

Lab ID#: CM19550032
Receipt Date: Jul 5, 2019
Test Date: May 14, 2019

Report:

Report Date: Nov 6, 2019

DUT INFORMATION

Brand	Cooler Master
Manufacturer (OEM)	Gospower
Series	MWE White
Model Number	
Serial Number	MPE5501ACABW1191400003
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	200-240
Rated Current (Arms)	5
Rated Frequency (Hz)	50-60
Rated Power (W)	550
Type	ATX12V
Cooling	120mm Rifle Bearing Fan (DF1202512SELN)
Semi-Passive Operation	✓
Cable Design	Fixed cables

TEST EQUIPMENT

Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Bruel & Kjaer 2250-L G4	
Microphone	Bruel & Kjaer Type 4955-A, Bruel & Kjaer Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV 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	✓

230V

Average Efficiency	87.767%
Average Efficiency 5VSB	77.008%
Standby Power Consumption (W)	0.2041930
Average PF	0.901
Avg Noise Output	27.86 dB(A)
Efficiency Rating (ETA)	
Noise Rating (LAMBDA)	A-

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	17	17	45	3	0.3
	Watts	110		540	15	3.6
Total Max. Power (W)		550				

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CABLES AND CONNECTORS

Captive Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (510mm)	1	1	18-20AWG	No
4+4 pin EPS12V (530mm)	1	1	18AWG	No
6+2 pin PCIe (490mm+100mm)	1	2	16-18AWG	No
SATA (420mm+150mm+150mm)	2	6	18-20AWG	No
4-pin Molex (420mm+150mm+150mm)	1	3	18-20AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	18AWG	-

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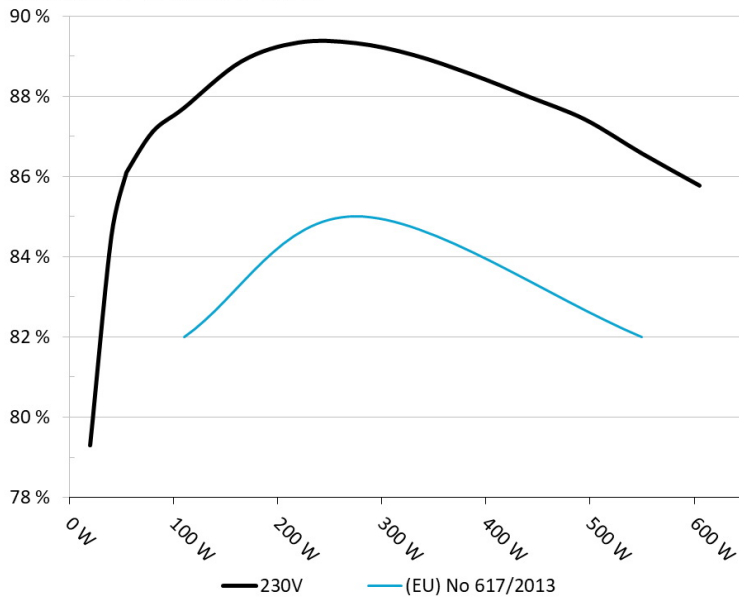
General Data	
Manufacturer (OEM)	Gospower
PCB Type	Single Sided
Primary Side	
Transient Filter	3x Y caps, 2x X caps, 2x CM chokes
Inrush Protection	NTC Thermistor
Bridge Rectifier(s)	1x Diode Incorporated GBU608 (800V, 6A @ 100°C)
APFC MOSFETS	1x JILIN SINO-MICROELECTRONICS JCS18N50FH (500V, 11A @ 100°C, 0.270hm)
APFC Boost Diode	1x JILIN SINO-MICROELECTRONICS 10F60UHF (600V, 10A @ 100°C)
Hold-up Cap(s)	1x Elite (420V, 330uF, 2000h @ 85°C, GM)
Main Switchers	2x JILIN SINO-MICROELECTRONICS JCS18N50FH (500V, 11A @ 100°C, 0.270hm)
APFC Controller	Champion CM6500UNX
Resonant Controllers	Champion CU6901V
Topology	Primary side: Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	4x Nce Power NCE4080 (40V, 56A @ 100°C, 6.5mOhm)
5V & 3.3V	DC-DC Converters: 4x IPS FTD05N03NA (30V, 75A @ 100°C, 6mOhm) PWM Controllers: ANPEC APW7159C
Filtering Capacitors	Electrolytics: 5x Elite (2-5,000h @ 105°C, ED), 4x Elite (2,000h @ 105°C, EL), 2x CapXon (2-5,000h @ 105°C, KF), 1x CapXon (3-10,000h @ 105°C, GH) Polymers: CapXon
Supervisor IC	IN1S313I-SAG
Fan Model	Thermal Control DF1202512SELN (120mm, 12V, 0.25A, Rifle Bearing Fan)
5VSB Circuit	
Rectifier	-
Standby PWM Controller	On-Bright OB2365SP

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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Cooler Master MWE 550
Ambient: 32°C - 40°C (89.6°F - 104°F)

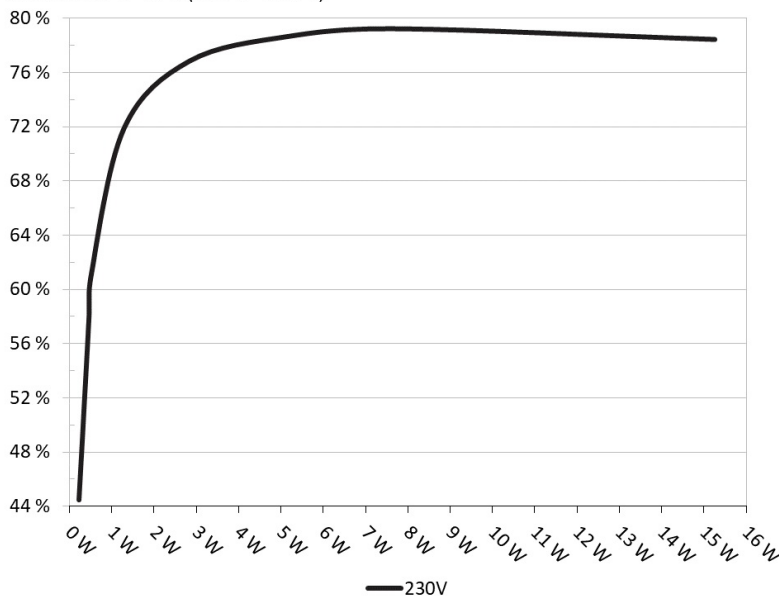


INFO

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: Cooler Master MWE 550
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 -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.234	44.487%	0.010
	5.188V	0.526		230.27V
2	0.090A	0.467	57.726%	0.016
	5.187V	0.809		230.27V
3	0.550A	2.845	76.809%	0.071
	5.172V	3.704		230.25V
4	1.000A	5.158	78.616%	0.121
	5.157V	6.561		230.27V
5	1.500A	7.710	79.191%	0.168
	5.140V	9.736		230.27V
6	3.000A	15.264	78.402%	0.271
	5.088V	19.469		230.27V

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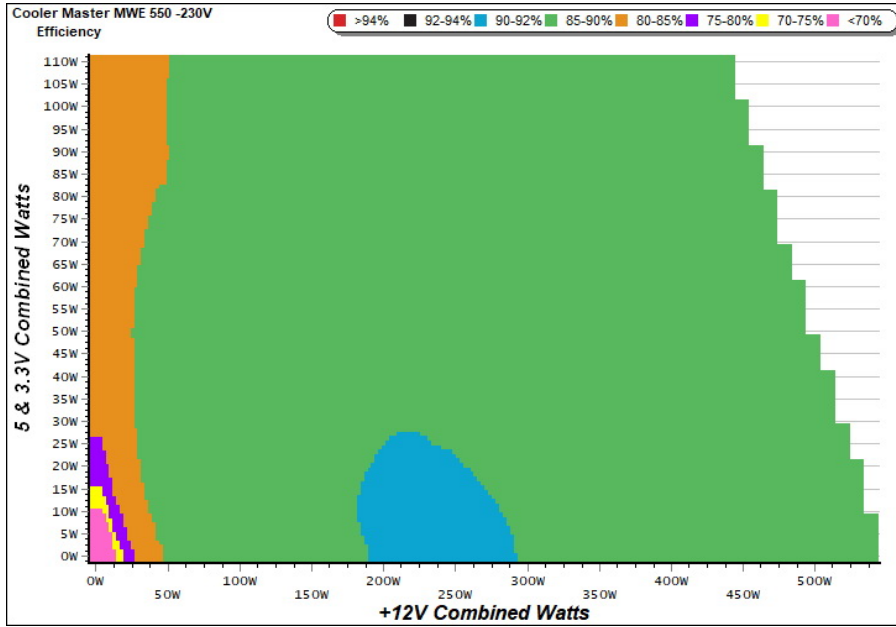
230V

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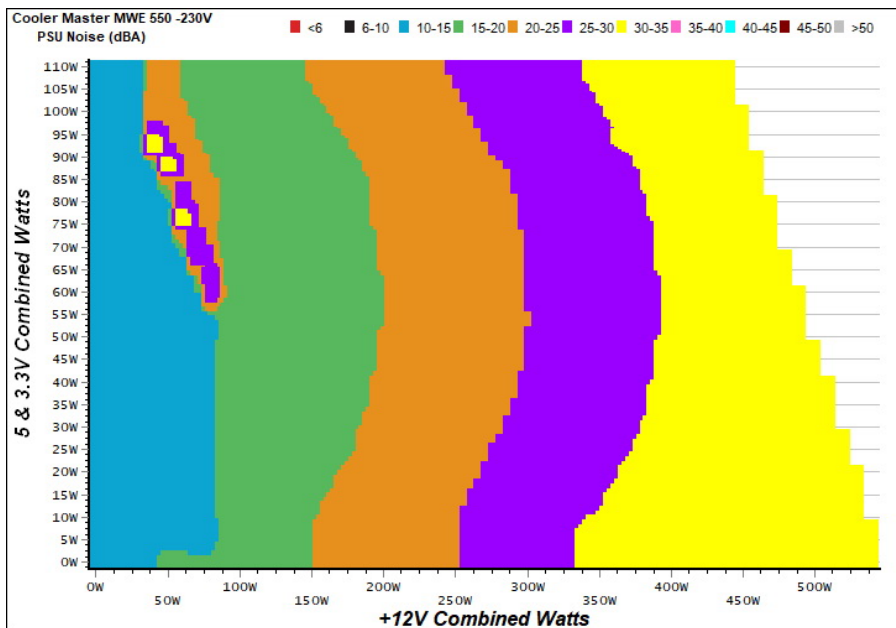
EFFICIENCY GRAPH 230V



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

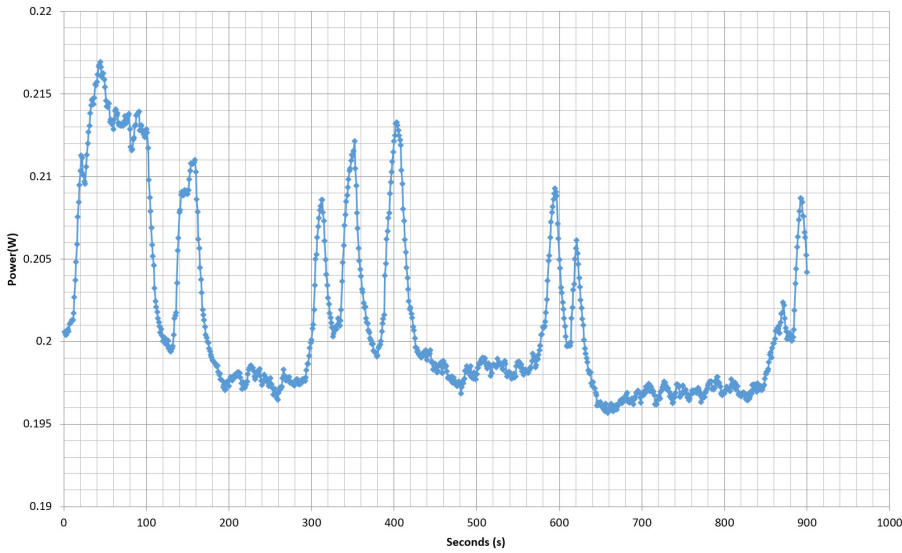
The PSU's noise in its entire operational range and under 30-32 °C (+-2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -230V

Power - MPE5501ACABW1191400003 - 13/05/2019 - 18:17



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 230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
2	6.490A	3.006A	2.959A	1.172A	109.318	87.704%	0	<6.0	42.08°C	0.803
	12.086V	4.985V	3.343V	5.122V	124.644				35.92°C	230.29V
5	18.599A	5.060A	4.983A	1.775A	274.540	89.327%	1146	27.8	37.48°C	0.922
	12.046V	4.941V	3.310V	5.071V	307.342				45.63°C	230.29V
10	38.522A	9.248A	9.125A	3.020A	549.819	86.575%	1446	32.9	39.44°C	0.958
	11.944V	4.867V	3.255V	4.967V	635.079				50.59°C	230.30V






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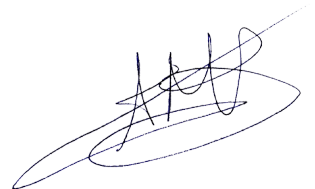
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550W		MODEL / 型			
		Switching Power S			
AC INPUT 交流輸入/交流輸入	200-240V~, 5A, 50-60Hz				
DC OUTPUT 直流輸出/直流輸出	+5V 17A	+3.3V 17A	+12V 45A	-12V 0.3A	+5VSB 3A
TOTAL POWER 總功率/總功率	110W		540W		3.6W 15W
550W					

Power specifications label



Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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