# Test Report
# For PMP10680
# 7/3/2015

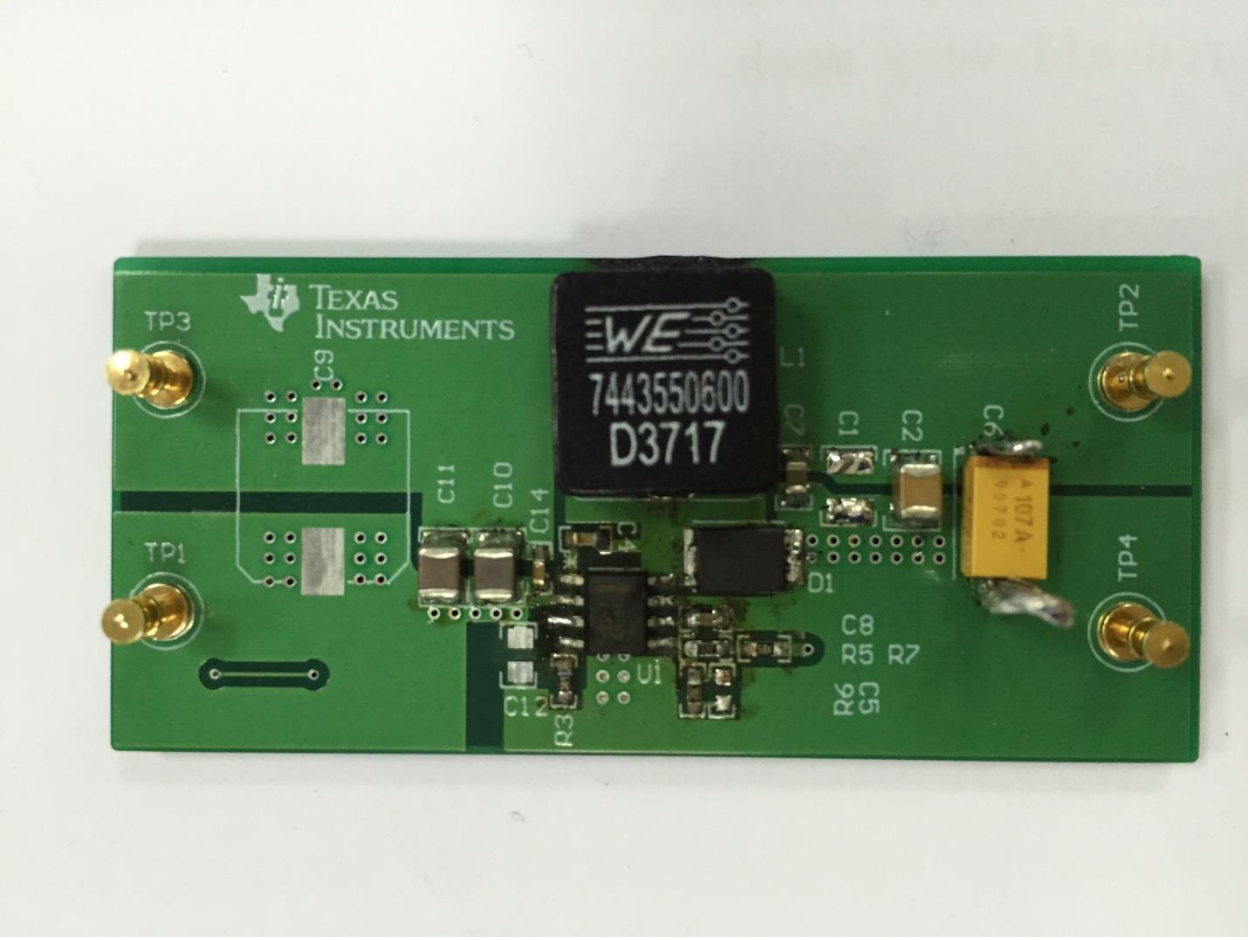
## 1. Design Specifications

| | |
|---|---|
| **Vin Min.** | **4.5VDC** |
| **Vin Max.** | **24VDC** |
| **Vout** | **-5VDC** |
| **Iout** | **2A Max.** |
| **Target Switching Frequency** | **500KHz** |

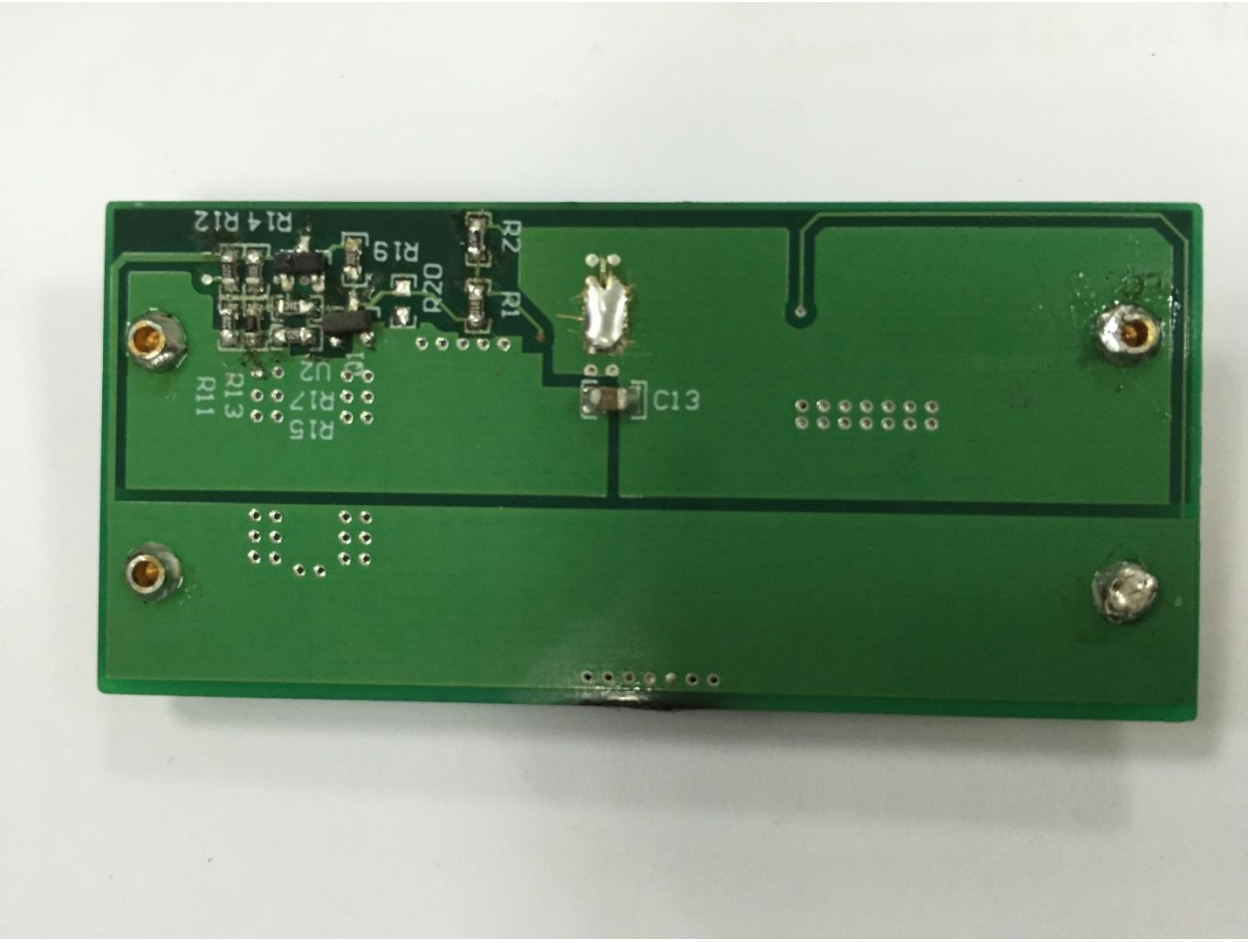
## 2. Circuit Description

PMP10680 is a buck-boost converter which accepts an input voltage of 4.5 to 24Vin and provides a negative 5Vout capable of supplying continuous 2A of current to the load.

## 3. PMP10680 Board Photos

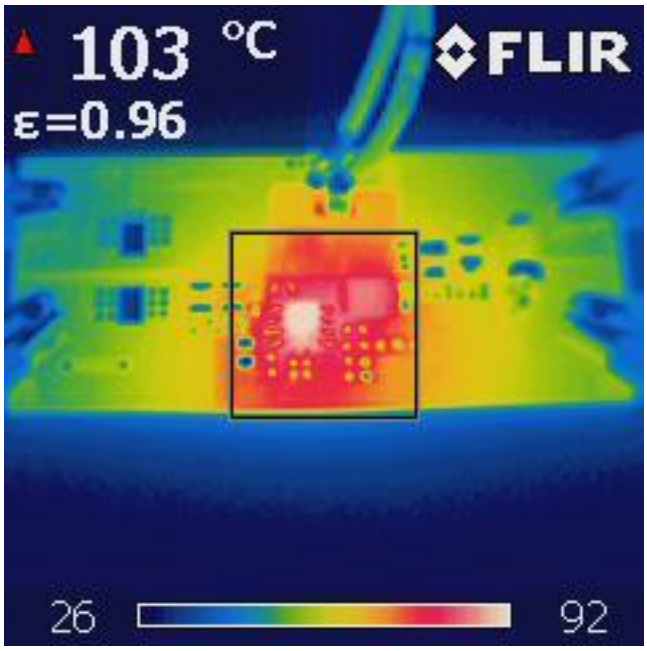



**Board Photo (Top)**

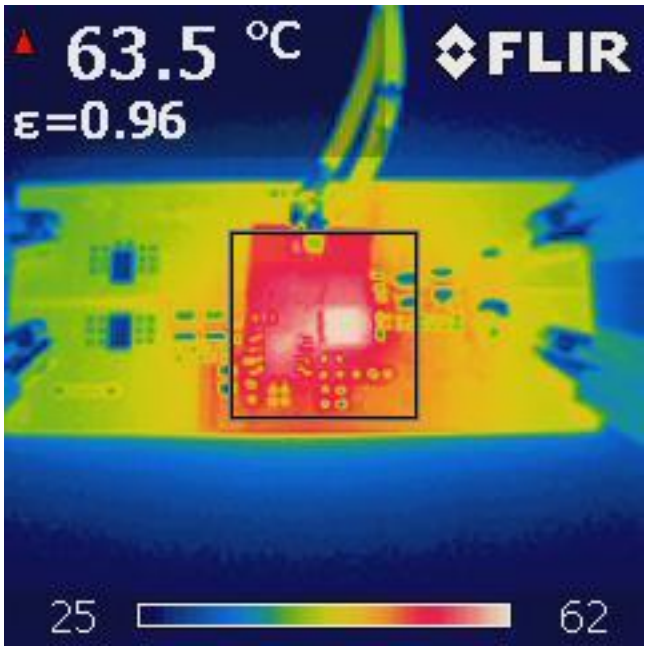



**Board Photo (Bottom)**

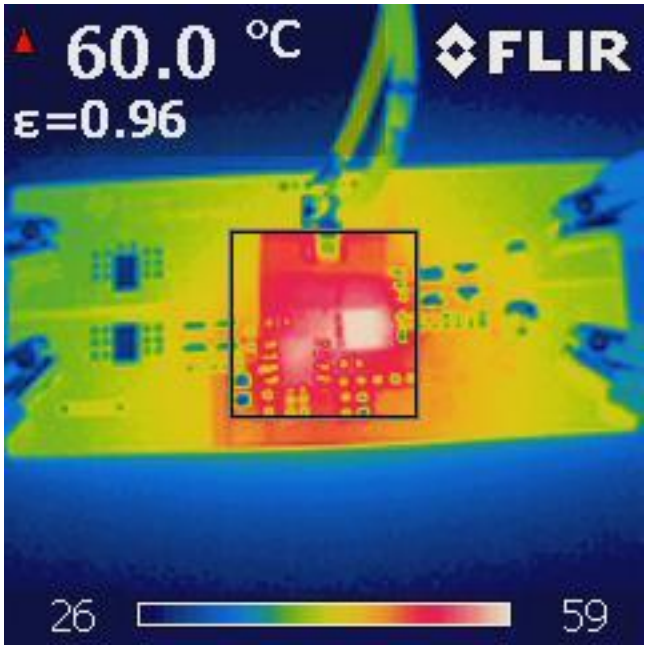
## 4. Thermal Data




**IR thermal image taken at steady state at 2A load and Vin = 4.5V with no airflow (for improved thermal performance, it is recommended to use 2oz Copper or heavier, heatsinks, higher power rated current sense resistor, and/or airflow)**



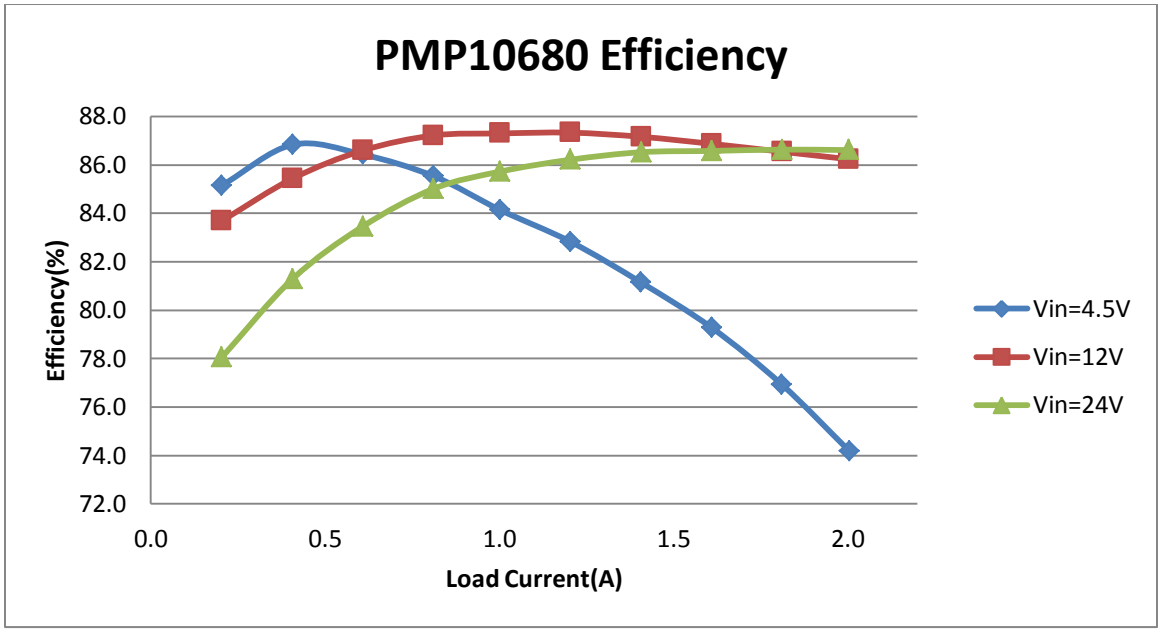

**IR thermal image taken at steady state at 2A load and Vin = 12V with no airflow (for improved thermal performance, it is recommended to use 2oz Copper or heavier, heatsinks, higher power rated current sense resistor, and/or airflow)**



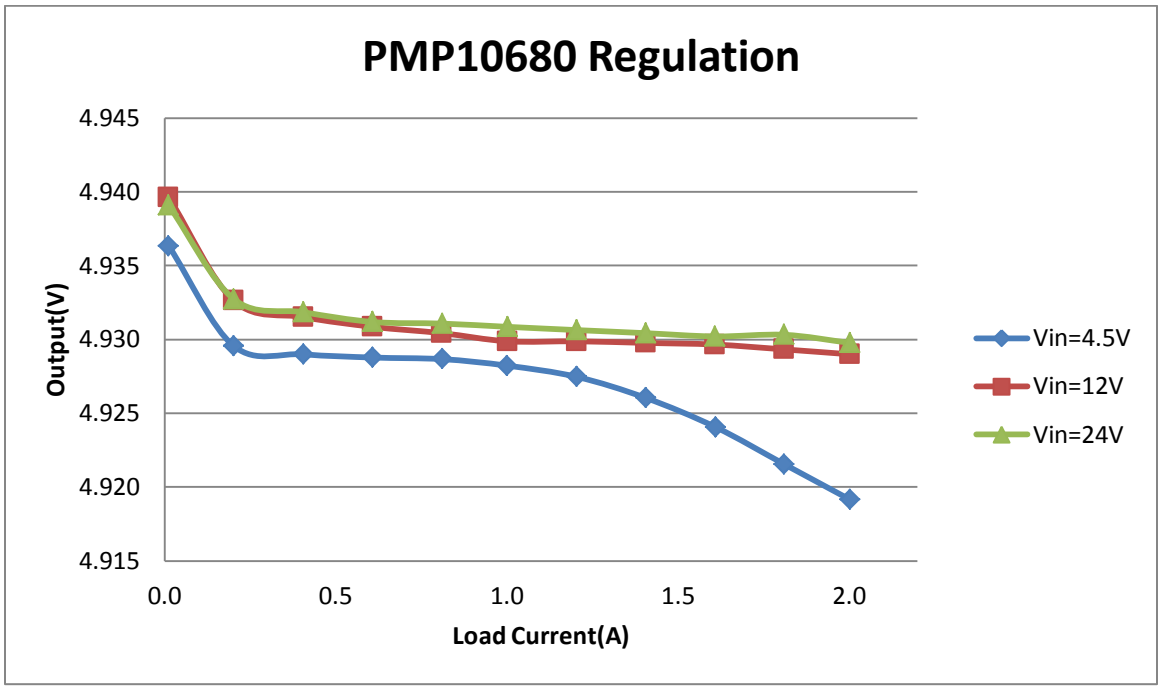

**IR thermal image taken at steady state at 2A load and Vin = 24V with no airflow (for improved thermal performance, it is recommended to use 2oz Copper or heavier, heatsinks, higher power rated current sense resistor, and/or airflow)**

# 5. Efficiency

## 5.1 Efficiency Chart

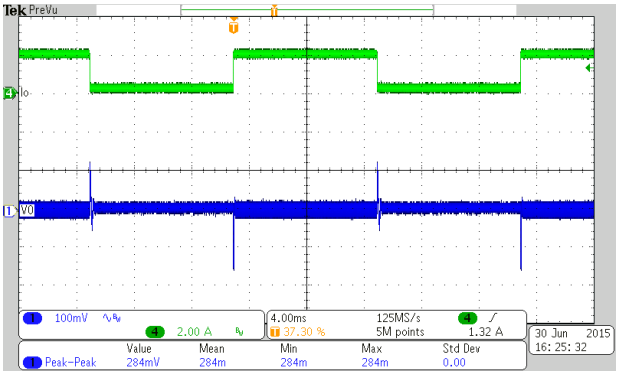


## 5.2 Regulation Chart

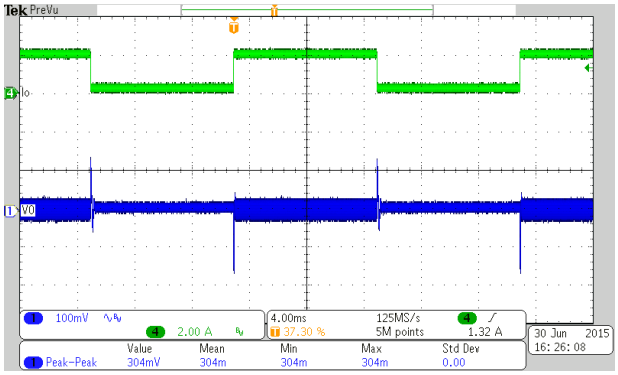



# 6 Waveforms

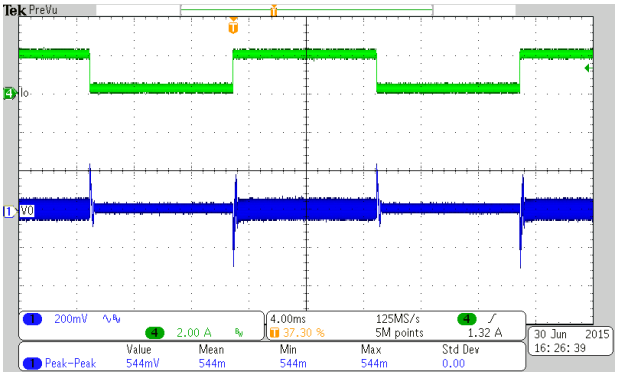
## 6.1 Load Transient Response (0.2A to 2A, 0.1A/us)




**Vin = 4.5V**

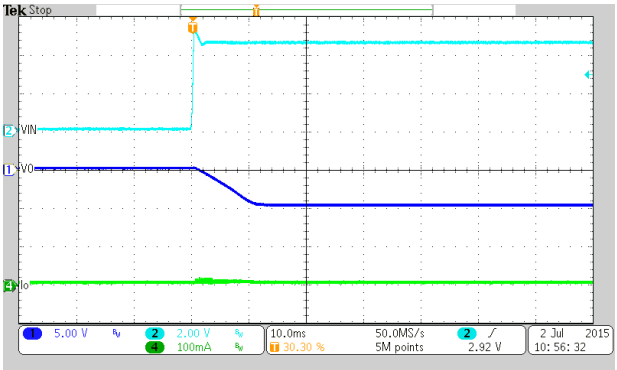



**Vin = 12V**

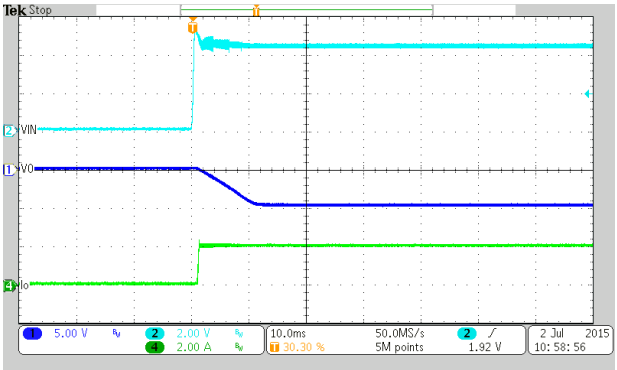



**Vin = 24V**

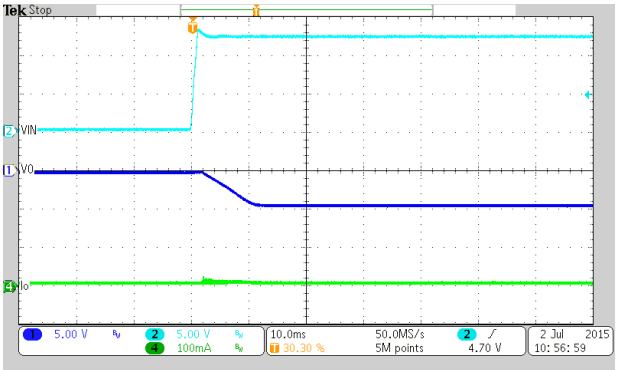
## 6.2 Startup



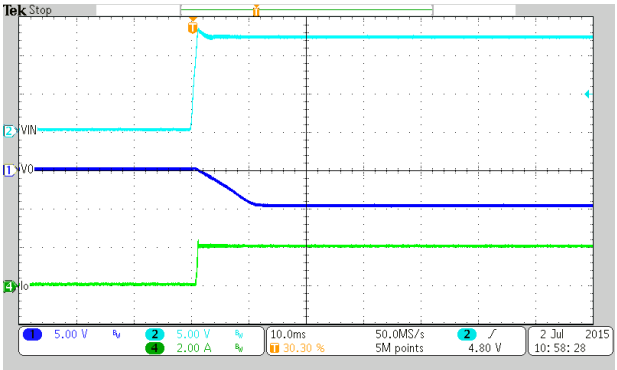

**Vin=4.5V, Io=2A**



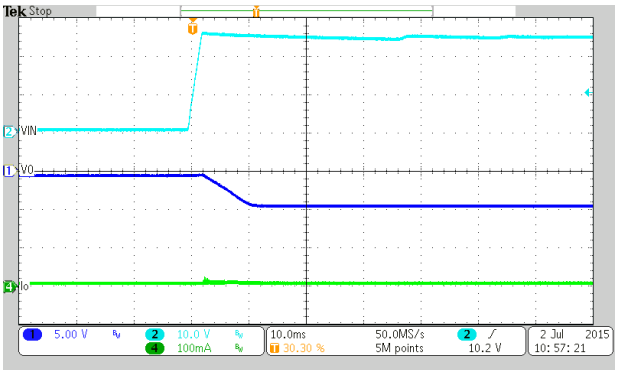

**Vin=4.5V, Io=2A**



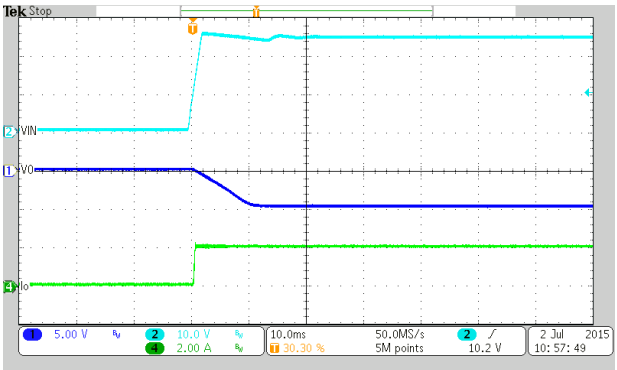

**Vin=12V, Io=0A**




**Vin=12V, Io=2A**

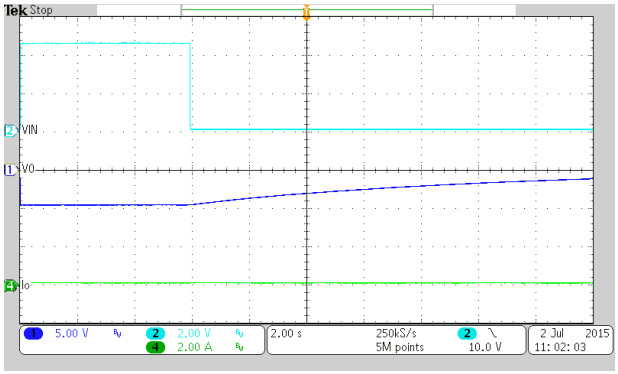



**Vin=24V, Io=0A**

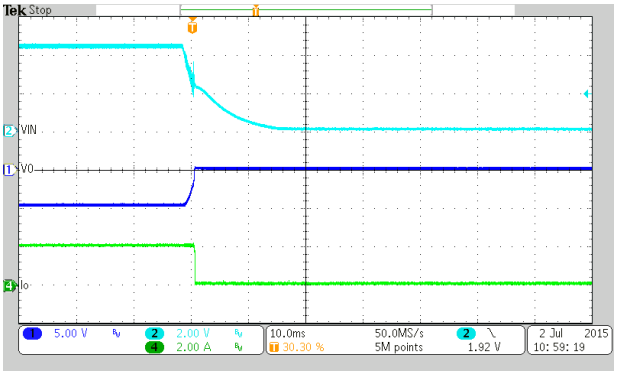



**Vin=24V, Io=2A**

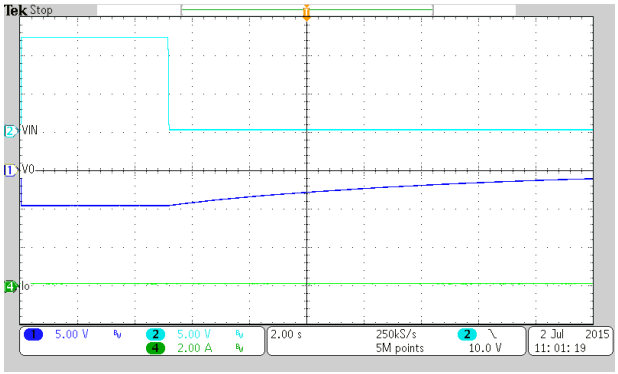
## 6.3 Shutdown



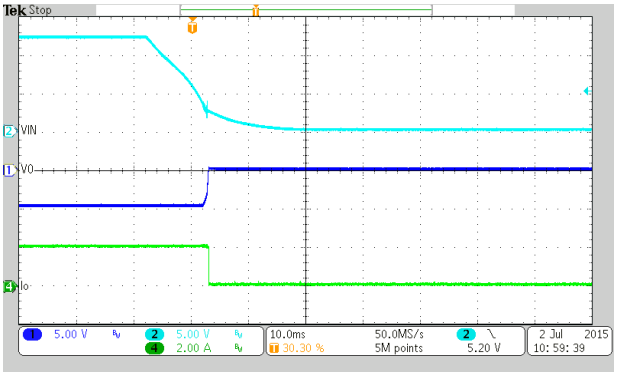

**Vin=4.5V, Io=0A**



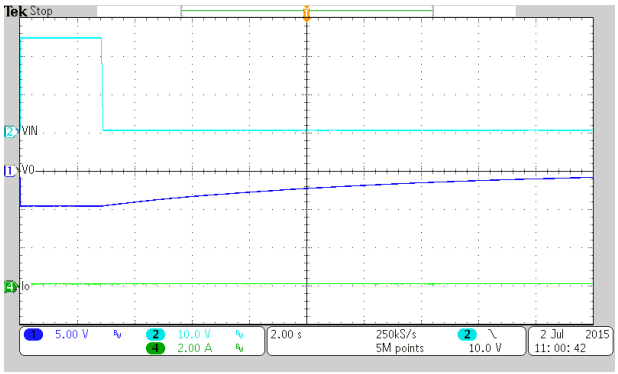

**Vin=4.5V, Io=2A**



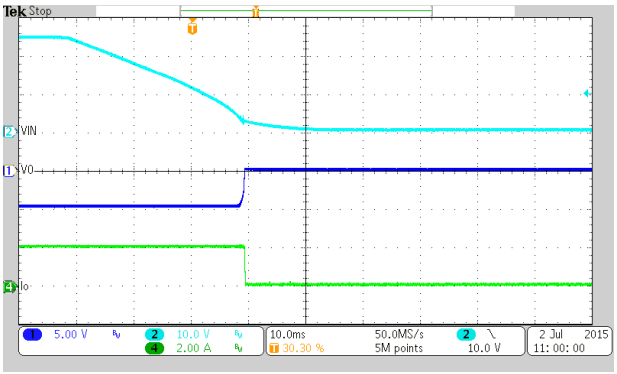

**Vin=12V, Io=0A**




**Vin=12V, Io=2A**

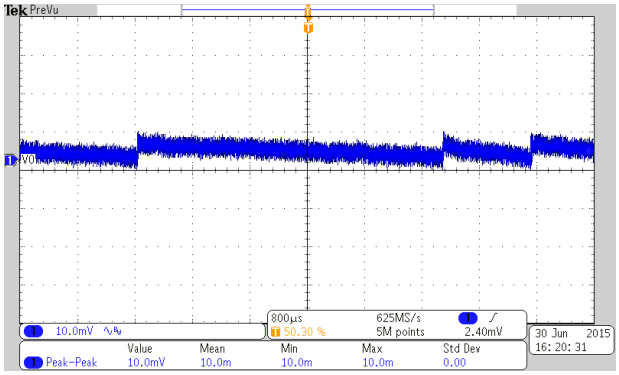



**Vin=24V, Io=0A**

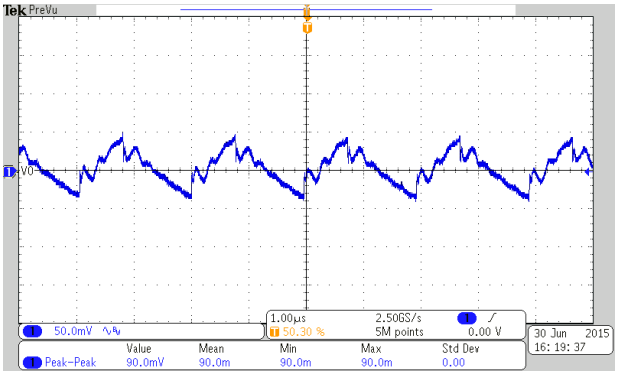



**Vin=24V, Io=2A**

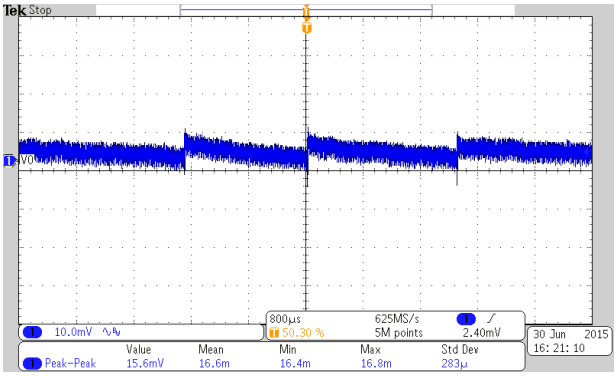
## 6.3 Ripple



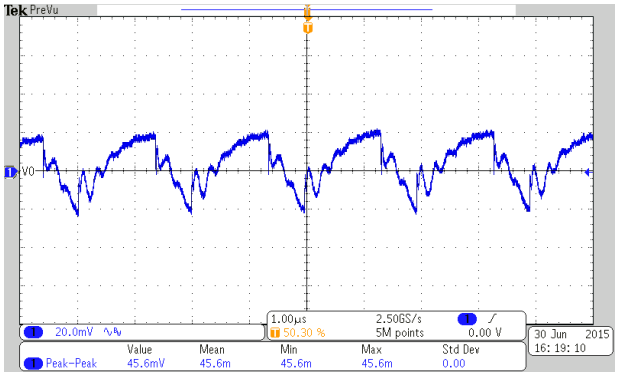

**Vin=4.5V, Io=0A**



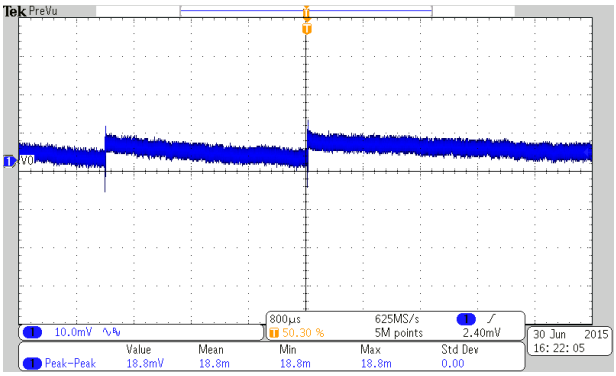

**Vin=4.5V, Io=2A**



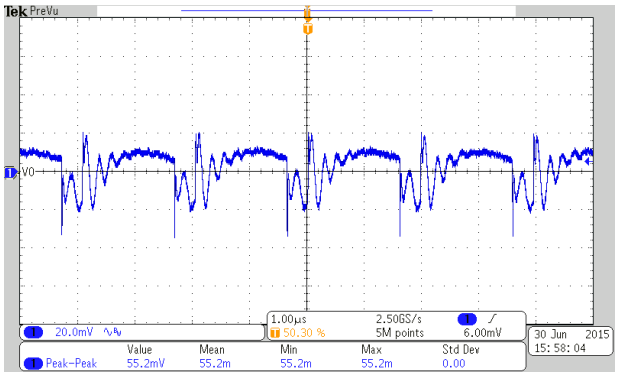

**Vin=12V, Io=0A**




**Vin=12V, Io=2A**

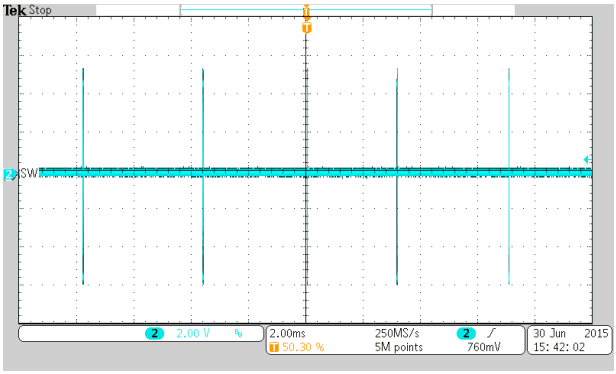



**Vin=24V, Io=0A**

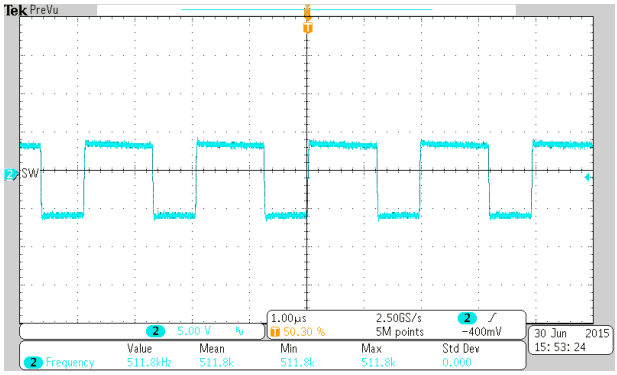



**Vin=24V, Io=2A**

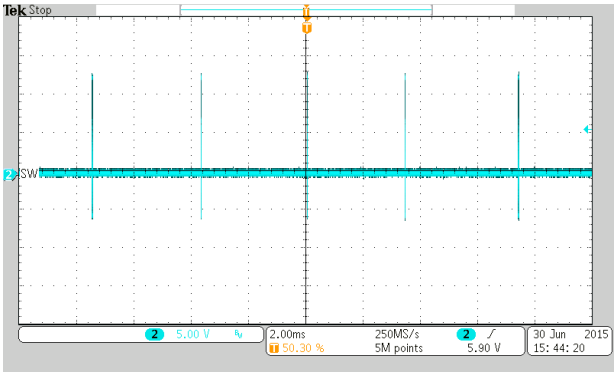
## 6.4 Switching



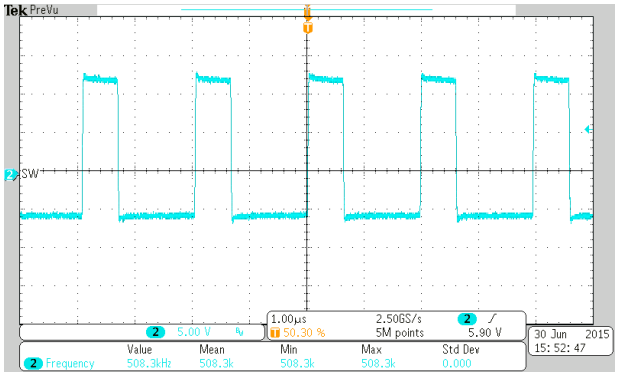

**Vin=4.5V, Io=0A**



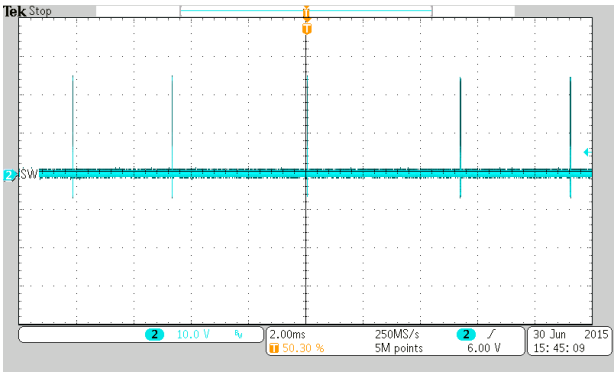

**Vin=13.2V, Io=2A**



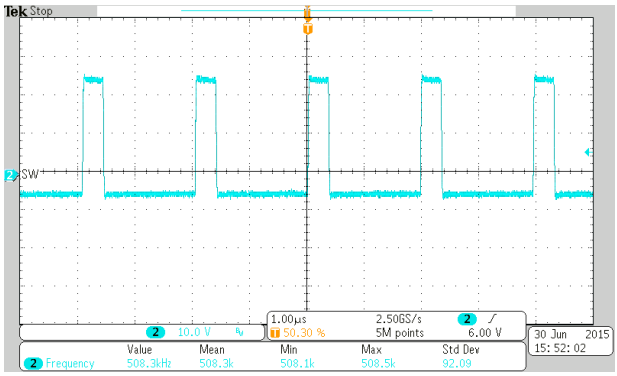

**Vin=12V, Io=0A**




**Vin=12V, Io=2A**




**Vin=24V, Io=0A**




**Vin=24V, Io=2A**

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