

80 PLUS Verification and Testing Report

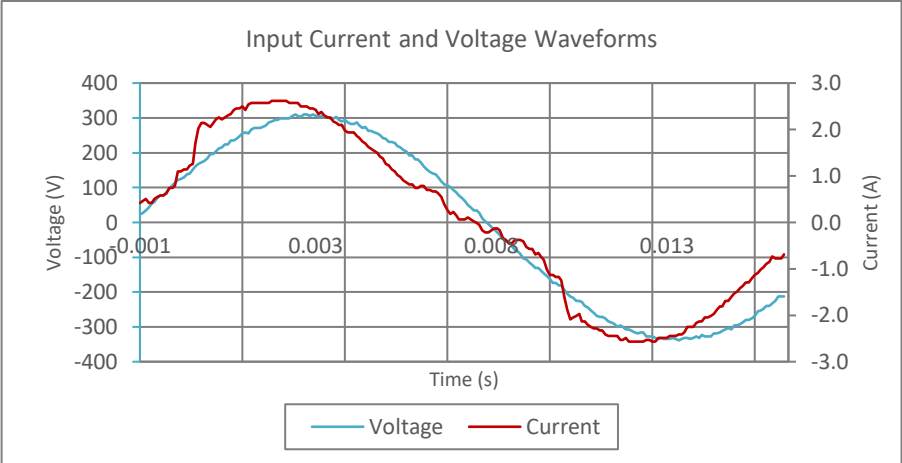
TYPICAL EFFICIENCY (50% Load):	88.34%
AVERAGE EFFICIENCY :	86.57%
80 PLUS COMPLIANT:	YES



ID Number	EU-573
Manufacturer	Zalman
Model Number	ZM650-GVII
Serial Number	N/A
Year	2019
Type	ATX12V
Test Date	8/6/19

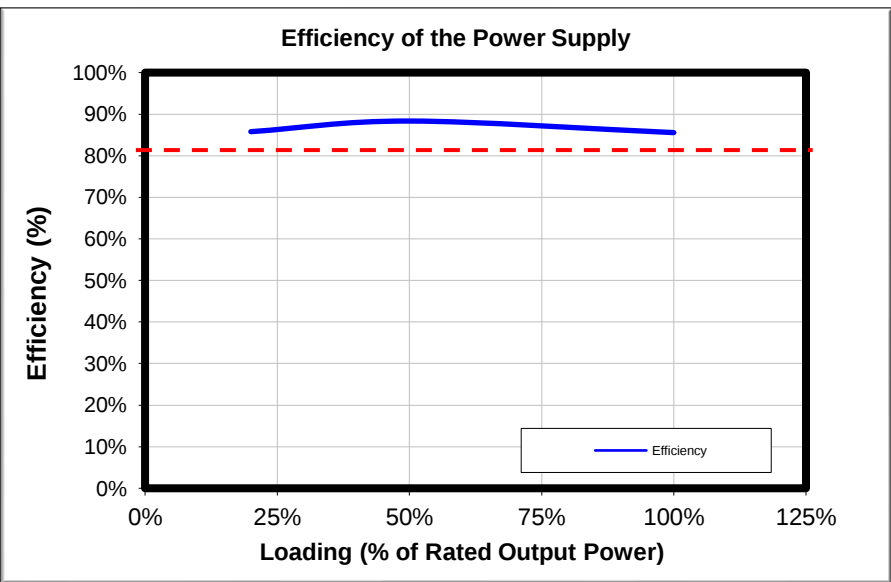
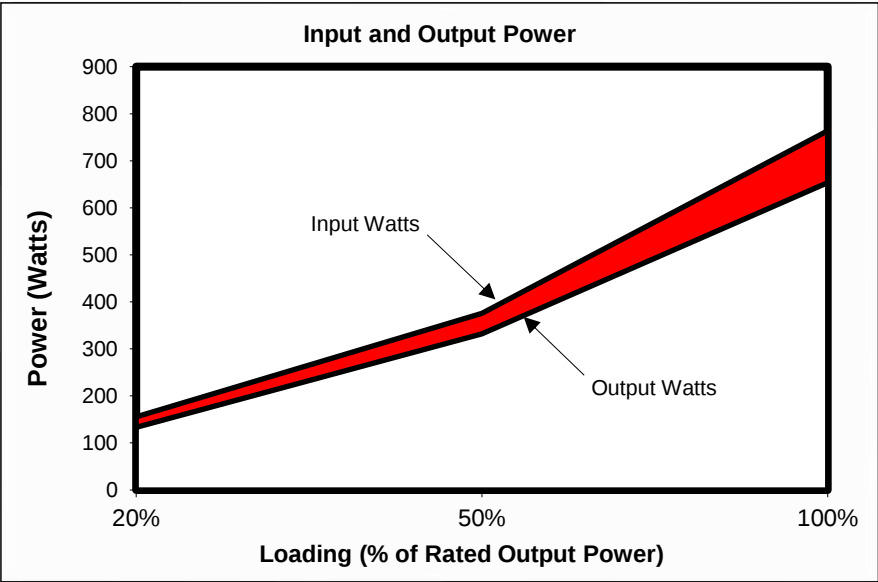
Rated Specifications	Value	Units
Input Voltage	200-240	Volts
Input Current	6	Amps
Input Frequency	50-60	Hz
Rated Output Power	650	Watts

Note: All measurements were taken with input voltage at 230 V nominal at 50 Hz.



Input AC Current Waveform (ITHD = 16.27%, 50% Load)

I _{RMS}	PF	I _{THD}	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		
0.41	0.90	25.34%	10%	84.00	12.32/4.54	12/0.03	3.43/1.18	5.07/1.07	5.06/0.21	66.84	79.57%
0.72	0.94	21.80%	20%	155.77	12.3/9.11	12.03/0.05	3.42/2.37	5.05/2.12	5.04/0.42	133.64	85.79%
1.68	0.97	16.27%	50%	375.40	12.22/22.77	12.13/0.13	3.39/5.93	5/5.29	4.98/1.05	331.65	88.34%
3.37	0.99	10.13%	100%	763.70	12.09/45.38	12.34/0.25	3.34/11.85	4.92/10.56	4.88/2.1	653.43	85.56%



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/>

