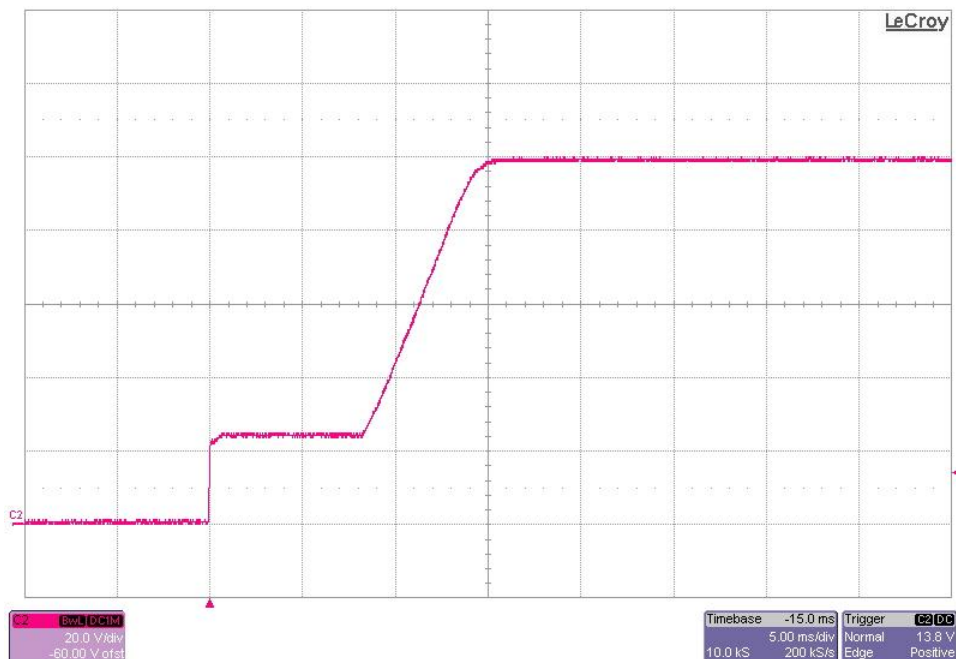
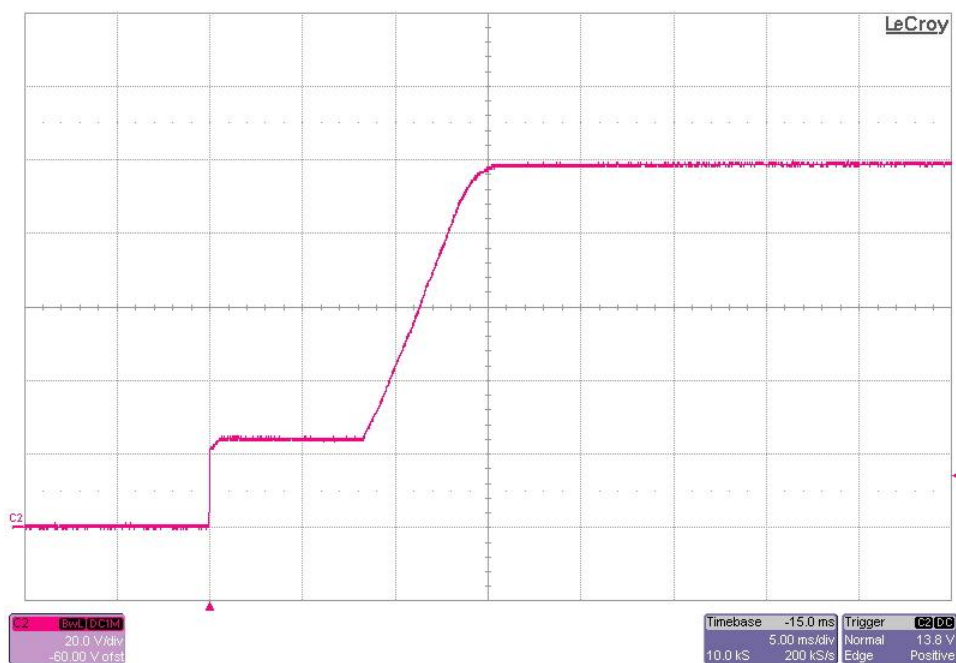


1 Startup

The photo below shows the output voltage startup waveform after the application of 24V in. The 100V output was loaded to 0A. (20V/DIV, 5mS/DIV)

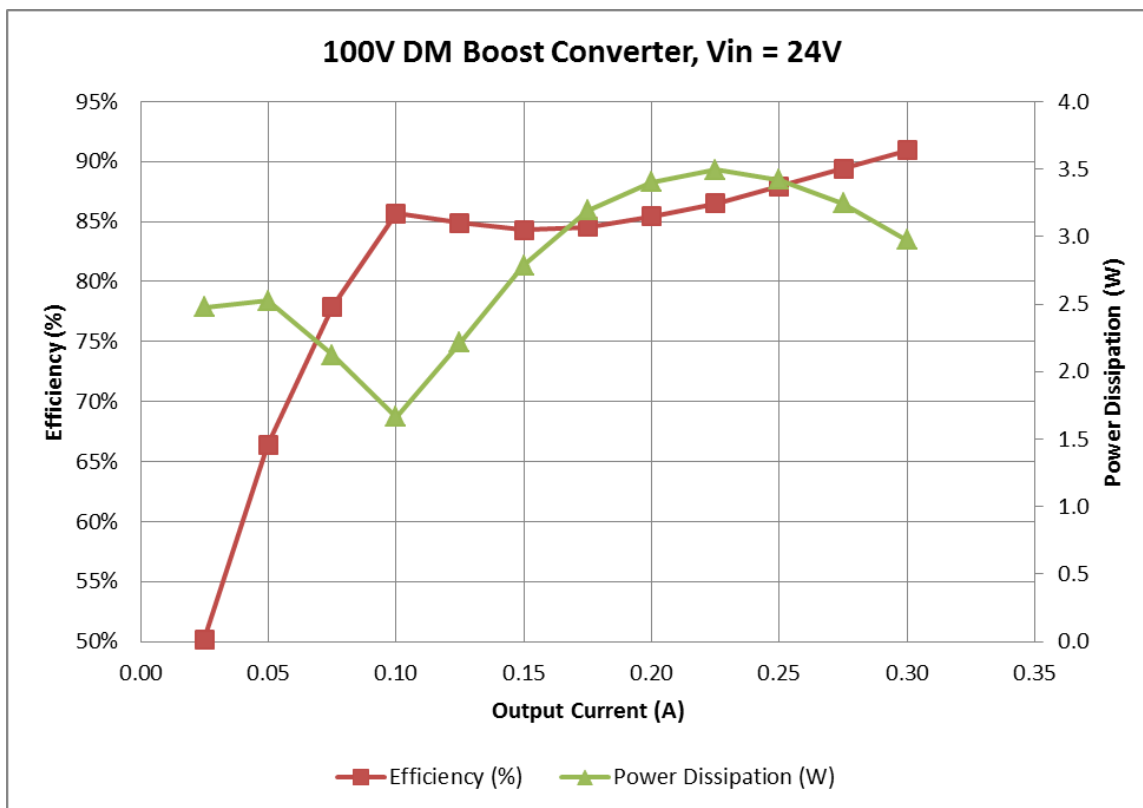


The photo below shows the output voltage startup waveform after the application of 24V in. The 100V output was loaded to 280mA. (20V/DIV, 5mS/DIV)



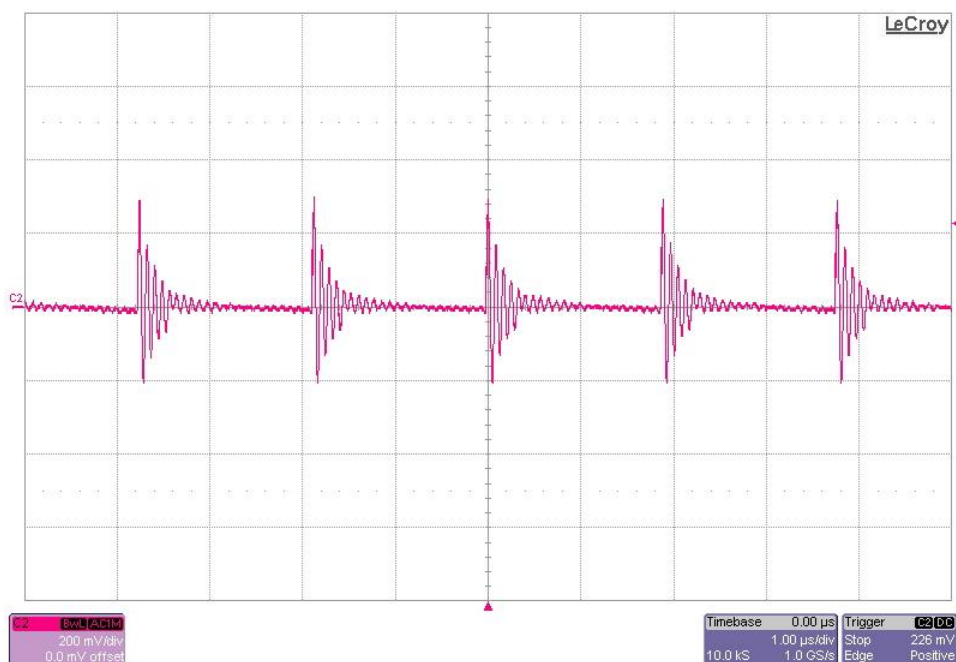
2 Efficiency

The boost converter efficiency is shown below.

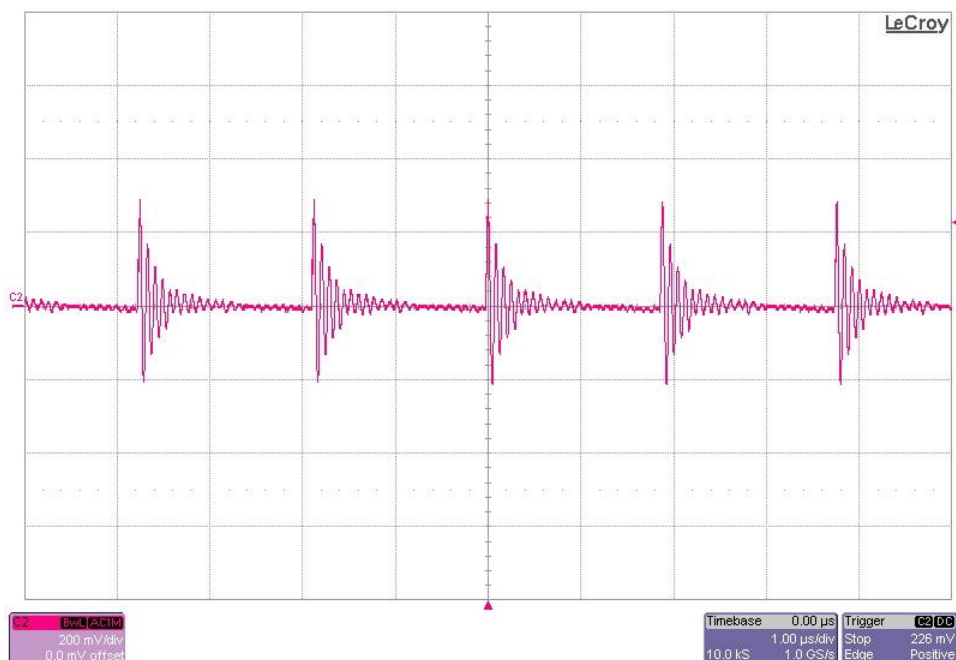


3 Output Ripple Voltage

The 100V output ripple voltage is shown in the figure below. The image was taken with the output loaded to 280mA. The input voltage is set to 24V. (200mV/DIV, 1uS/DIV)

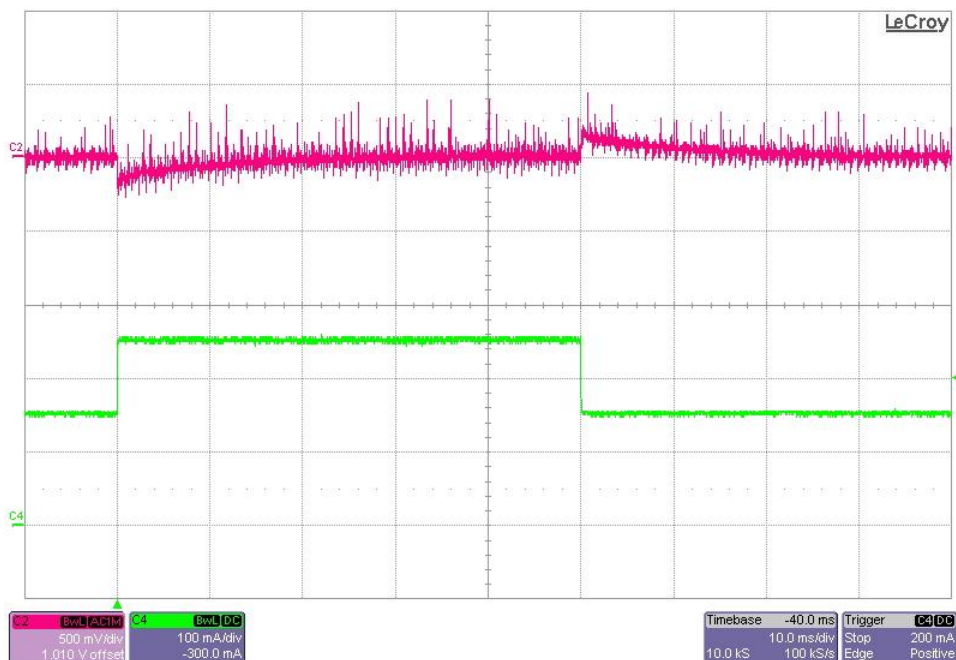


The 100V output ripple voltage is shown in the figure below. The image was taken with the output loaded to 280mA. The input voltage is set to 30V. (200mV/DIV, 1uS/DIV)

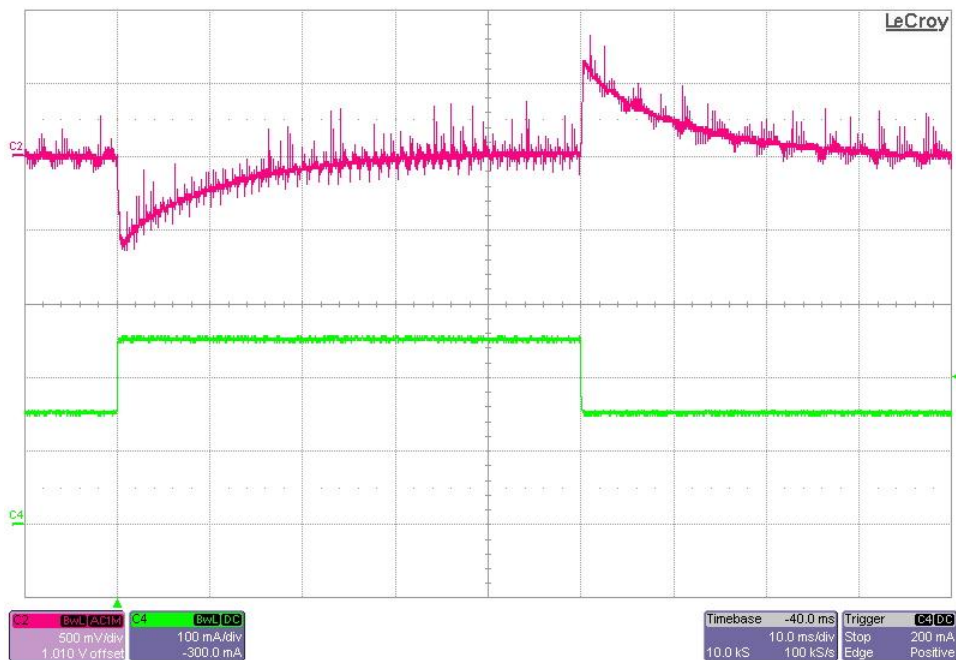


4 Load Transients

The photo below shows the output voltage (ac coupled) when the load current is stepped between 150mA and 250mA. $V_{in} = 24V$. (500mV/DIV, 100mA/DIV, 10mS/DIV)



The photo below shows the output voltage (ac coupled) when the load current is stepped between 150mA and 250mA. $V_{in} = 30V$. (500mV/DIV, 100mA/DIV, 10mS/DIV)



5 Switch Node Waveforms

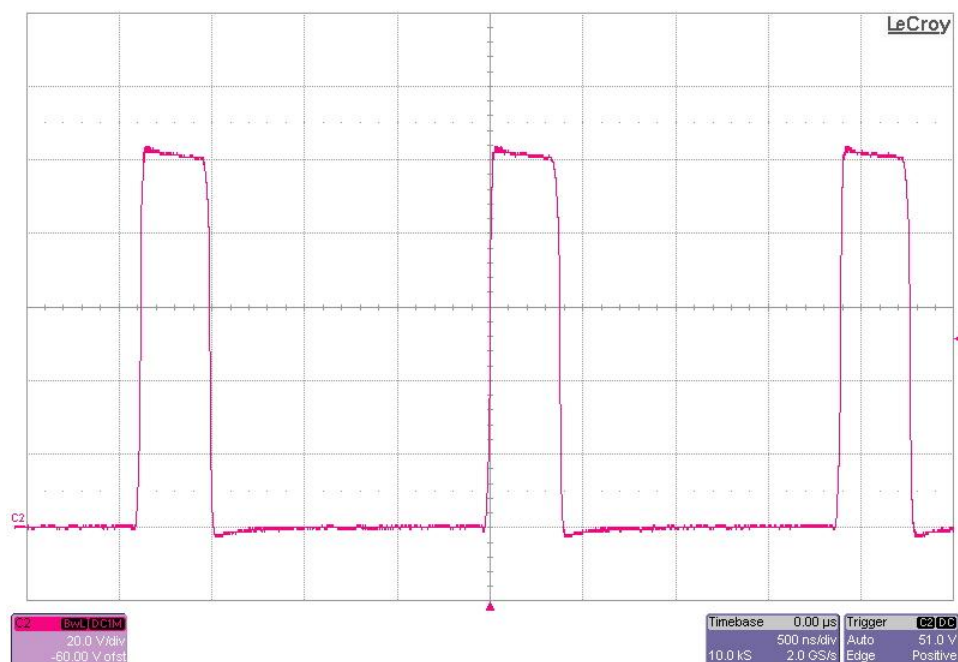
The photo below shows the FET switching voltage. The input voltage is 30V and the output is loaded to 280mA. (20V/DIV, 500nS/DIV)



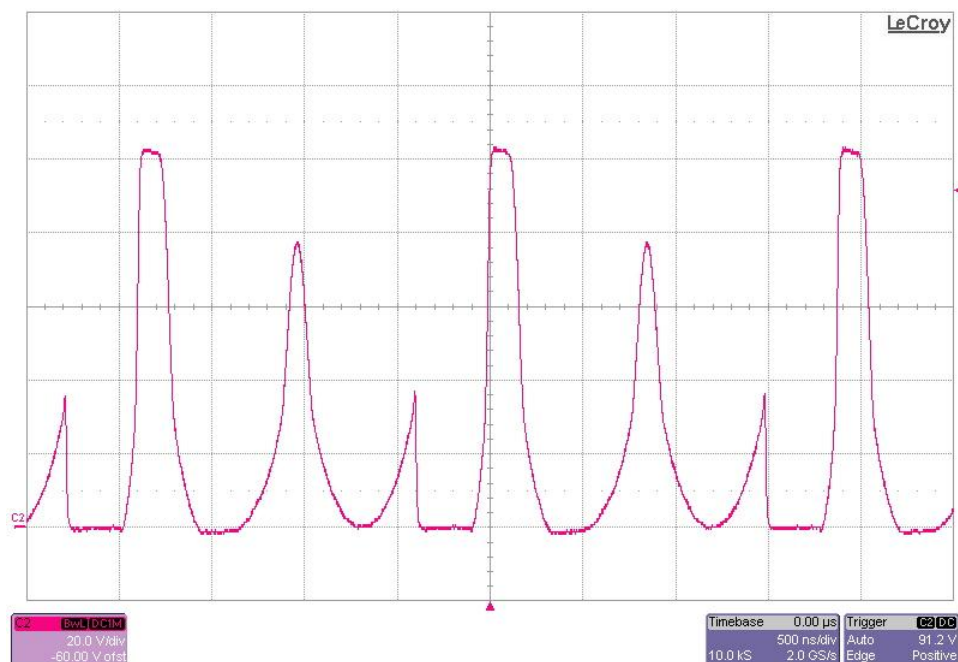
The photo below shows the FET switching voltage. The input voltage is 30V and the output is loaded to 25mA. (20V/DIV, 500nS/DIV)



The photo below shows the FET switching voltage. The input voltage is 20V and the output is loaded to 280mA. (20V/DIV, 500nS/DIV)



The photo below shows the FET switching voltage. The input voltage is 20V and the output is loaded to 25mA. (20V/DIV, 500nS/DIV)



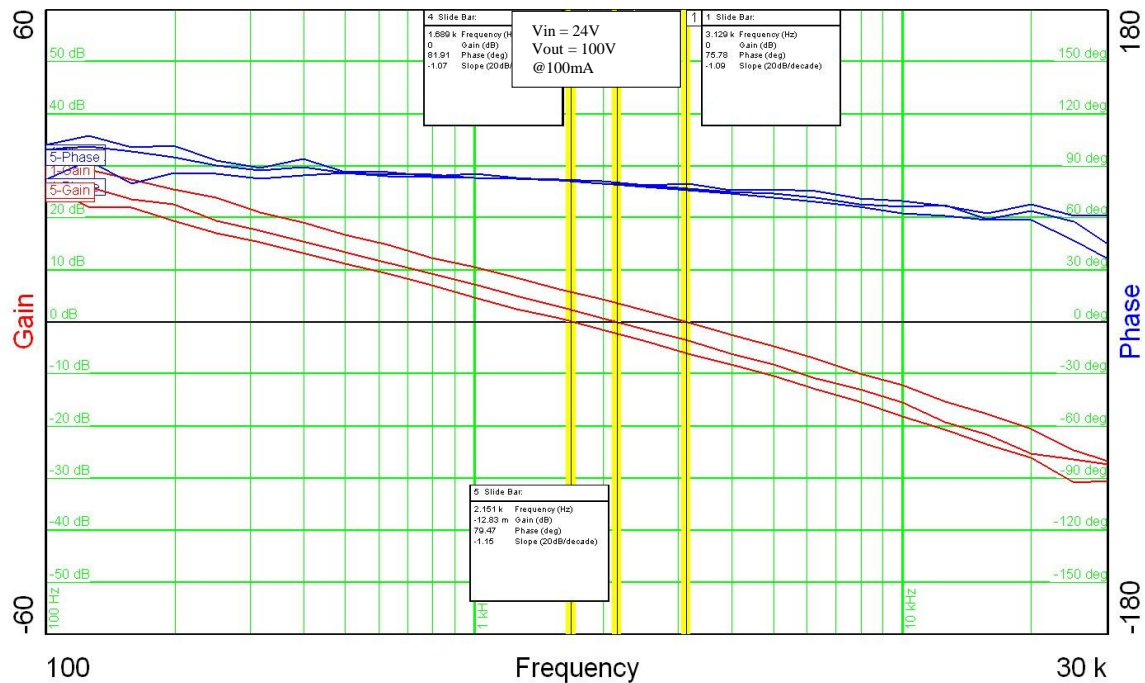
6 Control Loop Gain / Stability

The plot below shows the loop gain and phase margin with the output loaded to 50mA, 150mA, and 280mA. The input voltage was set to 24V.

Band Width = 3.13KHz,
Band Width = 2.15KHz,
Band Width = 1.69KHz,

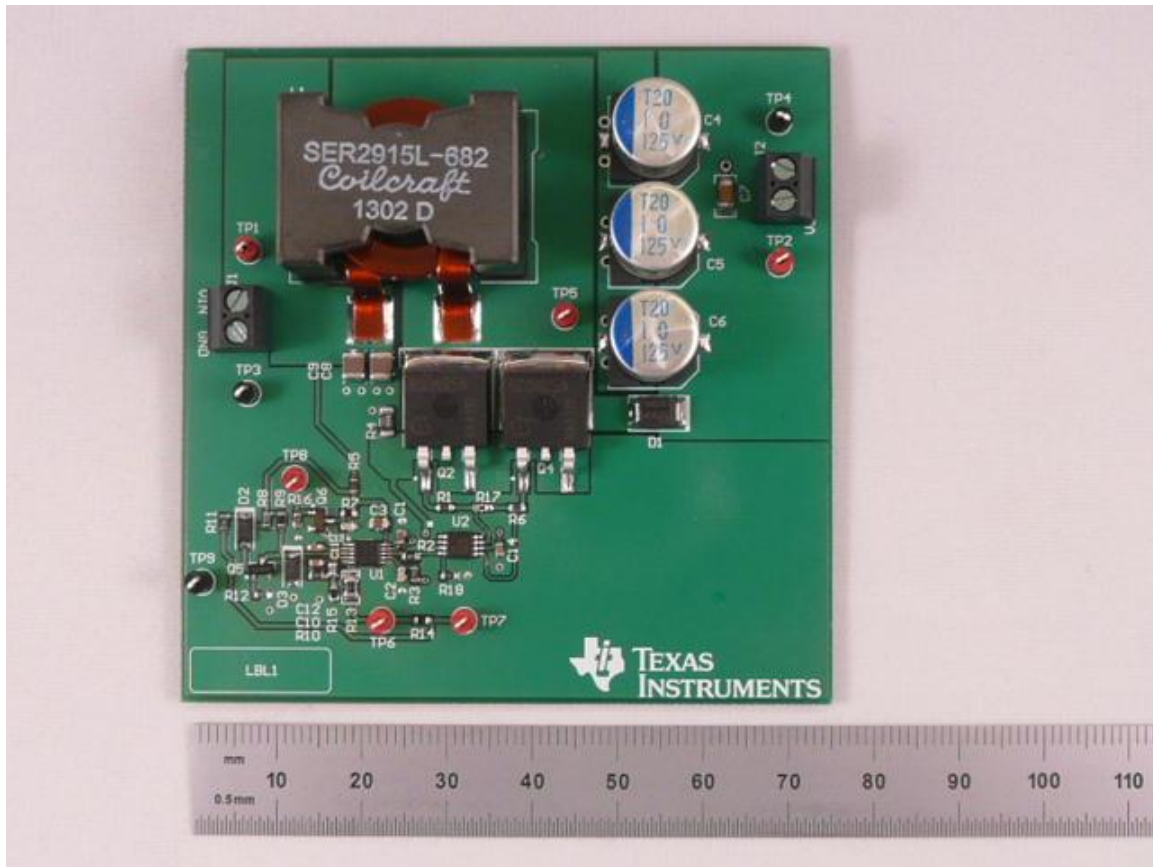
Phase Margin = 76 degrees
Phase Margin = 79 degrees
Phase Margin = 82 degrees

(100V@280mA)
(100V@150mA)
(100V@50mA)



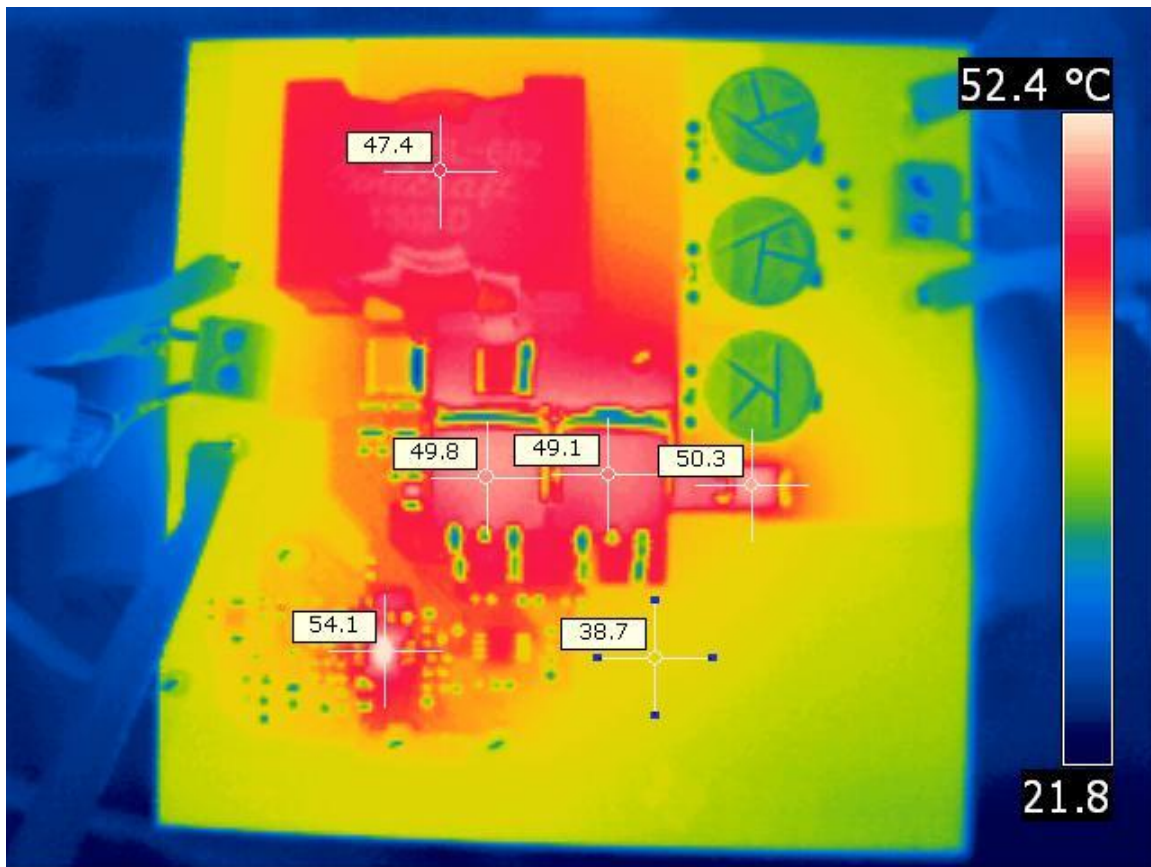
7 Photo

The photo below shows the PMP8913 REVB assy.



8 Thermal Image

A thermal image is shown below when operating in parallel at 24V input and 280mA output, with no airflow.



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