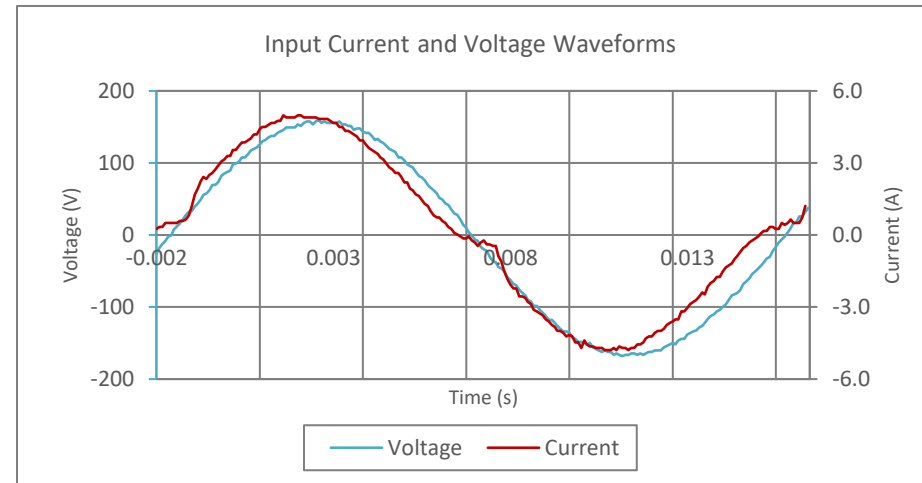


80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	87.79%
AVERAGE EFFICIENCY :	86.39%
80 PLUS COMPLIANT:	YES



ID Number	6064.2
Manufacturer	VSP TECHNOLOGY SPREAD
Model Number	VGP650BRN
Serial Number	N/A
Year	2020
Type	ATX12V
Test Date	8/17/20

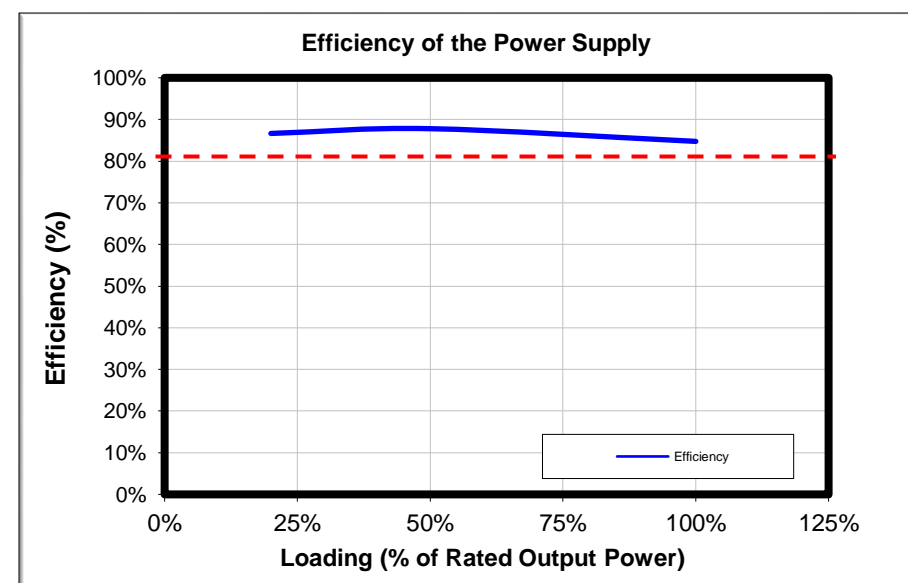
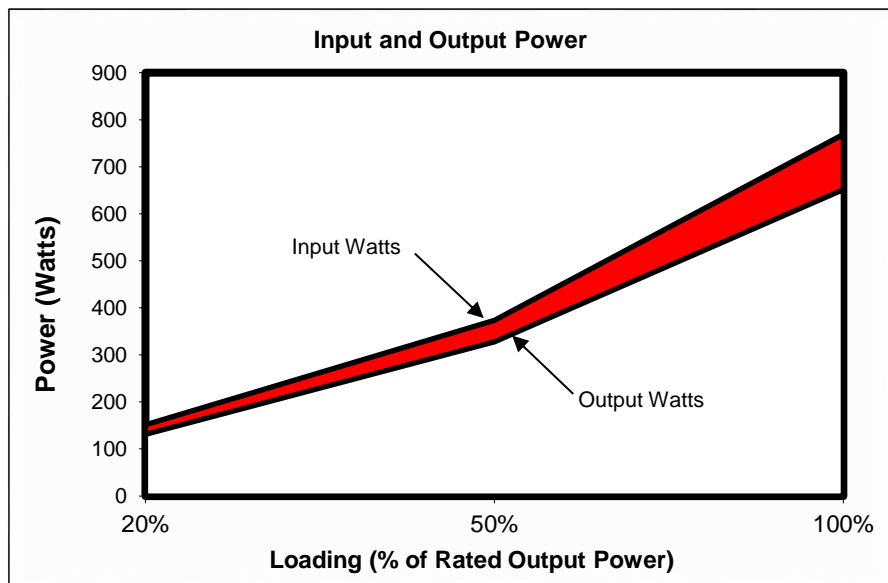


Input AC Current Waveform (ITHD = 9.64%, 50% Load)

Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	10-5	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.

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		
0.71	0.97	18.89%	10%	79.27	12.05/4.49	11.71/0.03	3.35/1.16	5.2/1.16	5.13/0.23	65.58	82.73%
1.38	0.96	20.22%	20%	151.51	12.05/9.01	11.74/0.05	3.34/2.32	5.19/2.31	5.12/0.46	131.27	86.64%
3.29	0.99	9.64%	50%	373.70	12.02/22.57	11.77/0.14	3.34/5.8	5.18/5.75	5.1/1.15	328.09	87.79%
6.71	1.00	5.46%	100%	768.80	11.95/45.09	11.85/0.27	3.32/11.61	5.16/11.49	5.06/2.29	651.51	84.74%



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/>