

Lab ID#: CR12002030
Receipt Date: Jun 10, 2022
Test Date: Jun 20, 2022

Report: 22PS2030A

Report Date: Jun 20, 2022

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	CWT
Series	Shift
Model Number	RPS0162
Serial Number	22177117000051930187
DUT Notes	CP-9020254

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-7.5
Rated Frequency (Hz)	47-63
Rated Power (W)	1200
Type	ATX12V
Cooling	140mm Fluid Dynamic Bearing Fan (NR140P)
Semi-Passive Operation	✓
Cable Design	Fully Modular

TEST EQUIPMENT

Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX 3.0 Ready	✓

115V

Average Efficiency	88.139%
Efficiency With 10W (≤500W) or 2% (>500W)	76.635
Average Efficiency 5VSB	76.245%
Standby Power Consumption (W)	0.0211000
Average PF	0.989
Avg Noise Output	29.40 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

230V

Average Efficiency	89.941%
Average Efficiency 5VSB	78.380%
Standby Power Consumption (W)	0.0929000
Average PF	0.963
Avg Noise Output	29.36 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	100	3	0
	Watts	150		1200	15	0
Total Max. Power (W)		1200				

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CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (610mm)	1	1	16-18AWG	No
4+4 pin EPS12V (650mm)	2	2	18AWG	No
12 pin PCIe (660mm)	1	1	16AWG	No
6+2 pin PCIe (660mm)	4	4	16AWG	No
6+2 pin PCIe (660mm+100mm)	2	4	16-18AWG	No
SATA (460mm+110mm+110mm+110mm)	4	16	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	2	8	18AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	16AWG	-

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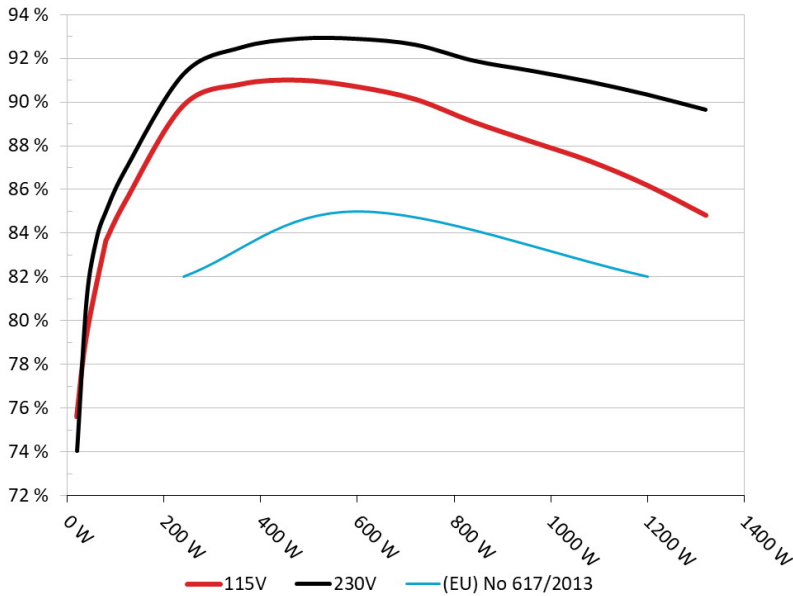
General Data	-
Manufacturer (OEM)	CWT
PCB Type	Double Sided
Primary Side	-
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK25150 (15 Ohm) & Relay
Bridge Rectifier(s)	2x LVB2560 (600V, 25A @ 105°C)
APFC MOSFETs	3x Infineon IPA60R099P6 (600V, 24A @ 100°C, 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

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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair RM1200x (Shift)
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

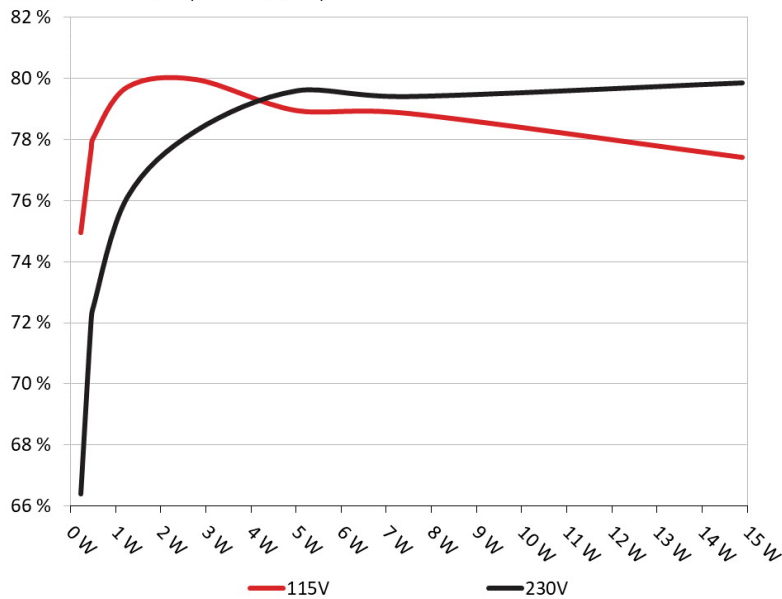


INFO

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: Corsair RM1200x (Shift)
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

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
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

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
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

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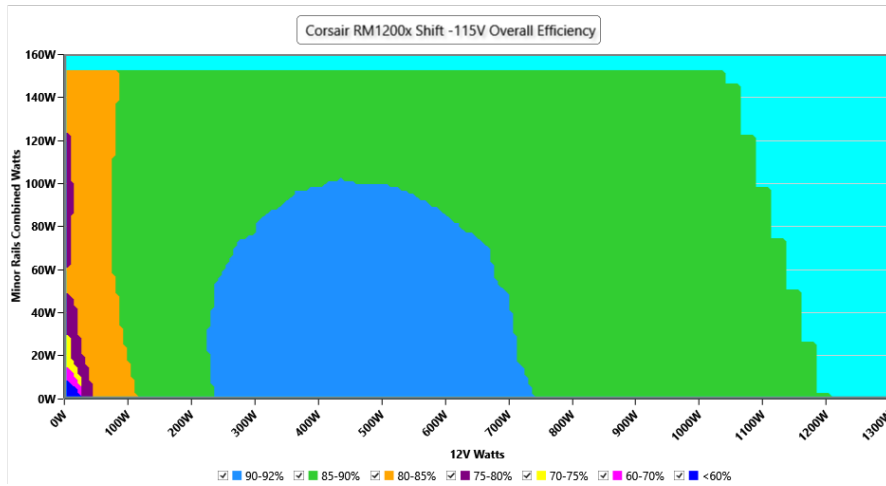
115V

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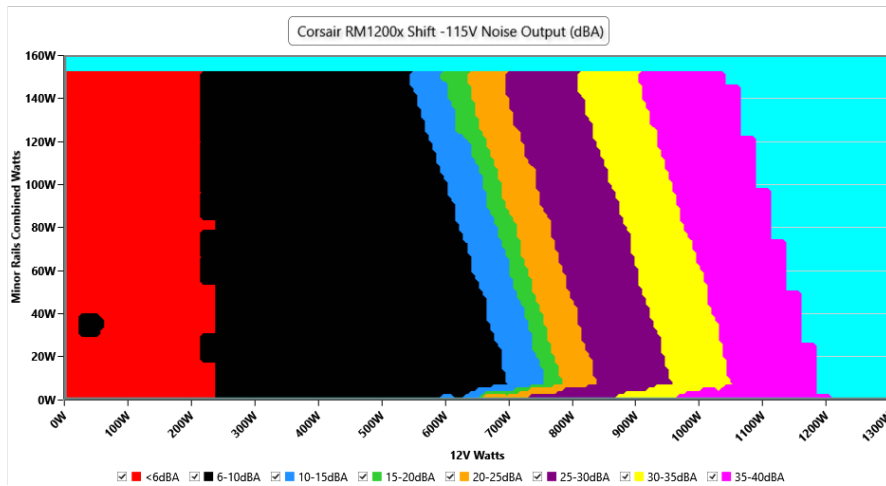
EFFICIENCY GRAPH 115V



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 (+2 °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

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VAMPIRE POWER -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

INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 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%	8.226A	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
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
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

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230V

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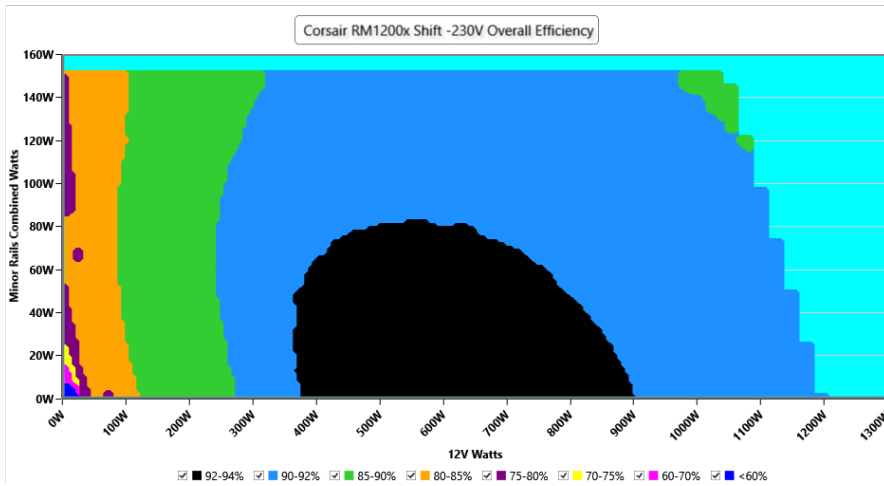
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EFFICIENCY GRAPH 230V

INFO

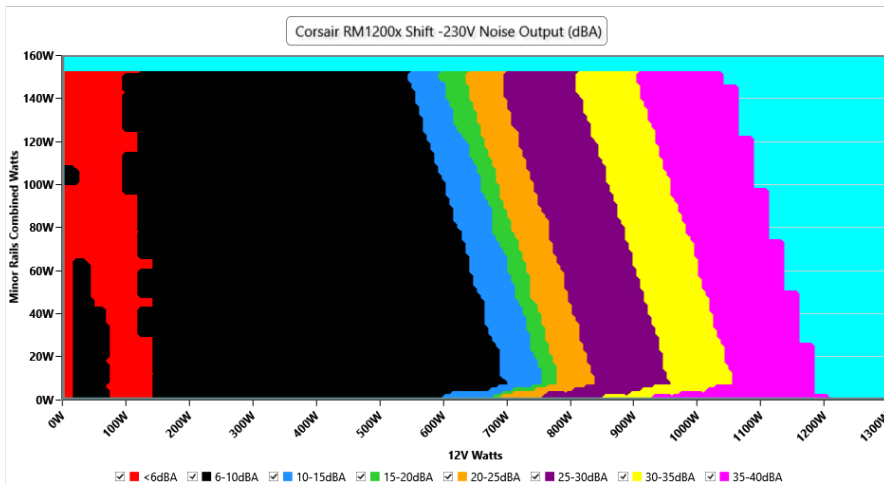
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



NOISE GRAPH 230V

INFO

The PSU's noise in its entire operational range and under 30-32 °C (+2 °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



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VAMPIRE POWER -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

INFO

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 230V

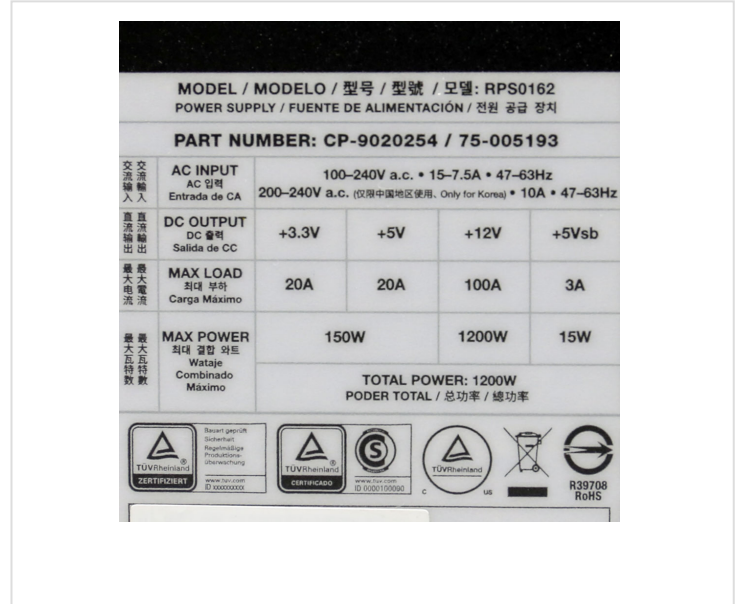
Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	8.220A	1.971A	1.997A	1.001A	120.043	86.913%	0	<6.0	45.04°C	0.882
	11.976V	5.073V	3.305V	4.995V	138.123				40.01°C	230.28V
20%	17.493A	2.958A	3A	1.205A	240.023	91.282%	0	<6.0	45.91°C	0.942
	11.954V	5.071V	3.301V	4.982V	262.95				40.55°C	230.27V
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
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

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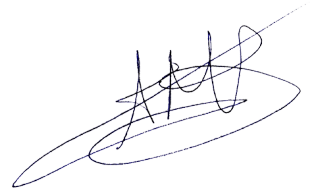


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Power specifications label

CERTIFICATIONS 115V

Aris Mpitsiopoulos
Lab Director

CERTIFICATIONS 230V



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