

All testing performed with 48VIN, max loads, and 20MHz BW unless otherwise noted.

**Efficiency and Regulation**

PoE Input:

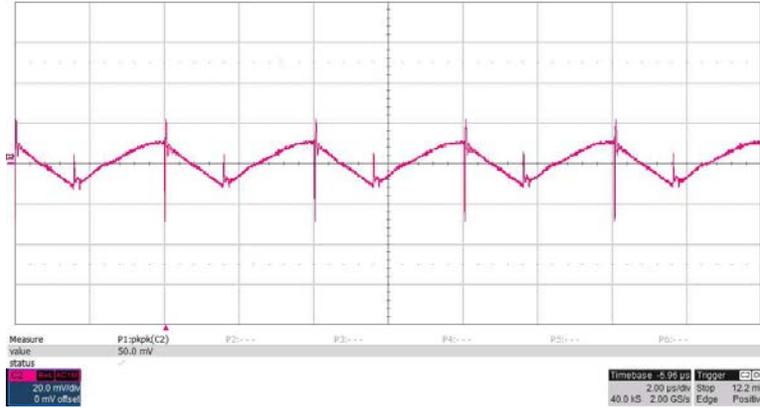
<b>3.3V</b>	<b>3.3V</b>	<b>5V</b>	<b>5V</b>	<b>J1</b>	<b>J1</b>	<b>J1</b>
<b><u>Iout</u></b>	<b><u>Vout</u></b>	<b><u>Iout</u></b>	<b><u>Vout</u></b>	<b><u>Iin</u></b>	<b><u>Vin</u></b>	<b><u>Eff</u></b>
0.000	3.334	0.000	5.016	0.013	48.00	0.0%
1.000	3.333	0.000	5.057	0.085	48.00	81.7%
0.000	3.334	1.000	4.985	0.122	48.00	85.1%
0.125	3.334	0.125	5.018	0.035	48.00	62.1%
0.250	3.334	0.250	5.019	0.057	48.00	76.3%
0.500	3.334	0.500	5.021	0.103	48.00	84.5%
0.750	3.333	0.750	5.024	0.150	48.00	87.1%
1.000	3.333	1.000	5.025	0.198	48.00	87.9%

AUX Input and Converter Only:

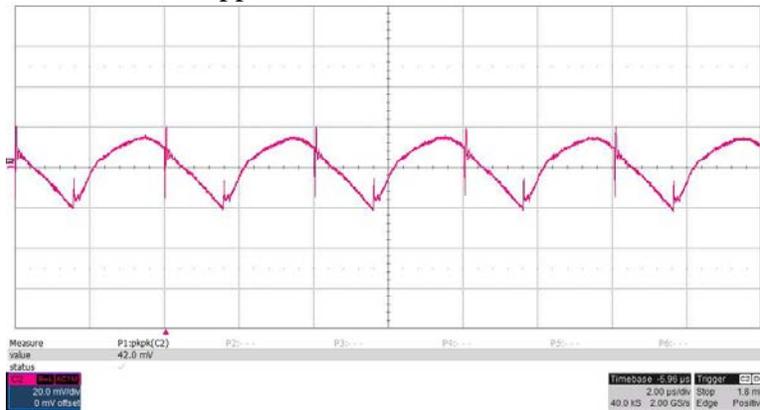
<b>3.3V</b>	<b>3.3V</b>	<b>5V</b>	<b>5V</b>	<b>J3</b>	<b>J3</b>	<b>J3</b>	<b>Conv</b>	<b>Conv</b>
<b><u>Iout</u></b>	<b><u>Vout</u></b>	<b><u>Iout</u></b>	<b><u>Vout</u></b>	<b><u>Iin</u></b>	<b><u>Vin</u></b>	<b><u>Eff</u></b>	<b><u>Vin</u></b>	<b><u>Eff</u></b>
0.000	3.335	0.000	5.018	0.013	48.00	0.0%	47.43	0.0%
1.000	3.334	0.000	5.059	0.084	48.00	82.7%	47.33	83.9%
0.000	3.335	1.000	4.987	0.120	48.00	86.6%	47.33	87.8%
0.125	3.335	0.125	5.019	0.035	48.00	62.2%	47.37	63.0%
0.250	3.335	0.250	5.021	0.057	48.00	76.4%	47.34	77.4%
0.500	3.334	0.500	5.023	0.102	48.00	85.3%	47.33	86.6%
0.750	3.334	0.750	5.025	0.148	48.00	88.2%	47.30	89.6%
1.000	3.334	1.000	5.027	0.194	48.00	89.8%	47.29	91.1%

**Ripple and Noise**

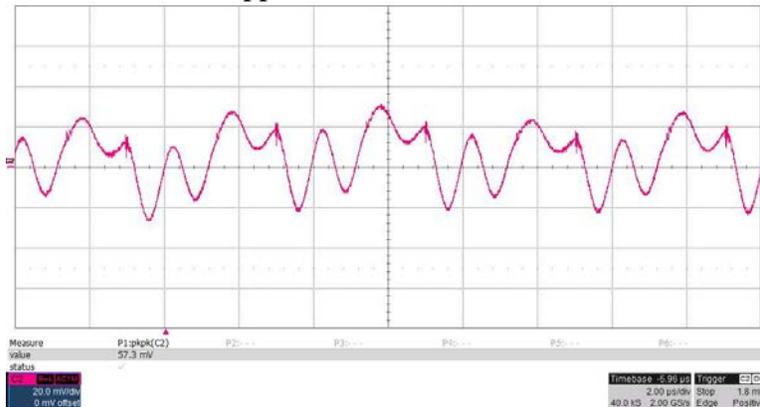
3.3V Ripple (C22)  
20mV/div, 2usec/div  
Measured 50mVpp:



5V Ripple (C12)  
20mV/div, 2usec/div  
Measured 42mVpp:



Input Ripple (C4)  
20mV/div, 2usec/div  
Measured 57.3mVpp:



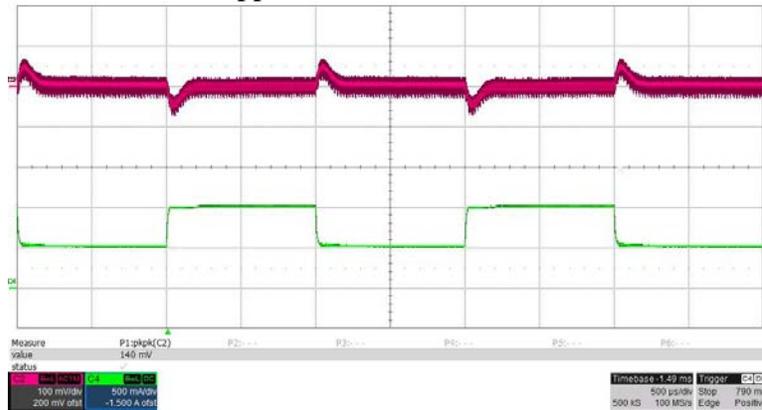
**Dynamic Loading**

3.3V load step, 3.3V response

0.5A to 1.0A load step

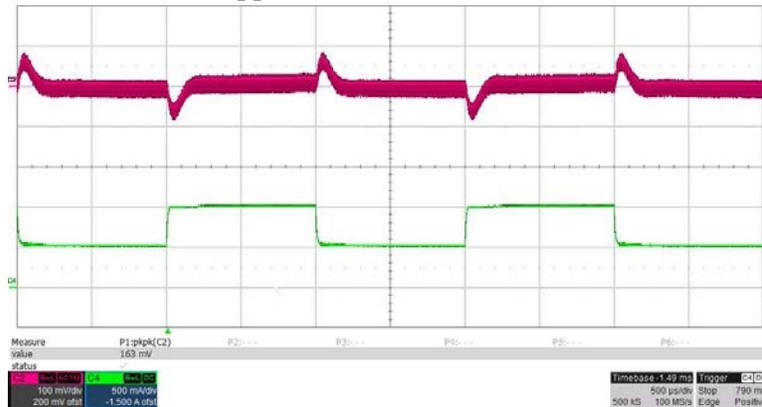
100mV/div, 0.5A/div, 500usec/div; Slew Rate = 100mA/usec

Measured 140mVpp across C22:



3.3V load step, 5V response

Measured 163mVpp across C12:

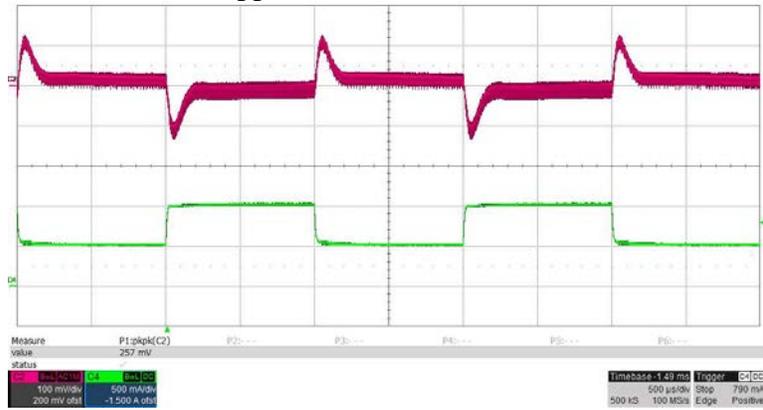


5V load step, 5V response

0.5A to 1.0A load step

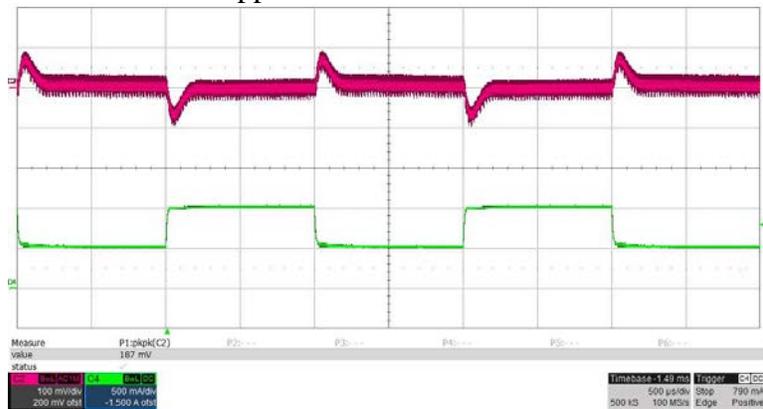
100mV/div, 1A/div, 500usec/div; Slew Rate = 100mA/usec

Measured 257mVpp across C12:



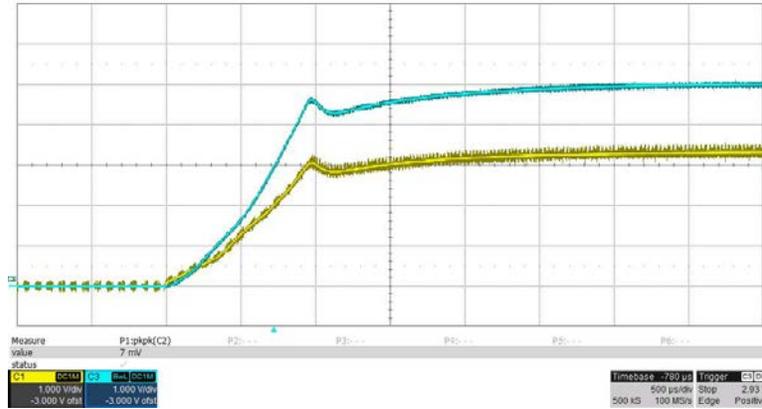
5V load step, 3.3V response

Measured 187mVpp across C22:

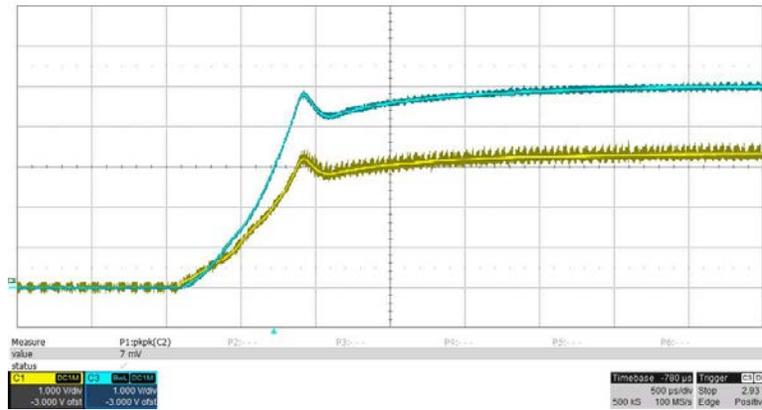


**Turn On Response**

Max Loads, 1msec/div, 1V/div:

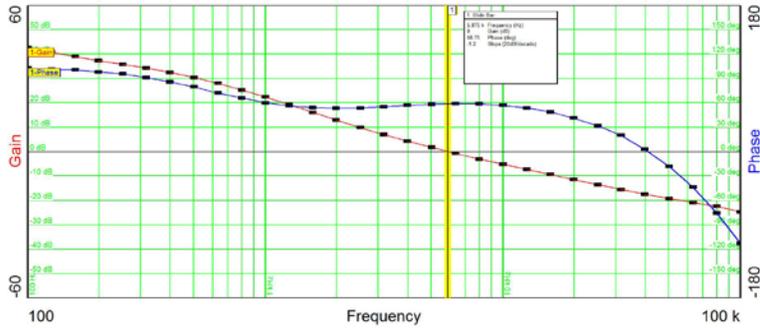


0A Loads, 1msec/div, 1V/div:



**Loop Stability**

Loop gain and phase measured with a 48V input and 1A load on each output.



BW = 5.8KHz                      PM = 58 degrees                      GM = 18dB

**Misc Waveforms**

Q2 drain to source with 57V input 1A load, and 200MHz BWL  
 Measured 25.3Vpeak:

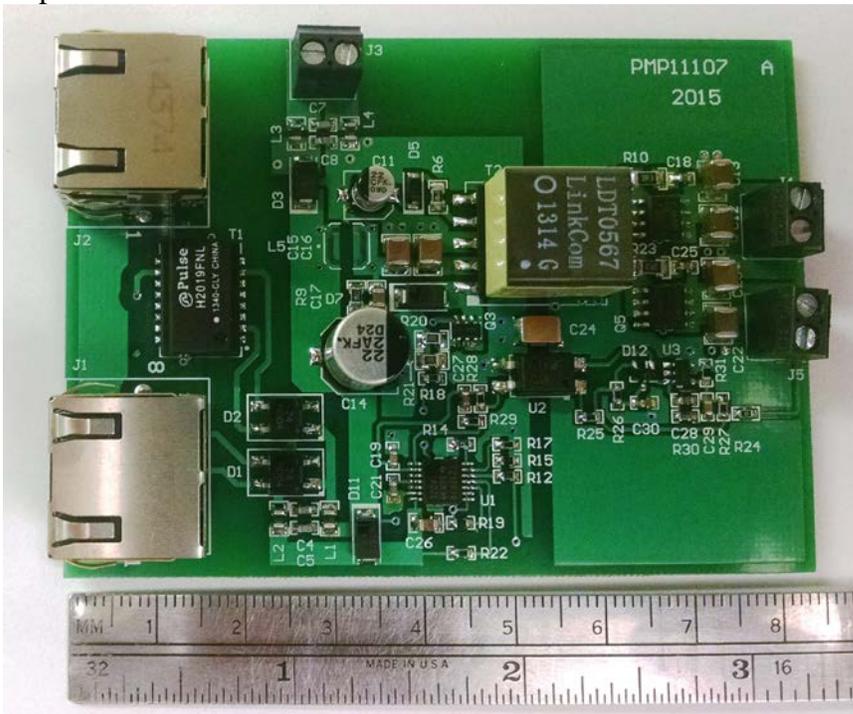


Q5 drain to source with 57V input, 1A load, and 200MHz BWL  
 Measured 18.3Vpeak:

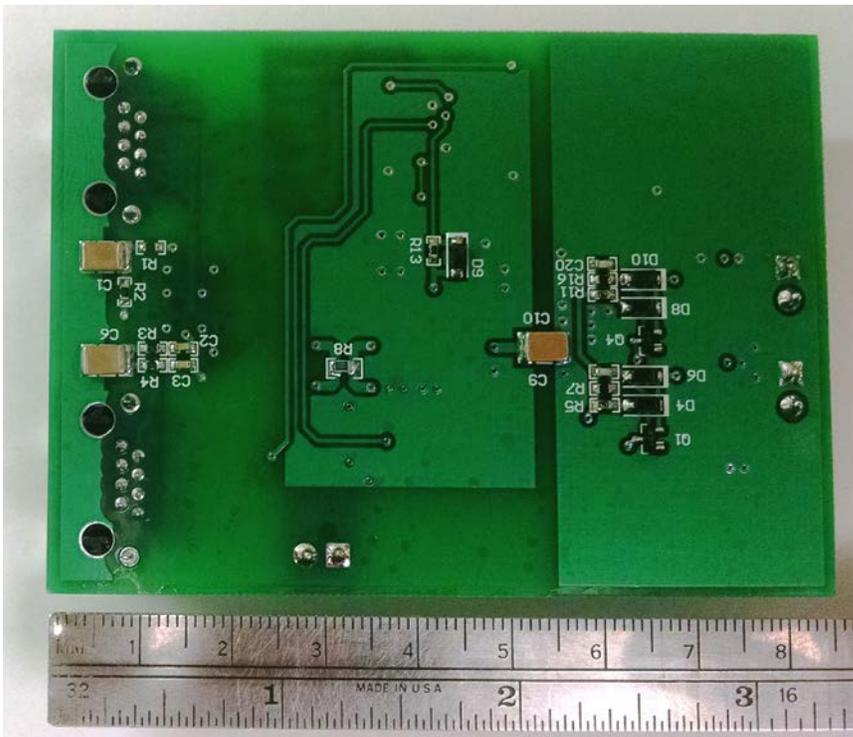


Photo

Top:



Bottom:



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