MSI MAG A650GLS PCIE5

Serial Number -

Lab ID MS65002811

Certification ID 252811

Test Result Report ID: 25PS2811A

Certificate Issue Date: May 13, 2025

Scheme: ETA-EMI PSU

115V



230V



Scheme: LAMBDA PSU

115V



230V





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	MAG A650GLS PCIE5
OEM/ODM	Huntkey
Serial Number	-
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	5-10

Rated Frequency (Hz)	50-60
Rated Power (W)	650
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Double Ball-Bearing Fan. (D14BH-12)
Semi-Passive Operation	✓
Cybenetics Testing Information	
Lab ID	MS65002811
Date of receipt	Apr 23, 2025
Testing Date	May 9, 2025
Report Issued Date	May 13, 2025
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 (650mm+105mm)	1	2	18AWG	No
6+2 pin PCIe (600mm)	2	2	18AWG	No
2x 6+2 pin PCIe (600mm)	1	2	18AWG	No
12+4 pin PCIe (600mm) (450W)	1	1	16-24AWG	No
SATA (500mm+150mm+150mm) / 4-pin Molex (+150mm)	1	3 / 1	18AWG	No
SATA (500mm+150mm) / 4-pin Molex (+150mm) / FDD (+150mm)	1	2 / 1 / 1	18-20AWG	No

AC Power Cord (1400mm) - C13 coupler	1	1	18AWG	-

Protection Features

Under Voltage Protection	✓
Over Power Protection	✓
Over Current (+12V) Protection	✓
Over Temperature Protection	✓
Short Circuit Protection	✓
Surge Protection	✓
Inrush Current Protection	✓
Fan Failure Protection	✗

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	18	18	54	2.5	0.3
	Watts	100		648	12.5	3.6
Total Max. Power (W)		650				

Parts Description

General Data	
Manufacturer (OEM)	Huntkey
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 @25°C) & Relay
Bridge Rectifier(s)	2x GBU10K (800V, 10A @ 100°C)
APFC MOSFETs	2x Infineon IPA60R190P6 (650V, 12.7A @ 100°C, Rds(on): 0.190Ohm)
APFC Boost Diode	1x STMicroelectronics STPSC4H065D (650V, 22A @ 25°C)

Bulk Cap(s)	1x Elite (450V, 330uF @ 105°C, PL(M))
Main Switchers	2x Infineon IPA60R190P6 (650V, 12.7A @ 100°C, Rds(on): 0.190Ohm)
PFC/LLC Resonant Combo Controller	NXP TEA2017
Topology	Primary side: Semi-Digital, APFC, Half-Bridge & LLC Resonant Converter Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETs	4x Huayi Microelectronics SFS04R011UG
5V & 3.3V	DC-DC Converters: 4x Toshiba TPH1R403NL (30V, 60A @ 250°C, Rds(on): 1.4mOhm) PWM Controller(s): 1x AnpecAPW7159C
Filtering Capacitors	Electrolytic: 5x CapXon (2-5,000h @ 105°C, GF) 1x Elite (3-6,000h @ 105°C, EV) 1x Aishi (3-6,000h @ 105°C, RS) 1x Aishi (2000h @ 105°C, L7) Polymer: 16x Apaq, 4x Polycap, 4x
Synchronous Rectifier IC	Monolithic Power MP6924
Supervisor IC	Infsitronix IN1T703I-SDG
Fan Model	Yate Loon D14BH-12 (140mm, 12V, 0.70A, Double Ball Bearing Fan)
5VSB	
Rectifier	2x PanJIT SR34LF SBR (40V, 3A)
Standby PWM Controller	IN2P380C

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)	89.932%
Average Noise Output (>1450 Load Combinations)	26.84dBA
Average PF (>1450 Load Combinations)	0.982
Efficiency With 10W (≤500W) or 2% (>500W) Load	77.720%
Standby Power Consumption	0.0656W
Non-Accredited	
12V Ripple (Full Load)	23.63mV
5V Ripple (Full Load)	21.08mV
3.3V Ripple (Full Load)	17.40mV
5VSB Ripple (Full Load)	14.04mV
12V Load Regulation	0.56%
5V Load Regulation	0.53%
3.3V Load Regulation	0.91%
5VSB Load Regulation	2.24%
Inrush Current	23.330A

230V

Accredited	
Average Efficiency (>1450 load combinations)	91.884%
Average Noise Output (>1450 Load Combinations)	26.04dBA
Average PF (>1450 Load Combinations)	0.968
Efficiency With 10W (≤500W) or 2% (>500W) Load	78.834%
Standby Power Consumption	0.1294W
Non-Accredited	
12V Ripple (Full Load)	24.44mV
5V Ripple (Full Load)	24.24mV
3.3V Ripple (Full Load)	20.12mV

5VSB Ripple (Full Load)		14.74mV
12V Load Regulation		0.55%
5V Load Regulation		0.55%
3.3V Load Regulation		0.91%
5VSB Load Regulation		2.18%
Inrush Current		44.280A
12V Transient Response (200%)		11.45V
5V Transient Response (200%)		5.020V
3.3V Transient Response (200%)		3.251V
5VSB Transient Response (200%)		4.919V
Hold-Up Time & PWR_OK Signal		18.70ms
AC Loss to PWR_OK Hold Up Time		14.80ms
PWR_OK Inactive to DC Loss Delay		3.90ms
PSU Timings: T1 (20% / 100%)	71.0ms	76.0ms
PSU Timings: T3 (20% / 100%)	112.0ms	111.0ms
12V OCP (28.7°C / 43.1°C)	65.60A (121.48%), 12.062V	63.20A (117.04%), 12.061V
5V OCP (28.7°C / 43.1°C)	25A (138.89%), 5.062V	25.2A (140.00%), 5.063V
3.3V OCP (28.7°C / 43.1°C)	24.9A (138.33%), 3.299V	24.9A (138.33%), 3.299V
5VSB OCP (28.7°C / 43.1°C)	3.6A (144.00%), 4.937V	3.6A (144.00%), 4.924V
OPP (28.22°C / 43.38°C)	134.87%	128.05%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	18.7
AC Loss to PWR_OK Hold Up Time (ms)	14.8
PWR_OK Inactive to DC Loss Delay (ms)	3.9

Tables

115V

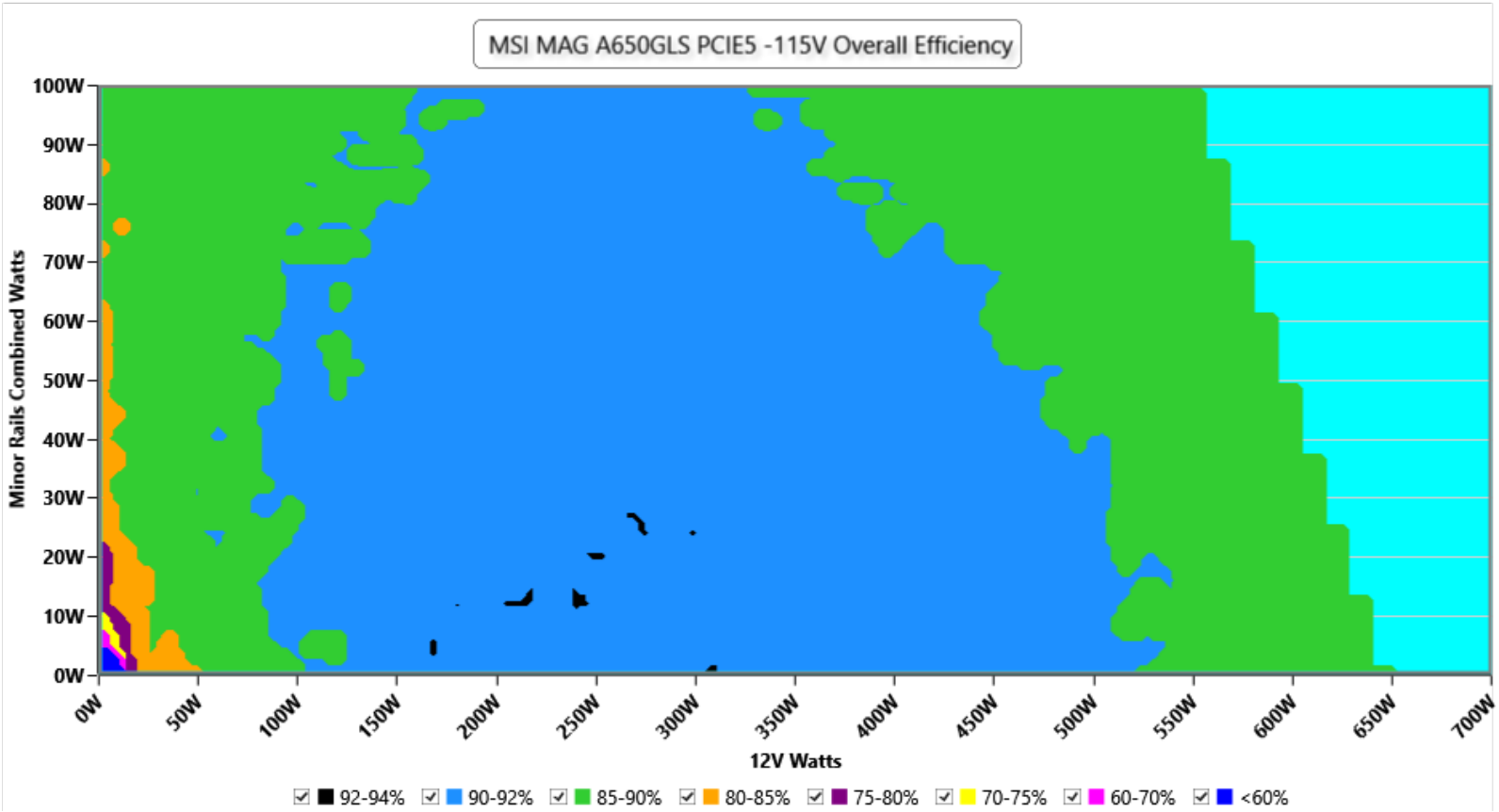
Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	115.06 V	115.02 V	113.85 V	115.10 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.99 Hz	59.40 Hz	60.02 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.417	1.416	1.340	1.419	1.490	PASS
Mains Voltage THD:	0.14 %	0.10 %	N/A	0.20 %	2.00 %	PASS
Real Power:	0.066 W	-0.009 W	N/A	0.098 W	N/A	N/A
Apparent Power:	5.745 W	5.312 W	N/A	6.209 W	N/A	N/A
Power Factor:	0.011	N/A	N/A	N/A	N/A	N/A

230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	231.01 V	230.91 V	227.70 V	231.08 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	0.28 %	2.00 %	PASS
Real Power:	0.129 W	0.088 W	N/A	0.189 W	N/A	N/A
Apparent Power:	17.488 W	16.893 W	N/A	18.260 W	N/A	N/A
Power Factor:	0.007	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

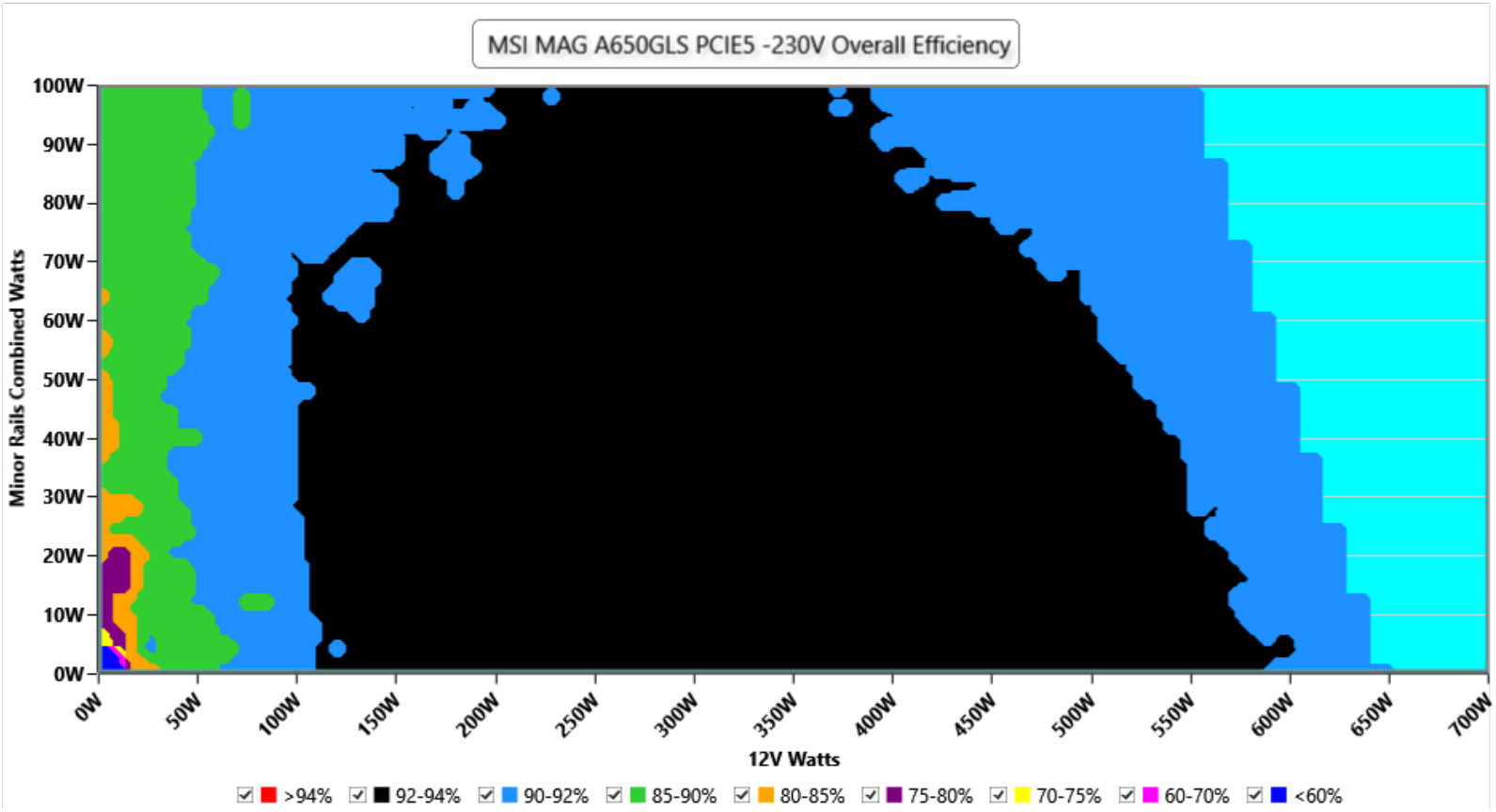
115V



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

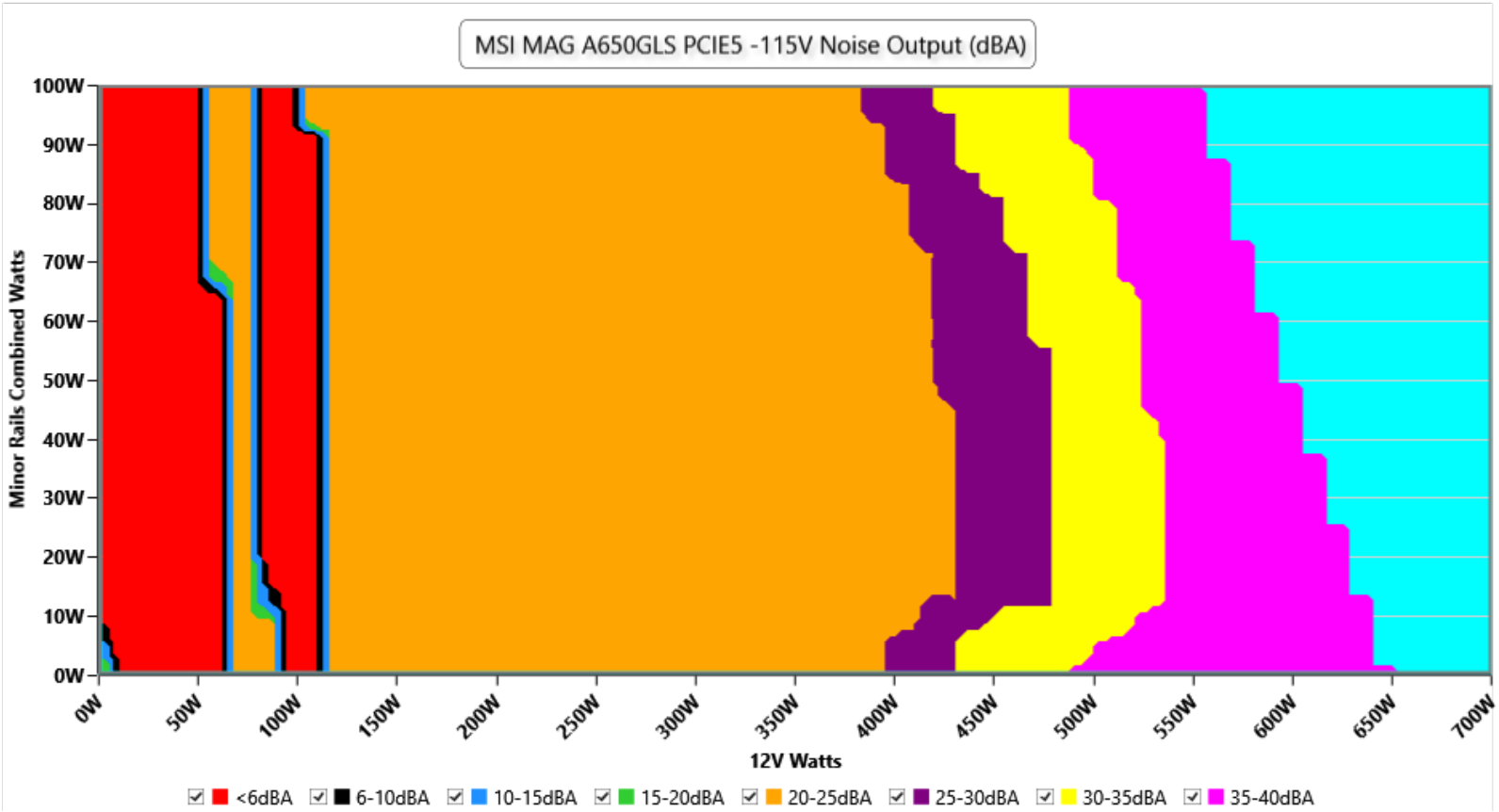


INFO

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

Noise Graph

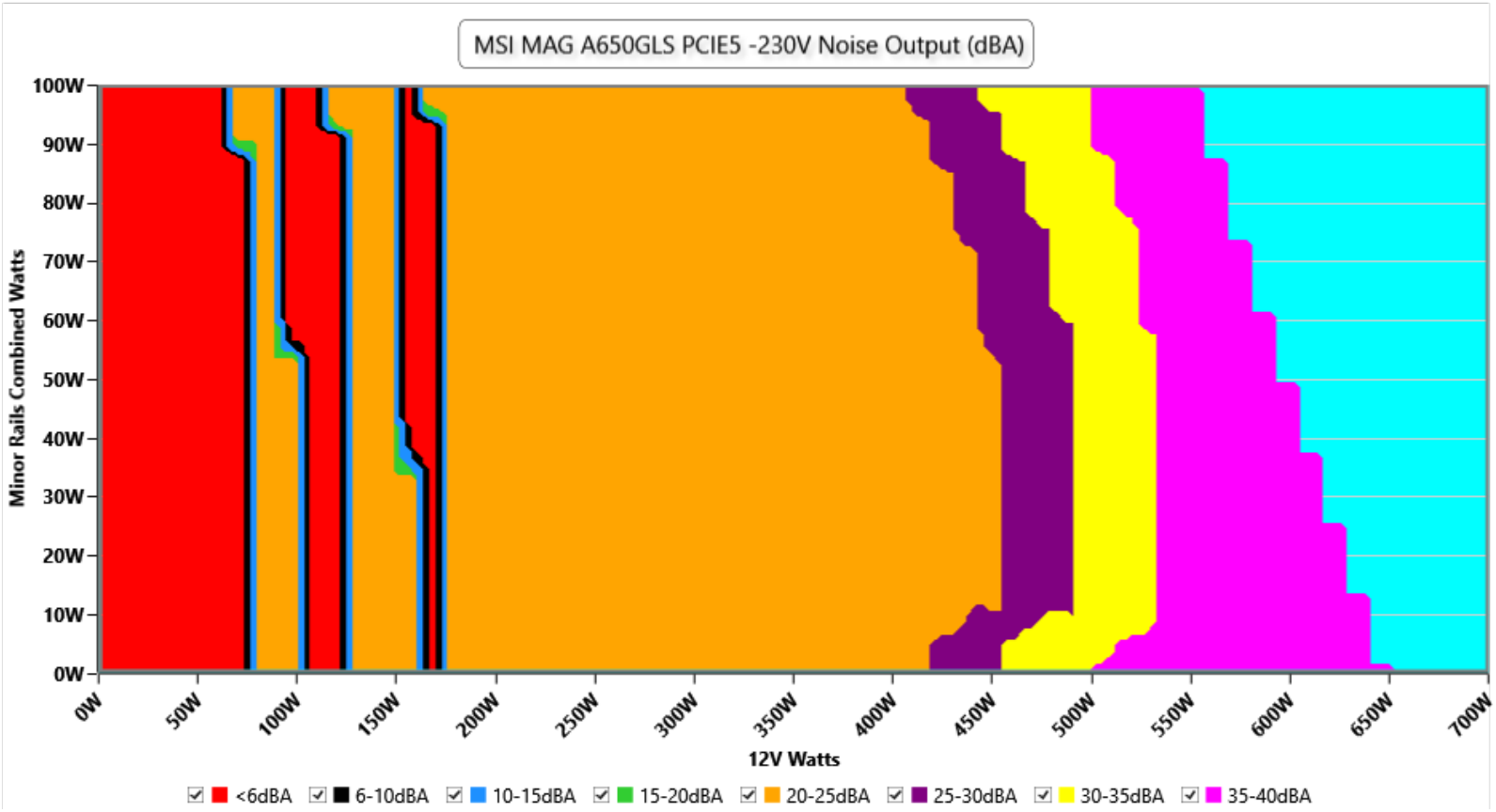
115V



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 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) · 31.4 °C	0 RPM · <6.0 dB(A) · 44.2 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 33.0 °C	811 RPM · 20.6 dB(A) · 40.8 °C	fan starts (<6.0 → 20.6)
50%	793 RPM · 20.2 dB(A) · 30.6 °C	910 RPM · 23.7 dB(A) · 42.5 °C	**+3.5 dB(A)**
100%	1497 RPM · 37.5 dB(A) · 30.9 °C	1998 RPM · 45.2 dB(A) · 45.3 °C	**+7.7 dB(A)**

230V

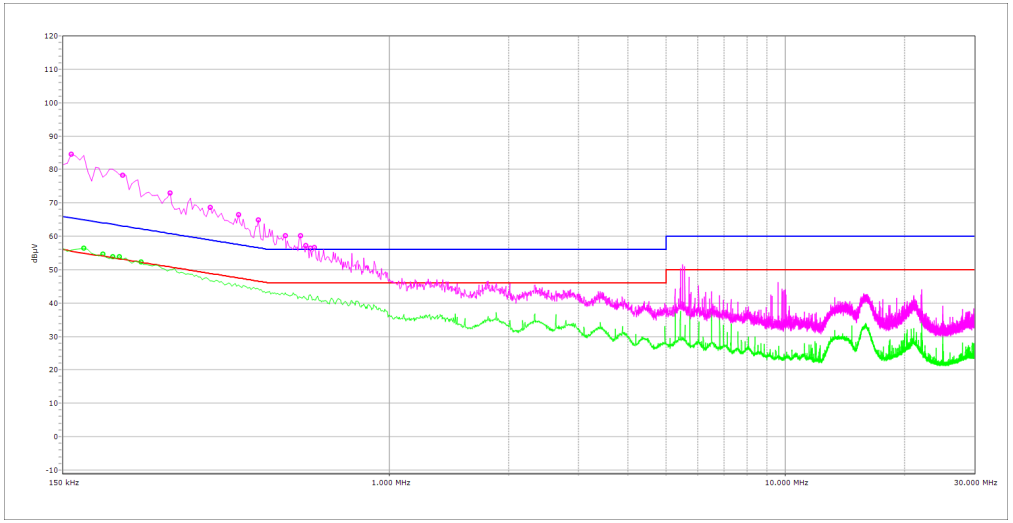
Load	Normal ambient fan · noise · intake	High ambient fan · noise · intake	Noise change
10%	0 RPM · <6.0 dB(A) · 35.1 °C	0 RPM · <6.0 dB(A) · 47.3 °C	fan off in both
20%	0 RPM · <6.0 dB(A) · 37.4 °C	0 RPM · <6.0 dB(A) · 48.2 °C	fan off in both
50%	793 RPM · 20.2 dB(A) · 29.8 °C	914 RPM · 24.1 dB(A) · 42.5 °C	**+3.9 dB(A)**
100%	1451 RPM · 36.5 dB(A) · 29.9 °C	1959 RPM · 44.6 dB(A) · 45.6 °C	**+8.1 dB(A)**

INFO

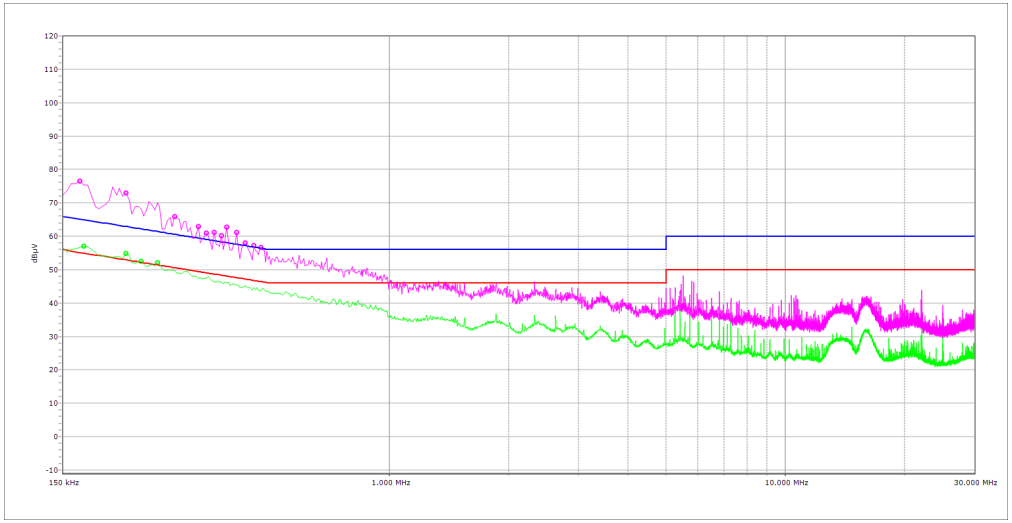
Fan speed, noise and the measured intake temperature at 10, 20, 50 and 100 % load, from the two load regulation tests: at normal ambient (about 30-32 °C) and at high ambient (about 40-47 °C). These are stabilized readings at fixed loads, not averages over the certification sweep, so they are indicative 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.

Conducted Emissions EN 55032 & CISPR 32



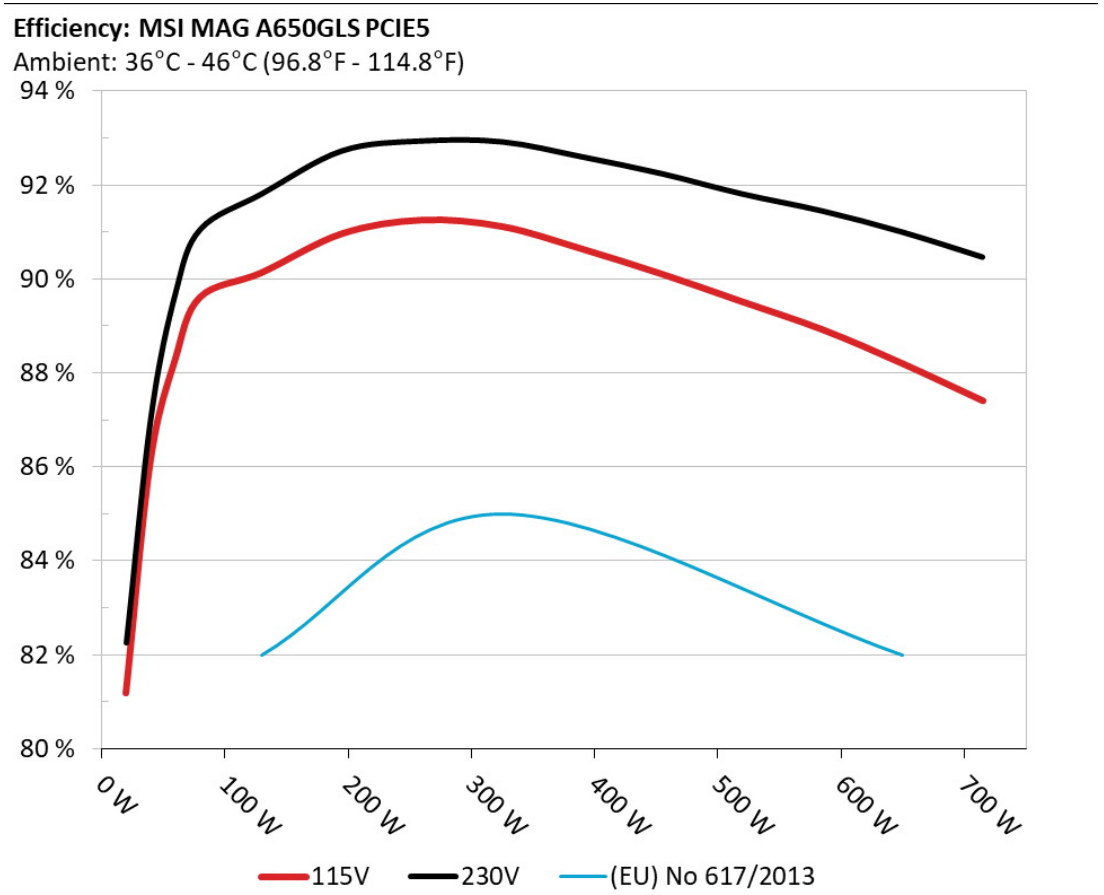
NEUTRAL



PHASE

Indicative Performance

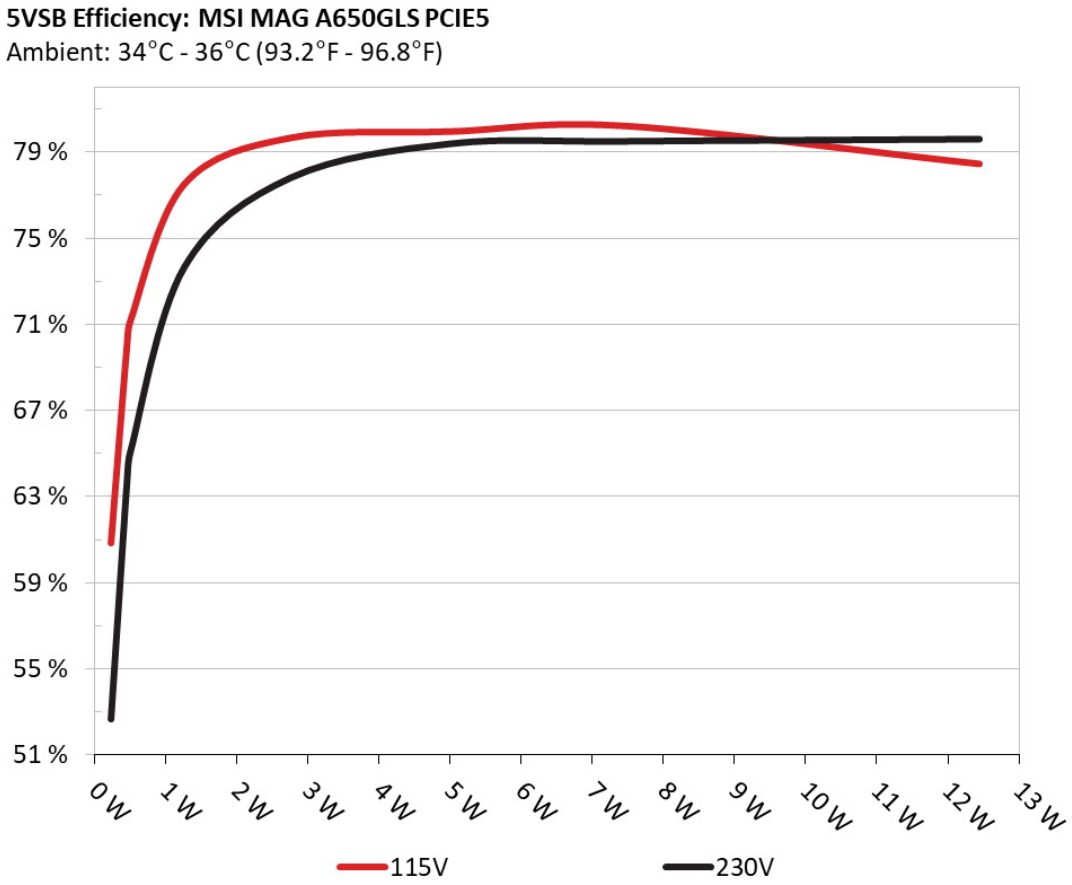
Efficiency under high ambient temperature



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**	0.227W	60.827%	0.065
	5.032V	0.373W		115.05V
2	**0.09A**	0.453W	70.052%	0.11
	5.031V	0.647W		115.05V
3	**0.55A**	2.762W	79.662%	0.35
	5.022V	3.467W		115.07V
4	**1A**	5.012W	79.952%	0.426
	5.013V	6.269W		115.08V
5	**1.5A**	7.503W	80.202%	0.459
	5.002V	9.356W		115.08V
6	**2.5A**	12.451W	78.446%	0.5
	4.981V	15.871W		115.08V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	**0.045A**	0.226W	52.656%	0.025
	5.03V	0.43W		230.2V
2	**0.09A**	0.453W	63.766%	0.042
	5.03V	0.711W		230.22V
3	**0.55A**	2.761W	77.8%	0.18
	5.02V	3.549W		230.19V
4	**1A**	5.011W	79.372%	0.265
	5.01V	6.313W		230.19V
5	**1.5A**	7.501W	79.482%	0.323
	5V	9.438W		230.18V
6	**2.5A**	12.447W	79.585%	0.38
	4.978V	15.641W		230.18V

Protection Features

OCP (Normal @ 28.7°C)	12V: 65.60A (121.48%), 12.062V 5V: 25A (138.89%), 5.062V 3.3V: 24.9A (138.33%), 3.299V 5VSB: 3.6A (144.00%), 4.937V
OCP (Hot @ 43.1°C)	12V: 63.20A (117.04%), 12.061V 5V: 25.2A (140.00%), 5.063V 3.3V: 24.9A (138.33%), 3.299V 5VSB: 3.6A (144.00%), 4.924V
OPP (Normal @ 28.2°C)	876.66W (134.87%)
OPP (Hot @ 43.4°C)	832.32W (128.05%)
OTP	✓ (140°C @ Secondary Side)
SCP	12V to Earth: ✓ 5V to Earth: ✓ 3.3V to Earth: ✓ 5VSB to Earth: ✓ -12V to Earth: ✓
PWR_OK	Proper Operation
UVP (Full Load @ 90V)	✓
UVP (No Damage @ 80V)	✓
Conducted Emissions EN55032 & CISPR 32	✗
NLO	✓
Fan Failure Protection	✗
SIP	Surge: MOV Inrush: NTC & Bypass Relay

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%	**3.586A**	**1.965A**	**1.985A**	**1A**	65.013	87.961%	0	<6.0	44.16°C	0.934
	12.105V	5.09V	3.326V	5V	73.913				40.46°C	115.04V
20%	**8.187A**	**2.949A**	**2.98A**	**1.203A**	129.958	90.143%	811	20.6	40.83°C	0.968
	12.099V	5.087V	3.323V	4.99V	144.163				45.98°C	115.02V
30%	**13.142A**	**3.443A**	**3.48A**	**1.406A**	194.966	90.973%	814	20.6	41.42°C	0.987
	12.091V	5.084V	3.319V	4.98V	214.301				42.76°C	114.99V
40%	**18.110A**	**3.937A**	**3.981A**	**1.61A**	260.055	91.266%	815	20.6	41.69°C	0.99
	12.084V	5.081V	3.316V	4.971V	284.971				43.39°C	114.97V
50%	**22.733A**	**4.924A**	**4.981A**	**1.815A**	325.057	91.127%	910	23.7	42.5°C	0.992
	12.077V	5.078V	3.313V	4.96V	356.706				45.08°C	114.95V
60%	**27.312A**	**5.913A**	**5.983A**	**2A**	389.366	90.653%	1134	29.7	42.58°C	0.993
	12.069V	5.075V	3.31V	4.949V	429.518				45.39°C	114.92V
70%	**31.973A**	**6.903A**	**6.988A**	**2.228A**	454.778	90.113%	1428	36.1	43.39°C	0.994
	12.062V	5.072V	3.306V	4.938V	504.648				46.39°C	114.9V
80%	**36.638A**	**7.892A**	**7.993A**	**2.334A**	519.561	89.525%	1595	39.3	43.84°C	0.995
	12.055V	5.069V	3.303V	4.929V	580.348				47.2°C	114.87V
90%	**41.708A**	**8.389A**	**8.484A**	**2.439A**	584.985	88.928%	1760	41.7	44.11°C	0.995
	12.047V	5.066V	3.3V	4.921V	657.841				47.8°C	114.84V
100%	**46.719A**	**8.886A**	**9.007A**	**2.545A**	649.7	88.206%	1998	45.2	45.32°C	0.995
	12.040V	5.064V	3.297V	4.913V	736.579				49.51°C	114.82V
110%	**51.470A**	**9.879A**	**10.108A**	**2.548A**	715.111	87.409%	2040	45.7	46.22°C	0.995
	12.032V	5.061V	3.294V	4.906V	818.077				51.31°C	114.79V
CL1	**0.116A**	**11.873A**	**11.989A**	**0A**	101.302	85.315%	827	21.8	41.72°C	0.941
	12.098V	5.07V	3.311V	4.995V	118.739				44.26°C	115.02V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	**0.116A**	**17.757A**	**0A**	**0A**	91.398	85%	824	21.4	41.34°C	0.937
	12.101V	5.068V	3.325V	5.007V	107.532				43.14°C	115.03V
CL3	**0.116A**	**0A**	**17.951A**	**0A**	60.79	80.694%	821	21	40.63°C	0.934
	12.098V	5.087V	3.309V	5V	75.316				42.1°C	115.04V
CL4	**53.943A**	**0A**	**0A**	**0A**	649.621	88.926%	1965	44.6	46.27°C	0.995
	12.042V	5.084V	3.312V	4.991V	730.533				48.76°C	114.83V

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%	**3.585A**	**1.964A**	**1.984A**	**1A**	64.999	89.346%	0	<6.0	47.34°C	0.886
	12.106V	5.091V	3.326V	5V	72.779				40.27°C	230.26V
20%	**8.184A**	**2.948A**	**2.979A**	**1.202A**	129.928	91.823%	0	<6.0	48.19°C	0.934
	12.099V	5.088V	3.323V	4.99V	141.515				40.66°C	230.24V
30%	**13.139A**	**3.442A**	**3.479A**	**1.406A**	194.929	92.737%	819	20.7	41.34°C	0.949
	12.092V	5.085V	3.32V	4.98V	210.207				43.54°C	230.23V
40%	**18.107A**	**3.936A**	**3.979A**	**1.609A**	260.012	92.949%	821	21	41.64°C	0.974
	12.085V	5.082V	3.317V	4.971V	279.738				44.8°C	230.21V
50%	**22.729A**	**4.923A**	**4.98A**	**1.815A**	325.01	92.93%	914	24.1	42.49°C	0.988
	12.078V	5.079V	3.314V	4.96V	349.744				44.22°C	230.2V
60%	**27.301A**	**5.912A**	**5.982A**	**2A**	389.23	92.614%	1070	28.7	42.67°C	0.992
	12.070V	5.075V	3.31V	4.95V	420.252				43.51°C	230.19V
70%	**31.961A**	**6.902A**	**6.987A**	**2.227A**	454.639	92.252%	1431	36.1	43.27°C	0.993
	12.063V	5.072V	3.307V	4.939V	492.86				45.29°C	230.18V
80%	**36.624A**	**7.89A**	**7.991A**	**2.333A**	519.416	91.824%	1549	38.4	43.78°C	0.993
	12.055V	5.069V	3.303V	4.93V	565.663				45.16°C	230.17V
90%	**41.695A**	**8.387A**	**8.482A**	**2.438A**	584.851	91.457%	1759	41.7	44.11°C	0.994
	12.049V	5.067V	3.301V	4.923V	639.575				45.6°C	230.17V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	**46.703A**	**8.884A**	**9.004A**	**2.543A**	649.559	91.011%	1959	44.6	45.57°C	0.994
	12.041V	5.065V	3.298V	4.915V	713.721				47°C	230.15V
110%	**51.453A**	**9.878A**	**10.106A**	**2.547A**	714.979	90.476%	2040	45.7	46.29°C	0.994
	12.034V	5.061V	3.295V	4.908V	790.249				48.35°C	230.14V
CL1	**0.114A**	**11.873A**	**11.988A**	**0A**	101.284	87.025%	826	21.7	41.47°C	0.924
	12.098V	5.07V	3.311V	4.995V	116.375				43.14°C	230.25V
CL2	**0.114A**	**17.758A**	**0A**	**0A**	91.385	86.512%	821	21	40.02°C	0.918
	12.102V	5.068V	3.326V	5.007V	105.622				41.47°C	230.25V
CL3	**0.114A**	**0A**	**17.949A**	**0A**	60.778	82.018%	822	21.2	41.46°C	0.888
	12.099V	5.088V	3.309V	5V	74.127				42.29°C	230.26V
CL4	**53.926A**	**0A**	**0A**	**0A**	649.489	91.689%	1963	44.6	45.68°C	0.994
	12.044V	5.085V	3.313V	4.992V	708.397				46.91°C	230.16V

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	**1.228A**	**0.491A**	**0.496A**	**0.199A**	20.01	81.177%	0	<6.0	37.72°C	0.617
	12.107V	5.091V	3.327V	5.023V	24.645				36.33°C	115.06V
40W	**2.702A**	**0.688A**	**0.694A**	**0.299A**	40.009	86.156%	0	<6.0	38.41°C	0.918
	12.106V	5.091V	3.327V	5.019V	46.442				37.16°C	115.05V
60W	**4.176A**	**0.884A**	**0.893A**	**0.399A**	60.009	88.298%	0	<6.0	40°C	0.931
	12.104V	5.091V	3.327V	5.016V	67.978				38.63°C	115.05V
80W	**5.646A**	**1.081A**	**1.091A**	**0.499A**	79.963	89.616%	0	<6.0	42.28°C	0.934
	12.103V	5.091V	3.326V	5.012V	89.239				39.47°C	115.04V

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	**1.226A**	**0.491A**	**0.496A**	**0.199A**	19.992	82.265%	0	<6.0	40.93°C	0.547
	12.108V	5.093V	3.328V	5.022V	24.28				36.19°C	230.26V
40W	**2.700A**	**0.687A**	**0.694A**	**0.299A**	39.993	87.086%	0	<6.0	42.3°C	0.81
	12.106V	5.092V	3.328V	5.019V	45.952				37.54°C	230.26V
60W	**4.174A**	**0.884A**	**0.893A**	**0.399A**	59.995	89.724%	0	<6.0	42.74°C	0.878
	12.104V	5.091V	3.327V	5.015V	66.877				38.04°C	230.25V
80W	**5.644A**	**1.08A**	**1.091A**	**0.499A**	79.935	91.067%	0	<6.0	44.86°C	0.903
	12.103V	5.091V	3.327V	5.012V	87.798				39.31°C	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	18.41mV	18.29mV	15.46mV	11.10mV	Pass
20% Load	22.99mV	18.81mV	15.82mV	12.59mV	Pass
30% Load	15.52mV	20.30mV	16.08mV	9.91mV	Pass
40% Load	16.29mV	19.11mV	15.62mV	10.22mV	Pass
50% Load	16.40mV	18.49mV	15.20mV	10.89mV	Pass
60% Load	17.43mV	19.32mV	15.77mV	14.09mV	Pass
70% Load	18.15mV	19.21mV	15.31mV	13.57mV	Pass
80% Load	22.79mV	20.97mV	16.29mV	13.73mV	Pass
90% Load	26.40mV	20.97mV	17.07mV	14.87mV	Pass
100% Load	23.63mV	21.08mV	17.40mV	14.04mV	Pass
110% Load	26.63mV	21.61mV	17.08mV	14.33mV	Pass
Crossload1	21.19mV	21.50mV	16.44mV	14.25mV	Pass
Crossload2	20.21mV	21.28mV	15.26mV	14.87mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	17.99mV	18.96mV	17.37mV	13.99mV	Pass
Crossload4	24.12mV	21.22mV	17.08mV	15.65mV	Pass

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	19.80mV	21.84mV	18.00mV	13.11mV	Pass
20% Load	25.01mV	21.84mV	18.98mV	14.71mV	Pass
30% Load	19.02mV	21.89mV	18.51mV	12.28mV	Pass
40% Load	18.35mV	22.77mV	18.88mV	12.96mV	Pass
50% Load	17.79mV	21.43mV	19.81mV	12.64mV	Pass
60% Load	20.52mV	21.95mV	18.56mV	14.51mV	Pass
70% Load	20.11mV	22.21mV	18.77mV	14.76mV	Pass
80% Load	23.20mV	22.25mV	19.70mV	15.64mV	Pass
90% Load	23.87mV	23.59mV	21.10mV	15.23mV	Pass
100% Load	24.44mV	24.24mV	20.12mV	14.74mV	Pass
110% Load	27.81mV	26.10mV	20.48mV	15.80mV	Pass
Crossload1	22.61mV	23.71mV	19.32mV	15.26mV	Pass
Crossload2	22.22mV	25.04mV	18.93mV	16.21mV	Pass
Crossload3	19.44mV	22.41mV	20.48mV	15.18mV	Pass
Crossload4	24.21mV	23.37mV	19.58mV	16.47mV	Pass

The results above are not used in the certification process

MSI MAG A650GLS PCIE5



Top side



Power specifications label

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