

Anex

Cooler Master V750 Gold

Lab ID#: 573

Receipt Date: -

Test Date: -

Report: 19PS573A

Report Date: Dec 22, 2018

DUT INFORMATION	
Brand	Cooler Master
Manufacturer (OEM)	Chicony Electronics
Series	V Gold Series
Model Number	V750 Gold
Serial Number	MPY7501AFAAGV1184300027
DUT Notes	MPY-7501-AFAAGV

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10
Rated Frequency (Hz)	50-60
Rated Power (W)	750
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (APISTEK SAC4H2H)
Semi-Passive Operation	✓ (selectable)
Cable Design	Fully Modular

POWER SPECIFICATIONS						
Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	62	3	0.3
	Watts	130		744	15	3.6
Total Max. Power (W)		750				

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 (560mm+120mm)	2	4	18AWG	No
SATA (500mm+120mm+120mm+120mm)	3	12	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	-

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 1/9

Anex

Cooler Master V750 Gold

General Data	-
Manufacturer (OEM)	Chicony Electronics
PCB Type	Single Side
Primary Side	-
Transient Filter	5x Y caps, 2x X caps, 2x CM chokes
Inrush Protection	-
Bridge Rectifier(s)	2x Lite-On GBU15JL (600V, 15A @ 115°C)
APFC MOSFETS	2x Infineon IPP60R120P7 (650V, 16A @ 100°C, 0.12Ohm)
APFC Boost Diode	1x CREE C3D08060A (600 V, 8 A @ 152 °C)
Hold-up Cap(s)	1x Nichicon (450V, 560uF, 2,000h @ 105°C, GL)
Main Switchers	2x Toshiba TK16A60W (600V, 15.8A @ 150°C, 0.19Ohm)
APFC Controller	Infineon ICE3PCS03G
Resonant Controllers	MPS HR1000A & 2x MPS MP6903 (Installed on the secondary side)
Topology	Primary side: Half Bridge & LLC resonant converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	-
+12V MOSFETS	6x Nexperia PSMN2R6-40YS (40V, 100A @ 100°C, 5.3mOhm @ 175°C)
5V & 3.3V	DC-DC Converters: 4x Advanced Power AP0403GH (30V, 50A @ 100°C, 4.5mOhm) & 2x Advanced Power AP3N4R0H (30V, 56A @ 100°C, 4mOhm) PWM Controllers: 2x APW7160A
Filtering Capacitors	Electrolytics: 4x Rubycon (6 - 10,000h @ 105°C, ZLH), Nippon Chemi-con (5 - 6,000h @ 105°C, KZH), Nippon Chemi-con (4 - 10,000h @ 105°C, KY), Nichicon (5 - 6,000h @ 105°C, HV) Polymers: FPCAP, Nichicon (LG), Nippon Chemi-con
Supervisor IC	CP006WD
Fan Model	Apistek SAC4H2H (135 mm, 0.5 A, Fluid Dynamic Bearing Fan)
5VSB Circuit	-
Rectifier	On Semiconductor MBR20100CT SBR (100V, 10A @ 133°C) & STMicroelectronics STD4N80K5 FET (800V, 1.7A @ 100°C)
Standby PWM Controller	400BBBBB2 PAJH

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 2/9

Anex

Cooler Master V750 Gold

RESULTS	
Temperature Range (°C /°F)	30-32 / 86-89.6
Average Efficiency	90.638
Efficiency With 10W ($\leq 500W$) or 2% ($> 500W$) Load -115V	63.266
Average Efficiency 5VSB	77.002
Standby Power Consumption (W) -115V	0.0765154
Standby Power Consumption (W) -230V	0.1644650
Average PF	0.966
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
Avg Noise Output	33.76
Efficiency Rating (ETA)	PLATINUM
Noise Rating (LAMBDA)	Standard++

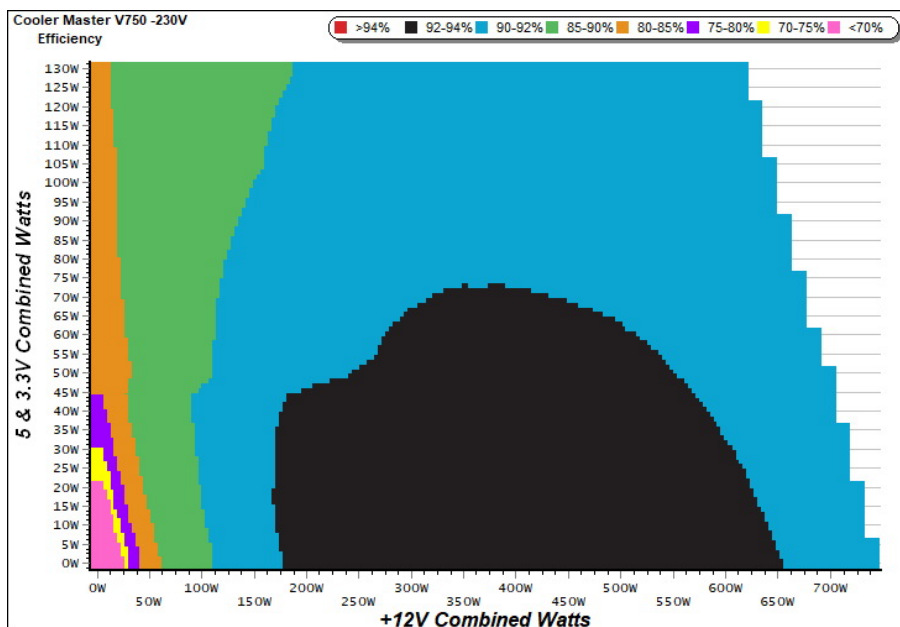
TEST EQUIPMENT		
Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Chroma 61604, Keysight AC6804B	
Power Analyzers	N4L PPA1530 x2, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol 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	

All data and graphs included in this test report can be used by any individual on the following conditions:

- › It should be mentioned that the test results are provided by Cybenetics
- › The link to the original test results document should be provided in any case

PAGE 3/9

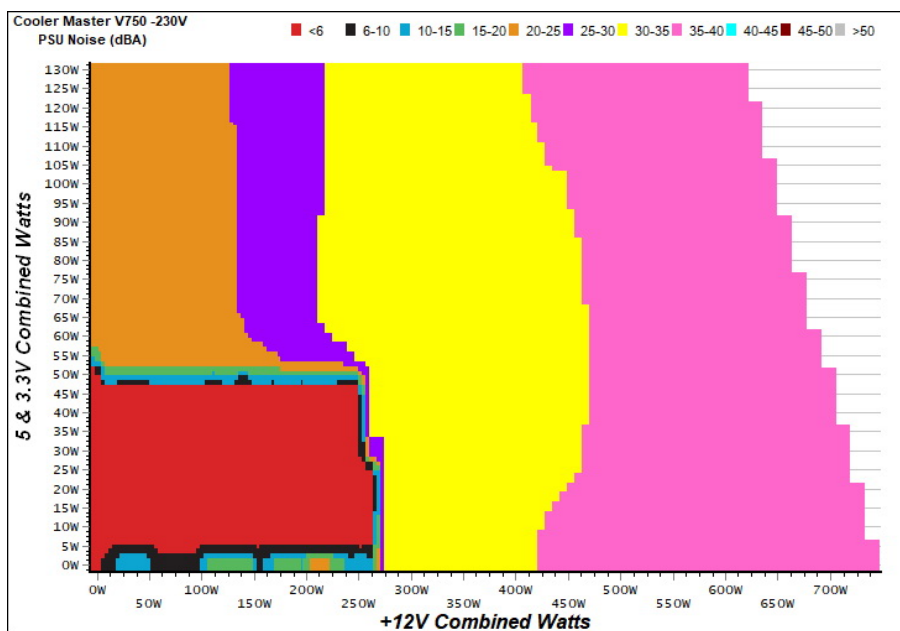
EFFICIENCY GRAPH



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



INFO

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

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

Anex

Cooler Master V750 Gold

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

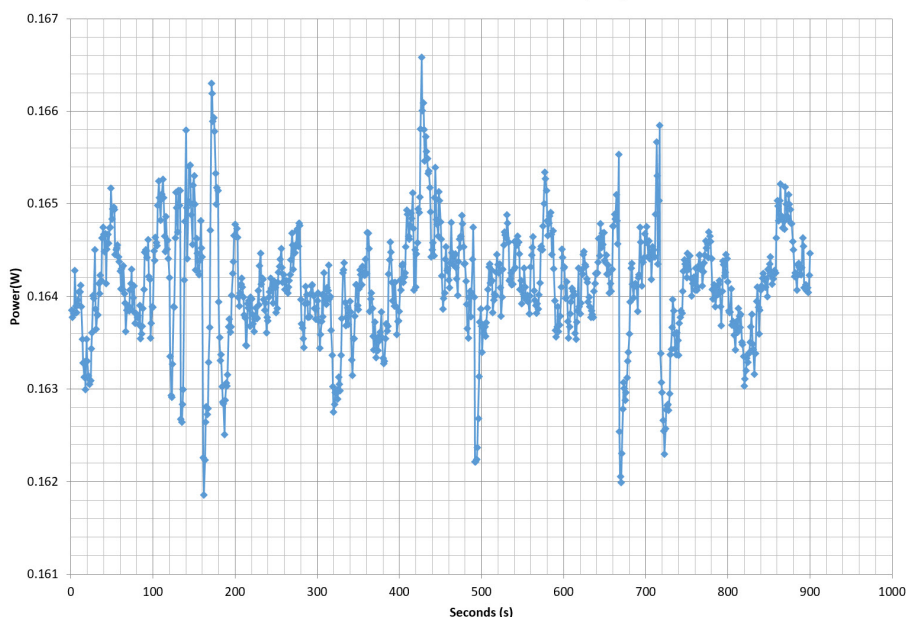
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	61.957%	0.053
	5.069V	0.368		115.09V
2	0.090A	0.456	70.154%	0.090
	5.066V	0.650		115.09V
3	0.550A	2.771	79.307%	0.274
	5.038V	3.494		115.11V
4	1.000A	5.013	79.194%	0.325
	5.012V	6.330		115.11V
5	1.500A	7.475	79.067%	0.350
	4.983V	9.454		115.10V
6	2.999A	14.676	78.193%	0.388
	4.893V	18.769		115.09V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	49.565%	0.020
	5.070V	0.460		230.24V
2	0.090A	0.456	61.044%	0.032
	5.066V	0.747		230.24V
3	0.550A	2.771	76.505%	0.138
	5.037V	3.622		230.25V
4	1.000A	5.012	78.166%	0.206
	5.011V	6.412		230.25V
5	1.500A	7.473	78.663%	0.253
	4.981V	9.500		230.25V
6	3.000A	14.671	78.358%	0.320
	4.890V	18.723		230.25V

VAMPIRE POWER -230V

Power - MPY7501AFAAGV1184300027 - 17/12/2018 - 13:08



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

All data and graphs included in this test report can be used by any individual on the following conditions:

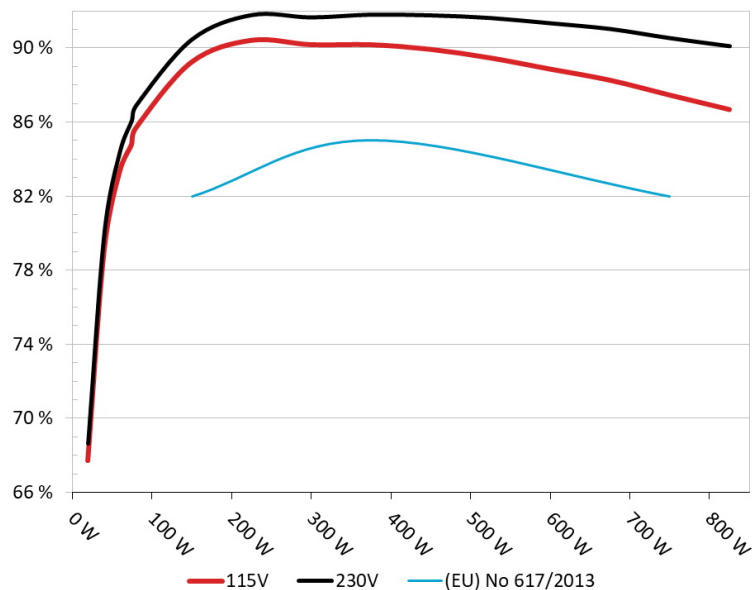
- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 5/9

EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Cooler Master V750

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



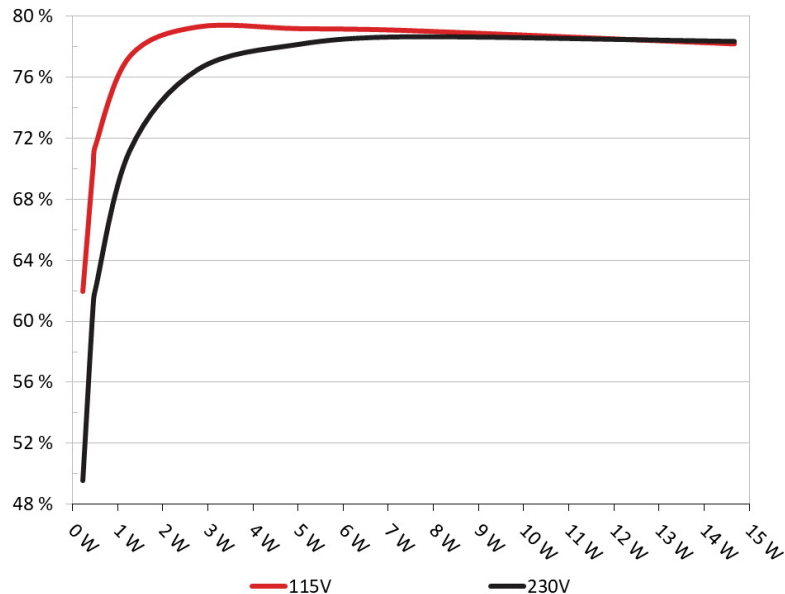
INFO

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 V750

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

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

Anex

Cooler Master V750 Gold

10-110% LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	4.330A	1.957A	1.965A	1.000A	74.395	86.069%	0	<6.0	44.37°C	0.813
	12.196V	5.110V	3.351V	5.001V	86.436				40.49°C	230.28V
2	9.723A	2.922A	2.933A	1.204A	149.304	90.426%	0	<6.0	45.36°C	0.929
	12.178V	5.135V	3.373V	4.984V	165.111				41.12°C	230.28V
3	15.530A	3.412A	3.418A	1.410A	224.823	91.762%	0	<6.0	46.19°C	0.962
	12.159V	5.127V	3.364V	4.966V	245.006				41.47°C	230.29V
4	21.230A	3.920A	3.936A	1.616A	299.639	91.634%	1313	36.4	41.83°C	0.979
	12.173V	5.104V	3.353V	4.951V	326.995				47.03°C	230.31V
5	26.469A	4.910A	4.936A	1.825A	374.590	91.783%	1489	39.5	42.38°C	0.984
	12.244V	5.092V	3.343V	4.932V	408.127				48.23°C	230.30V
6	31.872A	5.903A	5.896A	2.035A	449.503	91.744%	1559	40.5	42.91°C	0.988
	12.227V	5.083V	3.358V	4.914V	489.953				49.38°C	230.30V
7	37.323A	6.856A	6.899A	2.247A	524.827	91.602%	1601	41.3	43.17°C	0.992
	12.210V	5.106V	3.349V	4.896V	572.944				50.27°C	230.31V
8	42.795A	7.850A	7.908A	2.460A	600.159	91.317%	1658	42.0	43.74°C	0.994
	12.192V	5.096V	3.338V	4.879V	657.223				51.41°C	230.30V
9	48.644A	8.352A	8.345A	2.462A	674.685	91.010%	1712	42.6	44.77°C	0.994
	12.174V	5.088V	3.355V	4.874V	741.333				53.49°C	230.30V
10	54.315A	8.861A	8.876A	3.107A	749.915	90.516%	1767	43.3	45.55°C	0.995
	12.155V	5.080V	3.346V	4.829V	828.489				55.13°C	230.30V
11	60.601A	8.875A	8.894A	3.109A	825.157	90.081%	1807	43.9	46.59°C	0.995
	12.136V	5.072V	3.338V	4.825V	916.013				57.47°C	230.31V
CL1	0.144A	16.000A	16.000A	0.000A	138.632	83.664%	1494	39.6	42.33°C	0.921
	12.171V	5.152V	3.403V	5.046V	165.701				48.72°C	230.32V
CL2	62.018A	1.003A	0.998A	1.000A	767.123	91.115%	1740	43.0	45.71°C	0.995
	12.155V	5.027V	3.288V	4.970V	841.928				55.34°C	230.32V

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 7/9

Anex

Cooler Master V750 Gold

20-80W LOAD TESTS

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.180A	0.489A	0.473A	0.198A	19.502	68.621%	0	<6.0	0.522
	12.212V	5.115V	3.360V	5.054V	28.420				230.28V
2	2.424A	0.978A	0.981A	0.397A	39.880	79.997%	0	<6.0	0.664
	12.206V	5.112V	3.356V	5.041V	49.852				230.28V
3	3.602A	1.467A	1.459A	0.597A	59.338	84.368%	0	<6.0	0.759
	12.201V	5.110V	3.353V	5.027V	70.332				230.28V
4	4.852A	1.958A	1.966A	0.798A	79.761	86.875%	0	<6.0	0.827
	12.195V	5.108V	3.351V	5.014V	91.811				230.29V

RIPPLE MEASUREMENTS

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	6.3 mV	7.0 mV	10.2 mV	7.7 mV	Pass
20% Load	8.5 mV	7.2 mV	11.4 mV	9.4 mV	Pass
30% Load	10.2 mV	8.5 mV	12.3 mV	9.6 mV	Pass
40% Load	15.0 mV	10.6 mV	14.6 mV	10.7 mV	Pass
50% Load	12.8 mV	10.3 mV	14.2 mV	12.2 mV	Pass
60% Load	13.3 mV	10.9 mV	15.7 mV	12.7 mV	Pass
70% Load	14.0 mV	11.6 mV	15.5 mV	12.9 mV	Pass
80% Load	15.6 mV	12.6 mV	17.1 mV	17.3 mV	Pass
90% Load	16.9 mV	12.0 mV	18.8 mV	18.3 mV	Pass
100% Load	23.4 mV	13.5 mV	19.6 mV	21.7 mV	Pass
110% Load	25.9 mV	14.0 mV	22.3 mV	20.7 mV	Pass
Crossload 1	12.2 mV	10.2 mV	19.3 mV	11.2 mV	Pass
Crossload 2	23.0 mV	10.7 mV	14.4 mV	13.8 mV	Pass

All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 8/9

Anex

Cooler Master V750 Gold

HOLD-UP TIME & POWER OK SIGNAL (230V)


Hold-Up Time (ms)	23.80
AC Loss to PWR_OK Hold Up Time (ms)	19.50
PWR_OK Inactive to DC Loss Delay (ms)	4.30



Top side

750W		MODEL / 型号			
AC INPUT 交流輸入/交流輸入	100-240V~ 10A 50-60Hz				
DC OUTPUT 直流輸出/直流輸出	+3.3V 20A	+5V 20A	+12V 62A	-12V 0.3A	+5VSB 3A
TOTAL POWER 總功率/ 总功率	130W		744W	3.6W	15W
	750W				

MPY7501AFAAGV1184300027



Power specifications label

CERTIFICATIONS



All data and graphs included in this test report can be used by any individual on the following conditions:

- > It should be mentioned that the test results are provided by Cybenetics
- > The link to the original test results document should be provided in any case

PAGE 9/9