

Lab ID#: CM19650004
Receipt Date: Feb 27, 2019
Test Date: Feb 3, 2019

Report: 19PS645A

Report Date: Jan 3, 2019

DUT INFORMATION

Brand	Cooler Master
Manufacturer (OEM)	Chicony Electronics
Series	V Gold Series
Model Number	MPY-6501-AFAAGV
Serial Number	MPY6501AFAAGV1184300008
DUT Notes	MPY-6501-AFAAGV

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	9
Rated Frequency (Hz)	50-60
Rated Power (W)	650
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (APISTEK SAC4H2H)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

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	Briel & Kjaer 2250-L G4	
Microphone	Briel & Kjaer Type 4955-A, Briel & 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	✓

115V

Average Efficiency	89.069%
Efficiency With 10W (≤500W) or 2% (>500W)	67.603
Average Efficiency 5VSB	79.254%
Standby Power Consumption (W)	0.0771163
Average PF	0.974
Avg Noise Output	26.20 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

230V

Average Efficiency	91.112%
Average Efficiency 5VSB	77.262%
Standby Power Consumption (W)	0.1659280
Average PF	0.892
Avg Noise Output	24.28 dB(A)
Efficiency Rating (ETA)	
Noise Rating (LAMBDA)	A

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	54	3	0.3
	Watts	130		648	15	3.6
Total Max. Power (W)		650				

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CABLES AND CONNECTORS

Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (650mm)	1	1	18-22AWG	No
4+4 pin EPS12V (650mm)	1	1	18AWG	No
8 pin EPS12V (650mm)	1	1	18AWG	No
6+2 pin PCIe (550mm+120mm)	2	4	18AWG	No
SATA (500mm+120mm+120mm+120mm)	2	8	18AWG	No
4 pin Molex (500mm+120mm+120mm+120mm)	1	4	18AWG	No
FDD Adapter (125mm)	1	1	22AWG	No
AC Power Cord (1350mm) - C13 coupler	1	1	18AWG	-

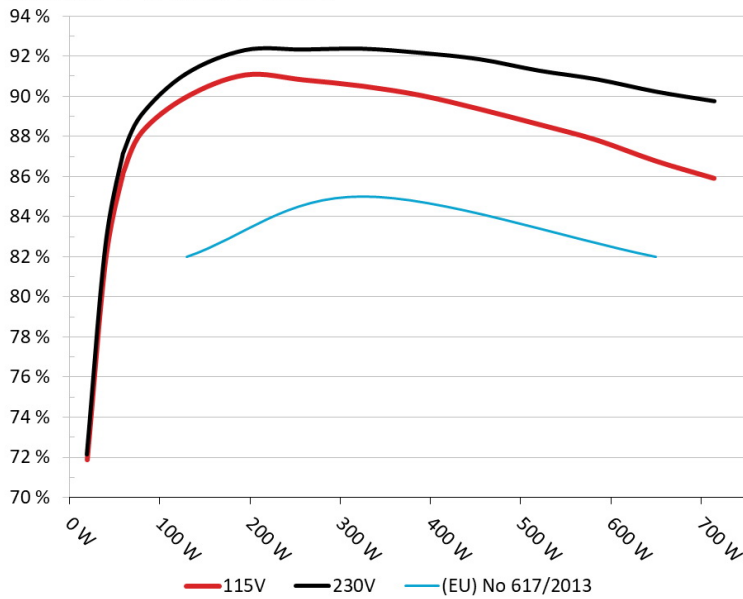
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PAGE 3/13

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Cooler Master V650
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

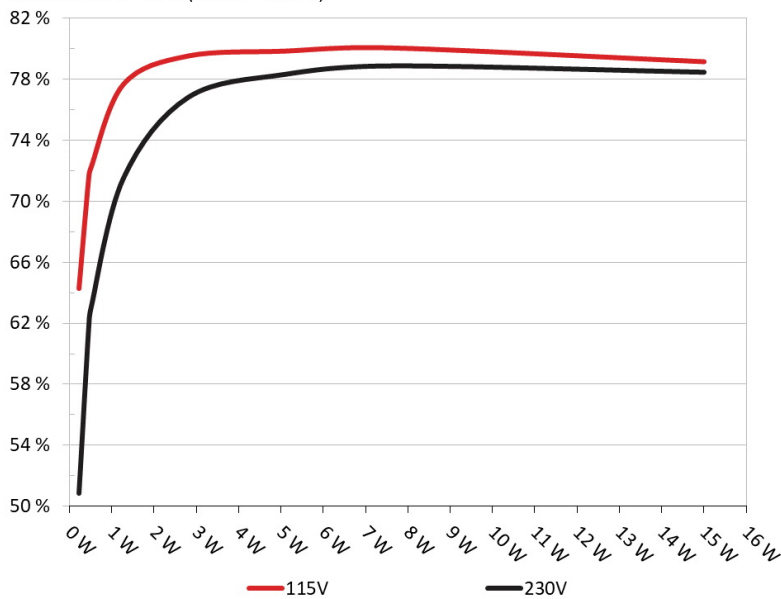


INFO

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: Cooler Master V650
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	0.232	64.266%	0.041
	5.140V	0.361		115.10V
2	0.090A	0.463	71.561%	0.072
	5.138V	0.647		115.10V
3	0.550A	2.815	79.520%	0.244
	5.117V	3.540		115.10V
4	1.000A	5.097	79.840%	0.296
	5.097V	6.384		115.10V
5	1.500A	7.612	80.050%	0.323
	5.074V	9.509		115.10V
6	2.999A	15.009	79.145%	0.362
	5.004V	18.964		115.10V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.232	50.877%	0.019
	5.139V	0.456		230.24V
2	0.090A	0.463	61.816%	0.030
	5.137V	0.749		230.23V
3	0.550A	2.814	76.801%	0.129
	5.115V	3.664		230.24V
4	1.000A	5.095	78.300%	0.189
	5.095V	6.507		230.24V
5	1.500A	7.608	78.856%	0.229
	5.072V	9.648		230.24V
6	3.000A	15.004	78.444%	0.284
	5.002V	19.127		230.23V

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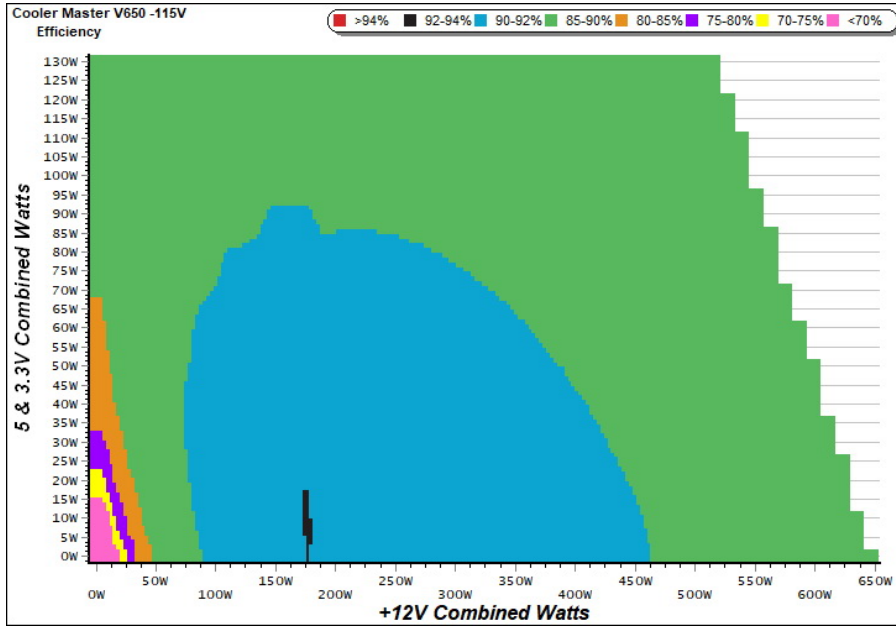
115V

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PAGE 6/13

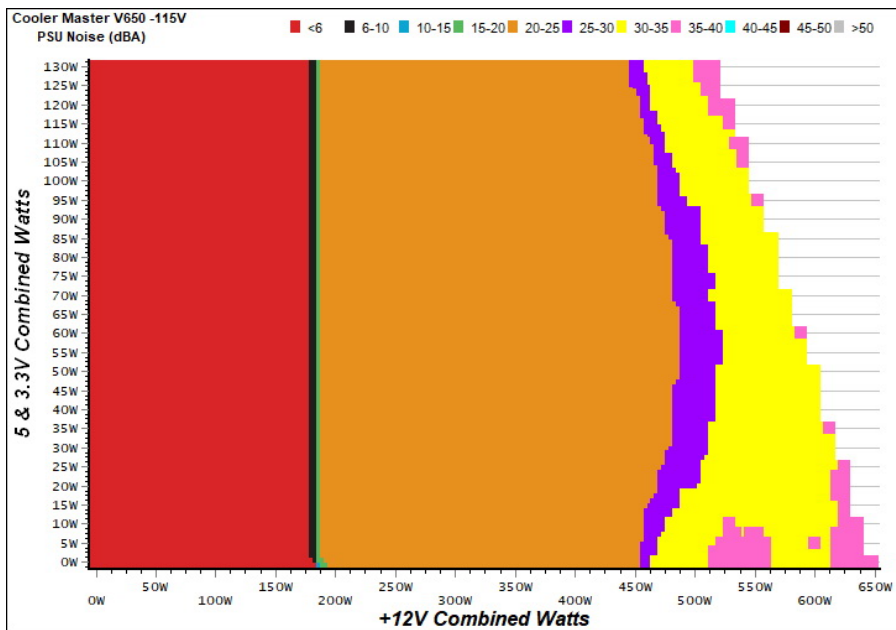
EFFICIENCY GRAPH 115V



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

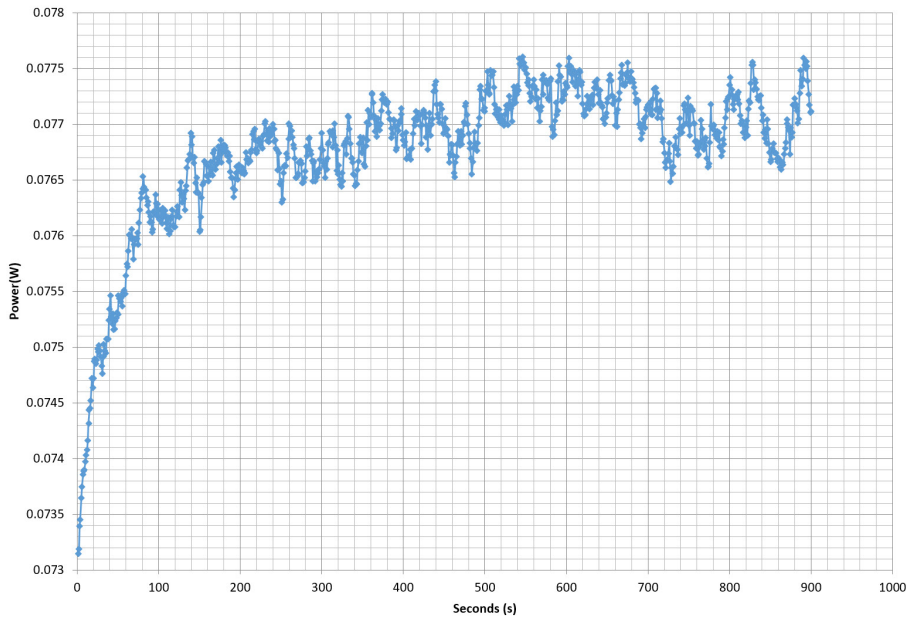
The PSU's noise in its entire operational range and under 30-32 °C (+-2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - MPY6501AFAAGV1184300008 - 13/02/2019 - 21:38



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

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PAGE 9/13

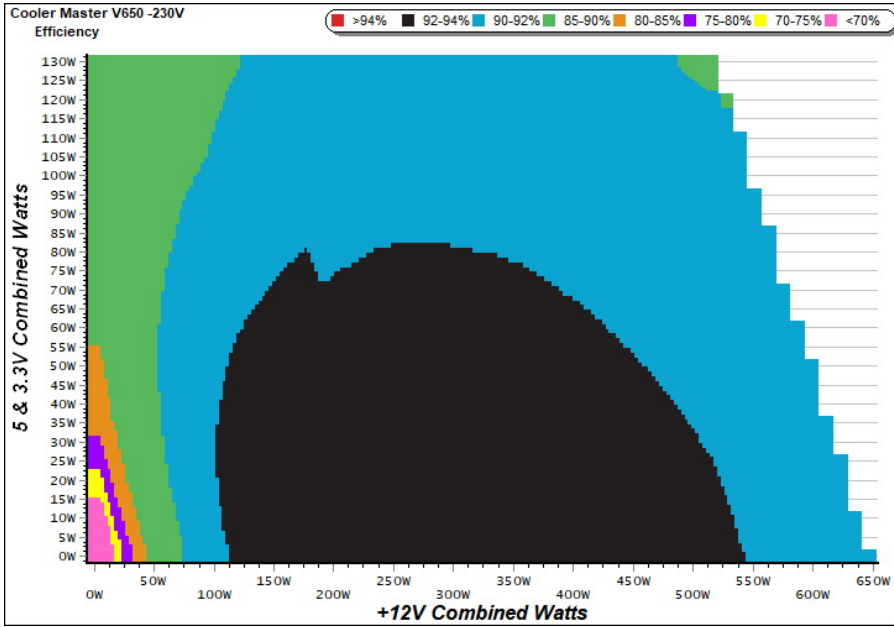
230V

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PAGE 10/13

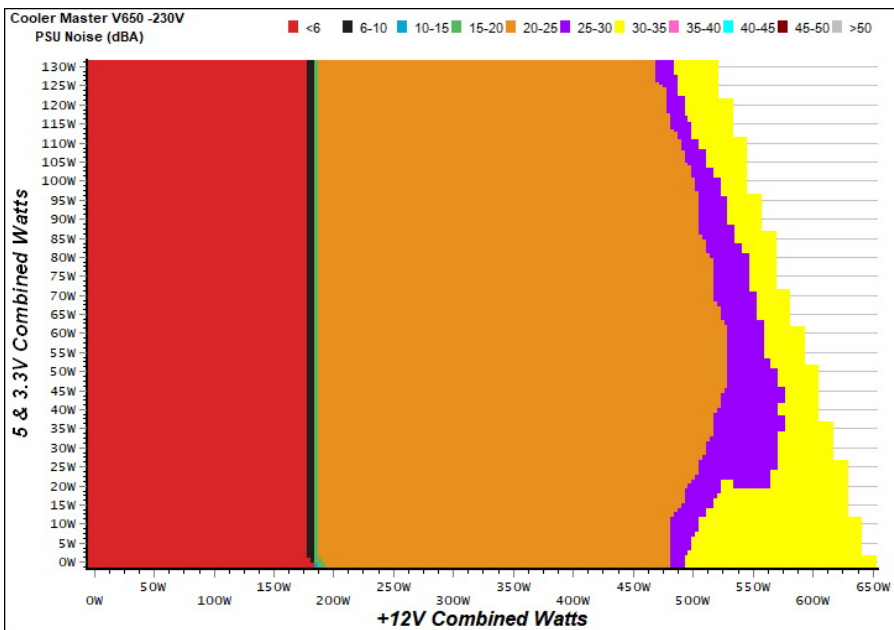
EFFICIENCY GRAPH 230V



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NOISE GRAPH 230V



INFO

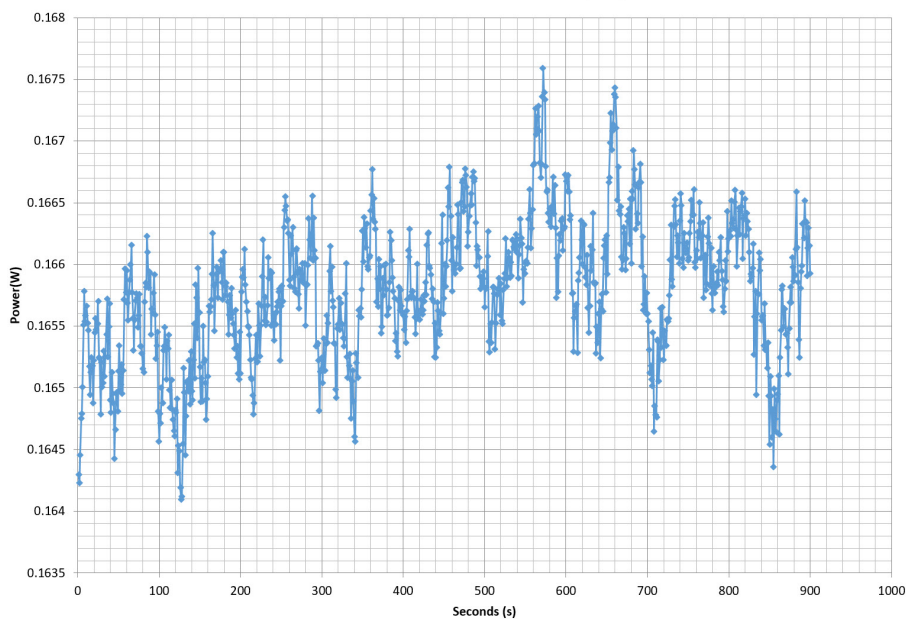
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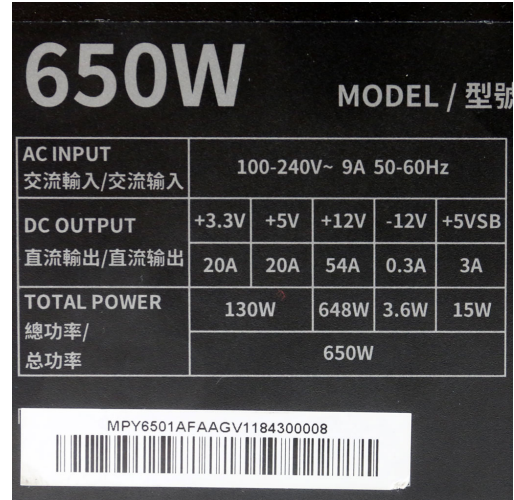
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PAGE 13/13

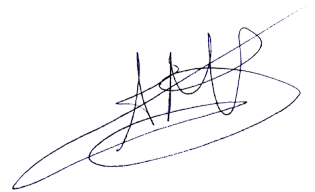


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Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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