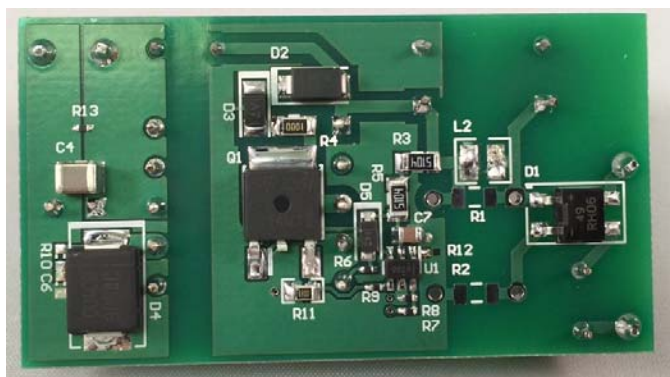
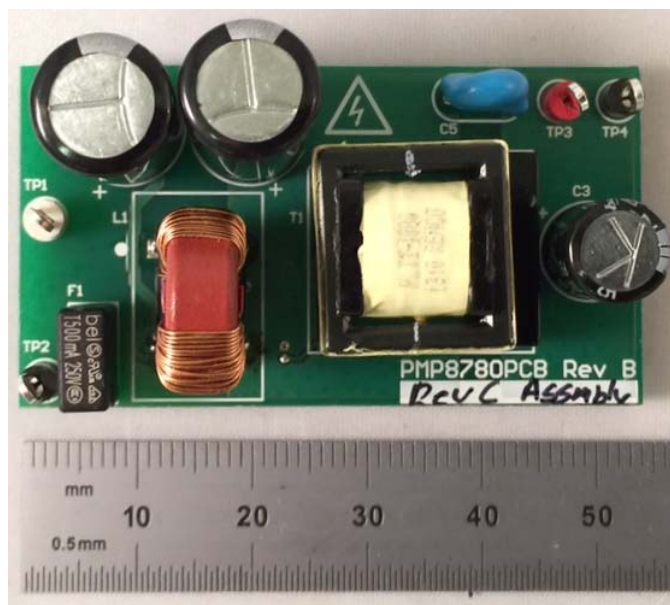


1 Photos

The photographs below show the PMP8780 Rev C prototype assembly. This circuit was built using a PMP870 Rev B PCB.



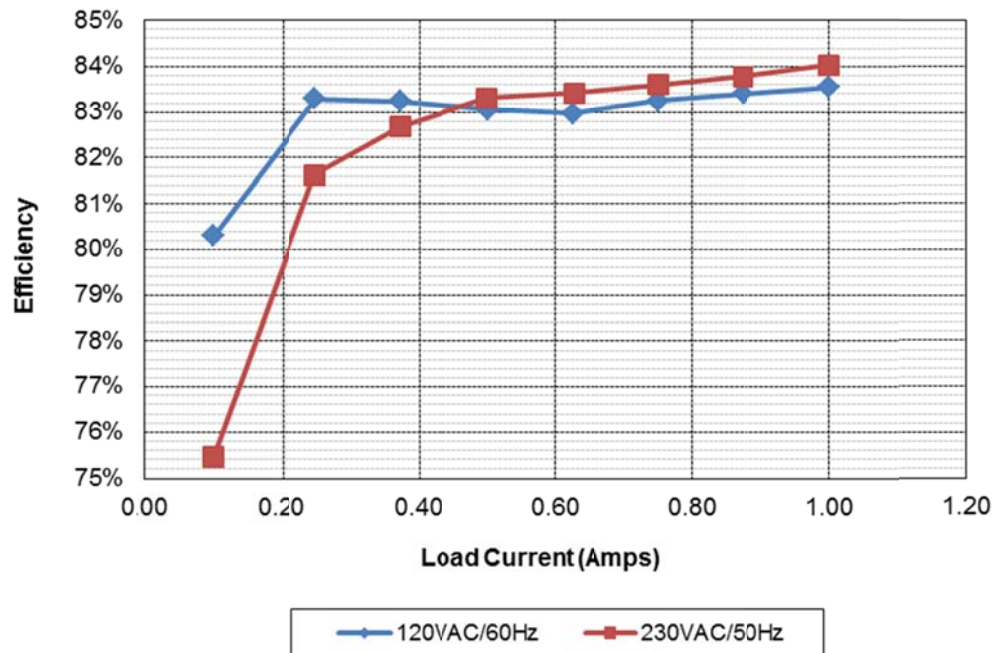
2 Standby Power

Measured with no load.

No Load	Pin AC (W)
120VAC/60Hz	0.027
230VAC/50Hz	0.039

3 Efficiency

3.1 Graph



3.2 Average Efficiency

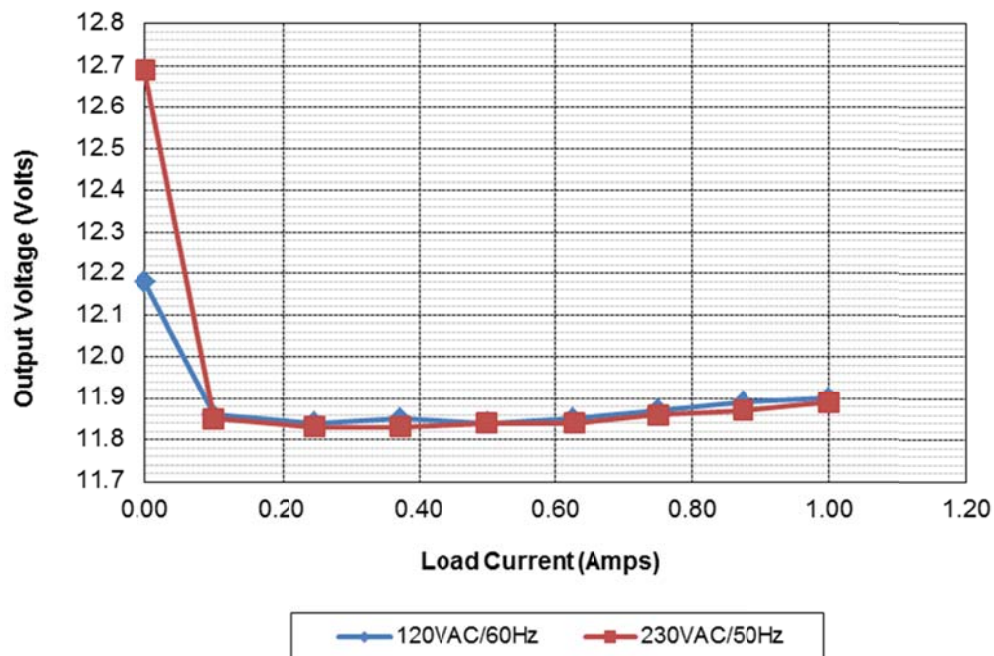
Vin	Pin	Vout	Iout	Load	Efficiency	Avg. Eff.
120VAC/60Hz	1.48	11.86	0.100	10%	80.30%	83.28%
	3.55	11.84	0.250	25%	83.29%	
	7.14	11.84	0.501	50%	83.06%	
	10.69	11.87	0.750	75%	83.25%	
	14.23	11.90	0.999	100%	83.54%	
230VAC/50Hz	1.57	11.85	0.100	10%	75.48%	83.14%
	3.61	11.83	0.249	25%	81.62%	
	7.11	11.84	0.500	50%	83.30%	
	10.64	11.86	0.750	75%	83.60%	
	14.15	11.89	1.000	100%	84.03%	

3.3 Raw Data

120VAC/60Hz								
Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	12.18	120.0	0.00125	0.0274		0.00	0.03	
0.100	11.86	120.0	0.0358	1.477	0.344	1.19	0.29	80.3%
0.250	11.84	120.0	0.0728	3.554	0.406	2.96	0.59	83.3%
0.373	11.85	120.0	0.1004	5.310	0.441	4.42	0.89	83.2%
0.501	11.84	120.0	0.1269	7.142	0.469	5.93	1.21	83.1%
0.626	11.85	120.0	0.1520	8.94	0.490	7.42	1.52	83.0%
0.750	11.87	120.0	0.1757	10.69	0.507	8.90	1.79	83.2%
0.874	11.89	120.0	0.1990	12.46	0.522	10.39	2.07	83.4%
0.999	11.90	120.0	0.2220	14.23	0.534	11.89	2.34	83.5%

230VAC/50Hz								
Iout	Vout	Vin	Iin	Pin	PF	Pout	Losses	Efficiency
0.000	12.69	229.9	0.00126	0.0391		0.00	0.04	
0.100	11.85	229.9	0.0253	1.570	0.270	1.19	0.39	75.5%
0.249	11.83	229.9	0.0511	3.609	0.308	2.95	0.66	81.6%
0.372	11.83	229.9	0.0692	5.323	0.335	4.40	0.92	82.7%
0.500	11.84	229.9	0.0866	7.107	0.357	5.92	1.19	83.3%
0.627	11.84	229.9	0.1032	8.90	0.375	7.42	1.48	83.4%
0.750	11.86	229.9	0.1185	10.64	0.391	8.90	1.75	83.6%
0.874	11.87	229.9	0.1333	12.38	0.404	10.37	2.01	83.8%
1.000	11.89	229.9	0.1480	14.15	0.416	11.89	2.26	84.0%

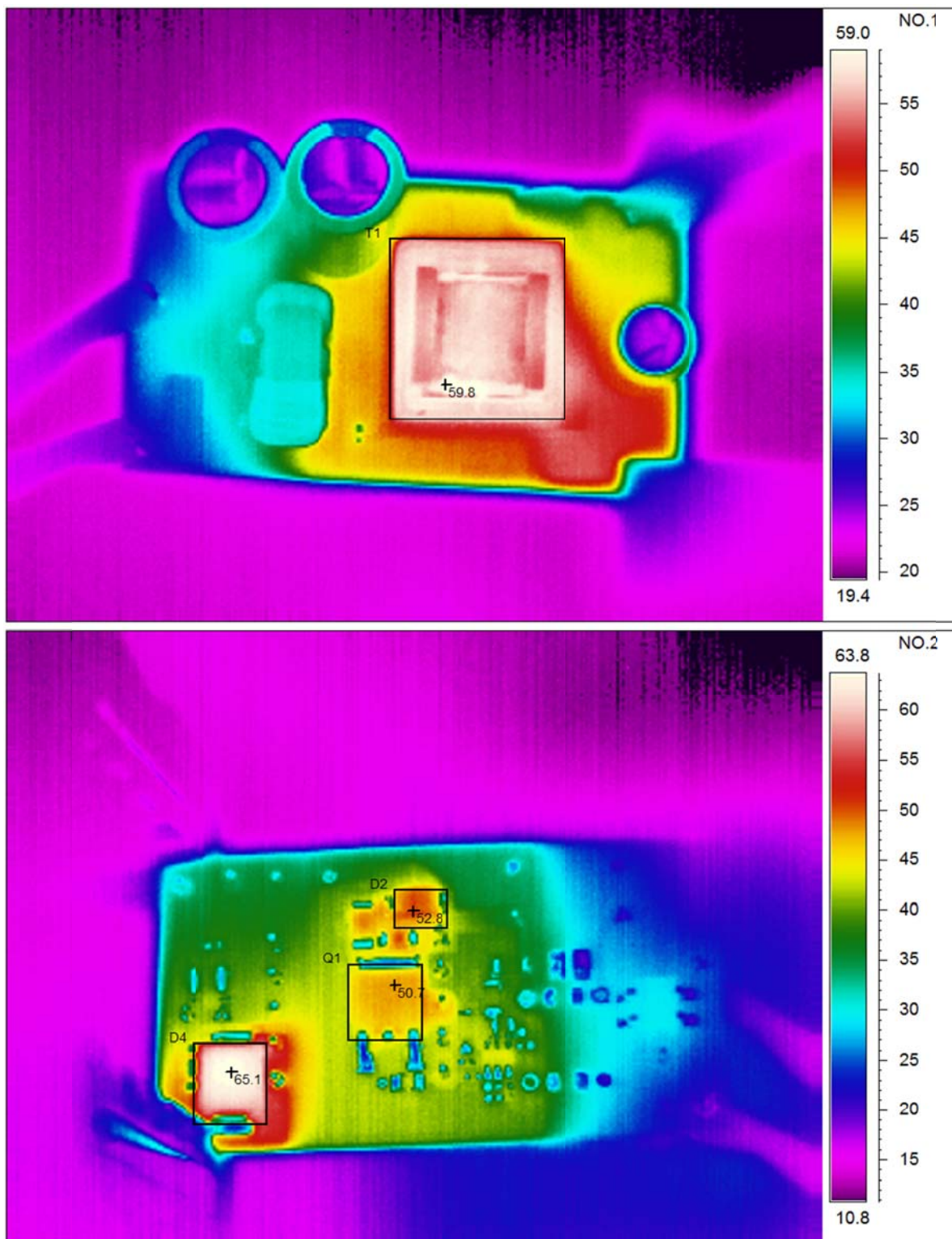
4 Regulation



5 Thermal Images

The thermal images below show the assembly with loaded with 1A. The ambient temperature was 25°C.

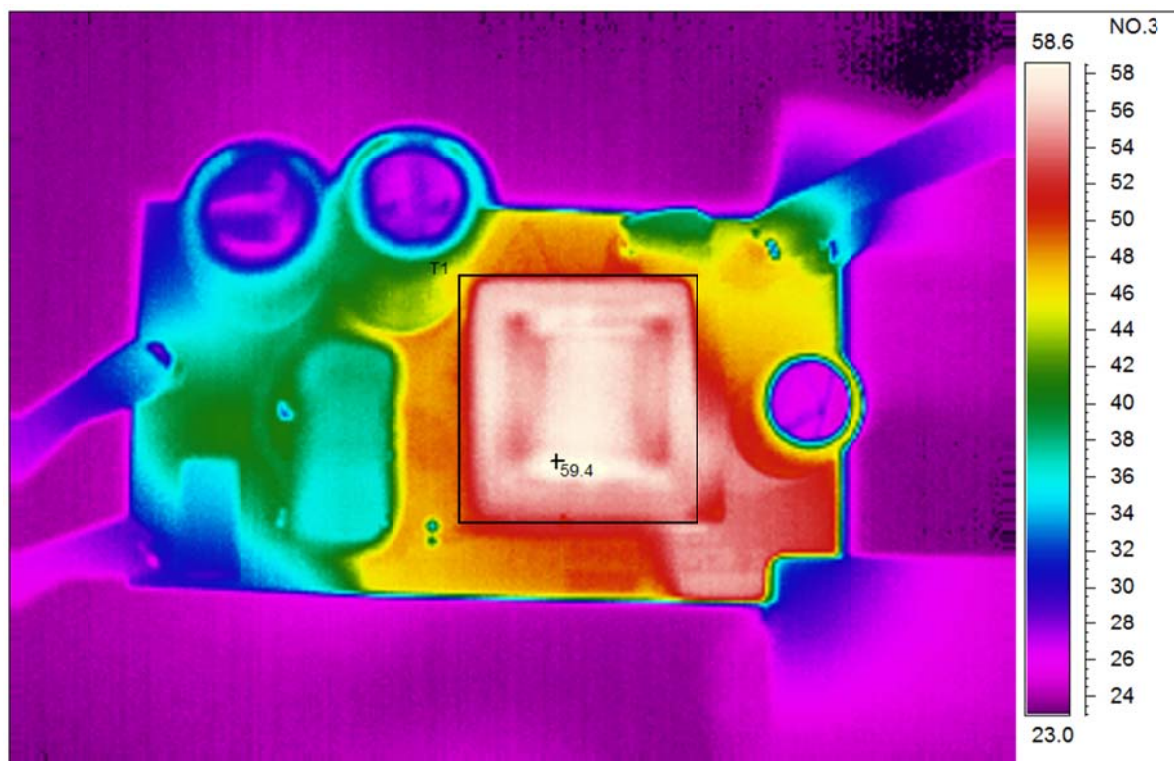
5.1 120VAC/60Hz

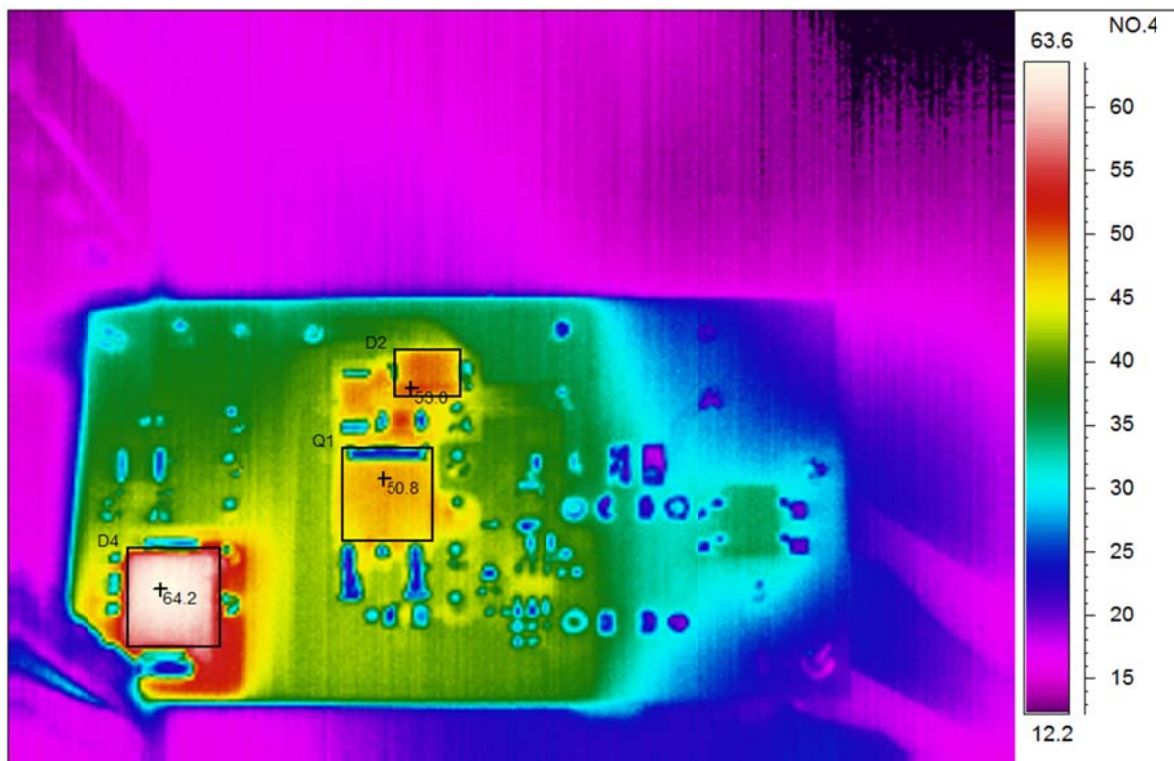


Area analysis	Value	NO.1
T1 Max	59.8°C	

Area analysis	Value	NO.2
D2Max	52.8°C	
D4 Max	65.1°C	
Q1 Max	50.7°C	

5.2 230VAC/50Hz

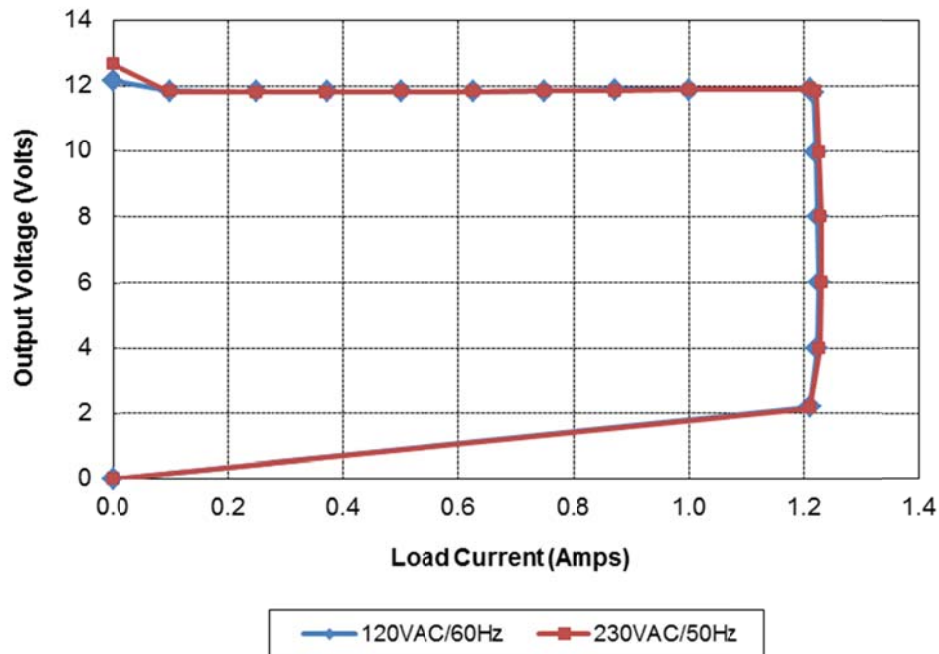




Area analysis	Value	NO.3
T1 Max	59.4°C	

Area analysis	Value	NO.4
D2Max	53.0°C	
D4 Max	64.2°C	
Q1 Max	50.8°C	

6 Current Limit

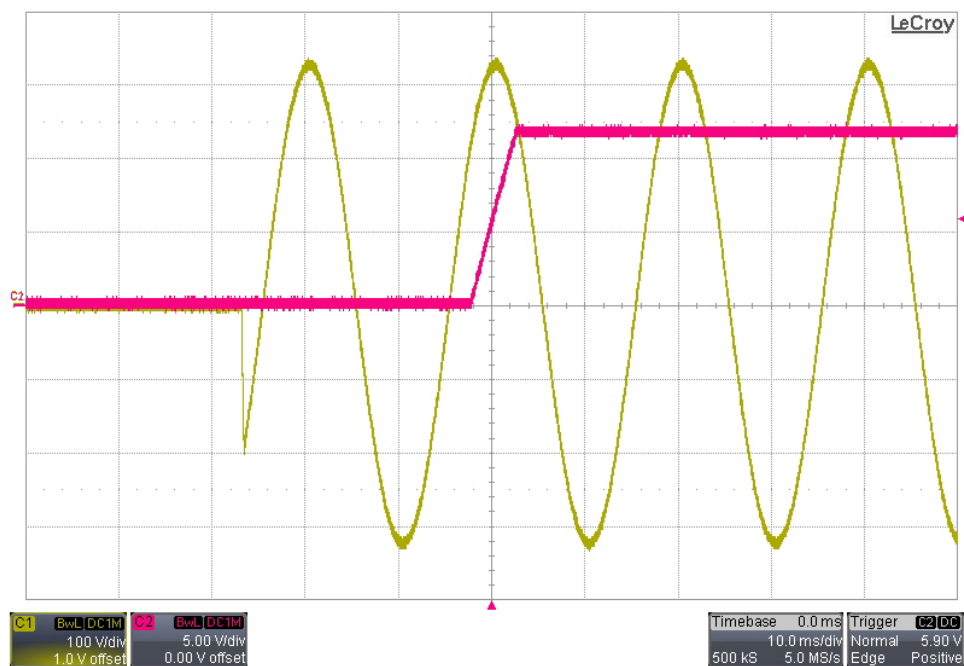
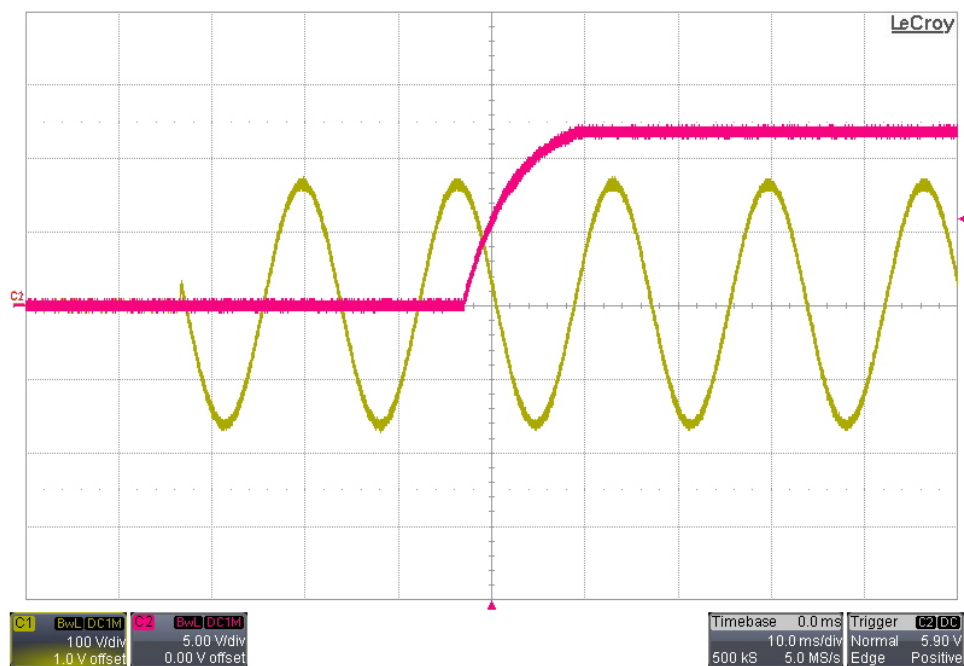


7 Startup

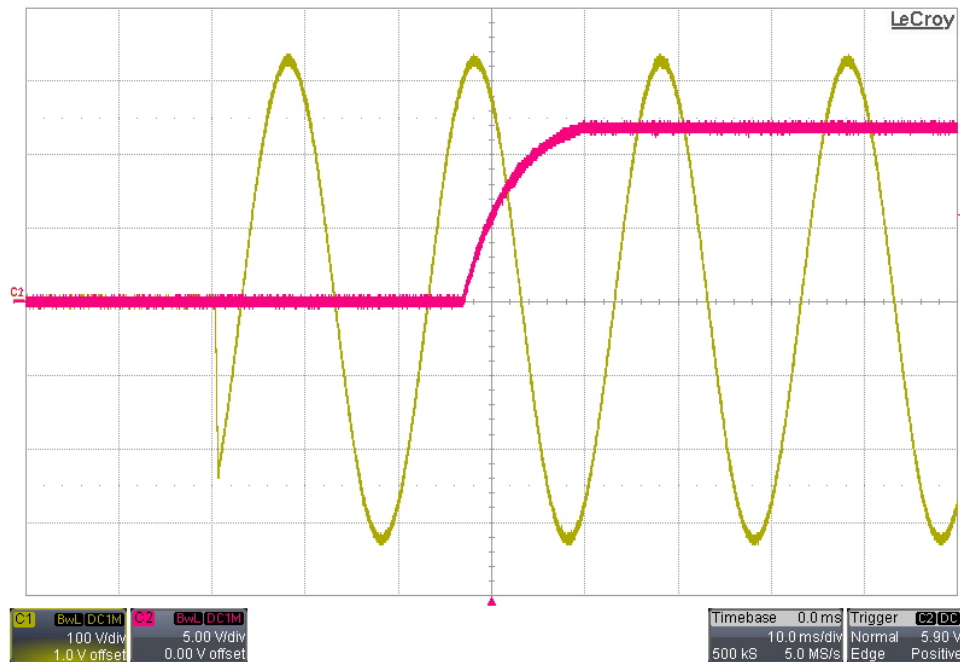
Channel 1 shows the AC input voltage. Channel 2 shows the output voltage.

7.1 115VAC/60Hz Startup – 0A Load



7.2 230VAC/50Hz Startup – 0A Load**7.3 115VAC/60Hz Startup – 12Ω Load**

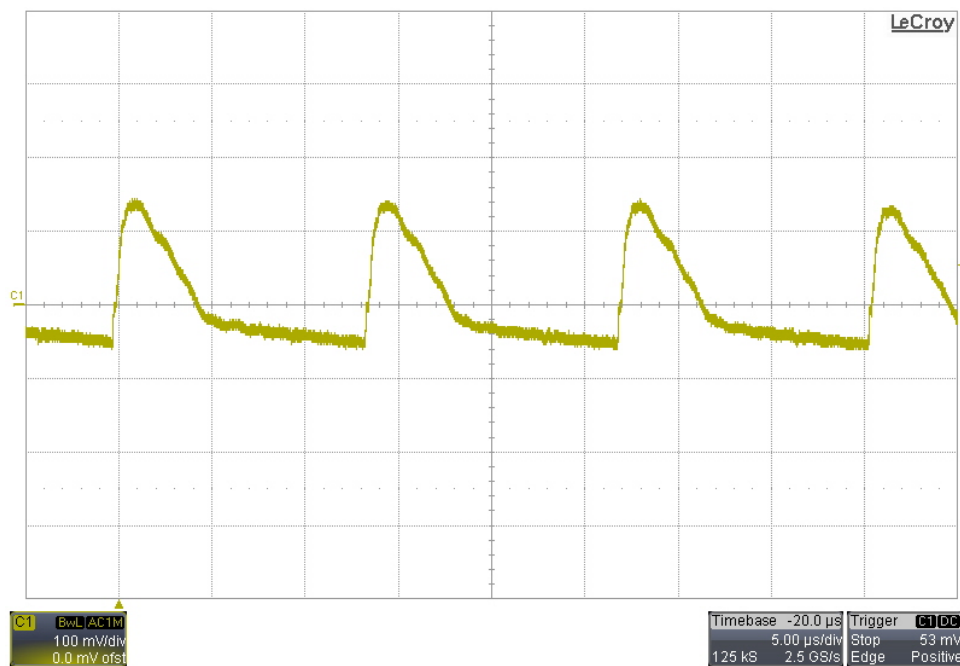
7.4 230VAC/50Hz Startup – 12 Ω Load



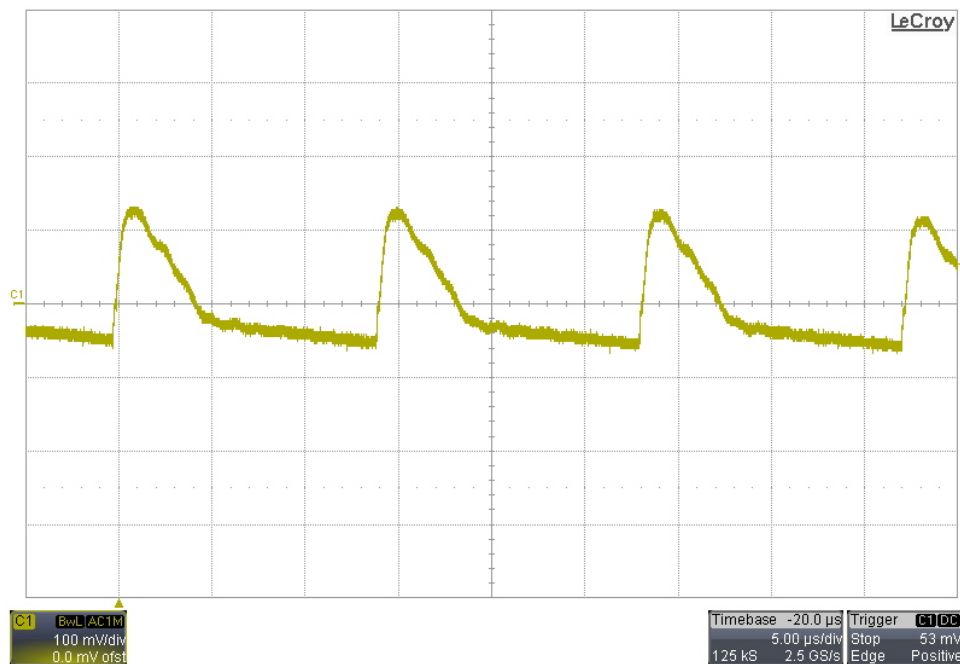
8 Output Ripple Voltage

The output was loaded with 1A.

8.1 115VAC/60Hz Output Ripple Voltage

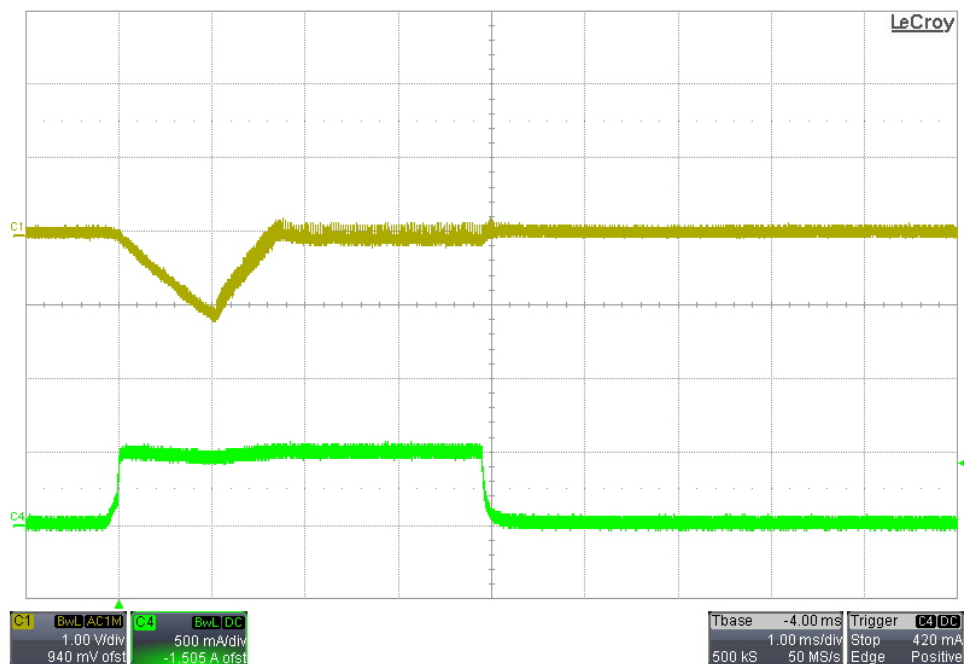


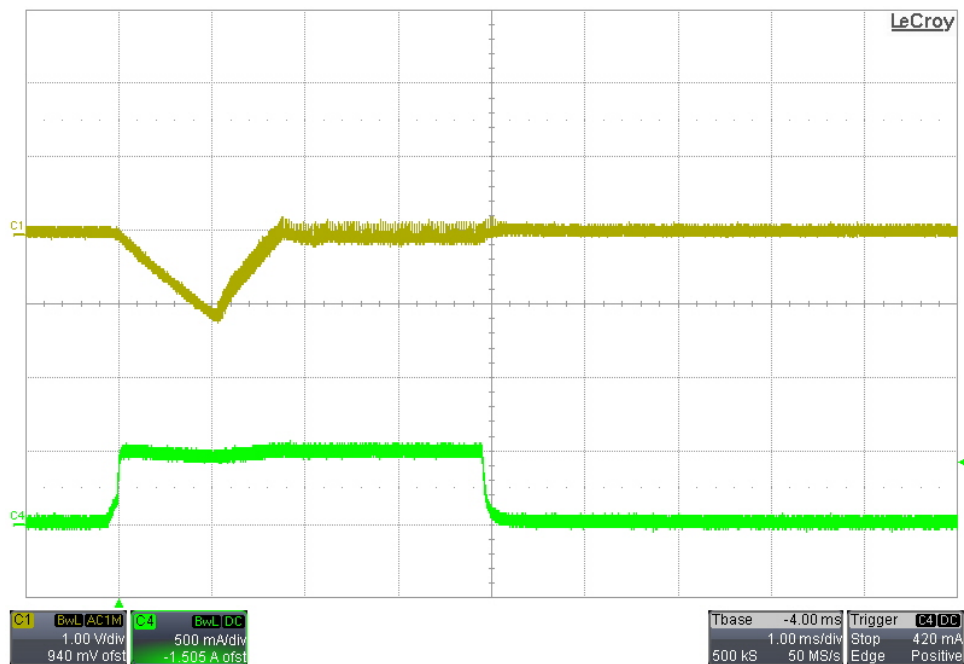
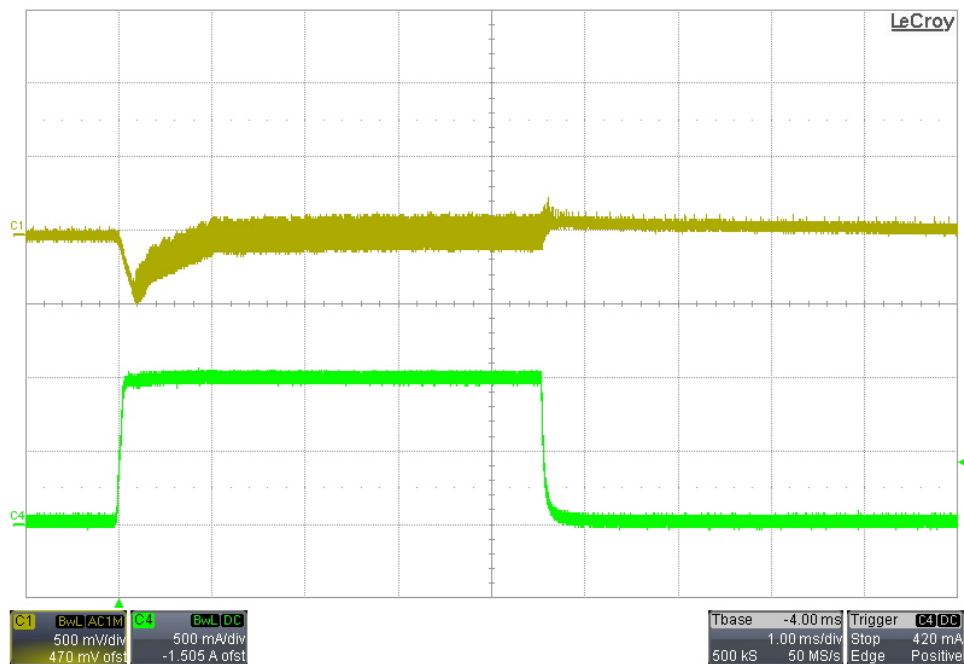
8.2 230VAC/50Hz Output Ripple Voltage



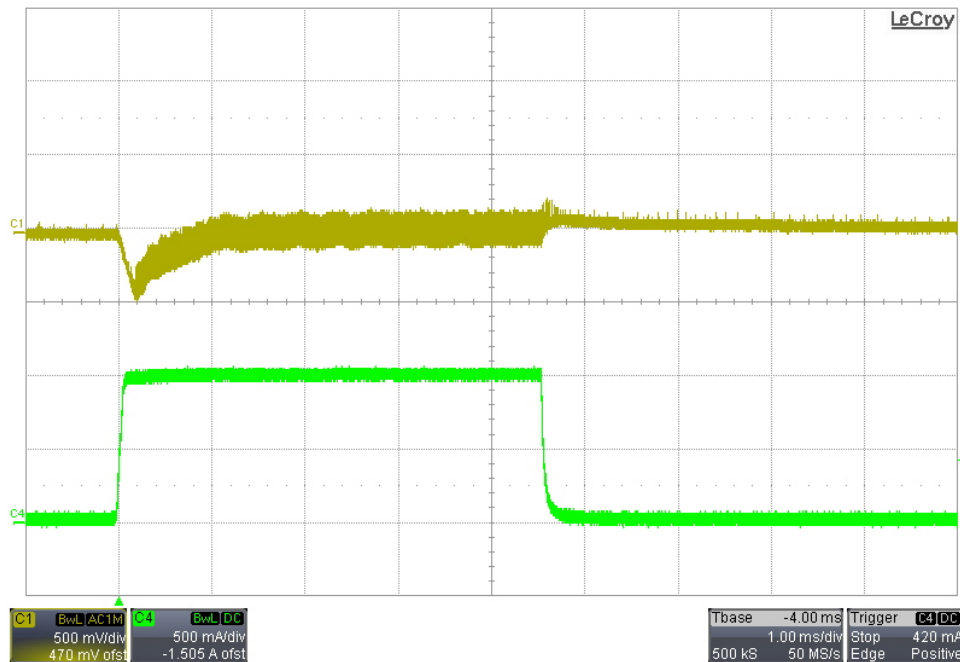
9 Load Transients

9.1 0A to 0.5A Transient – 115VAC/60Hz Input



9.2 0A to 0.5A Transient – 230VAC/50Hz Input**9.3 10mA to 1A Transient – 115VAC/60Hz Input**

9.4 10mA to 1A Transient – 230VAC/50Hz Input

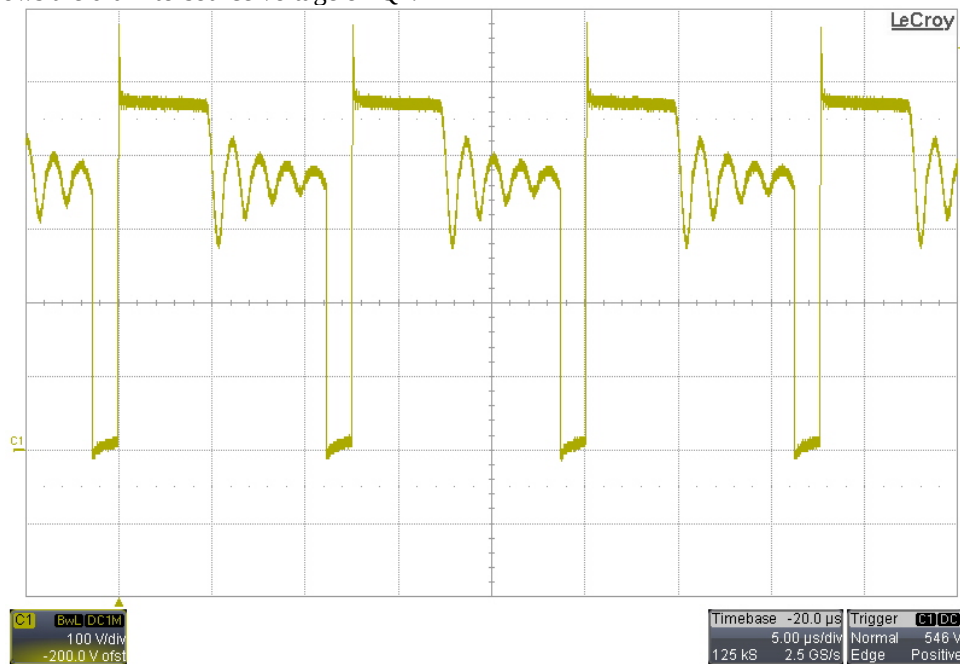


10 Switching Waveforms

The images below show the voltage waveforms on the switching devices within the supply. The input was 265VAC/50Hz. The output was loaded 1A.

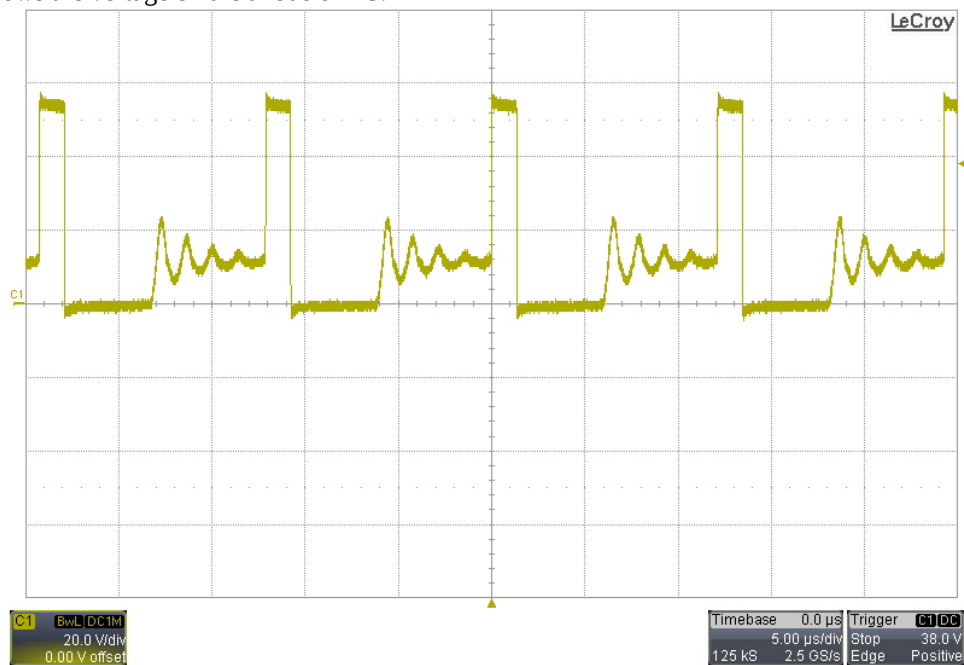
10.1 Primary Waveforms

The image below shows the drain-to-source voltage on Q1.

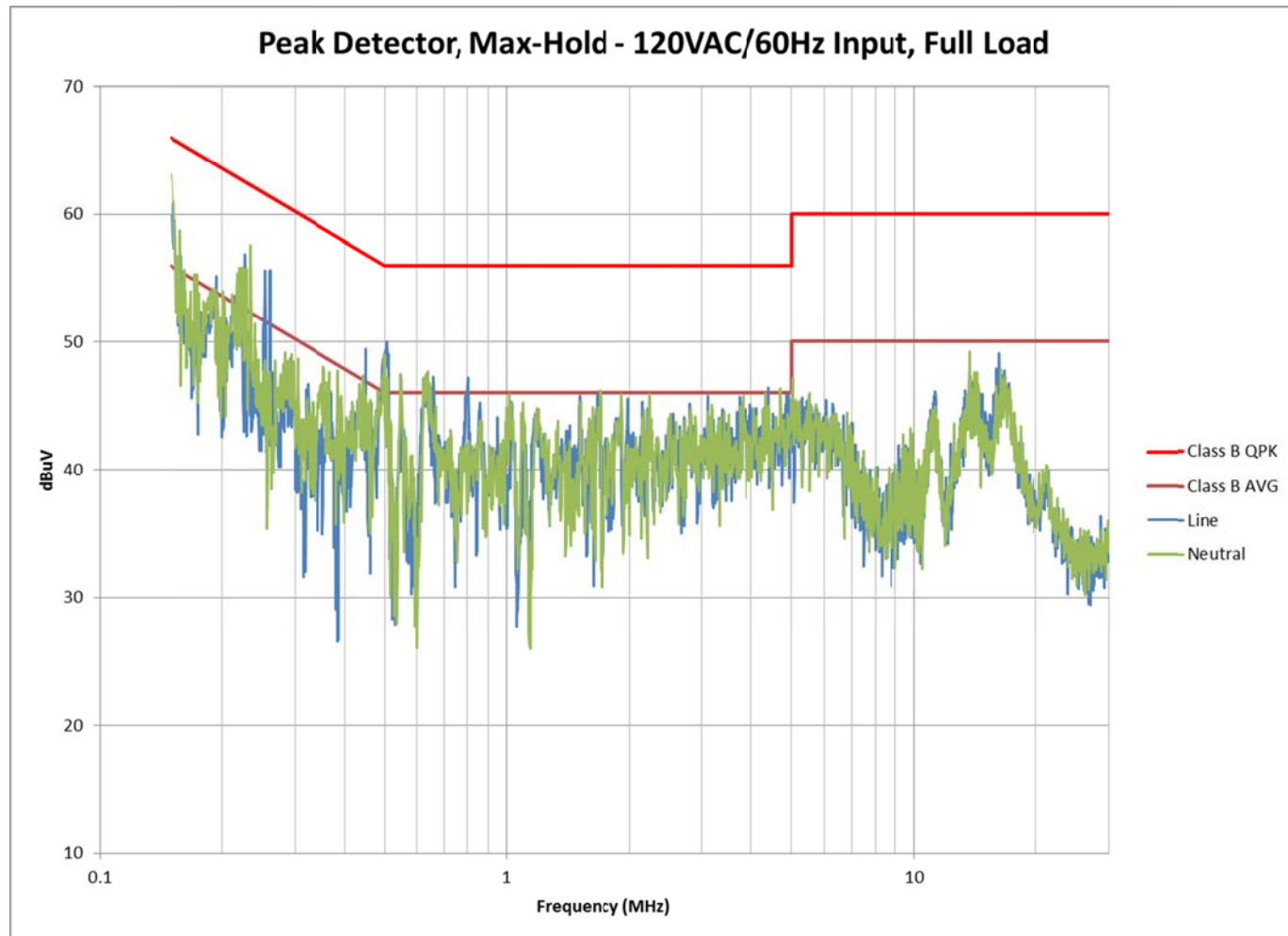


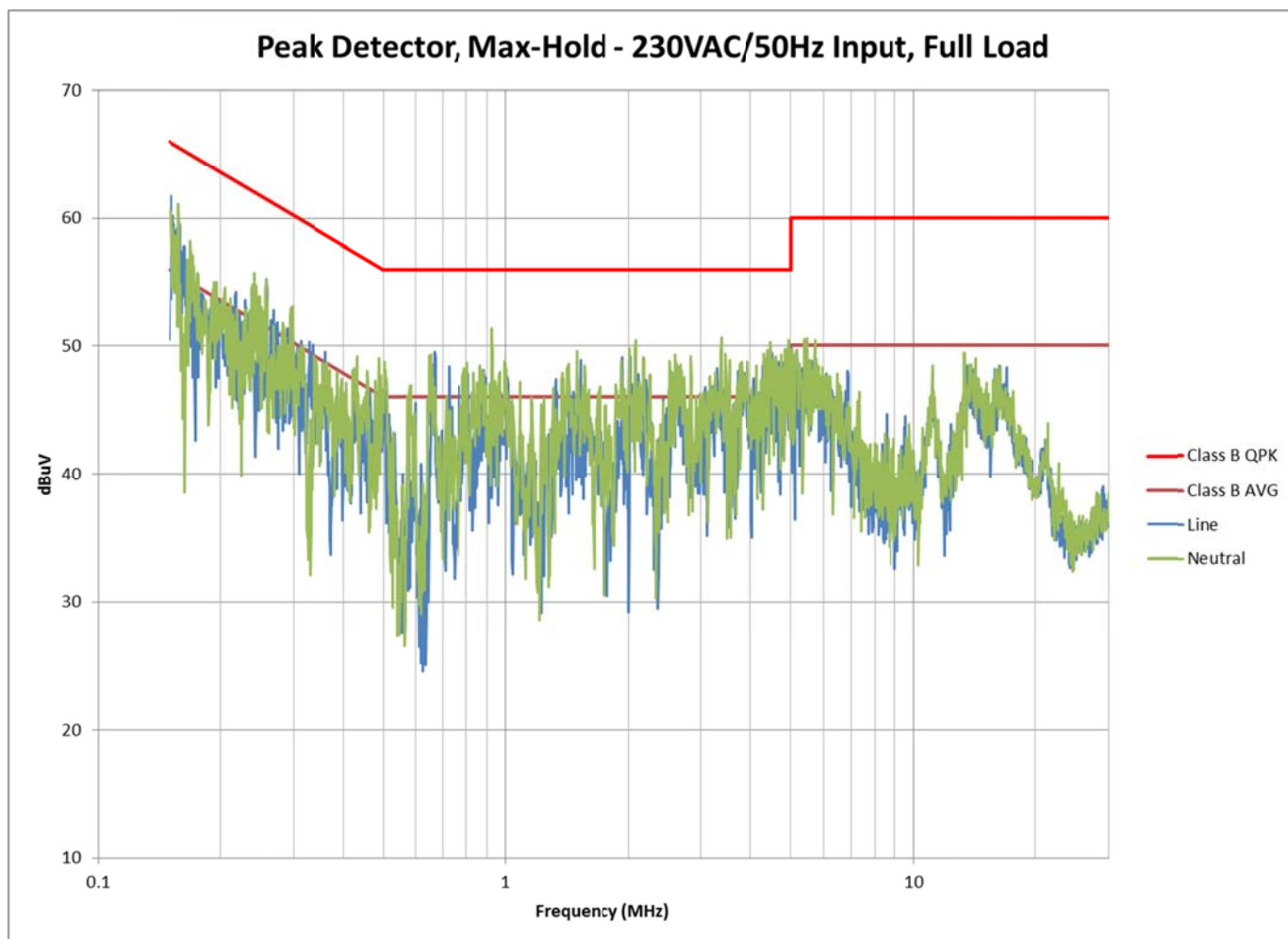
10.2 Secondary Waveforms

The image below shows the voltage on the anode of D5.



11 Conducted Emissions





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