

## 80 PLUS Verification and Testing Report

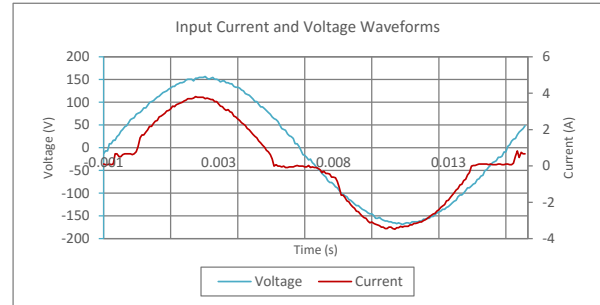
<b>TYPICAL EFFICIENCY (50% Load):</b>	<b>90.56%</b>
<b>AVERAGE EFFICIENCY :</b>	<b>89.04%</b>
<b>80 PLUS COMPLIANT:</b>	<b>YES</b>



ID Number	5084
Manufacturer	FSP Technology Inc.
Model Number	HGD450
Serial Number	S7250030011
Year	2017
Type	ATX12V
Test Date	10/9/17

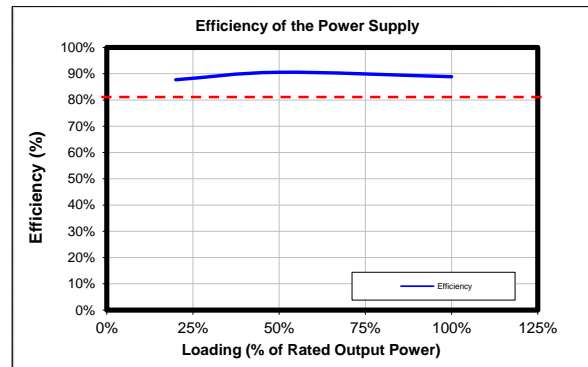
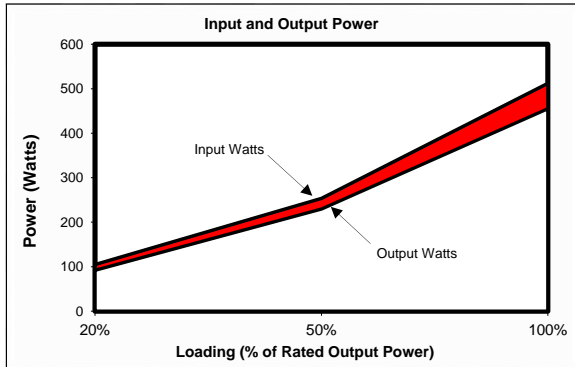
Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	8-4	Amps
Input Frequency	60-50	Hz
Rated Output Power	450	Watts

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



Input AC Current Waveform (ITHD = 22.198%, 50% Load)

I <sub>RMS</sub>	PF	I <sub>THD</sub>	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		
0.55	0.89	15.49%	10%	56.30	12.26/2.97	11.92/0.02	3.37/0.96	5.12/0.96	5.18/0.2	45.88	81.50%
0.99	0.93	28.00%	20%	105.01	12.25/5.97	11.88/0.05	3.36/1.92	5.11/1.91	5.17/0.4	92.09	87.70%
2.28	0.97	22.20%	50%	253.51	12.21/14.98	11.84/0.12	3.35/4.79	5.1/4.75	5.12/0.99	229.58	90.56%
4.53	0.98	15.83%	100%	512.19	12.15/29.83	11.79/0.24	3.32/9.6	5.07/9.49	5.05/1.99	455.17	88.87%



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/>

