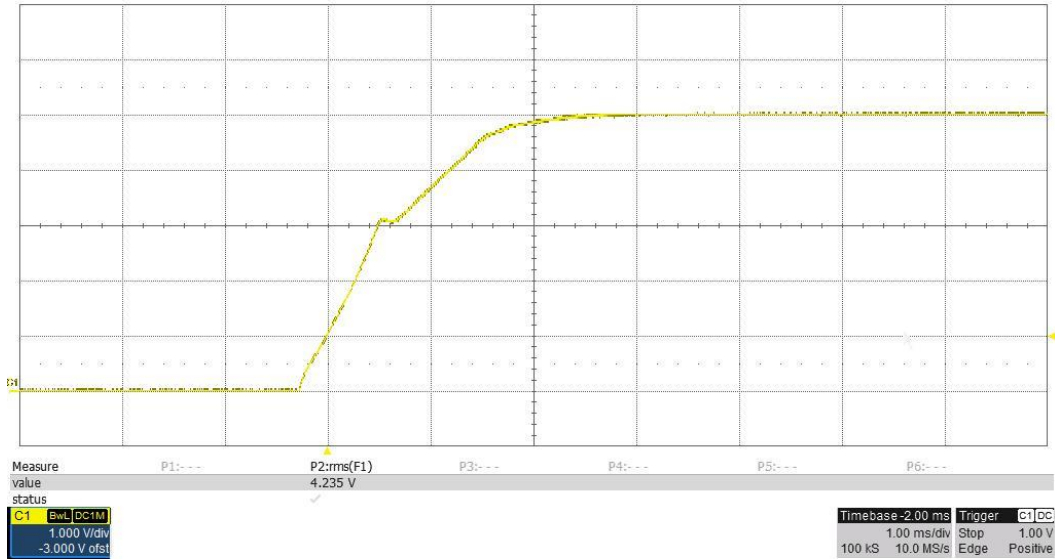
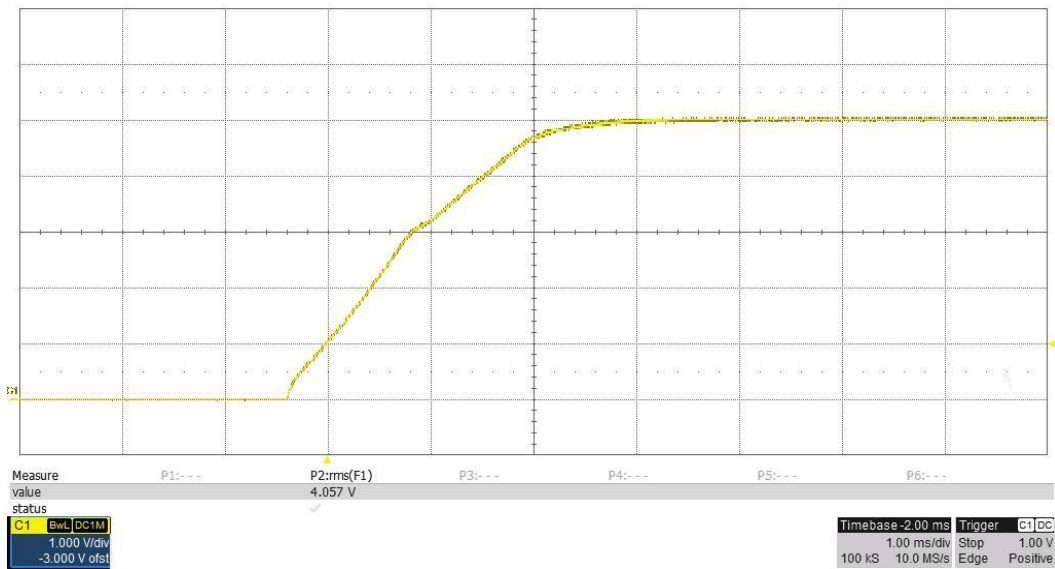


1 Startup

Output voltage startup waveform, 0A load
1V/ div, 1mS/ div

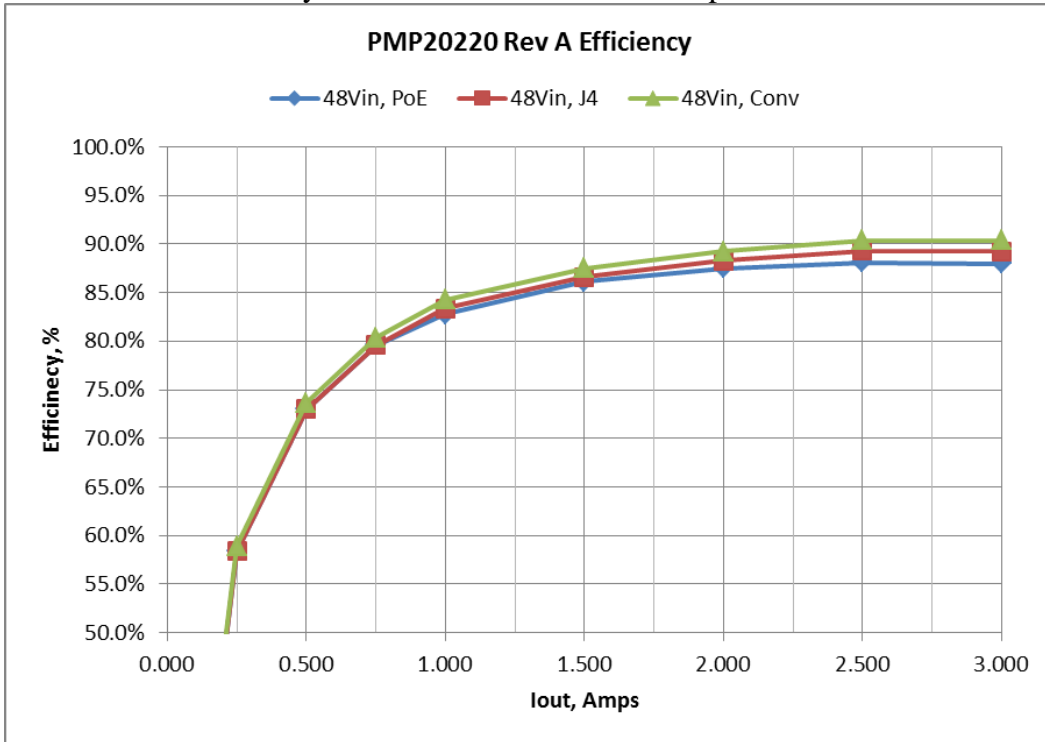


Output voltage startup waveform, 3A load
1V/ div, 1mS/ div



2 Efficiency

The converter efficiency is shown below with a 48V input.

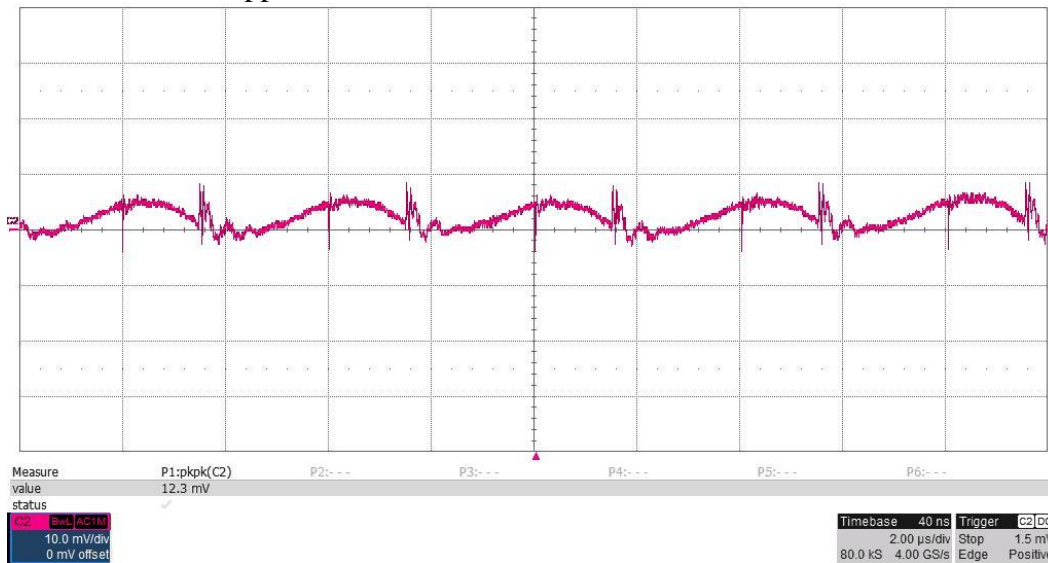


3 Output Ripple Voltage

Output ripple voltage across C18

10mV/div, 2uS/div

Measured 12.3mVpp

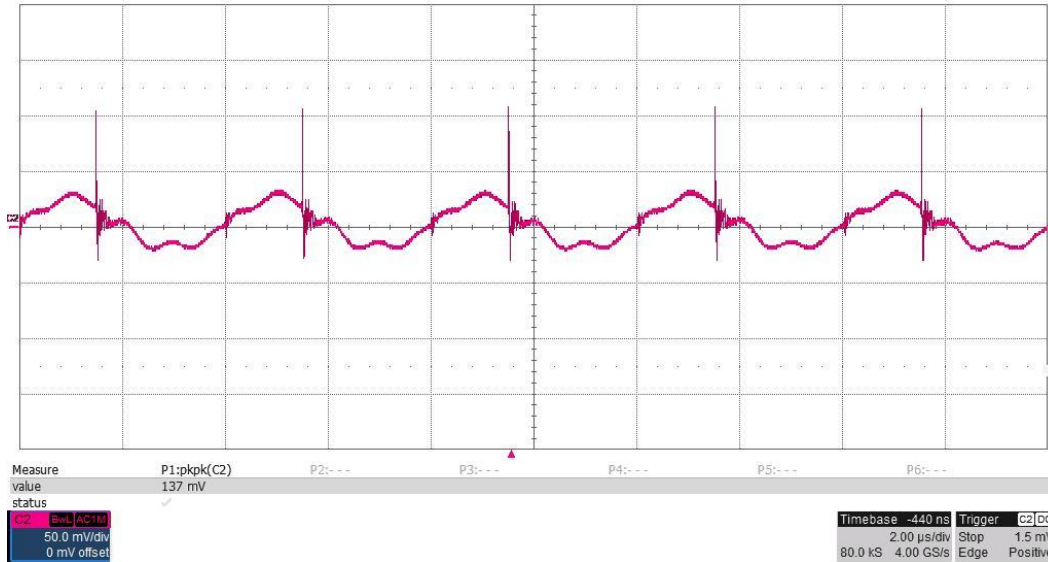


4 Input Ripple Voltage

Input ripple voltage across C12

50mV/div, 2uS/div

Measured 137mVpp



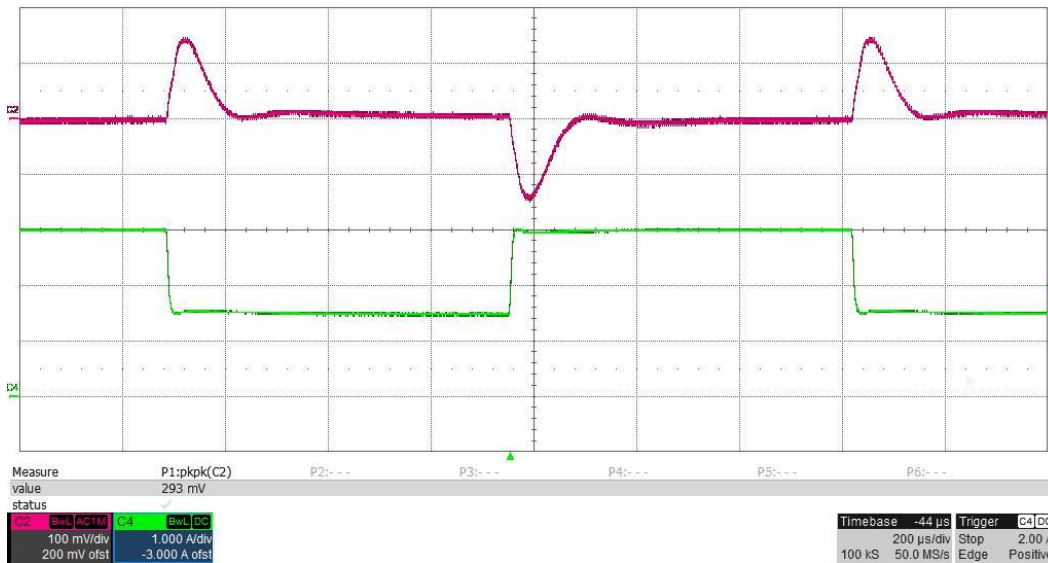
5 Load Transients

Output voltage response (ac coupled)

1.5A to 3A load step, 250mA/usec slew rate

100mV/div, 1A/div, 200uS/div

Measured 293mVpp

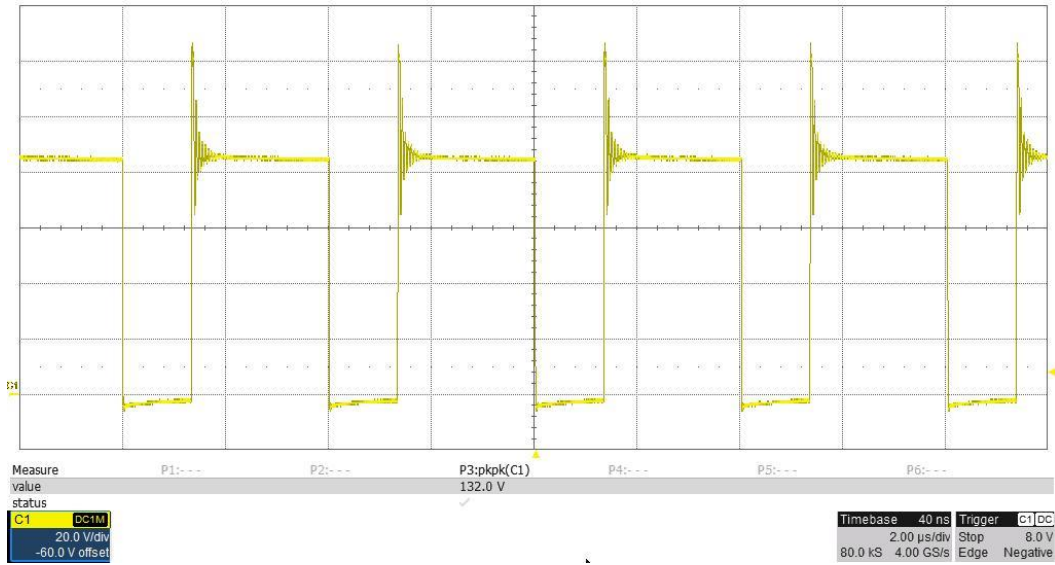


6 Switch Node Waveforms

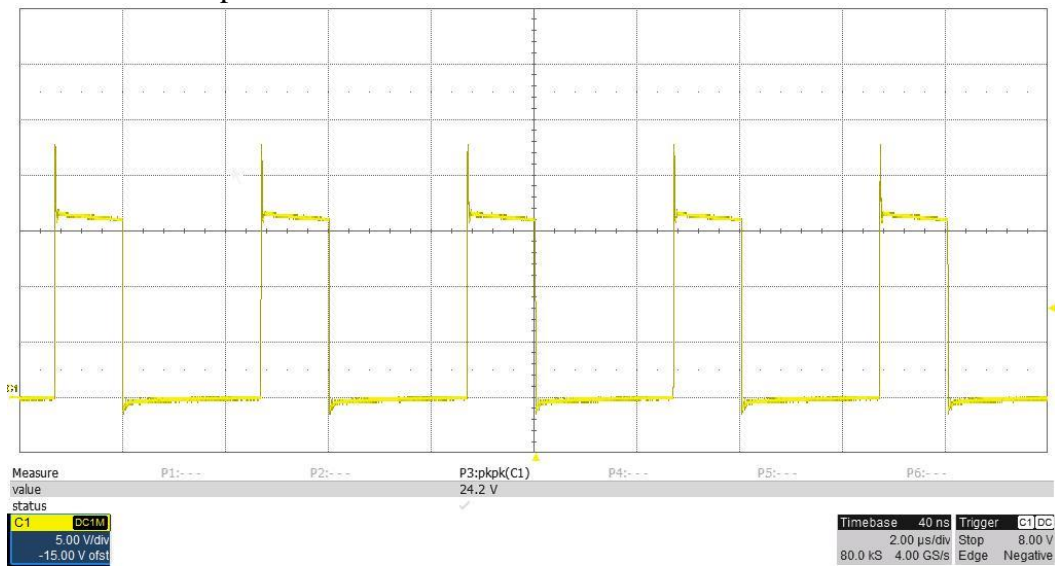
Drain voltage of Q1, 57V input and 3A load.

PMP20220 Test Results

20V/ div, 2.00uS/ div, 750MHz bandwidth
Measured 132Vpeak



Drain voltage of Q1, 57V input and 3A load.
5V/ div, 2.00uS/ div, 750MHz bandwidth
Measured 24.2Vpeak



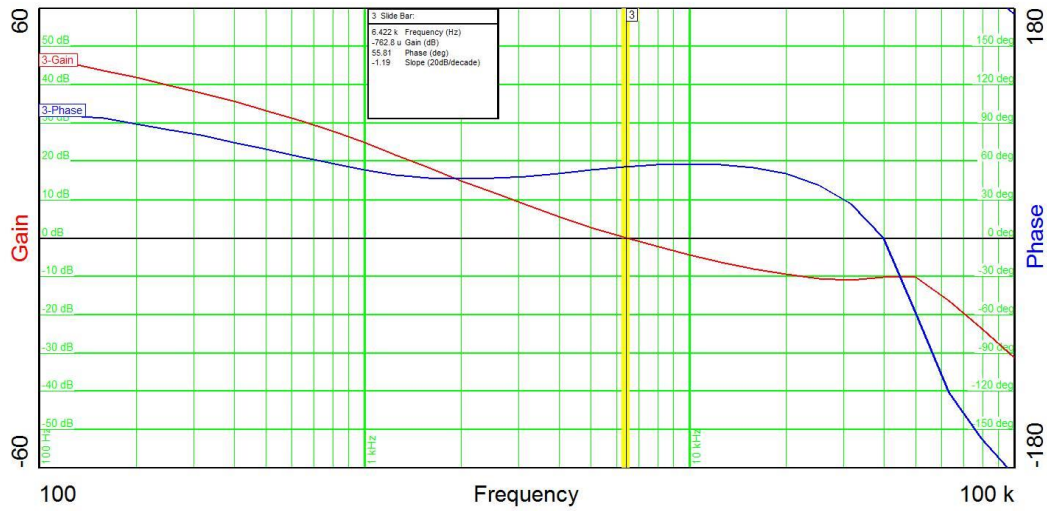
7 Control Loop Gain / Stability

The converter's loop response with a 48V input and 5V/3A output is shown below.

Band Width = 6.422KHz

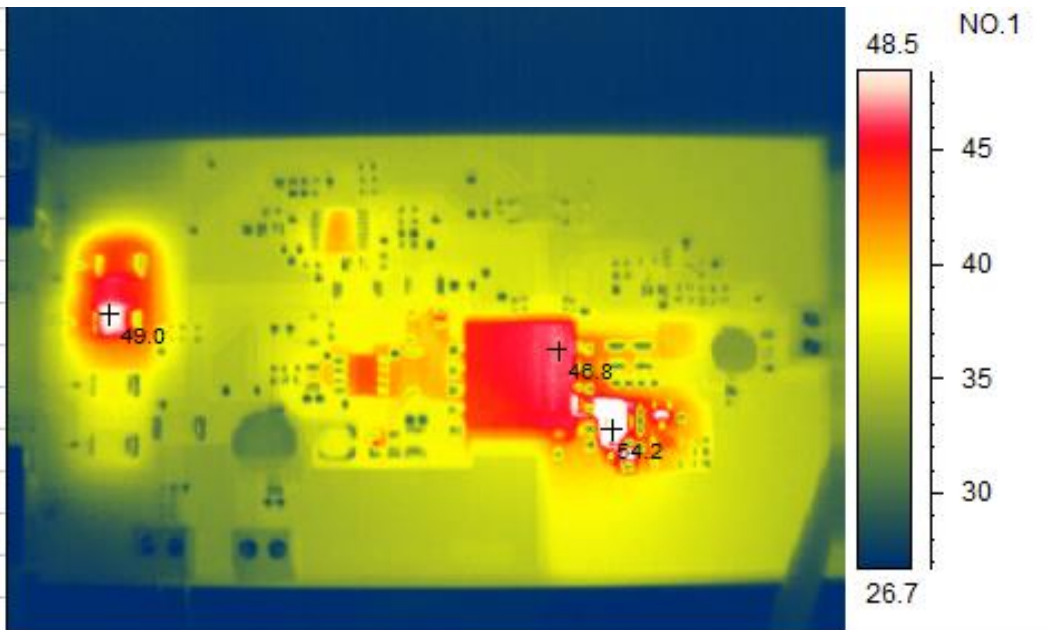
Phase Margin = 55.81 degrees

Gain Margin=10dB



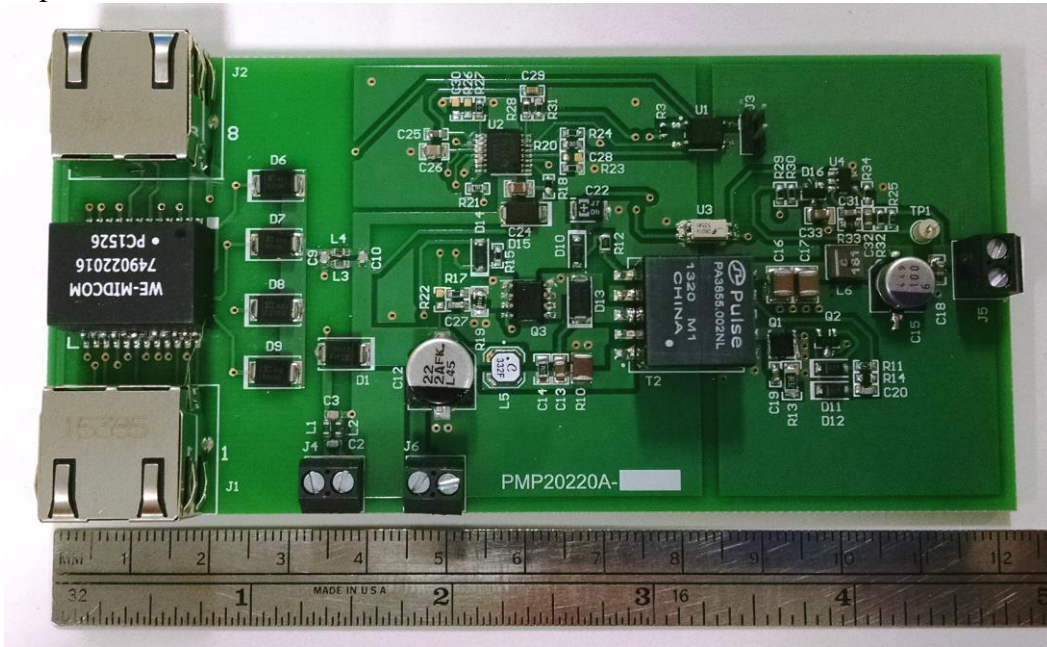
8 Thermal Image

The thermal image below shows operation at 48V input and 5V/3A output with no airflow

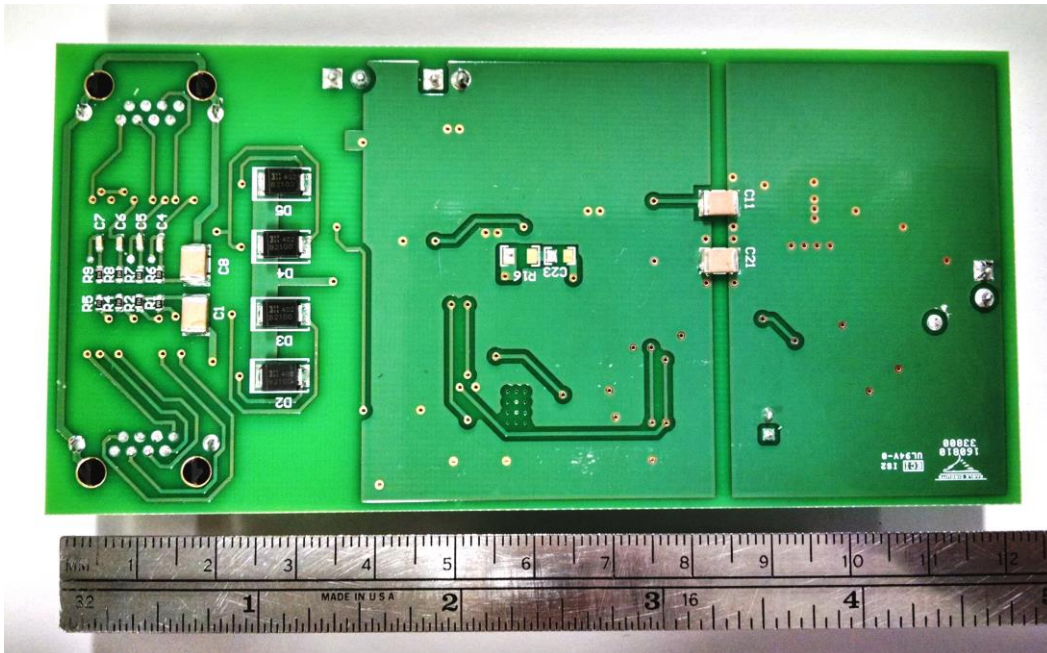


9 Photo

Top:



Bottom:



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