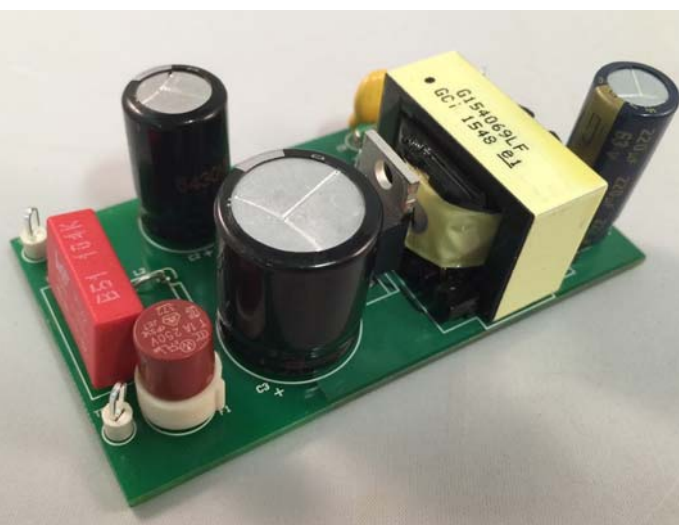
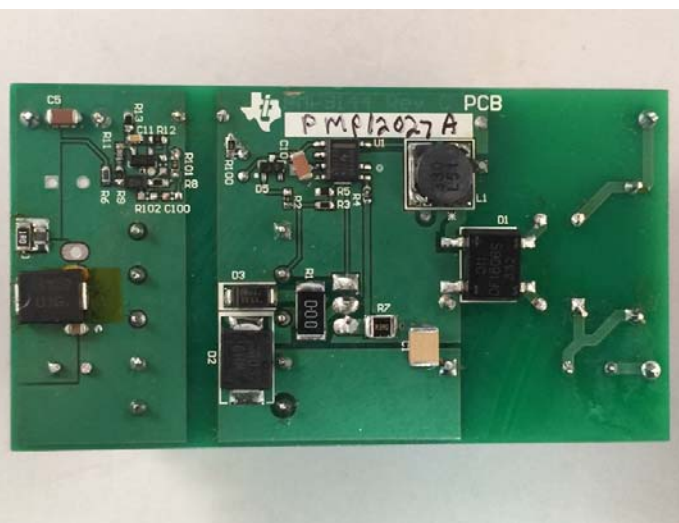
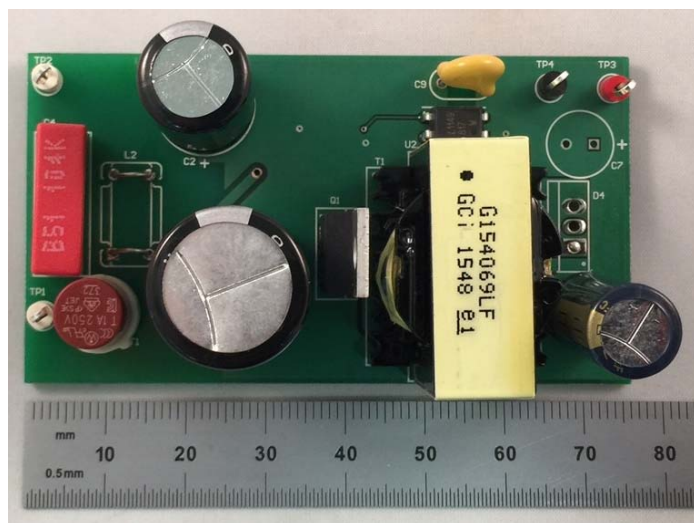


1 Photos

The photographs below show the PMP12027 Rev A prototype assembly. This circuit was built using a PMP9144 Rev C PCB.

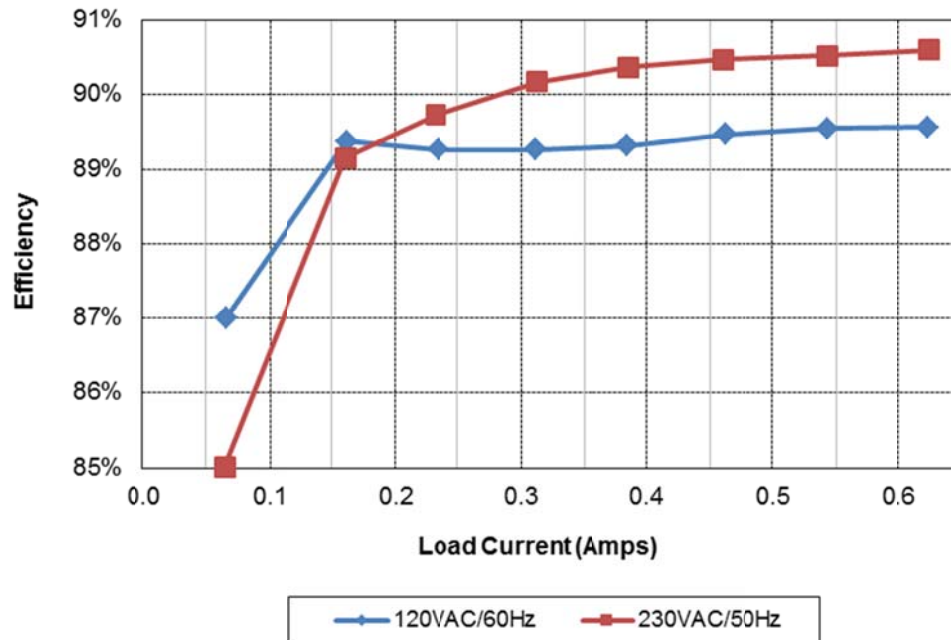


2 Standby Power (No Load)

Input Voltage	Input Power
120VAC/60Hz	90mW
230VAC/50Hz	99mW

3 Efficiency

3.1 Chart



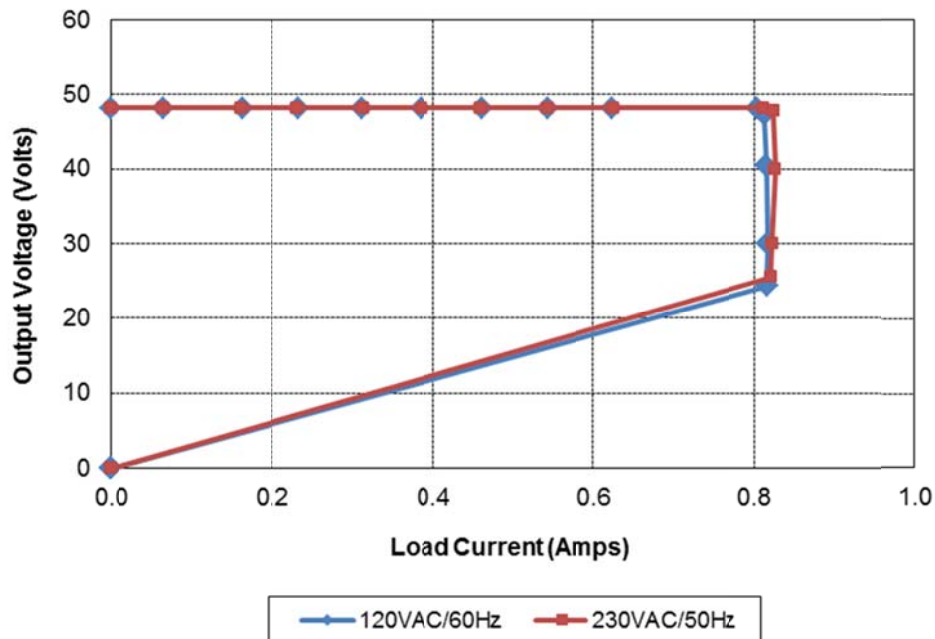
3.2 Average Efficiency

Vin	Pin	Vout	Iout	Load	Efficiency	Avg. Eff.
120VAC/60Hz	3.63	48.22	0.066	10%	87.00%	
	8.74	48.22	0.162	25%	89.38%	89.42%
	16.85	48.21	0.312	50%	89.27%	
	24.9	48.22	0.462	75%	89.47%	
	33.6	48.23	0.62	100%	89.57%	
230VAC/50Hz	3.66	48.24	0.065	10%	85.01%	
	8.71	48.23	0.161	25%	89.15%	90.10%
	16.74	48.23	0.313	50%	90.18%	
	24.5	48.23	0.460	75%	90.48%	
	33.3	48.23	0.625	100%	90.60%	

3.3 Efficiency Data

120VAC/60Hz								
I _{out}	V _{out}	V _{in}	I _{in}	P _{in}	PF	P _{out}	Losses	Efficiency
0.000	48.23	119.9	0.00612	0.0898		0.00	0.090	
0.0655	48.22	120.0	0.0926	3.63	0.324	3.16	0.47	87.0%
0.162	48.22	120.0	0.1963	8.74	0.371	7.81	0.93	89.4%
0.234	48.22	120.0	0.260	12.64	0.401	11.28	1.36	89.3%
0.312	48.21	120.0	0.327	16.85	0.429	15.04	1.81	89.3%
0.385	48.21	120.0	0.386	20.78	0.449	18.56	2.22	89.3%
0.462	48.22	120.0	0.448	24.90	0.463	22.28	2.62	89.5%
0.543	48.22	120.0	0.509	29.24	0.479	26.18	3.06	89.5%
0.624	48.23	120.0	0.568	33.60	0.493	30.10	3.50	89.6%
230VAC/50Hz								
I _{out}	V _{out}	V _{in}	I _{in}	P _{in}	PF	P _{out}	Losses	Efficiency
0.000	48.25	230.0	0.00792	0.0989		0.00	0.099	
0.0645	48.24	230.0	0.0616	3.66	0.258	3.11	0.55	85.0%
0.161	48.23	230.0	0.1255	8.71	0.302	7.77	0.94	89.2%
0.232	48.23	230.0	0.172	12.47	0.315	11.19	1.28	89.7%
0.313	48.23	230.0	0.224	16.74	0.326	15.10	1.64	90.2%
0.386	48.23	230.0	0.268	20.60	0.344	18.62	1.98	90.4%
0.460	48.23	230.0	0.310	24.52	0.463	22.19	2.33	90.5%
0.543	48.23	230.0	0.354	28.93	0.356	26.19	2.74	90.5%
0.625	48.23	229.9	0.392	33.27	0.369	30.14	3.13	90.6%

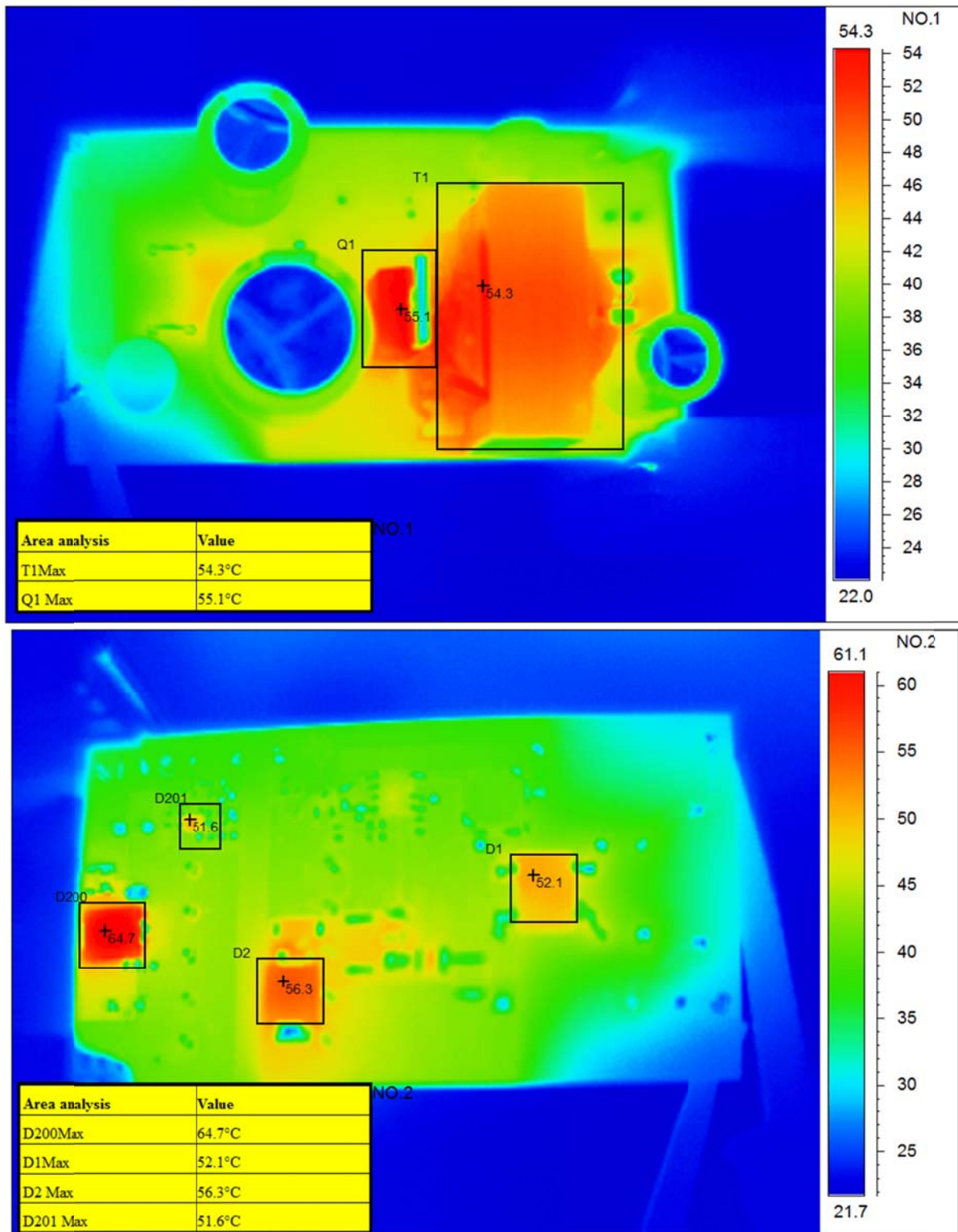
4 V-I Curve

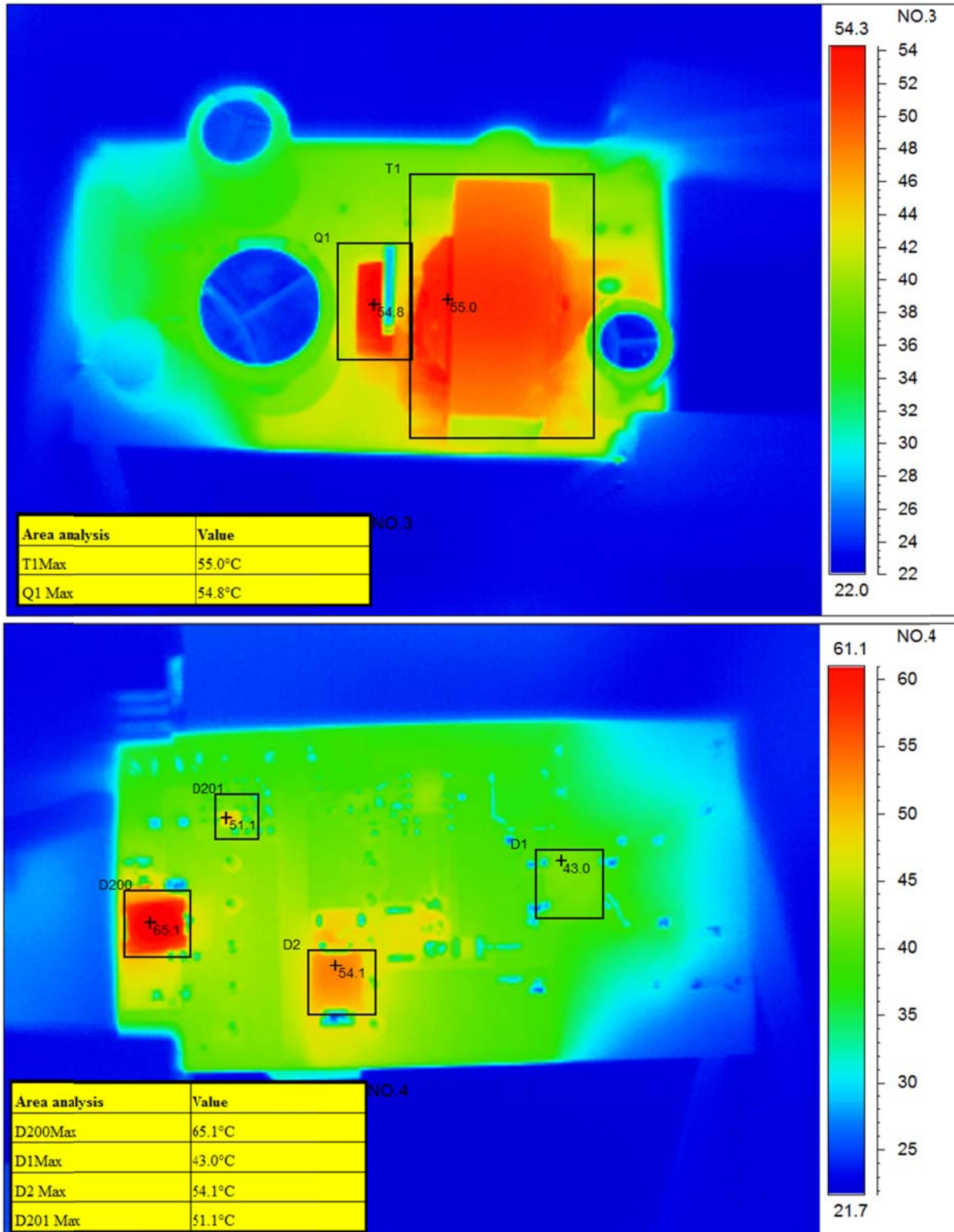


5 Thermal Images

The thermal images below show the assembly with loaded with 625mA. The ambient temperature was 25°C, with no forced air.

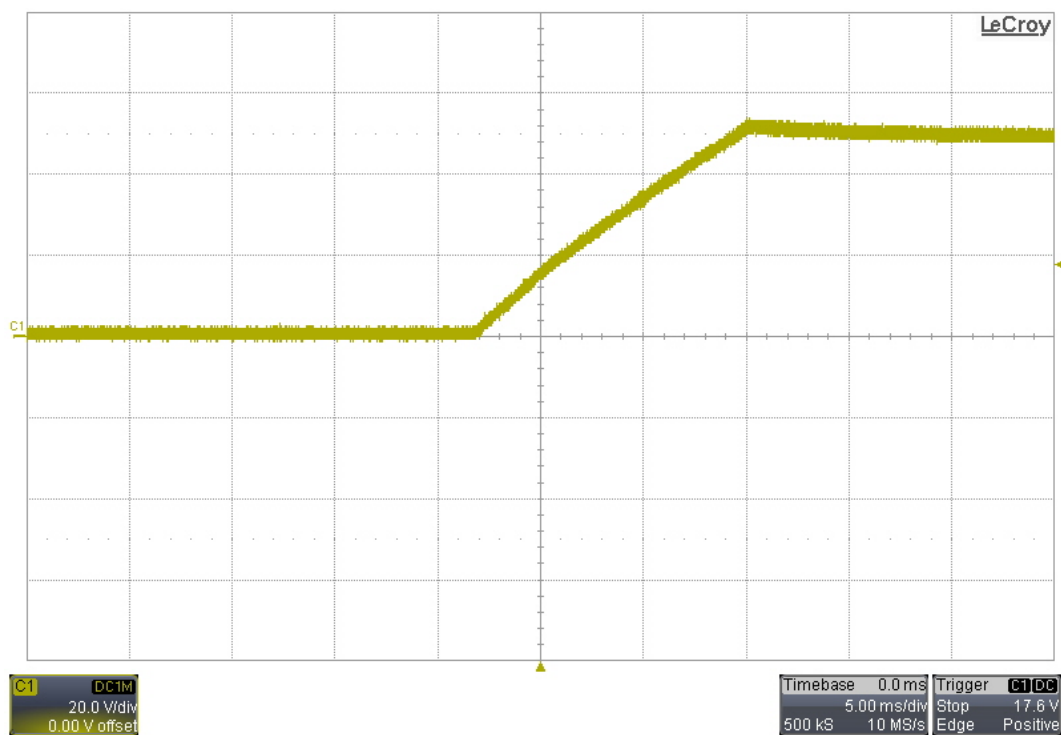
5.1 120VAC/60Hz



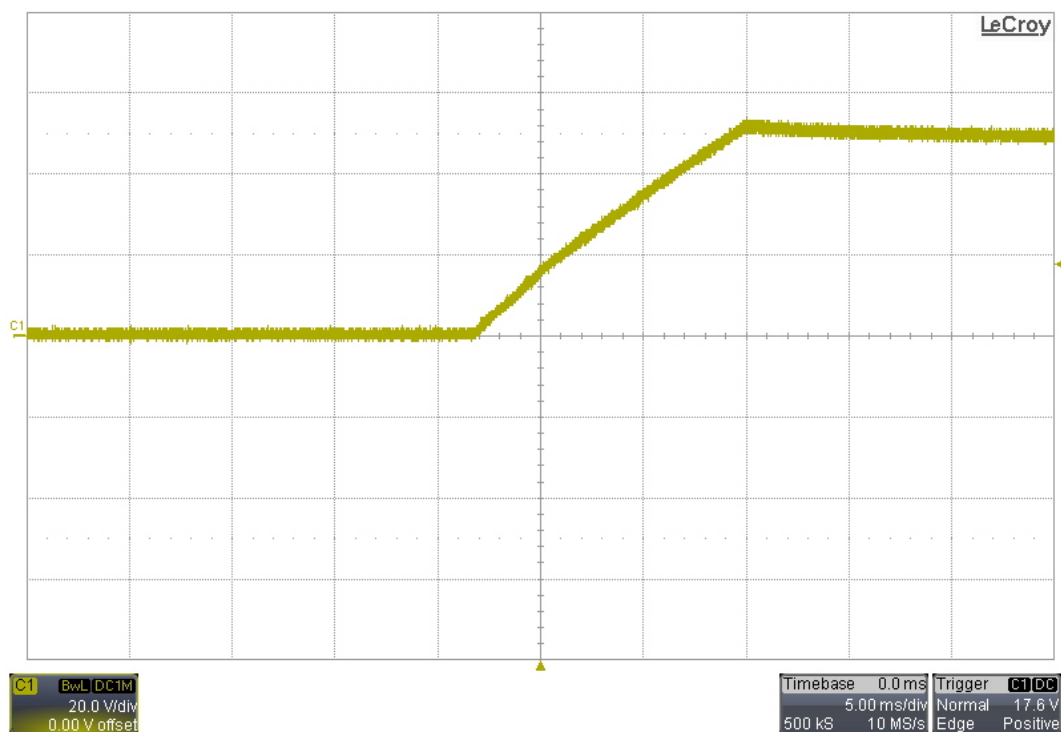
5.2 230VAC/50Hz

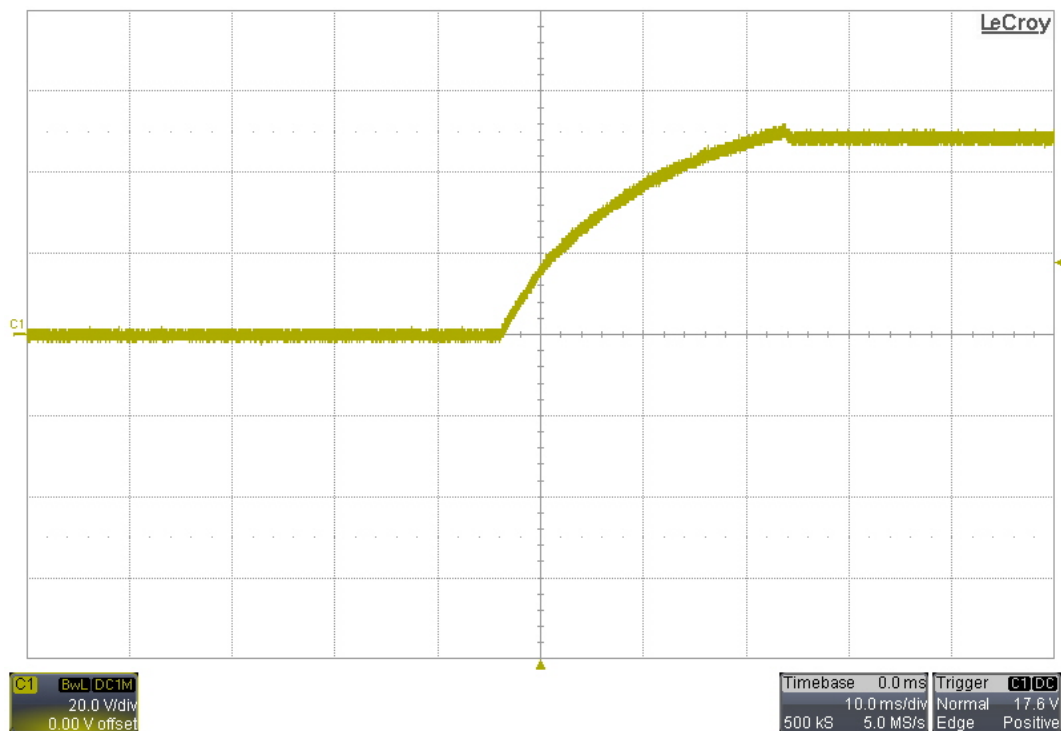
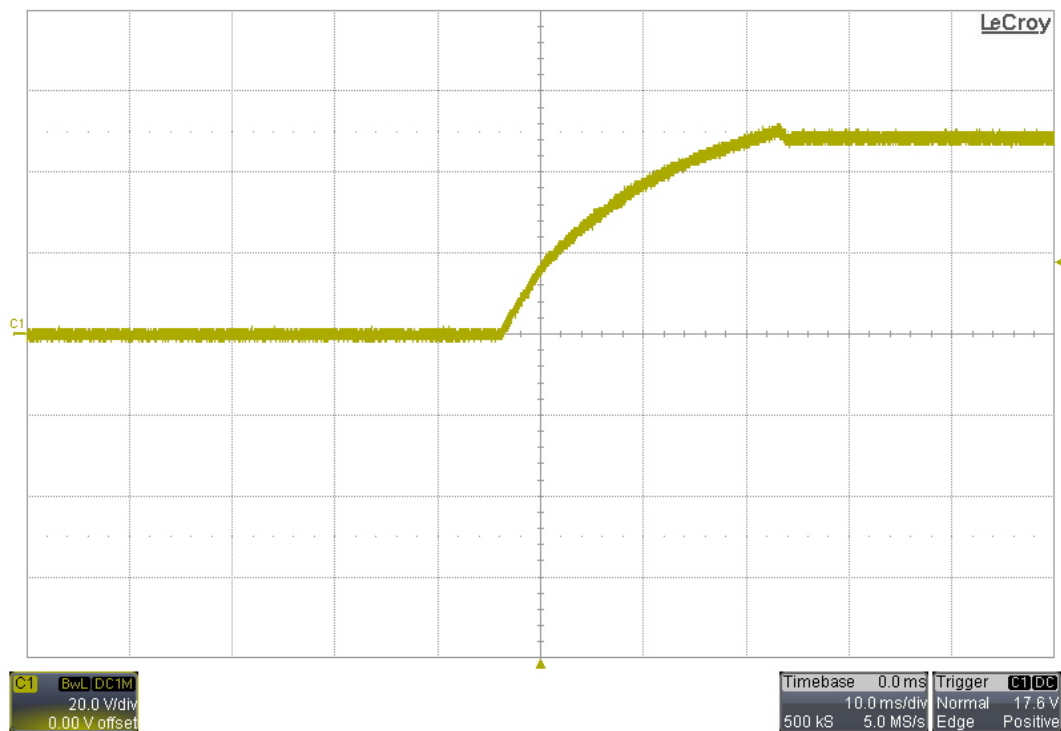
6 Startup

6.1 120VAC/60Hz – No Load



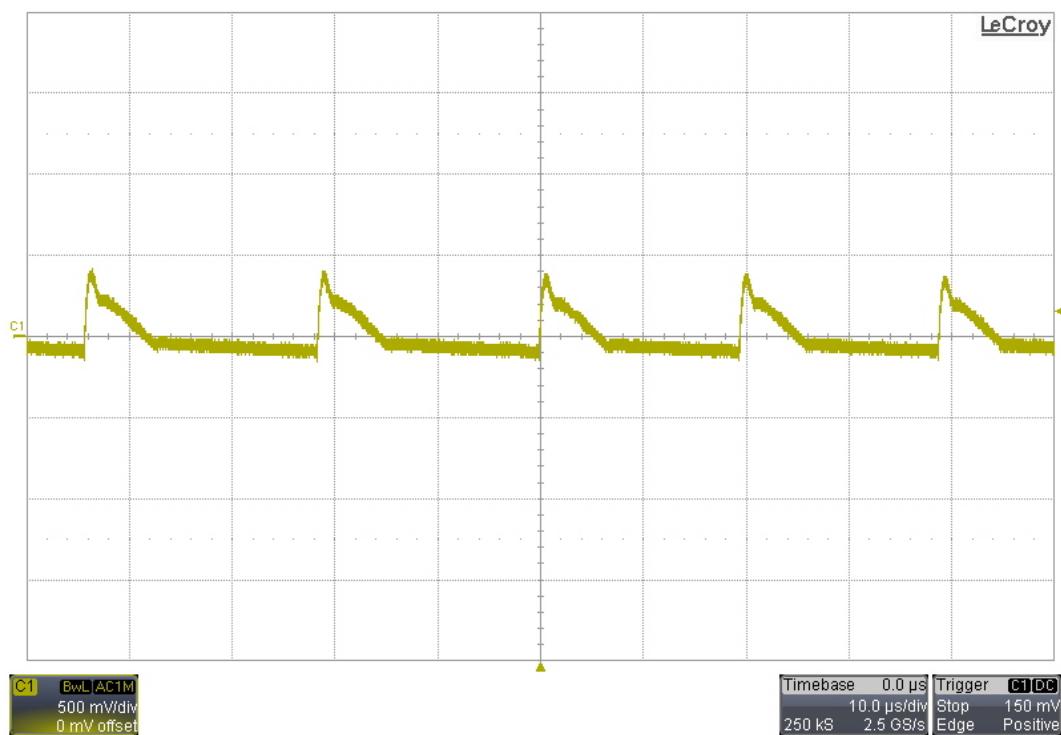
6.2 230VAC/50Hz – No Load



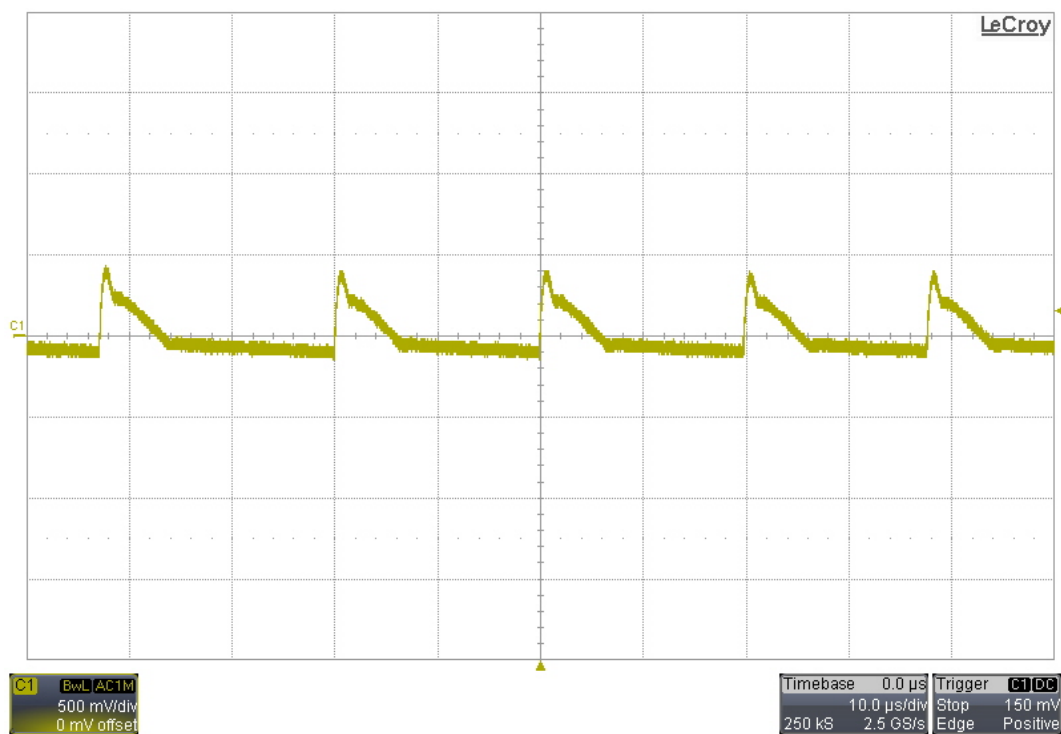
6.3 120VAC/60Hz – 77 Ω Load**6.4 230VAC/50Hz – 77 Ω Load**

7 Output Ripple Voltage

7.1 120VAC/60Hz –0.625A Load

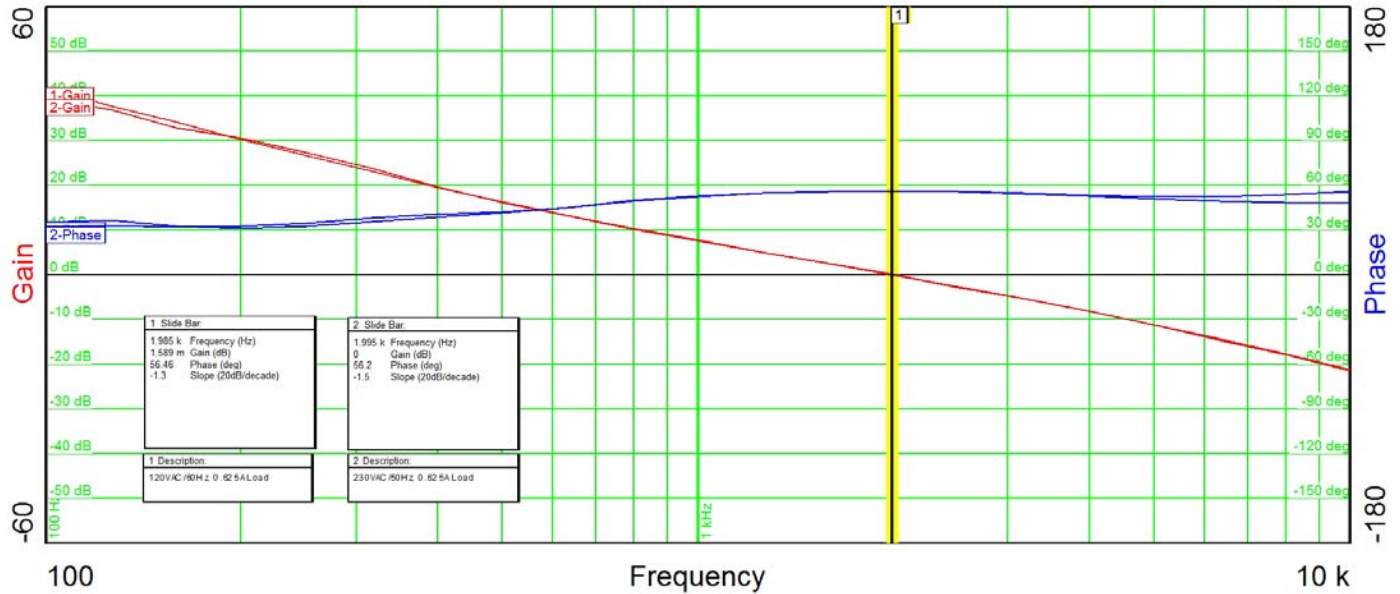


7.2 230VAC/50Hz –0.625A Load



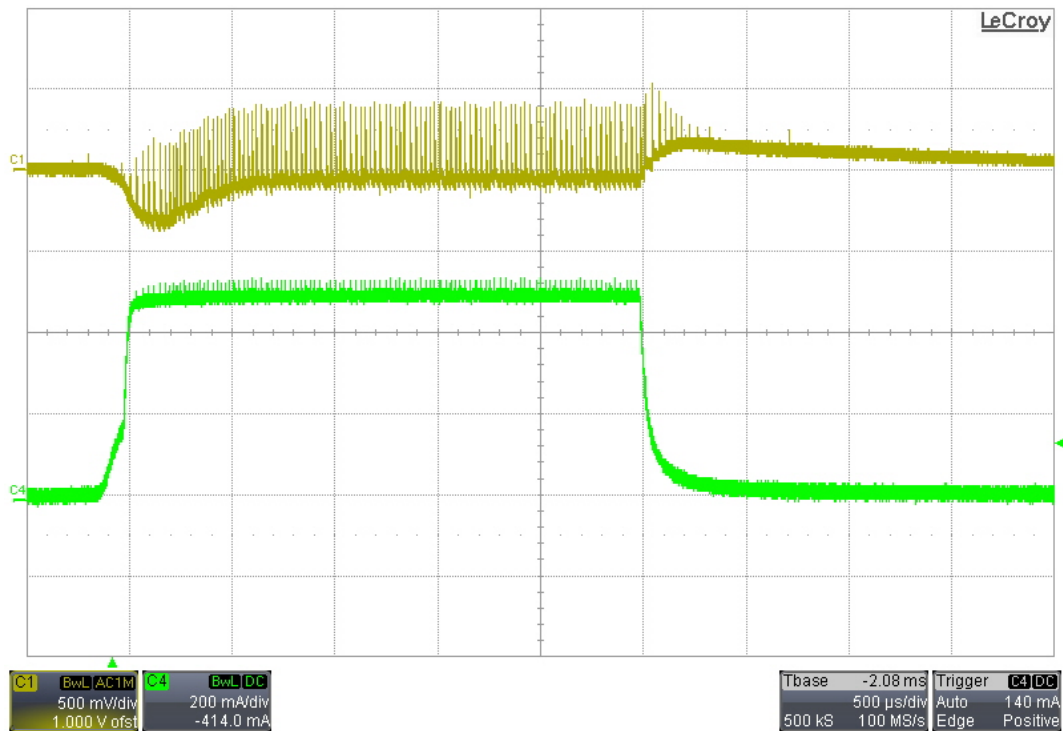
8 Loop Stability

The bode plot below shows the loops stability when fully loaded to 0.625A.

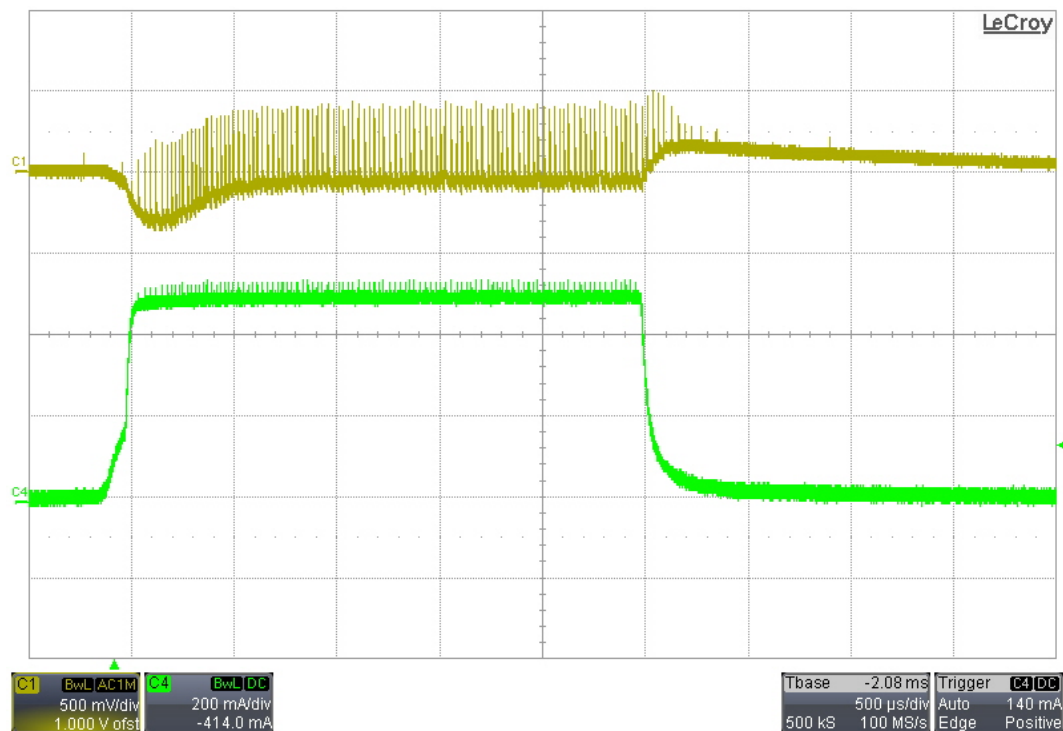


9 Load Transients

9.1 0A to 0.5A Transient; 120VAC/60Hz Input



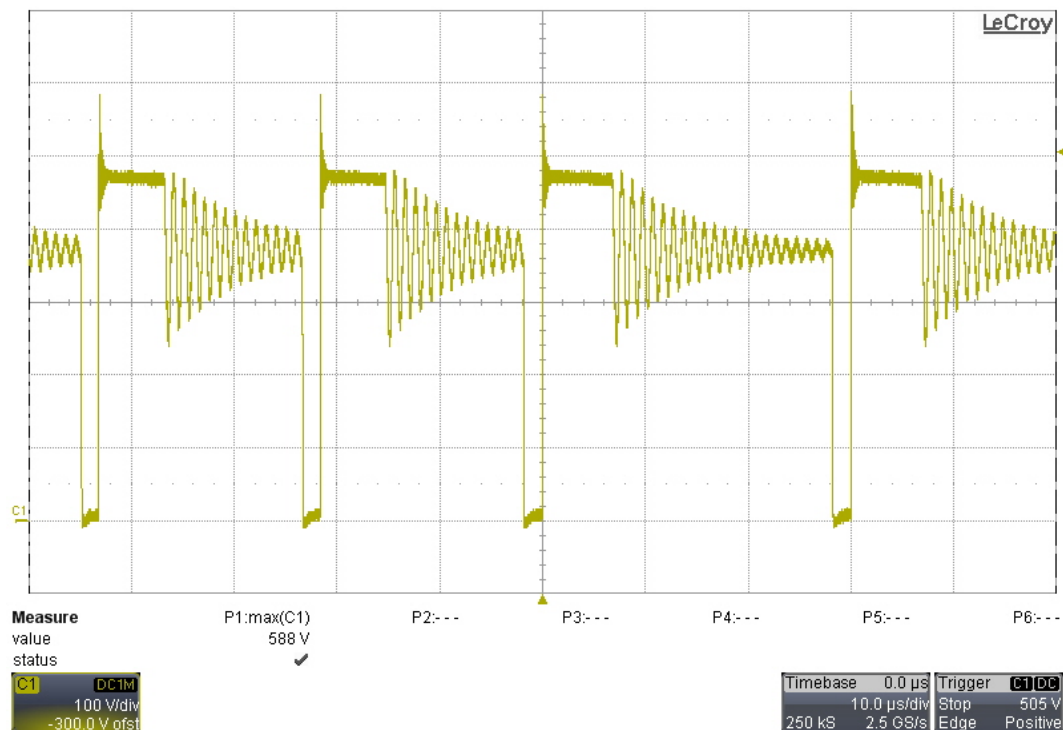
9.2 0A to 0.5A Transient; 230VAC/50Hz Input

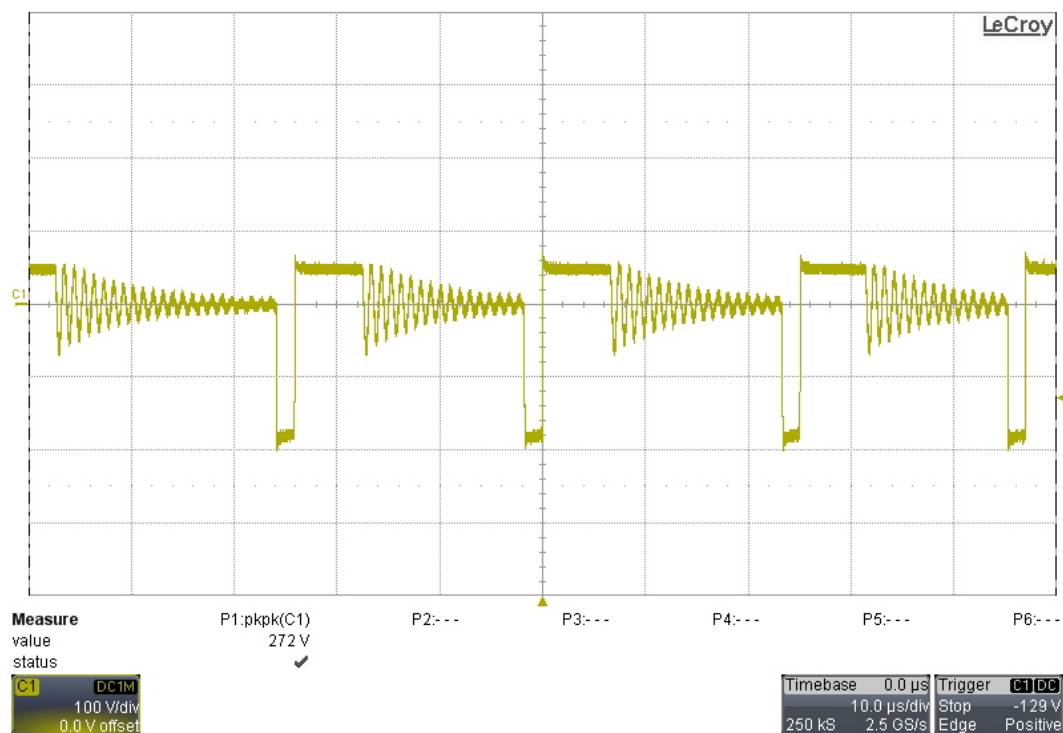


10 Switching Waveforms

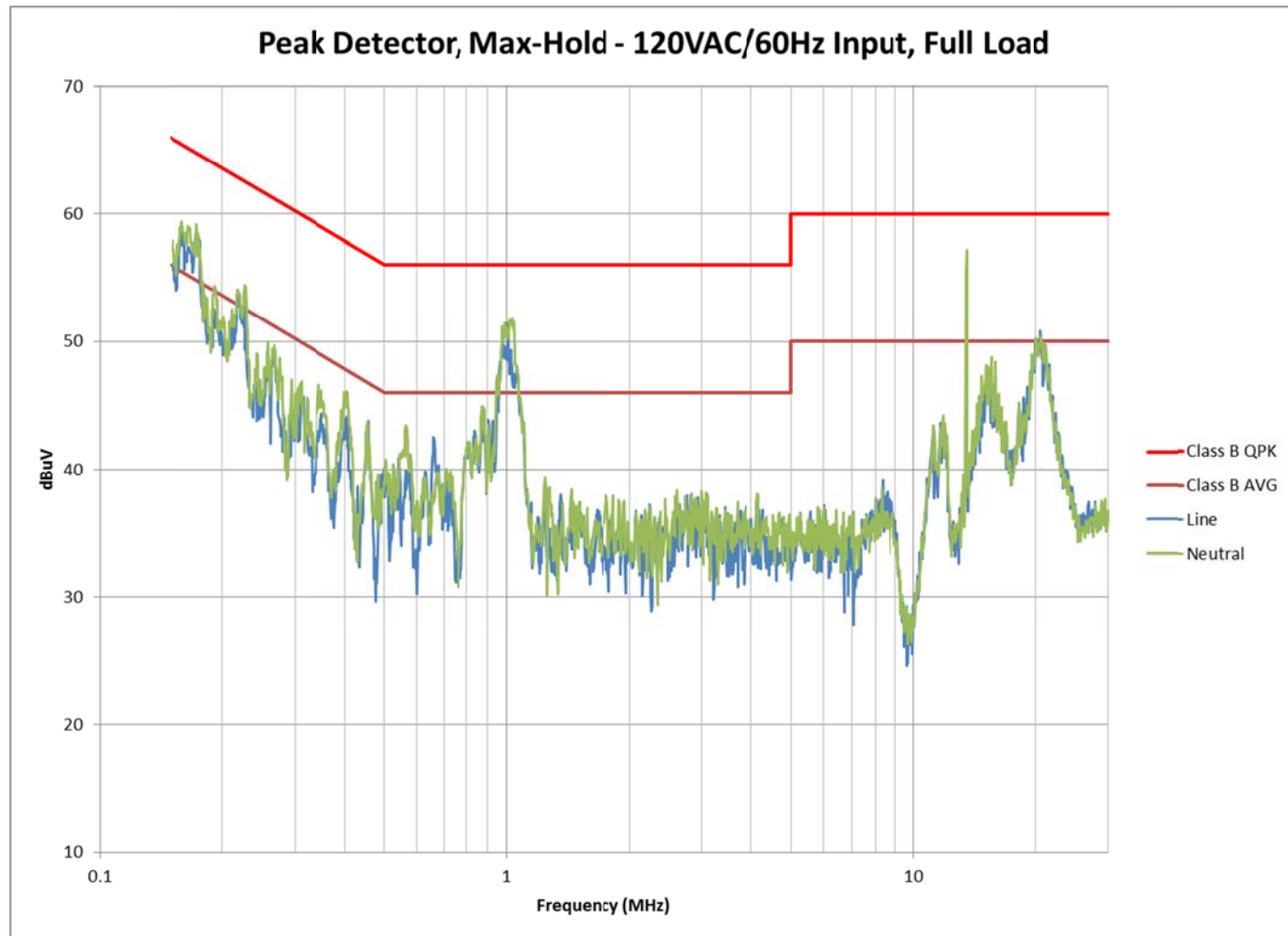
The input was 265VAC/50Hz, and the output was loaded with 0.625A.

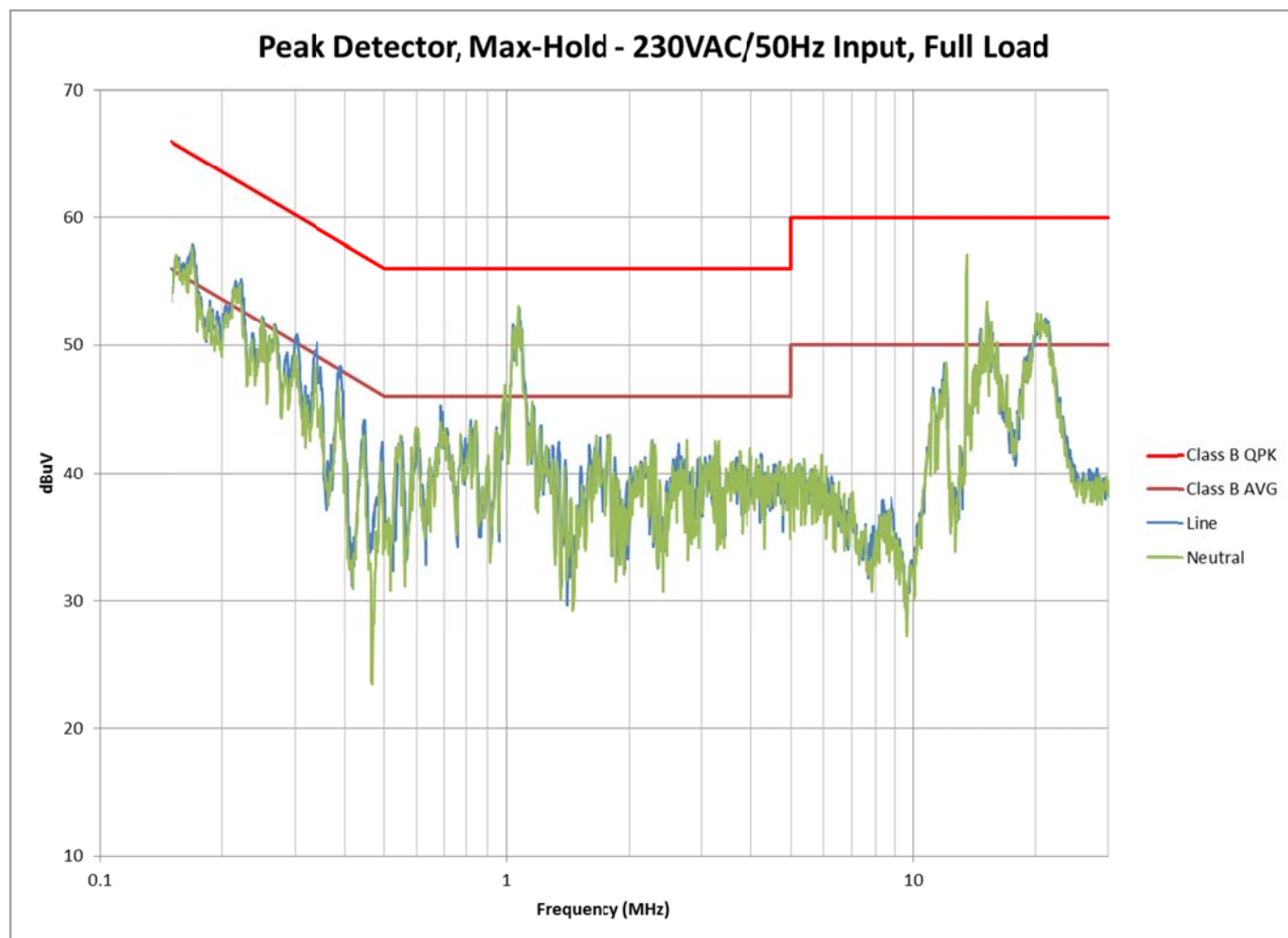
10.1 Drain of Primary FET – Q1



10.2 Anode of Output Diode – D200

11 Conducted Emissions





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