

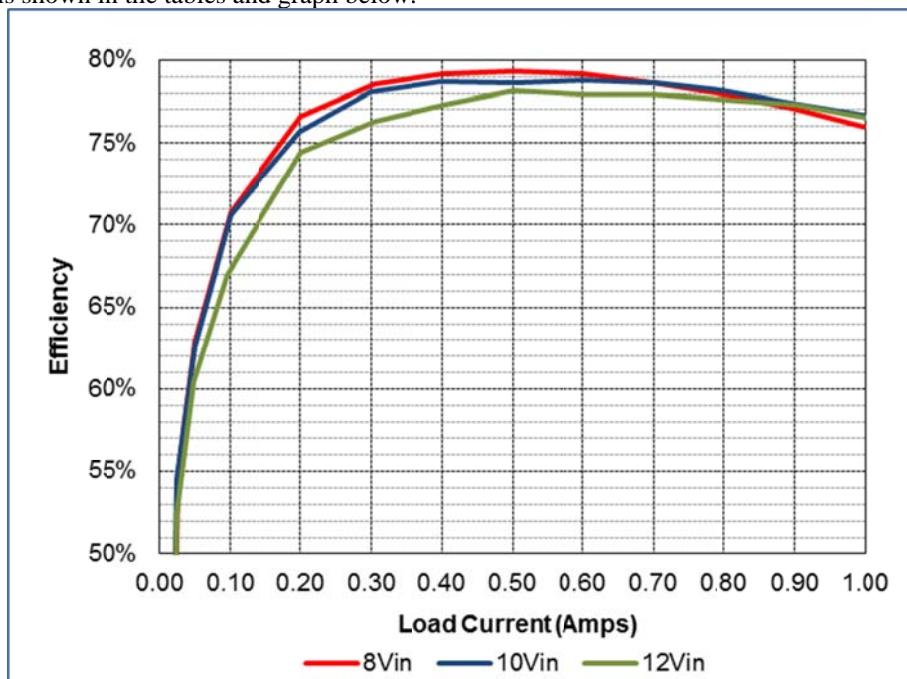
1 Photos

The photos below show the PMP10801 REV B demo board. This circuit was built using a PMP10801PCB Rev A.



2 Efficiency

The efficiency data is shown in the tables and graph below.

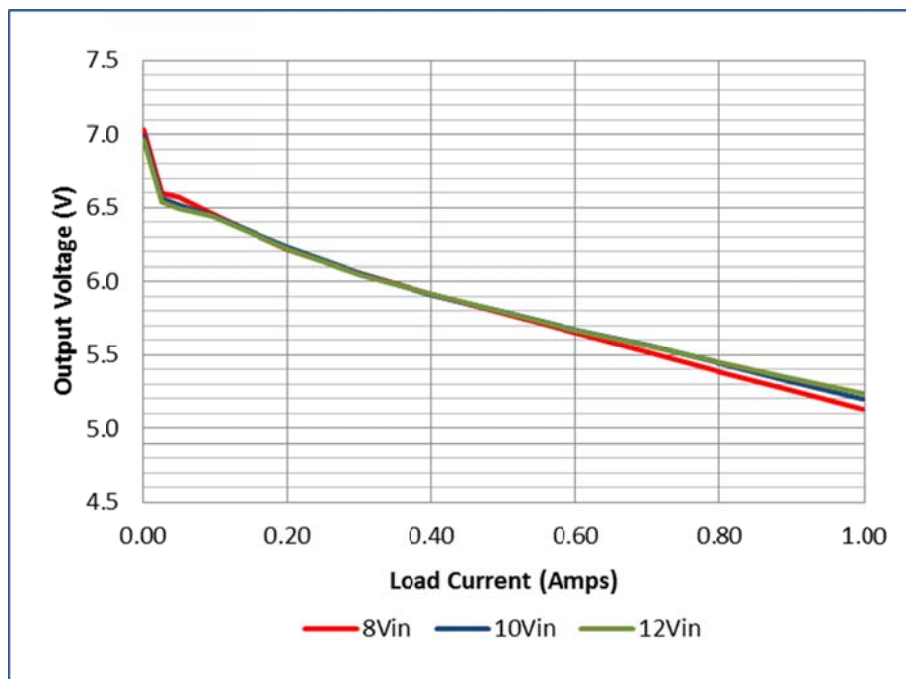


Vin	Iin	Iout	Vout	Pout	Losses	Efficiency
8.01	0.011	0.000	7.030	0.00	0.088	0.0%
8.00	0.039	0.026	6.600	0.17	0.140	55.0%
8.00	0.064	0.049	6.570	0.32	0.190	62.9%
7.99	0.115	0.101	6.440	0.65	0.268	70.8%
8.00	0.203	0.200	6.220	1.24	0.380	76.6%
8.02	0.292	0.304	6.050	1.84	0.503	78.5%
8.00	0.375	0.402	5.910	2.38	0.624	79.2%
8.02	0.455	0.501	5.780	2.90	0.753	79.4%
8.00	0.537	0.602	5.650	3.40	0.895	79.2%
8.02	0.613	0.700	5.520	3.86	1.052	78.6%
8.00	0.692	0.802	5.380	4.31	1.221	77.9%
8.02	0.765	0.899	5.260	4.73	1.407	77.1%
8.00	0.842	0.998	5.130	5.12	1.616	76.0%

Vin	Iin	Iout	Vout	Pout	Losses	Efficiency
10.02	0.009	0.000	6.990	0.00	0.090	0.0%
10.01	0.030	0.025	6.560	0.16	0.136	54.6%
10.01	0.051	0.049	6.520	0.32	0.191	62.6%
10.00	0.092	0.101	6.430	0.65	0.271	70.6%
9.99	0.164	0.199	6.230	1.24	0.399	75.7%
10.01	0.231	0.298	6.060	1.81	0.506	78.1%
9.99	0.299	0.398	5.910	2.35	0.635	78.7%
10.01	0.370	0.503	5.790	2.91	0.791	78.6%
10.00	0.434	0.603	5.670	3.42	0.921	78.8%
10.02	0.496	0.703	5.560	3.91	1.061	78.6%
10.01	0.556	0.800	5.440	4.35	1.214	78.2%
9.99	0.617	0.897	5.320	4.77	1.392	77.4%
10.01	0.676	0.998	5.200	5.19	1.577	76.7%

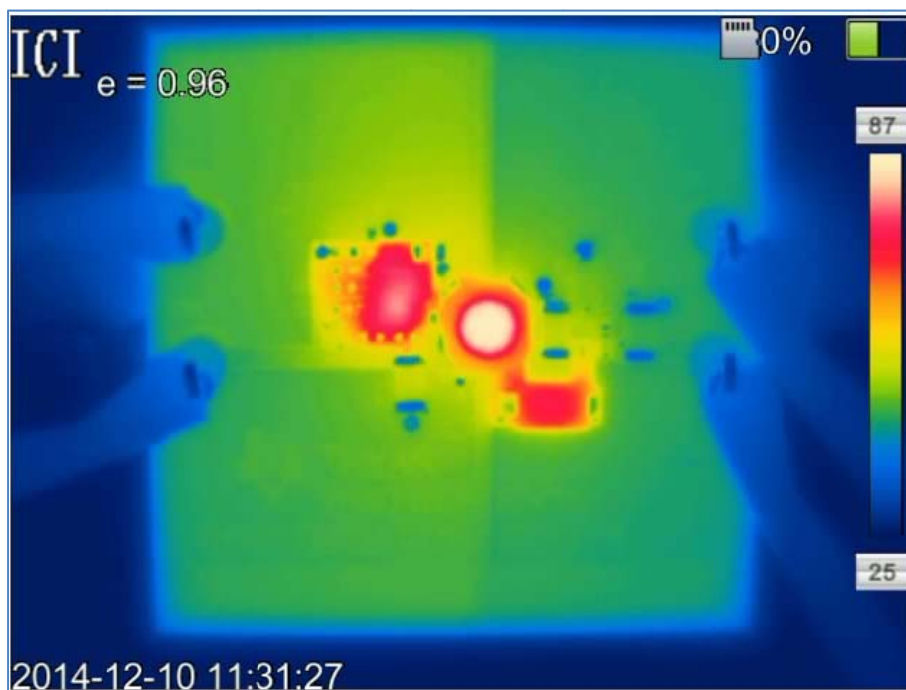
Vin	Iin	Iout	Vout	Pout	Losses	Efficiency
12.00	0.008	0.000	6.960	0.00	0.096	0.0%
11.99	0.026	0.025	6.540	0.16	0.148	52.4%
11.99	0.043	0.048	6.490	0.31	0.204	60.4%
12.02	0.076	0.095	6.440	0.61	0.302	67.0%
12.00	0.140	0.201	6.220	1.25	0.430	74.4%
11.99	0.200	0.303	6.040	1.83	0.568	76.3%
12.02	0.257	0.404	5.910	2.39	0.702	77.3%
12.00	0.310	0.502	5.790	2.91	0.813	78.1%
11.99	0.364	0.600	5.670	3.40	0.962	77.9%
11.98	0.417	0.700	5.560	3.89	1.104	77.9%
12.00	0.467	0.798	5.450	4.35	1.255	77.6%
11.99	0.519	0.901	5.340	4.81	1.411	77.3%
12.02	0.569	1.001	5.230	5.24	1.604	76.5%

3 Regulation



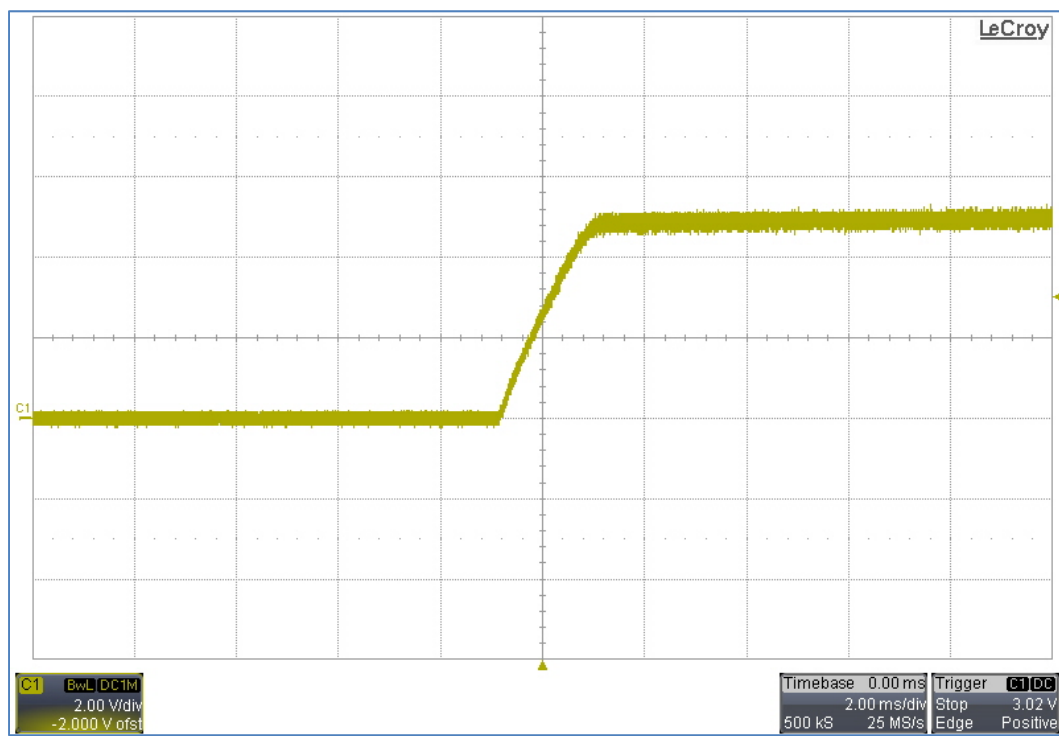
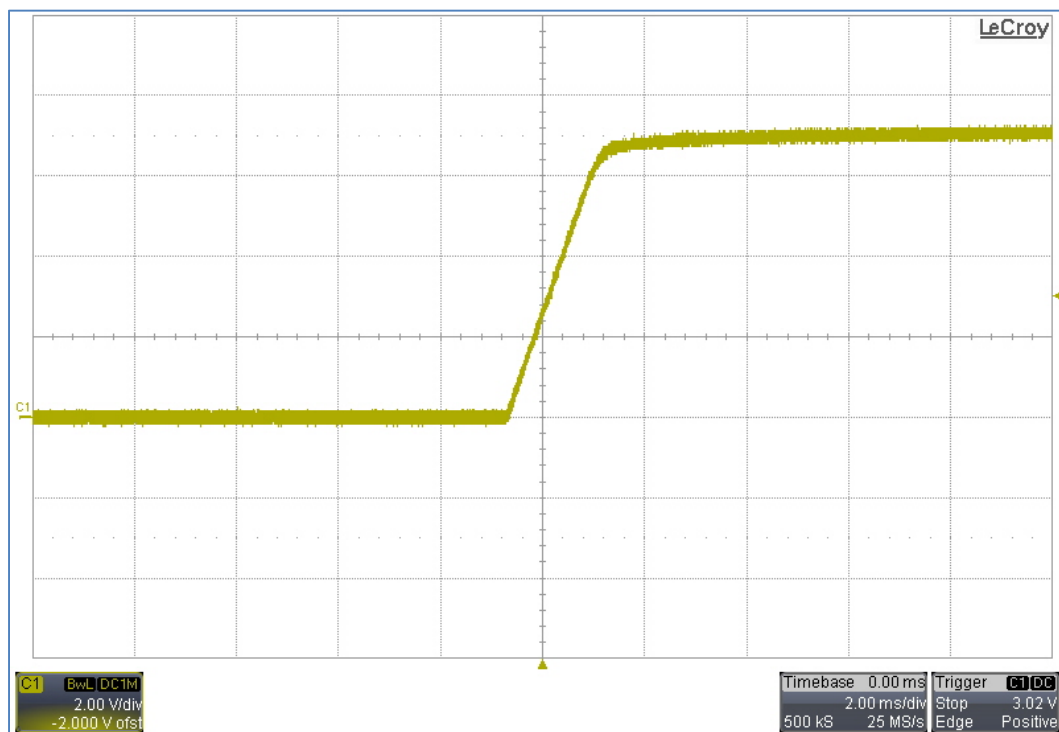
4 Thermal Images

The thermal images below show the top and bottom of the board with $V_{in} = 12V$, 1A load, and no forced airflow. The ambient temperature was 25°C.



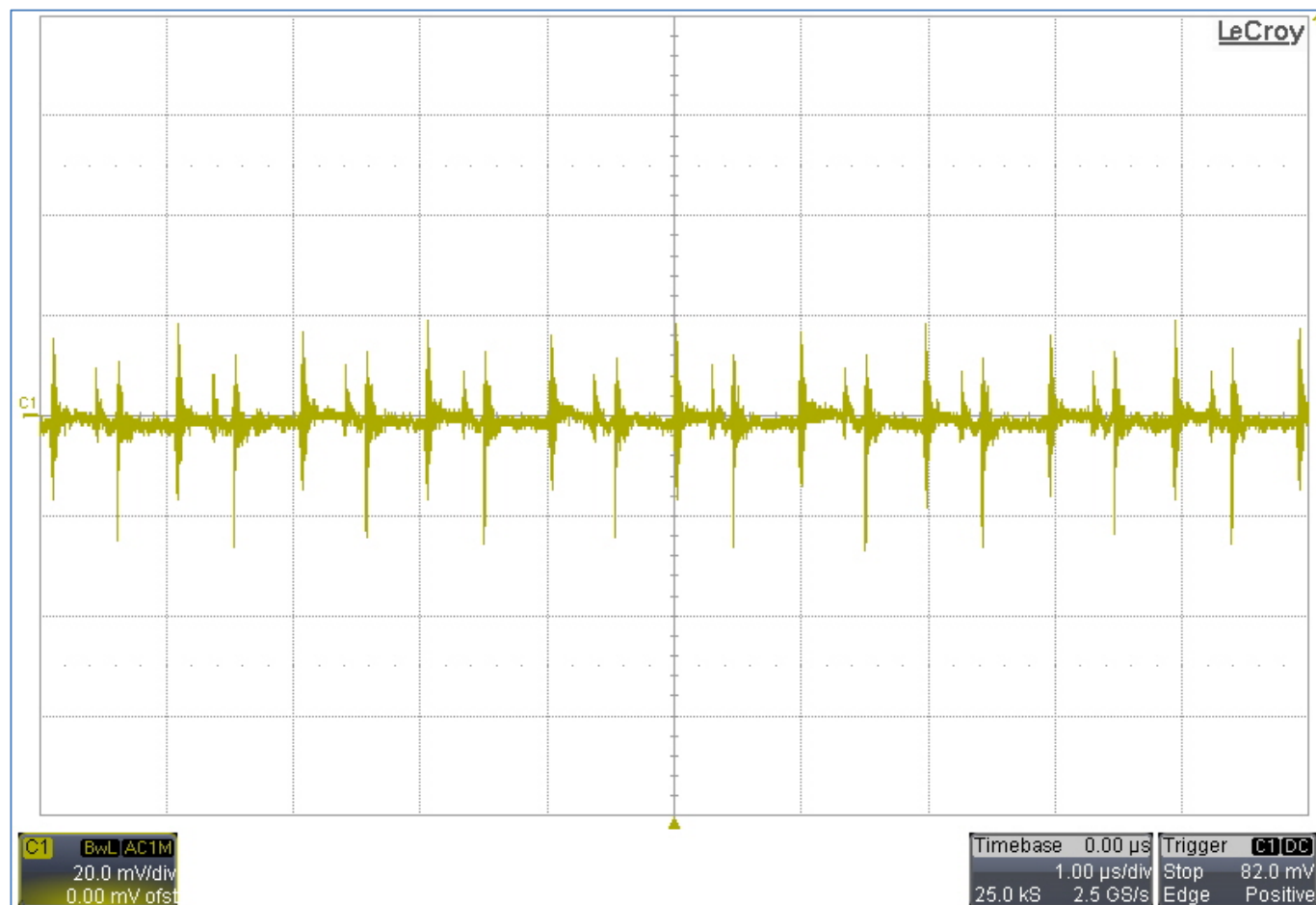
5 Startup

The output voltage at startup is shown in the images below. [Top Image = no load, Bottom Image = 1A load.]



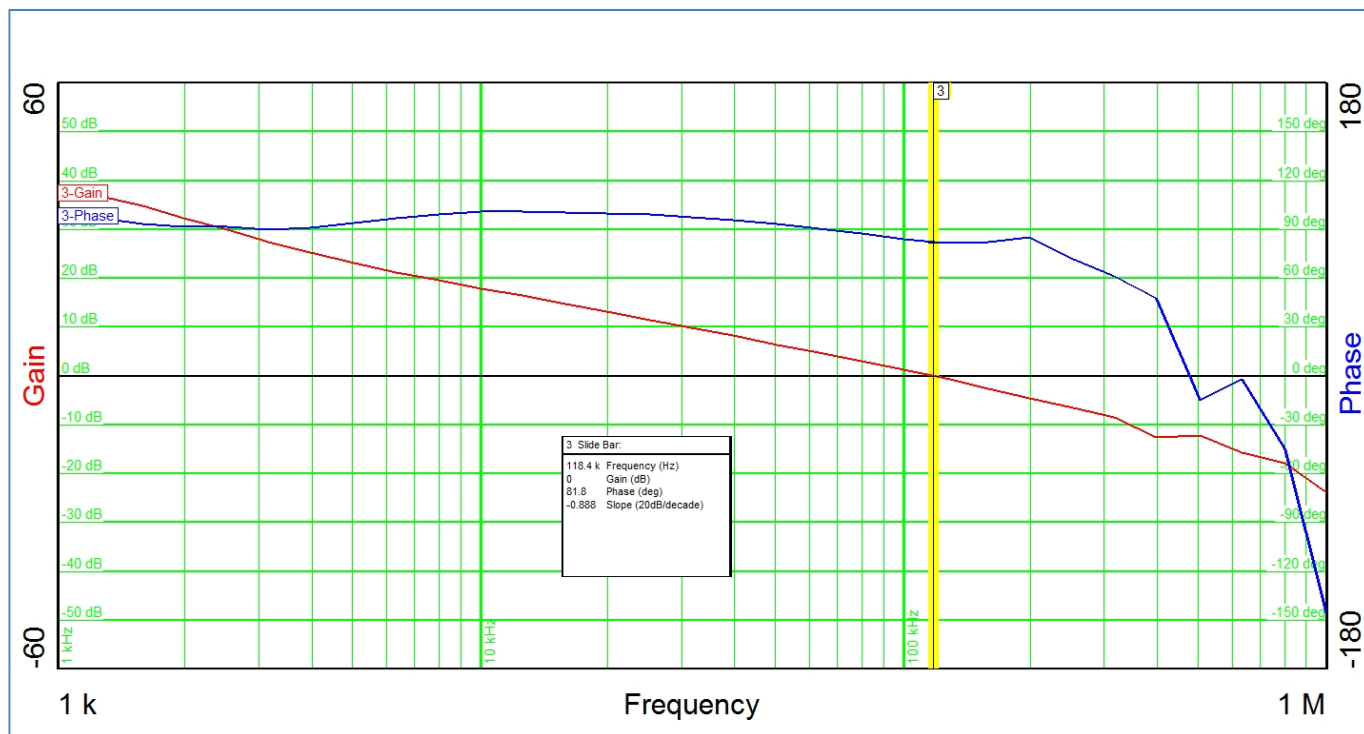
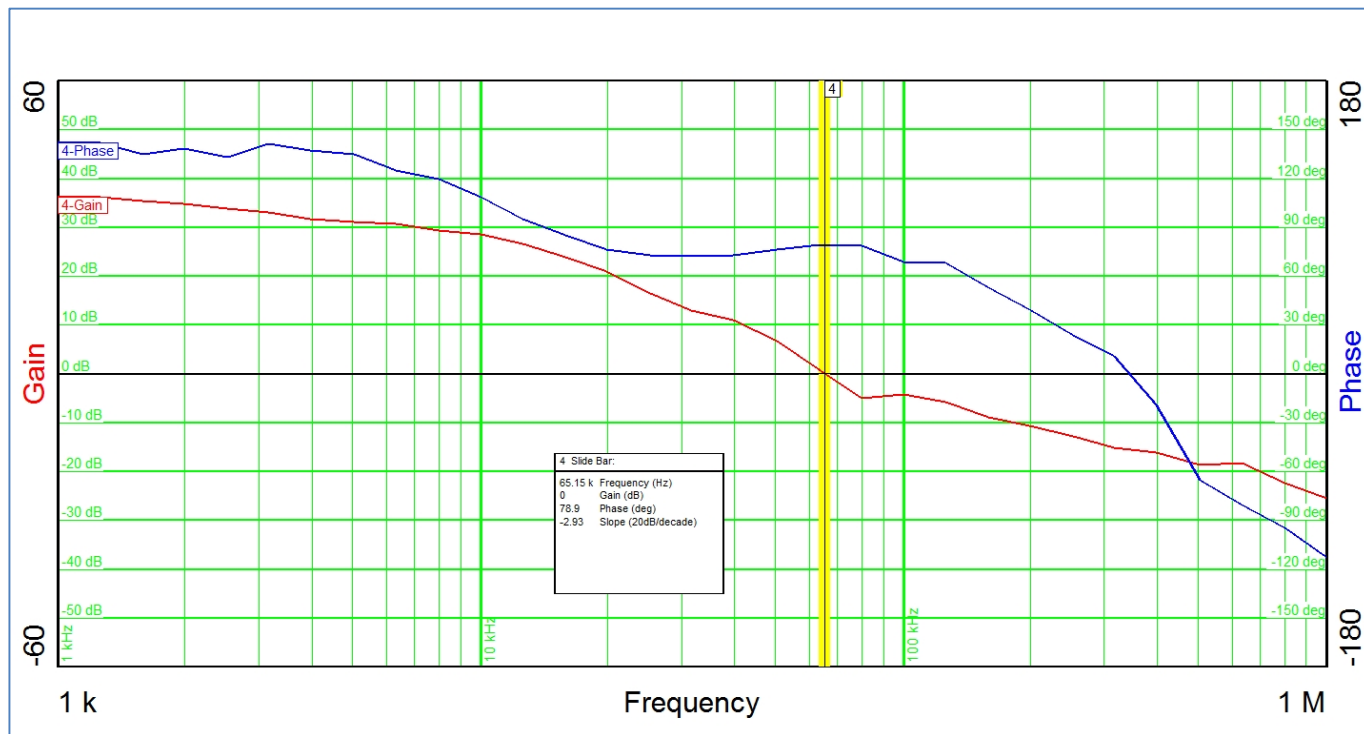
6 Output Ripple Voltage

The output ripple voltage during full load operation (1A load) is shown in the image below, $V_{in} = 12V$.



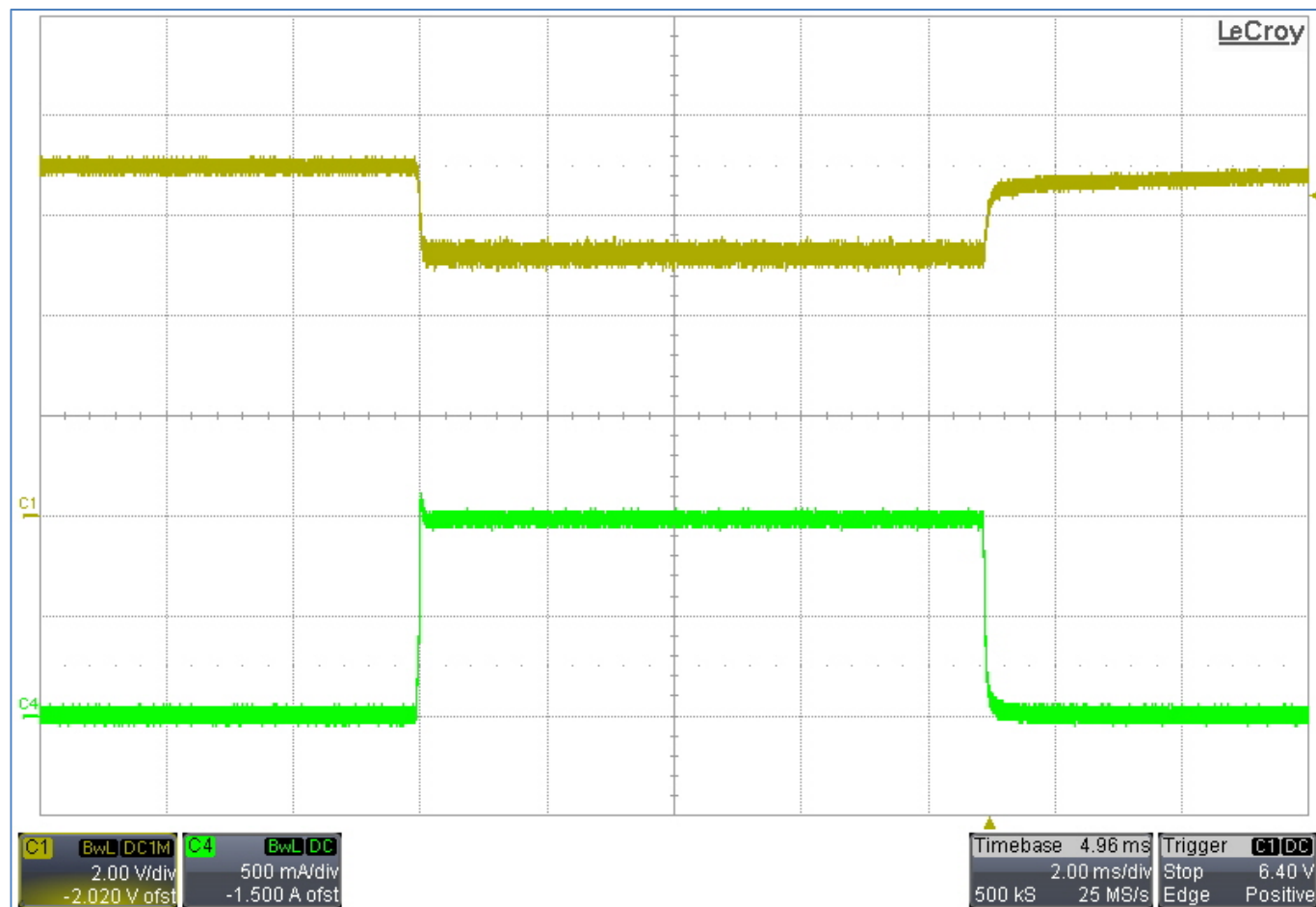
7 Loop Response

The images below show the loop response of the converter, $V_{in} = 12V$. [Plot 1 = no load, Plot 2 = 1A load]



8 Load Transients

The image below shows the response to a 0A to 1A load transient. [Channel 1 = Vout, Channel 2 = Iout]

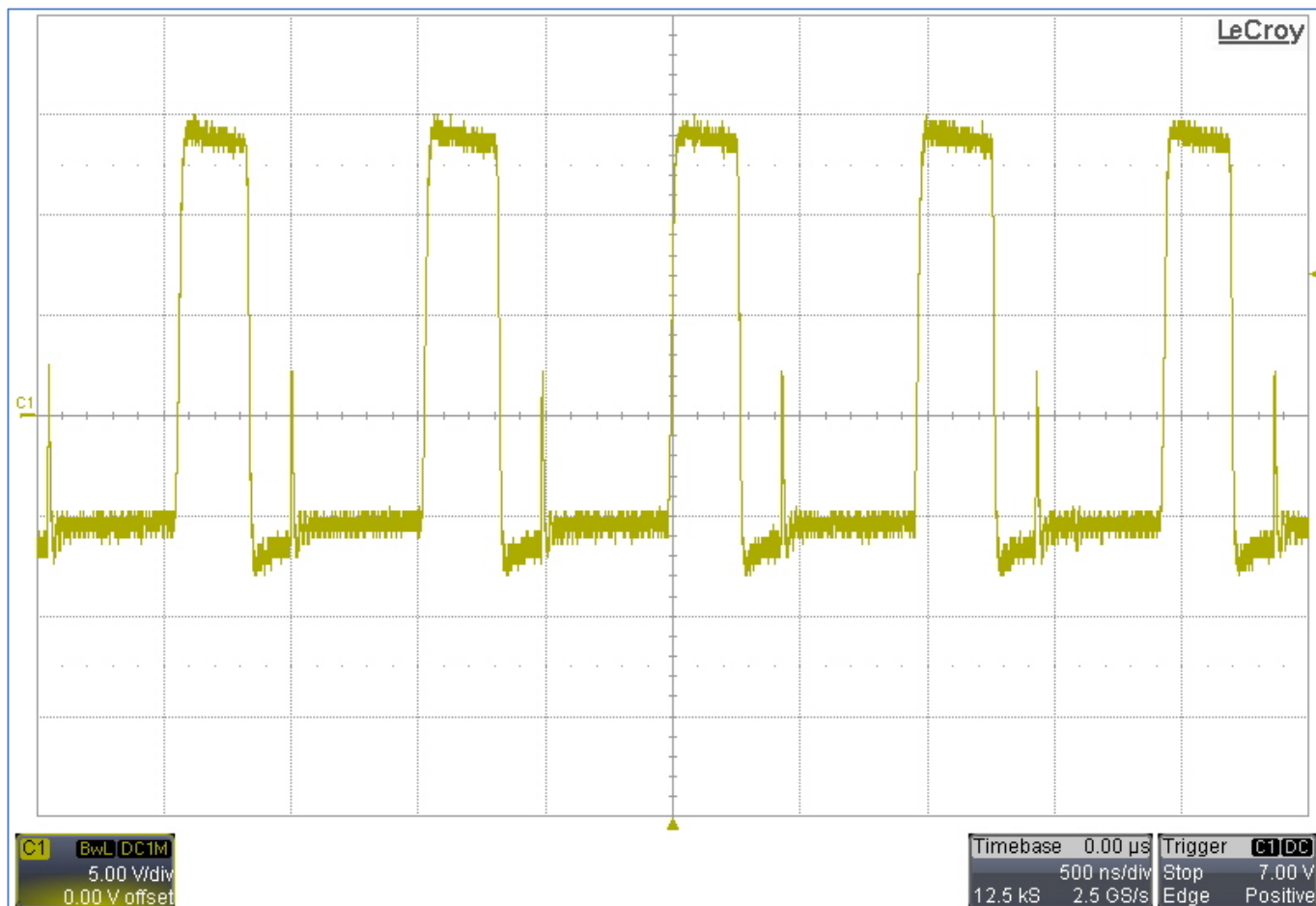


9 Switching Waveforms

9.1 Primary Waveform

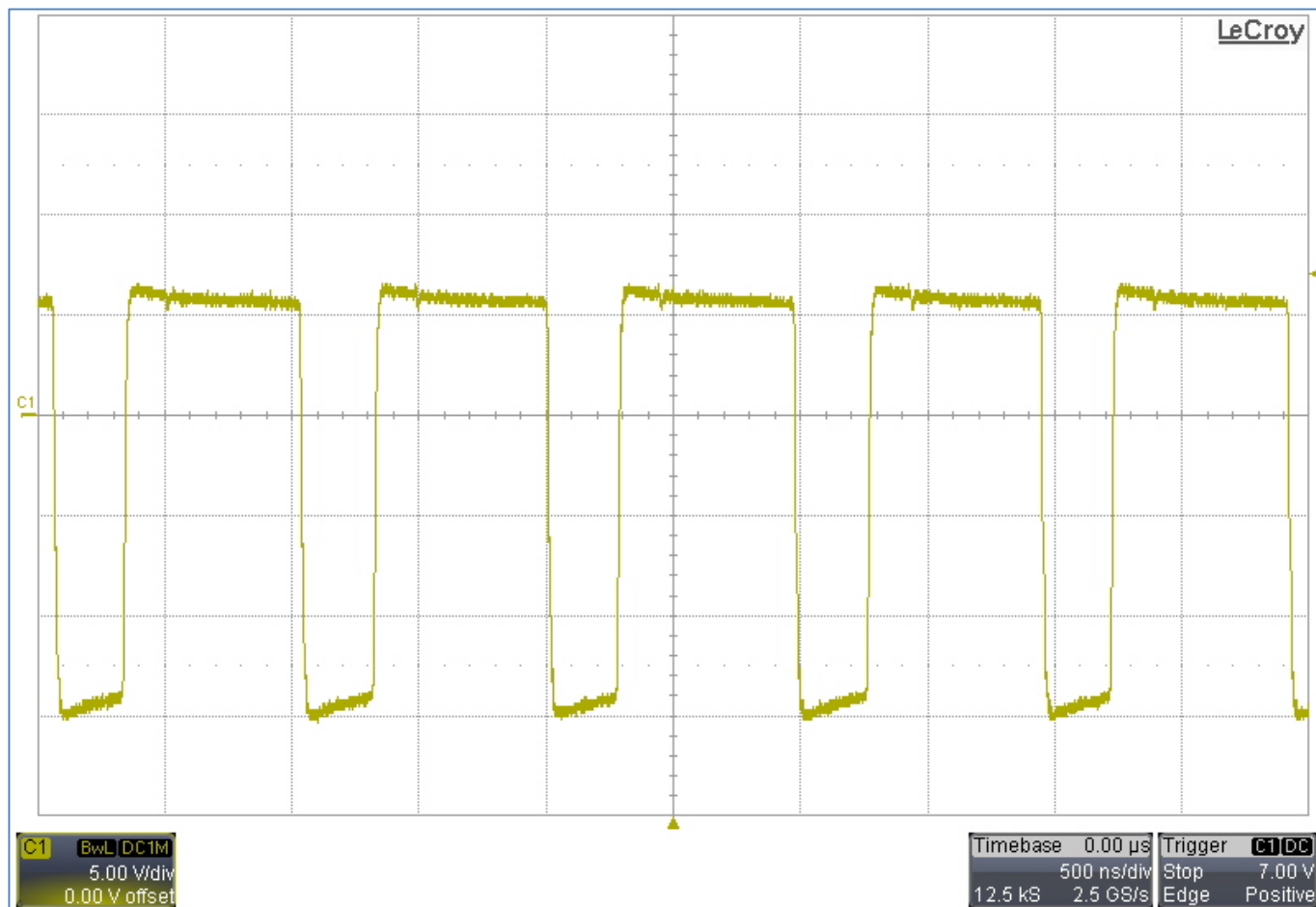
The image below shows the voltage waveform on the phase pin (pin 2) of the controller (U1).

The output was loaded with 1A and the input voltage was 14V.



9.2 Secondary Waveform

The image below shows the voltage waveform on the anode of the output diode (D1). The output was loaded with 1A and the input voltage was 14V.



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