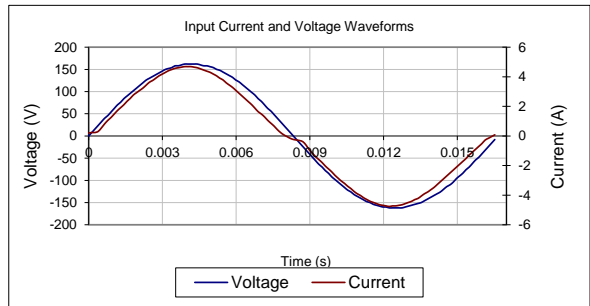


80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	90.07%
AVERAGE EFFICIENCY :	88.29%
80 PLUS COMPLIANT:	YES



ID #	4592.1
Manufacturer	FSP Technology Inc.
Model Number	HS-650
Serial Number	S6081030009
Year	2016
Type	ATX12V,EPS12V
Test Date	5/5/16

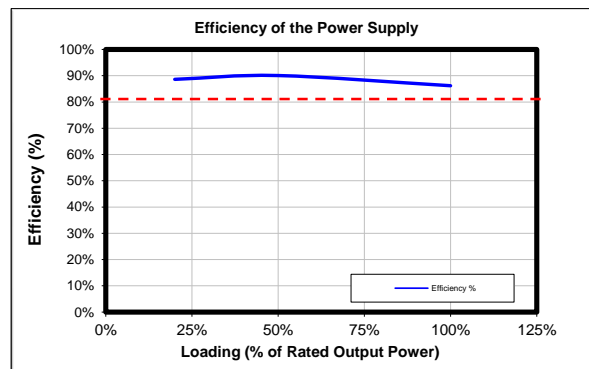
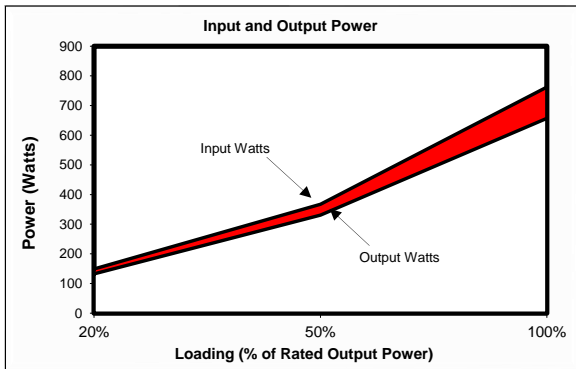


Input AC Current Waveform (ITHD = 8.77%, 50% Load)

Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	10-5	Amps
Input Frequency	60-50	Hz
Rated Output Power	650	Watts

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

I _{RMS} A	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
0.74	0.94	31.84%	10%	79.43	12.26/4.45		11.83/0.02	3.31/1.28	5.01/1.28	5.09/0.2	66.44	83.64%
1.34	0.97	23.89%	20%	149.39	12.25/8.86		11.83/0.05	3.31/2.56	5.01/2.55	5.08/0.41	132.38	88.62%
3.21	0.99	8.77%	50%	367.20	12.23/22.2		11.9/0.12	3.3/6.39	4.99/6.34	5.06/1.02	330.73	90.07%
6.64	1.00	5.85%	100%	762.20	12.18/44.29		12.14/0.24	3.25/12.75	4.95/12.67	5.01/2.04	656.99	86.20%



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/>

