8/28/14

PMP9463 Test Report

Contents

Figures

1) Block Diagram

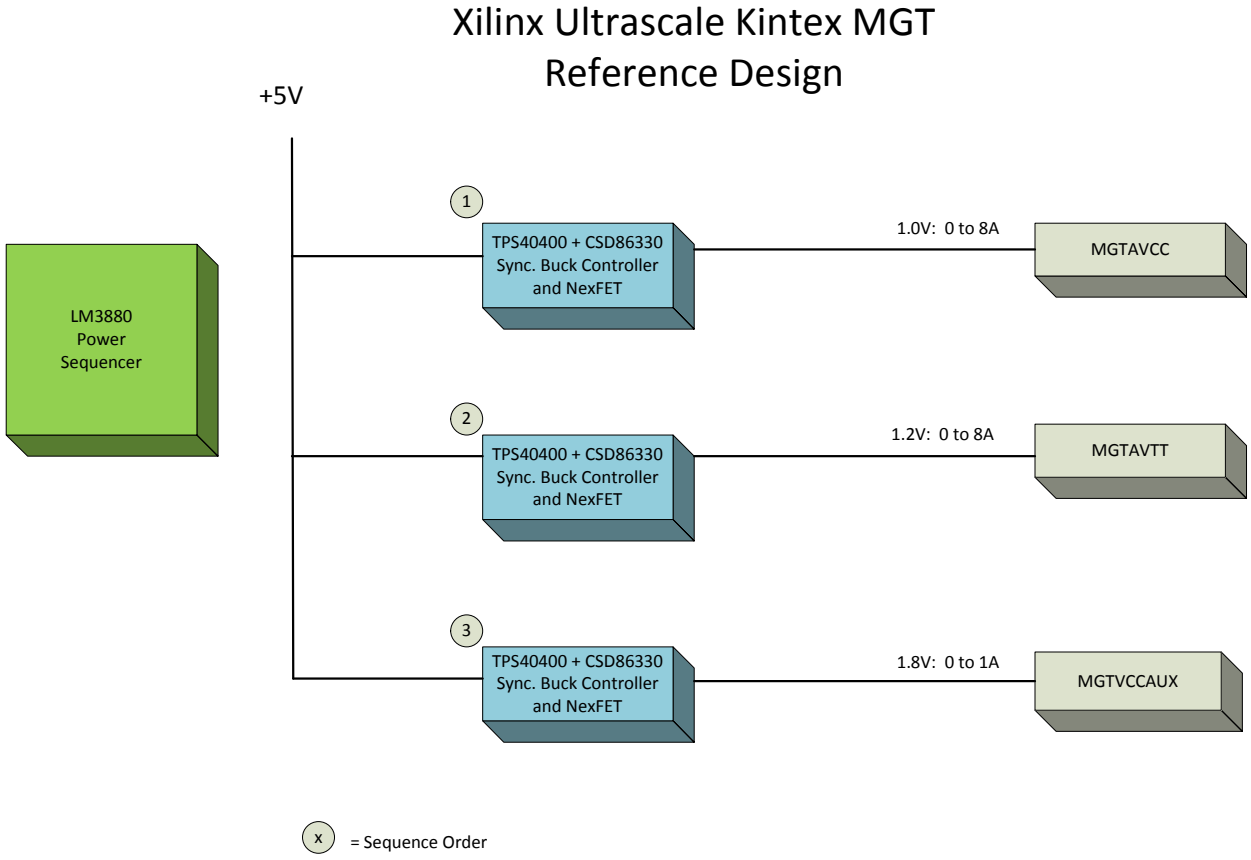


Figure 1. Block Diagram

2) Board Photos

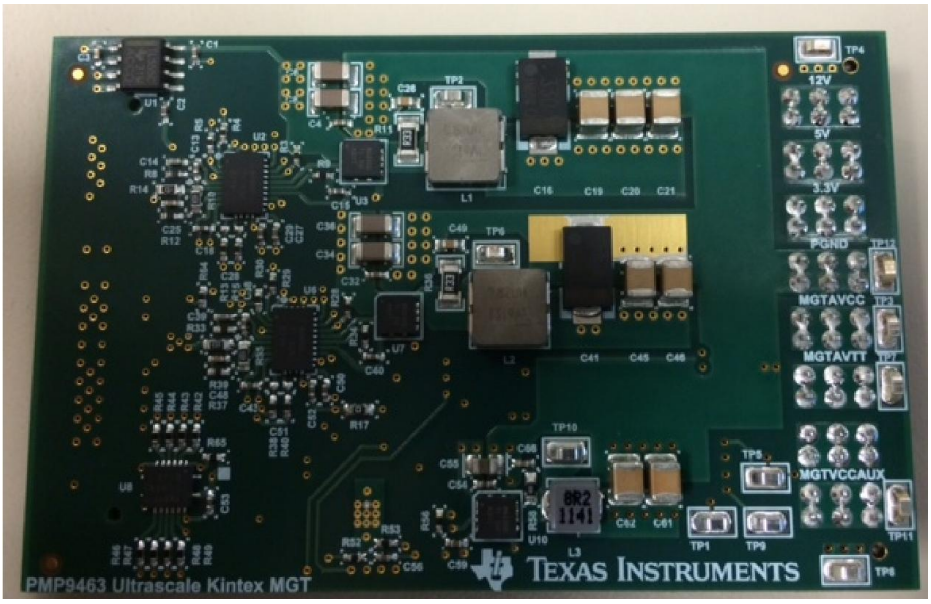


Figure 2. Board Photo Top

Figure 3. Board Photo Bottom

3) Efficiency

The efficiency of the converters is shown in the figures below. The input voltage is set to 5V.

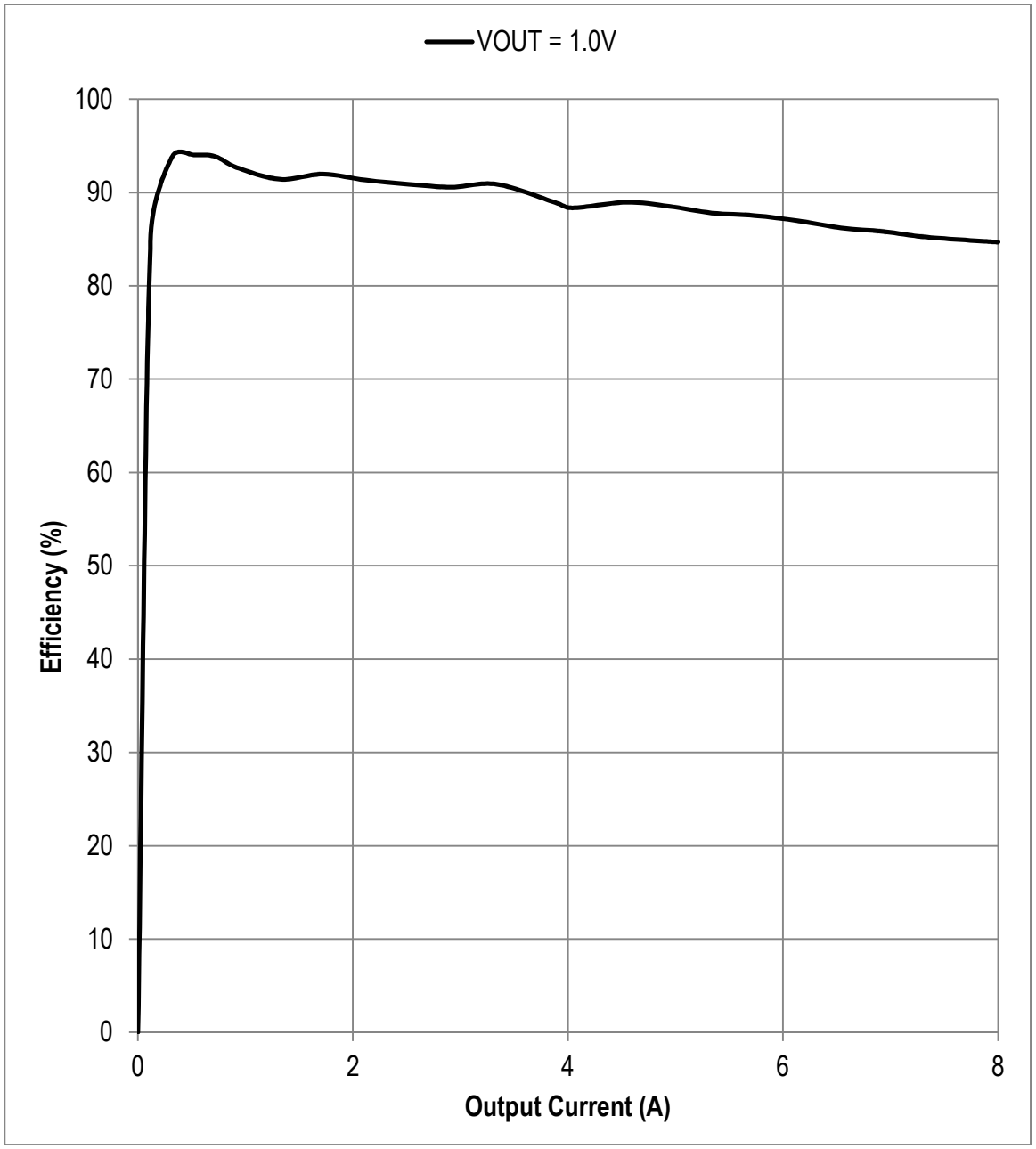


Figure 4. VIN = 5V, MGTAVCC Efficiency

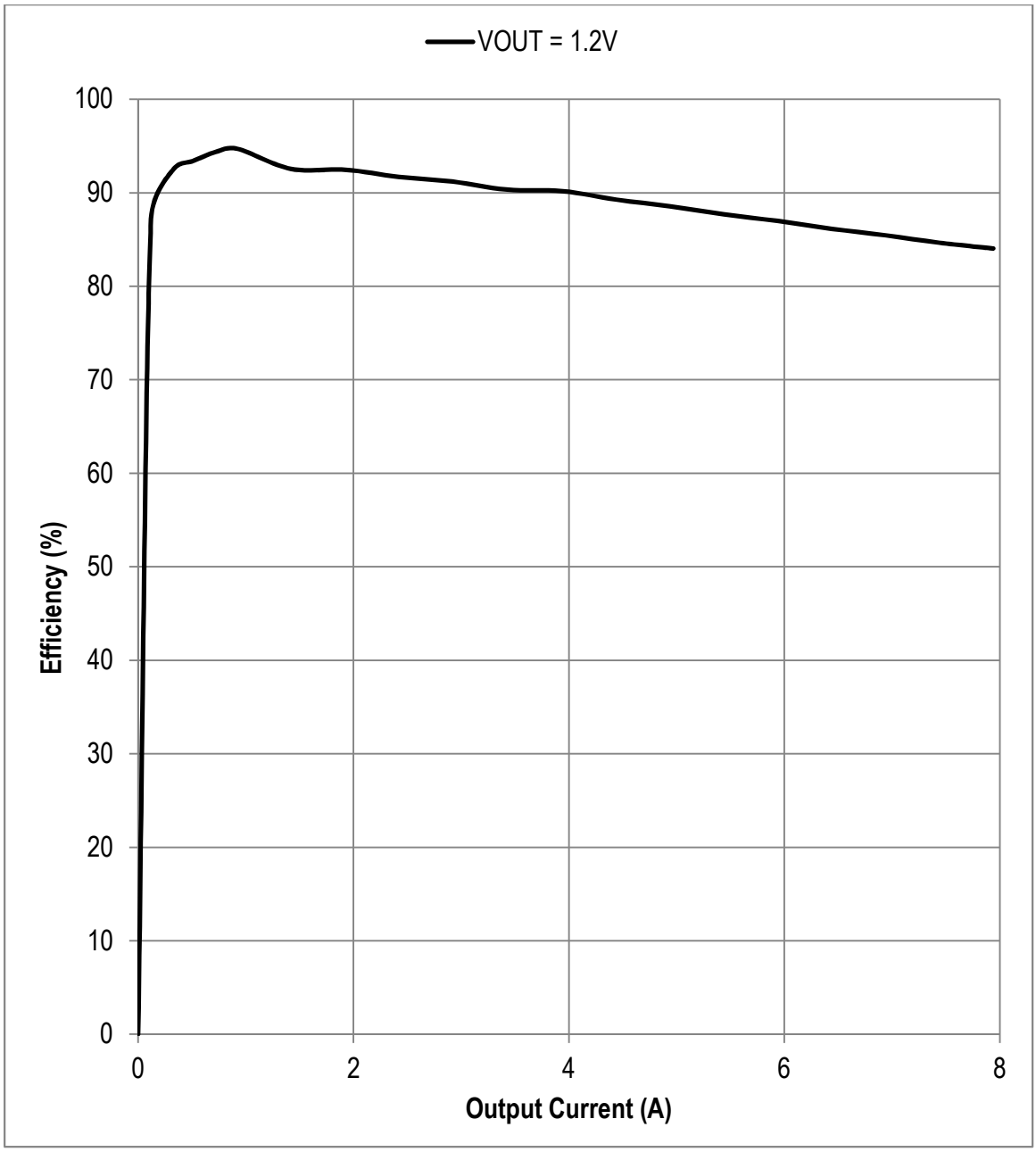


Figure 5. VIN = 5V, MGTAVTT Efficiency

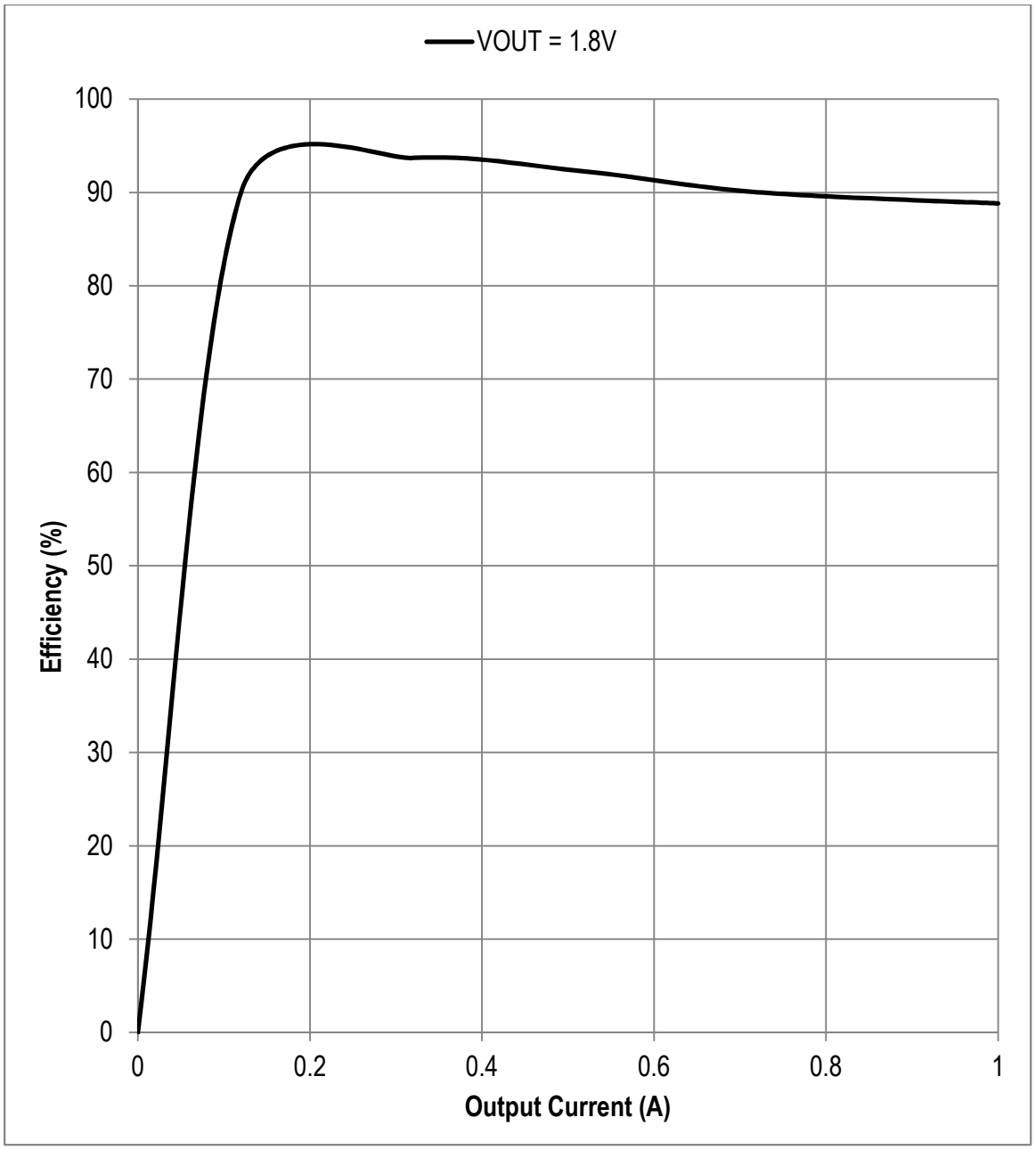


Figure 6. VIN = 5V, MGTVCCAUX Efficiency

4) Load Regulation

The images below show the output load regulation. The input voltage is 5V.

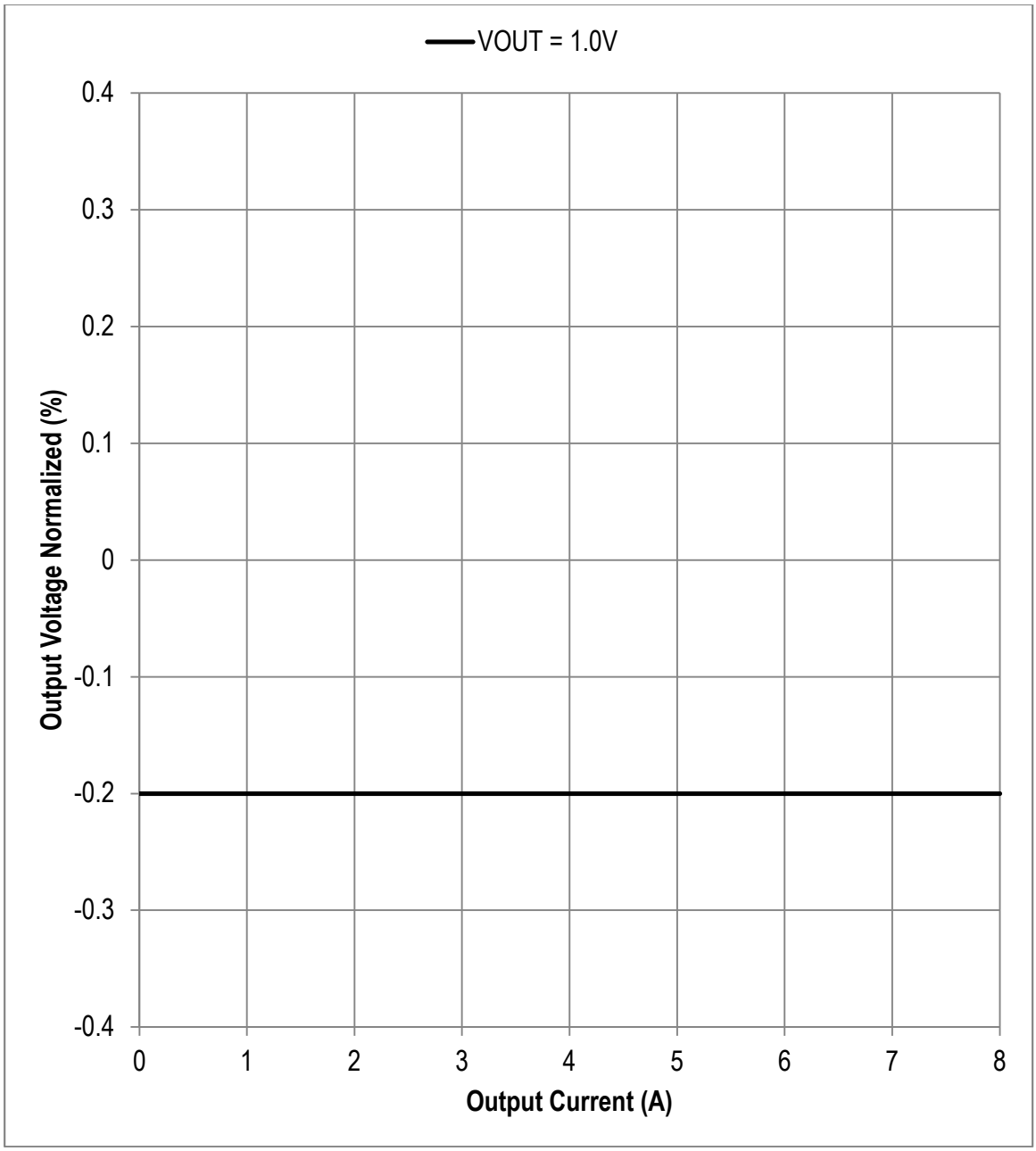


Figure 7. VIN = 5V Load Regulation

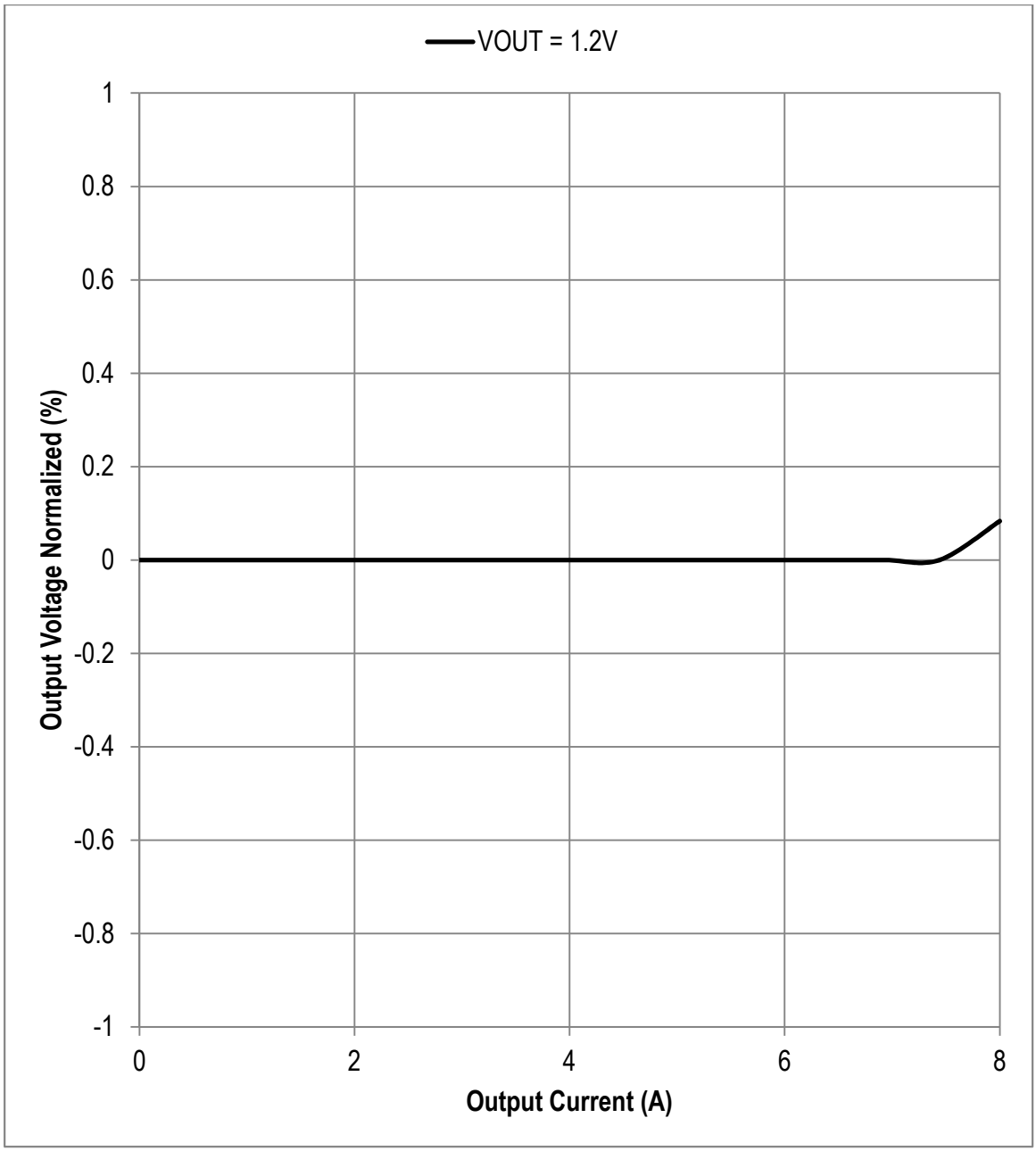


Figure 8. VIN = 5V Load Regulation

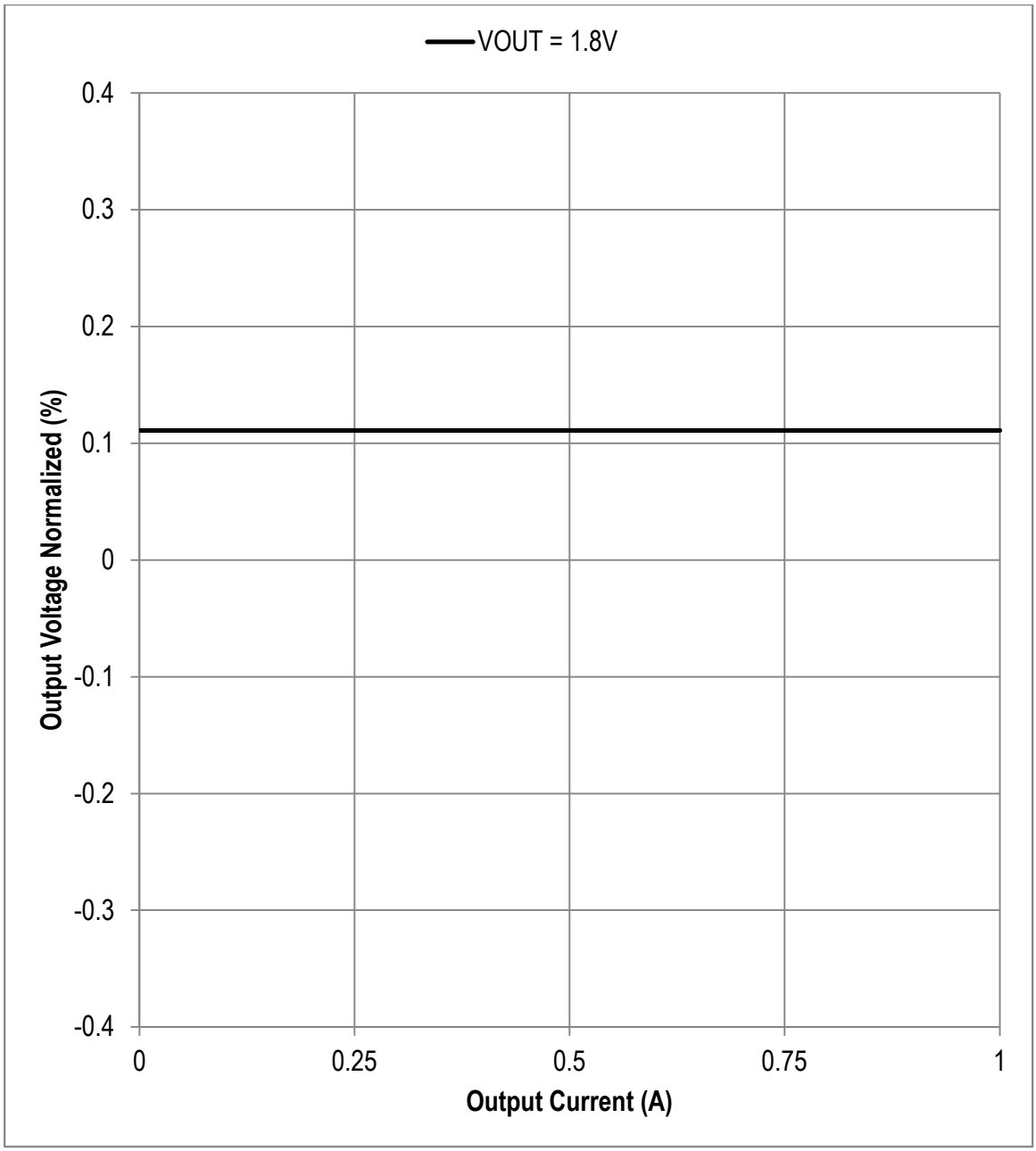
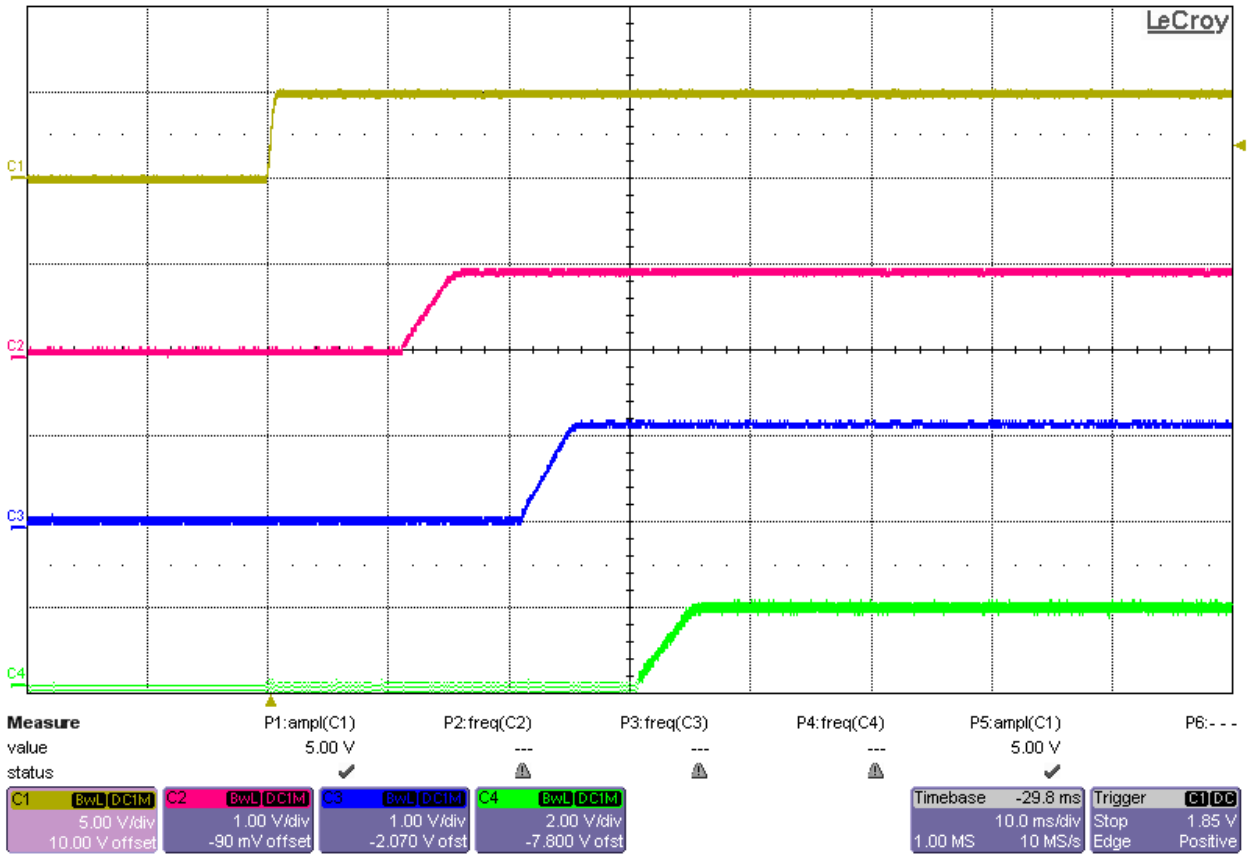


Figure 9. VIN = 5V Load Regulation

5) Startup No Load

The images below shows the startup waveforms. The output is not loaded. The input voltage is set to 5V.



Ch.1: VIN = 5V
Ch.2: MGTAVCC = 1.0V
Ch.3: MGTAVTT = 1.2V
Ch.4: MGTVCCAUX = 1.8V

Figure 10. VIN = 5V Startup with No Load

6) Output Voltage Ripple

The images below shows the output voltage ripple when load is fully applied. The input voltage is 5V.

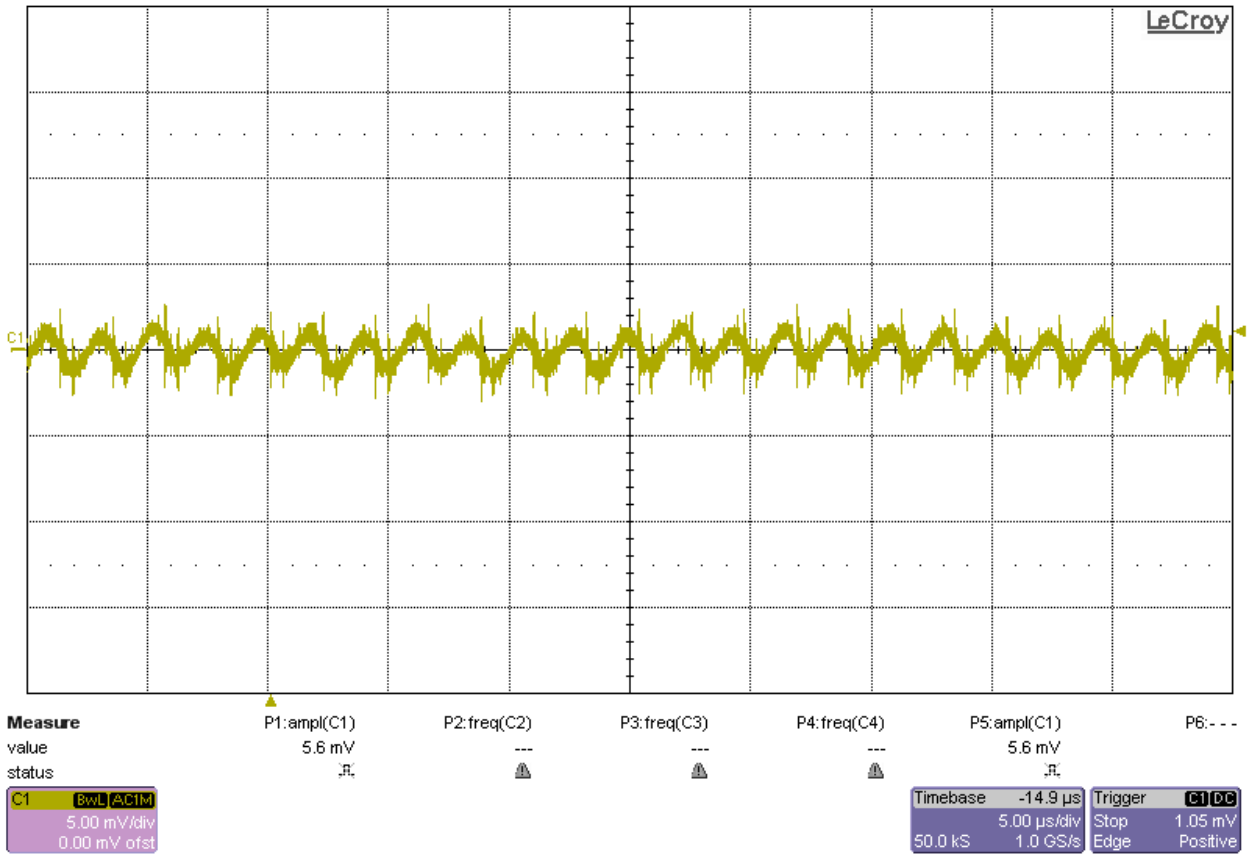


Figure 11. VIN = 5V, VOUT = 1.0V, IOUT = 8A Output Ripple Voltage

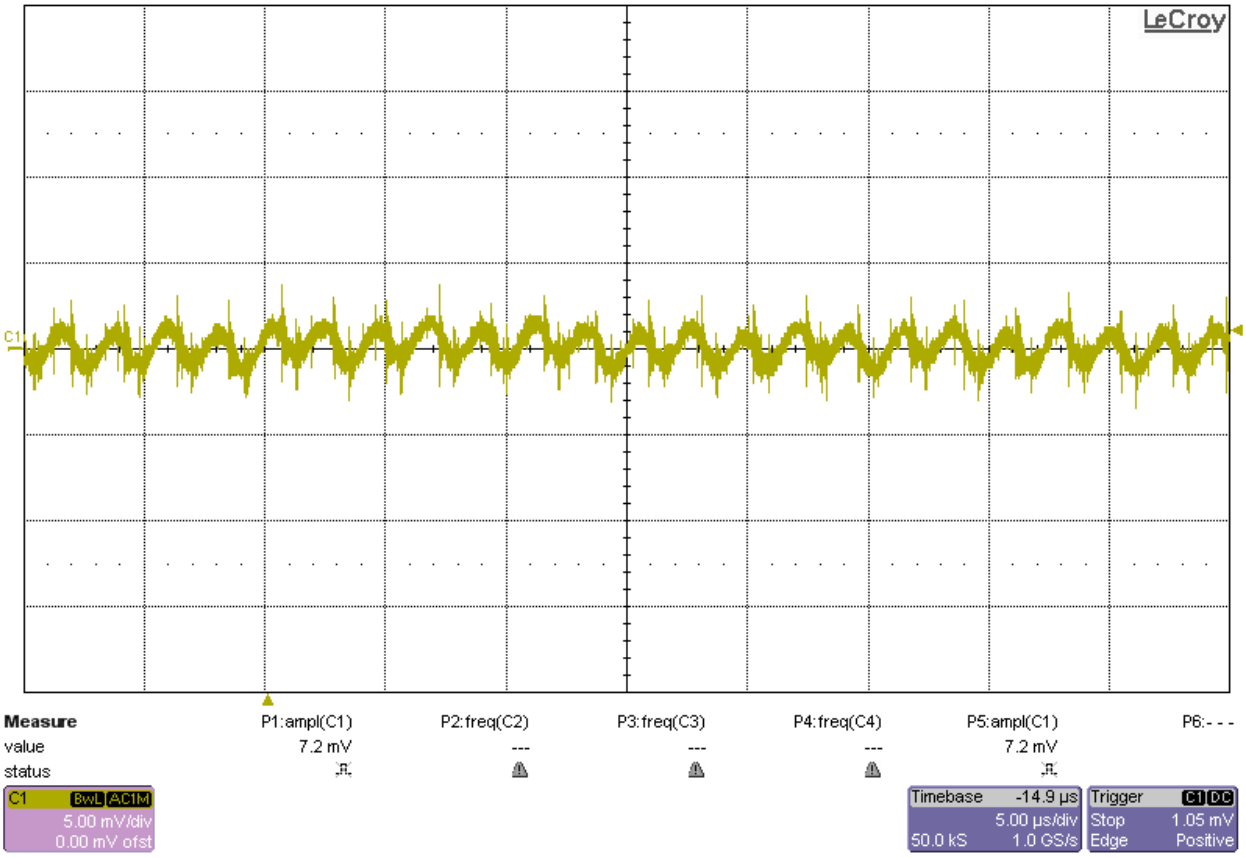


Figure 12. VIN = 5V, VOUT = 1.2V, IOUT = 8A Output Ripple Voltage

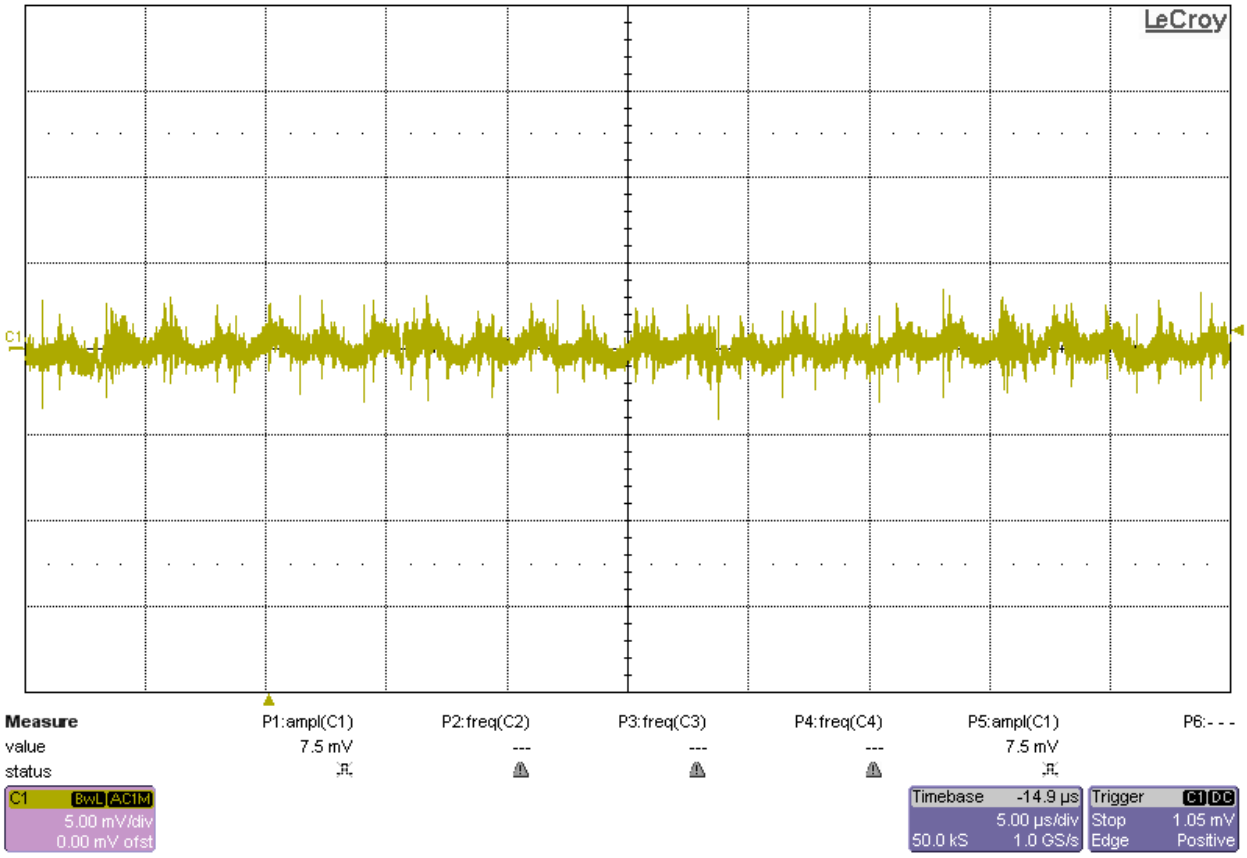


Figure 13. VIN = 5V, VOUT = 1.8V, IOUT = 1A Output Ripple Voltage

7) Load Transients

The transient response of the converters is shown below. The input voltage is 5V. The output current is pulsed from 50% load to full load.

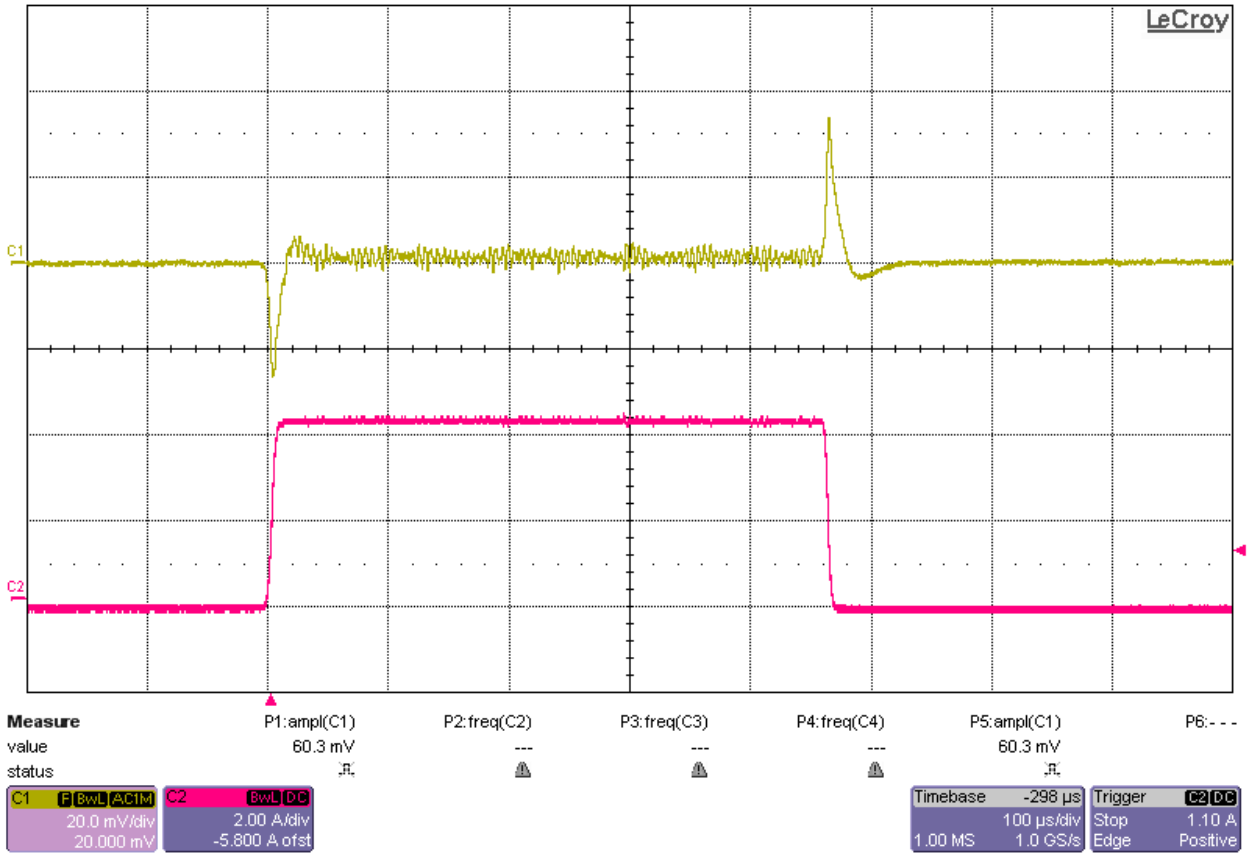


Figure 14. VIN = 5V, VOUT = 1.0V, 0A to 4A Load Transient

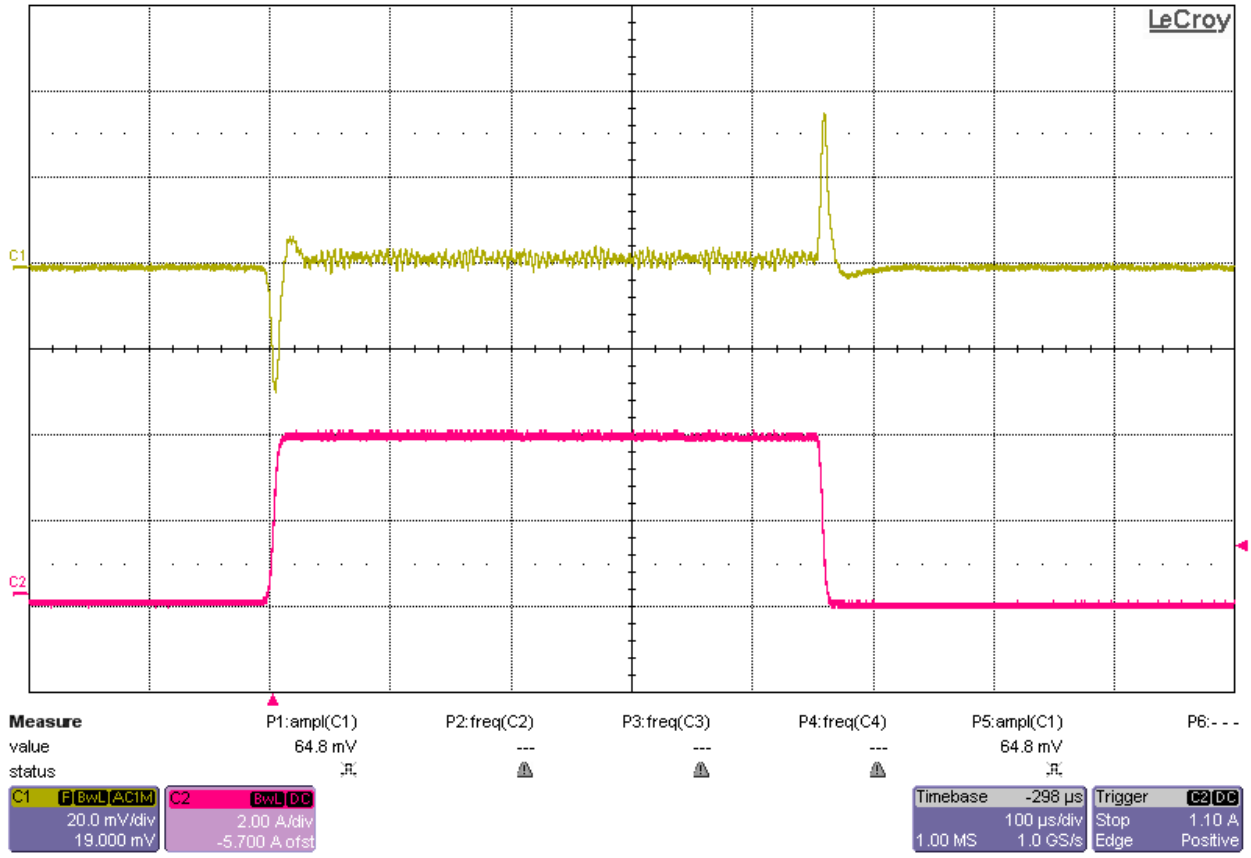


Figure 15. VIN = 5V, VOUT = 1.2V, 0A to 4A Load Transient

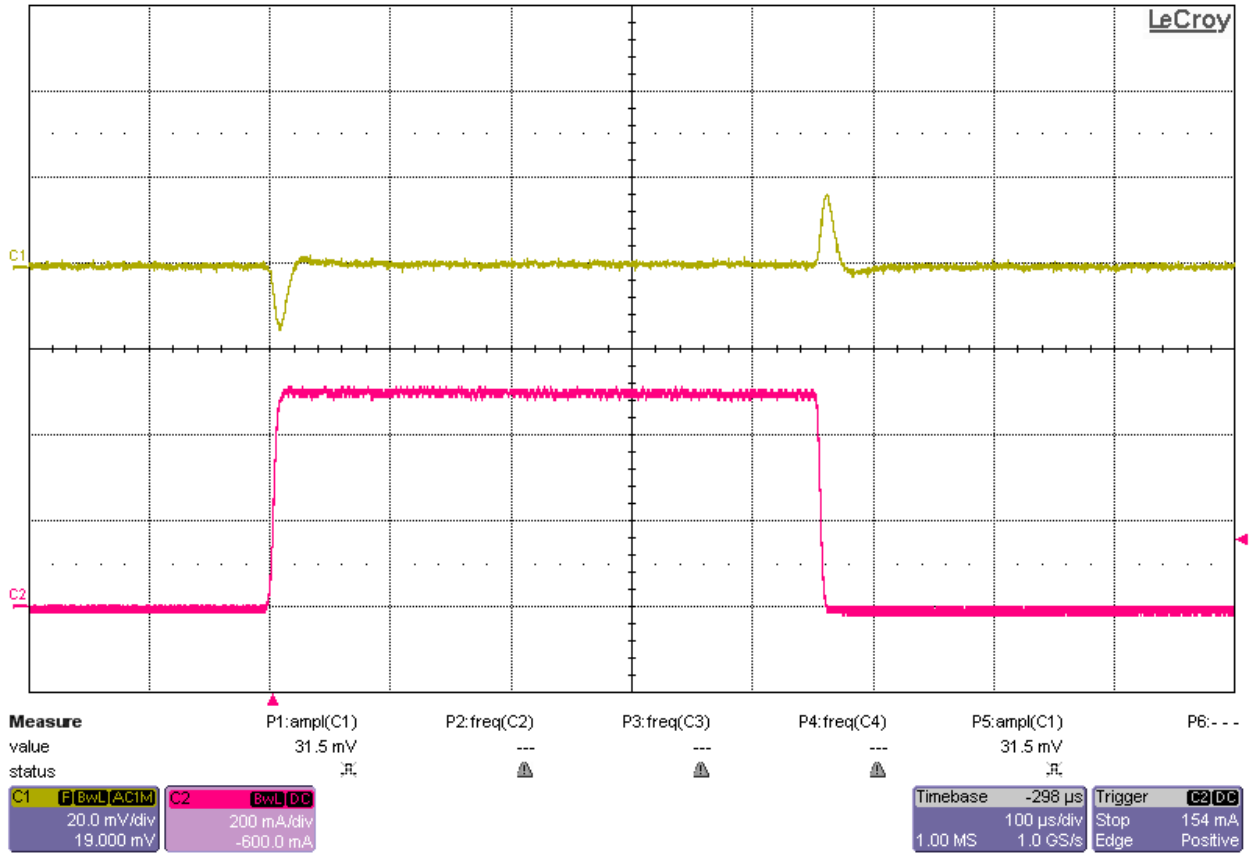


Figure 16. VIN = 5V, VOUT = 1.8V, 0A to 500mA Load Transient

8) Bode Plots

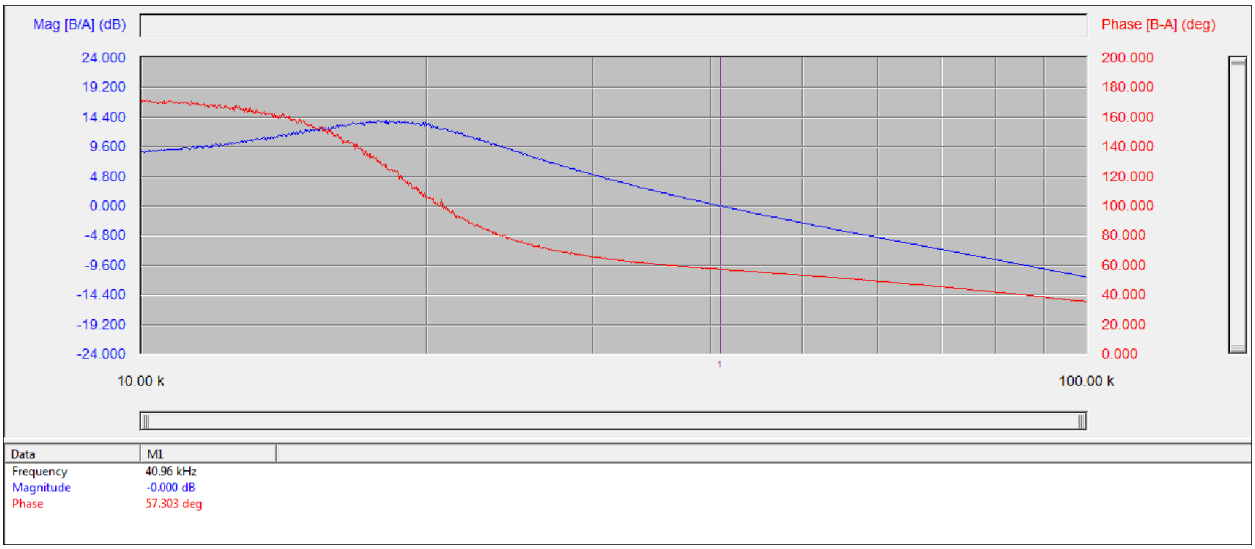


Figure 17. MGTAVCC Bode Plot

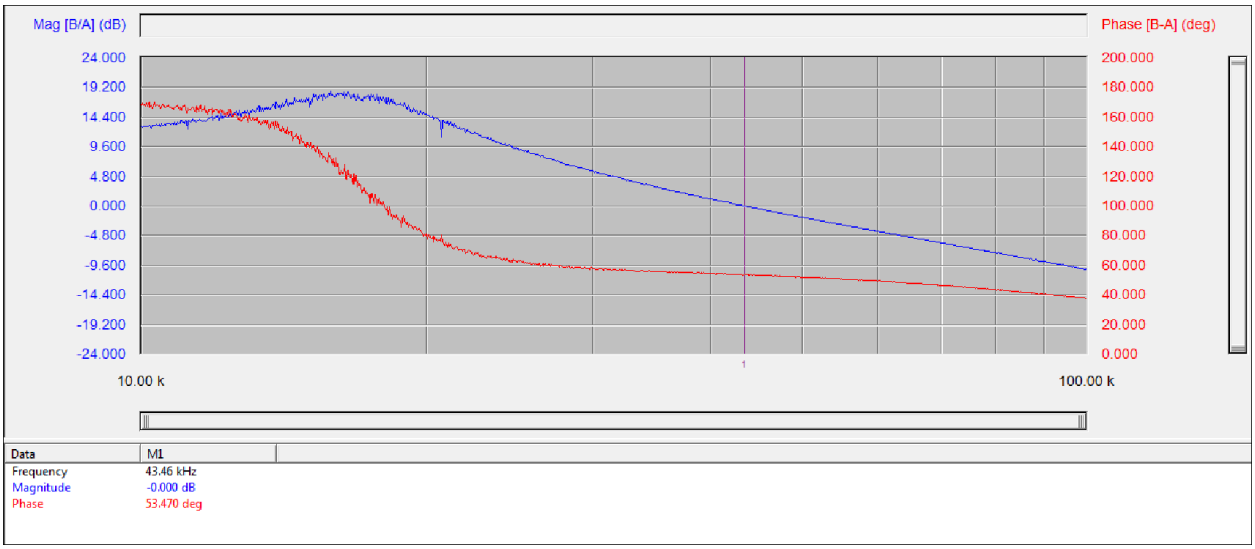


Figure 18. MGTAVTT Bode Plot

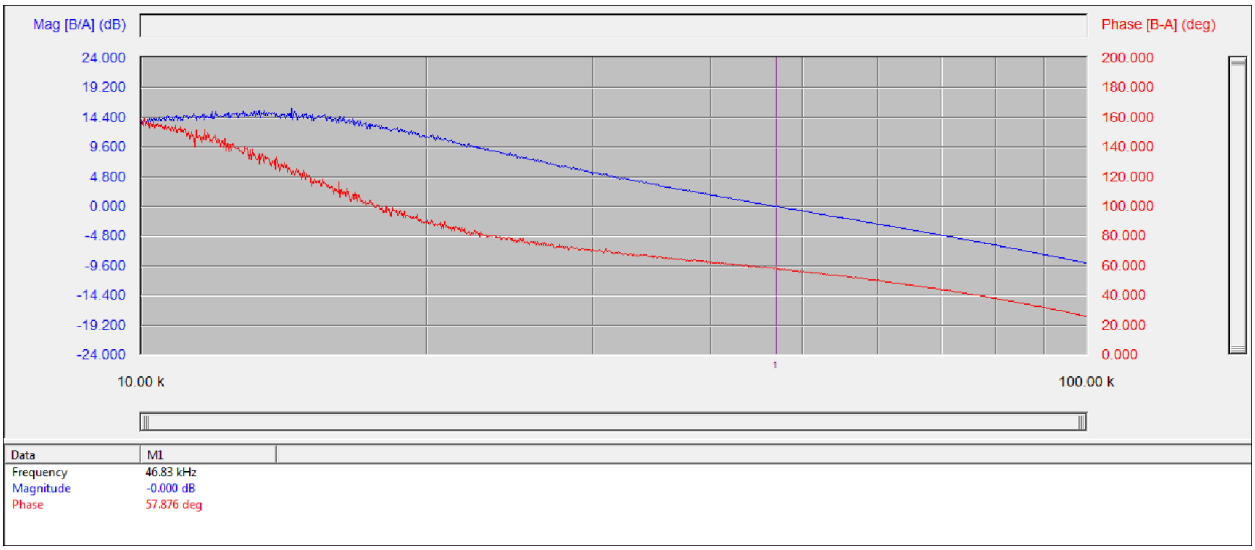


Figure 19. MGTVCCAUX Bode Plot

9) Thermal Images

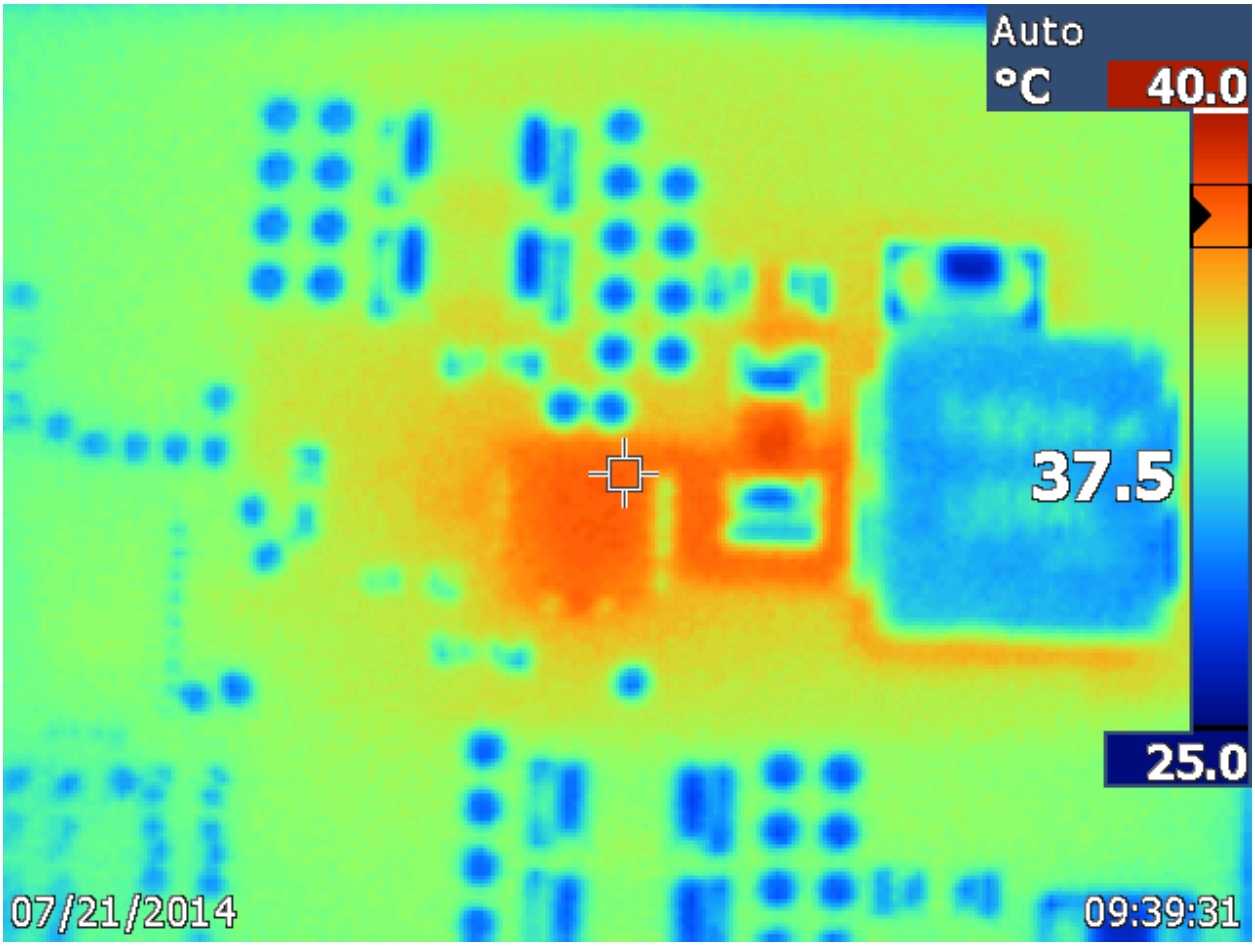


Figure 20. VIN = 5V, VOUT = 1.0V, IOUT = 8A Thermal Image (Other rails at 0A)

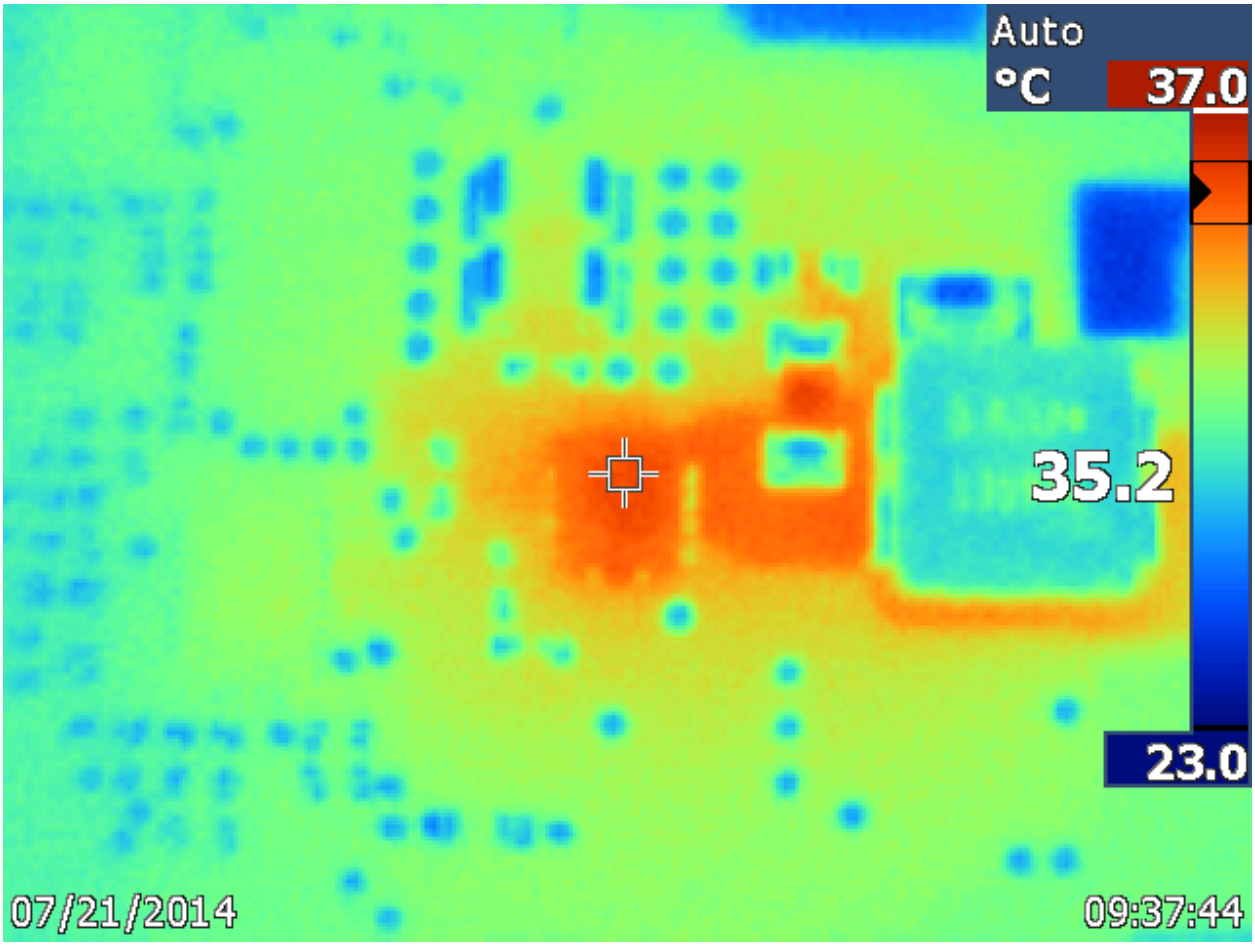


Figure 21. VIN = 5V, VOUT = 1.2V, IOUT = 8A Thermal Image (Other rails at 0A)

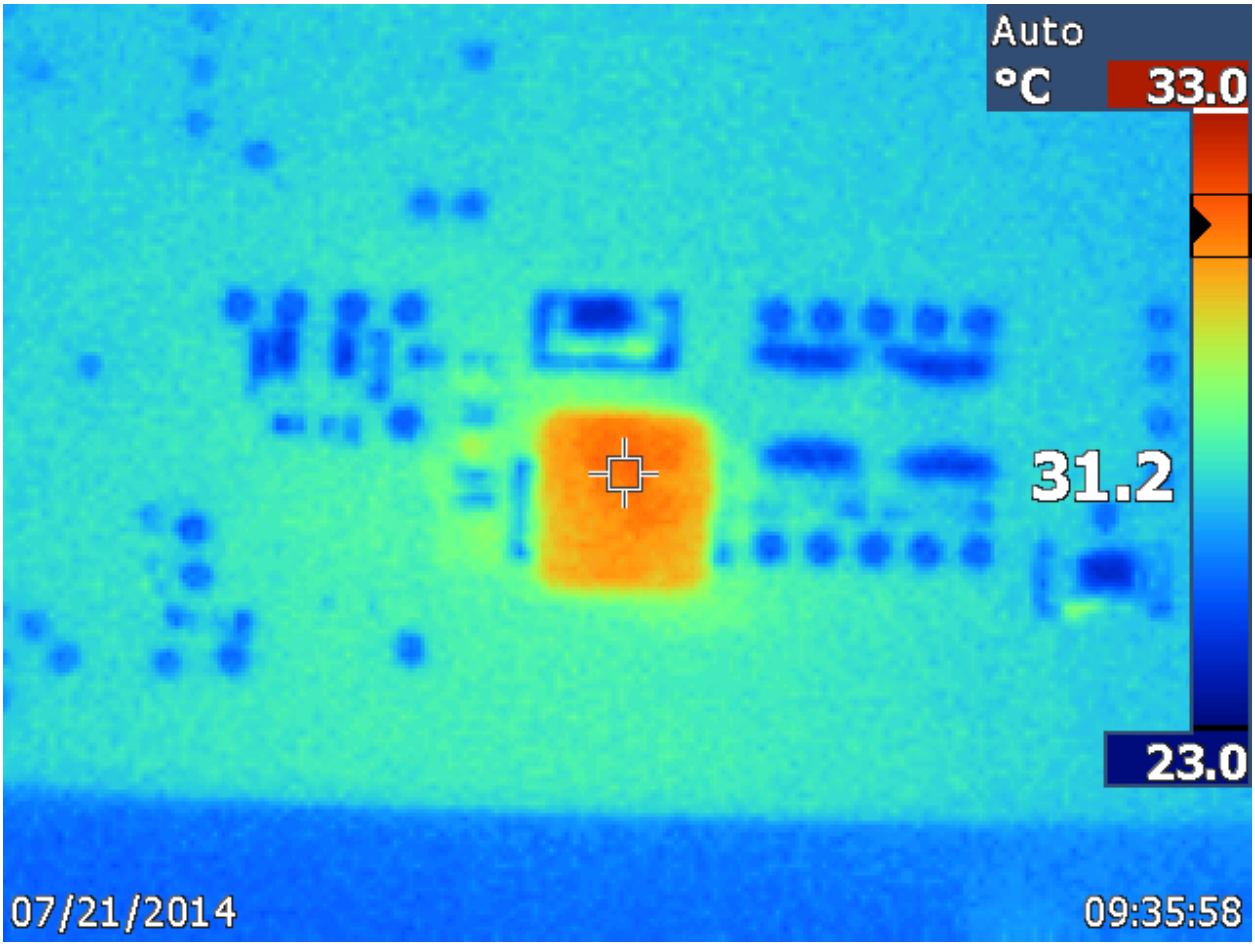


Figure 22. VIN = 5V, VOUT = 1.8V, IOUT = 1A Thermal Image (Other rails at 0A)

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