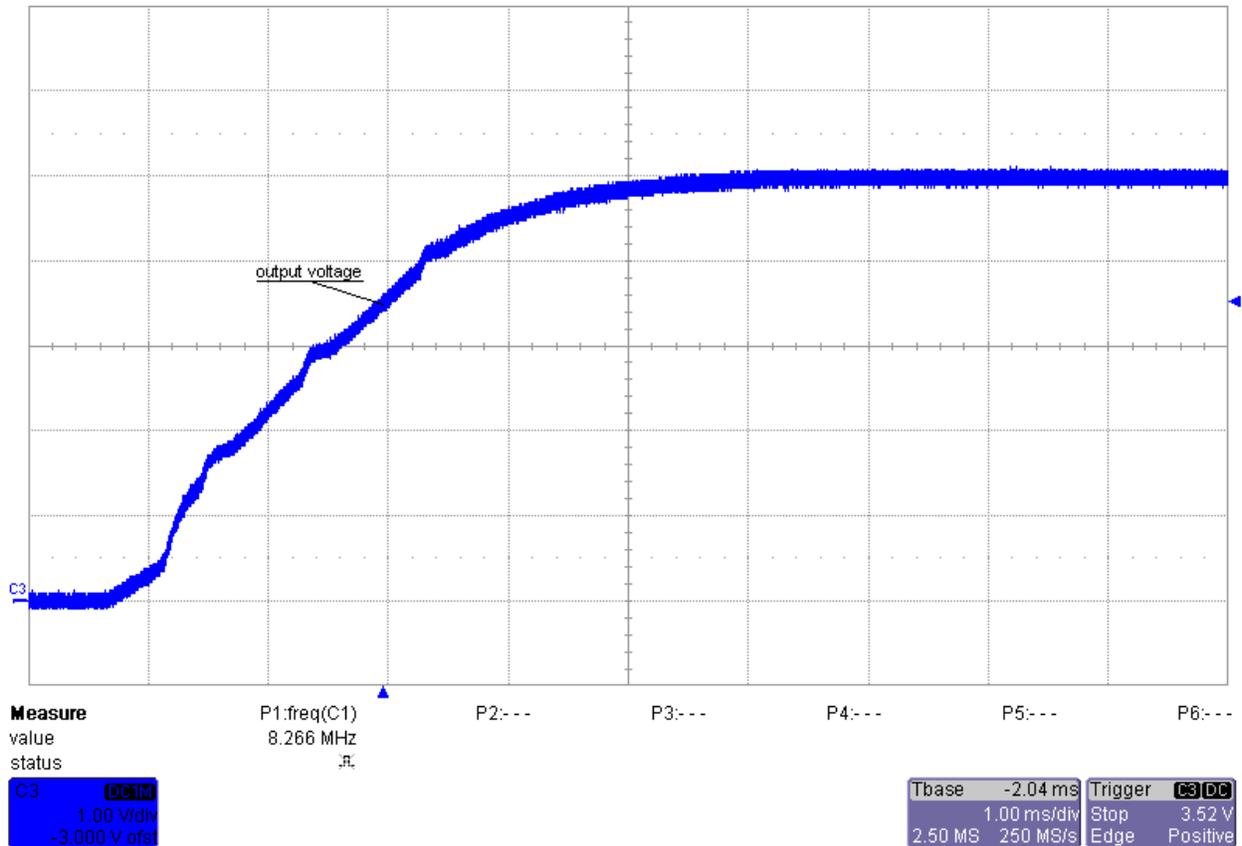
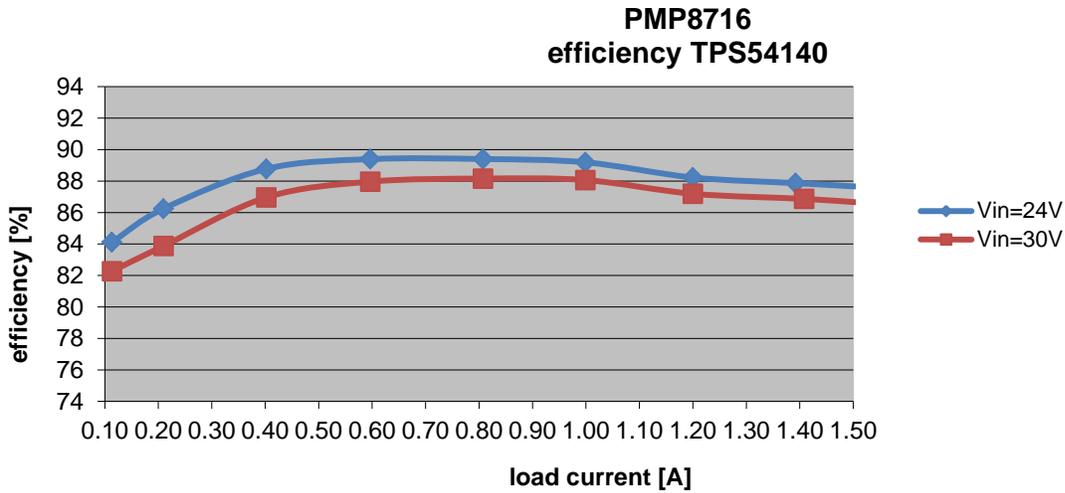


## 1 Startup (TPS54140)

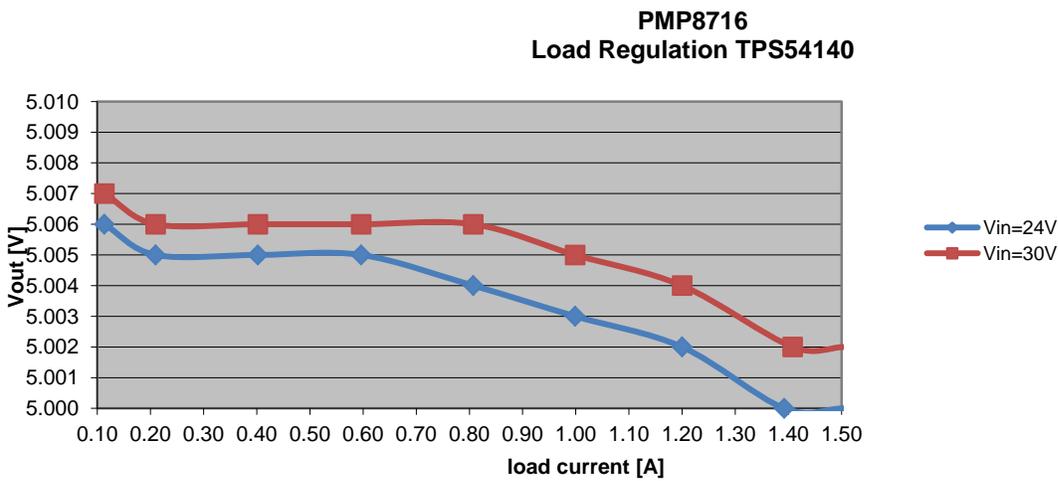
Input voltage = 24V  
Load current = 1.5A



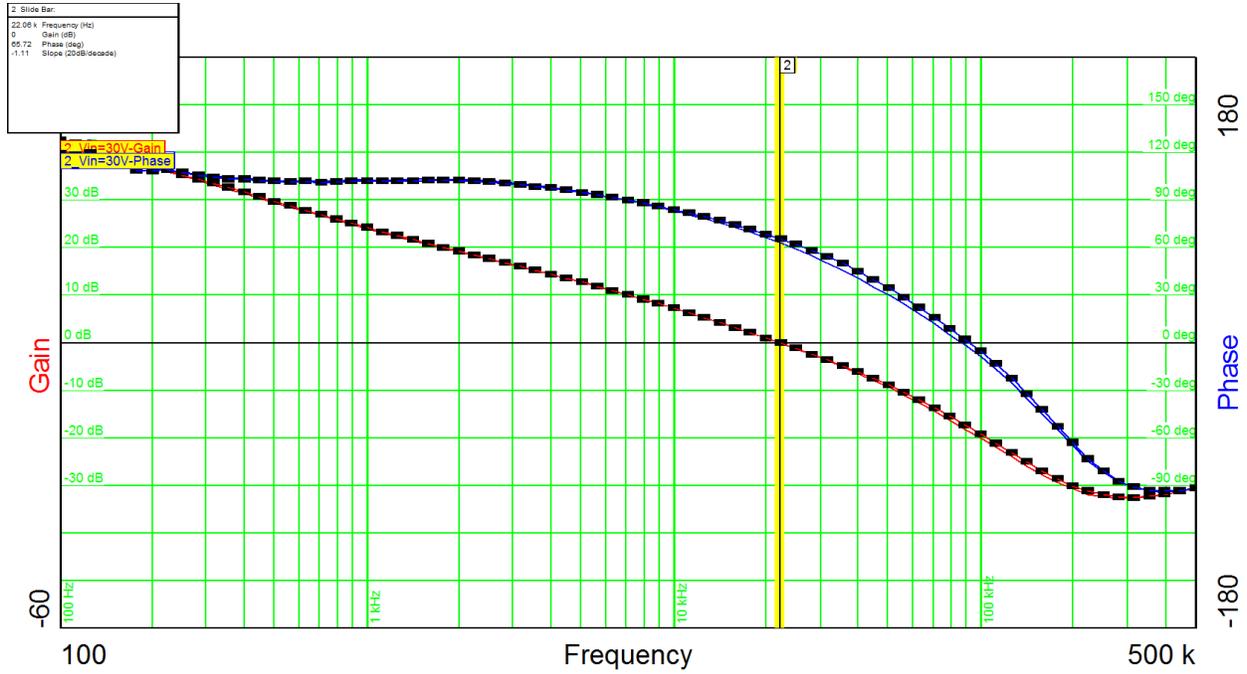
## 2 Efficiency (TPS54140)



## 3 Load regulation (TPS54140)



### 4 Control Loop Frequency Response (TPS54140)

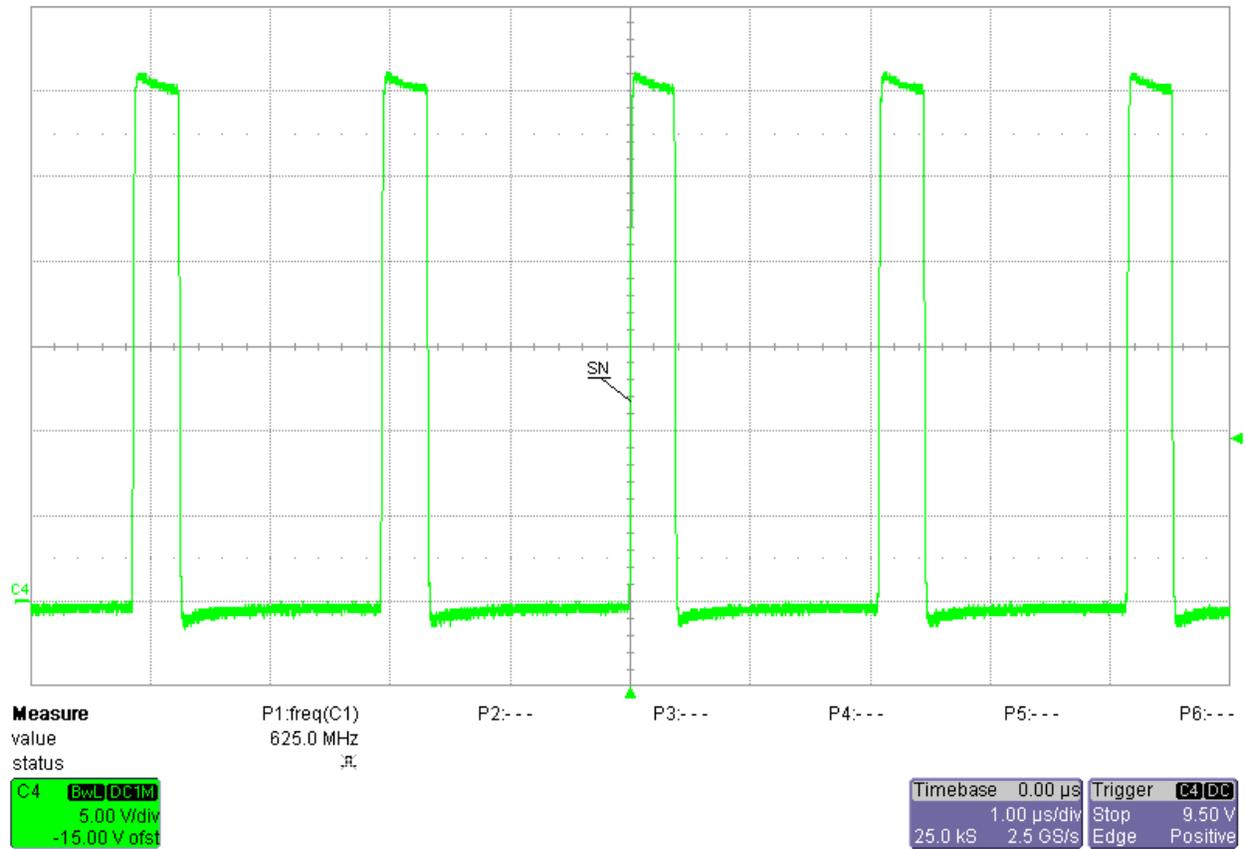


Input voltage = 24V  
 Phase margin = 63.4°  
 Bandwidth = 22.0kHz

Input voltage = 30V  
 Phase margin = 65.7°  
 Bandwidth = 22.1kHz

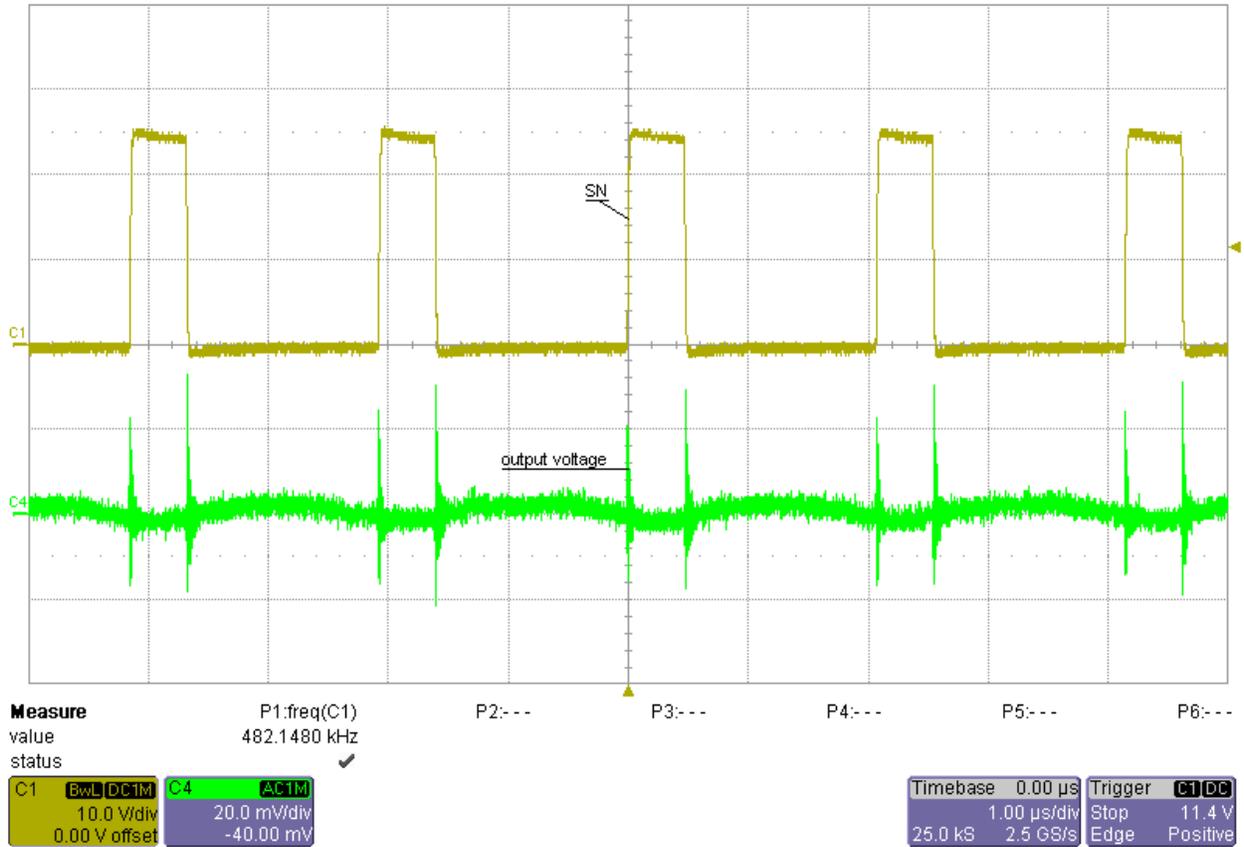
### 5 Switch node Waveform (TPS54140)

Input voltage = 30V  
Load current = 1.5A



## 6 Output ripple voltage (TPS54140)

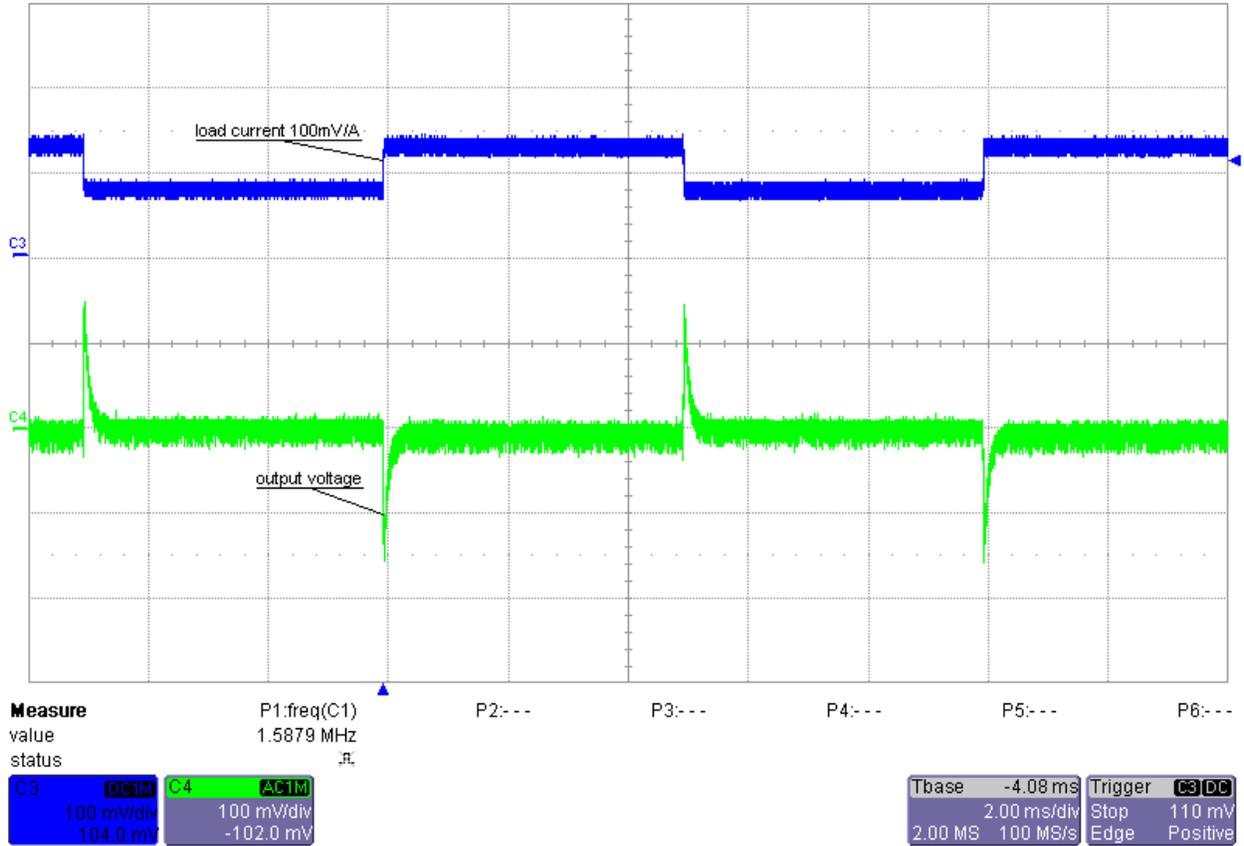
Input voltage = 24V  
 Load current = 1.5A



## 7 Load Transients (TPS54140)

Input voltage = 24V

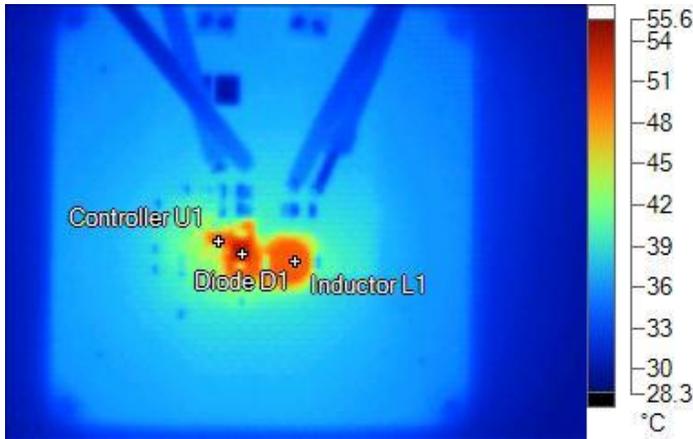
Load current = 0.75A to 1.5A



## 8 Thermal Analysis (TPS54140)

The images below show the infrared images taken from the FlexCam after 15min at full load.

Input voltage = 24V  
 Load current = 1.5A  
 Ambient temperature = 25°C

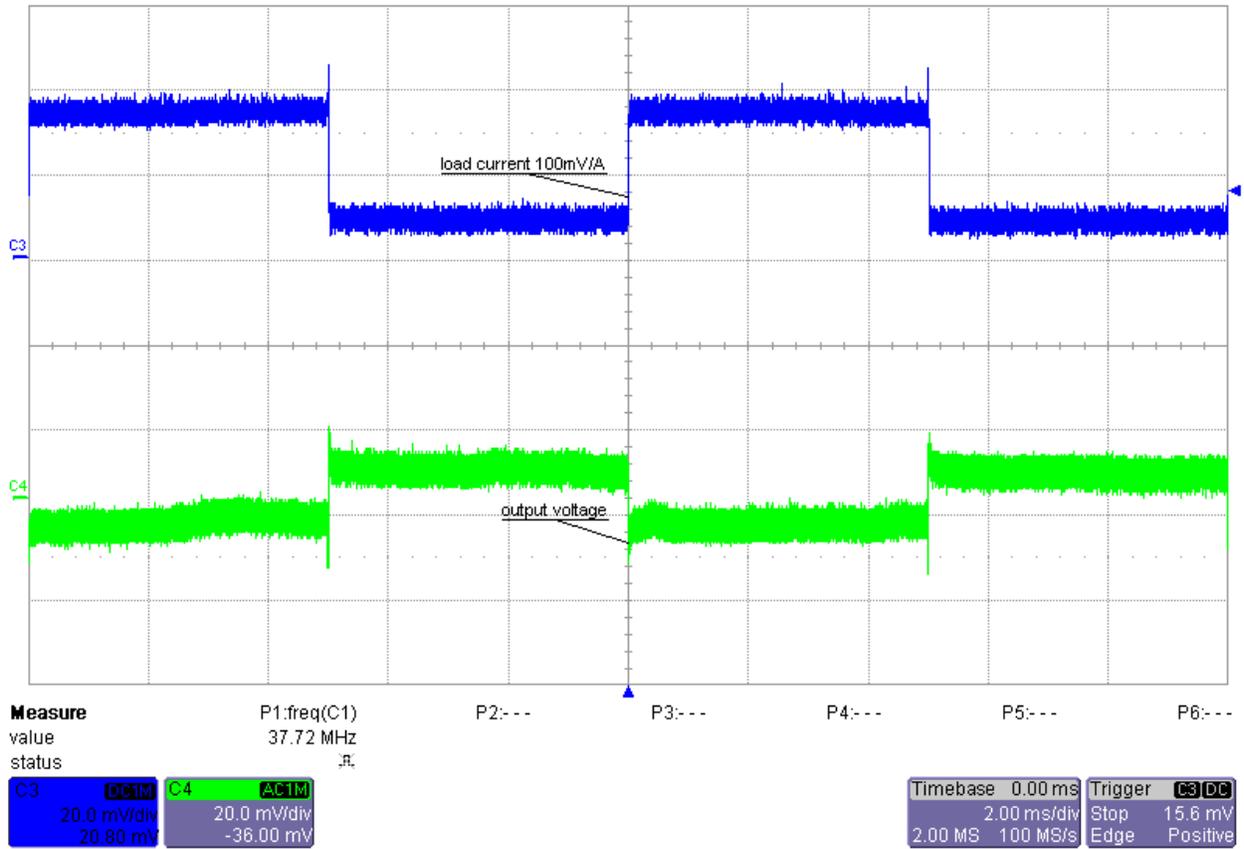


Name	Temperature
Inductor L1	50.4°C
Diode D1	54.6°C
Controller U1	50.0°C

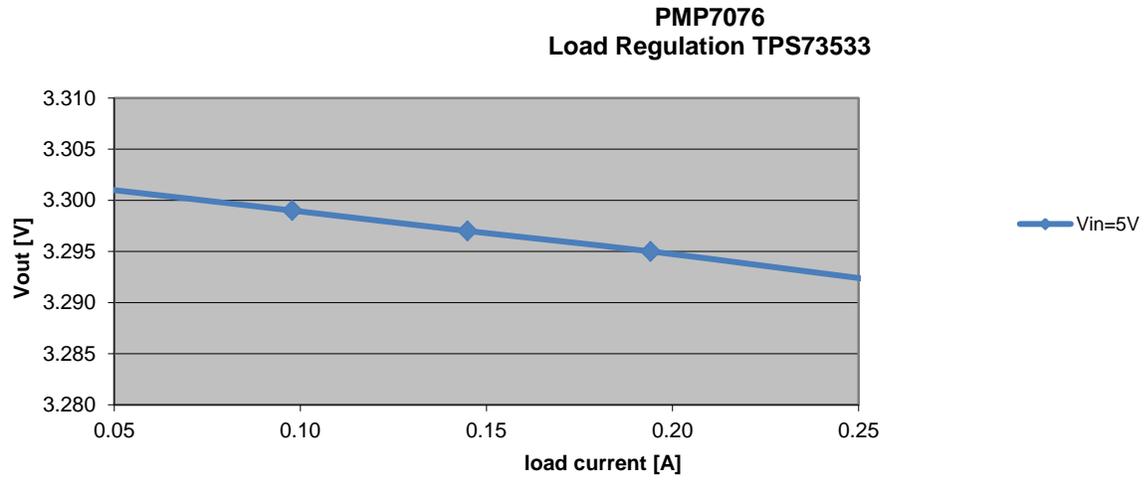
### 9 Load Transients (TPS73533)

Input voltage = 5V

Load current = 0.1A to 0.25A



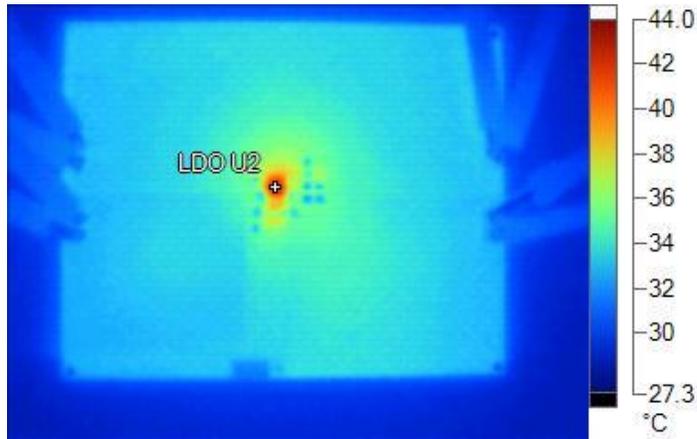
### 10 Load Regulation (TPS73533)



## 11 Thermal Analysis (TPS73533)

The images below show the infrared images taken from the FlexCam after 15min at full load.

Input voltage = 5V  
Load current = 0.25A  
Ambient temperature = 25°C



Name	Temperature
LDO U2	42.8°C

**For Feasibility Evaluation Only, in Laboratory/Development Environments.** The EVM is not a complete product. It is intended solely for use for preliminary feasibility evaluation in laboratory / development environments by technically qualified electronics experts who are familiar with the dangers and application risks associated with handling electrical / mechanical components, systems and subsystems. It should not be used as all or part of a production unit.

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2. You have full and exclusive responsibility to assure the safety and compliance of your products with all such laws and other applicable regulatory requirements, and also to assure the safety of any activities to be conducted by you and/or your employees, affiliates, contractors or designees, using the EVM. Further, you are responsible to assure that any interfaces (electronic and/or mechanical) between the EVM and any human body are designed with suitable isolation and means to safely limit accessible leakage currents to minimize the risk of electrical shock hazard.
3. Since the EVM is not a completed product, it may not meet all applicable regulatory and safety compliance standards (such as UL, CSA, VDE, CE, RoHS and WEEE) which may normally be associated with similar items. You assume full responsibility to determine and/or assure compliance with any such standards and related certifications as may be applicable. You will employ reasonable safeguards to ensure that your use of the EVM will not result in any property damage, injury or death, even if the EVM should fail to perform as described or expected.

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