



Make It Yours.

Cooler Master MWE Bronze 700

Serial Number MPE7001ACAAB1191400002

Lab ID CM19700037

Certification ID 25725

Test Result Report ID:

Certificate Issue Date: Jun 21, 2019

115V

230V

Scheme: ETA-EMI PSU



115V

230V



Scheme: LAMBDA PSU

A handwritten signature in blue ink, appearing to read "A. Bitziopoulos".

Aristeidis Bitziopoulos, Certification Body General Manager

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Cooler Master
Model	MWE Bronze 700
OEM/ODM	Gospower
Serial Number	MPE7001ACAAB1191400002
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-6
Rated Frequency (Hz)	50-60

Rated Power (W)	700
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fixed cables
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	120mm Fluid Dynamic Bearing Fan (HA1225H12F-Z)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	CM19700037
Date of receipt	Jul 5, 2019
Testing Date	May 17, 2019
Report Issued Date	Jun 21, 2019
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Captive Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (610mm)	1	1	18-20AWG	No
8 pin EPS12V (630mm) / 4+4 pin EPS12V (120mm)	1	1 / 1	18AWG	No
6+2 pin PCIe (530mm+120mm)	2	4	16-18AWG	No
SATA (530mm+120mm+120mm+120mm)	2	8	18AWG	No
4-pin Molex (520mm+120mm+120mm+120mm)	1	4	18AWG	No
AC Power Cord (1400mm) - C13 coupler	1	1	18AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	58.3	3	0.3
	Watts	120		699.6	15	3.6
Total Max. Power (W)		700				

Parts Description

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 & Relay
Bridge Rectifier(s)	1x GBU2508 (800V, 25A @ 100°C)
APFC MOSFETS	2x Sanrise Tech SRC60R140B (630V, 11.2A @ 125°C, 0.140hm)
APFC Boost Diode	1x Cengol CGC1506510 (650V, 10A @ 150°C)
Hold-up Cap(s)	1x Elite (420V, 680uF, 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 NCEP40T11K (40V, 85A @ 100°C, 2.8mOhm)
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), 1x CapXon (3-10,000h @ 105°C, GH), 1x Fcon (105°C, GL) Polymers: CapXon
Supervisor IC	IN1S313I-SAG
Fan Model	Hong Hua HA1225H12F-Z (120mm, 12V, 0.58A, Fluid Dynamic Bearing Fan)
5VSB Circuit	

Rectifier	-
Standby PWM Controller	On-Bright OB2365SP

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	86.201%
Average Noise Output (>1450 Load Combinations)	38.63dBA
Average PF (>1450 Load Combinations)	0.967
Efficiency With 10W (≤500W) or 2% (>500W) Load	73.656%
Standby Power Consumption	0.0758W
Non-Accredited	
12V Ripple (Full Load)	37.22mV
5V Ripple (Full Load)	20.24mV
3.3V Ripple (Full Load)	17.43mV
5VSB Ripple (Full Load)	25.34mV
12V Load Regulation	1.25%
5V Load Regulation	1.95%
3.3V Load Regulation	2.26%
5VSB Load Regulation	2.75%
Inrush Current	67.169A

230V

Accredited		
Average Efficiency (>1450 load combinations)	88.120%	
Average Noise Output (>1450 Load Combinations)	39.55dBA	
Average PF (>1450 Load Combinations)	0.898	
Efficiency With 10W (≤500W) or 2% (>500W) Load	-	
Standby Power Consumption	0.1896W	
Non-Accredited		
12V Ripple (Full Load)	36.30mV	
5V Ripple (Full Load)	19.86mV	
3.3V Ripple (Full Load)	17.92mV	
5VSB Ripple (Full Load)	22.89mV	
12V Load Regulation	1.06%	
5V Load Regulation	1.89%	
3.3V Load Regulation	2.20%	
5VSB Load Regulation	2.71%	
Inrush Current	102.981A	
Hold-Up Time & PWR_OK Signal	16.00ms	
AC Loss to PWR_OK Hold Up Time	14.00ms	
PWR_OK Inactive to DC Loss Delay	2.00ms	
OPP (0.00°C / 0.00°C)	-	-

Hold-Up Time & PWR_OK Signal

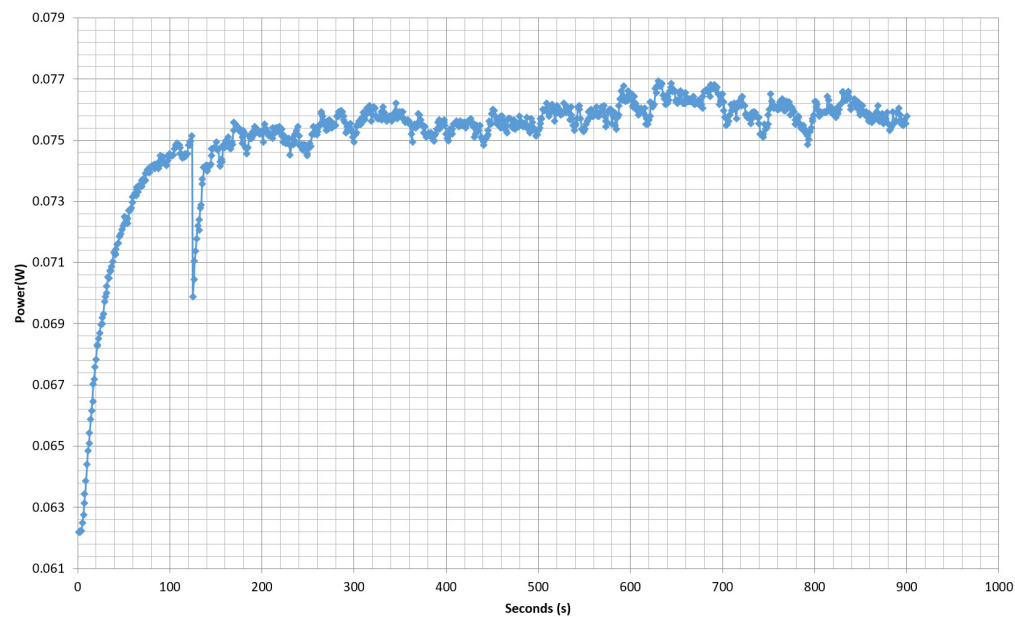
Hold-Up Time (ms)	16
AC Loss to PWR_OK Hold Up Time (ms)	14
PWR_OK Inactive to DC Loss Delay (ms)	2



Graphs

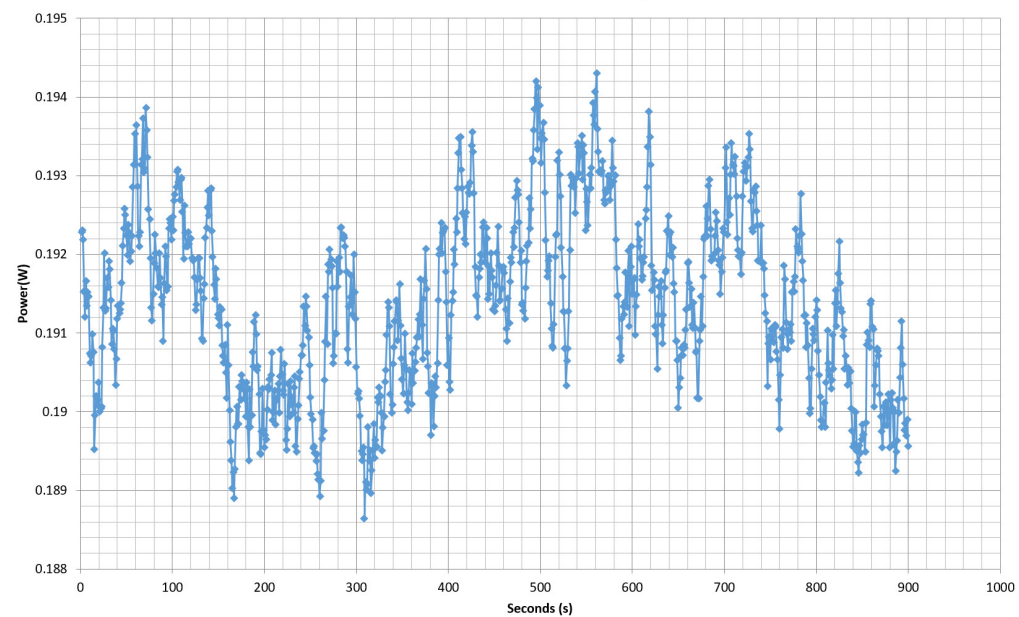
115V

Power - MPE7001ACAAB1191400002 - 16/05/2019 - 18:10



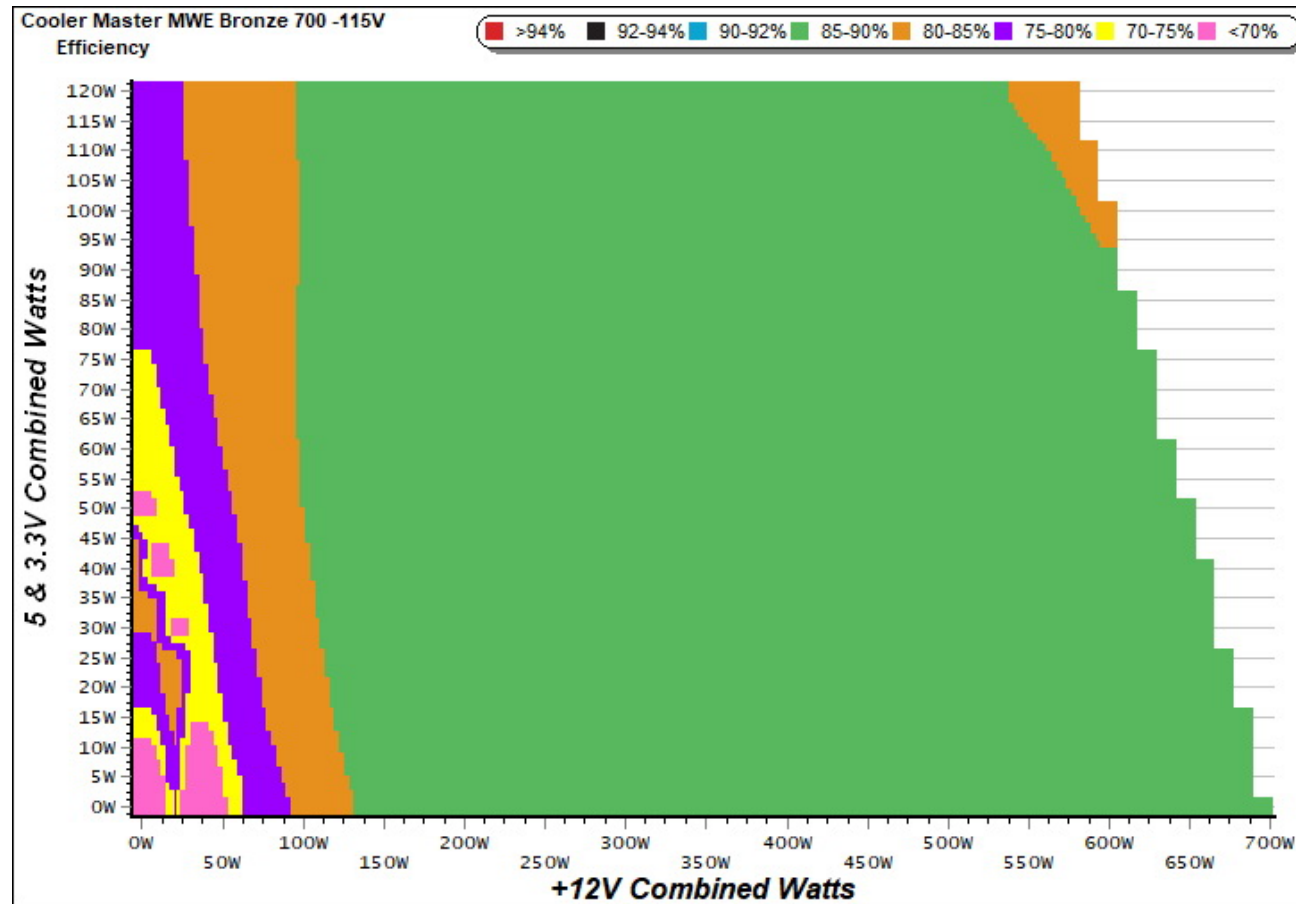
230V

Power - MPE7001ACAAB1191400002 - 16/05/2019 - 18:10



Efficiency Graph

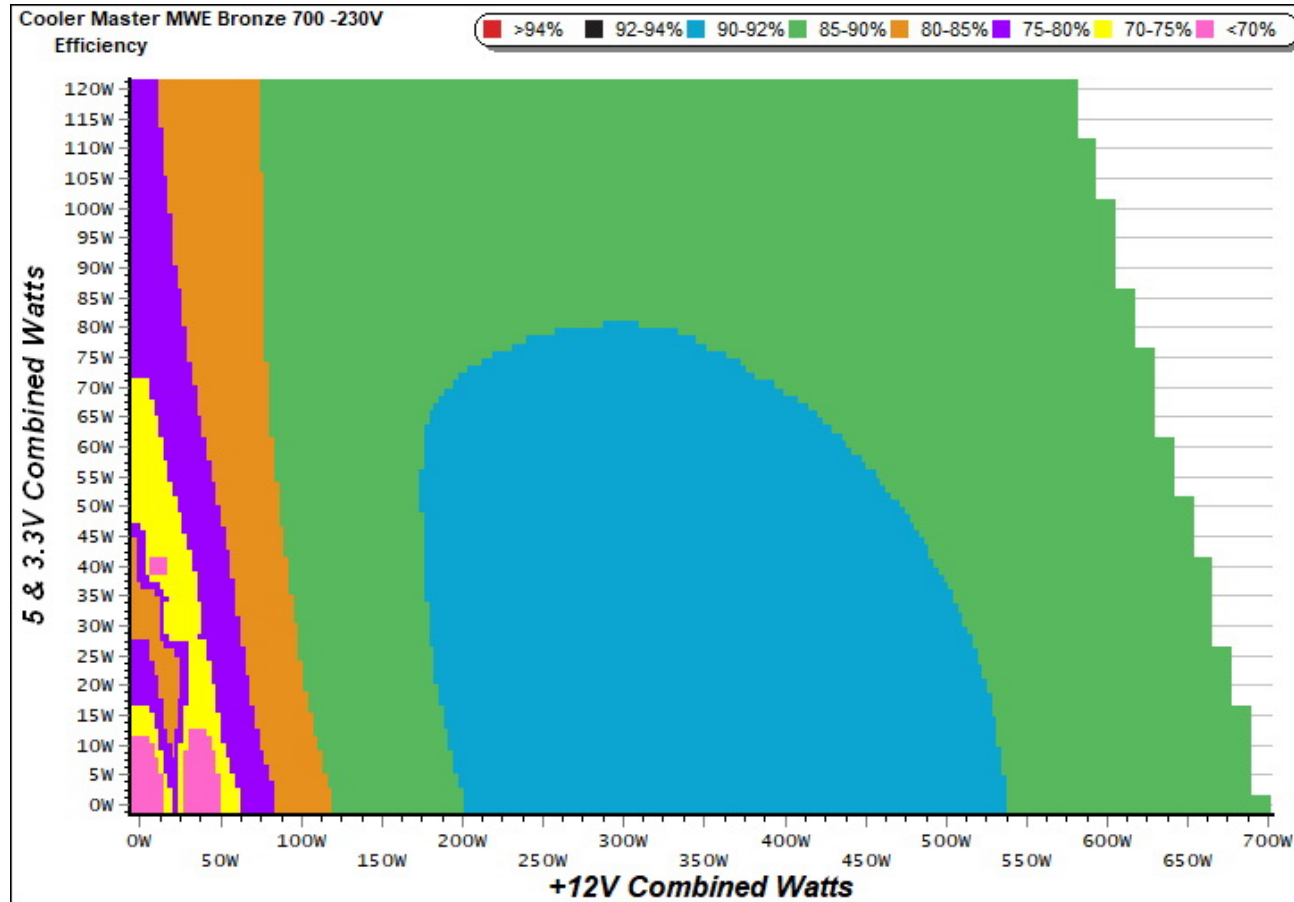
115V



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.

230V

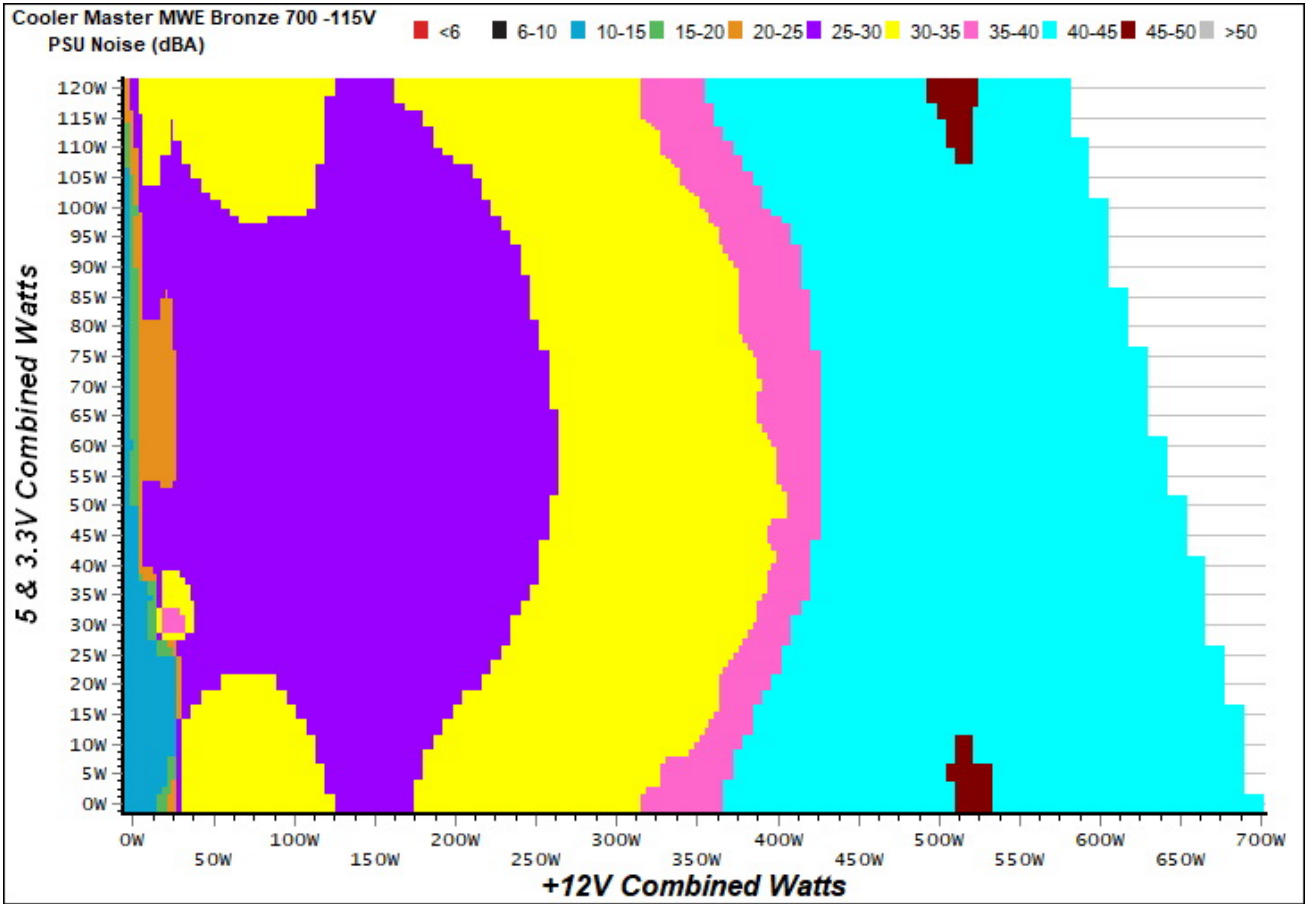


INFO

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

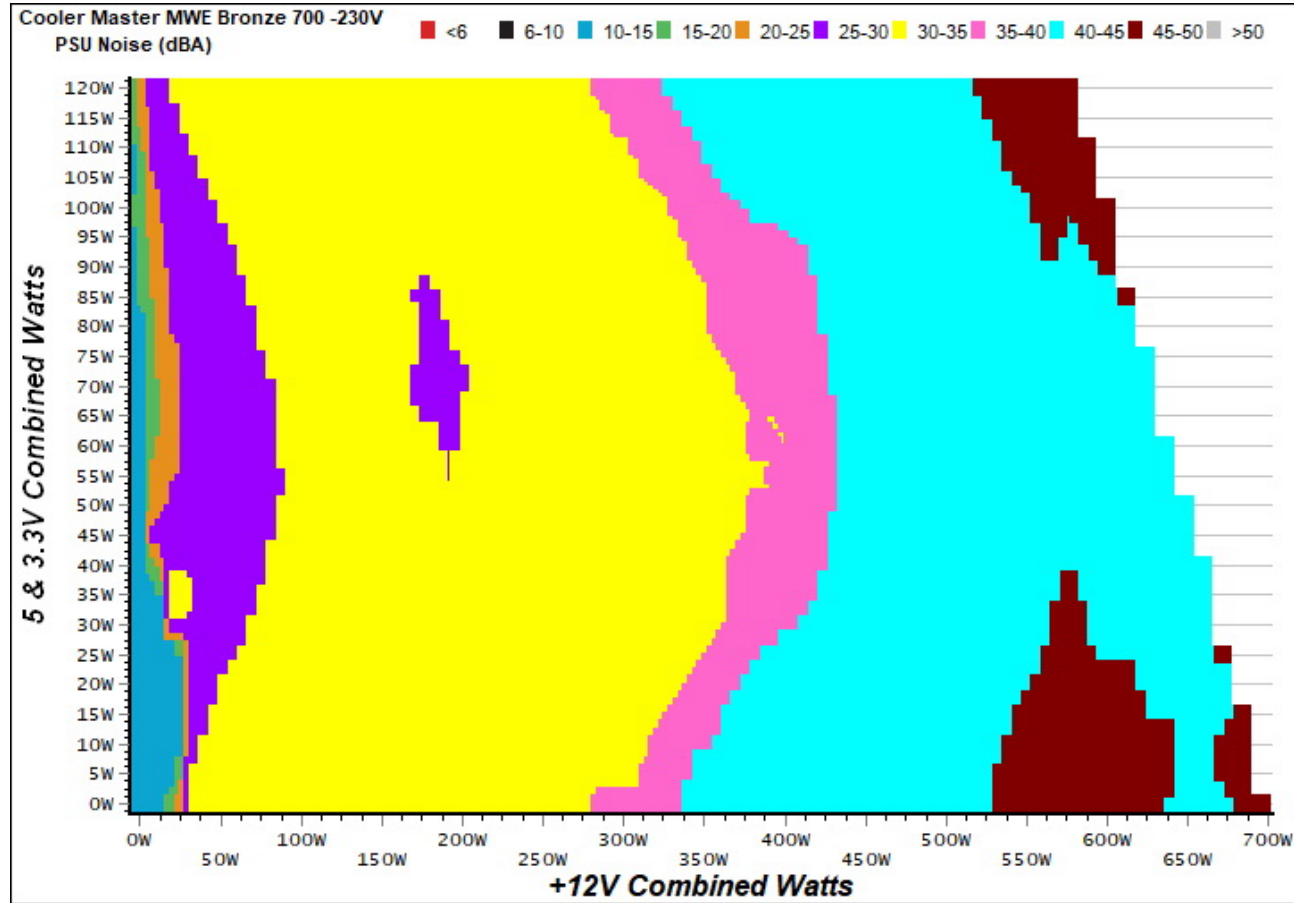
115V



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.

230V



INFO

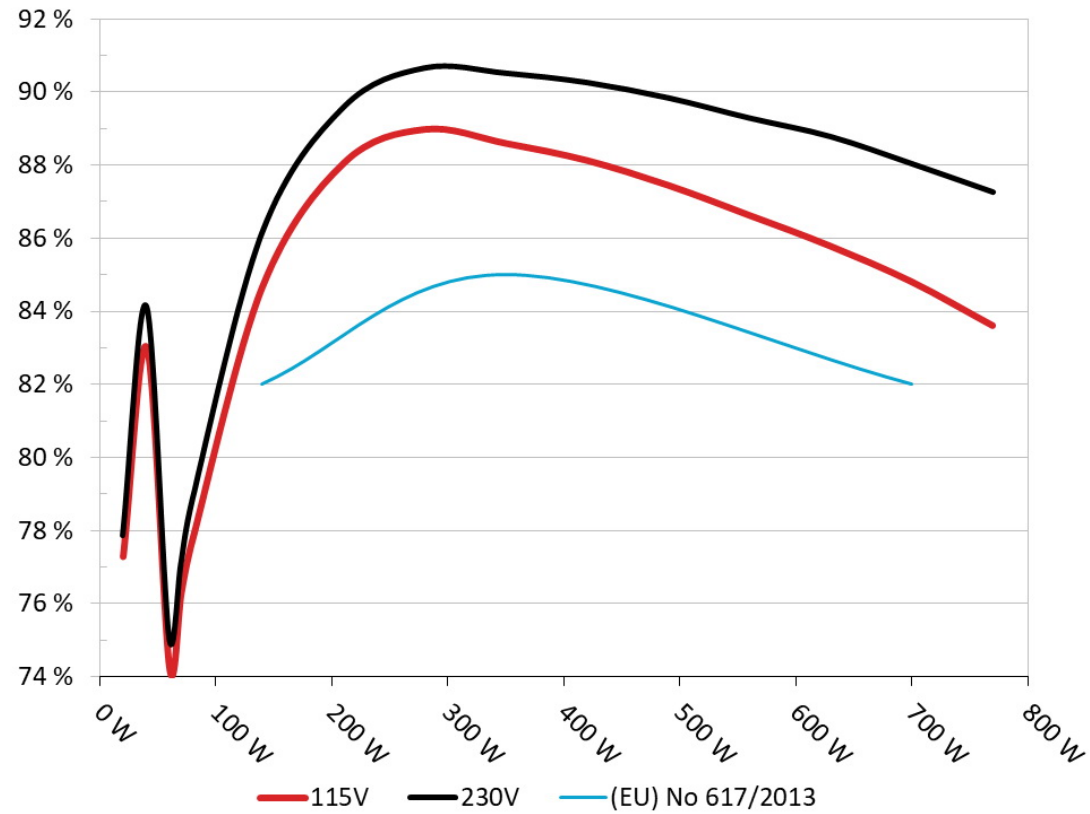
The PSU's noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails.

Indicative Performance

Efficiency under high ambient temperature

Efficiency: Cooler Master MWE Bronze 700

Ambient: 32°C - 40°C (89.6°F - 104°F)



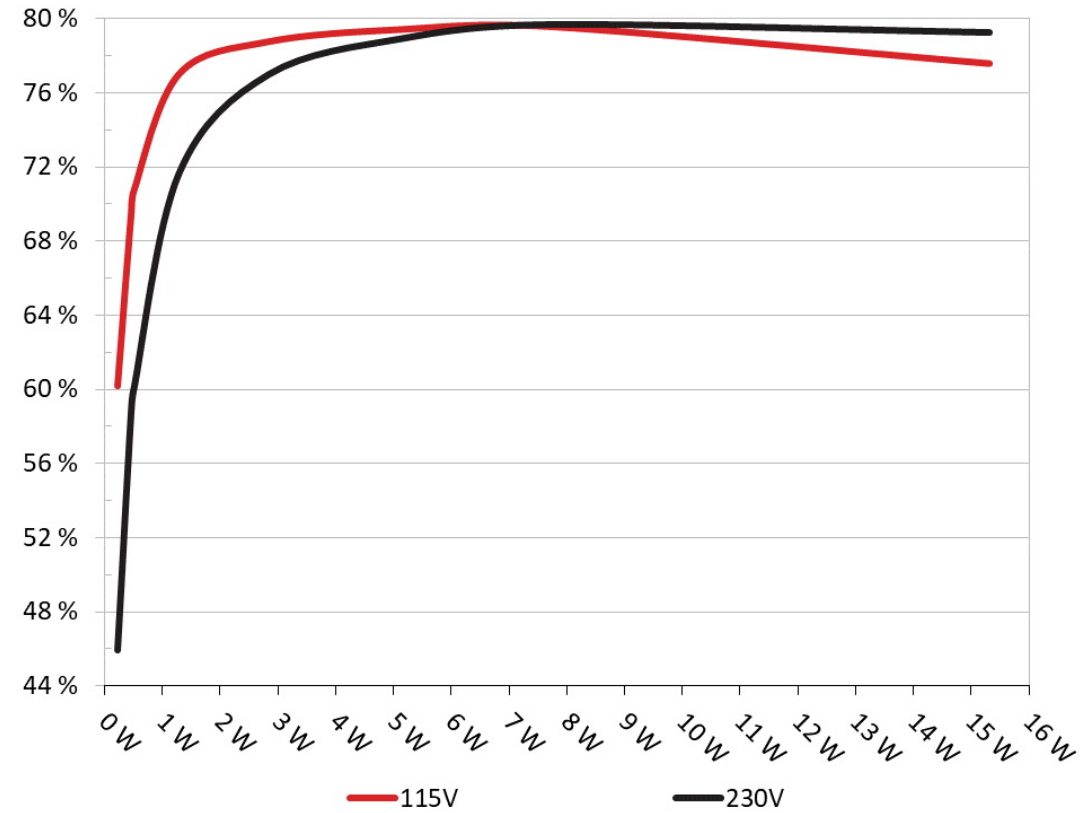
INFO

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 Bronze 700

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.

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.233	60.207%	0.025
	5.176V	0.387		115.10V
2	0.090A	0.466	69.449%	0.042
	5.176V	0.671		115.10V
3	0.550A	2.841	78.764%	0.201
	5.165V	3.607		115.10V
4	1.000A	5.154	79.427%	0.304
	5.154V	6.489		115.10V
5	1.500A	7.713	79.573%	0.372
	5.141V	9.693		115.10V
6	3.000A	15.312	77.584%	0.454
	5.104V	19.736		115.10V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.233	45.957%	0.010
	5.176V	0.507		230.23V
2	0.090A	0.466	58.764%	0.015
	5.176V	0.793		230.22V
3	0.550A	2.841	76.971%	0.068
	5.165V	3.691		230.23V
4	1.000A	5.154	78.916%	0.116
	5.154V	6.531		230.22V
5	1.500A	7.713	79.672%	0.164
	5.142V	9.681		230.22V
6	3.000A	15.312	79.242%	0.270
	5.104V	19.323		230.22V

Supplementary Tests (For Reference)

Typical Load Tests

115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	3.960A	2.016A	1.963A	0.972A	69.697	76.303%	1218	26.9	34.03°C	0.954
	12.145V	4.962V	3.362V	5.144V	91.342				39.88°C	115.11V
2	8.974A	3.029A	2.950A	1.169A	139.781	84.673%	1516	32.8	34.69°C	0.935
	12.134V	4.951V	3.354V	5.133V	165.083				40.75°C	115.13V
3	14.328A	3.541A	3.433A	1.367A	209.682	88.047%	1476	32.5	35.00°C	0.949
	12.122V	4.943V	3.348V	5.121V	238.147				41.45°C	115.11V
4	19.709A	4.054A	3.950A	1.566A	279.684	88.976%	1503	32.6	35.54°C	0.963
	12.100V	4.935V	3.341V	5.110V	314.335				42.60°C	115.11V
5	24.774A	5.079A	4.952A	1.766A	349.787	88.594%	1962	40.4	36.58°C	0.974
	12.080V	4.924V	3.333V	5.098V	394.819				44.15°C	115.13V
6	29.840A	6.110A	5.956A	1.967A	419.898	88.126%	2084	41.3	36.71°C	0.979
	12.067V	4.913V	3.324V	5.085V	476.473				44.93°C	115.11V
7	34.915A	7.142A	6.967A	2.169A	490.014	87.446%	2322	44.1	37.40°C	0.983
	12.055V	4.902V	3.316V	5.072V	560.365				46.24°C	115.12V
8	39.997A	8.181A	7.980A	2.373A	560.134	86.624%	2465	46.0	38.03°C	0.986
	12.044V	4.891V	3.307V	5.060V	646.629				47.24°C	115.14V
9	45.495A	8.706A	8.484A	2.376A	629.862	85.785%	2461	45.9	38.70°C	0.988
	12.031V	4.883V	3.300V	5.052V	734.232				48.45°C	115.11V
10	50.764A	9.233A	9.019A	2.984A	699.848	84.812%	2458	45.9	39.75°C	0.990
	12.019V	4.875V	3.293V	5.029V	825.175				50.58°C	115.09V
11	56.642A	9.243A	9.034A	2.988A	769.878	83.610%	2459	45.9	40.33°C	0.991
	12.008V	4.870V	3.288V	5.021V	920.798				51.60°C	115.10V
CL1	0.144A	14.003A	13.998A	0.000A	116.917	77.131%	2340	44.2	36.41°C	0.937
	12.126V	4.895V	3.331V	5.146V	151.582				44.19°C	115.11V

CL2	58.347A	1.003A	1.001A	1.000A	714.969	85.207%	2460	45.9	39.64°C	0.990
	12.025V	4.923V	3.316V	5.089V	839.094				50.63°C	115.10V

The results above are not used in the certification process

230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	3.959A	2.017A	1.962A	0.972A	69.690	77.087%	1294	28.6	34.20°C	0.715
	12.145V	4.962V	3.363V	5.145V	90.404				40.25°C	230.25V
2	8.973A	3.030A	2.951A	1.169A	139.779	86.167%	1471	32.4	34.61°C	0.825
	12.134V	4.951V	3.354V	5.133V	162.219				40.96°C	230.25V
3	14.327A	3.542A	3.436A	1.367A	209.664	89.585%	1465	32.4	35.30°C	0.861
	12.121V	4.942V	3.347V	5.122V	234.038				42.23°C	230.26V
4	19.710A	4.054A	3.949A	1.566A	279.674	90.666%	1546	33.1	35.81°C	0.904
	12.099V	4.935V	3.341V	5.110V	308.467				43.09°C	230.25V
5	24.777A	5.079A	4.951A	1.766A	349.789	90.524%	1904	38.6	36.52°C	0.924
	12.079V	4.924V	3.332V	5.098V	386.404				44.53°C	230.25V
6	29.843A	6.108A	5.957A	1.967A	419.899	90.267%	2114	32.0	36.90°C	0.934
	12.066V	4.913V	3.324V	5.086V	465.177				45.53°C	230.26V
7	34.919A	7.139A	6.967A	2.169A	490.015	89.847%	2288	43.6	37.00°C	0.940
	12.054V	4.902V	3.316V	5.073V	545.386				45.97°C	230.26V
8	40.000A	8.181A	7.982A	2.372A	560.132	89.294%	2460	45.9	37.71°C	0.947
	12.043V	4.891V	3.307V	5.060V	627.293				47.28°C	230.26V
9	45.497A	8.706A	8.486A	2.376A	629.848	88.788%	2458	45.9	38.63°C	0.953
	12.030V	4.883V	3.300V	5.052V	709.382				48.89°C	230.26V
10	50.770A	9.234A	9.019A	2.984A	699.875	88.046%	2457	45.9	39.65°C	0.958
	12.018V	4.875V	3.293V	5.029V	794.894				50.87°C	230.26V
11	56.648A	9.244A	9.036A	2.989A	769.900	87.270%	2456	45.9	40.34°C	0.961
	12.007V	4.870V	3.287V	5.021V	882.208				52.24°C	230.25V
CL1	0.145A	14.003A	13.999A	0.000A	116.920	78.352%	2434	45.6	36.37°C	0.820
	12.126V	4.895V	3.330V	5.145V	149.224				44.31°C	230.26V

CL2	58.346A	1.003A	0.999A	1.000A	714.893	88.551%	2457	45.9	39.77°C	0.958
	12.024V	4.925V	3.316V	5.088V	807.322				50.49°C	230.26V

The results above are not used in the certification process

Light Load Tests

115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.188A	0.502A	0.475A	0.194A	19.556	77.290%	0	<6.0	0.749
	12.166V	4.976V	3.371V	5.171V	25.302				115.14V
2	2.438A	1.006A	0.979A	0.387A	39.971	83.007%	0	<6.0	0.889
	12.171V	4.972V	3.369V	5.163V	48.154				115.11V
3	3.627A	1.510A	1.455A	0.582A	59.453	74.271%	1105	20.9	0.933
	12.147V	4.966V	3.365V	5.155V	80.049				115.12V
4	4.885A	2.015A	1.962A	0.777A	79.913	77.814%	1163	25.6	0.959
	12.143V	4.962V	3.362V	5.148V	102.698				115.15V

The results above are not used in the certification process

230V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	PF/AC Volts
1	1.189A	0.503A	0.473A	0.194A	19.566	77.881%	0	<6.0	0.347
	12.166V	4.977V	3.372V	5.170V	25.123				230.25V
2	2.439A	1.005A	0.978A	0.387A	39.974	84.150%	0	<6.0	0.530
	12.170V	4.973V	3.369V	5.163V	47.503				230.25V
3	3.627A	1.510A	1.454A	0.582A	59.453	75.125%	1144	25.0	0.679
	12.147V	4.967V	3.366V	5.156V	79.139				230.24V
4	4.882A	2.017A	1.964A	0.777A	79.899	78.896%	1278	28.4	0.744
	12.144V	4.962V	3.362V	5.149V	101.271				230.25V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	14.3 mV	16.6 mV	10.1 mV	20.2 mV	Pass
20% Load	14.5 mV	16.4 mV	10.5 mV	19.2 mV	Pass
30% Load	10.3 mV	16.1 mV	11.1 mV	18.3 mV	Pass
40% Load	32.1 mV	17.7 mV	10.9 mV	17.5 mV	Pass
50% Load	24.7 mV	17.4 mV	12.2 mV	19.3 mV	Pass
60% Load	25.2 mV	16.8 mV	12.2 mV	20.5 mV	Pass
70% Load	23.2 mV	17.2 mV	13.5 mV	21.4 mV	Pass
80% Load	44.3 mV	21.7 mV	16.0 mV	23.6 mV	Pass
90% Load	24.5 mV	18.9 mV	16.6 mV	21.7 mV	Pass
100% Load	37.2 mV	20.2 mV	17.4 mV	25.3 mV	Pass
110% Load	36.6 mV	20.9 mV	18.1 mV	27.0 mV	Pass
Crossload 1	19.5 mV	25.1 mV	18.8 mV	19.3 mV	Pass
Crossload 2	36.2 mV	18.2 mV	11.7 mV	23.9 mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	14.6 mV	16.8 mV	10.1 mV	20.5 mV	Pass
20% Load	14.0 mV	16.0 mV	10.9 mV	17.8 mV	Pass
30% Load	9.8 mV	16.7 mV	11.2 mV	17.8 mV	Pass
40% Load	33.0 mV	16.3 mV	11.1 mV	16.6 mV	Pass
50% Load	24.9 mV	16.6 mV	12.0 mV	17.8 mV	Pass
60% Load	23.9 mV	17.6 mV	12.7 mV	17.5 mV	Pass
70% Load	22.8 mV	17.2 mV	13.7 mV	17.5 mV	Pass
80% Load	45.3 mV	20.4 mV	15.9 mV	19.5 mV	Pass

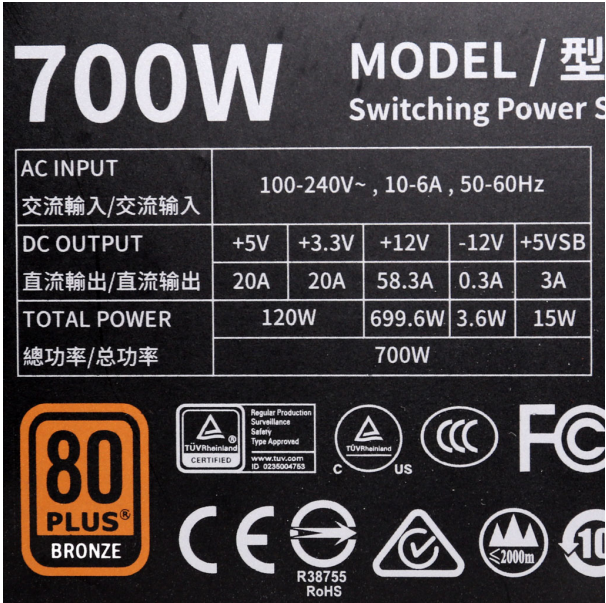
Test	12V	5V	3.3V	5VSB	Pass/Fail
90% Load	28.9 mV	18.9 mV	16.4 mV	20.1 mV	Pass
100% Load	36.3 mV	19.9 mV	17.9 mV	22.9 mV	Pass
110% Load	36.9 mV	20.3 mV	18.3 mV	24.2 mV	Pass
Crossload 1	20.5 mV	25.0 mV	18.8 mV	19.0 mV	Pass
Crossload 2	35.0 mV	18.3 mV	13.0 mV	22.8 mV	Pass

The results above are not used in the certification process

Cooler Master MWE Bronze 700



Top side



Power specifications label

Cybenetics ████████████████████ ETA████ LAMBDA████ SAFE████████████████████ DELTA██████ PHI██████████

CYBENETICS LTD Syrou 6, Latsia, 2231, Nicosia Cyprus

www.cybenetics.com - info@cybenetics.com