

## Anex

Maxpower MP-1200W-U-G

Lab ID#: MP12002408  
 Receipt Date: Mar 26, 2024  
 Test Date: Apr 9, 2024

Report: 24PS2408A  
 Report Date: Apr 10, 2024

DUT INFORMATION	
Brand	Maxpower
Manufacturer (OEM)	Maxpower
Series	MP-U-G
Model Number	
Serial Number	
DUT Notes	

DUT SPECIFICATIONS	
Rated Voltage (Vrms)	115-240
Rated Current (Arms)	14-7
Rated Frequency (Hz)	60-50
Rated Power (W)	1200
Type	ATX12V
Cooling	135mm Fluid Dynamic Bearing Fan (BDH14025S)
Semi-Passive Operation	✓
Cable Design	Fully Modular

TEST EQUIPMENT	
Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P
Power Analyzers	RS HMC8015, N4L PPA1530, N4L PPA5530
Oscilloscopes	Picoscope 4444, Rigol DS7014, 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, Keithley 2015 - THD
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Isolation Transformer	4kVA

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## Anex

Maxpower MP-1200W-U-G

### RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓

### 115V

Average Efficiency	88.049%
Efficiency With 10W (≤500W) or 2% (>500W)	66.669
Average Efficiency 5VSB	79.493%
Standby Power Consumption (W)	0.0924000
Average PF	0.987
Avg Noise Output	36.05 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	Standard+

### 230V

Average Efficiency	90.367%
Average Efficiency 5VSB	77.589%
Standby Power Consumption (W)	0.2186000
Average PF	0.948
Avg Noise Output	35.85 dB(A)
Efficiency Rating (ETA)	SILVER
Noise Rating (LAMBDA)	Standard+

### POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	100	3	0.5
	Watts	120		1200	15	6
Total Max. Power (W)		1200				

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

Hold-Up Time (ms)	10.6
AC Loss to PWR_OK Hold Up Time (ms)	18.4
PWR_OK Inactive to DC Loss Delay (ms)	-7.8

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### CABLES AND CONNECTORS

#### Modular Cables

Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16-18AWG	No
4+4 pin EPS12V (650mm)	2	2	16AWG	No
6+2 pin PCIe (600mm+150mm)	3	6	16-18AWG	No
12+4 pin PCIe (660mm) (600W)	1	1	16-24AWG	No
SATA (510mm+150mm+150mm+150mm)	2	8	18AWG	No
4-pin Molex (505mm+150mm+150mm)	1	3	18AWG	No

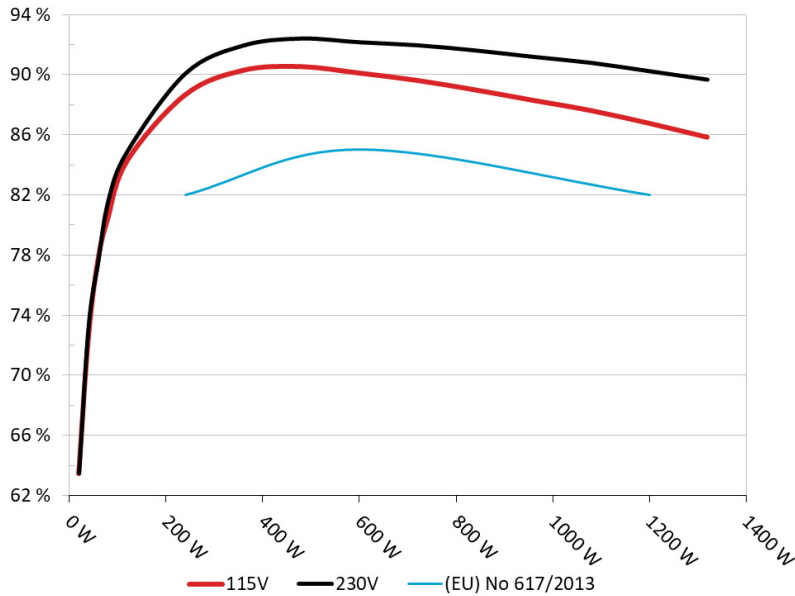
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**PAGE 3/16**

#### EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Maxpower MP-1200W-U-G  
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

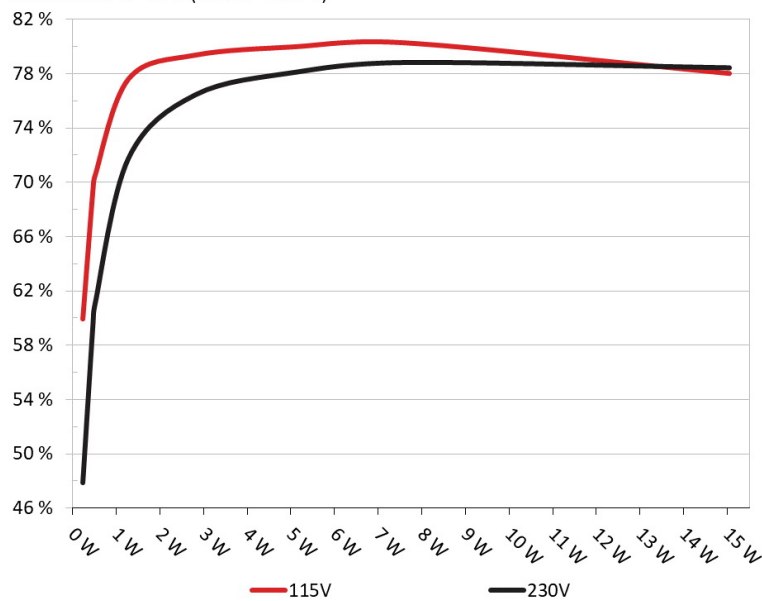


#### INFO

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: Maxpower MP-1200W-U-G  
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	0.231W	60.426%	0.029
	5.136V	0.382W		114.93V
2	0.09A	0.462W	69.897%	0.049
	5.134V	0.661W		114.94V
3	0.55A	2.814W	79.84%	0.221
	5.116V	3.524W		114.92V
4	1A	5.098W	80.453%	0.314
	5.098V	6.336W		114.92V
5	1.5A	7.618W	80.743%	0.374
	5.078V	9.435W		114.91V
6	3A	15.052W	78.49%	0.457
	5.017V	19.177W		114.91V

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

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	48.339%	0.011
	5.133V	0.481W		229.88V
2	0.09A	0.462W	59.972%	0.017
	5.132V	0.774W		229.89V
3	0.55A	2.813W	76.94%	0.079
	5.114V	3.658W		229.89V
4	1A	5.097W	78.596%	0.133
	5.096V	6.487W		229.88V
5	1.5A	7.616W	79.318%	0.184
	5.076V	9.6W		229.88V
6	3A	15.048W	78.928%	0.291
	5.016V	19.064W		229.88V

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Anex

Maxpower MP-1200W-U-G

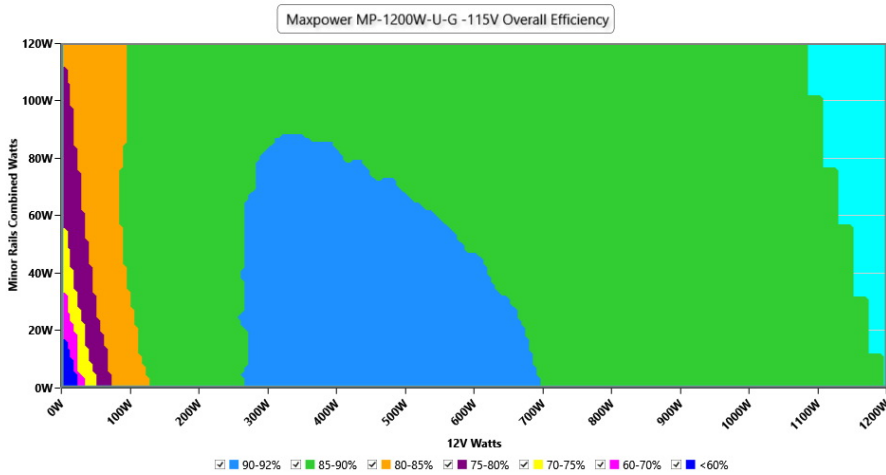
# 115V

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**PAGE 6/16**

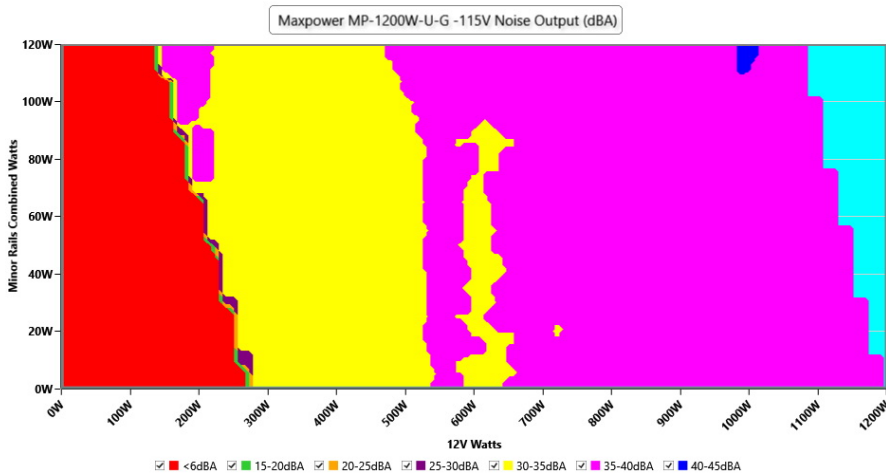
#### EFFICIENCY GRAPH 115V



#### 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 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

#### Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.06 V	115.02 V	113.85 V	115.10 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.09 %	N/A	0.18 %	2.00 %	PASS
Real Power:	0.092 W	0.084 W	N/A	0.105 W	N/A	N/A
Apparent Power:	13.349 W	13.315 W	N/A	13.388 W	N/A	N/A
Power Factor:	0.007	N/A	N/A	N/A	N/A	N/A

#### 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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#### 10-110% 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
10%	8.156A	1.931A	1.965A	0.985A	119.998	84.259%	0	<6.0	44.29°C	0.988
	12.064V	5.178V	3.359V	5.074V	142.415				40.05°C	114.88V
20%	17.334A	2.903A	2.958A	1.188A	239.96	88.647%	0	<6.0	45.33°C	0.978
	12.061V	5.167V	3.347V	5.053V	270.692				40.67°C	114.83V
30%	26.795A	3.401A	3.467A	1.39A	359.185	90.278%	1182	36.0	41.22°C	0.984
	12.060V	5.146V	3.332V	5.035V	397.866				46.31°C	114.8V
40%	36.367A	3.897A	3.976A	1.595A	479.564	90.532%	1183	36.0	41.56°C	0.988
	12.053V	5.133V	3.32V	5.016V	529.723				47.09°C	114.75V
50%	45.559A	4.883A	4.99A	1.802A	599.326	90.105%	1335	39.4	42.21°C	0.99
	12.046V	5.12V	3.307V	4.996V	665.136				48.29°C	114.71V
60%	54.826A	5.873A	6.012A	2A	719.793	89.614%	1342	39.5	42.64°C	0.992
	12.039V	5.108V	3.294V	4.974V	803.213				49.19°C	114.67V
70%	64.043A	6.869A	7.042A	2.222A	839.571	88.986%	1348	39.7	43.33°C	0.993
	12.030V	5.096V	3.281V	4.951V	943.487				50.34°C	114.61V
80%	73.341A	7.868A	8.079A	2.331A	959.556	88.29%	1480	41.6	43.96°C	0.994
	12.022V	5.083V	3.268V	4.933V	1086.816				51.98°C	114.57V
90%	82.983A	8.377A	8.598A	2.442A	1079.356	87.61%	1489	41.6	44.7°C	0.995
	12.012V	5.073V	3.257V	4.915V	1232.004				53.74°C	114.51V
100%	92.450A	8.889A	9.152A	3.078A	1199.397	86.766%	1610	43.4	45.87°C	0.995
	12.003V	5.061V	3.245V	4.874V	1382.347				55.92°C	114.46V
110%	101.865A	9.904A	10.307A	3.088A	1320.009	85.838%	1617	43.4	46.59°C	0.996
	11.993V	5.048V	3.231V	4.858V	1537.795				57.52°C	114.41V
CL1	0.117A	14.055A	14.434A	0A	121.305	78.627%	0	<6.0	45.88°C	0.986
	12.055V	5.136V	3.305V	5.096V	154.279				40.36°C	114.86V
CL2	0.116A	19.338A	0A	0A	101.371	77.003%	0	<6.0	47.95°C	0.984
	12.057V	5.17V	3.35V	5.103V	131.648				40.9°C	114.87V
CL3	0.115A	0A	19.883A	0A	67.401	70.93%	0	<6.0	50.21°C	0.973
	12.060V	5.168V	3.32V	5.103V	95.023				41.18°C	114.89V
CL4	99.951A	0A	0A	0.001A	1199.969	87.302%	1604	43.3	45.42°C	0.995
	12.005V	5.11V	3.296V	5.011V	1374.502				56.39°C	114.48V

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## Anex

## Maxpower MP-1200W-U-G

### 20-80W 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
20W	1.228A	0.482A	0.489A	0.195A	19.999	63.452%	0	<6.0	39.64°C	0.788
	12.093V	5.186V	3.371V	5.12V	31.526				36.56°C	114.91V
40W	2.706A	0.675A	0.686A	0.293A	39.999	72.525%	0	<6.0	40.98°C	0.921
	12.080V	5.185V	3.369V	5.114V	55.151				37.67°C	114.9V
60W	4.186A	0.868A	0.882A	0.392A	59.999	77.686%	0	<6.0	41.98°C	0.952
	12.073V	5.184V	3.367V	5.107V	77.235				38.28°C	114.89V
80W	5.660A	1.061A	1.078A	0.49A	79.948	80.419%	0	<6.0	43.17°C	0.975
	12.069V	5.183V	3.366V	5.1V	99.414				39.19°C	114.88V

### RIPPLE MEASUREMENTS 115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	21.69mV	19.00mV	18.37mV	17.60mV	Pass
20% Load	58.24mV	18.85mV	18.41mV	17.29mV	Pass
30% Load	40.23mV	20.44mV	18.57mV	18.26mV	Pass
40% Load	34.38mV	20.79mV	19.23mV	19.54mV	Pass
50% Load	36.43mV	23.09mV	20.21mV	20.26mV	Pass
60% Load	38.88mV	25.80mV	21.89mV	22.20mV	Pass
70% Load	42.77mV	26.26mV	22.46mV	23.43mV	Pass
80% Load	44.05mV	28.71mV	24.81mV	25.27mV	Pass
90% Load	46.66mV	29.53mV	23.02mV	26.04mV	Pass
100% Load	60.88mV	34.57mV	28.65mV	29.51mV	Pass
110% Load	62.38mV	35.57mV	29.08mV	30.59mV	Pass
Crossload1	26.63mV	29.94mV	21.27mV	17.74mV	Pass
Crossload2	25.32mV	22.43mV	19.23mV	18.31mV	Pass
Crossload3	23.79mV	35.00mV	22.51mV	18.06mV	Pass
Crossload4	58.63mV	30.14mV	27.53mV	28.56mV	Pass

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# 230V

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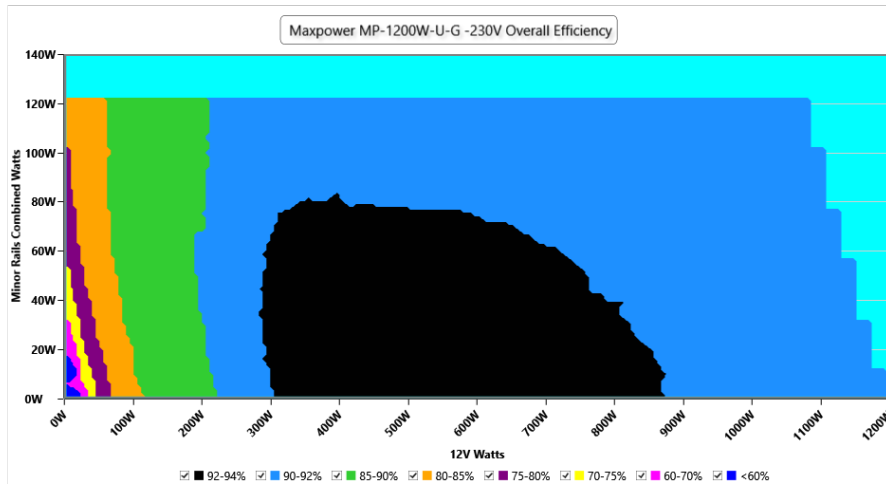
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**PAGE 11/16**

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## Maxpower MP-1200W-U-G

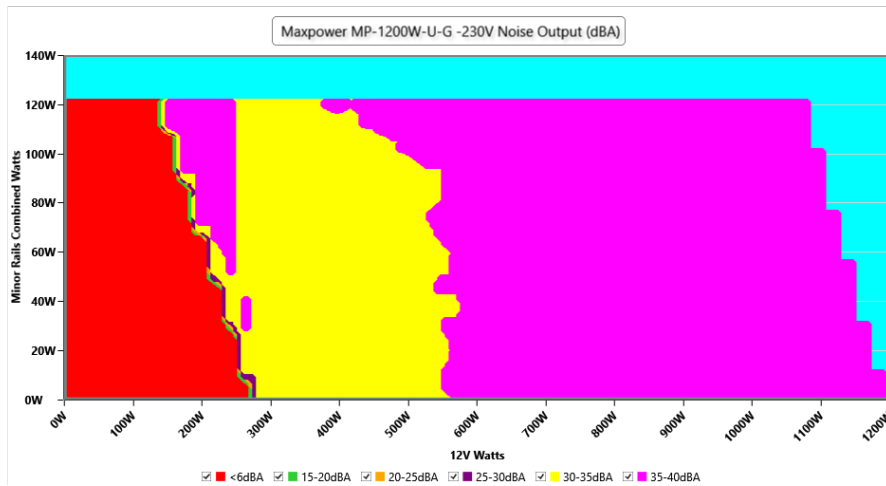
### EFFICIENCY GRAPH 230V



#### 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 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

#### Detailed Results

	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.00 V	230.90 V	227.70 V	231.06 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.17 %	0.14 %	N/A	0.25 %	2.00 %	PASS
Real Power:	0.219 W	0.195 W	N/A	0.275 W	N/A	N/A
Apparent Power:	45.276 W	45.063 W	N/A	45.483 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

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#### 10-110% LOAD TESTS 230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	8.154A	1.93A	1.964A	0.986A	119.999	84.914%	0	<6.0	44.25°C	0.848
	12.066V	5.181V	3.361V	5.072V	141.321				40.01°C	229.87V
20%	17.330A	2.902A	2.957A	1.188A	239.961	90.091%	0	<6.0	45.18°C	0.931
	12.063V	5.169V	3.349V	5.05V	266.355				40.64°C	229.85V
30%	26.785A	3.401A	3.467A	1.391A	359.201	91.951%	1190	36.3	41.3°C	0.955
	12.064V	5.146V	3.332V	5.033V	390.643				46.38°C	229.83V
40%	36.354A	3.898A	3.977A	1.595A	479.593	92.42%	1185	36.1	41.55°C	0.962
	12.059V	5.132V	3.319V	5.016V	518.928				47.1°C	229.81V
50%	45.542A	4.884A	4.991A	1.802A	599.36	92.176%	1342	39.5	42.36°C	0.97
	12.051V	5.12V	3.306V	4.995V	650.235				48.36°C	229.78V
60%	54.806A	5.875A	6.013A	2A	719.818	91.973%	1348	39.7	42.88°C	0.974
	12.044V	5.107V	3.293V	4.974V	782.65				49.43°C	229.77V
70%	64.018A	6.869A	7.043A	2.222A	839.591	91.631%	1355	39.9	43.2°C	0.976
	12.035V	5.096V	3.281V	4.951V	916.275				50.22°C	229.74V
80%	73.312A	7.869A	8.082A	2.331A	959.568	91.205%	1486	41.6	43.95°C	0.978
	12.026V	5.082V	3.267V	4.933V	1052.096				51.99°C	229.72V
90%	82.951A	8.379A	8.601A	2.441A	1079.37	90.807%	1492	41.7	44.39°C	0.98
	12.017V	5.072V	3.256V	4.915V	1188.648				53.45°C	229.7V
100%	92.416A	8.891A	9.155A	3.078A	1199.39	90.254%	1614	43.4	45.73°C	0.982
	12.008V	5.061V	3.244V	4.874V	1328.909				55.75°C	229.68V
110%	101.830A	9.906A	10.309A	3.087A	1320.011	89.688%	1622	43.4	46.65°C	0.984
	11.997V	5.047V	3.23V	4.859V	1471.785				57.55°C	229.66V
CL1	0.117A	14.058A	14.436A	0A	121.306	79.624%	0	<6.0	48.6°C	0.867
	12.056V	5.135V	3.305V	5.096V	152.353				43.13°C	229.87V
CL2	0.116A	19.34A	0A	0A	101.373	78.158%	0	<6.0	49.22°C	0.831
	12.056V	5.169V	3.349V	5.103V	129.702				42.13°C	229.87V
CL3	0.115A	0A	19.885A	0A	67.403	72.085%	0	<6.0	50.84°C	0.74
	12.059V	5.168V	3.32V	5.103V	93.505				41.78°C	229.87V
CL4	99.963A	0A	0A	0.001A	1199.985	90.72%	1607	43.3	45.42°C	0.982
	12.004V	5.109V	3.294V	5.011V	1322.749				56.38°C	229.68V

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### 20-80W LOAD TESTS 230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.228A	0.482A	0.489A	0.195A	20.012	63.489%	0	<6.0	39.64°C	0.388
	12.107V	5.189V	3.373V	5.118V	31.527				36.56°C	229.89V
40W	2.706A	0.675A	0.685A	0.293A	40.004	73.348%	0	<6.0	40.6°C	0.572
	12.083V	5.189V	3.371V	5.112V	54.543				37.24°C	229.89V
60W	4.184A	0.867A	0.881A	0.392A	60.002	77.649%	0	<6.0	41.5°C	0.682
	12.077V	5.187V	3.369V	5.105V	77.274				38.02°C	229.88V
80W	5.660A	1.061A	1.078A	0.49A	79.952	81.56%	0	<6.0	42.89°C	0.753
	12.071V	5.186V	3.368V	5.098V	98.026				39.01°C	229.88V

### RIPPLE MEASUREMENTS 230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	17.50mV	13.49mV	13.71mV	12.17mV	Pass
20% Load	63.56mV	14.51mV	14.68mV	13.71mV	Pass
30% Load	41.05mV	15.53mV	13.97mV	13.14mV	Pass
40% Load	30.03mV	15.79mV	14.73mV	14.58mV	Pass
50% Load	31.93mV	18.03mV	15.86mV	15.34mV	Pass
60% Load	35.30mV	19.82mV	17.19mV	17.29mV	Pass
70% Load	38.32mV	22.89mV	17.50mV	17.95mV	Pass
80% Load	40.36mV	23.50mV	19.80mV	19.49mV	Pass
90% Load	44.10mV	24.98mV	19.85mV	20.20mV	Pass
100% Load	57.79mV	28.54mV	23.46mV	22.42mV	Pass
110% Load	60.76mV	31.71mV	24.97mV	26.06mV	Pass
Crossload1	22.32mV	24.69mV	17.87mV	14.27mV	Pass
Crossload2	19.80mV	17.57mV	13.45mV	12.68mV	Pass
Crossload3	19.13mV	29.63mV	18.31mV	13.25mV	Pass
Crossload4	56.29mV	25.02mV	22.70mV	21.96mV	Pass

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

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- > The link to the original test results document should be provided in any case

PAGE 15/16

**Anex**

**Maxpower MP-1200W-U-G**

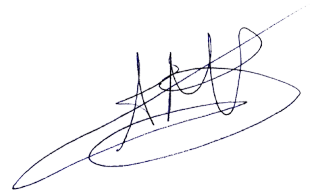


Top side



Power specifications label

**CERTIFICATIONS 115V**

**Aristeidis Bitziopoulos**  
Lab Director

**CERTIFICATIONS 230V**



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