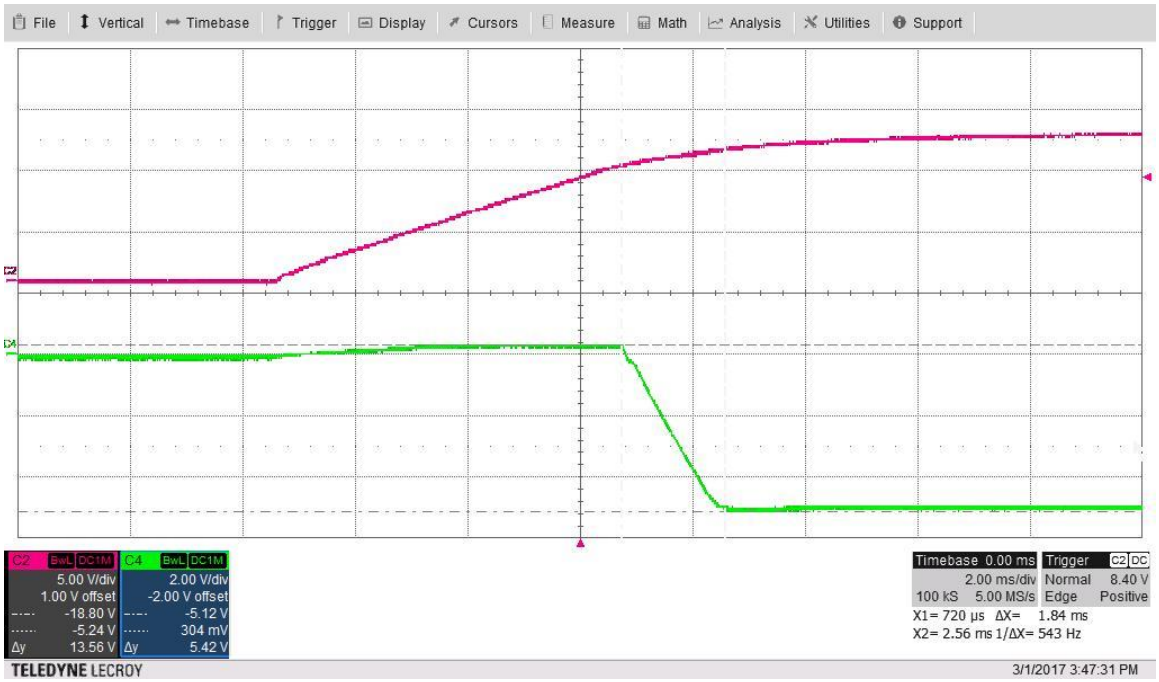
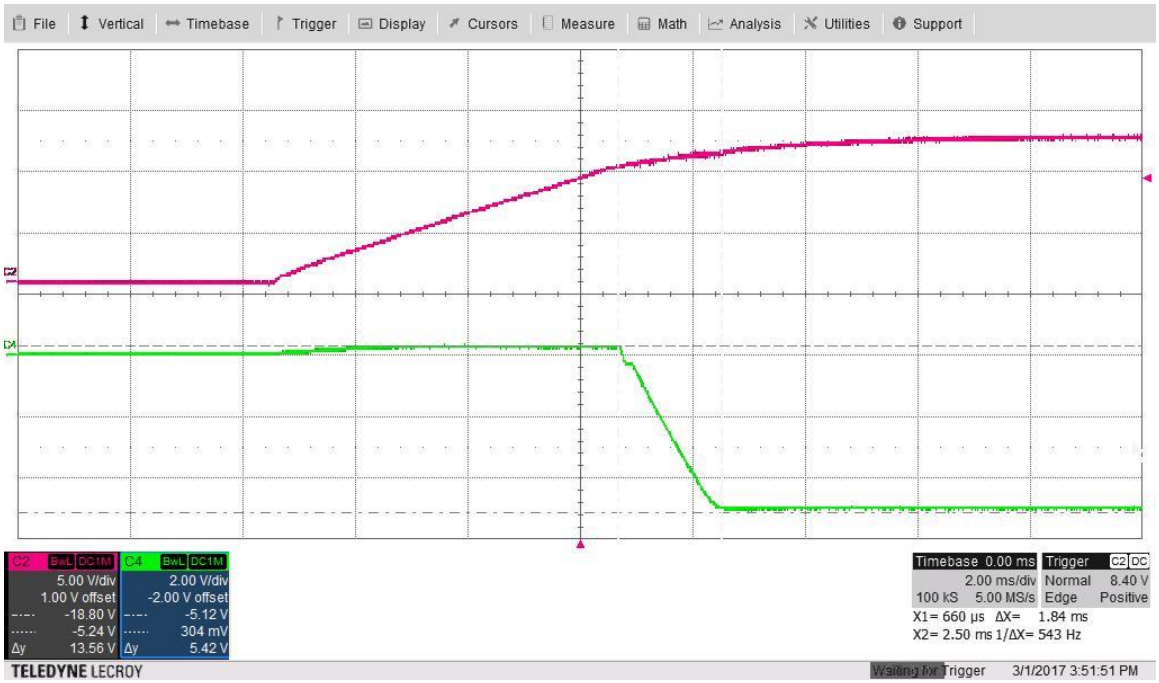
1 Startup & Shutdown

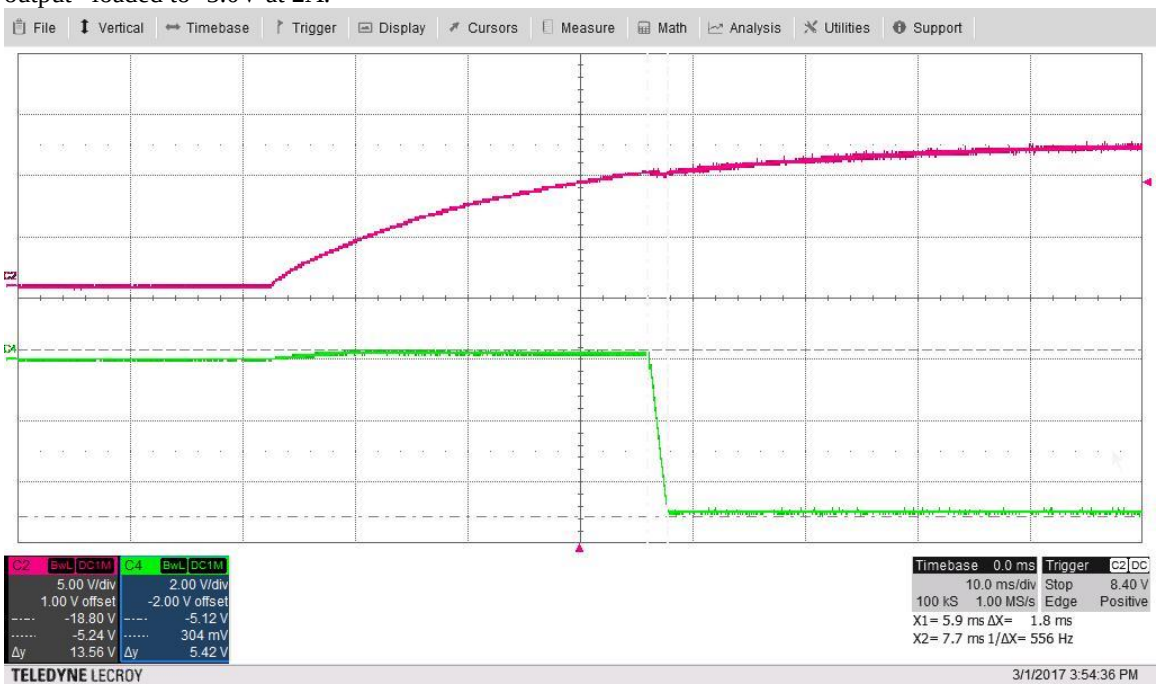
The photo below shows the output voltage startup waveform after the application of 12.0V in with the output loaded to -5.0V at 0A.



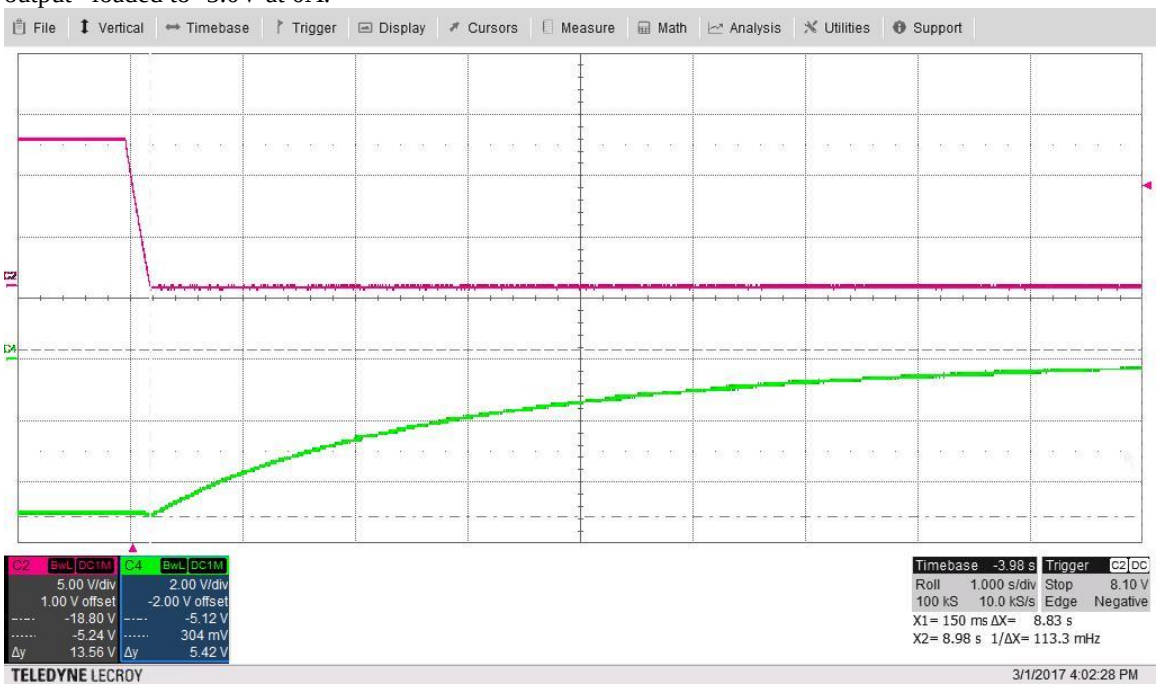
The photo below shows the output voltage startup waveform after the application of 12.0V in with the output loaded to -5.0V at 1A.



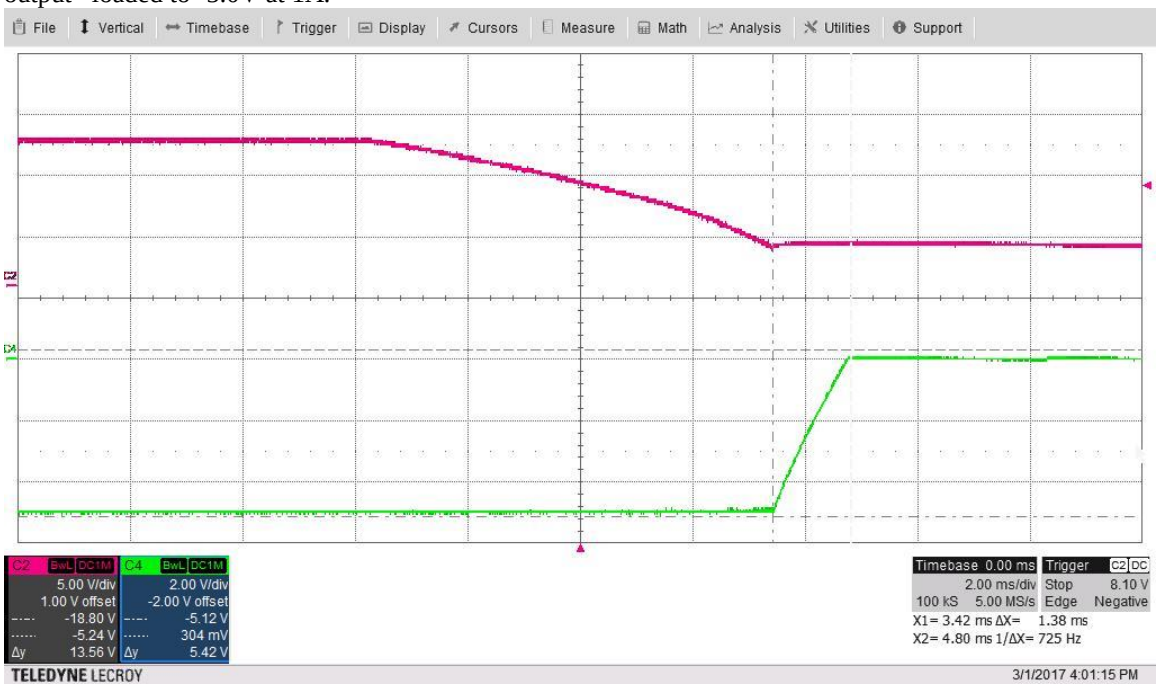
The photo below shows the output voltage startup waveform after the application of 12.0V in with the output loaded to -5.0V at 2A.



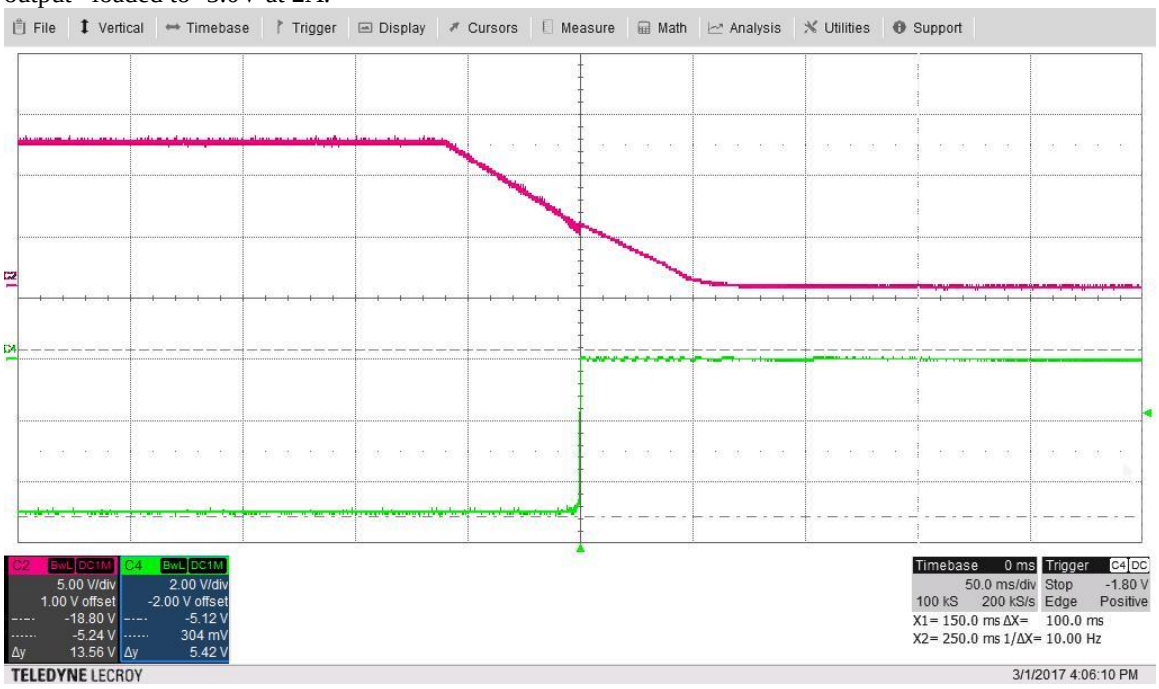
The photo below shows the output voltage shutdown waveform after the application of 12.0V in with the output loaded to -5.0V at 0A.



The photo below shows the output voltage shutdown waveform after the application of 12.0V in with the output loaded to -5.0V at 1A.

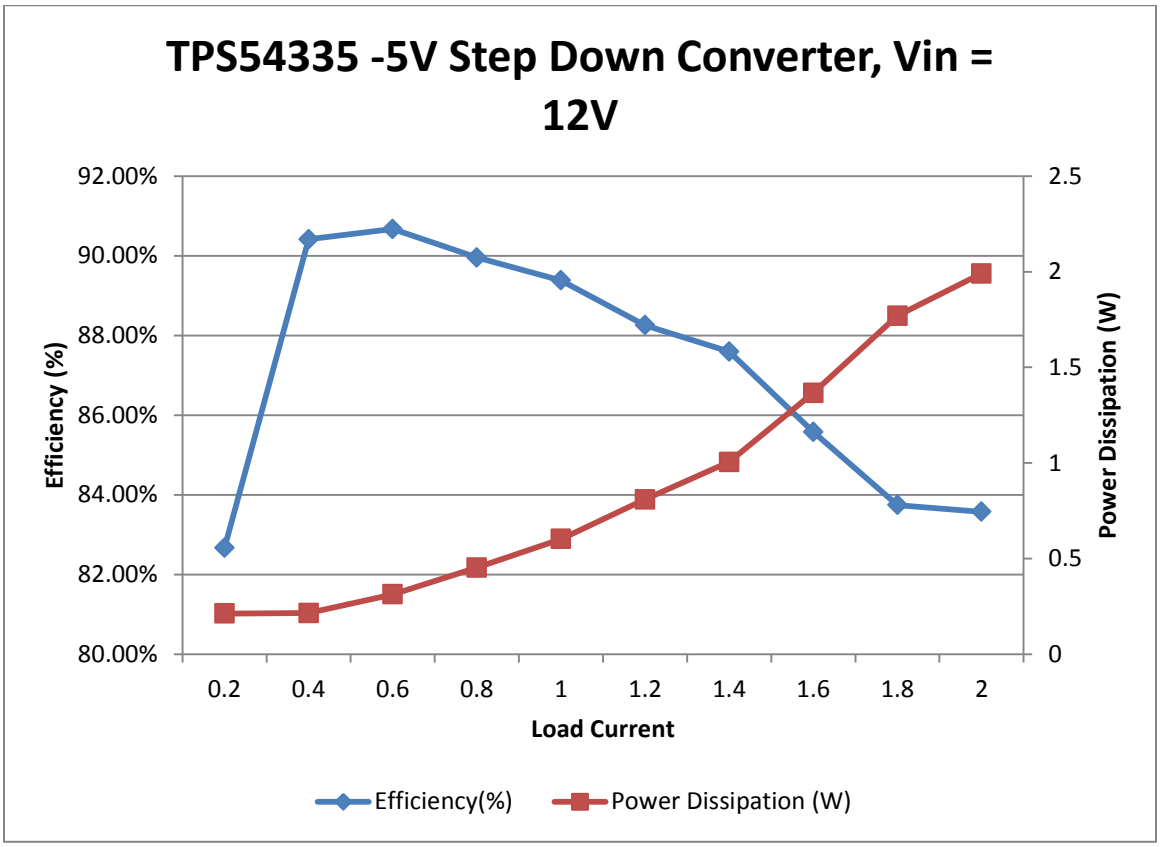


The photo below shows the output voltage shutdown waveform after the application of 12.0V in with the output loaded to -5.0V at 2A.



2 Efficiency

Converter efficiency for Vin = 12.0V, Vout = -5.0V

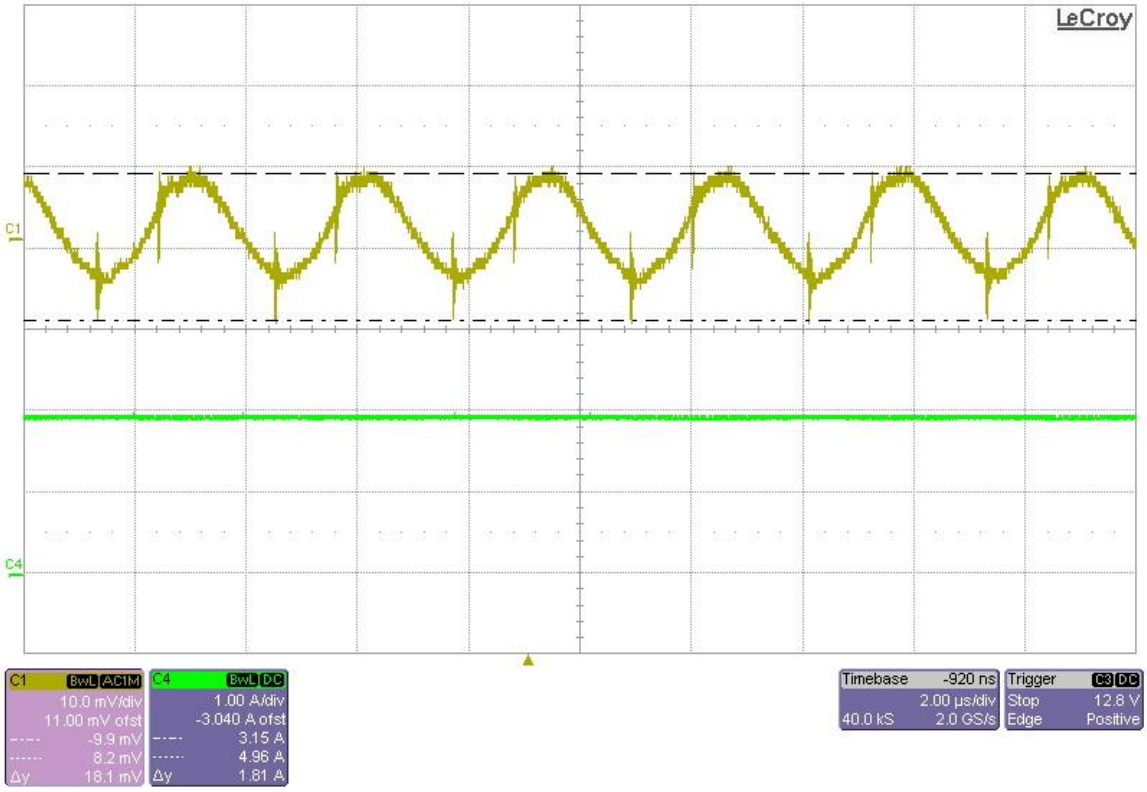


Peak efficiency of 90.67% at Iout = 0.6A.

3 Output Ripple Voltage

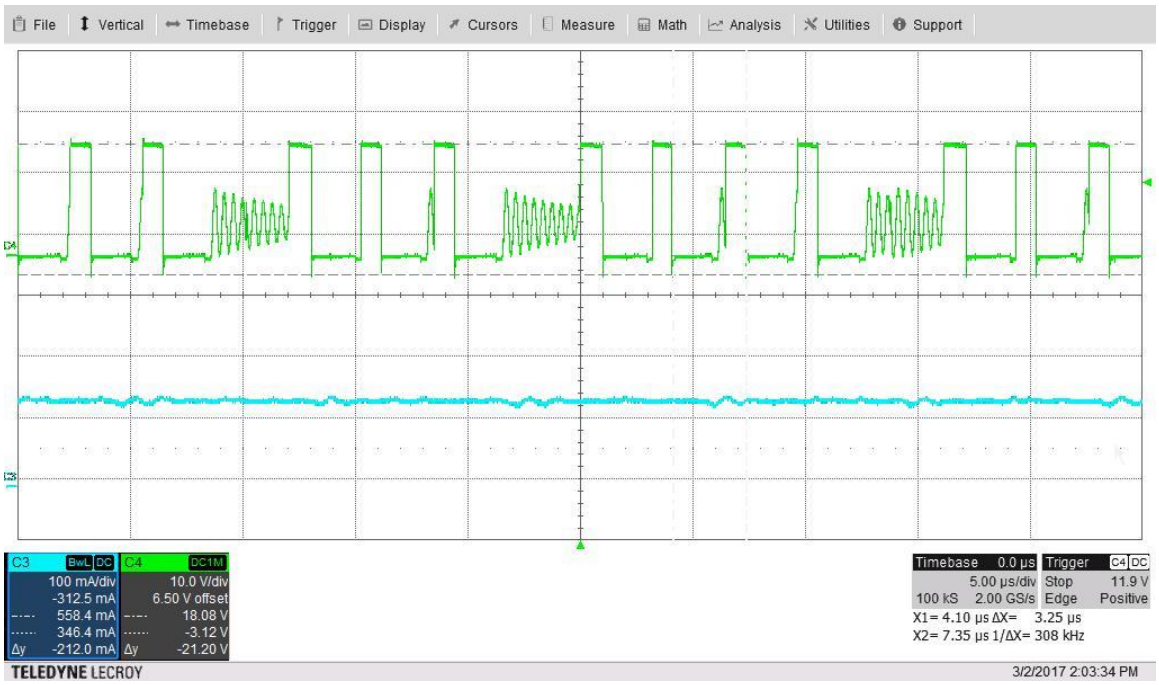
Peak voltage ripple (measured with Iout = 2A, including spikes at edges of switch node)

- Vout_pp is 18.1mV (0.362% of Vout = -5V).

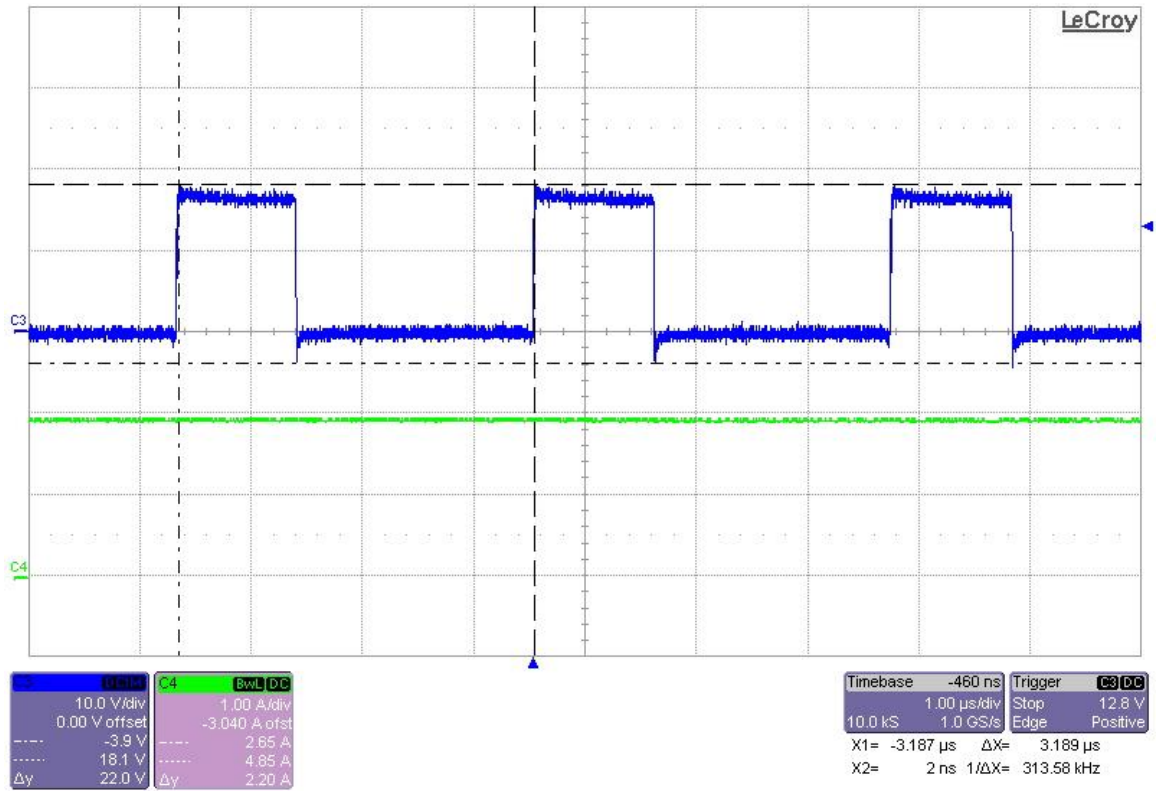


4 Switch Node

The photo below shows the switch node waveform with the -5.0V output loaded to 100mA

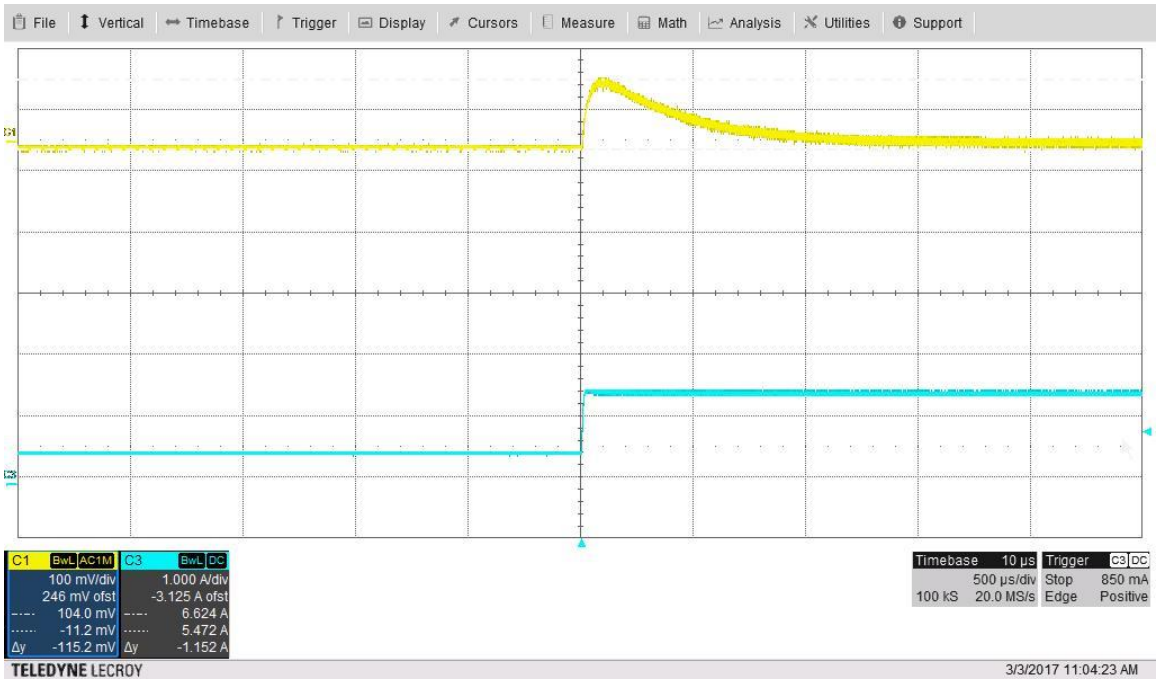


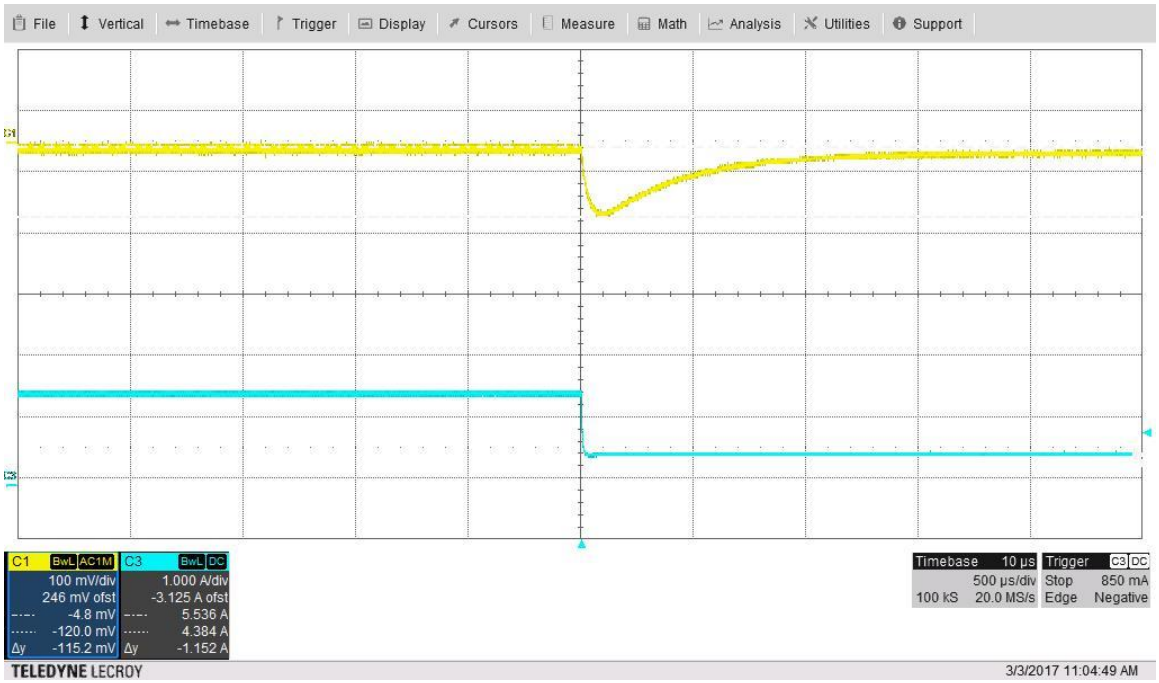
The photo below shows the switch node waveform with the -5.0V output loaded to 2A



5 Load Transients

The photos below show the -5.0V output voltage (ac coupled) when the load current is stepped between 0.5A and 1.5A (50% load step). Vin = 12V.

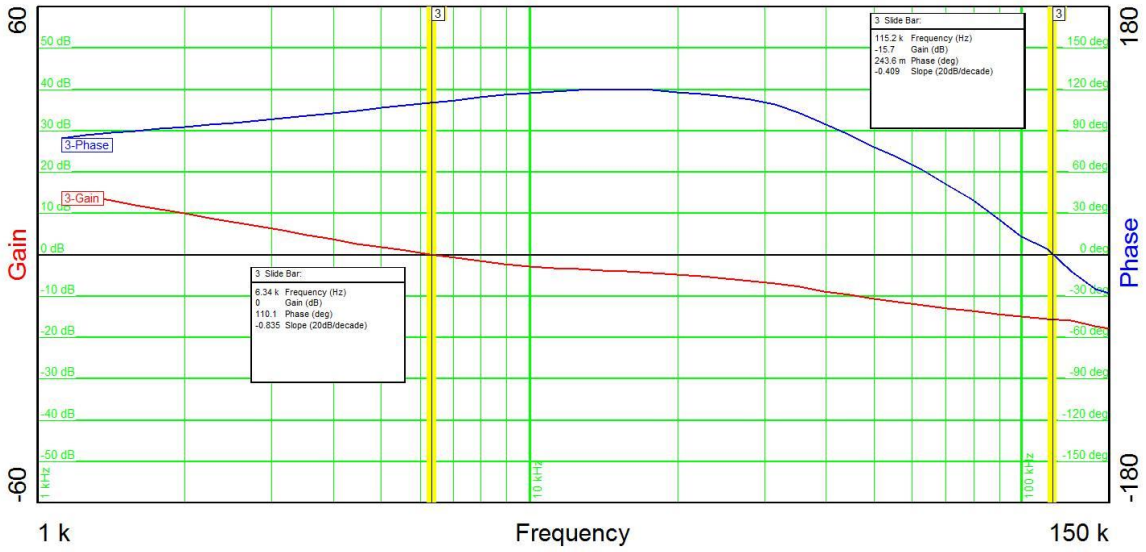




6 Control Loop

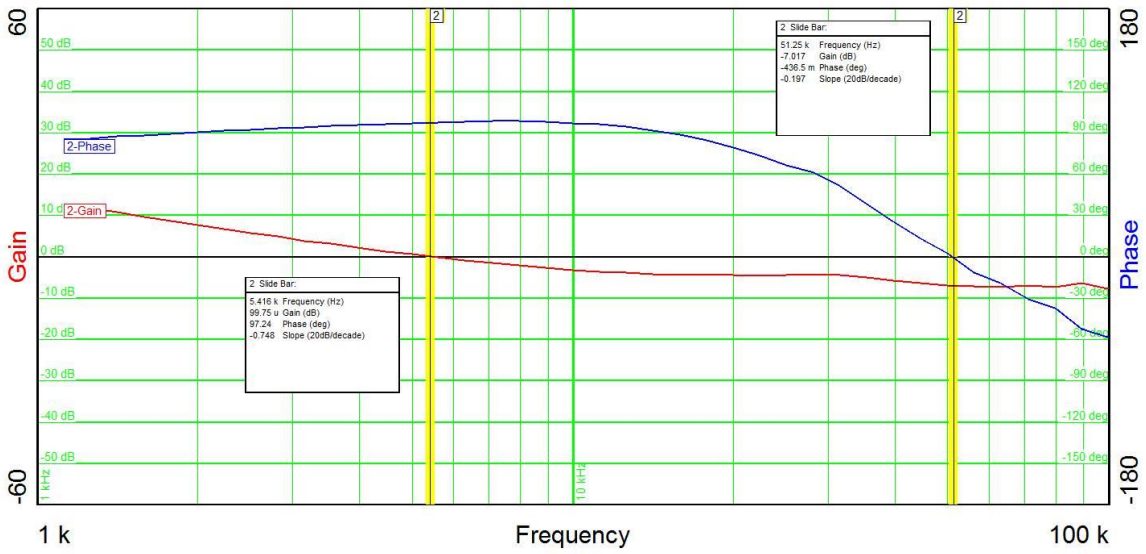
The plot below shows the converter's loop gain and phase margin when loaded to -5.0V @ 300mA.

Vin = 12.0V Band Width = 6.34KHz Phase Margin = 110.1°



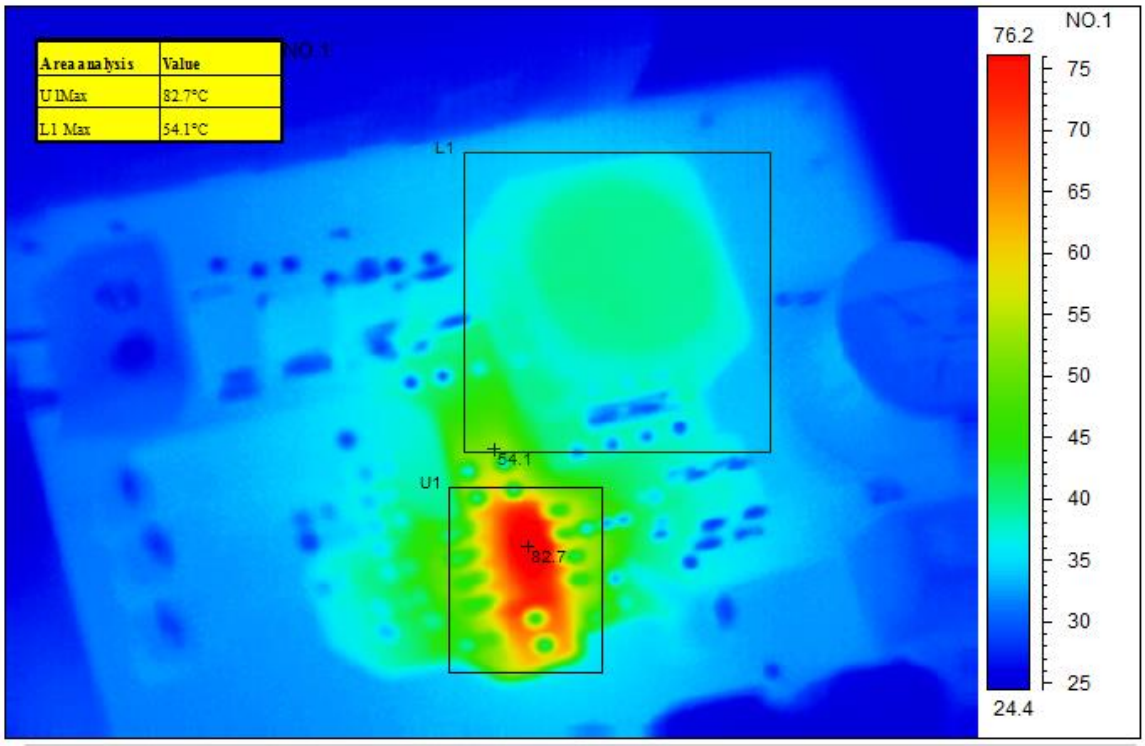
The plot below shows the converter's loop gain and phase margin when loaded to -5.0V @ 2A.

Vin = 12.0V Band Width = 5.416KHz Phase Margin = 97.24°



7 Thermal Image

The photo below shows the temperature of the converter when loaded to -5.0V@2A



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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265