

Lab ID#: CR75002089
Receipt Date: Oct 29, 2022
Test Date: Nov 14, 2022

Report: 22PS2089A
Report Date: Nov 14, 2022

DUT INFORMATION	
Brand	Corsair
Manufacturer (OEM)	HEC
Series	RMe
Model Number	RPS0177
Serial Number	C04703166
DUT Notes	CP-9020262

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	750
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (HA1225H12F-Z)
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 v3.0 PSU Power Excursion	✓

115V

Average Efficiency	89.023%
Efficiency With 10W (≤500W) or 2% (>500W)	72.881
Average Efficiency 5VSB	77.618%
Standby Power Consumption (W)	0.0409000
Average PF	0.985
Avg Noise Output	28.17 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A-

230V

Average Efficiency	90.871%
Average Efficiency 5VSB	77.466%
Standby Power Consumption (W)	0.0951000
Average PF	0.951
Avg Noise Output	27.51 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	62.5	3	0
	Watts	110		750	15	0
Total Max. Power (W)		750				

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CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-20AWG	No
4+4 pin EPS12V (640mm)	2	2	18AWG	No
6+2 pin PCIe (590mm+150mm)	1	2	16-18AWG	No
6+2 pin PCIe (590mm)	1	1	16AWG	No
12+4 pin PCIe (650mm) (600W)	1	1	16-24AWG	No
SATA (500mm+100mm+100mm)	1	3	18AWG	No
SATA (460mm+115mm+115mm+115mm)	1	4	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No
AC Power Cord (1380mm) - C13 coupler	1	1	18AWG	-

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General Data	-
Manufacturer (OEM)	HEC
PCB Type	Double Sided
Primary Side	-
Transient Filter	4x Y caps, 3x X caps, 2x CM chokes, 1x MOV, 1x Power Integrations CAP200DG (Discharge IC)
Inrush Protection	NTC Thermistor SCK-037 (3 Ohm) & Relay
Bridge Rectifier(s)	2x GBU10K (800V, 10A @ 100°C)
APFC MOSFETs	2x Infineon IPA60R120P7 (600V, 16A @ 100°C, Rds(on): 0.12Ohm)
APFC Boost Diode	1x CREE C6D06065A (650V, 6A @ 155°C)
Bulk Cap(s)	1x Teapo (400V, 470uF, 2,000h @ 105°C, LG)
Main Switchers	2x Infineon IPA60R120P7 (600V, 16A @ 100°C, Rds(on): 0.12Ohm)
APFC Controller	Champion CM6500UN & CM03AX
Resonant Controller	Champion CM6901T6X
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETs	no info
5V & 3.3V	DC-DC Converters: 8x Potens Semiconductor PDD3906 (30V, 51A @ 100°C, Rds(on): 6mOhm) PWM Controller(s): 2x APEC APW7073
Filtering Capacitors	Electrolytic: 11x Teapo (1-3,000h @ 105°C, SC), 1x Nichicon (4-10,000h @ 105°C, HE) Polymer: 4x Elite, 6x Teapo, 10x no info
Supervisor IC	Weltrend WT7527RT (OCP, OVP, UVP, SCP, PG)
Fan Model	Hong Hua HA1225H12F-Z (120mm, 12V, 0.58A, Rifle Bearing Fan)
5VSB Circuit	-
Rectifier	1x PS1060L SBR (60V, 10A)
Standby PWM Controller	Power Integrations TNY290PG

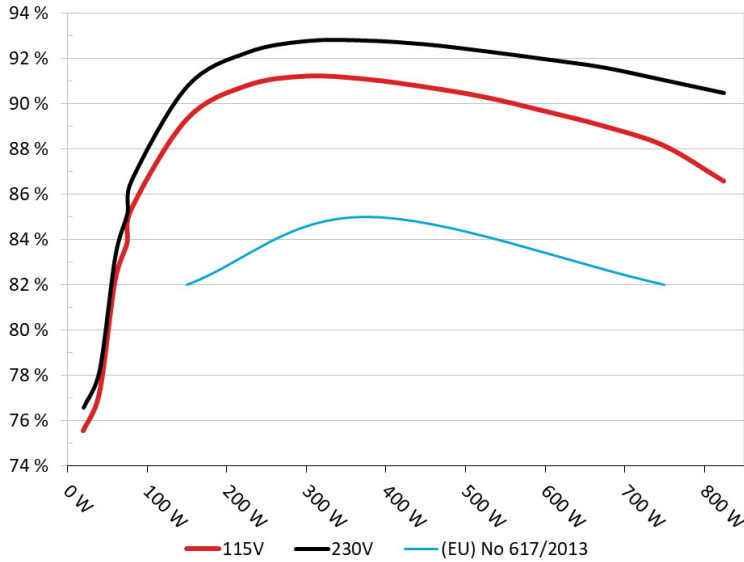
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair RM750e GEN5

Ambient: 33°C - 41°C (91.4°F - 105.8°F)



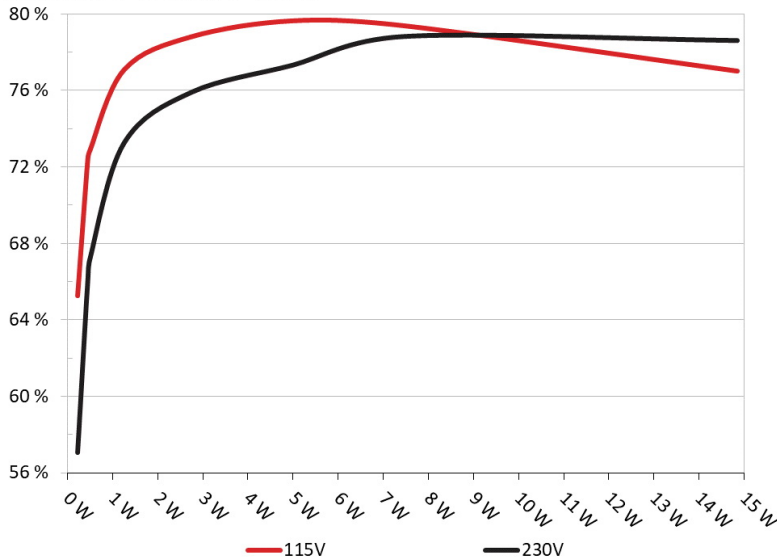
INFO

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: Corsair RM750e GEN5

Ambient: 28°C - 32°C (82.4°F - 89.6°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	0.225W	65.241%	0.039
	5.013V	0.345W		114.85V
2	0.09A	0.451W	72.39%	0.07
	5.011V	0.624W		114.84V
3	0.55A	2.75W	78.797%	0.278
	5V	3.49W		114.86V
4	1A	4.991W	79.631%	0.348
	4.991V	6.268W		114.84V
5	1.5A	7.472W	79.369%	0.395
	4.981V	9.414W		114.84V
6	2.999A	14.849W	76.997%	0.457
	4.951V	19.285W		114.84V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.225W	57.045%	0.013
	5.01V	0.395W		229.89V
2	0.09A	0.451W	66.099%	0.023
	5.01V	0.682W		229.89V
3	0.55A	2.749W	75.908%	0.114
	4.999V	3.621W		229.89V
4	1A	4.99W	77.324%	0.185
	4.99V	6.453W		229.89V
5	1.5A	7.471W	78.829%	0.228
	4.98V	9.478W		229.88V
6	2.999A	14.846W	78.614%	0.328
	4.95V	18.886W		229.89V

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115V

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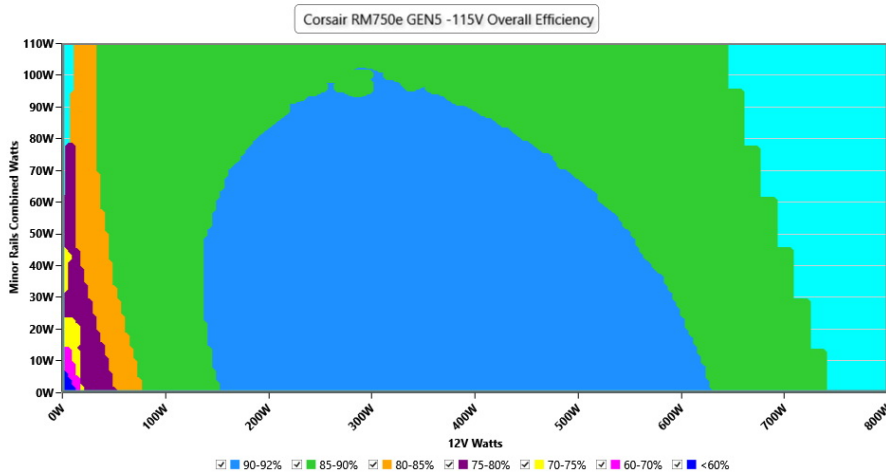
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EFFICIENCY GRAPH 115V

INFO

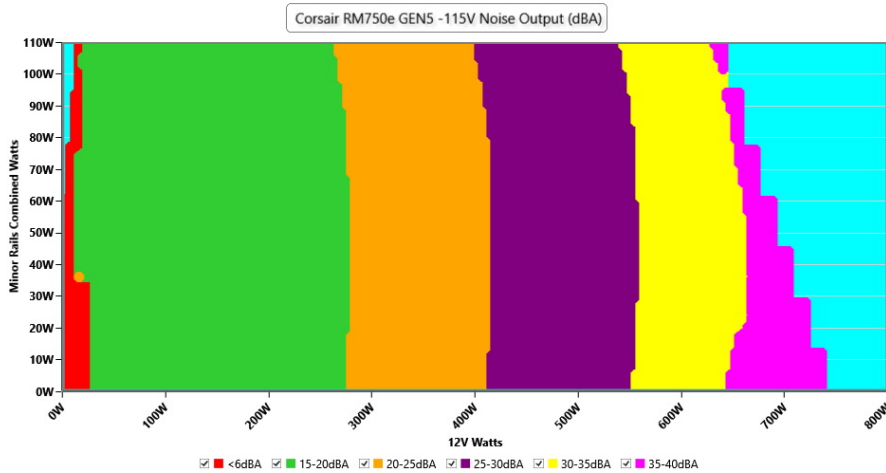
This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations



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:	114.85 V	114.81 V	113.85 V	114.89 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.15 %	0.12 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.041 W	-0.000 W	N/A	0.071 W	N/A	N/A
Apparent Power:	9.359 W	9.328 W	N/A	9.398 W	N/A	N/A
Power Factor:	0.007	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%	4.392A	2.002A	1.997A	1.001A	74.987	83.848%	846	18.3	35.66°C	0.976
	12.157V	4.995V	3.305V	4.993V	89.434				39.86°C	114.83V
20%	9.830A	3.003A	2.998A	1.203A	149.905	89.306%	839	16.3	36.34°C	0.986
	12.108V	4.994V	3.302V	4.986V	167.854				40.94°C	114.82V
50%	26.803A	5.009A	5.008A	1.813A	374.344	91.085%	948	22.9	37.25°C	0.987
	12.083V	4.991V	3.295V	4.965V	410.982				43.23°C	114.75V
100%	54.792A	9.026A	9.046A	3.045A	749.652	88.144%	1865	42.3	40.21°C	0.994
	12.045V	4.985V	3.282V	4.925V	850.477				50.26°C	114.65V

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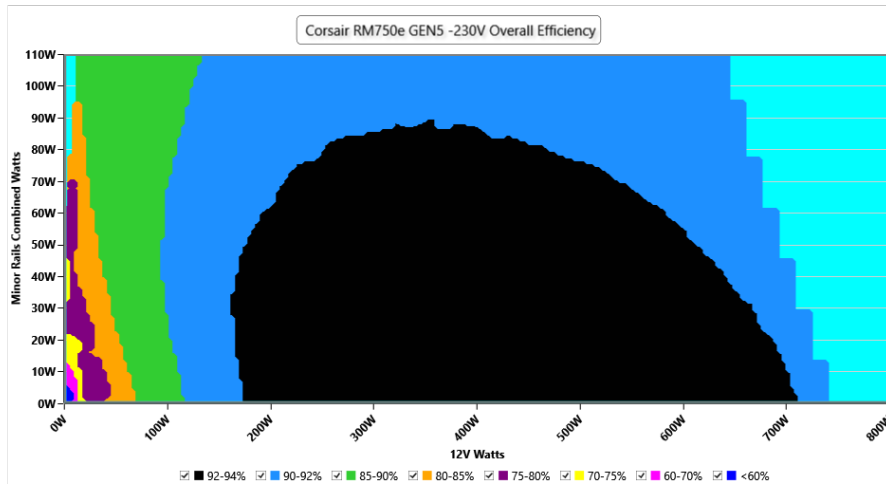
230V

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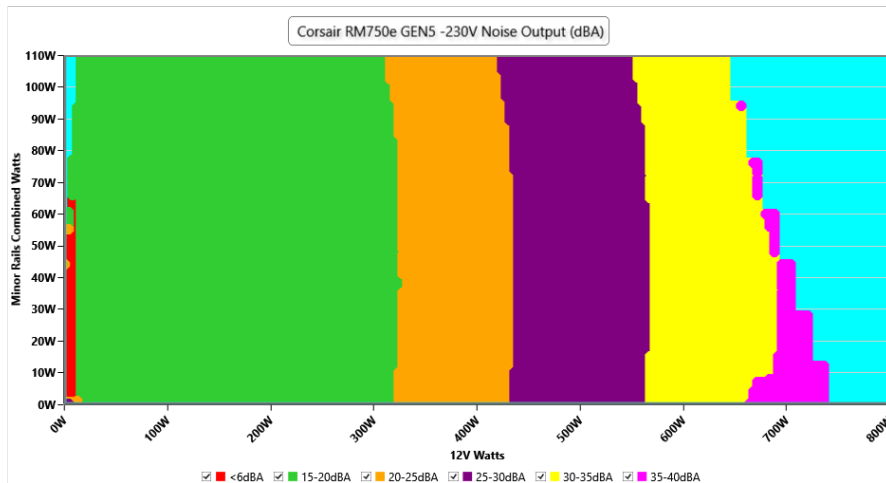
EFFICIENCY GRAPH 230V



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:	229.88 V	229.84 V	227.70 V	229.94 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	1.416	1.490	PASS
Mains Voltage THD:	0.15 %	0.13 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.095 W	0.065 W	N/A	0.131 W	N/A	N/A
Apparent Power:	32.324 W	32.290 W	N/A	32.359 W	N/A	N/A
Power Factor:	0.003	N/A	N/A	N/A	N/A	N/A

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

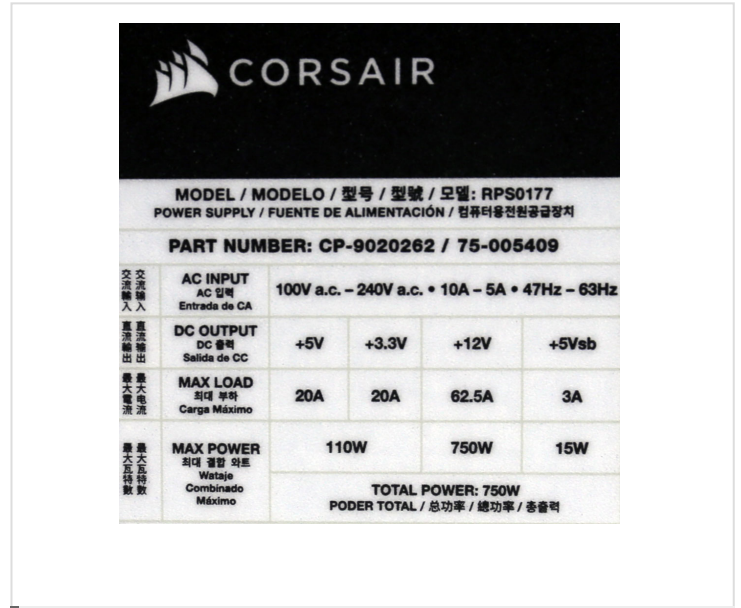
Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	4.392A	2.002A	1.997A	1.001A	74.991	85.159%	848	22.9	35.73°C	0.844
	12.158V	4.995V	3.305V	4.992V	88.064				40.12°C	229.88V
20%	9.830A	3.003A	2.998A	1.204A	149.925	90.757%	839	16.3	35.76°C	0.929
	12.107V	4.995V	3.302V	4.985V	165.194				40.54°C	229.87V
50%	26.809A	5.01A	5.009A	1.813A	374.383	92.789%	920	22.2	37.45°C	0.969
	12.081V	4.991V	3.294V	4.964V	403.482				43.47°C	229.84V
100%	54.784A	9.018A	9.045A	3.044A	749.557	91.038%	1823	41.7	40.02°C	0.981
	12.045V	4.989V	3.282V	4.926V	823.334				50.07°C	229.79V

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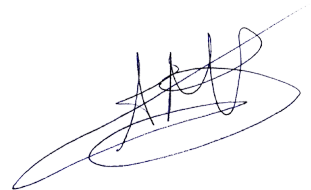


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Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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