

Lab ID#: CM19130021
Receipt Date: Apr 4, 2019
Test Date: Apr 18, 2019

Report:

Report Date: Sep 5, 2019

DUT INFORMATION

Brand	Cooler Master
Manufacturer (OEM)	Delta Electronics
Series	V Platinum
Model Number	
Serial Number	MPZD001AFBAPV1184500224
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15-8
Rated Frequency (Hz)	50-60
Rated Power (W)	1300
Type	ATX12V
Cooling	135mm Double Ball Bearing Fan (AFB1312M)
Semi-Passive Operation	X
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	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	✓

115V

Average Efficiency	89.294%
Efficiency With 10W (≤500W) or 2% (>500W)	67.220
Average Efficiency 5VSB	81.234%
Standby Power Consumption (W)	0.0373916
Average PF	0.978
Avg Noise Output	29.70 dB(A)
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	A-

230V

Average Efficiency	90.893%
Average Efficiency 5VSB	81.468%
Standby Power Consumption (W)	0.0888742
Average PF	0.927
Avg Noise Output	29.46 dB(A)
Efficiency Rating (ETA)	SILVER
Noise Rating (LAMBDA)	A-

POWER SPECIFICATIONS

Rail		3.3V	5V	12V(1)	12V(2)	5VSB	-12V
Max. Power	Amps	25	25	54	54	3	0.5
	Watts	130		1296		15	6
Total Max. Power (W)		1300					

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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
8 pin EPS12V (750mm)	1	1	18AWG	No
4+4 pin EPS12V (680mm)	1	1	18AWG	No
6+2 pin PCIe (650mm+120mm)	6	12	16-18AWG	No
SATA (560mm+120mm+120mm+120mm)	1	4	18AWG	No
SATA (520mm+120mm+120mm+120mm)	3	12	18AWG	No
4 pin Molex (500mm+120mm+120mm+120mm)	2	8	18AWG	No
FDD Adapter (+120mm)	1	1	22AWG	No
AC Power Cord (1360mm) - C13 coupler	1	1	17AWG	-

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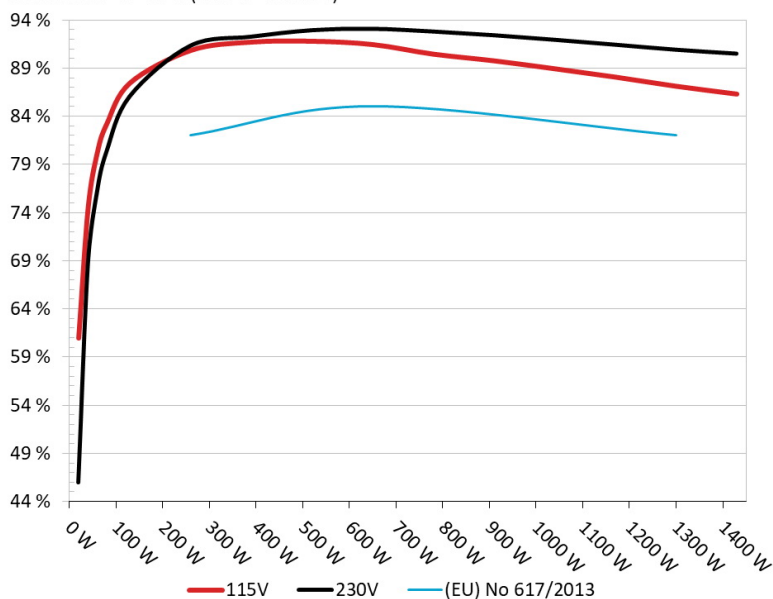
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General Data	
Manufacturer (OEM)	Delta Electronics
PCB Type	Single Sided
Primary Side	
Transient Filter	6x Y caps, 2x X caps, 1x CM choke, 1x DM choke, 1x MOV, 1x Discharge IC
Inrush Protection	NTC Thermistor & Relay
Bridge Rectifier(s)	2x Shindengen LL25XB60 (600V, 25A @ 113°C)
APFC MOSFETS	3x Infineon IPP60R125CP (650V, 16A @ 100°C, 0.125Ohm)
APFC Boost Diode	1x CREE C3D10060A (600V, 10A @ 150°C)
Hold-up Cap(s)	2x Rubycon (450V, 680uF, 3000h @ 105°C, MXK), 1x Rubycon (450V, 120uF, 2000h @ 105°C, QXW)
Main Switchers	4x Infineon IPA65R110CFD (700V, 19.7A @ 100°C, 0.11Ohm)
APFC Controller	Champion CM6502SNX & CM03AX Green PFC Controller
Resonant Controller	Champion CM6901X
Topology	Primary side: Full-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	Unknown number of FETs
5V & 3.3V	DC-DC Converters: 5x Infineon BSC042N03LS (30V, 59A @ 100°C, 4.2mOhm), 1x Infineon BSC057N03LS (30V, 45A, 5.7mOhm)
Filtering Capacitors	Electrolytics: 3x Nichicon (2-5,000h @ 105°C, HD), 2x Rubycon (1-5,000h @ 105°C, ZL), 5x Rubycon (6-10,000h @ 105°C, ZLH), 12x Nippon Chemi-con (5-6,000h @ 105°C, KZH) Polymers: Nichicon (LG, UD), NIC
Supervisor IC	Texas Instruments DWA103N-A (OCP, OVP, UVP, SCP, PG)
Fan Model	Delta AFB1312M (135mm, 12V, 0.38A, Double Ball Bearing Fan)
5VSB Circuit	
Rectifier	1x STMicroelectronics STPS20L60CT SBR (60V, 20A @ 140°C)
Standby PWM Controller	Power Integrations TNY280PG

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Cooler Master V1300 Platinum

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



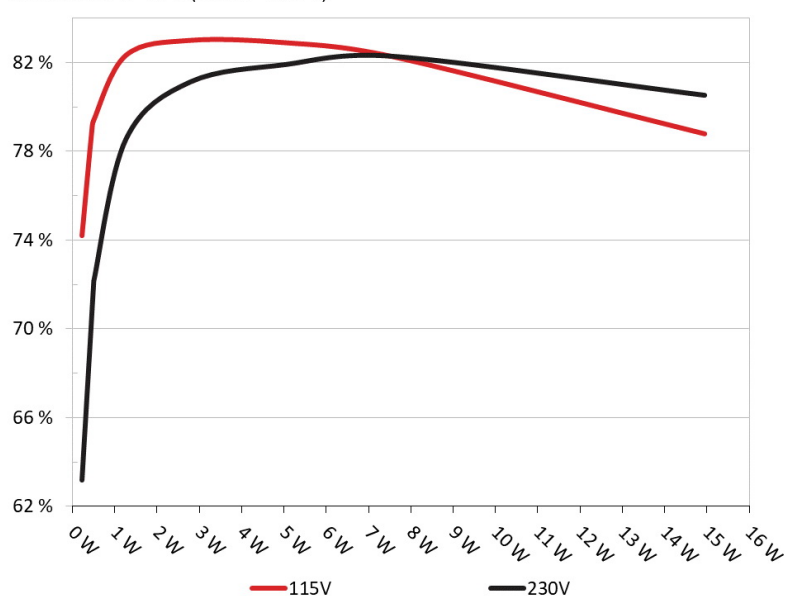
INFO

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 V1300 Platinum

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	0.230	74.194%	0.021
	5.095V	0.310		115.10V
2	0.090A	0.459	78.866%	0.039
	5.093V	0.582		115.08V
3	0.550A	2.792	82.996%	0.195
	5.075V	3.364		115.08V
4	1.000A	5.057	82.888%	0.298
	5.057V	6.101		115.09V
5	1.500A	7.557	82.266%	0.369
	5.037V	9.186		115.10V
6	3.000A	14.939	78.784%	0.469
	4.980V	18.962		115.10V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.230	63.187%	0.007
	5.095V	0.364		230.24V
2	0.090A	0.459	72.170%	0.013
	5.093V	0.636		230.24V
3	0.550A	2.791	81.134%	0.066
	5.074V	3.440		230.24V
4	1.000A	5.057	81.921%	0.114
	5.057V	6.173		230.24V
5	1.500A	7.556	82.291%	0.162
	5.037V	9.182		230.25V
6	3.000A	14.938	80.533%	0.273
	4.979V	18.549		230.25V

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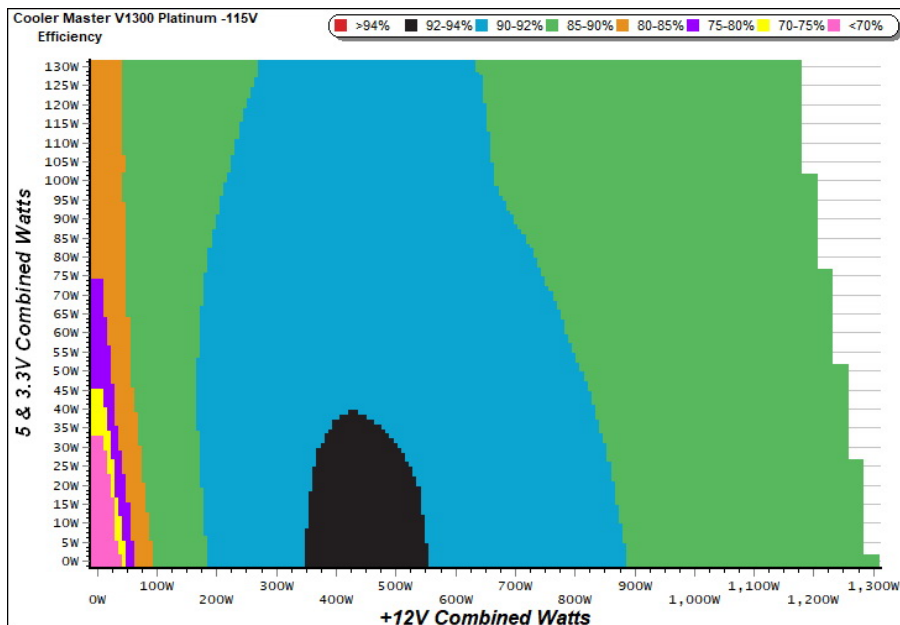
115V

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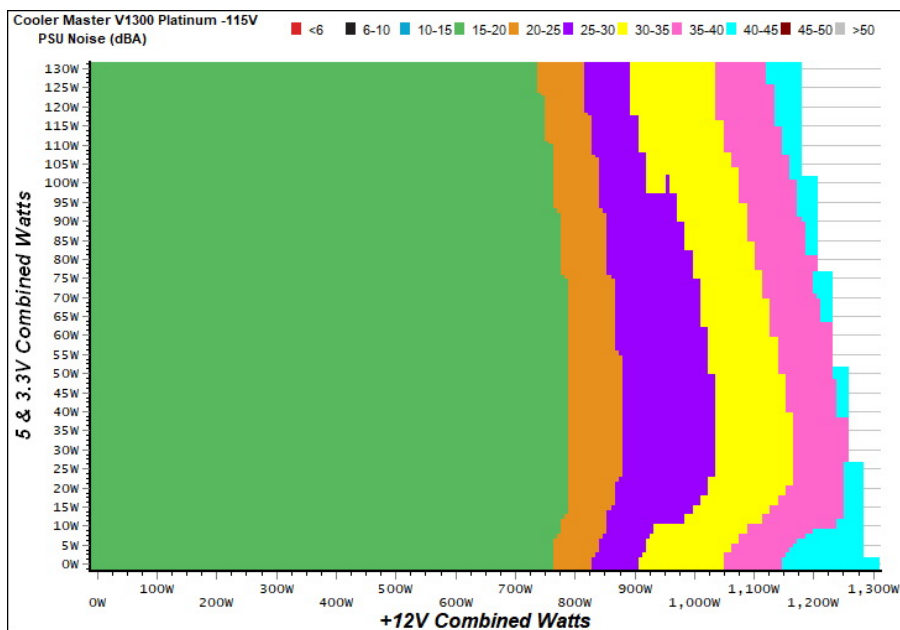
EFFICIENCY GRAPH 115V



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

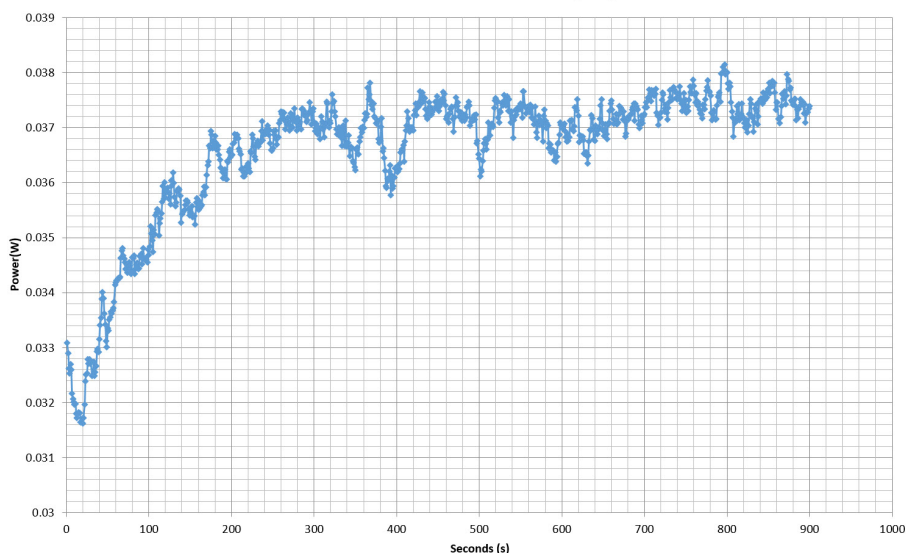
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - MPZD001AFBAPV1184500224 - 05/04/2019 - 10:54



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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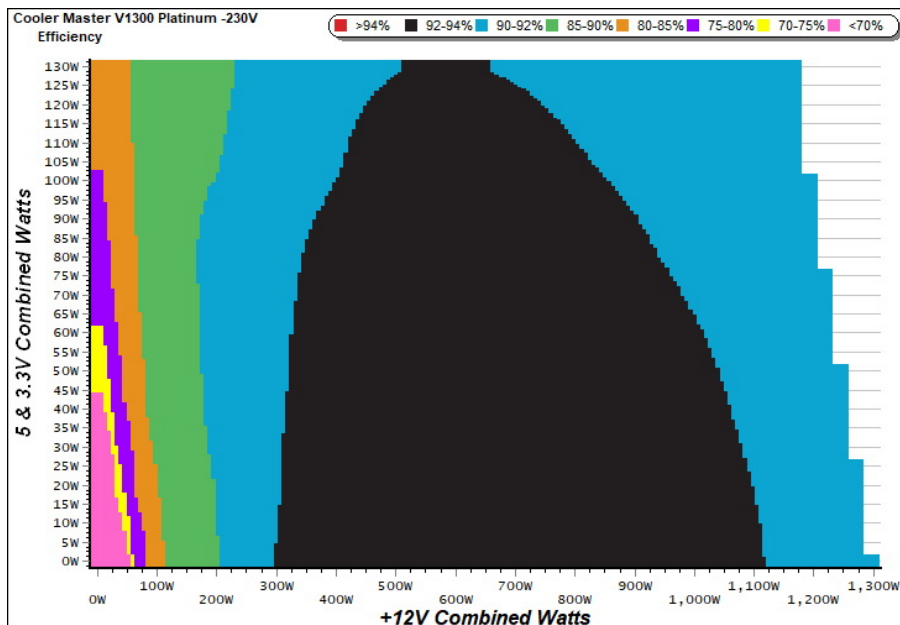
230V

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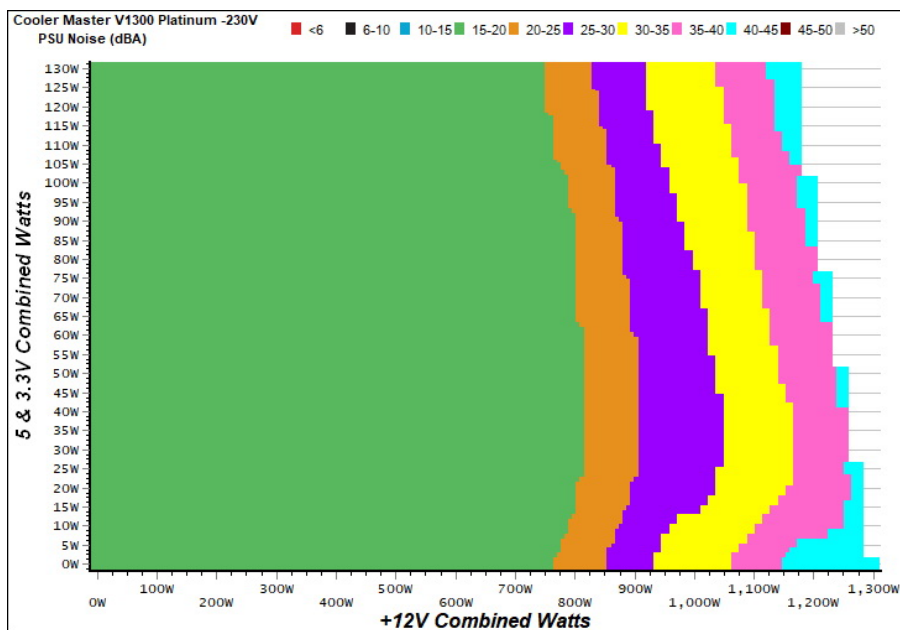
EFFICIENCY GRAPH 230V



INFO

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NOISE GRAPH 230V



INFO

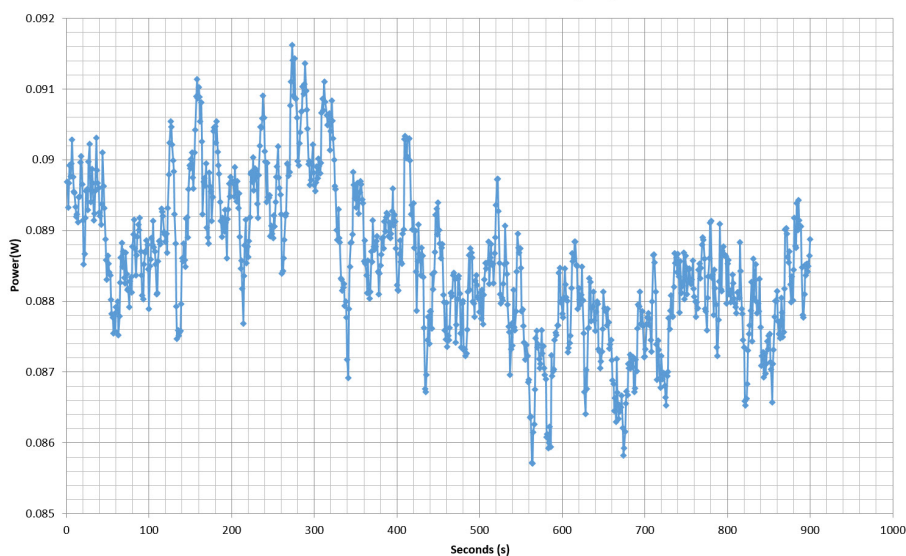
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EFFICIENCY AND NOISE REPORT IN ACCORDANCE WITH
CYBENETICS ETA AND CYBENETICS LAMBDA PROCEDURE

Cooler Master V1300 Platinum

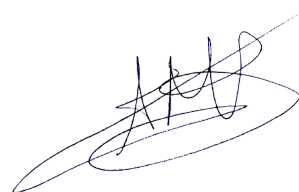


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Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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