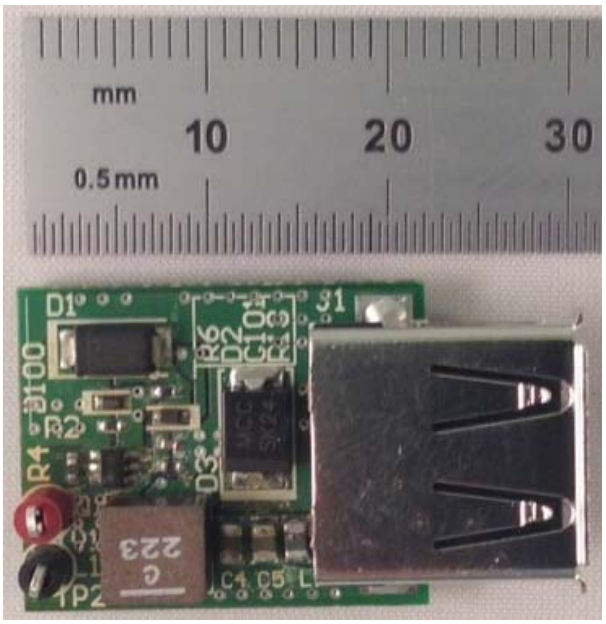
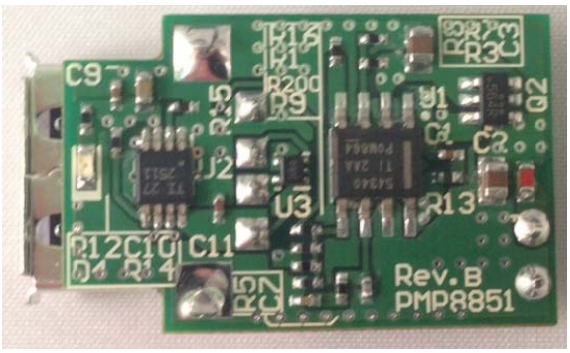
PMP8851 Rev B Test Results

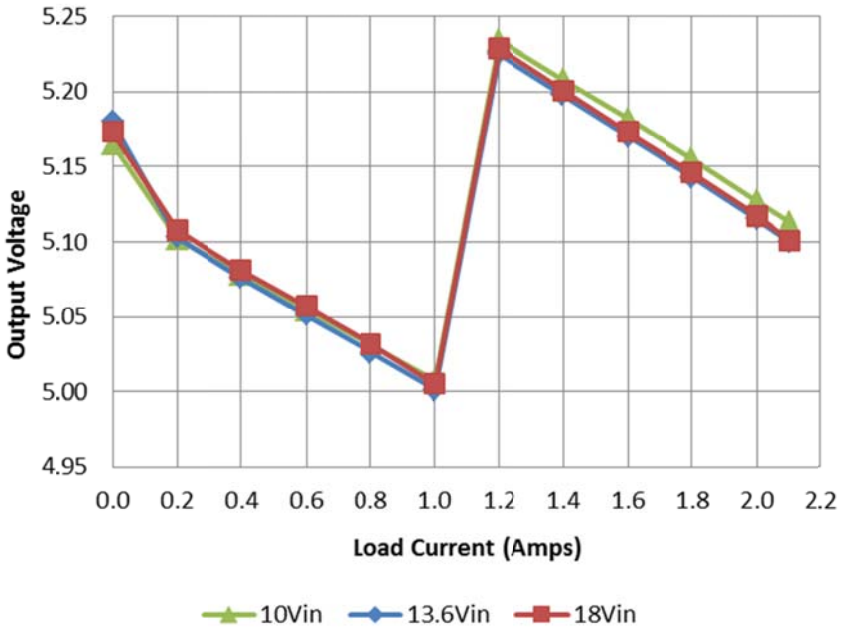
1 Photo

The photographs below show the top and bottom views of the PMP8851 Rev B demo board.

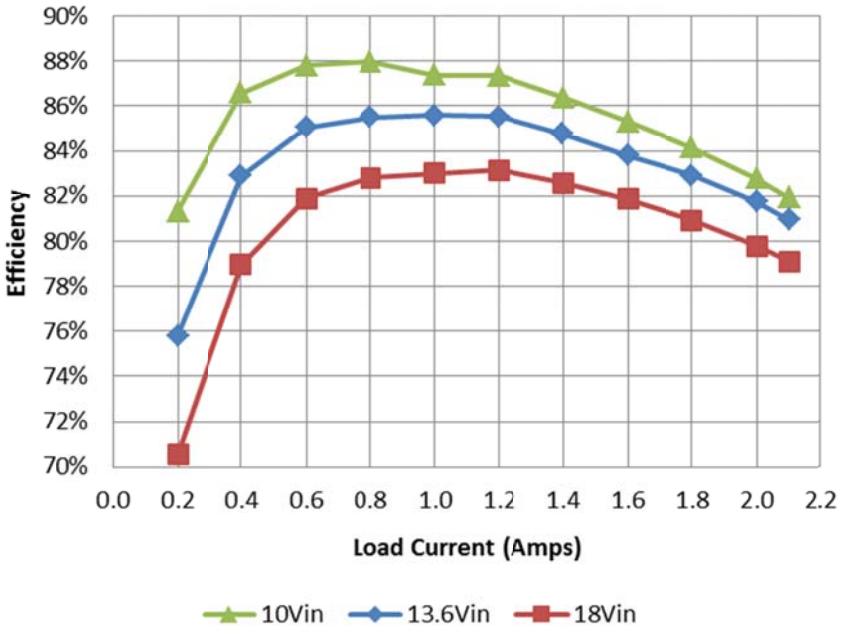




2 Regulation



3 Efficiency



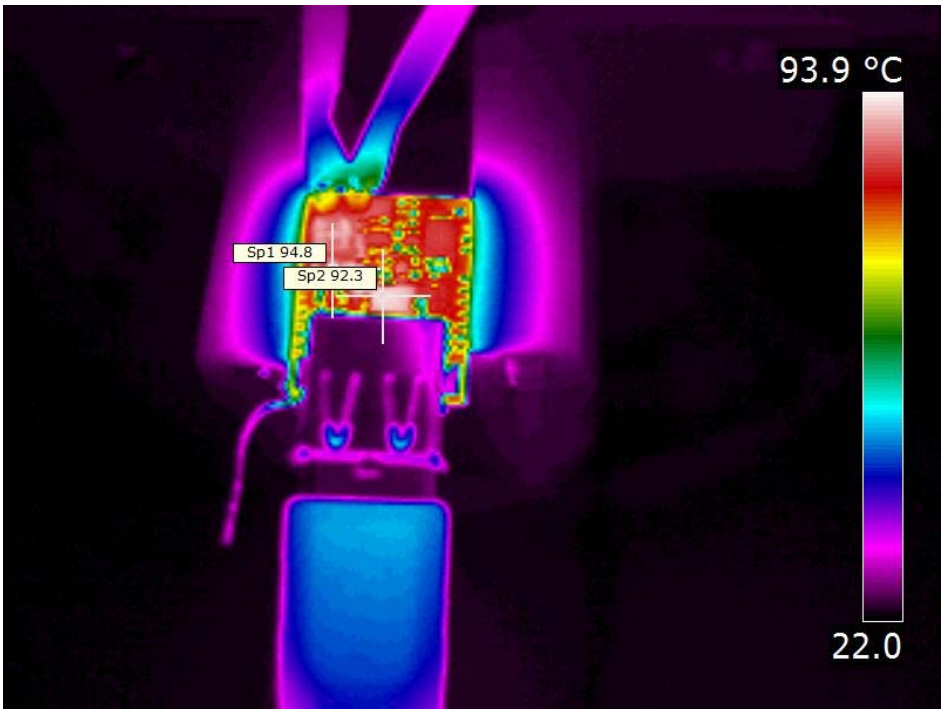
Iout	Vout	Vconv	Vin	Iin	Pout	Losses	Efficiency
0.000	5.165	5.165	10.01	0.005	0.00	0.050	0.0%
0.199	5.102	5.117	9.99	0.125	1.02	0.233	81.3%
0.399	5.078	5.108	10.00	0.234	2.03	0.314	86.6%
0.600	5.054	5.100	10.01	0.345	3.03	0.421	87.8%
0.800	5.031	5.092	9.99	0.458	4.02	0.551	88.0%
1.000	5.007	5.084	10.00	0.573	5.01	0.723	87.4%
1.200	5.234	5.329	10.00	0.719	6.28	0.909	87.4%
1.400	5.208	5.321	10.00	0.844	7.29	1.149	86.4%
1.600	5.182	5.314	9.99	0.973	8.29	1.429	85.3%
1.800	5.155	5.307	10.00	1.103	9.28	1.751	84.1%
2.000	5.127	5.301	10.00	1.239	10.25	2.136	82.8%
2.100	5.113	5.299	9.99	1.312	10.74	2.370	81.9%

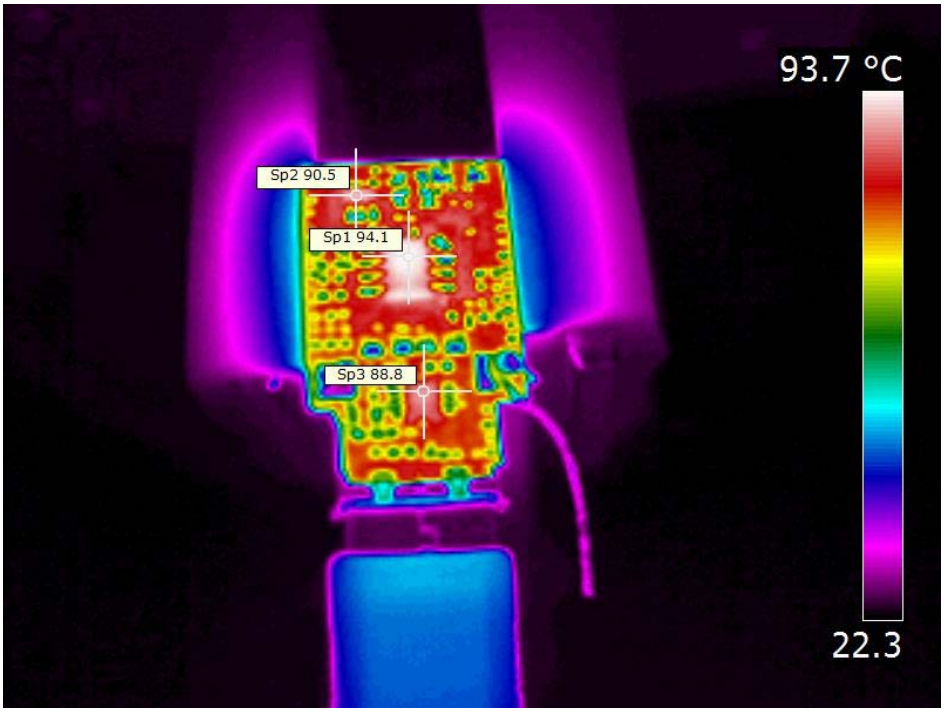
Iout	Vout	Vconv	Vin	Iin	Pout	Losses	Efficiency
0.000	5.180	5.180	13.59	0.004	0.00	0.054	0.0%
0.200	5.103	5.118	13.60	0.099	1.02	0.326	75.8%
0.400	5.076	5.107	13.61	0.180	2.03	0.419	82.9%
0.600	5.051	5.097	13.60	0.262	3.03	0.533	85.1%
0.801	5.026	5.088	13.61	0.346	4.03	0.683	85.5%
1.000	5.001	5.079	13.59	0.430	5.00	0.843	85.6%
1.200	5.225	5.321	13.60	0.539	6.27	1.060	85.5%
1.399	5.198	5.312	13.62	0.630	7.27	1.309	84.7%
1.600	5.170	5.303	13.60	0.726	8.27	1.602	83.8%
1.800	5.143	5.296	13.60	0.821	9.26	1.908	82.9%
2.001	5.115	5.290	13.58	0.922	10.24	2.286	81.7%
2.100	5.100	5.287	13.60	0.973	10.71	2.523	80.9%

Iout	Vout	Vconv	Vin	Iin	Pout	Losses	Efficiency
0.000	5.173	5.173	18.00	0.003	0.00	0.054	0.0%
0.199	5.108	5.123	18.01	0.080	1.02	0.424	70.6%
0.400	5.081	5.112	18.00	0.143	2.03	0.542	79.0%
0.600	5.057	5.104	17.99	0.206	3.03	0.672	81.9%
0.800	5.032	5.095	18.01	0.270	4.03	0.837	82.8%
1.000	5.005	5.085	18.00	0.335	5.01	1.025	83.0%
1.200	5.229	5.326	18.01	0.419	6.27	1.271	83.2%
1.400	5.201	5.316	18.00	0.490	7.28	1.539	82.6%
1.600	5.173	5.308	17.99	0.562	8.28	1.834	81.9%
1.800	5.146	5.301	18.00	0.636	9.26	2.185	80.9%
2.000	5.117	5.294	17.99	0.713	10.23	2.593	79.8%
2.100	5.101	5.292	18.01	0.752	10.71	2.831	79.1%

4 Thermal Images

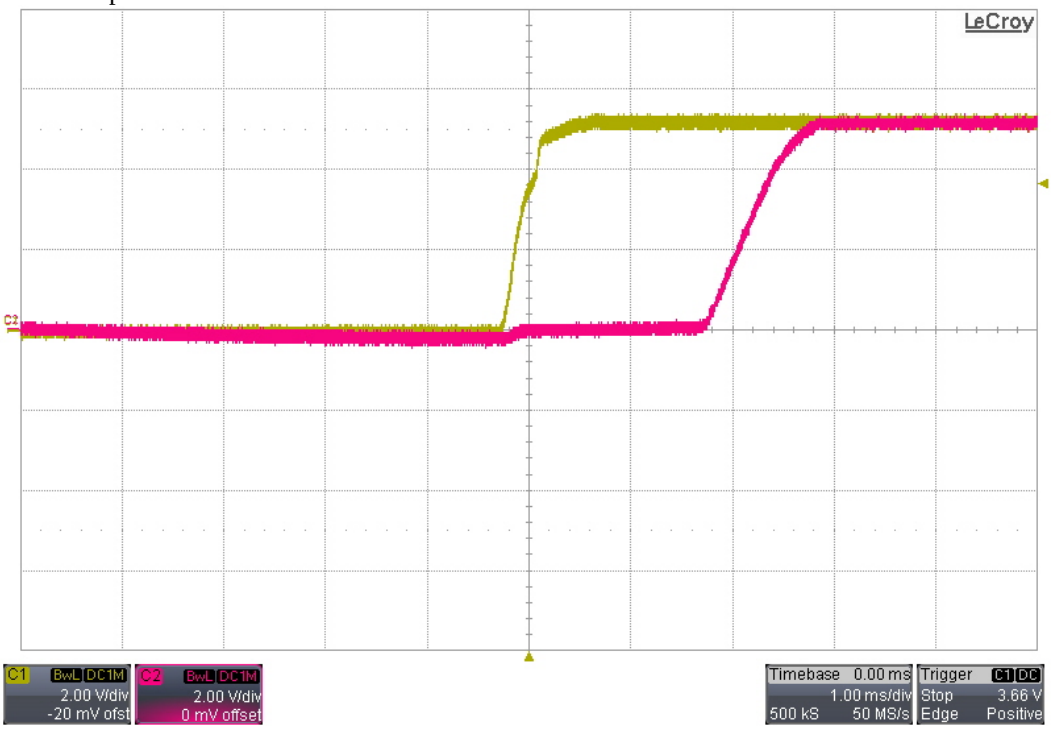
The ambient temperature was 25C with no forced air flow. The input was 13.6V, and the output was loaded with 2.1A.





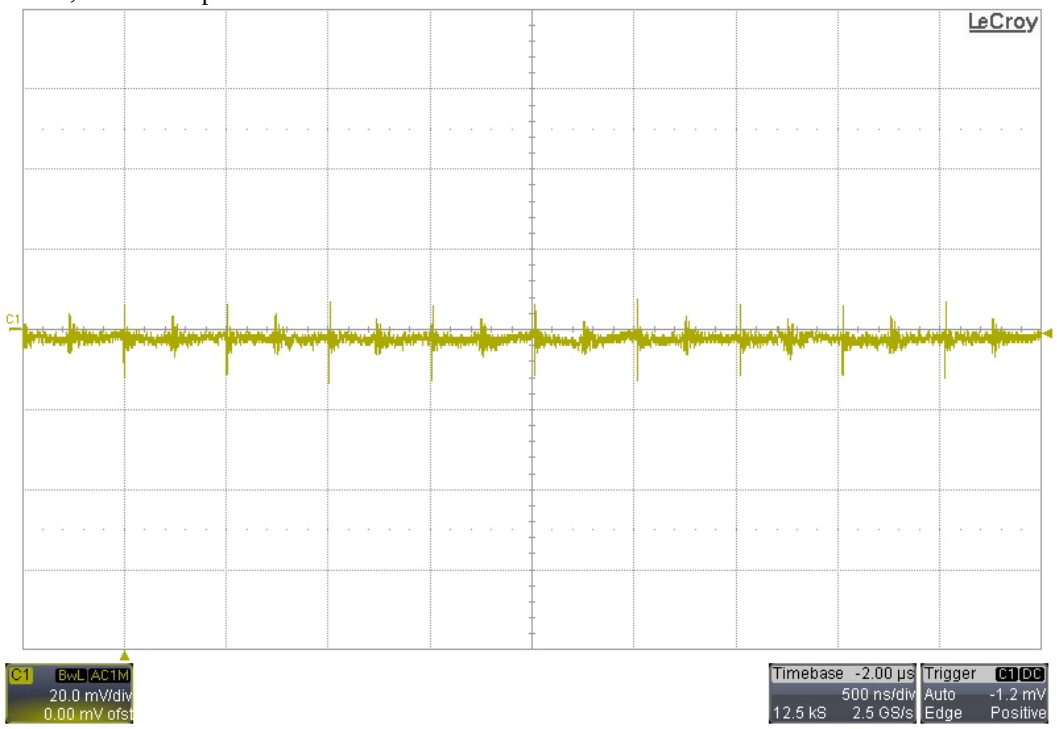
5 Startup

The input voltage was 13.6V, and the output was unloaded. Channel 1 was measured before the TPS2511. Channel 2 was measured at the USB output connector.



6 Output Ripple Voltage

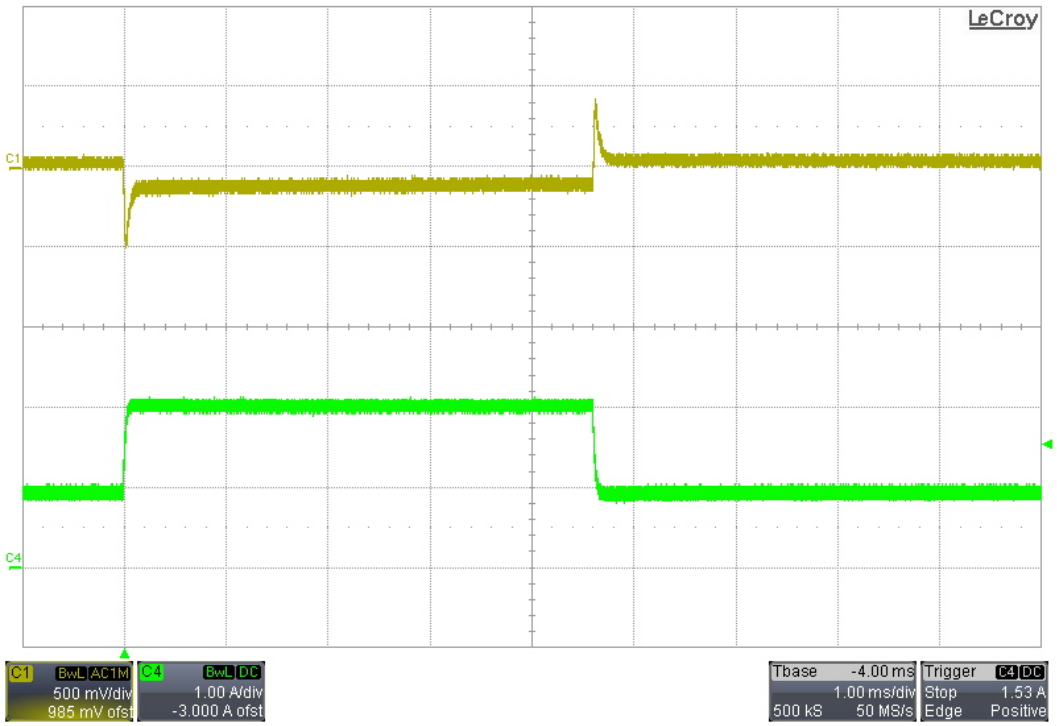
The input was 13.6V, and the output was loaded with 2.1A.



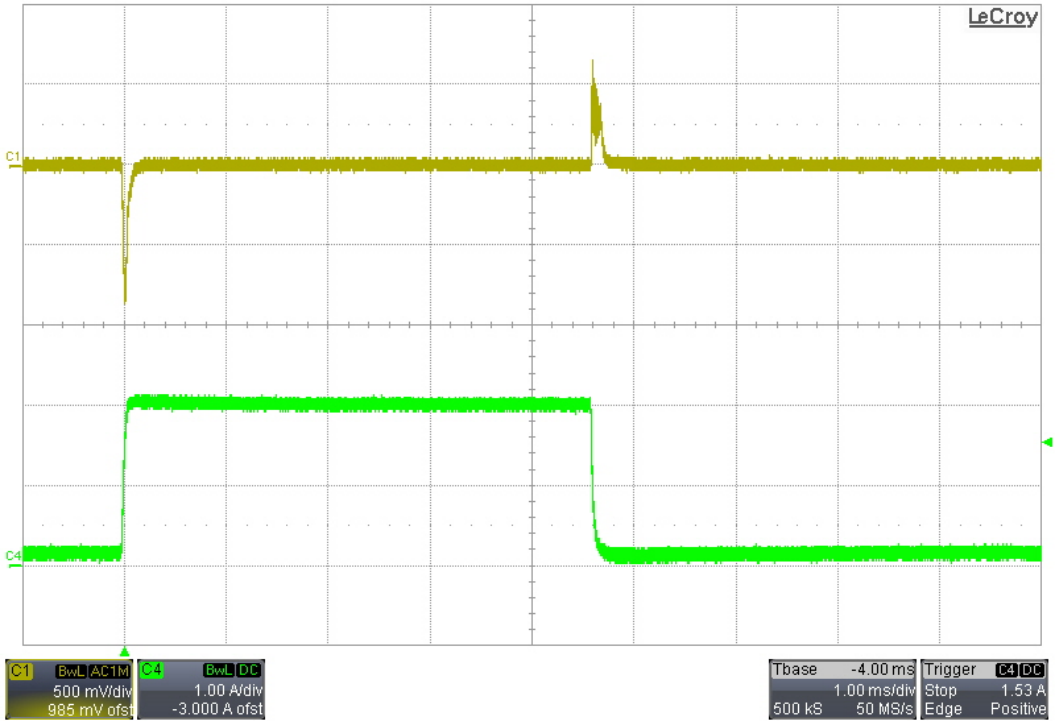
7 Load Transients

The input was 13.6V. Channel 1: Vout (ac coupled); Channel 4: Iout

7.1 1A to 2A Step

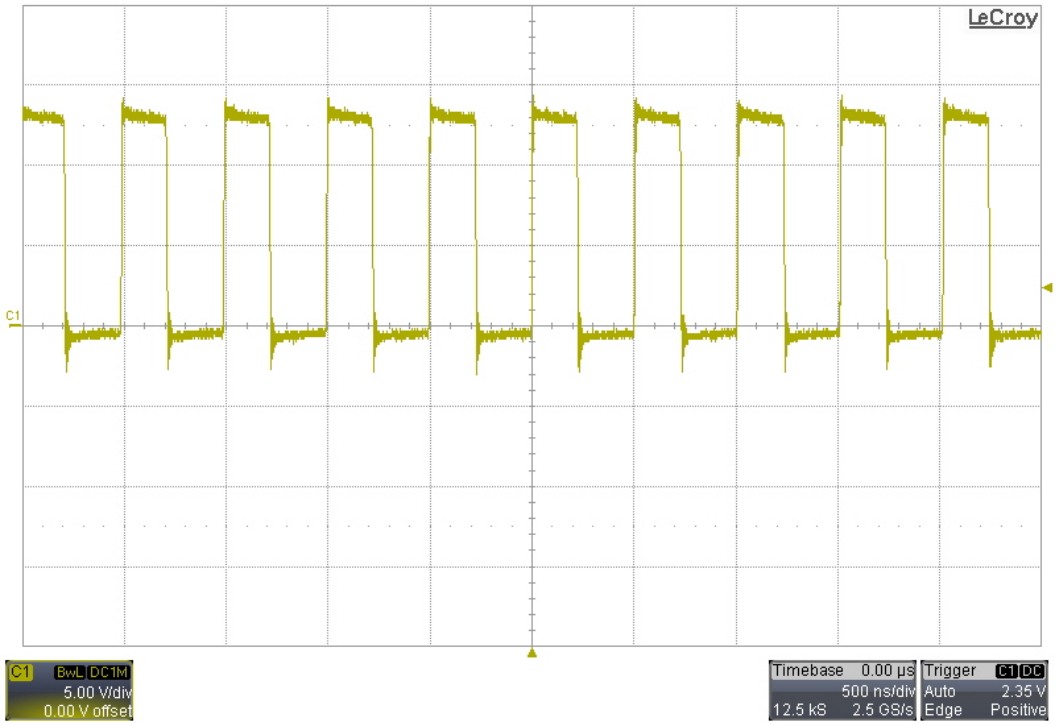


7.2 100mA to 2A Step



8 Switching Waveforms

The image below shows the voltage on the SW node of the converter. The input was 13.6V, and the output was loaded with 2.1A.



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