

## 80 PLUS Verification and Testing Report

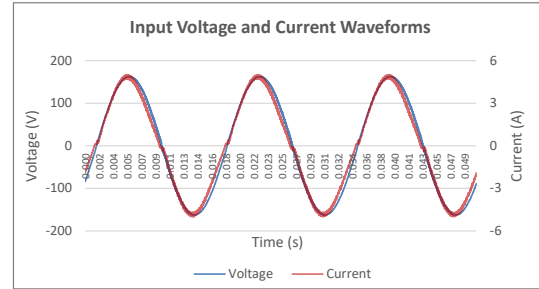
TYPICAL EFFICIENCY (50% Load):	87.35%
AVERAGE EFFICIENCY :	83.06%
80 PLUS COMPLIANT:	Bronze



ID Number	7094
Manufacturer	Micro-Star International Co., Ltd.
Model Number	MAG A650BNL
Serial Number	N/A
Year	2023
Type	ATX12V
Test Date	7/7/23

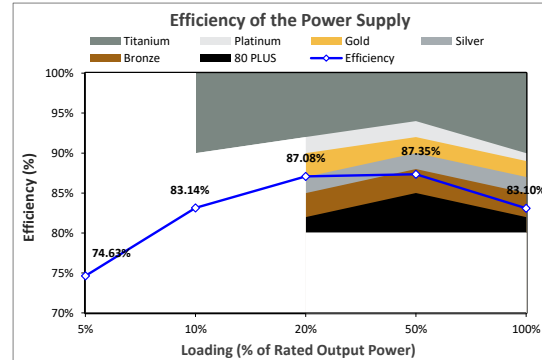
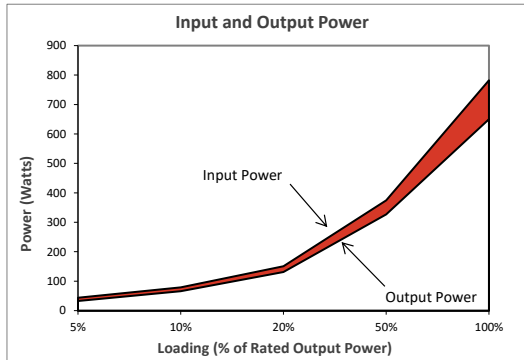
Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	10	Amps
Input Frequency	50-60	Hz
Rated Output Power	650	Watts

Note: All measurements were taken with input voltage at 115 V nominal at 60 Hz.



Input AC Current Waveform (ITHD = 6.51%, 50% Load)

I <sub>RMS</sub> (A)	PF	I <sub>THD</sub> (%)	Load	Input Watts	DC Terminal Voltage (V)/ DC Load Current (A)					Output Watts	Efficiency
					12V (cumulative of 12V1, 12V2, etc.)						
					-12V	3.3V	5V	5VsB			
0.101	0.5257	27.07	0%	6.09	No-Load						
0.403	0.9443	22.55	5%	43.76	12.07/2.28	11.81/0.01	3.3/0.53	5.03/0.53	5.1/0.11	32.66	74.63%
0.705	0.9736	16.40	10%	78.96	12.1/4.57	11.64/0.03	3.3/1.07	5.03/1.07	5.09/0.21	65.65	83.14%
1.329	0.9880	11.24	20%	150.92	12.08/9.17	11.63/0.06	3.3/2.14	5.03/2.14	5.08/0.42	131.42	87.08%
3.270	0.9952	6.51	50%	374.31	12.04/22.92	11.72/0.13	3.24/5.34	5.03/5.34	5.05/1.06	326.96	87.35%
6.814	0.9982	4.07	100%	782.11	11.96/45.78	11.9/0.25	3.3/10.66	5.03/10.68	4.99/2.11	649.95	83.10%



These tests were conducted by a third party independent testing firm on behalf of the 80 PLUS Program. 80 PLUS is a certification program to promote highly-efficient power supplies (greater than 80% efficiency in the active mode) in technology applications. <http://www.80plus.org/>