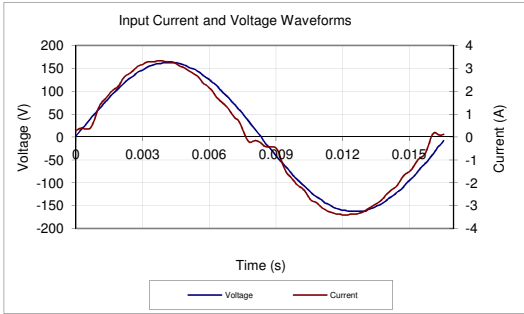


80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	86.29%
AVERAGE EFFICIENCY :	84.70%
80 PLUS COMPLIANT:	YES



Ecos ID #	3302
Manufacturer	Powercool
Model Number	PCB-450BK
Serial Number	NA
Year	2012
Type	ATX12V
Test Date	10/11/12

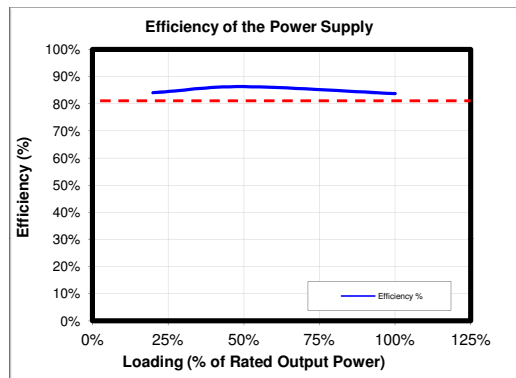
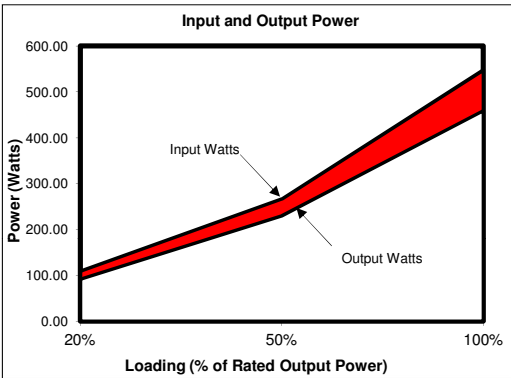


Input AC Current Waveform (ITHD = 9.76%, 50% Load)

Rated Specifications	Value	Units
Input Voltage	110-220	Volts
Input Current	NA	Amps
Input Frequency	60/50	Hz
Rated Output Power	450	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.)						
0.53	0.95	21.50%	10%	58.05	12.3/2.6	11.6/0	3.4/1.7	5.1/1.2	5.1/0.2	46.00	79.24%
0.97	0.98	14.69%	20%	109.47	12.3/5.3	11.6/0.1	3.4/3.5	5.1/2.5	5.1/0.4	92.02	84.06%
2.34	0.99	9.76%	50%	266.80	12.3/13.3	11.7/0.1	3.4/8.7	5/6.2	5.1/1	230.21	86.29%
4.79	0.99	8.66%	100%	548.20	12.3/26.6	11.7/0.3	3.4/17.3	5/12.3	5/2.1	459.19	83.76%



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/>

