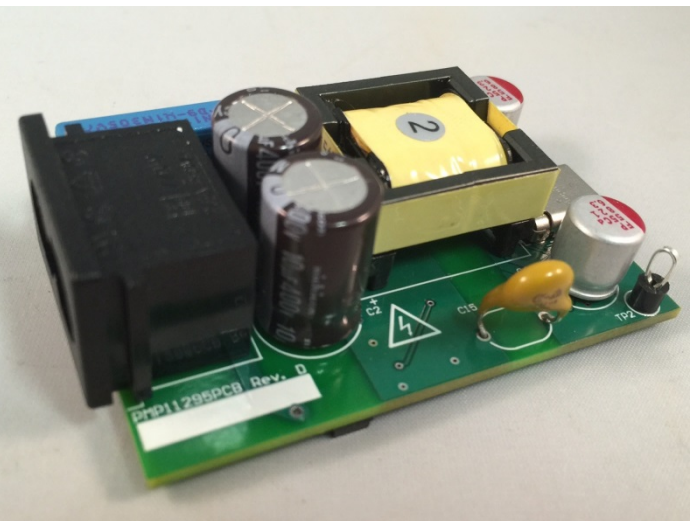
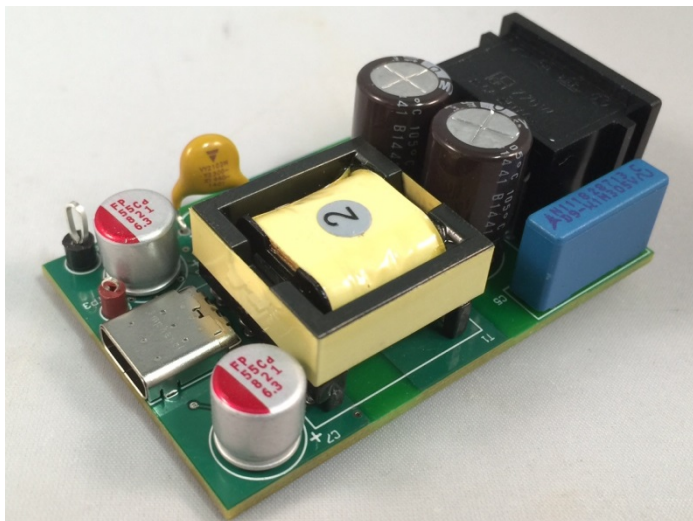
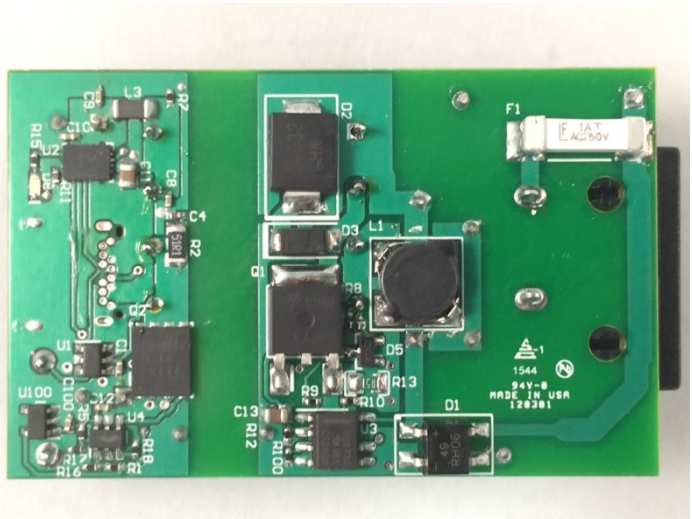
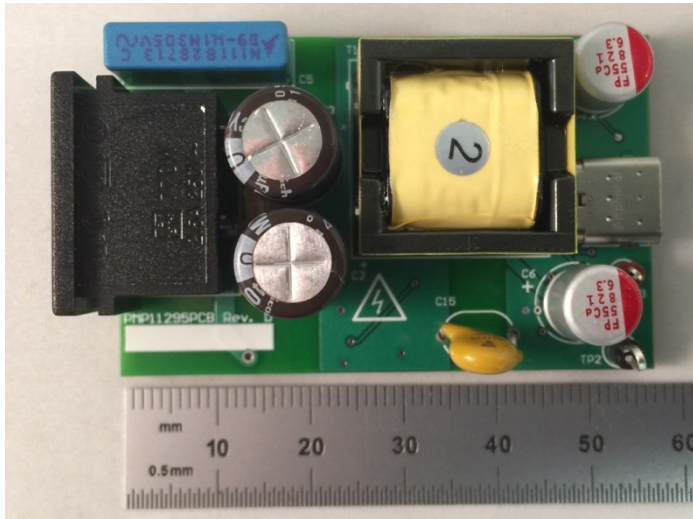


1 Photos

The photographs below show the PMP11295 Rev D prototype assembly.



2 ON/OFF

	No Load	20Ω Load
Turn-on ($V_{AC_{rms}}$, 60Hz)	74.9V	78.0V
Turn-off ($V_{AC_{rms}}$, 60Hz)	29.6V	77.2V

3 Standby Power (No Load)

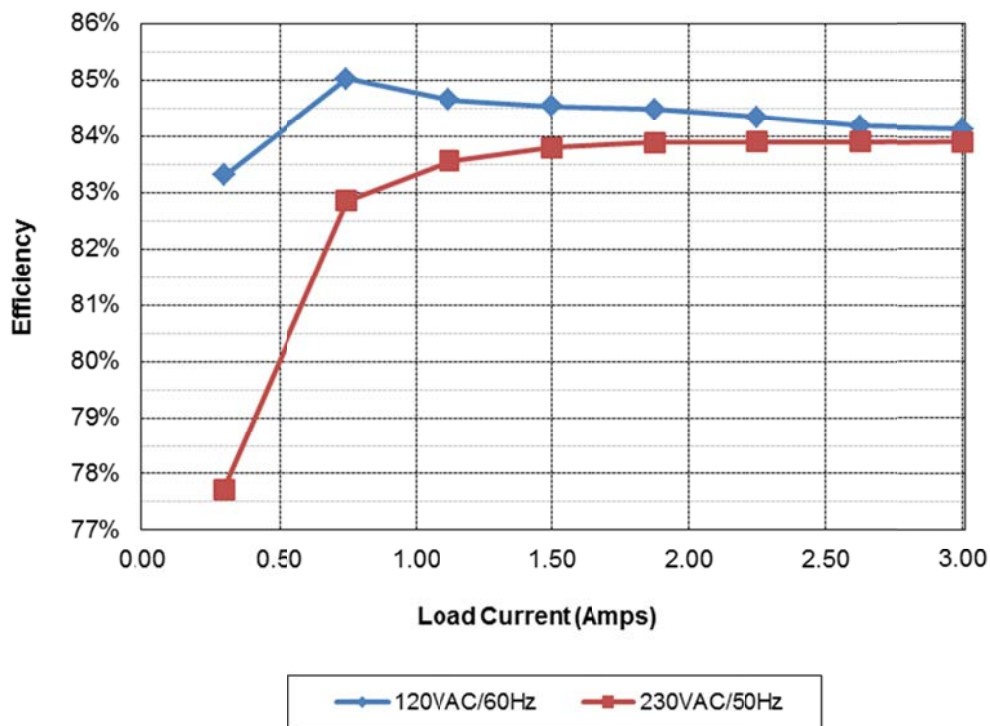
Input Voltage	Input Power
120VAC/60Hz	4.4mW
230VAC/50Hz	5.9mW

4 Efficiency

4.1 End-to-End Efficiency

The efficiency measurements below were measured from the AC input to TP3/TP2.

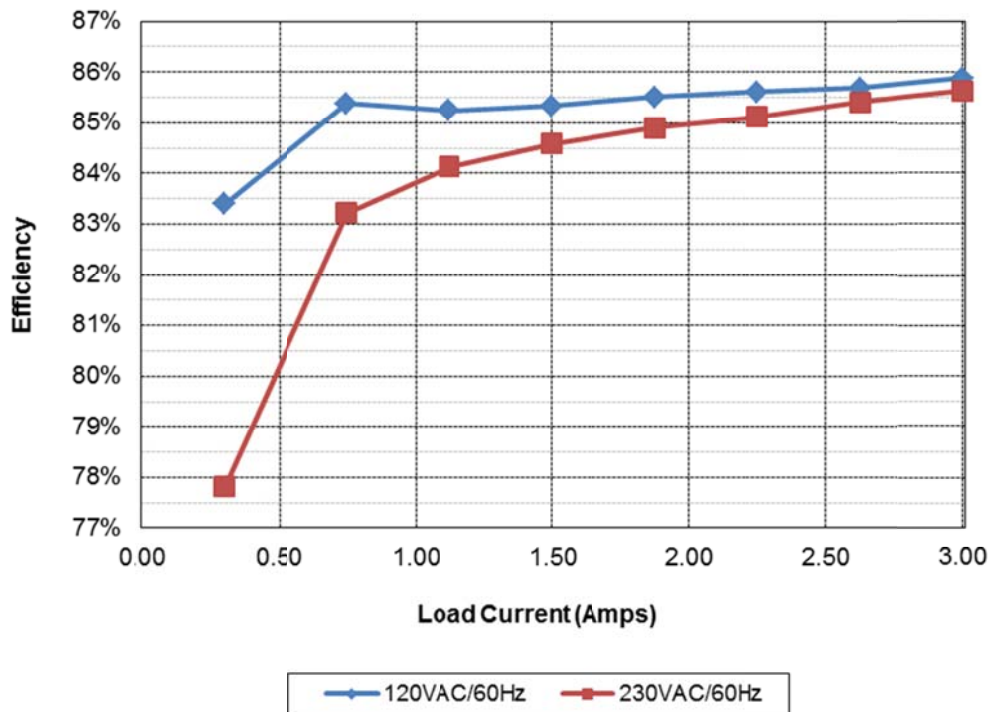
Vin	Pin	Vout	Iout	Load	Efficiency	Avg. Eff.
120VAC/60Hz	1.81	5.02	0.300	10%	83.30%	
	4.37	4.96	0.749	25%	85.02%	84.51%
	8.82	4.97	1.500	50%	84.53%	
	13.36	5.01	2.250	75%	84.34%	
	17.99	5.05	3.000	100%	84.13%	
230VAC/50Hz	1.94	5.03	0.300	10%	77.73%	
	4.50	4.97	0.750	25%	82.85%	83.61%
	8.90	4.97	1.500	50%	83.79%	
	13.45	5.02	2.250	75%	83.89%	
	18.07	5.05	3.000	100%	83.91%	



4.2 AC/DC Only

The efficiency measurements below were measured from the AC input to C7 (before TPS25810 load switch).

Vin	Pin	Vout	Iout	Load	Efficiency	Avg. Eff.
120VAC/60Hz	1.81	5.03	0.300	10%	83.40%	
	4.37	4.99	0.749	25%	85.38%	85.55%
	8.82	5.02	1.500	50%	85.33%	
	13.36	5.08	2.250	75%	85.60%	
	17.99	5.15	3.000	100%	85.88%	
230VAC/50Hz	1.94	5.04	0.300	10%	77.82%	
	4.50	4.99	0.750	25%	83.21%	84.64%
	8.90	5.02	1.500	50%	84.59%	
	13.45	5.09	2.250	75%	85.12%	
	18.07	5.16	3.000	100%	85.63%	



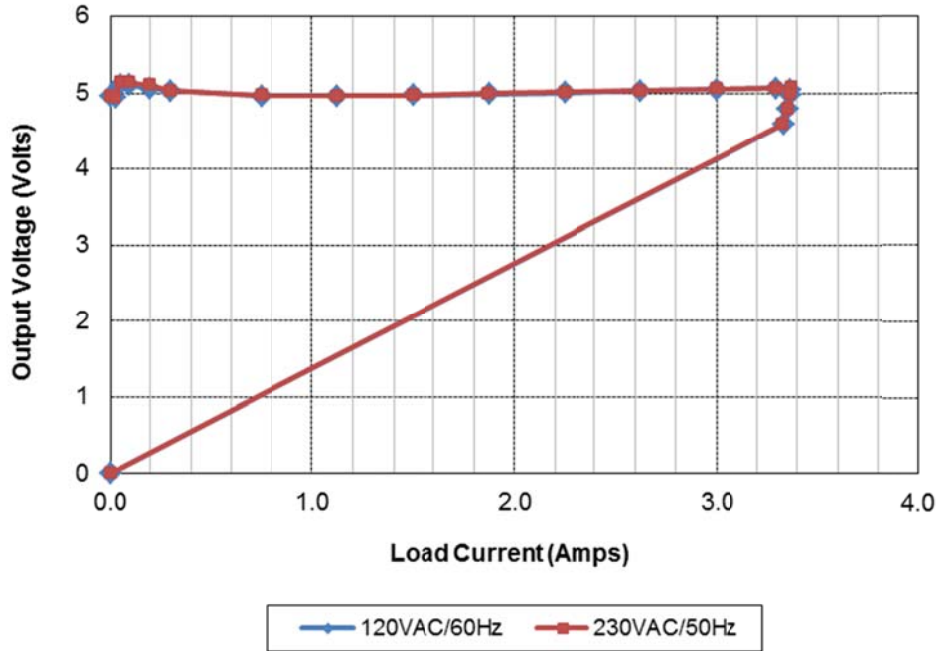
4.3 Efficiency Data

120VAC/60Hz											
I _{out}	V _{out} AC/DC	V _{out} USB-C	V _{in}	lin	P _{in}	PF	P _{out} AC/DC	P _{out} USB-C	Losses	Efficiency AC/DC	Efficiency USBC
0.000	5.078		119.9	0.00454	0.0044		0.00	0.00	0.0044	0.0%	0.0%
0.300	5.029	5.023	119.9	0.0429	1.809	0.352	1.51	1.51	0.30	83.4%	83.3%
0.749	4.985	4.964	120.0	0.087	4.373	0.419	3.73	3.72	0.64	85.4%	85.0%
1.125	4.997	4.962	120.0	0.120	6.595	0.457	5.62	5.58	0.97	85.2%	84.6%
1.500	5.019	4.972	120.0	0.152	8.823	0.486	7.53	7.46	1.29	85.3%	84.5%
1.876	5.050	4.989	120.0	0.182	11.08	0.509	9.47	9.36	1.61	85.5%	84.5%
2.250	5.083	5.008	120.0	0.212	13.36	0.527	11.44	11.27	1.92	85.6%	84.3%
2.624	5.117	5.027	120.0	0.241	15.67	0.542	13.43	13.19	2.24	85.7%	84.2%
3.000	5.150	5.045	120.0	0.271	17.99	0.555	15.45	15.14	2.54	85.9%	84.1%

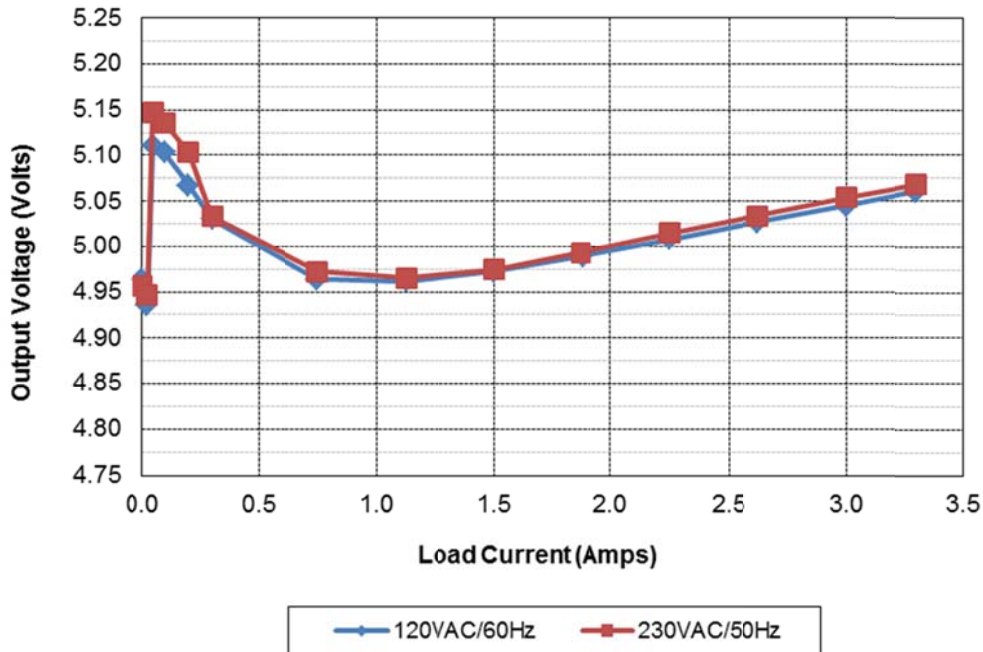
230VAC/50Hz											
I _{out}	V _{out} AC/DC	V _{out} USB-C	V _{in}	lin	P _{in}	PF	P _{out} AC/DC	P _{out} USB-C	Losses	Efficiency AC/DC	Efficiency USBC
0.000	5.092		229.9	0.00716	0.0059		0.00		0.0059	0.0%	0.0%
0.300	5.039	5.033	229.9	0.0316	1.940	0.267	1.51	1.51	0.43	77.8%	77.7%
0.750	4.994	4.972	229.9	0.062	4.501	0.318	3.75	3.73	0.76	83.2%	82.8%
1.125	4.999	4.965	229.9	0.083	6.684	0.350	5.62	5.58	1.06	84.1%	83.6%
1.500	5.021	4.974	229.9	0.104	8.904	0.373	7.53	7.46	1.37	84.6%	83.8%
1.875	5.053	4.993	229.9	0.124	11.16	0.393	9.47	9.36	1.69	84.9%	83.9%
2.250	5.088	5.015	229.9	0.143	13.45	0.410	11.45	11.28	2.00	85.1%	83.9%
2.625	5.124	5.034	229.9	0.162	15.75	0.425	13.45	13.21	2.30	85.4%	83.9%
3.000	5.158	5.054	229.9	0.180	18.07	0.438	15.47	15.16	2.60	85.6%	83.9%

5 Regulation

5.1 V-I Curve



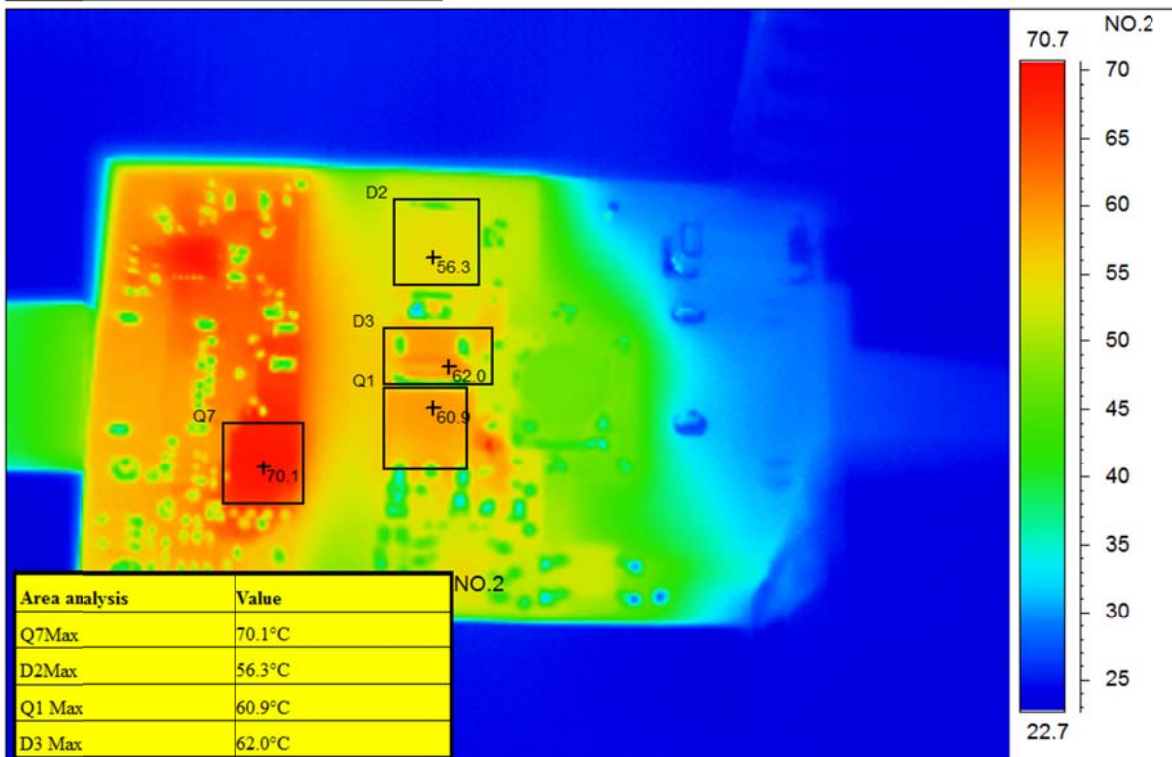
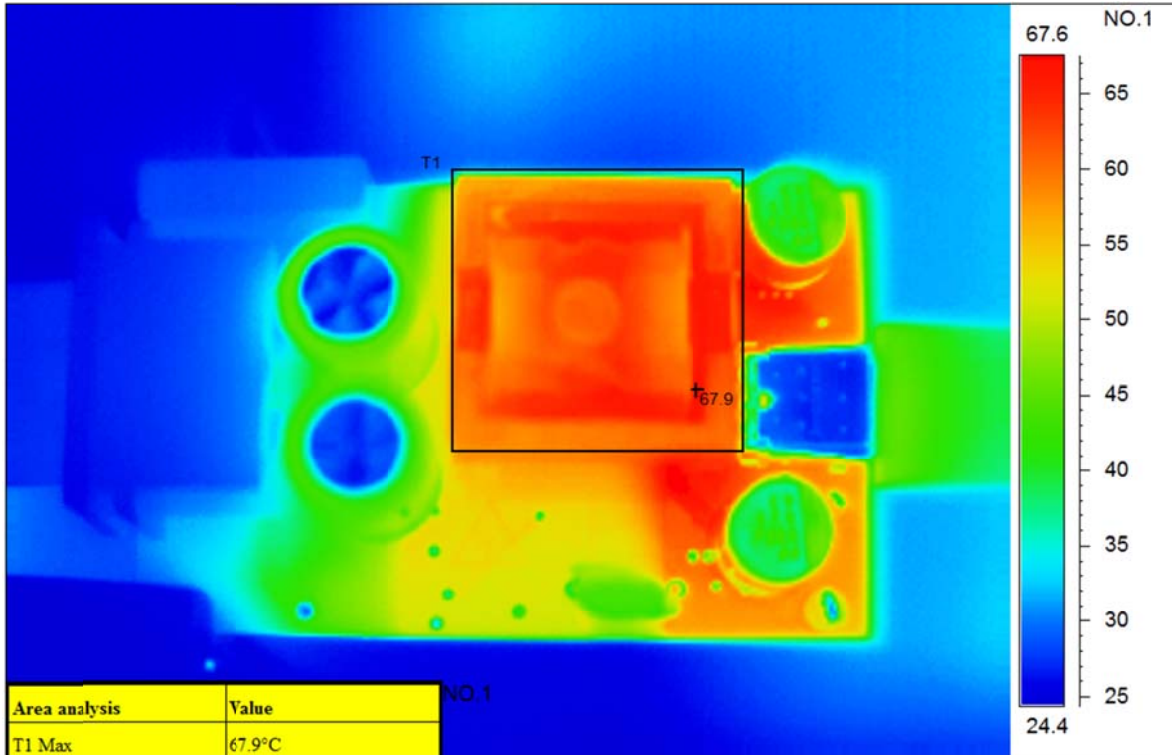
5.2 CV Mode



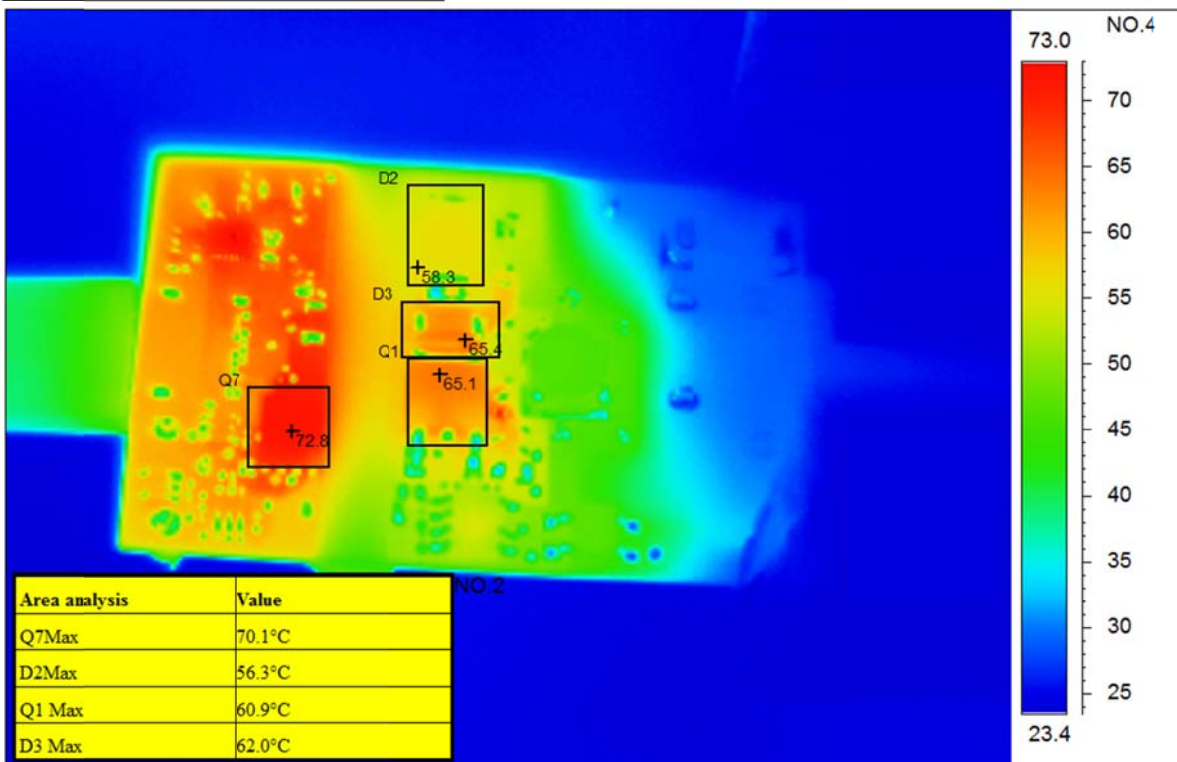
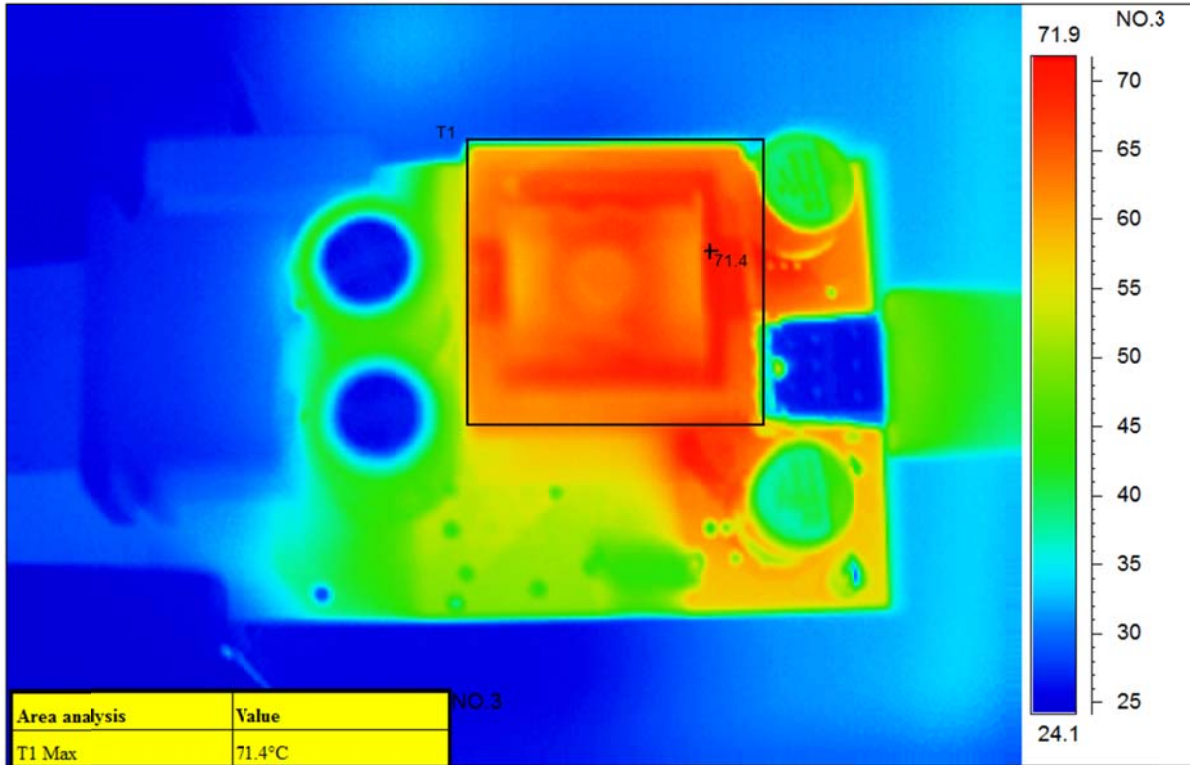
6 Thermal Images

The thermal images below show the assembly with loaded with 3A. The ambient temperature was 25°C, with no forced air flow.

6.1 120VAC/60Hz

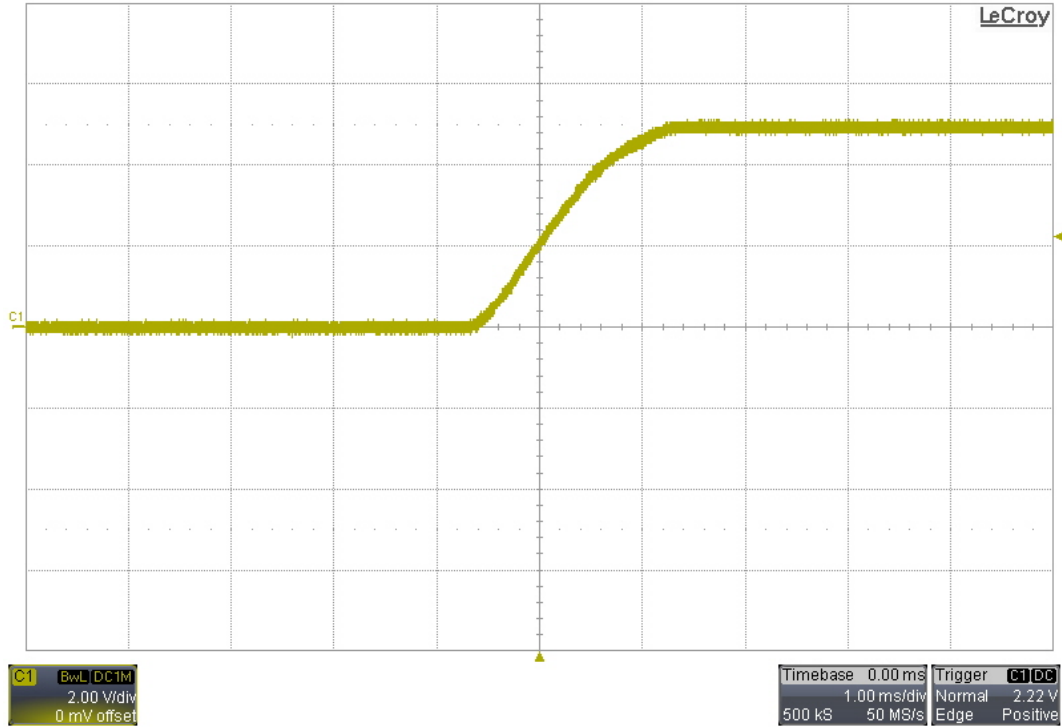


6.2 230VAC/50Hz



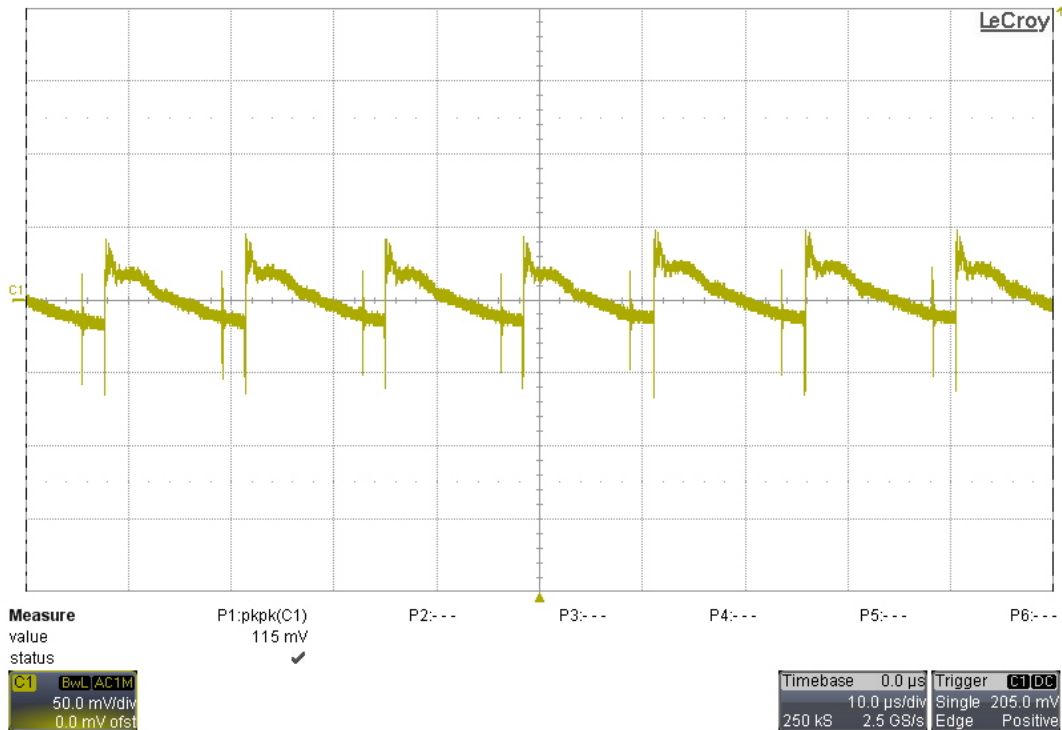
7 Startup

The image below shows the output voltage on TP3/TP2 when a USB-C cable is connected to J2 with no load.

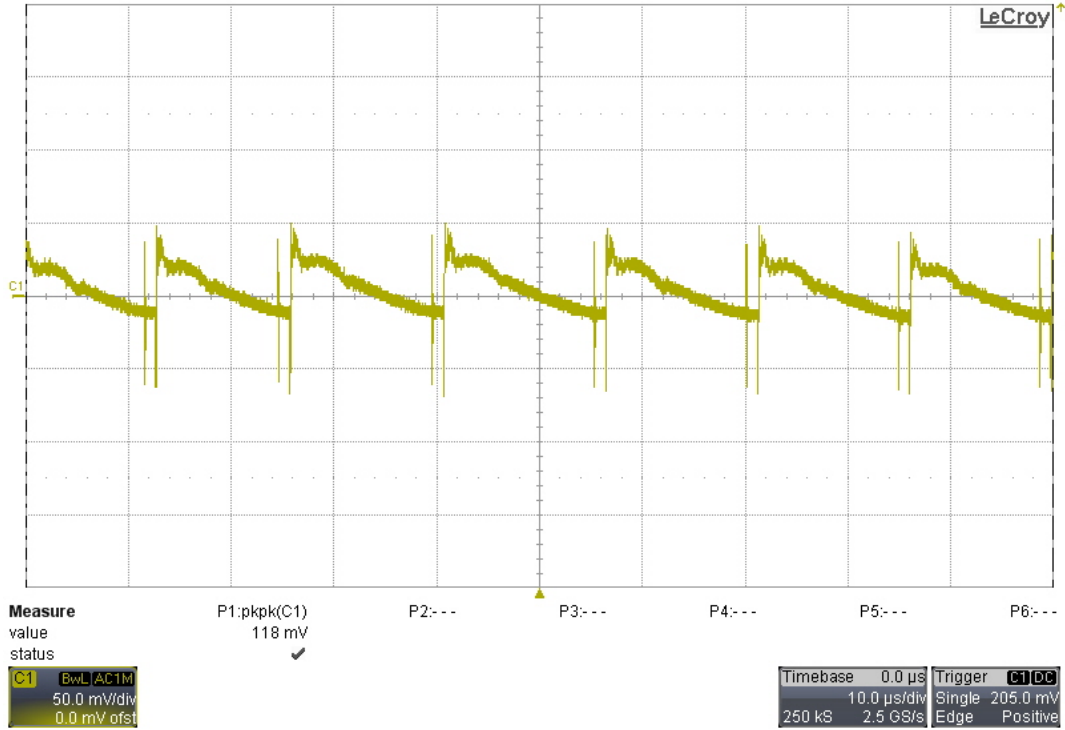


8 Output Ripple Voltage

8.1 120VAC/60Hz -3A Load

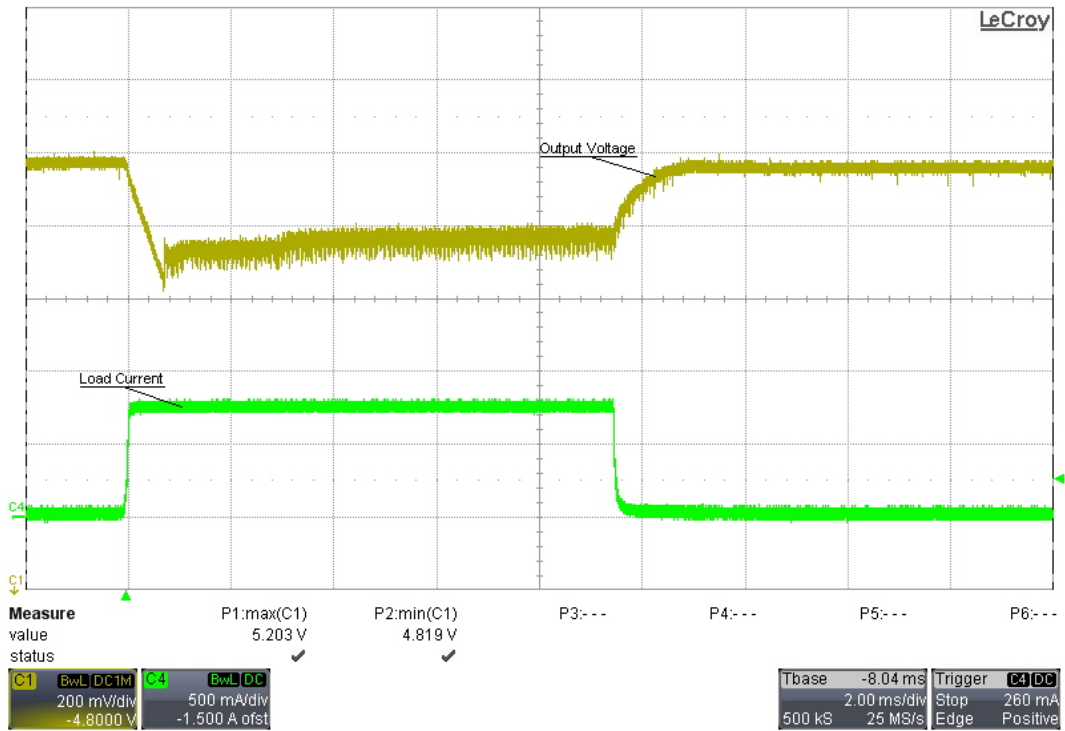


8.2 230VAC/50Hz -3A Load

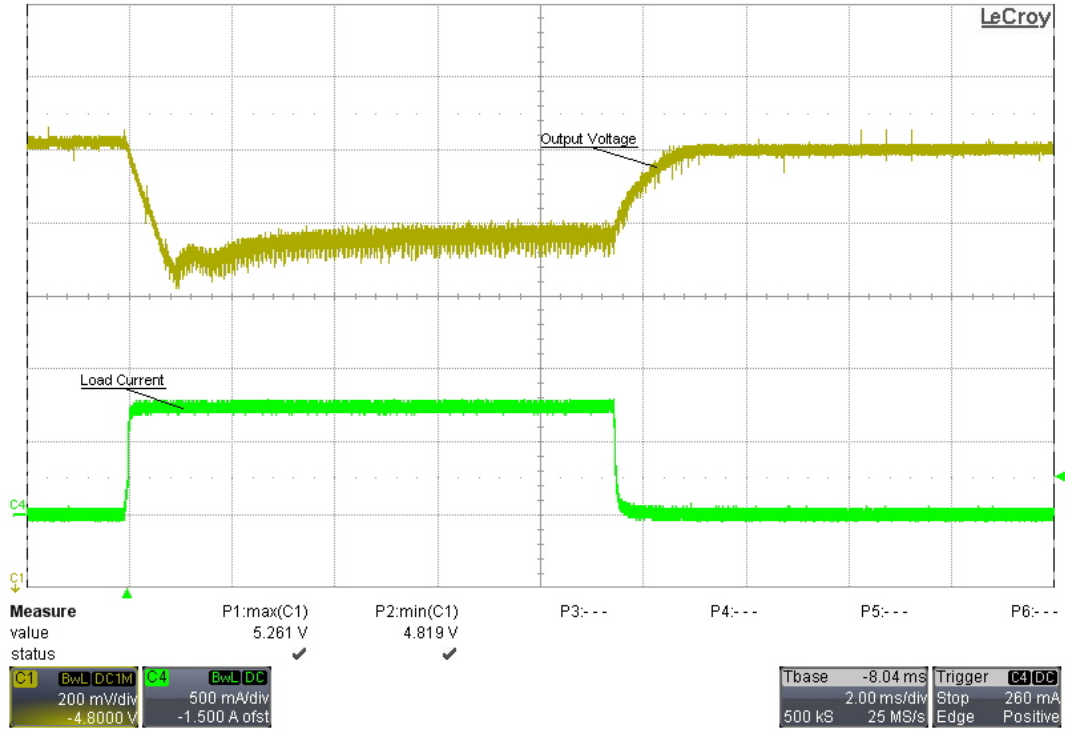


9 Load Transients

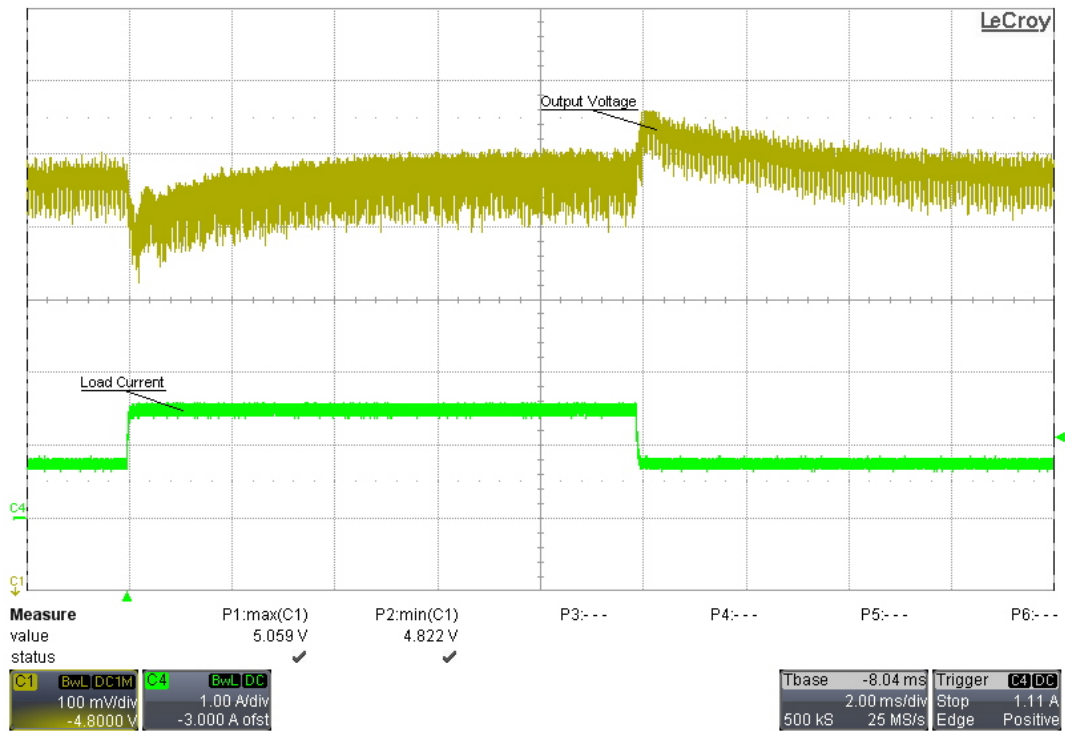
9.1 0% to 25% Transient; 120VAC/60Hz Input



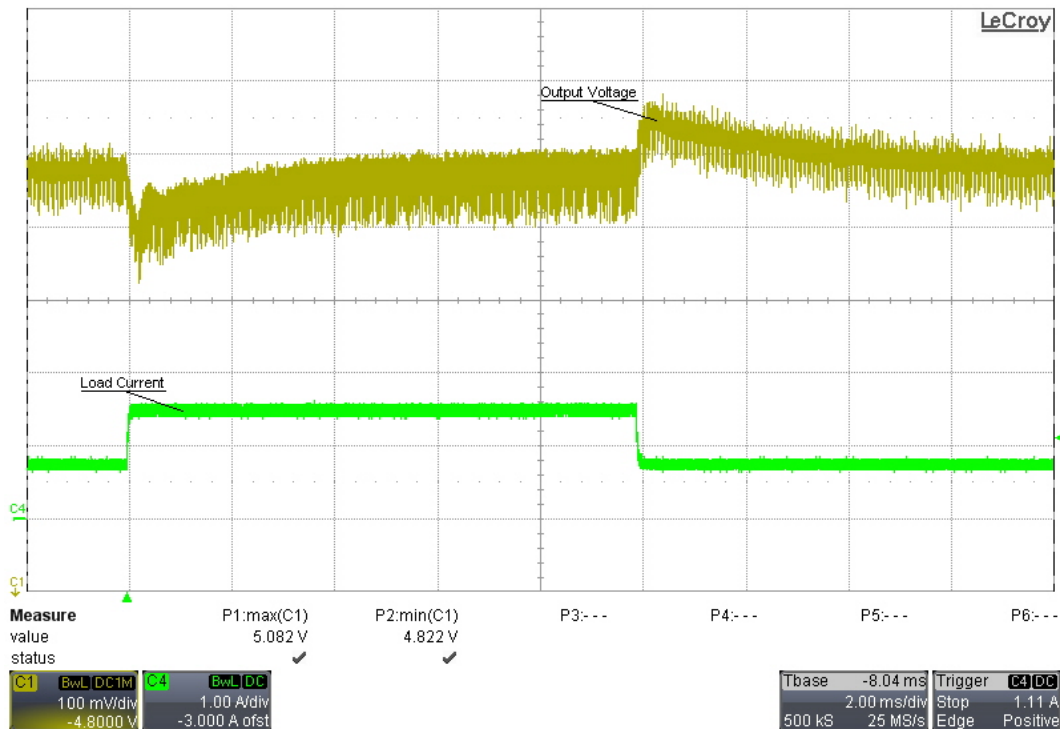
9.2 0% to 25% Transient; 230VAC/50Hz Input



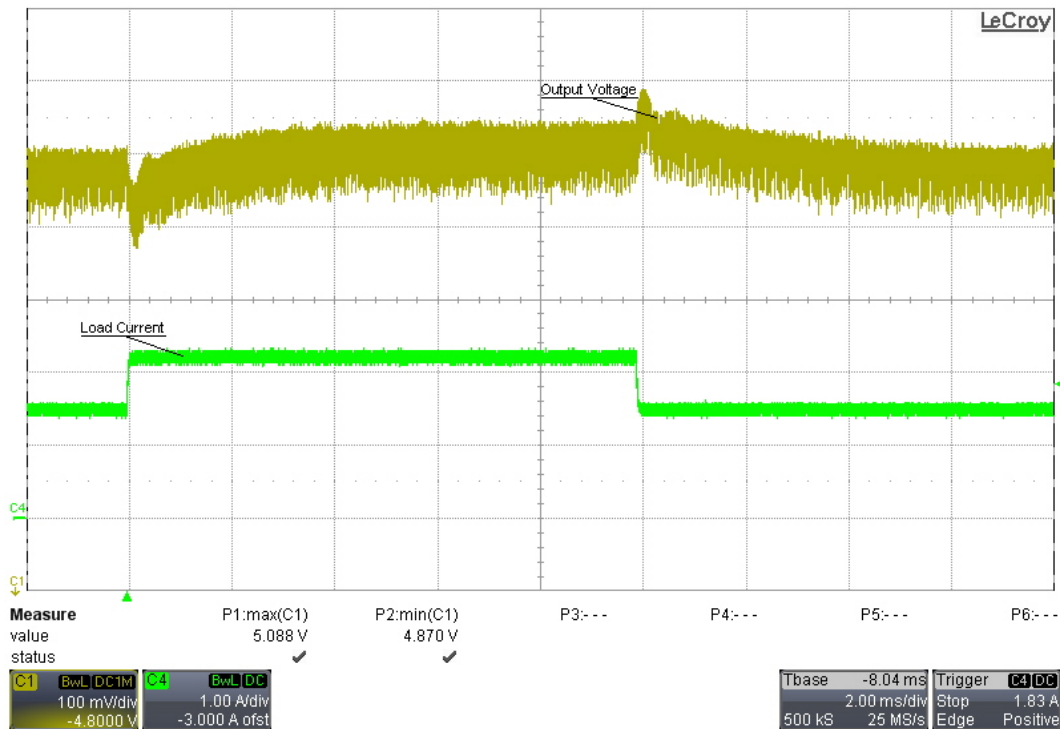
9.3 25% to 50% Transient; 120VAC/60Hz Input



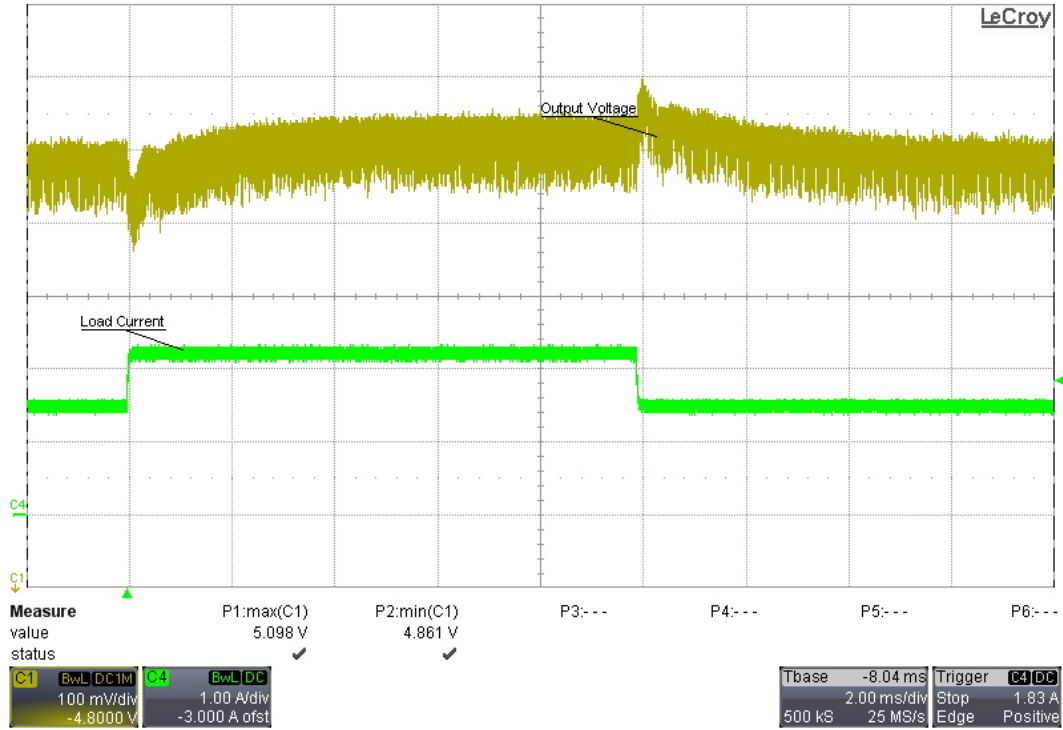
9.4 25% to 50% Transient; 230VAC/50Hz Input



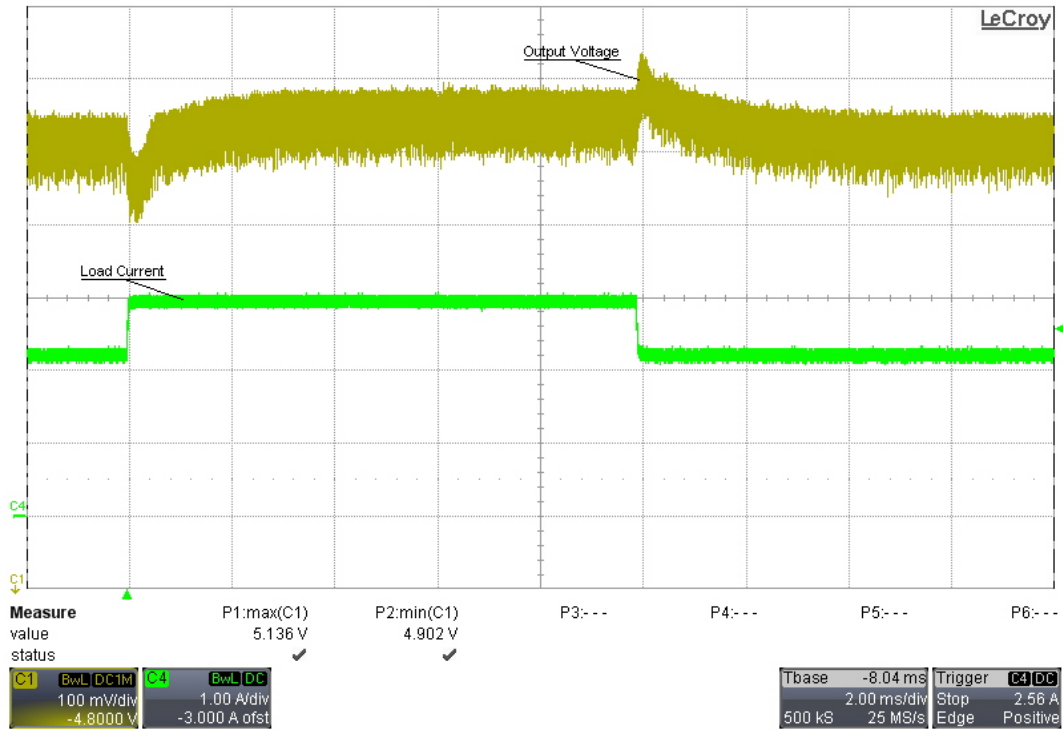
9.5 50% to 75% Transient; 120VAC/60Hz Input



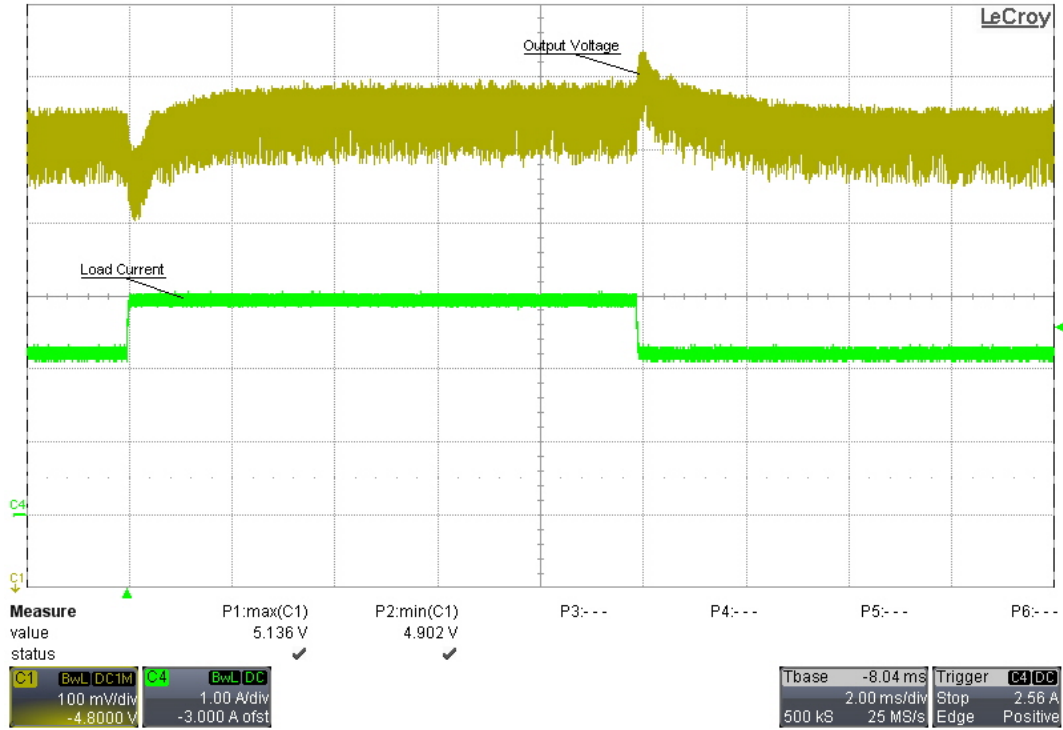
9.6 50% to 75% Transient; 230VAC/50Hz Input



9.7 75% to 100% Transient; 120VAC/60Hz Input



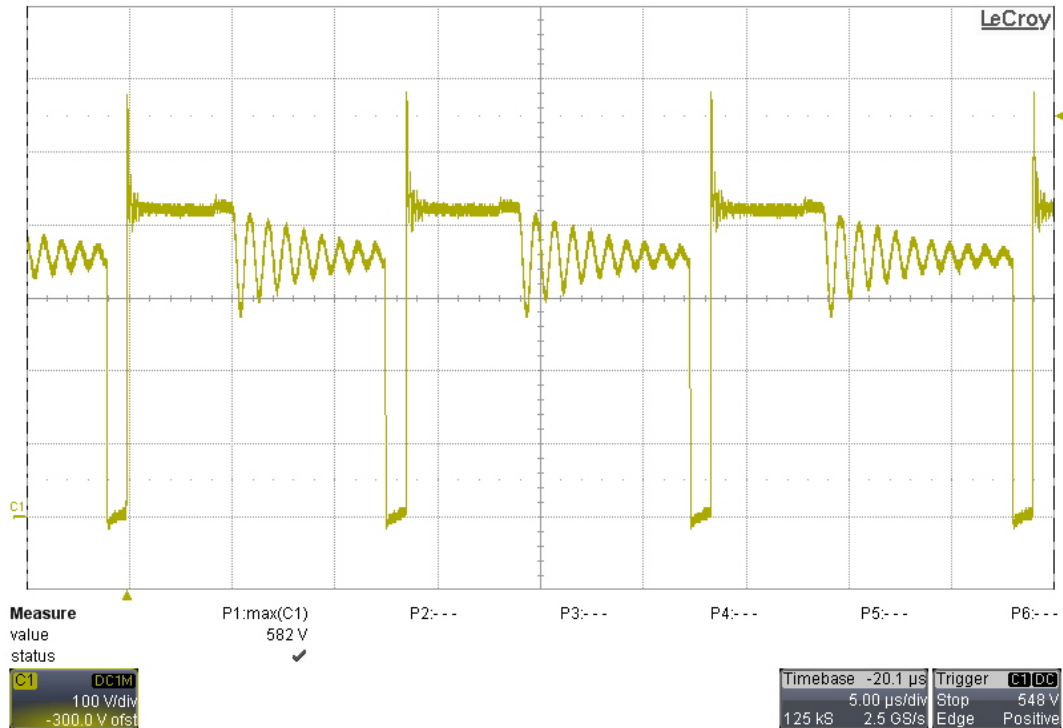
9.8 75% to 100% Transient; 230VAC/50Hz Input



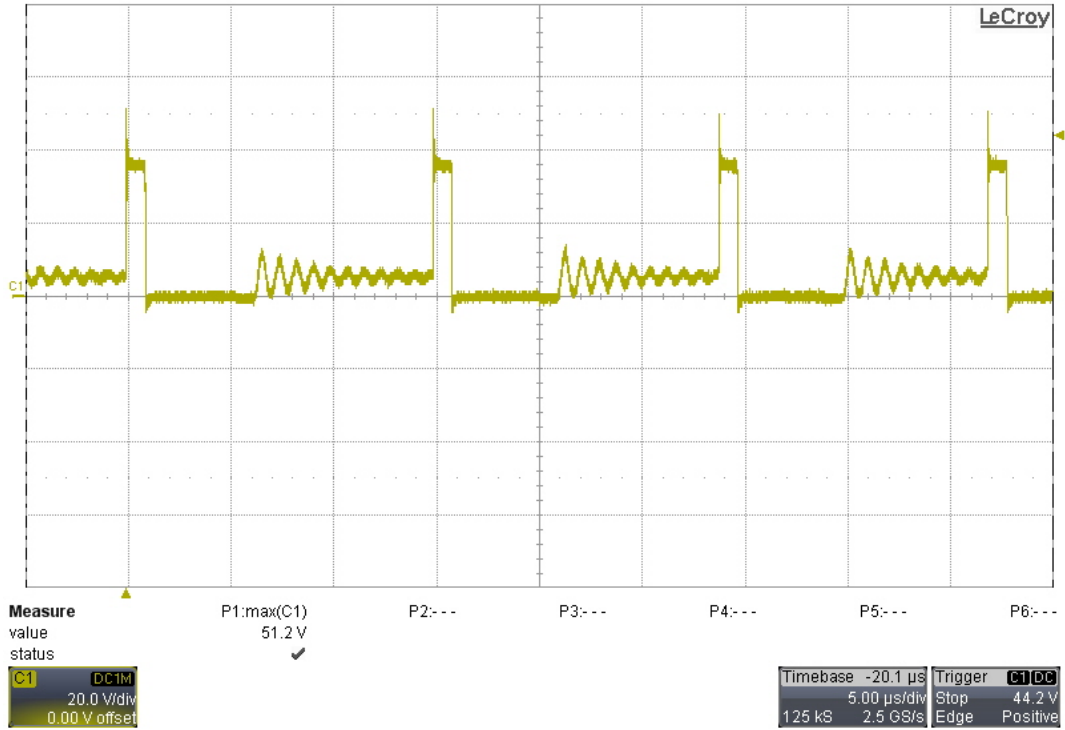
10 Switching Waveforms

The input was 265VAC/50Hz, and the output was loaded with 3A.

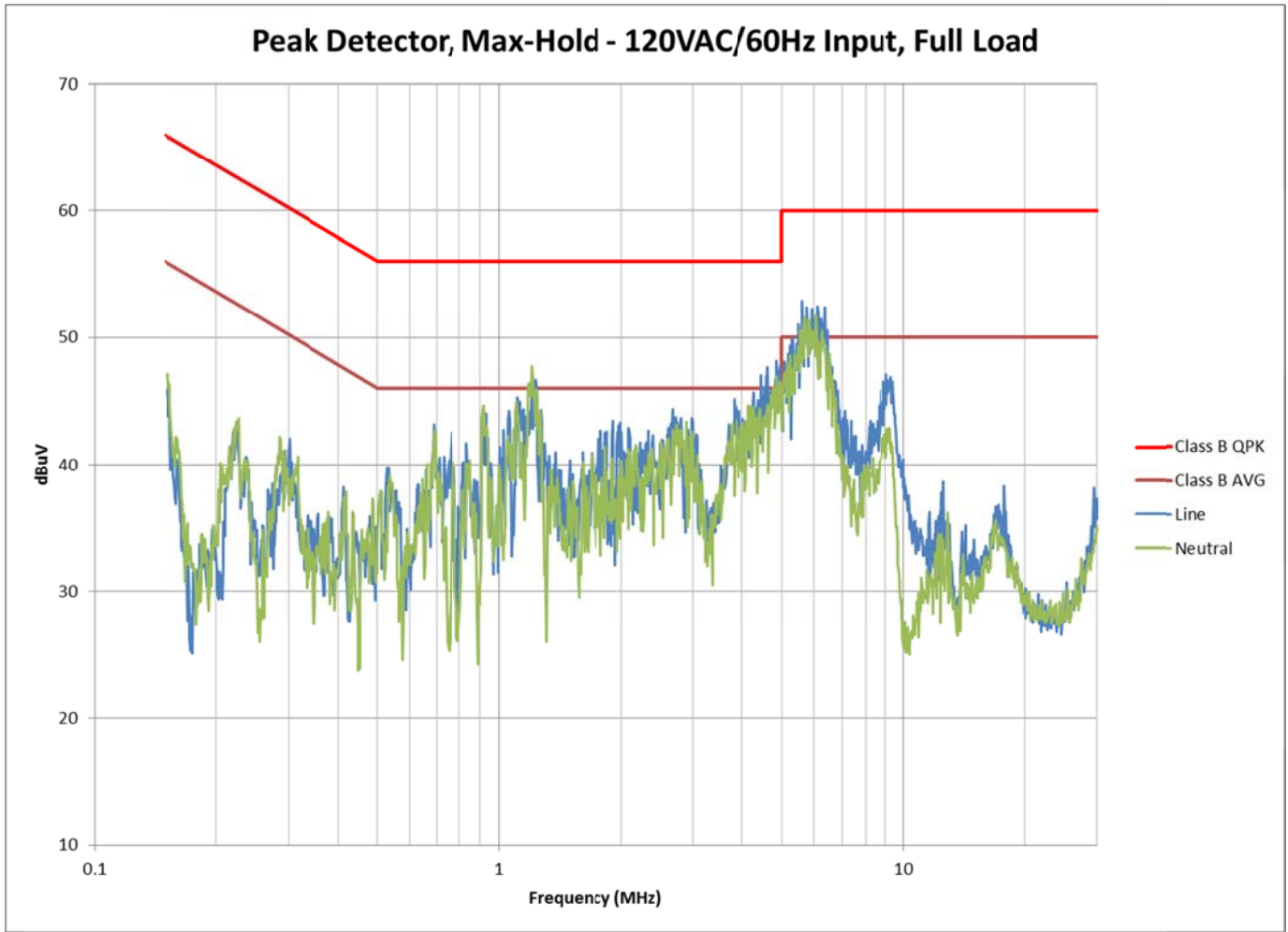
10.1 Drain of Primary FET – Q1

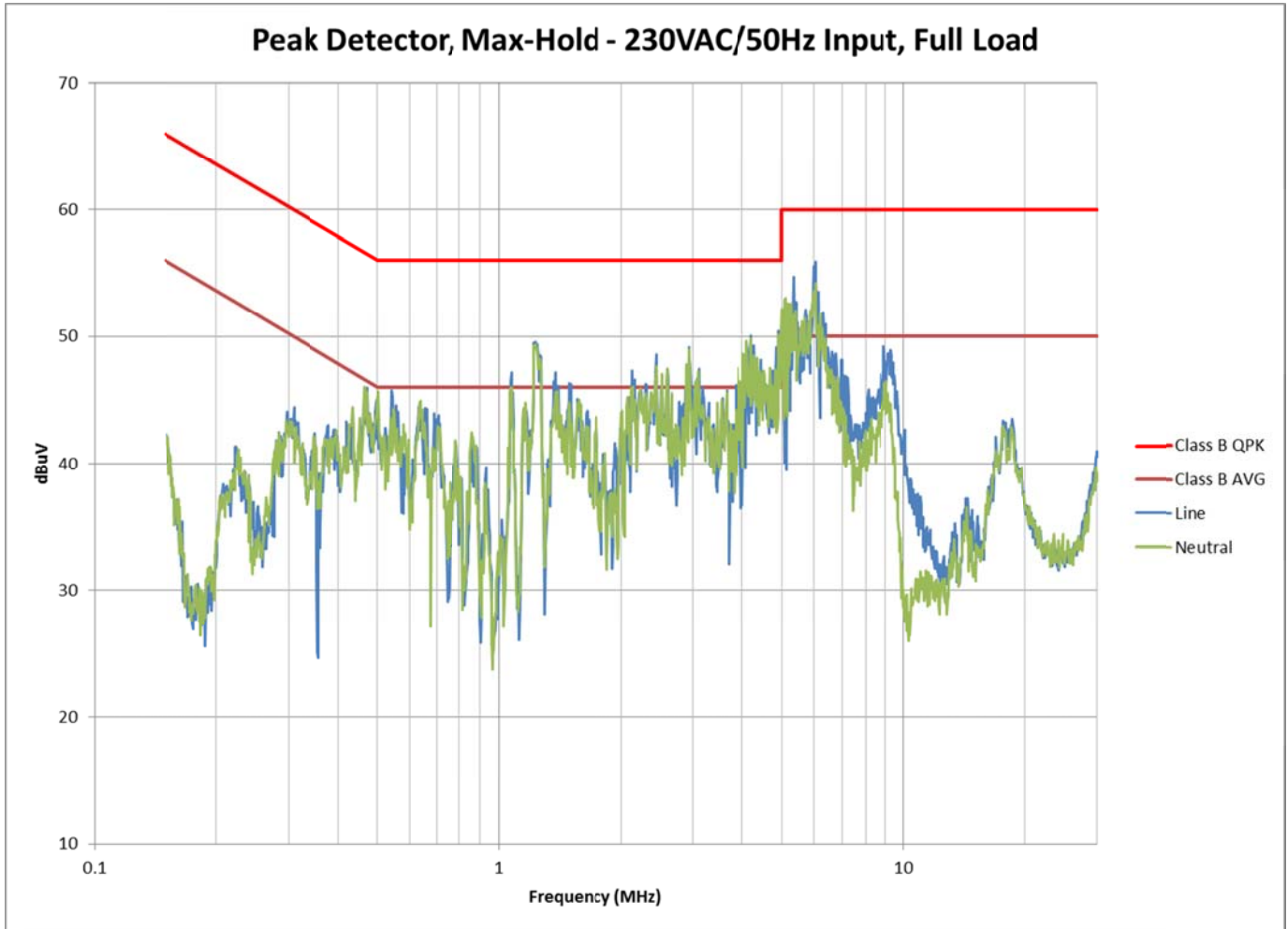


10.2 Drain of Synchronous Rectifier – Q2



11 Conducted Emissions





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