MSI MPG A1000G PCIE5

Serial Number

Lab ID MS10002337

Certification ID 252337

Test Result Report ID: 24PS2337A

Certificate Issue Date: Jan 29, 2024

Scheme: ETA-EMI PSU

115V



230V



115V



230V



Scheme: LAMBDA PSU



Outside Validation Scope



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	MSI
Model	MPG A1000G PCIE5
OEM/ODM	CWT
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240

Rated Current (Arms)	13
Rated Frequency (Hz)	50-60
Rated Power (W)	1000
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	135mm Fluid Dynamic Bearing Fan (HA13525H12SF-Z)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	MS10002337
Date of receipt	Jan 8, 2024
Testing Date	Jan 25, 2024
Report Issued Date	Jan 29, 2024
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors
(Non-accredited measurements)

Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-22AWG	No
4+4 pin EPS12V (750mm)	2	2	18AWG	No
6+2 pin PCIe (600mm+150mm)	2	4	16-18AWG	No
2x 6+2 pin PCIe (600mm)	1	2	16-18AWG	No

12+4 pin PCIe (600mm) (600W)	1	1	16-26AWG	No
SATA (500mm+150mm+150mm+150mm)	3	12	18AWG	No
4-pin Molex (500mm+150mm+150mm+150mm) / FDD (+150mm)	1	4 / 1	18-20AWG	No

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	22	22	83.5	3	0.3
	Watts	120		1000	15	3.6
Total Max. Power (W)		1000				

Parts Description

General Data	
Manufacturer (OEM)	CWT
Platform	CSZ
PCB Type	Double-Sided
Primary Side	
Transient Filter	4x Y caps, 2x X caps, 2x CM chokes, 1x MOV
Inrush Protection	1x NTC Thermistor SCK207R0 (7 Ohm) & Relay
Bridge Rectifier(s)	2x (2306)
APFC MOSFETs	2x Alpha Omega AOTF095A60L
APFC Boost Diode	1x CREE C3D10060A (600V, 12A @ 140°C)
Bulk Cap(s)	1x Nichicon (400V, 820uF, 2,000h @ 105°C, GL)
Main Switchers	2x Infineon IPA60R125P6 (600V, 19A @ 100°C, Rds(on): 0.125Ohm)
APFC Controller	Champion CM6500UNX & CM03X
Resonant Controller	Champion CU6901VA
Topology	Primary side: APFC, Half-Bridge & LLC converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	8x On Semiconductor NTMFS5C430N (40V, 131A @ 100°C, Rds(on): 1.7mOhm)
5V & 3.3V	DC-DC Converters: 2x UBIQ QM3054M6 (30V, 61A @ 100°C, Rds(on): 4.8mOhm) & 2x UBIQ QN3107M6N (30V, 70A @ 100°C, Rds(on): 2.6mOhm) PWM Controller(s): uPI-Semi uP3861P

Filtering Capacitors	Electrolytic: 1x Nichicon (2-5,000h @ 105°C, HD), 2x Nippon Chemi-Con (1-5,000h @ 105°C, KZE), 2x Nichicon (4-10,000h @ 105°C, HE), 2x Rubycon (4-10,000h @ 105°C, YXJ) Polymer: 14x United Chemi-Con, 14x FPCAP
Supervisor IC	IN1S3151 – SAG
Fan Controller	Microchip PIC16F1503
Fan Model	Hong Hua HA13525H12SF-Z (135mm, 12V, 0.5A, Fluid Dynamic Bearing Fan)
5VSB Circuit	
Rectifier	1x D10PS45L SBR (45V, 10A)
Standby PWM Controller	On Bright OB2365T

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	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.1 PSU Power Excursion	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	88.627%
Average Noise Output (>1450 Load Combinations)	31.60dBA
Average PF (>1450 Load Combinations)	0.989
Efficiency With 10W (≤500W) or 2% (>500W) Load	78.753%
Standby Power Consumption	0.0135W
Non-Accredited	
12V Ripple (Full Load)	36.41mV

5V Ripple (Full Load)	20.95mV
3.3V Ripple (Full Load)	22.18mV
5VSB Ripple (Full Load)	11.70mV
12V Load Regulation	0.81%
5V Load Regulation	0.60%
3.3V Load Regulation	0.83%
5VSB Load Regulation	1.51%
Inrush Current	25.470A

230V

Accredited	
Average Efficiency (>1450 load combinations)	90.818%
Average Noise Output (>1450 Load Combinations)	31.14dBA
Average PF (>1450 Load Combinations)	0.964
Efficiency With 10W (≤500W) or 2% (>500W) Load	75.943%
Standby Power Consumption	0.0717W
Non-Accredited	
12V Ripple (Full Load)	36.89mV
5V Ripple (Full Load)	21.38mV
3.3V Ripple (Full Load)	23.18mV
5VSB Ripple (Full Load)	12.83mV
12V Load Regulation	0.80%
5V Load Regulation	0.58%
3.3V Load Regulation	0.80%
5VSB Load Regulation	1.51%
Inrush Current	52.460A
12V Transient Response (200%)	11.38V
5V Transient Response (200%)	4.893V
3.3V Transient Response (200%)	3.170V
5VSB Transient Response (200%)	4.862V
Hold-Up Time & PWR_OK Signal	17.50ms
AC Loss to PWR_OK Hold Up Time	14.90ms

PWR_OK Inactive to DC Loss Delay		2.60ms
PSU Timings: T1 (20% / 100%)	60.0ms	60.0ms
PSU Timings: T3 (20% / 100%)	125.0ms	125.0ms
OPP (26.48°C / 41.98°C)	126.71%	126.71%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	17.5
AC Loss to PWR_OK Hold Up Time (ms)	14.9
PWR_OK Inactive to DC Loss Delay (ms)	2.6



Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.85 V	114.79 V	113.85 V	114.91 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.420	1.418	1.340	1.422	1.490	PASS
Mains Voltage THD:	0.15 %	0.10 %	N/A	0.25 %	2.00 %	PASS
Real Power:	0.014 W	0.001 W	N/A	0.028 W	N/A	N/A
Apparent Power:	11.118 W	11.085 W	N/A	11.157 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

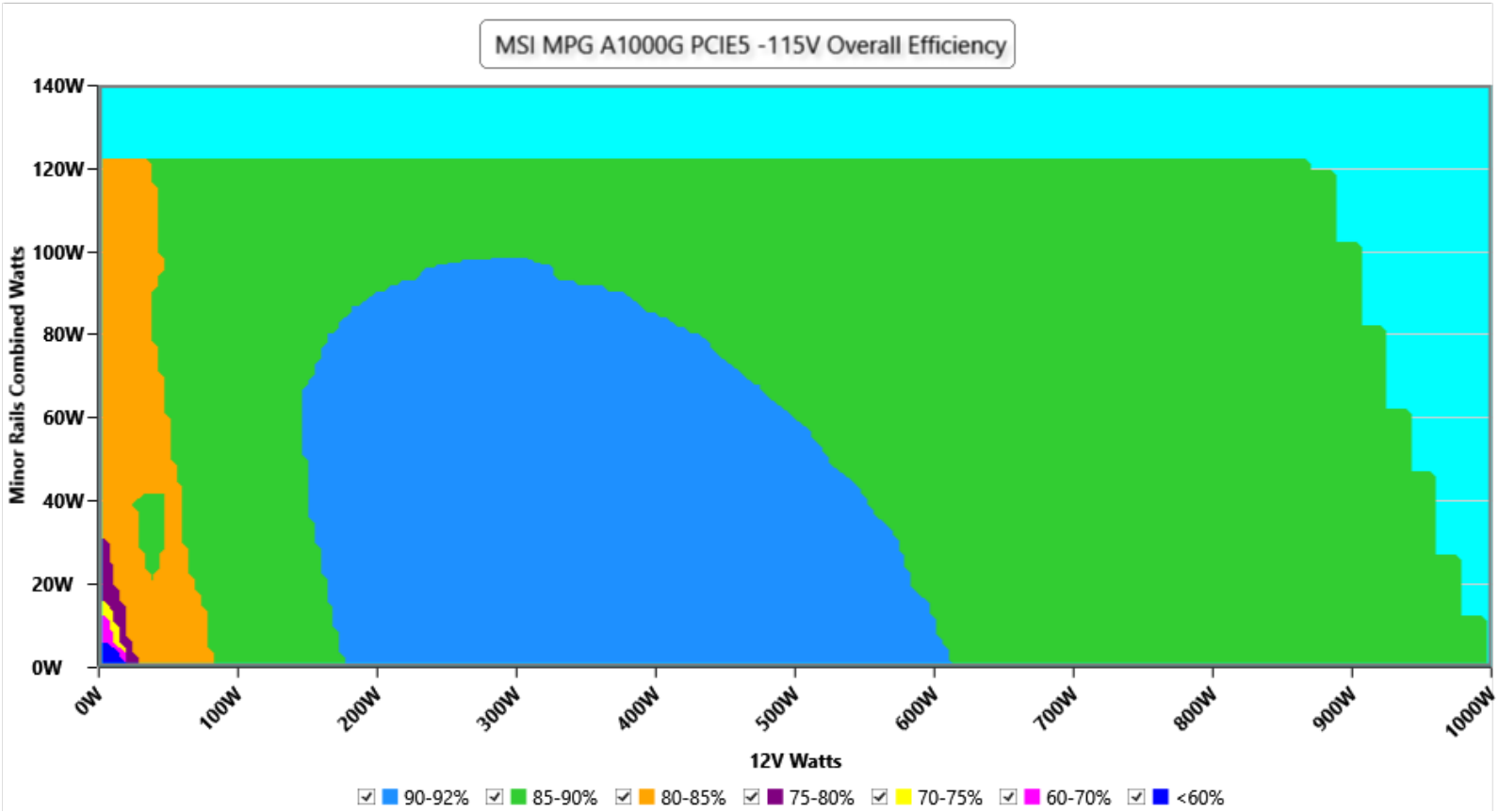
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.88 V	229.82 V	227.70 V	229.95 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:	1.418	1.417	1.340	1.420	1.490	PASS
Mains Voltage THD:	0.14 %	0.10 %	N/A	0.21 %	2.00 %	PASS
Real Power:	0.072 W	0.045 W	N/A	0.108 W	N/A	N/A
Apparent Power:	38.433 W	38.361 W	N/A	38.492 W	N/A	N/A
Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

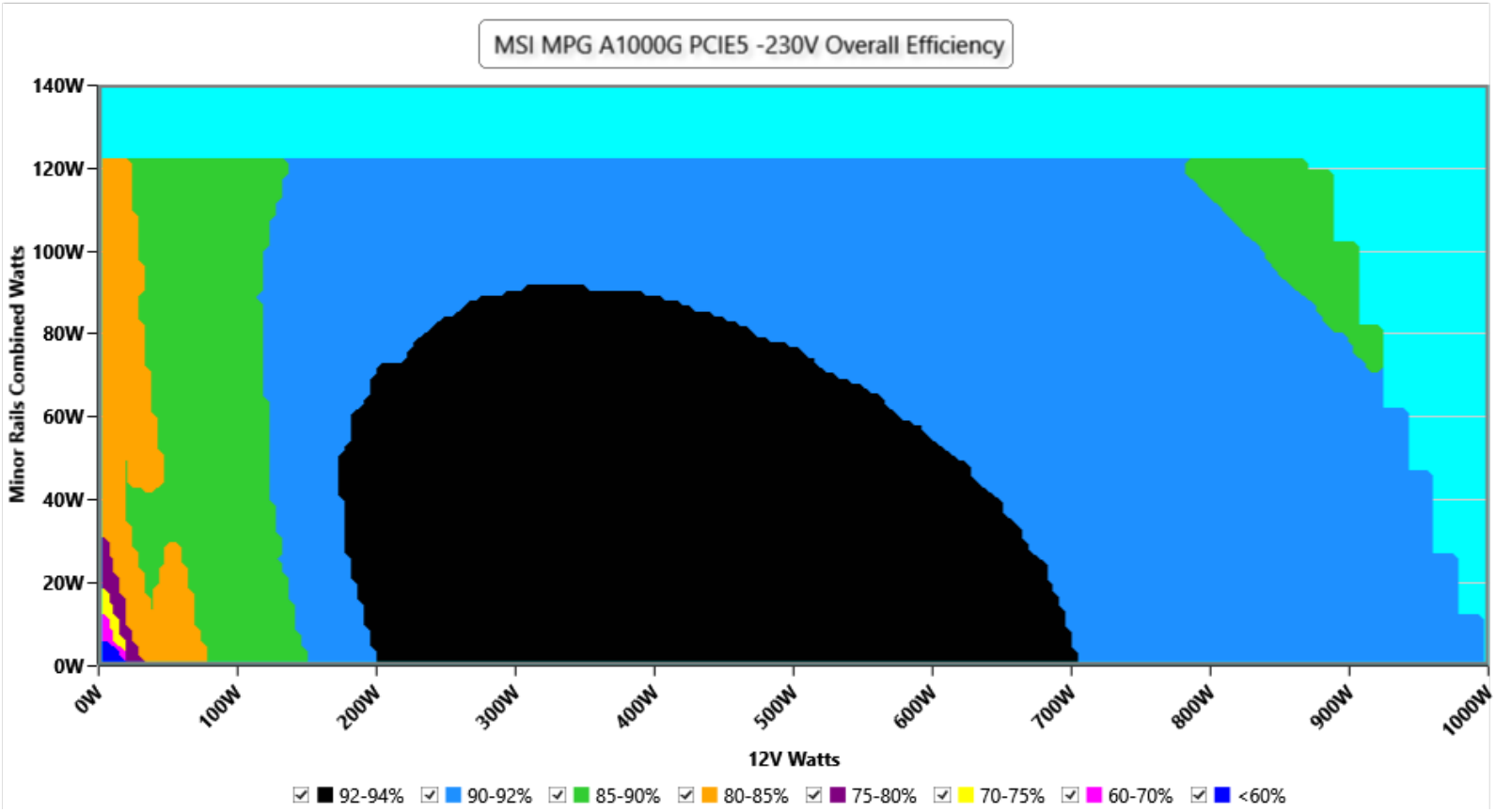
115V



INFO

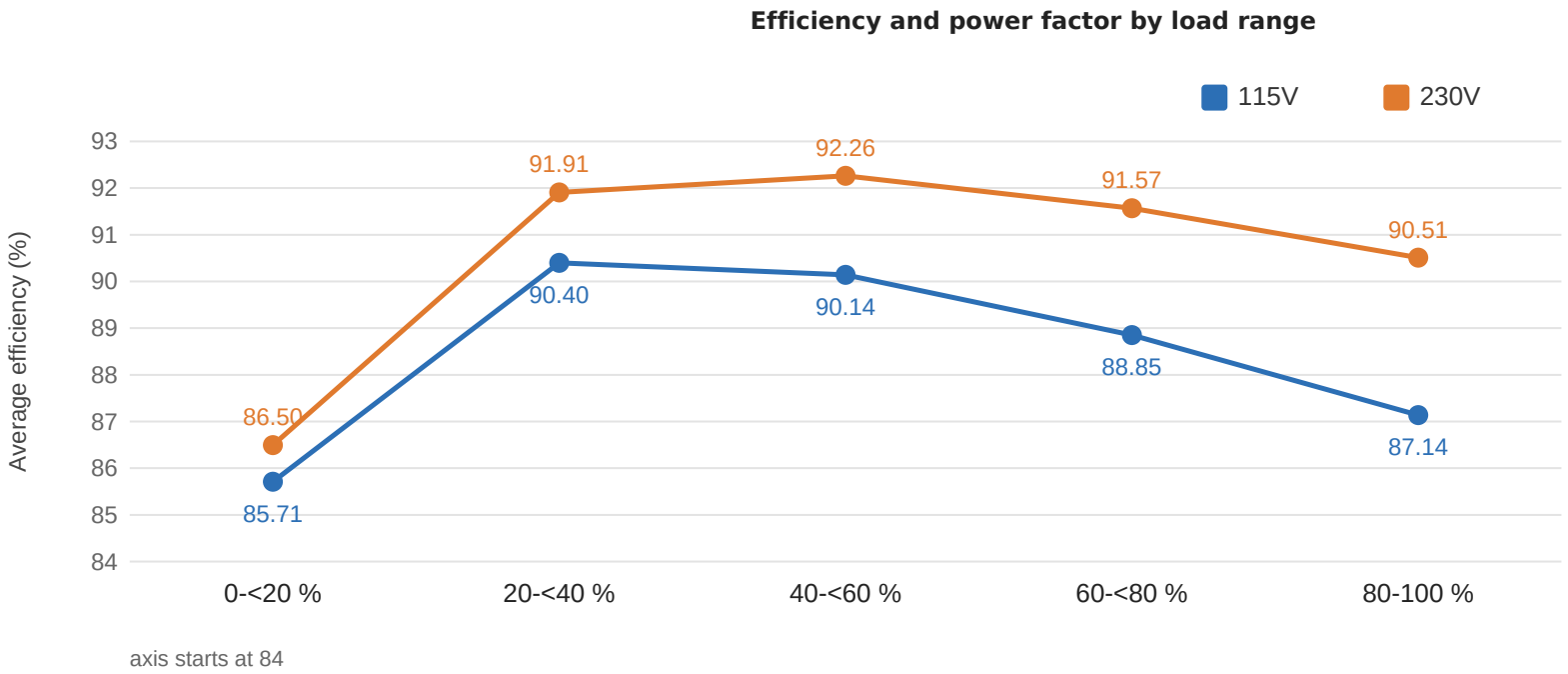
This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

230V

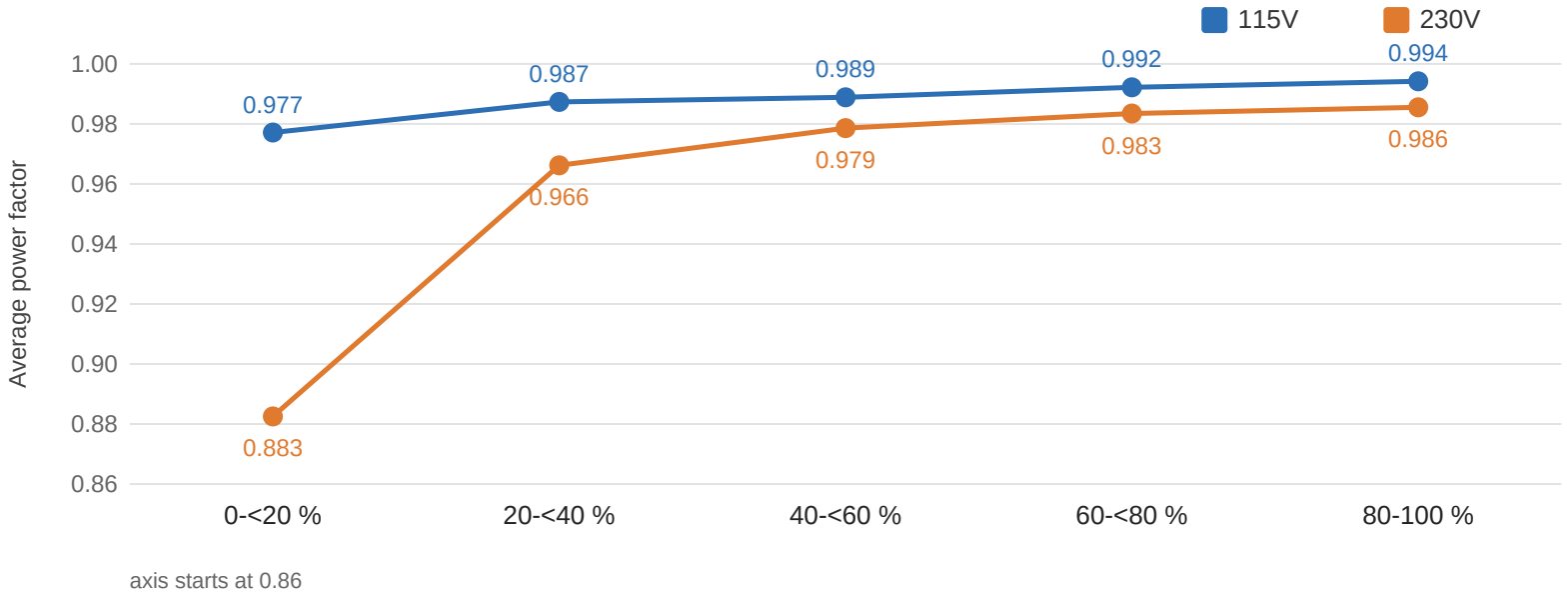


INFO

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



axis starts at 84



axis starts at 0.86

Load range	Points	Efficiency 115V	Efficiency 230V	PF 115V	PF 230V
0-<20 %	228 / 229	85.71%	86.50%	0.977	0.883
20-<40 %	335 / 334	90.40%	91.91%	0.987	0.966
40-<60 %	333 / 333	90.14%	92.26%	0.989	0.979
60-<80 %	333 / 333	88.85%	91.57%	0.992	0.983
80-100 %	340 / 340	87.14%	90.51%	0.994	0.986
70-100 % (High-Load)	506 / 506	87.57%	90.79%	0.994	0.985
All (published average)	1569 / 1569	88.63%	90.82%	0.989	0.964

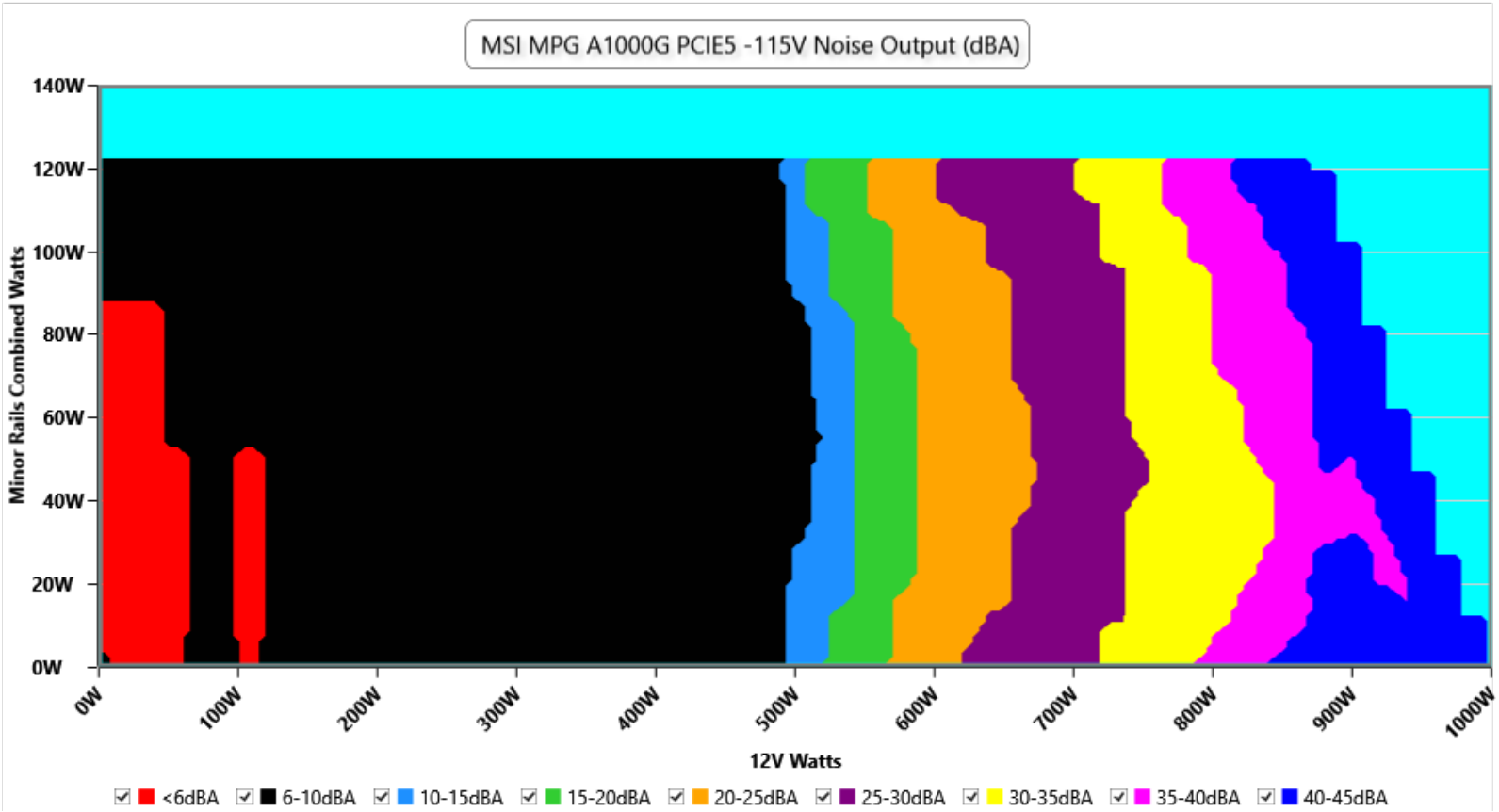
INFO

The average efficiency and power factor in five ranges of load. Calculated from the 1569 (115V) and 1569 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 1000 W. These are plain averages of the valid readings, as for the ETA rating, so the ranges combined give back the published averages.

Informational. Not part of the ETA or LAMBDA rating.

Noise Graph

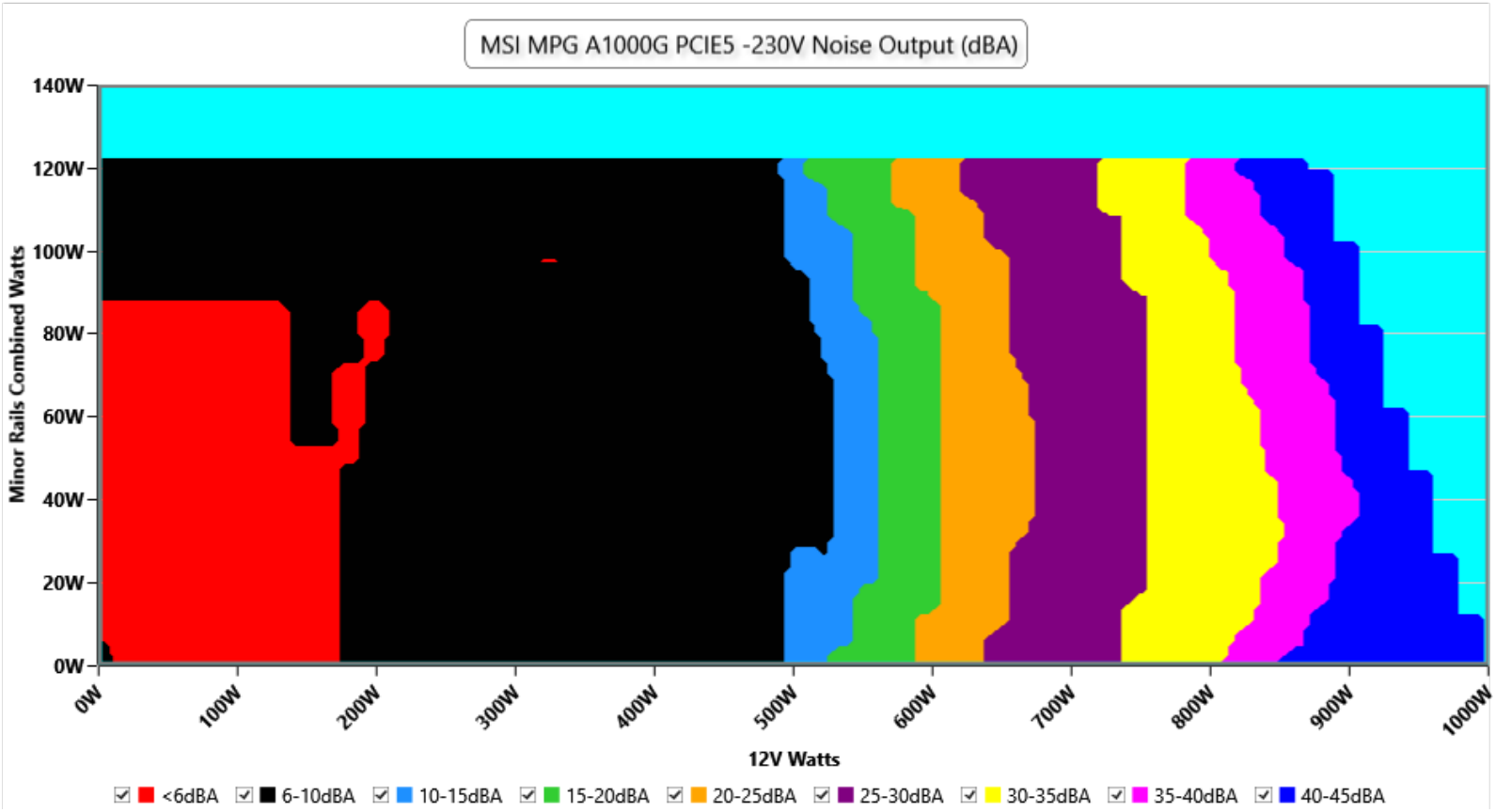
115V



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

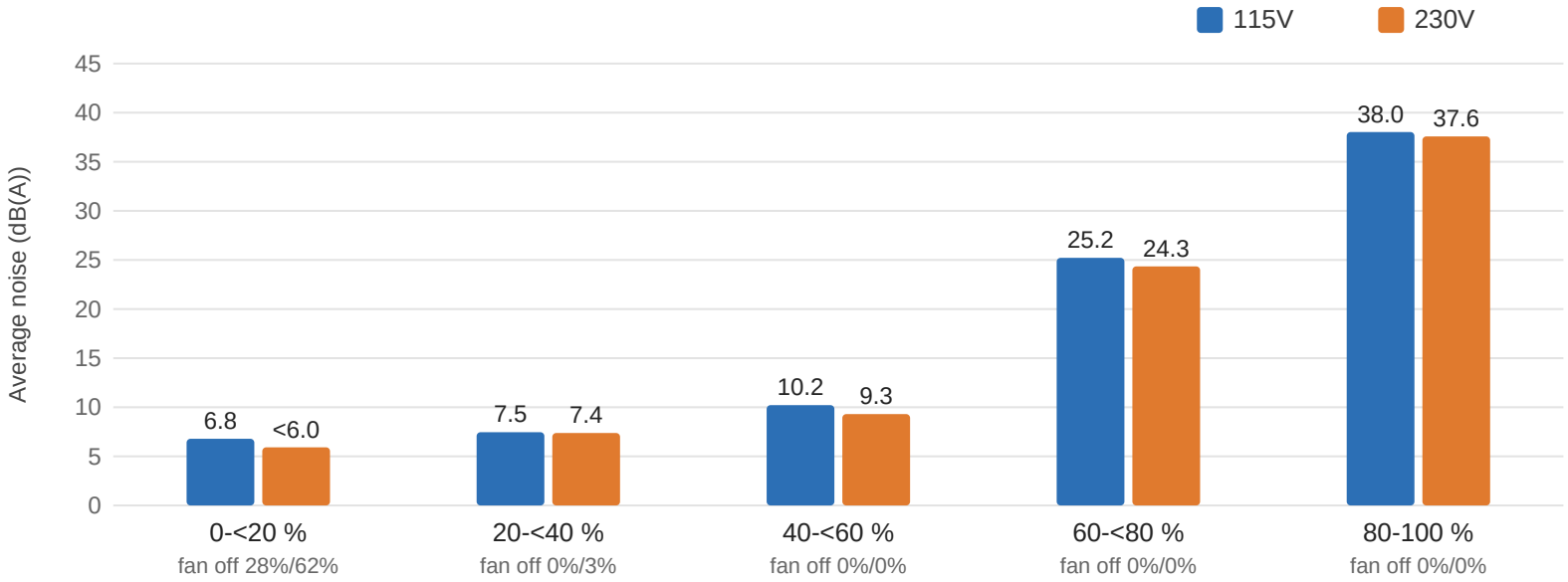
The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Noise by load range

High-Load Index (70-100 % load)

Noise **36.5 dB(A)** at 115V and **36.0 dB(A)** at 230V · loudest point 43.6 dB(A)

Efficiency 87.57% / 90.79% · power factor 0.994 / 0.985 (115V / 230V)



Load range	Noise 115V avg (loudest)	Noise 230V avg (loudest)	Fan off 115V / 230V
0-<20 %	6.8 (7.5)	<6.0 (7.5)	28% / 62%
20-<40 %	7.5 (7.5)	7.4 (7.5)	0% / 3%
40-<60 %	10.2 (22.9)	9.3 (20.9)	0% / 0%
60-<80 %	25.2 (36.2)	24.3 (33.6)	0% / 0%
80-100 %	38.0 (43.6)	37.6 (40.9)	0% / 0%
70-100 % (High-Load)	36.5 (43.6)	36.0 (40.9)	0% / 0%
All (published average)	31.6 (43.6)	31.1 (40.9)	4% / 10%

INFO

The average noise in five ranges of load, the share of points with the fan stopped (semi-passive operation), and the High-Load Index: the same figures for all points at 70 % of the rated output and above. Calculated from the 1569 (115V) and 1569 (230V) load combinations of the certification sweep, the same data that ETA and LAMBDA use (test 0 excluded). Load is the total DC output as a share of the rated 1000 W. Noise is averaged on the energy scale, as for LAMBDA, so the ranges combined give back the published average noise. Each load combination is held for about five seconds; the stabilized readings at fixed loads are under "Noise under high ambient temperature". Below 6 dB(A), the floor of our sound meter, the table and the chart show <6.0. In the averages a stopped fan counts as 5 dB(A),

as in the published average.

Informational. Not part of the ETA or LAMBDA rating.

Noise under high ambient temperature (indicative)

115V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.6 °C	0 RPM · <6.0 dB(A) · 44.6 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.2 °C	0 RPM · <6.0 dB(A) · 45.2 °C	fan off in both
50%	448 RPM · 8.4 dB(A) · 42.1 °C	448 RPM · 8.4 dB(A) · 42.1 °C	**+0.0 dB(A)**
100%	1770 RPM · 48.1 dB(A) · 45.2 °C	1770 RPM · 48.1 dB(A) · 45.2 °C	**+0.0 dB(A)**

230V

Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 44.6 °C	0 RPM · <6.0 dB(A) · 44.6 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 45.5 °C	0 RPM · <6.0 dB(A) · 45.5 °C	fan off in both
50%	448 RPM · 8.4 dB(A) · 42.4 °C	448 RPM · 8.4 dB(A) · 42.4 °C	**+0.0 dB(A)**
100%	1886 RPM · 50.0 dB(A) · 45.6 °C	1886 RPM · 50.0 dB(A) · 45.6 °C	**+0.0 dB(A)**

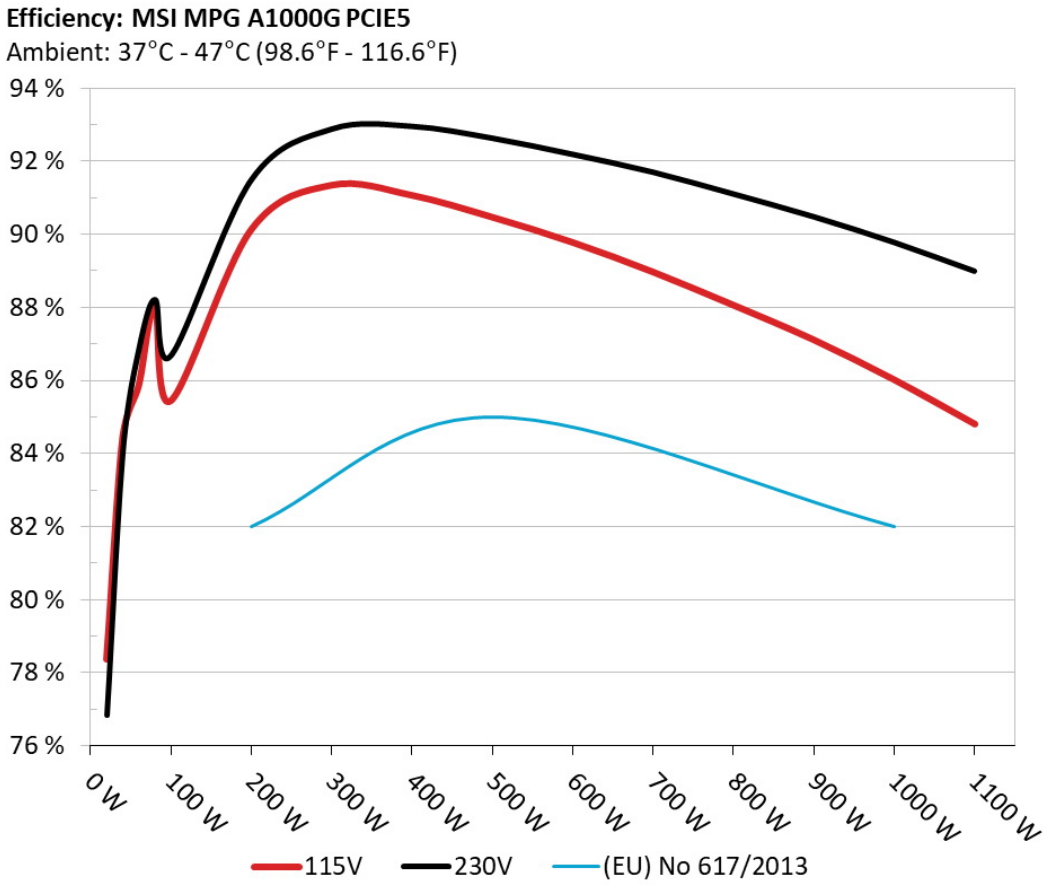
INFO

Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative of how the fan behaves when it is hot. "<6.0" is the floor of our sound meter: the fan is stopped or too quiet to measure (the fan speed column says which); with the fan stopped, the intake sensor can read higher than the chamber air.

Informational. Not part of the ETA or LAMBDA rating.

Indicative Performance

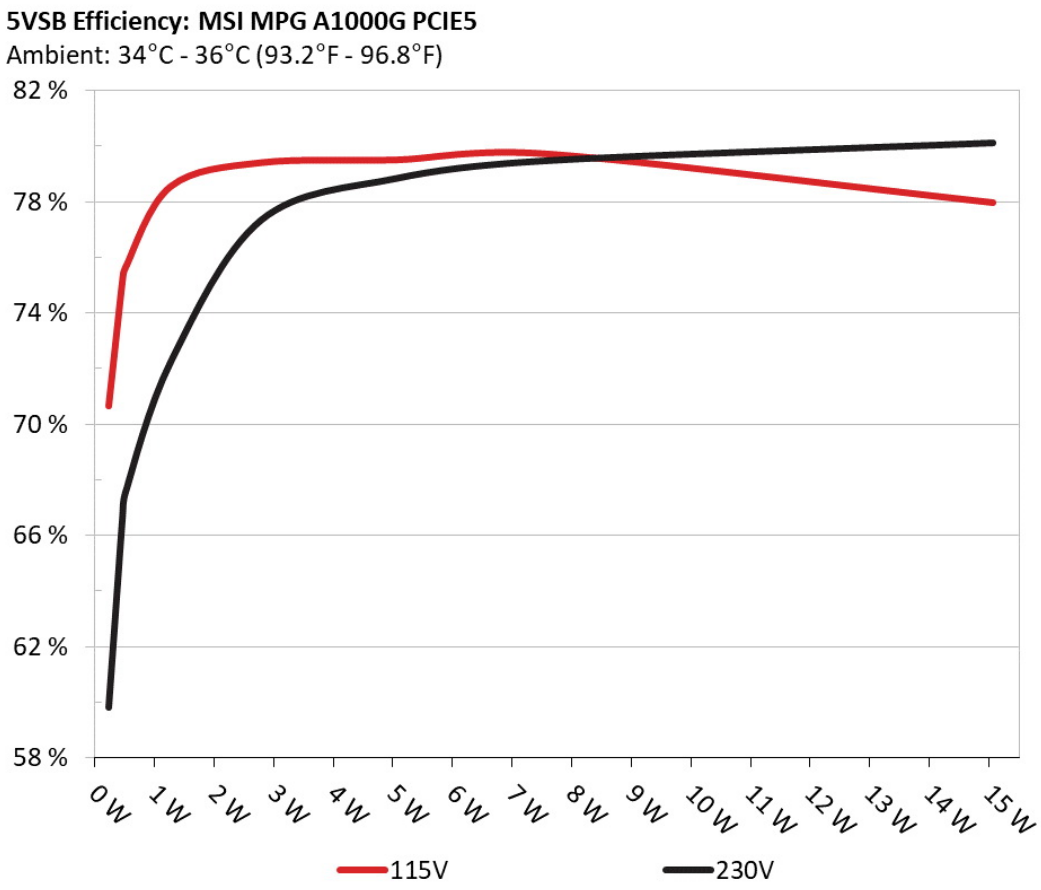
Efficiency under high ambient temperature



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



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	0.228W	70.163%	0.032
	5.077V	0.325W		114.85V
2	0.09A	0.457W	74.658%	0.06
	5.076V	0.612W		114.85V
3	0.55A	2.787W	78.92%	0.271
	5.067V	3.531W		114.85V
4	1A	5.059W	79.018%	0.359
	5.059V	6.402W		114.86V
5	1.5A	7.574W	79.234%	0.422
	5.049V	9.559W		114.85V
6	3A	15.064W	77.482%	0.501
	5.021V	19.441W		114.86V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228W	59.332%	0.011
	5.076V	0.385W		229.85V
2	0.09A	0.457W	66.13%	0.02
	5.075V	0.692W		229.85V
3	0.55A	2.787W	76.864%	0.102
	5.067V	3.626W		229.85V
4	1A	5.059W	78.36%	0.169
	5.059V	6.456W		229.86V
5	1.5A	7.574W	78.996%	0.23
	5.049V	9.588W		229.85V
6	3A	15.063W	79.636%	0.326
	5.021V	18.915W		229.85V

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
10%	6.472A	1.981A	1.948A	0.991A	99.991	85.449%	0	<6.0	44.59°C	0.982
	12.112V	5.046V	3.388V	5.048V	117.022				40.37°C	114.82V
20%	13.965A	2.973A	2.924A	1.191A	199.938	90.135%	0	<6.0	45.24°C	0.99
	12.104V	5.044V	3.385V	5.037V	221.82				40.66°C	114.78V
30%	21.848A	3.47A	3.413A	1.37A	299.988	91.353%	0	<6.0	46.25°C	0.987
	12.081V	5.044V	3.384V	5.11V	328.385				41.2°C	114.76V
40%	29.684A	3.966A	3.903A	1.568A	399.532	91.077%	0	<6.0	47.29°C	0.987
	12.072V	5.043V	3.382V	5.103V	438.677				41.61°C	114.72V
50%	37.195A	4.958A	4.881A	1.767A	499.258	90.479%	448	8.4	42.1°C	0.99
	12.065V	5.042V	3.38V	5.093V	551.789				48.17°C	114.68V
60%	44.784A	5.953A	5.861A	1.968A	599.799	89.785%	691	20.5	42.63°C	0.991
	12.058V	5.04V	3.378V	5.082V	668.041				49.28°C	114.65V
70%	52.318A	6.948A	6.843A	2.169A	699.53	88.977%	926	29.8	43.27°C	0.993
	12.050V	5.038V	3.376V	5.071V	786.187				50.29°C	114.61V
80%	59.928A	7.941A	7.824A	2.272A	799.54	88.069%	1206	37.6	43.8°C	0.994
	12.042V	5.037V	3.374V	5.062V	907.852				51.85°C	114.57V
90%	67.878A	8.44A	8.303A	2.375A	899.345	87.12%	1502	43.6	44.69°C	0.994
	12.034V	5.035V	3.372V	5.053V	1032.313				53.78°C	114.53V
100%	75.637A	8.94A	8.812A	2.98A	999.376	86.028%	1770	48.1	45.23°C	0.995
	12.027V	5.033V	3.37V	5.034V	1161.68				55.28°C	114.48V
110%	83.338A	9.937A	9.887A	2.985A	1099.99	84.81%	1888	50.1	46.65°C	0.996
	12.019V	5.032V	3.368V	5.026V	1297.01				57.55°C	114.45V
CL1	0.116A	14.321A	14.129A	0A	121.304	83.388%	399	7.5	41.86°C	0.988
	12.105V	5.042V	3.376V	5.057V	145.47				47.28°C	114.8V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.114A	21.746A	0A	0A	111.295	81.633%	401	7.5	41.43°C	0.986
	12.110V	5.054V	3.384V	5.061V	136.335				48.49°C	114.81V
CL3	0.114A	0A	21.502A	0A	73.985	75.433%	399	7.5	40.84°C	0.979
	12.110V	5.051V	3.376V	5.061V	98.082				49.91°C	114.82V
CL4	83.135A	0A	0A	0A	999.94	86.834%	1769	48.1	45.88°C	0.995
	12.028V	5.055V	3.386V	5.097V	1151.554				56.8°C	114.5V

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
10%	6.474A	1.982A	1.948A	0.99A	99.992	86.678%	0	<6.0	44.64°C	0.886
	12.110V	5.044V	3.389V	5.048V	115.359				40.38°C	229.85V
20%	13.967A	2.974A	2.923A	1.191A	199.939	91.488%	0	<6.0	45.46°C	0.95
	12.103V	5.043V	3.386V	5.037V	218.544				40.88°C	229.83V
30%	21.851A	3.47A	3.412A	1.37A	299.989	92.87%	0	<6.0	46.38°C	0.968
	12.079V	5.042V	3.385V	5.109V	323.019				41.36°C	229.81V
40%	29.687A	3.967A	3.901A	1.568A	399.532	92.944%	0	<6.0	47.3°C	0.976
	12.070V	5.042V	3.384V	5.103V	429.863				41.85°C	229.79V
50%	37.202A	4.959A	4.879A	1.768A	499.253	92.62%	448	8.4	42.41°C	0.979
	12.063V	5.042V	3.382V	5.092V	539.036				48.42°C	229.78V
60%	44.793A	5.953A	5.859A	1.968A	599.795	92.177%	691	20.5	42.9°C	0.982
	12.055V	5.04V	3.38V	5.081V	650.696				49.43°C	229.76V
70%	52.330A	6.948A	6.84A	2.17A	699.525	91.689%	878	28.2	43.31°C	0.984
	12.047V	5.038V	3.378V	5.07V	762.93				50.32°C	229.75V
80%	59.941A	7.941A	7.82A	2.272A	799.531	91.094%	1187	37.1	43.82°C	0.985
	12.039V	5.037V	3.376V	5.061V	877.703				51.87°C	229.73V
90%	67.893A	8.441A	8.299A	2.375A	899.336	90.473%	1500	43.6	44.01°C	0.986
	12.032V	5.035V	3.374V	5.052V	994.036				53.1°C	229.71V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	75.659A	8.94A	8.808A	2.981A	999.359	89.771%	1886	50.0	45.64°C	0.987
	12.024V	5.033V	3.372V	5.033V	1113.233				55.67°C	229.69V
110%	83.360A	9.937A	9.882A	2.985A	1099.981	88.981%	2166	53.1	46.89°C	0.989
	12.016V	5.031V	3.369V	5.025V	1236.199				57.83°C	229.67V
CL1	0.116A	14.32A	14.12A	0A	121.301	84.031%	399	7.5	40.08°C	0.916
	12.105V	5.042V	3.378V	5.057V	144.352				45.59°C	229.84V
CL2	0.114A	21.744A	0A	0A	111.3	82.266%	399	7.5	41.91°C	0.909
	12.110V	5.055V	3.386V	5.061V	135.293				49.04°C	229.84V
CL3	0.114A	0A	21.485A	0A	73.983	76.629%	399	7.5	41.11°C	0.857
	12.109V	5.051V	3.379V	5.061V	96.548				50.21°C	229.85V
CL4	83.135A	0A	0A	0A	999.928	90.482%	1769	48.1	45.2°C	0.987
	12.027V	5.055V	3.388V	5.096V	1105.115				56.17°C	229.7V

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])	Temps (In/Out)	PF/AC Volts
20W	1.236A	0.494A	0.486A	0.197A	19.996	78.367%	0	<6.0	39.63°C	0.866
	12.015V	5.063V	3.398V	5.07V	25.514				36.57°C	114.85V
40W	2.720A	0.691A	0.68A	0.296A	39.997	84.442%	0	<6.0	40.95°C	0.939
	12.018V	5.062V	3.398V	5.067V	47.367				37.63°C	114.84V
60W	4.202A	0.89A	0.875A	0.395A	59.997	85.861%	0	<6.0	41.91°C	0.968
	12.023V	5.054V	3.393V	5.063V	69.874				38.04°C	114.83V
80W	5.682A	1.089A	1.071A	0.494A	79.938	88.031%	0	<6.0	43.19°C	0.977
	12.023V	5.049V	3.39V	5.06V	90.805				39.25°C	114.82V

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
20W	1.236A	0.494A	0.485A	0.197A	19.997	76.823%	0	<6.0	39.72°C	0.464
	12.015V	5.062V	3.399V	5.07V	26.031				36.67°C	229.85V
40W	2.720A	0.691A	0.68A	0.296A	39.997	84.086%	0	<6.0	41.01°C	0.672
	12.018V	5.062V	3.399V	5.067V	47.569				37.6°C	229.85V
60W	4.202A	0.89A	0.875A	0.395A	59.997	86.863%	0	<6.0	42.11°C	0.777
	12.024V	5.053V	3.394V	5.063V	69.072				38.57°C	229.85V
80W	5.682A	1.089A	1.07A	0.494A	79.939	88.196%	0	<6.0	43.13°C	0.841
	12.024V	5.048V	3.391V	5.06V	90.634				39.27°C	229.85V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	19.59mV	16.12mV	16.21mV	9.03mV	Pass
20% Load	21.12mV	18.68mV	18.27mV	9.70mV	Pass
30% Load	21.33mV	17.65mV	19.60mV	9.23mV	Pass
40% Load	22.35mV	17.65mV	19.86mV	10.11mV	Pass
50% Load	22.45mV	18.42mV	19.39mV	9.85mV	Pass
60% Load	22.35mV	18.53mV	19.70mV	10.11mV	Pass
70% Load	23.32mV	18.37mV	19.50mV	10.06mV	Pass
80% Load	23.88mV	20.63mV	20.22mV	10.78mV	Pass
90% Load	24.45mV	19.76mV	22.42mV	10.88mV	Pass
100% Load	36.41mV	20.95mV	22.18mV	11.70mV	Pass
110% Load	37.11mV	22.40mV	25.24mV	14.70mV	Pass
Crossload1	25.03mV	21.28mV	20.66mV	12.77mV	Pass
Crossload2	24.29mV	28.59mV	19.80mV	13.85mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	20.20mV	18.02mV	26.37mV	12.16mV	Pass
Crossload4	30.96mV	21.81mV	21.72mV	13.44mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	19.84mV	17.35mV	17.65mV	9.44mV	Pass
20% Load	20.20mV	18.06mV	18.93mV	9.60mV	Pass
30% Load	20.56mV	17.09mV	17.08mV	8.72mV	Pass
40% Load	21.43mV	19.30mV	20.32mV	10.52mV	Pass
50% Load	21.53mV	18.94mV	19.75mV	10.42mV	Pass
60% Load	22.56mV	19.81mV	19.65mV	10.93mV	Pass
70% Load	22.91mV	18.78mV	19.24mV	11.24mV	Pass
80% Load	23.73mV	21.40mV	22.21mV	10.82mV	Pass
90% Load	23.32mV	21.20mV	21.44mV	10.98mV	Pass
100% Load	36.89mV	21.38mV	23.18mV	12.83mV	Pass
110% Load	36.61mV	20.85mV	24.43mV	12.13mV	Pass
Crossload1	23.02mV	20.33mV	21.42mV	12.50mV	Pass
Crossload2	22.35mV	27.25mV	19.08mV	13.03mV	Pass
Crossload3	19.53mV	17.81mV	24.06mV	12.31mV	Pass
Crossload4	32.93mV	21.78mV	22.29mV	13.68mV	Pass

The results above are not used in the certification process

MSI MPG A1000G PCIE5



Top side



Power specifications label