

80 PLUS Verification and Testing Report

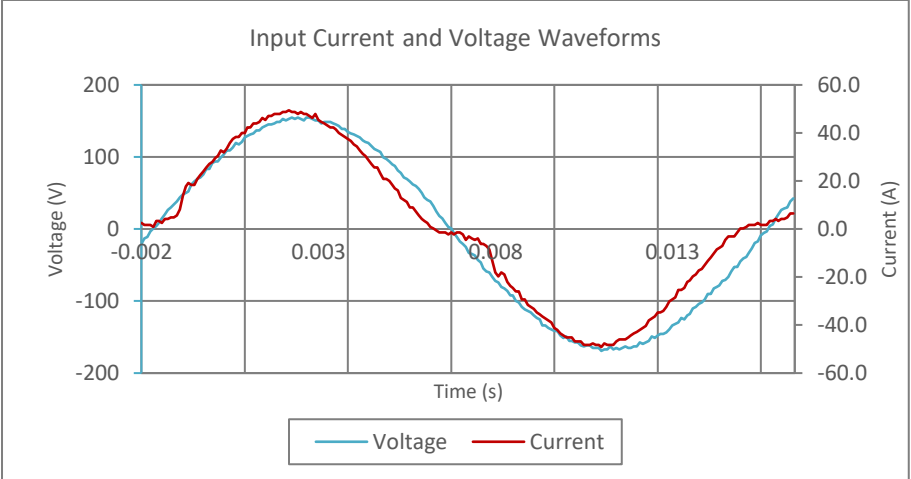
TYPICAL EFFICIENCY (50% Load):	92.55%
AVERAGE EFFICIENCY :	91.68%
80 PLUS COMPLIANT:	YES



ID Number	5952
Manufacturer	Thermalright Technology Co., Ltd.
Model Number	TTP-650AH2FKP TOUGHPower PF1 650W
Serial Number	N/A
Year	2020
Type	ATX12V
Test Date	5/6/20

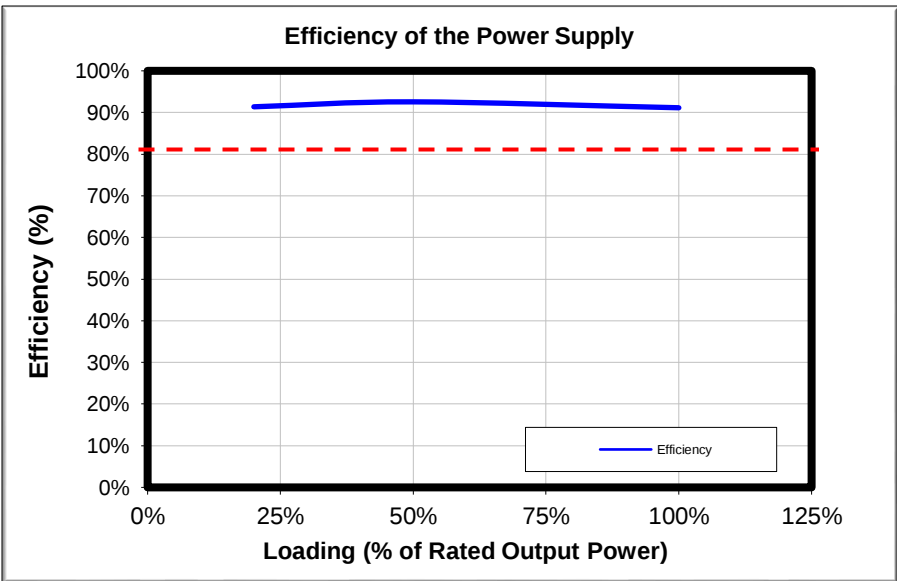
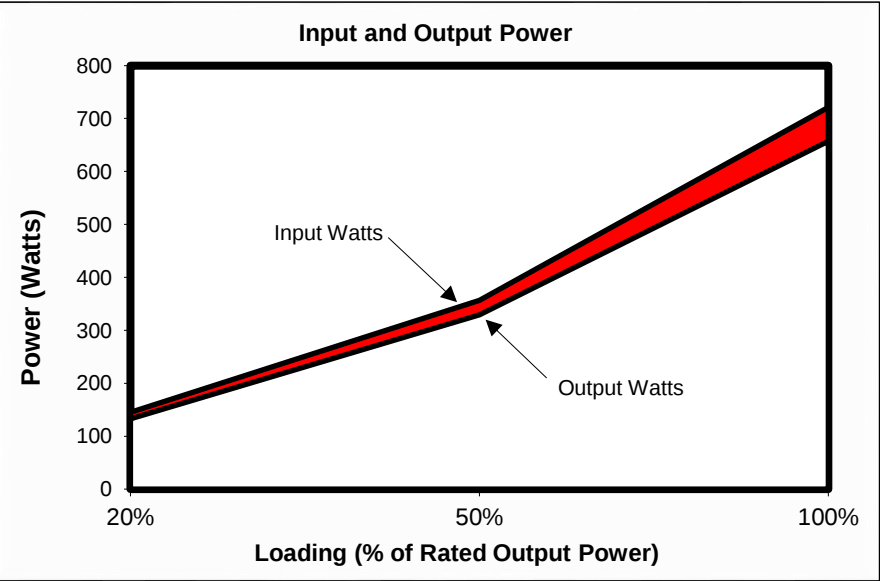
Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	10	Amps
Input Frequency	50-60	Hz
Rated Output Power	650	Watts

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



Input AC Current Waveform (ITHD = 14.67%, 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		
0.69	0.95	19.12%	10%	74.91	12.17/4.59	11.95/0.03	3.37/1.02	5.06/1.02	5.14/0.21	65.92	87.99%
1.30	0.97	18.71%	20%	144.83	12.16/9.23	11.95/0.05	3.36/2.05	5.06/2.04	5.12/0.43	132.32	91.37%
3.15	0.98	14.67%	50%	356.20	12.13/23.09	11.95/0.13	3.33/5.12	5.04/5.08	5.08/1.06	329.67	92.55%
6.33	0.99	10.49%	100%	721.30	12.12/46.11	11.98/0.26	3.28/10.26	5.01/10.15	5.01/2.13	657.33	91.13%



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/>

