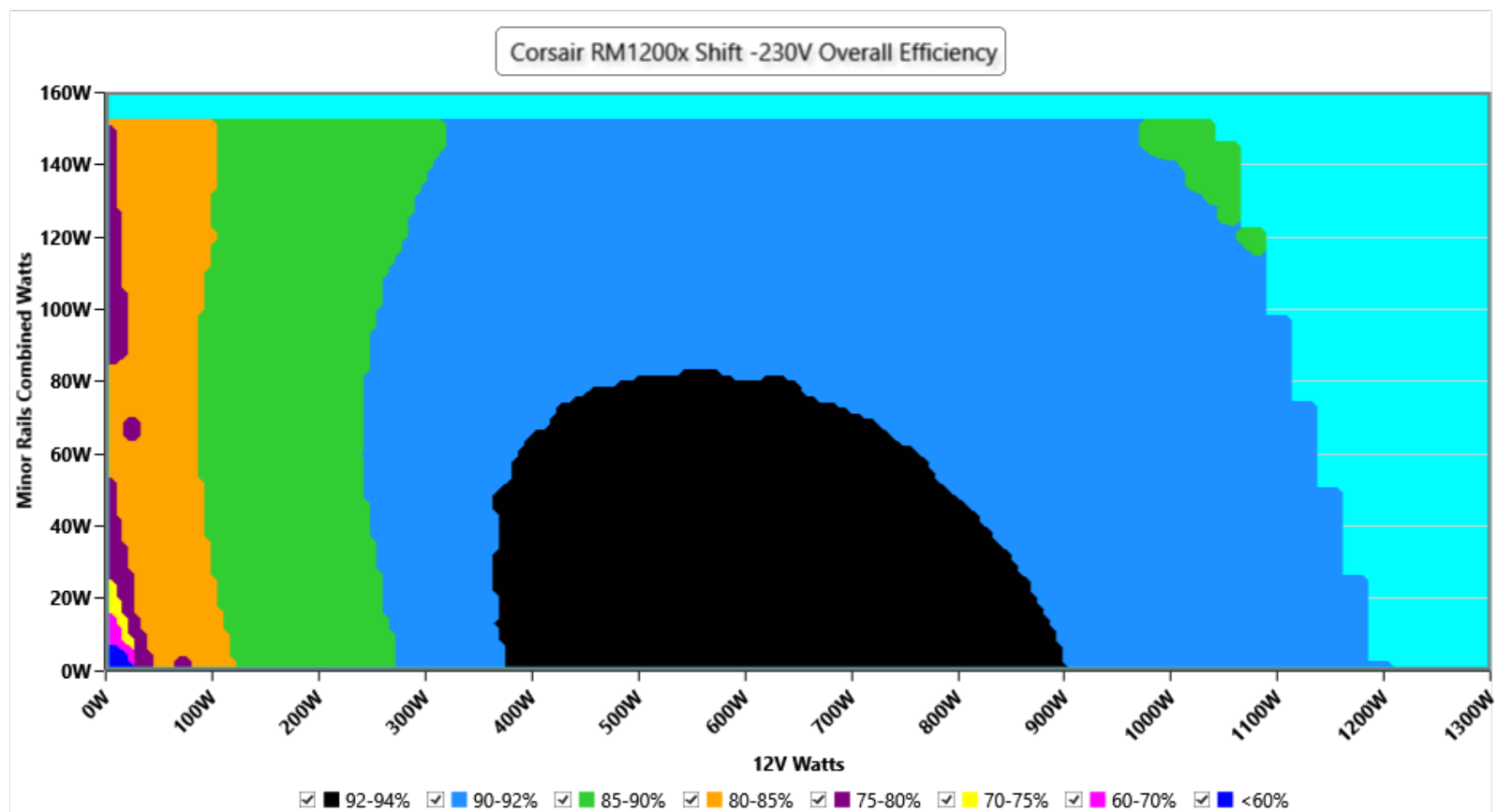
Real Power:	0.093 W	0.083 W	N/A	0.107 W	N/A	N/A
Apparent Power:	42.795 W	42.555 W	N/A	43.014 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A



115V



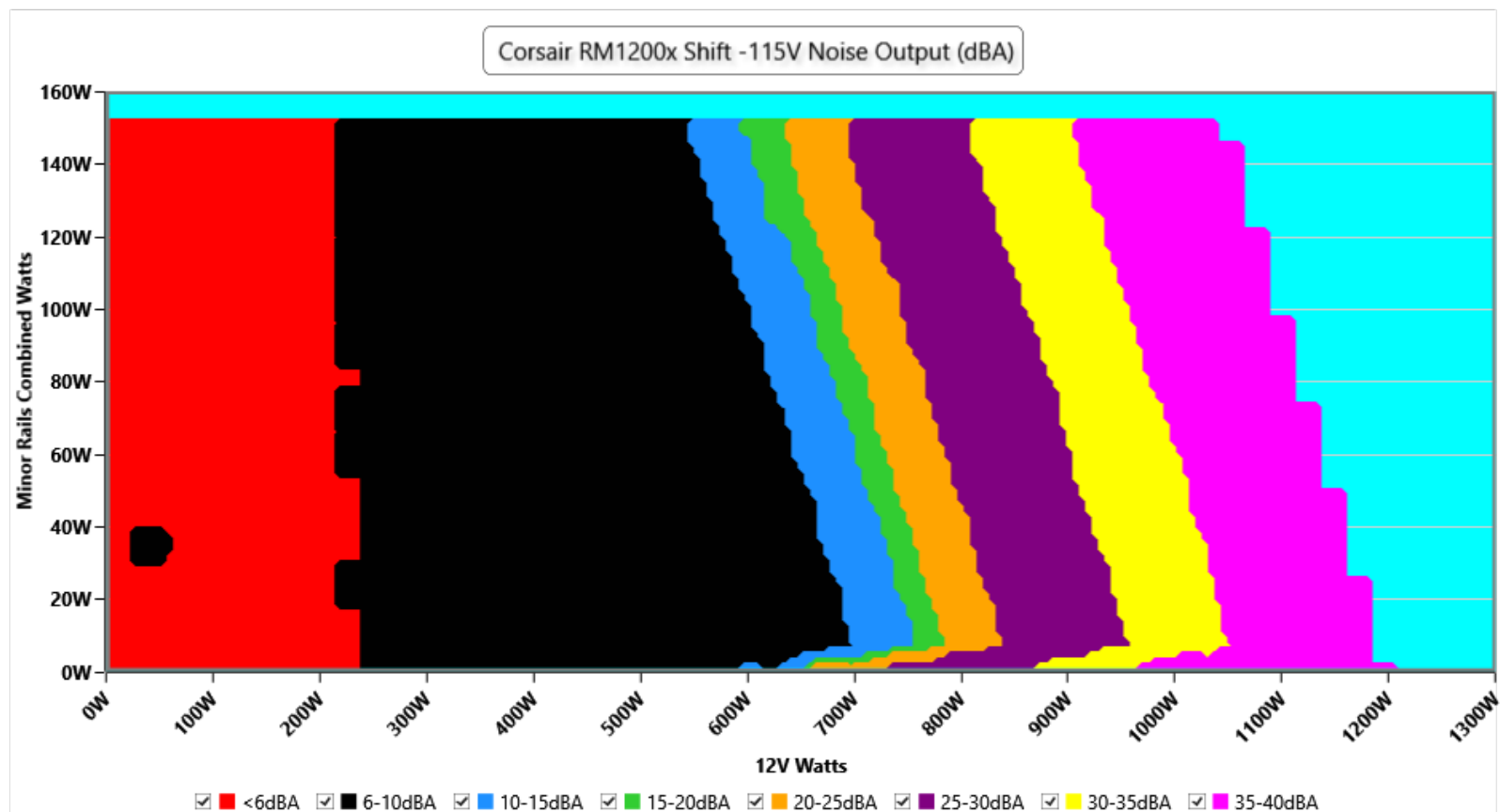
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



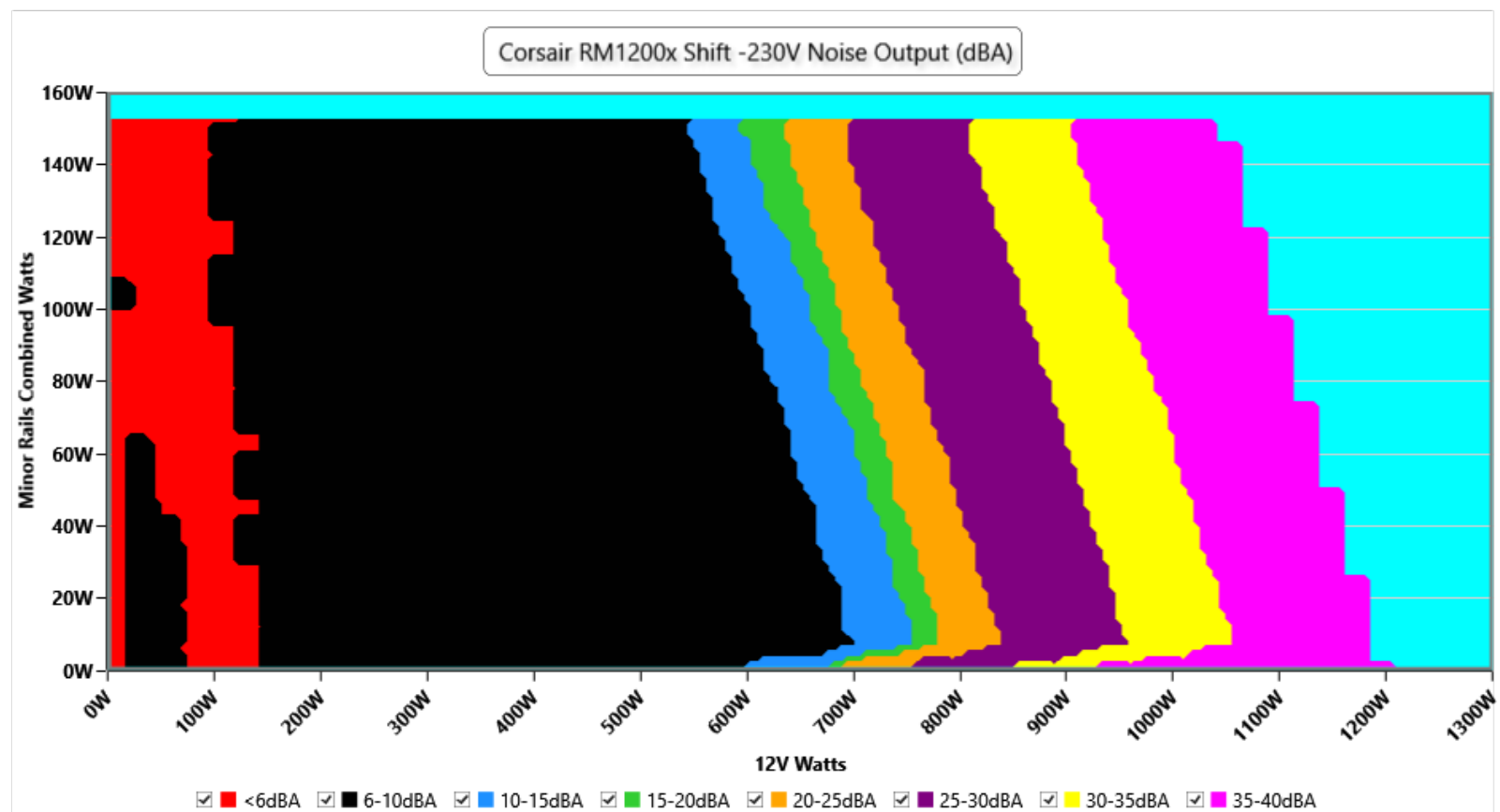
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



115V

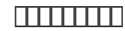


The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails



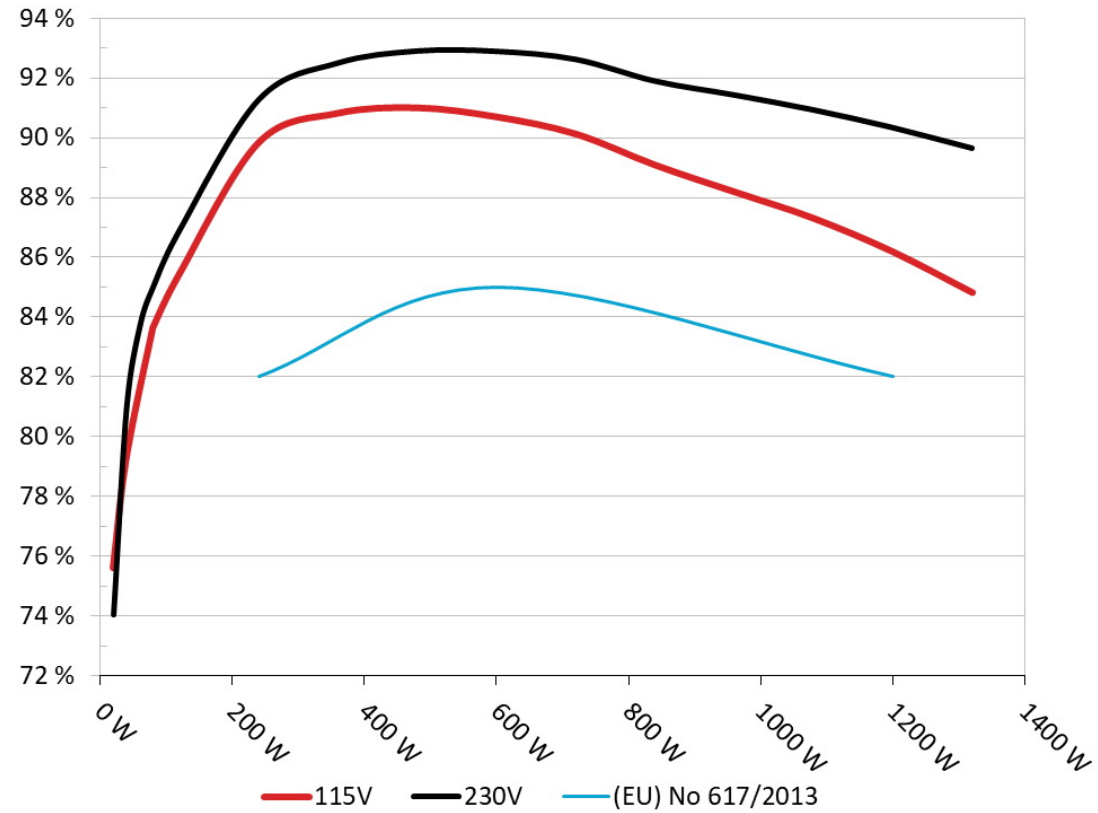
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance



Efficiency: Corsair RM1200x (Shift)

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

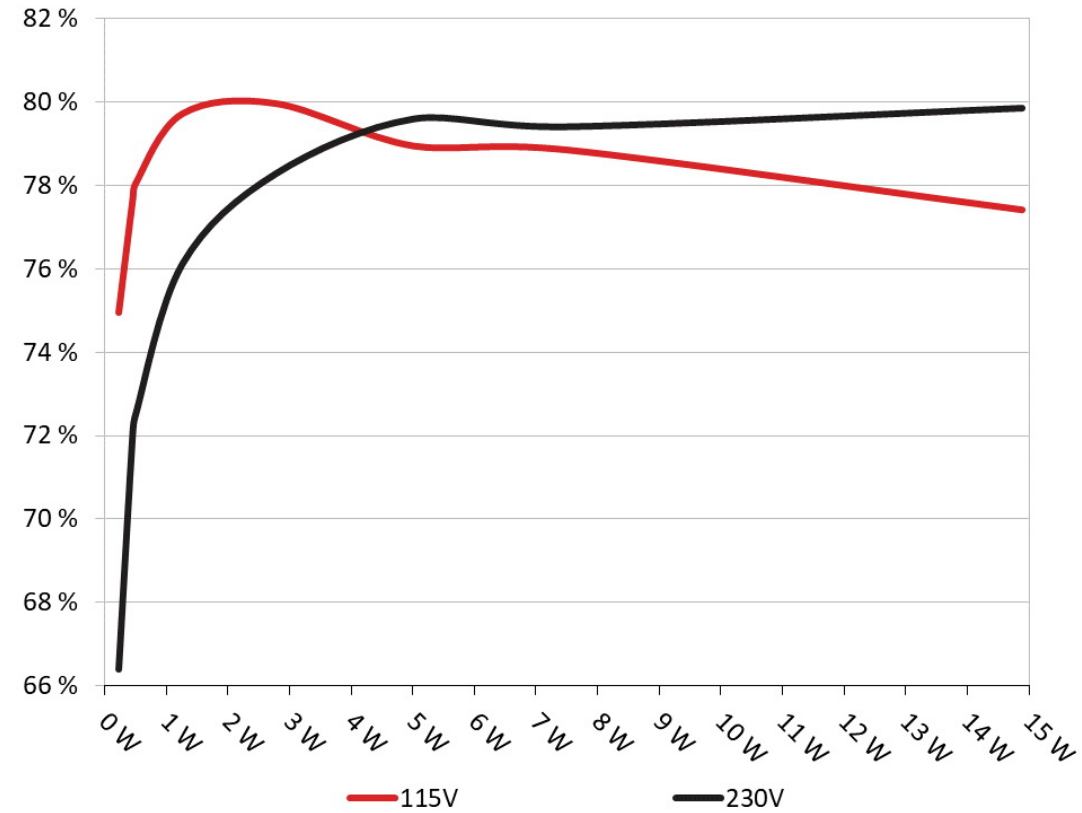


The PSU's efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5Vsb

5VSB Efficiency: Corsair RM1200x (Shift)

Ambient: 34°C - 36°C (93.2°F - 96.8°F)



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	0.227W	74.941%	0.025
	5.036V	0.303W		115.15V
2	0.09A	0.453W	77.647%	0.047
	5.035V	0.583W		115.15V
3	0.55A	2.764W	79.961%	0.24
	5.023V	3.457W		115.15V
4	1A	5.013W	78.938%	0.36
	5.012V	6.351W		115.15V
5	1.5A	7.499W	78.844%	0.437
	4.999V	9.511W		115.14V
6	3.001A	14.881W	77.407%	0.531
	4.959V	19.224W		115.14V

230V

#	5VSB	DC/AC ()		PF/AC
1	0.045A	0.227W	66.41%	0.008
	5.036V	0.342W		230.33V
2	0.09A	0.453W	72.042%	0.015
	5.035V	0.629W		230.33V
3	0.55A	2.764W	78.262%	0.084
	5.023V	3.532W		230.32V
4	1A	5.011W	79.585%	0.143
	5.01V	6.297W		230.33V
5	1.5A	7.499W	79.397%	0.203
	4.998V	9.445W		230.32V
6	3.001A	14.881W	79.843%	0.325
	4.959V	18.638W		230.32V

Supplementary Tests (For Reference)

10-110%

115V

	12V	5V	3.3V	5VSB	DC/AC ()		(RPM)	(dB[A])	(/)	PF/AC
10%	8.226A	1.972A	1.997A	1.001A	120.031	85.446%	0	<6.0	44.53°C	0.959
	11.965V	5.072V	3.305V	4.997V	140.474				40.22°C	115.1V
20%	17.509A	2.959A	2.999A	1.204A	240.007	89.839%	0	<6.0	45.51°C	0.98
	11.943V	5.071V	3.301V	4.983V	267.152				40.66°C	115.07V
30%	27.088A	3.453A	3.503A	1.409A	359.471	90.822%	0	<6.0	46.32°C	0.988
	11.940V	5.069V	3.298V	4.97V	395.799				41.2°C	115.03V
40%	36.735A	3.946A	4.008A	1.614A	479.83	91.007%	0	<6.0	47.16°C	0.991
	11.940V	5.069V	3.294V	4.956V	527.249				41.4°C	115V
50%	45.968A	4.934A	5.016A	1.821A	599.583	90.705%	490	7.4	42.33°C	0.993
	11.945V	5.068V	3.29V	4.944V	661.023				48.35°C	114.96V
60%	55.356A	5.926A	6.026A	2A	720.007	90.131%	590	11.6	42.74°C	0.995
	11.928V	5.064V	3.286V	4.949V	798.84				49.52°C	114.92V
70%	64.461A	6.918A	7.039A	2.199A	839.844	89.095%	798	22.1	43.24°C	0.996
	11.957V	5.061V	3.282V	5.003V	942.641				50.83°C	114.88V
80%	73.919A	7.912A	8.054A	2.303A	959.843	88.199%	1004	29.7	43.8°C	0.996
	11.931V	5.058V	3.278V	4.995V	1088.274				52.02°C	114.84V
90%	83.572A	8.409A	8.551A	2.408A	1079.657	87.315%	1180	34.6	44.39°C	0.997
	11.931V	5.056V	3.274V	4.984V	1236.505				53.62°C	114.79V
100%	93.067A	8.908A	9.081A	3.026A	1199.696	86.194%	1356	38.2	45.61°C	0.997
	11.926V	5.054V	3.27V	4.958V	1391.87				55.64°C	114.75V
110%	102.487A	9.902A	10.194A	3.032A	1320.307	84.829%	1661	43.1	47.03°C	0.993
	11.923V	5.052V	3.266V	4.949V	1556.459				57.91°C	114.72V
CL1	0.118A	17.84A	18.117A	0A	151.341	80.798%	487	7.2	42.68°C	0.971
	11.957V	5.063V	3.29V	5.005V	187.305				48.24°C	115.09V

CL2	0.117A	19.75A	0A	0A	101.44	79.434%	492	7.5	43.31°C	0.958
	11.973V	5.065V	3.304V	5.02V	127.701				50.11°C	115.1V
CL3	0.117A	0A	20.065A	0A	67.396	75.001%	489	7.3	44.11°C	0.957
	12.014V	5.076V	3.289V	5.016V	89.857				52.12°C	115.11V
CL4	100.686A	0A	0A	0.001A	1200.135	87.034%	1373	38.6	45.02°C	0.997
	11.919V	5.063V	3.279V	5.053V	1378.933				55.01°C	114.76V

The results above are not used in the certification process

230V

□□	12V	5V	3.3V	5VSB	DC/AC (□)	□□	□□□ (RPM)	□□□□□ (dB[A])	□□ (□□ /□□)	PF/AC □□
10%	8.220A	1.971A	1.997A	1.001A	120.043	86.913%	0	<6.0	45.04°C	0.882
	11.976V	5.073V	3.305V	4.995V	138.123				40.01°C	230.28V
20%	17.493A	2.958A	3A	1.205A	240.023	91.282%	0	<6.0	45.91°C	0.942
	11.954V	5.071V	3.301V	4.982V	262.95				40.55°C	230.27V
30%	27.072A	3.452A	3.504A	1.409A	359.505	92.501%	0	<6.0	47.02°C	0.96
	11.947V	5.07V	3.297V	4.969V	388.648				41.21°C	230.26V
40%	36.721A	3.946A	4.009A	1.615A	479.854	92.905%	0	<6.0	47.91°C	0.968
	11.945V	5.069V	3.293V	4.956V	516.503				41.81°C	230.24V
50%	45.972A	4.935A	5.017A	1.821A	599.59	92.893%	489	7.3	42.11°C	0.974
	11.944V	5.067V	3.289V	4.944V	645.452				48.61°C	230.23V
60%	55.347A	5.926A	6.028A	2A	720.021	92.624%	590	11.6	42.63°C	0.978
	11.930V	5.063V	3.285V	4.949V	777.364				49.67°C	230.21V
70%	64.484A	6.919A	7.041A	2.2A	839.855	91.899%	798	22.1	43.59°C	0.983
	11.952V	5.06V	3.282V	5.003V	913.894				51.25°C	230.2V
80%	73.921A	7.913A	8.056A	2.303A	959.843	91.434%	1004	29.7	43.85°C	0.985
	11.931V	5.057V	3.277V	4.995V	1049.768				51.95°C	230.18V
90%	83.605A	8.411A	8.554A	2.408A	1079.653	90.935%	1181	34.6	44.8°C	0.987
	11.927V	5.055V	3.274V	4.985V	1187.282				54.03°C	230.16V
100%	93.130A	8.91A	9.083A	3.025A	1199.693	90.342%	1358	38.2	45.42°C	0.989
	11.918V	5.053V	3.27V	4.959V	1327.934				55.45°C	230.14V

110%	102.522A	9.903A	10.197A	3.032A	1320.305	89.653%	1668	43.3	46.58°C	0.99
	11.919V	5.051V	3.266V	4.949V	1472.685				57.51°C	230.12V
CL1	0.118A	17.843A	18.119A	0A	151.343	82.307%	487	7.2	42.91°C	0.911
	11.951V	5.063V	3.289V	5.006V	183.88				48.45°C	230.28V
CL2	0.117A	19.751A	0A	0A	101.443	80.855%	486	7.2	43.58°C	0.871
	11.965V	5.065V	3.305V	5.02V	125.46				49.86°C	230.28V
CL3	0.117A	0A	20.064A	0A	67.397	75.797%	489	7.3	44.74°C	0.811
	12.009V	5.076V	3.289V	5.016V	88.924				52.05°C	230.28V
CL4	100.703A	0A	0A	0.001A	1200.124	90.921%	1375	38.7	45.48°C	0.989
	11.917V	5.063V	3.279V	5.054V	1319.969				55.45°C	230.14V

The results above are not used in the certification process

20-80mm

115V

□	12V	5V	3.3V	5VSB	DC/AC ()	□	□ (RPM)	□ (dB[A])	□ (□ /□)	PF/AC □
20W	1.238A	0.493A	0.499A	0.199A	20.013	75.63%	0	<6.0	39.77°C	0.851
	12.006V	5.075V	3.309V	5.027V	26.458				36.67°C	115.13V
40W	2.724A	0.69A	0.698A	0.299A	40.012	79.321%	0	<6.0	40.59°C	0.943
	12.006V	5.074V	3.308V	5.023V	50.441				37.2°C	115.12V
60W	4.210A	0.887A	0.898A	0.399A	60.012	83.655%	0	<6.0	41.79°C	0.965
	12.003V	5.073V	3.308V	5.019V	71.735				38.13°C	115.12V
80W	5.689A	1.084A	1.098A	0.499A	79.977	84.004%	0	<6.0	43.91°C	0.956
	12.012V	5.073V	3.307V	5.015V	95.204				39.99°C	115.11V

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	0.493A	0.499A	0.199A	20.024	74.036%	0	<6.0	40.27°C	0.43
	12.012V	5.076V	3.308V	5.026V	27.046				37.17°C	230.29V
40W	2.722A	0.69A	0.698A	0.299A	40.02	81.048%	0	<6.0	41.27°C	0.634
	12.013V	5.075V	3.308V	5.022V	49.38				37.7°C	230.29V
60W	4.208A	0.887A	0.898A	0.399A	60.018	83.708%	0	<6.0	42.35°C	0.75
	12.010V	5.075V	3.307V	5.018V	71.701				38.34°C	230.29V
80W	5.689A	1.084A	1.098A	0.499A	79.99	85.011%	0	<6.0	42.83°C	0.824
	12.016V	5.074V	3.306V	5.014V	94.098				38.53°C	230.29V

The results above are not used in the certification process



115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	10.13mV	5.31mV	7.00mV	6.60mV	Pass
20% Load	19.21mV	9.40mV	9.62mV	8.50mV	Pass
30% Load	17.37mV	13.38mV	14.78mV	9.88mV	Pass
40% Load	13.15mV	9.60mV	10.74mV	11.62mV	Pass
50% Load	14.22mV	9.35mV	12.27mV	12.43mV	Pass
60% Load	15.05mV	11.08mV	13.45mV	13.46mV	Pass
70% Load	17.50mV	12.61mV	15.80mV	15.66mV	Pass
80% Load	19.24mV	22.11mV	25.11mV	17.35mV	Pass
90% Load	21.85mV	15.99mV	19.94mV	20.52mV	Pass
100% Load	29.51mV	19.76mV	22.42mV	21.07mV	Pass
110% Load	31.34mV	21.53mV	25.05mV	25.84mV	Pass
Crossload1	24.87mV	7.51mV	11.40mV	8.08mV	Pass
Crossload2	6.81mV	5.98mV	7.21mV	6.86mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	15.81mV	8.84mV	12.38mV	8.50mV	Pass
Crossload4	29.10mV	17.69mV	20.60mV	17.04mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	12.33mV	5.46mV	7.11mV	7.21mV	Pass
20% Load	22.13mV	8.48mV	9.16mV	8.80mV	Pass
30% Load	20.34mV	14.51mV	15.34mV	9.67mV	Pass
40% Load	12.71mV	11.19mV	11.66mV	11.11mV	Pass
50% Load	13.35mV	11.54mV	14.78mV	12.38mV	Pass
60% Load	15.30mV	10.78mV	13.55mV	13.31mV	Pass
70% Load	17.40mV	13.89mV	17.69mV	15.40mV	Pass
80% Load	18.93mV	21.50mV	24.03mV	16.83mV	Pass
90% Load	21.19mV	19.92mV	23.27mV	18.22mV	Pass
100% Load	30.25mV	19.30mV	23.32mV	20.38mV	Pass
110% Load	32.07mV	21.76mV	25.10mV	22.62mV	Pass
Crossload1	24.25mV	7.61mV	10.82mV	8.02mV	Pass
Crossload2	6.70mV	6.18mV	7.21mV	6.34mV	Pass
Crossload3	15.15mV	9.65mV	12.89mV	8.09mV	Pass
Crossload4	30.00mV	17.62mV	20.21mV	17.62mV	Pass

The results above are not used in the certification process

Corsair RM1200x Shift (ATX v3.0)



Top side

MODEL / MODELO / 型号 / 型號 / 모델: RPS0162				
POWER SUPPLY / FUENTE DE ALIMENTACIÓN / 전원 공급 장치				
PART NUMBER: CP-9020254 / 75-005193				
交流輸入 直流輸出 最大電流 最大電流 最大台特數	AC INPUT AC 입력 Entrada de CA	100-240V a.c. • 15-7.5A • 47-63Hz 200-240V a.c. (仅限中国地区使用, Only for Korea) • 10A • 47-63Hz		
	DC OUTPUT DC 출력 Salida de CC	+3.3V	+5V	+12V +5Vsb
	MAX LOAD 최대 부하 Carga Máximo	20A	20A	100A 3A
	MAX POWER 최대 결합 와트 Wataje Combinado Máximo	150W		1200W 15W
TOTAL POWER: 1200W PODER TOTAL / 总功率 / 總功率				
 Ravari geprüft Sicherheit Regelmäßige Produktions- überwachung www.tuv.com ID 100000000  www.tuv.com ID 0000100000  C  US  R39708 RoHS				

Power specifications label

XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

Cybenetics

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

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