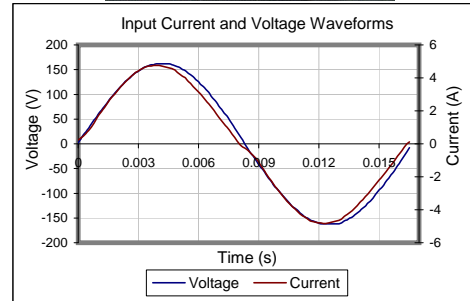


80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	90.17%
AVERAGE EFFICIENCY :	88.81%
80 PLUS COMPLIANT:	YES



Ecos ID #	1591
Manufacturer	HEWLETT PACKARD
Model Number	PS-4321-9HA
Serial Number	5ALULOAM5XO0EX
Year	2009
Type	CUSTOM
Test Date	8/19/2009

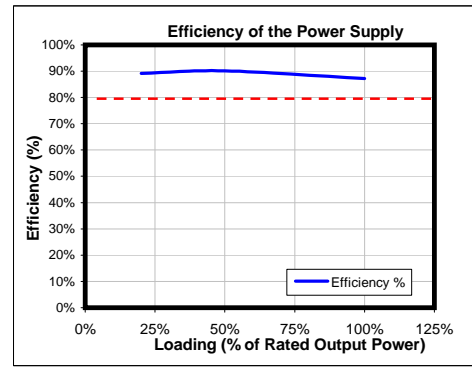
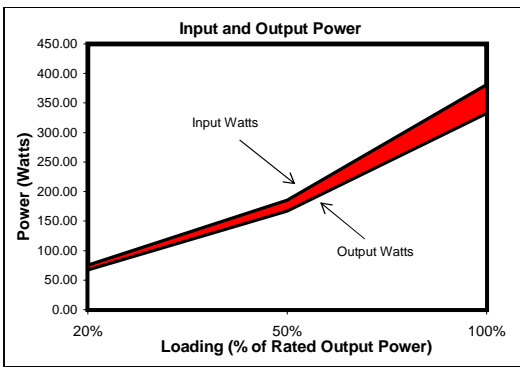


Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	5.5	Amps
Input Frequency	50-60	Hz
Rated Output Power	320	Watts

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

Input AC Current Waveform (ITHD = 11.21%, 50% Load)

I _{RMS} A	PF	I _{THD} (%)	Load (%)	Fraction of Load	Input Watts	DC Terminal Voltage (V)/ DC Load Current (A)			Output Watts	Efficiency %
						12V (cumulative of 12V1, 12V2, etc.)	-12V	12VSB		
0.68	0.9625	15.48%	20%	Light	75.27	12.2/5.2	11.7/0	12.2/0.3	67.08	89.13%
1.63	0.9876	11.21%	50%	Typical	185.33	12.2/13	11.8/0.1	12.2/0.6	167.11	90.17%
3.35	0.9950	6.13%	100%	Full	381.30	12.1/26.1	12/0.1	12.1/1.3	332.31	87.15%



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/>

