

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

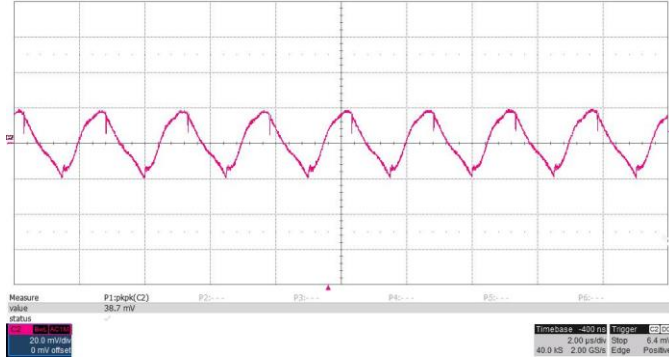
Efficiency

Flyback Converter, No TPS62082									
		-----AUX Input-----			---Converter Only--		-----PoE Input-----		
					VDD/	VDD/			
J4	J4	J3	J3	J3	PWRGND	PWRGND	J1	J1	J1
<u>Iout</u>	<u>Vout</u>	<u>Iin</u>	<u>Vin</u>	<u>Eff</u>	<u>Vin</u>	<u>Eff</u>	<u>Iin</u>	<u>Vin</u>	<u>Eff</u>
0.000	5.029	0.026	48.00	0.0%	47.56	0.0%	0.026	48.00	0.0%
0.100	5.029	0.037	48.00	28.3%	47.55	28.6%	0.037	48.00	28.3%
0.200	5.029	0.048	48.00	43.7%	47.54	44.1%	0.048	48.00	43.7%
0.300	5.029	0.058	48.00	54.2%	47.52	54.7%	0.059	48.00	53.3%
0.400	5.029	0.069	48.00	60.7%	47.50	61.4%	0.070	48.00	59.9%
0.500	5.029	0.080	48.00	65.5%	47.49	66.2%	0.081	48.00	64.7%
0.750	5.029	0.106	48.00	74.1%	47.48	74.9%	0.109	48.00	72.1%
1.000	5.029	0.134	48.00	78.2%	47.45	79.1%	0.137	48.00	76.5%
1.250	5.029	0.161	48.00	81.3%	47.43	82.3%	0.165	48.00	79.4%
1.500	5.029	0.189	48.00	83.2%	47.41	84.2%	0.194	48.00	81.0%
1.750	5.029	0.217	48.00	84.5%	47.39	85.6%	0.223	48.00	82.2%
2.000	5.029	0.246	48.00	85.2%	47.36	86.3%	0.253	48.00	82.8%

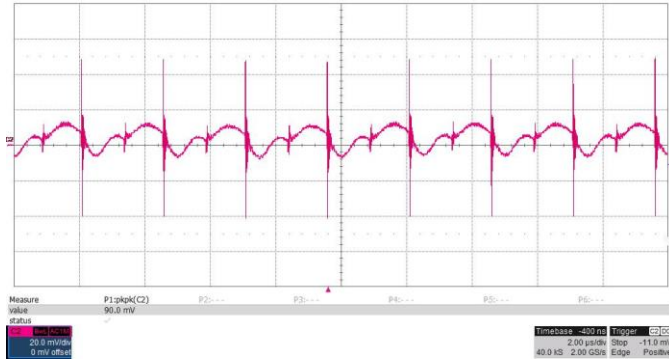
TPS62082				
J5	J5	C29	C29	
<u>Iout</u>	<u>Vout</u>	<u>Iin</u>	<u>Vin</u>	<u>Eff</u>
0.000	3.326	0.001	5.00	0.0%
0.100	3.327	0.075	5.00	88.7%
0.200	3.240	0.141	5.00	91.9%
0.300	3.241	0.208	5.00	93.5%
0.400	3.240	0.276	5.00	93.9%
0.500	3.240	0.345	5.00	93.9%
0.600	3.240	0.415	5.00	93.7%
0.700	3.239	0.485	5.00	93.5%
0.800	3.239	0.556	5.00	93.2%
0.900	3.239	0.629	5.00	92.7%
1.000	3.240	0.701	5.00	92.4%
1.075	3.240	0.756	5.00	92.1%

Ripple and Noise

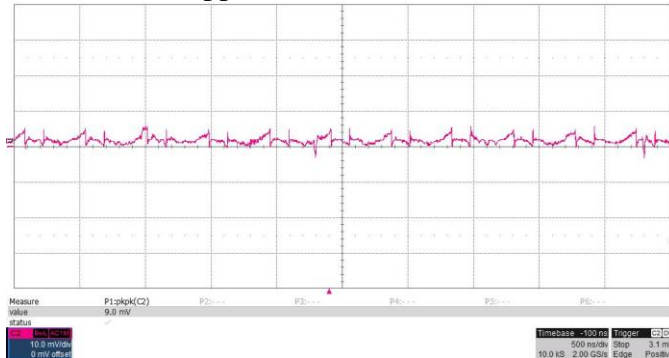
5V Output Ripple across C15, 2A load on 5V, no TPS62082
20mV/div, 2usec/div
Measured 38.7mVpp:



Input Ripple across C8, 2A load on 5V, no TPS62082
20mV/div, 2usec/div
Measured 90mVpp:



3.3V Output Ripple across C30, 1.075A load on 3.3V, 1.25A load on 5V
10mV/div, 2usec/div
Measured 9mVpp:



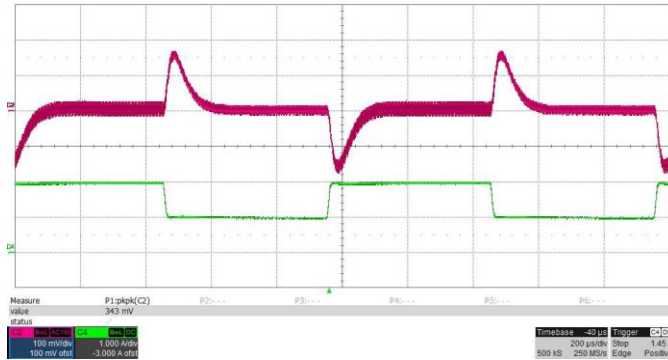
Dynamic Loading

5V Load Step; 1A to 2A, no TPS62082

Slew Rate = 100mA/usec

100mV/div, 1A/div, 200usec/div

Measured 343mVpp:

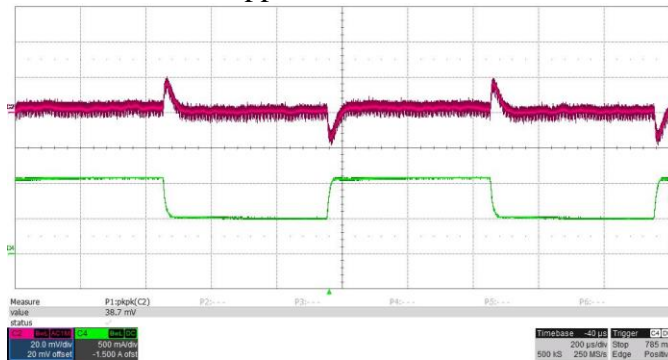


3.3V Load Step; 500mA to 1.075A, 1.25A load on 5V

Slew Rate = 100mA/usec

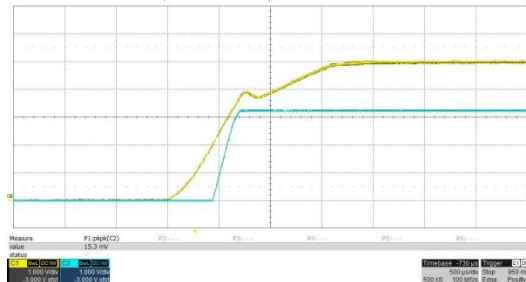
20mV/div, 500mA/div, 200usec/div

Measured 38.7mVpp:

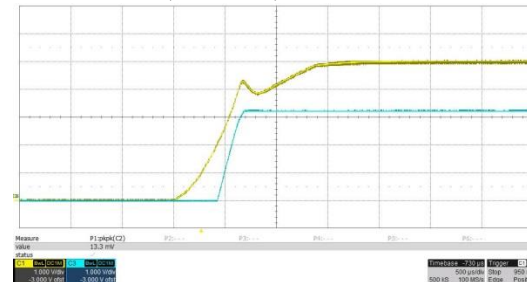


Turn On Response

3.3V/1.075A, 5V/1.25A
500usec/div, 1V/div, 1V/div:

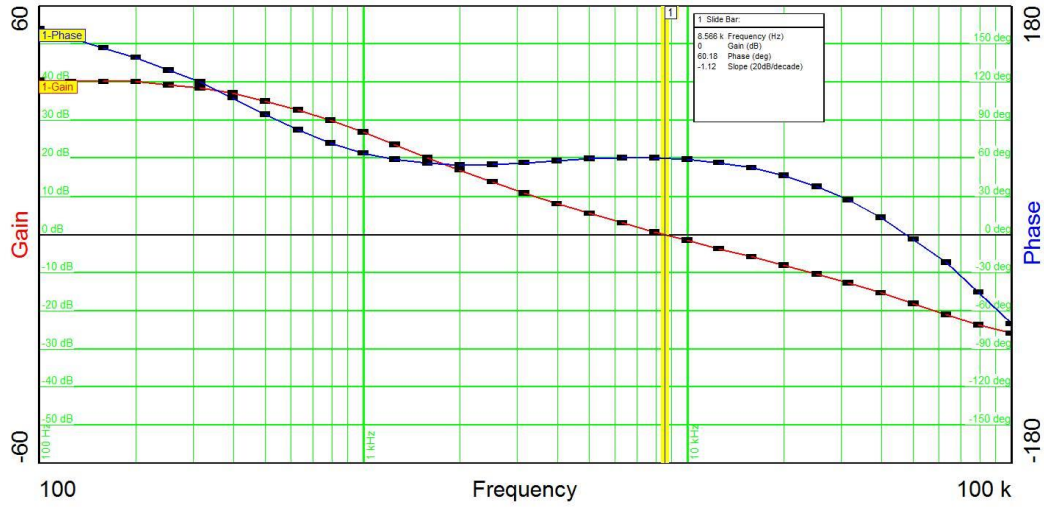


3.3V/0A, 5V/0A
500usec/div, 1V/div, 1V/div:



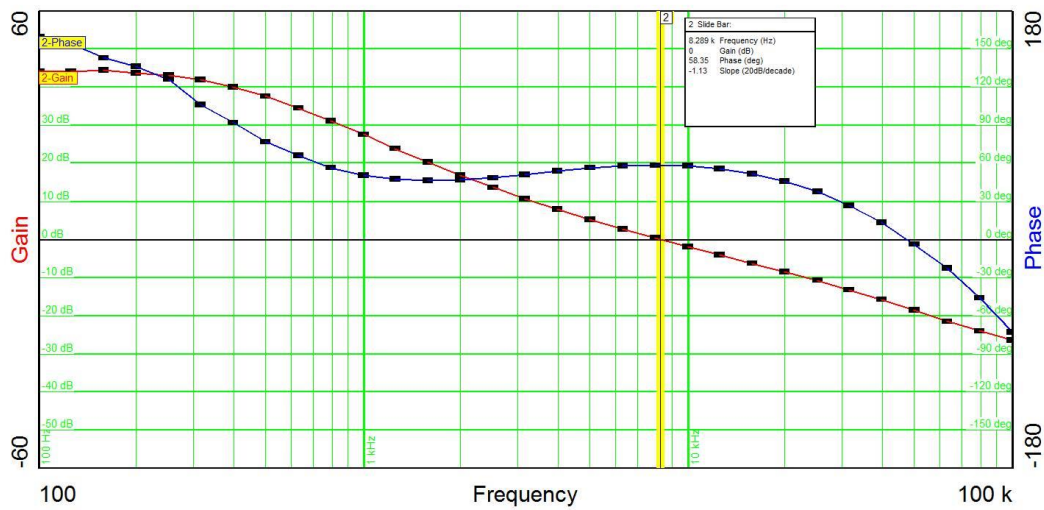
Control Loop Plots

Flyback converter, no TPS62082, 48V input, 2A load:



BW=8.5KHz; PM=60 degrees; GM=18dB

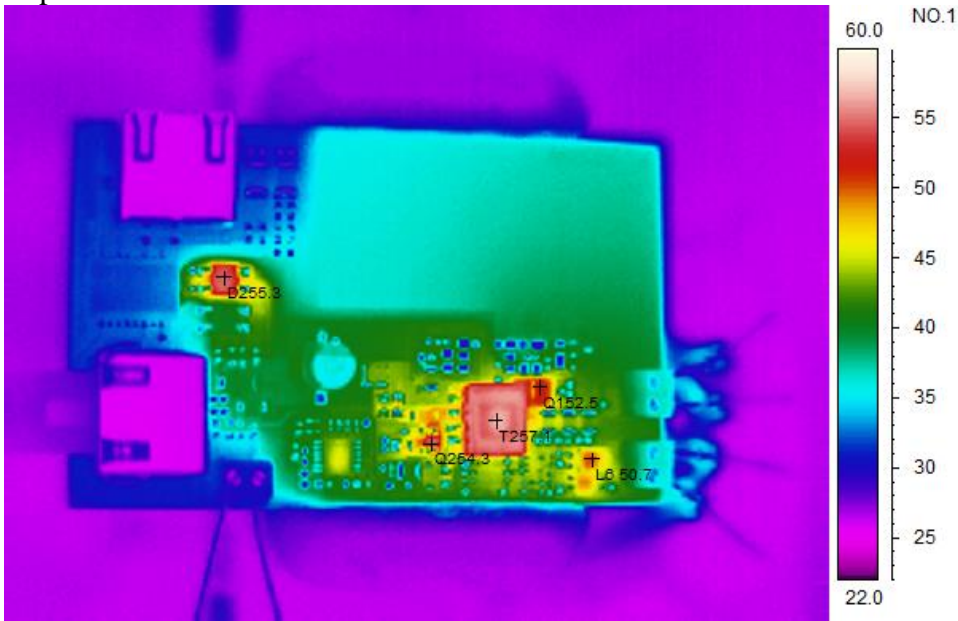
Flyback converter, with TPS62082, 48V input, 5V/1.25A load, 3.3V/1.075A load:



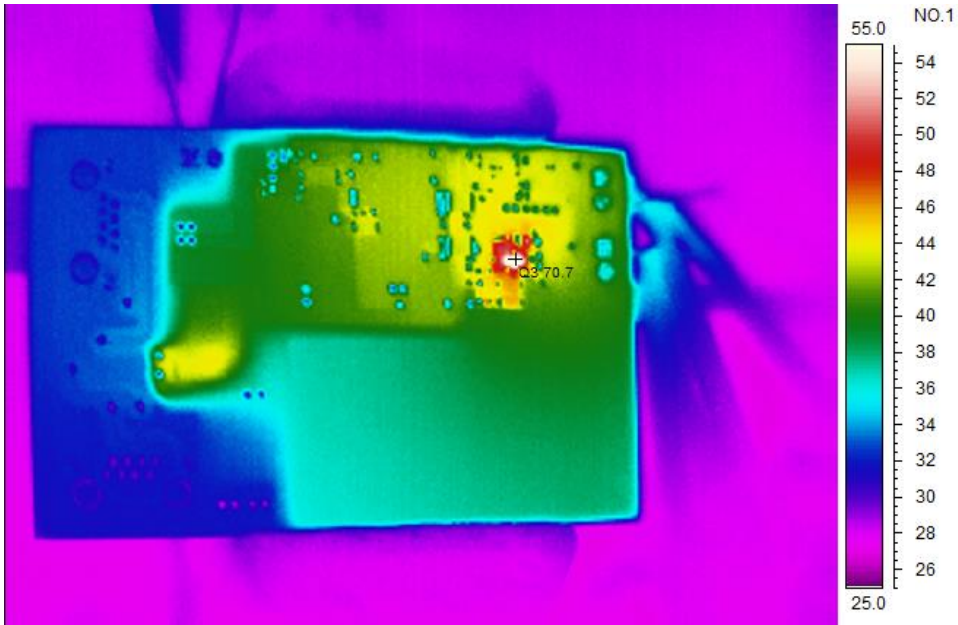
BW=8.2KHz; PM=58 degrees; GM=18dB

Thermal Plot

Top:

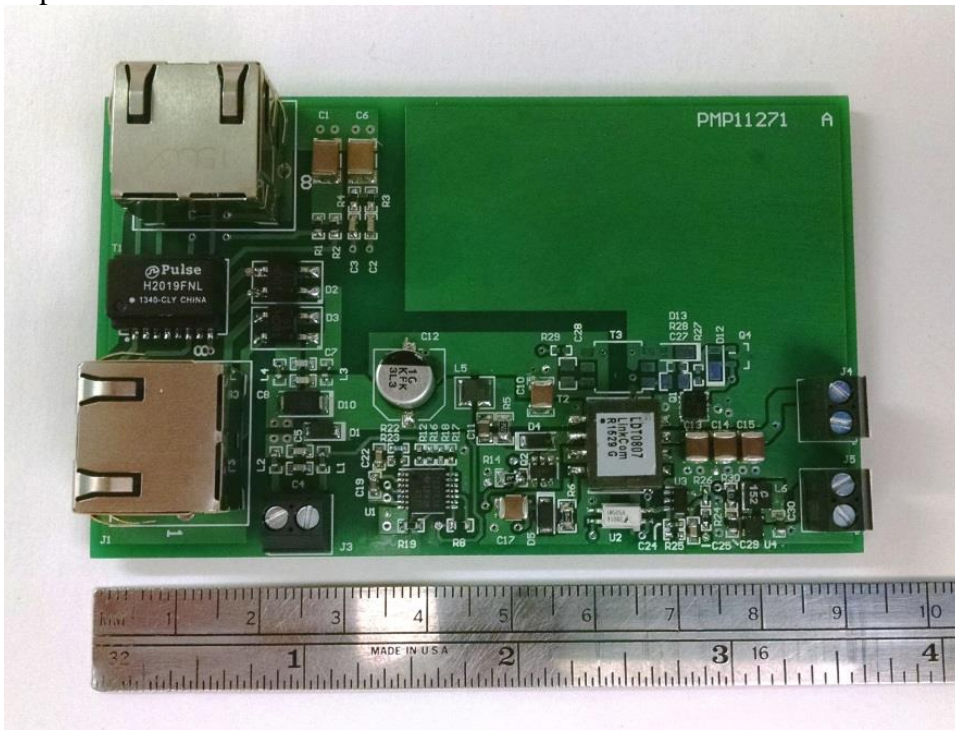


Bottom:

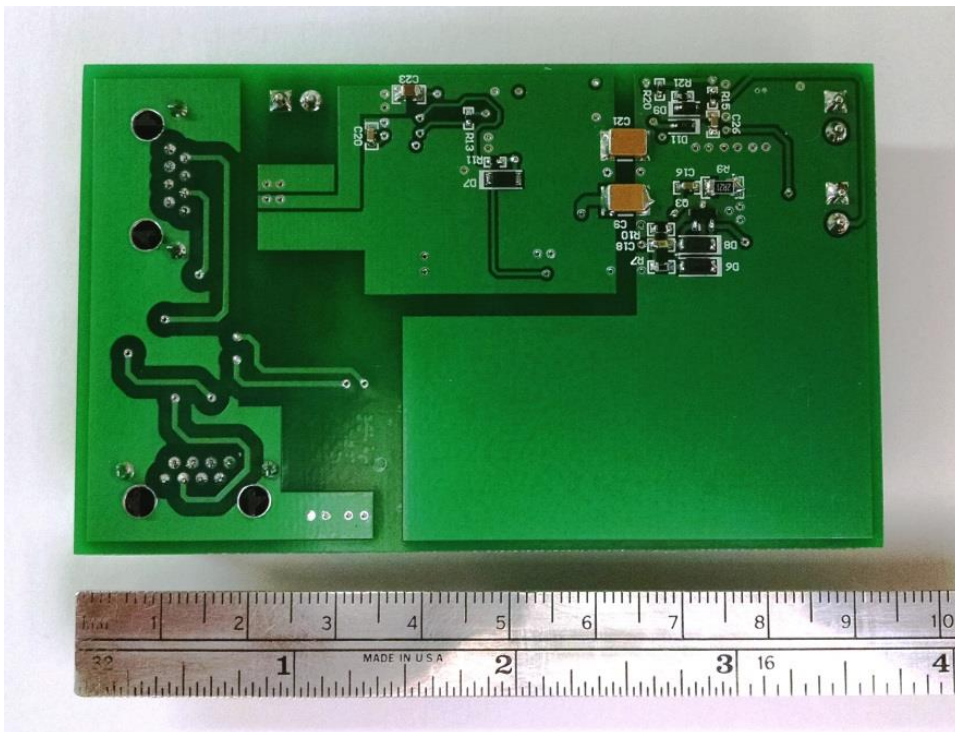


Photo

Top:



Bottom:



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