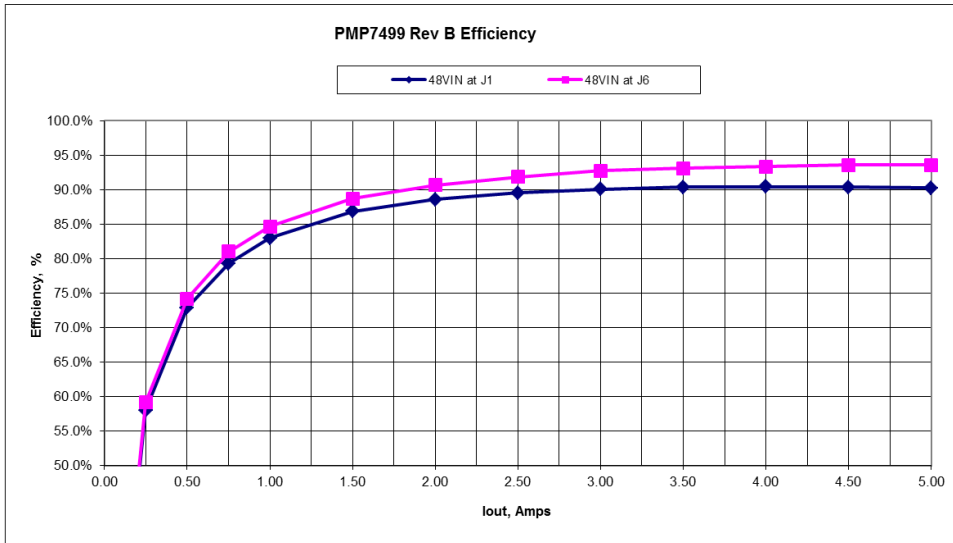


All measurements taken with a 48VIN at J1, 5A load, and 20MHz BWL.

Efficiency

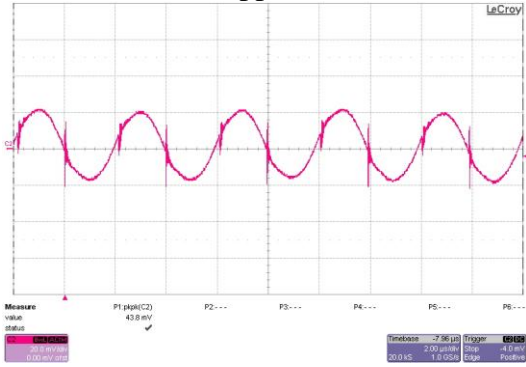
The efficiency of the converter with various inputs is shown below:

		J1			J6		
<u>Iout</u>	<u>Vout</u>	<u>Iin</u>	<u>Vin</u>	<u>Eff</u>	<u>Iin</u>	<u>Vin</u>	<u>Eff</u>
0.00	12.03	0.045	48.0	0.0%	0.044	48.0	0.0%
0.25	12.03	0.108	48.0	58.0%	0.106	48.0	59.1%
0.50	12.03	0.172	48.0	72.9%	0.169	48.0	74.1%
0.75	12.03	0.237	48.0	79.3%	0.232	48.0	81.0%
1.00	12.03	0.302	48.0	83.0%	0.296	48.0	84.7%
1.50	12.03	0.433	48.0	86.8%	0.424	48.0	88.7%
2.00	12.03	0.566	48.0	88.6%	0.553	48.0	90.6%
2.50	12.03	0.700	48.0	89.5%	0.682	48.0	91.9%
3.00	12.03	0.835	48.0	90.0%	0.811	48.0	92.7%
3.50	12.03	0.971	48.0	90.3%	0.942	48.0	93.1%
4.00	12.03	1.109	48.0	90.4%	1.074	48.0	93.3%
4.50	12.03	1.248	48.0	90.4%	1.205	48.0	93.6%
5.00	12.03	1.389	48.0	90.2%	1.339	48.0	93.6%

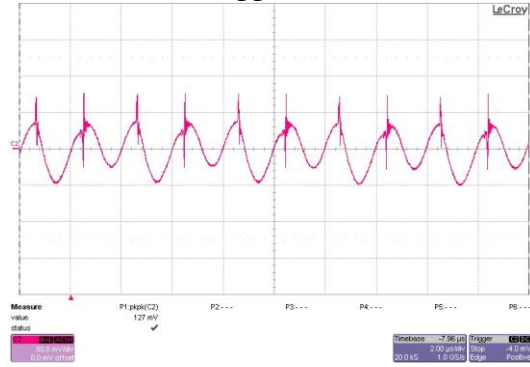


Ripple and Noise

12V Ripple (C19), 20mV/div, 2us/div:
Measured 43.8mVpp

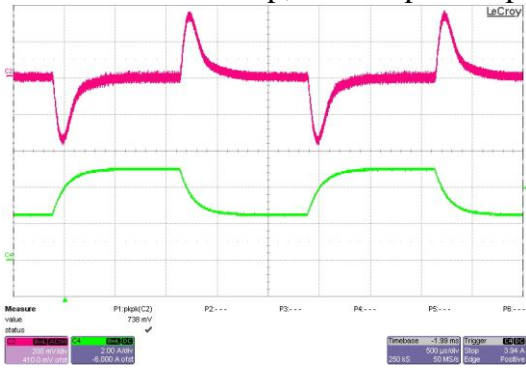


Input Ripple (C11), 50mV/div, 2us/div:
Measured 127mVpp



Dynamic Loading

Load Step, 200mV/div, 2A/div, 500usec/div:
2.5A to 5A Load Step; 738mV peak to peak



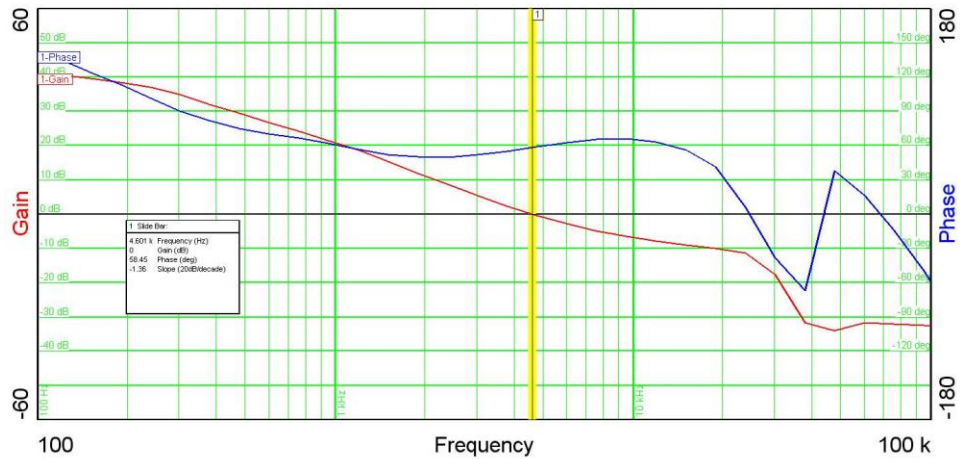
Turn On Response and In-rush Current

Phihong POE80U-560(G)-R PSE input, 11W Load, 2V.div, 200mA/div, 5msec/div:



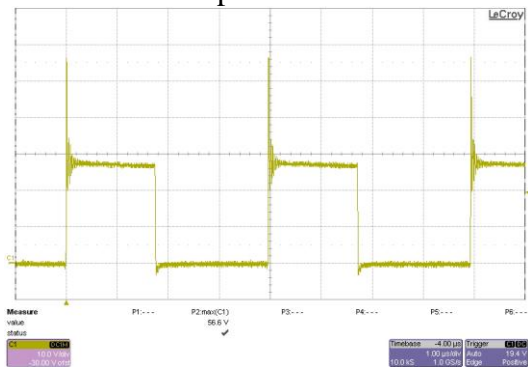
Stability (Loop Gain)

The figure below is the loop gain of the converter with a 48V input and 5A load. The Bandwidth is 4.6 KHz, the Phase Margin is 58 degrees, and the Gain Margin is 12 dB.

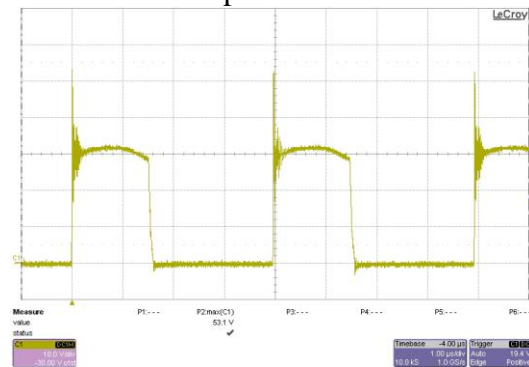


Misc Waveforms

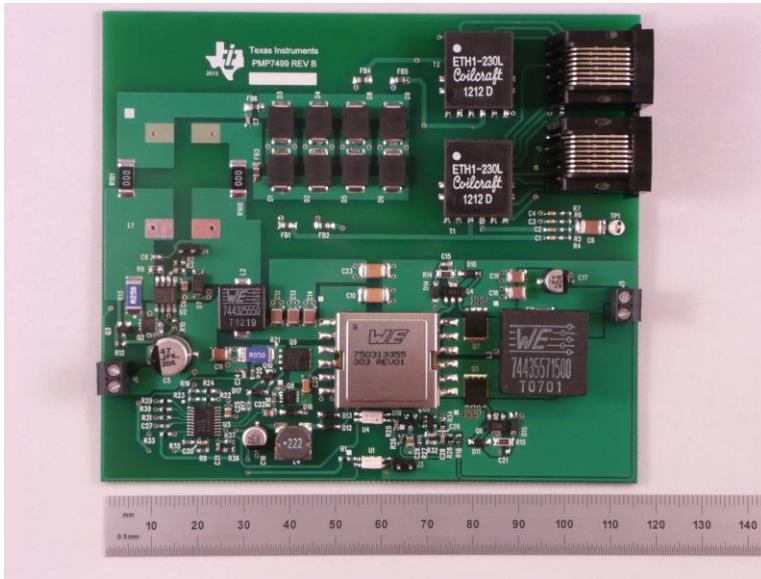
Q5 D-S, 57VIN, 5A Load, Full BW:
 Measured 56.6Vpeak:



Q7 D-S, 42VIN, 0A Load, Full BW:
 Measured 53.1Vpeak:

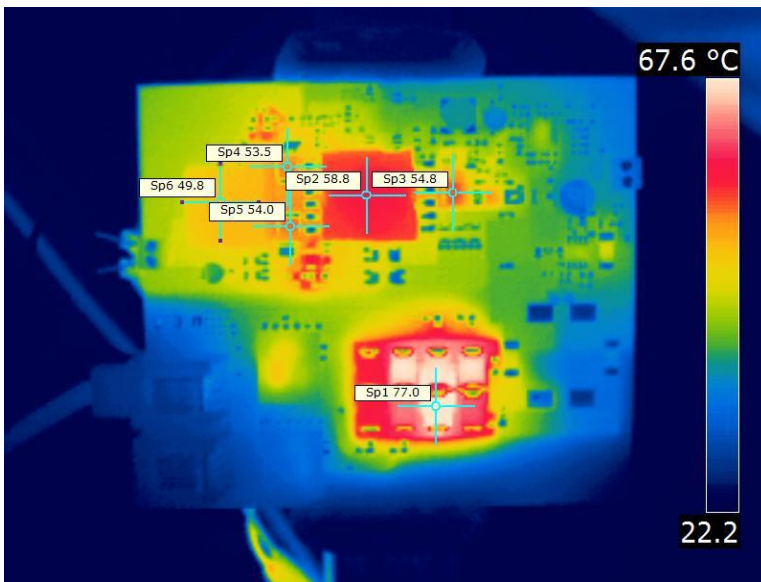


Photo



Thermal Analysis:

48V input and 5A load:



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