



**Texas Instruments**

**PMP4465 Test Procedure**

**China Power Reference Design**

**3/27/2014**

# 1 GENERAL

## 1.1 PURPOSE

To provide detailed data for evaluating and verifying the PMP4465, which uses TI Buck controller TPS54360-Q1 and TPS65262-Q1.

## 1.2 REFERENCE DOCUMENTATION

Schematic PMP4465\_SCH.PDF  
Assembly PMP4465\_PCB.PDF  
BOM

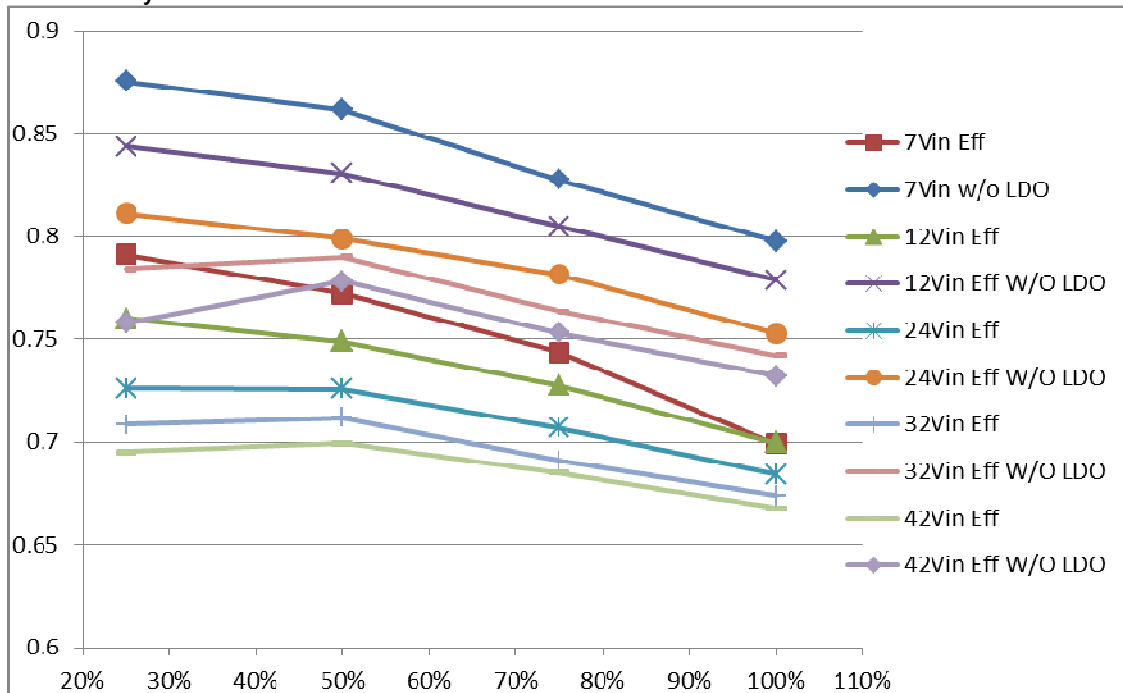
## 1.3 TEST EQUIPMENTS

Multi-meter (current): Fluke 287C\*1  
Multi-meter (voltage): Fluke 287C\*1  
DC Source: GPS 3303C  
E-Load: Chroma 63101 module

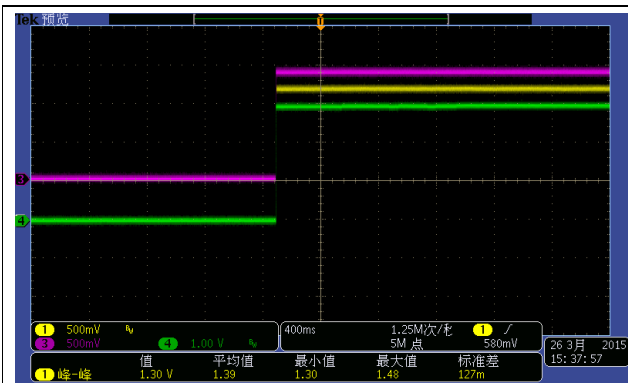
# 2 Performance data and waveform

## 2.1 EFFICIENCY

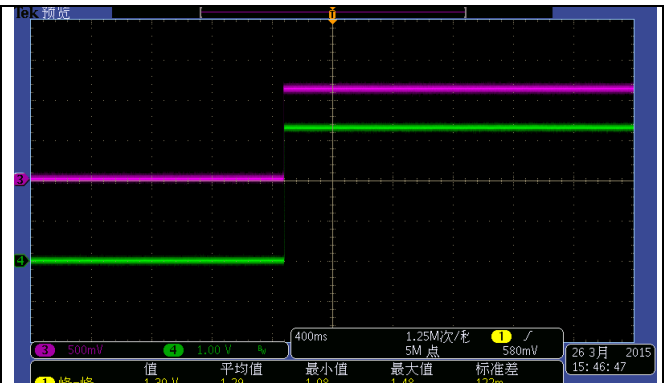
As the LDOs in TPS65262 has big effect on efficiency. The efficiency curve include the efficiency w&w/o LDOs.



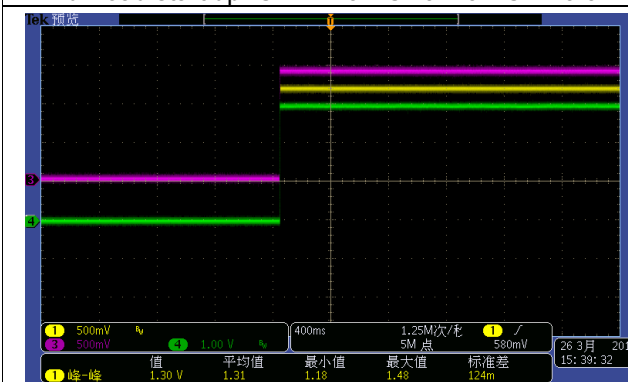
## 2.2 Start Up



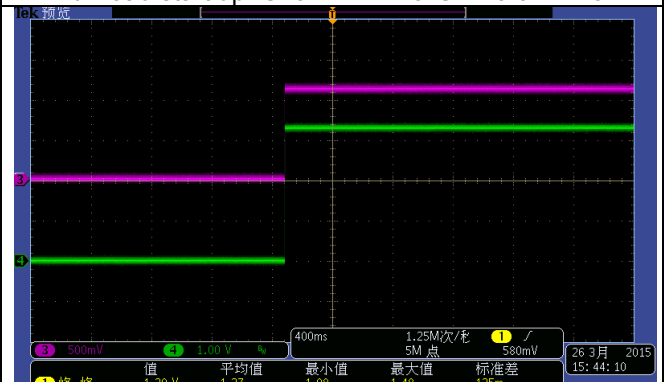
Full load start up Ch1:1.15V CH3:1.5V CH4:3.3V



Full load start up Ch3:1.2V LDO CH4:3.3V LDO

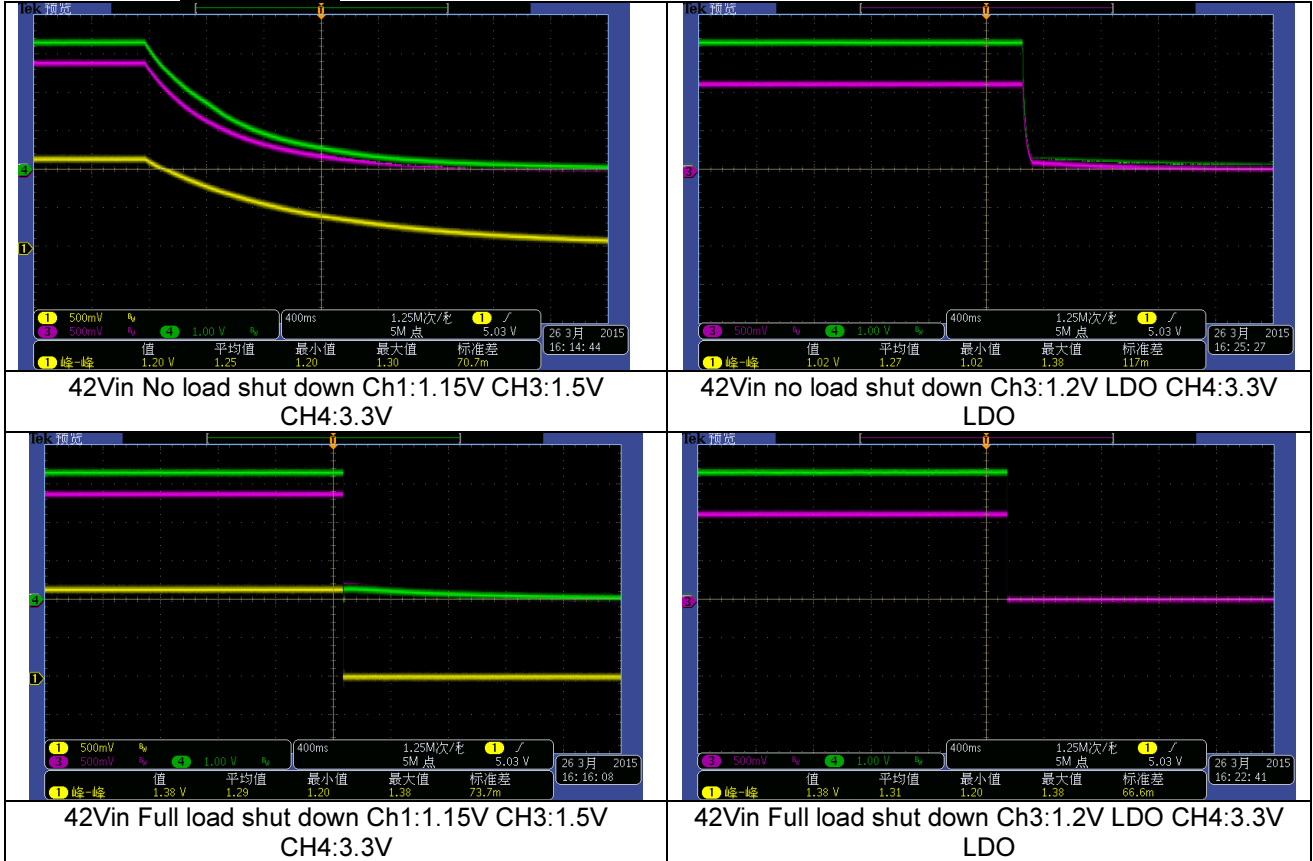


No load start up Ch1:1.15V CH3:1.5V CH4:3.3V

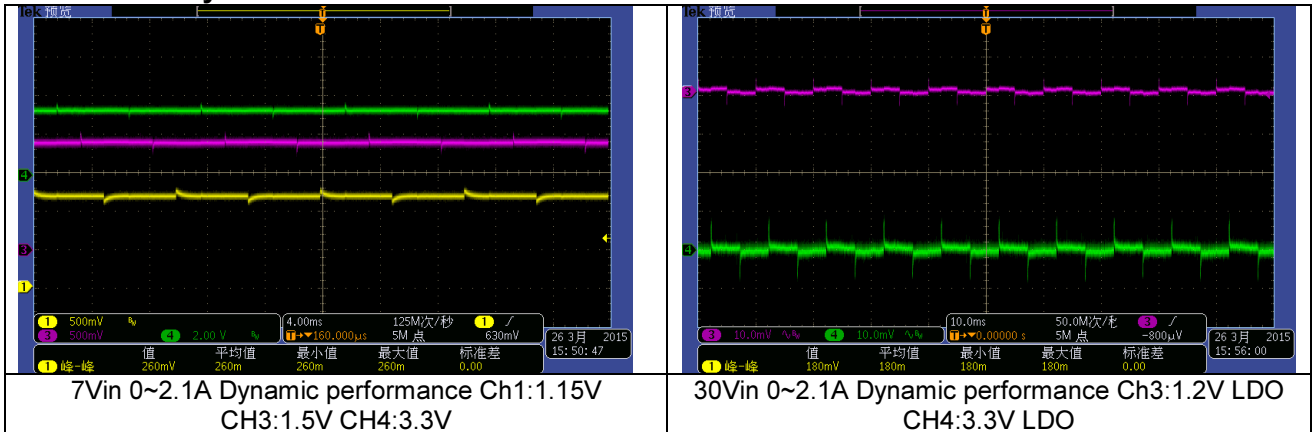


No load start up Ch3:1.2V LDO CH4:3.3V LDO

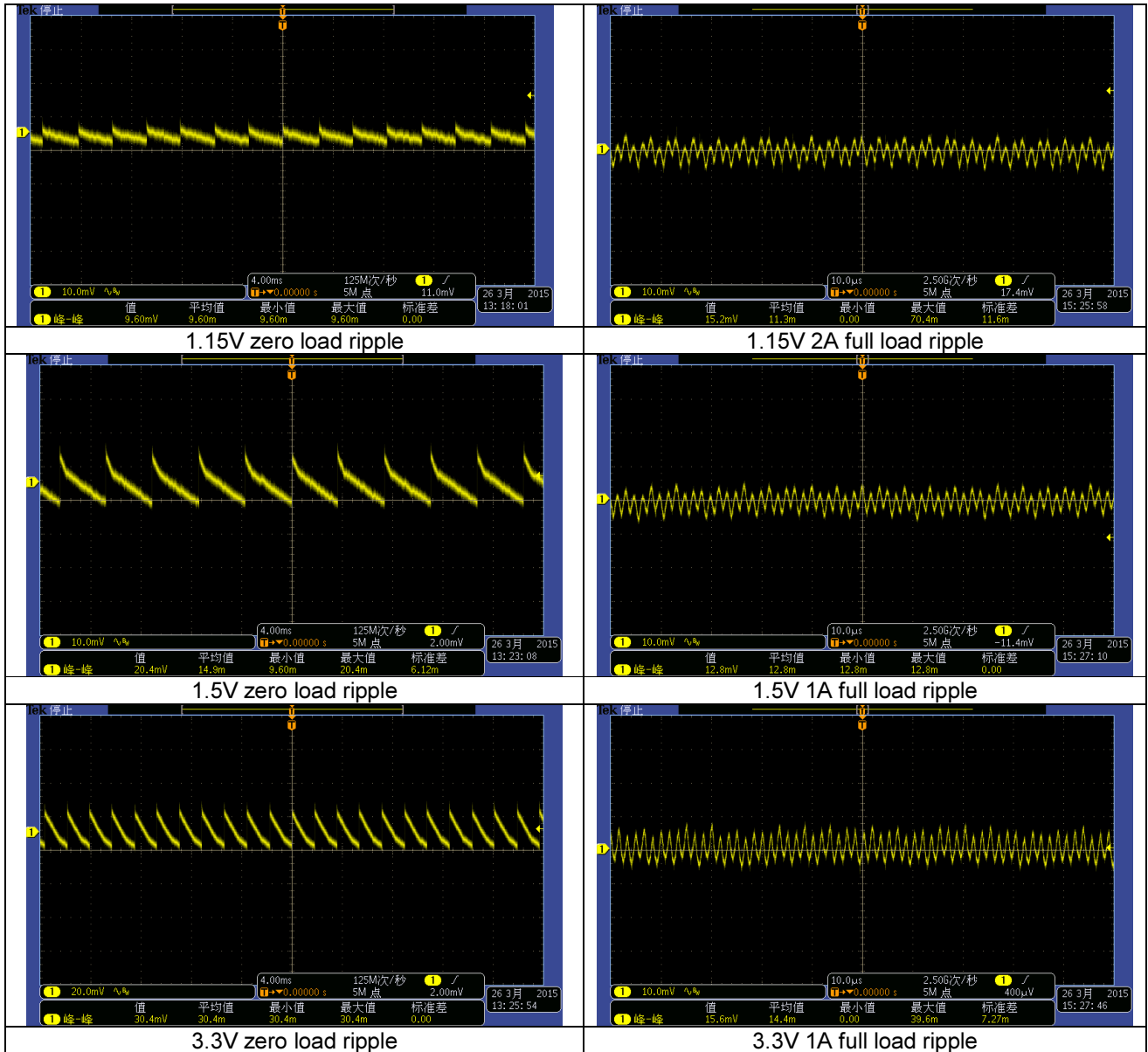
## 2.3 Shut down

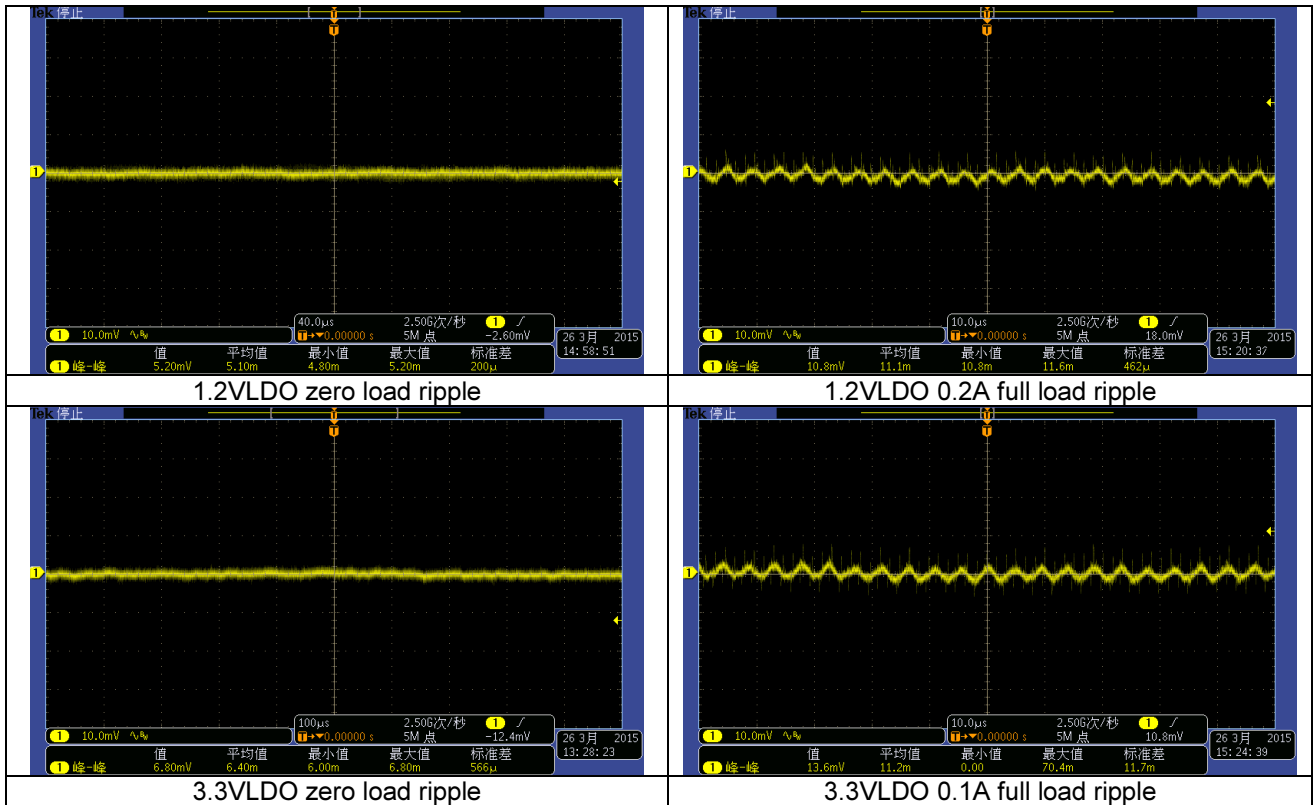


## 2.4 Dynamic Performance



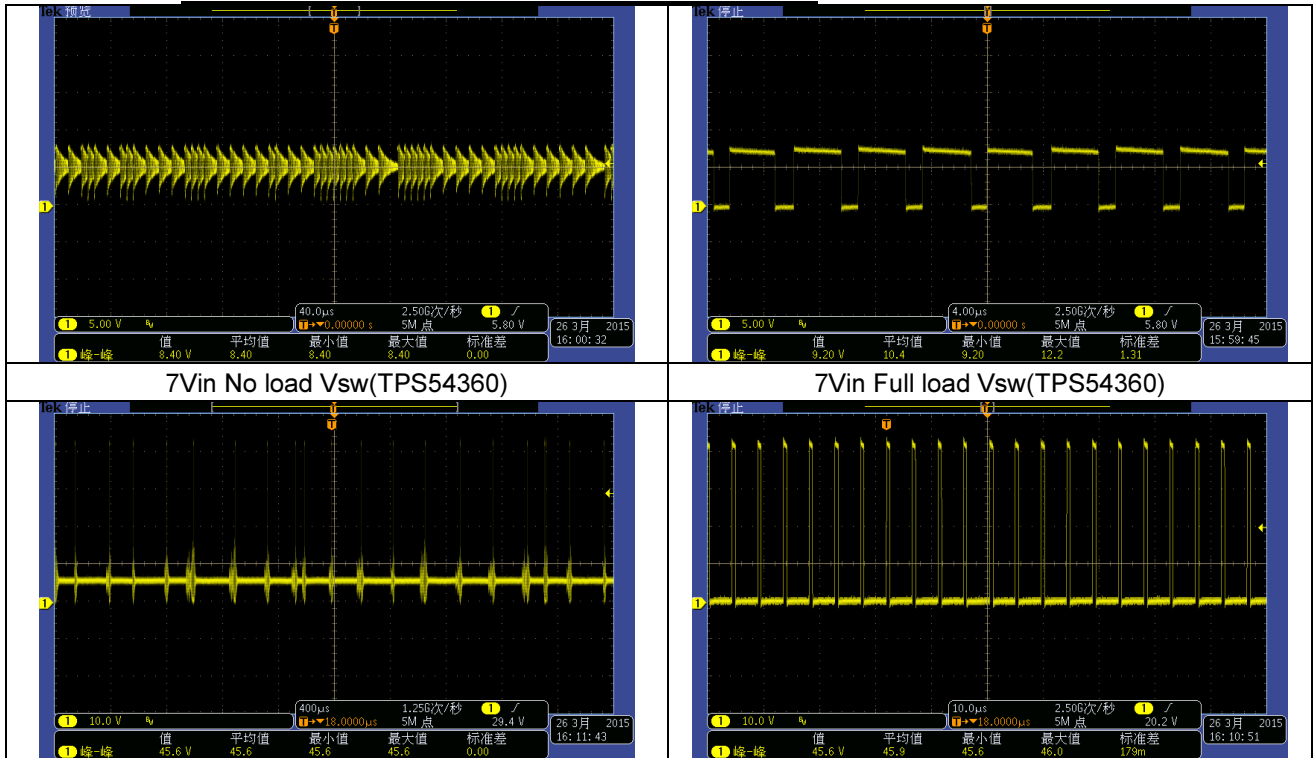
## 2.5 OUTPUT Voltage Ripple



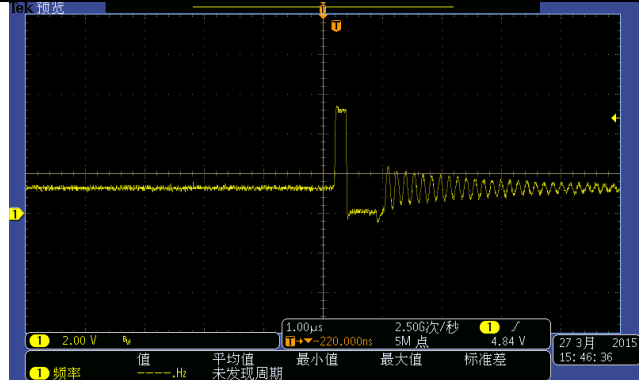


## 2.6 Mosfet Vds

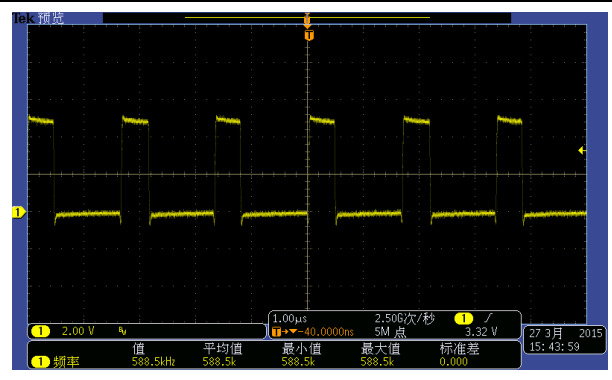
Check the Vsw of TPS54360 and TPS65262



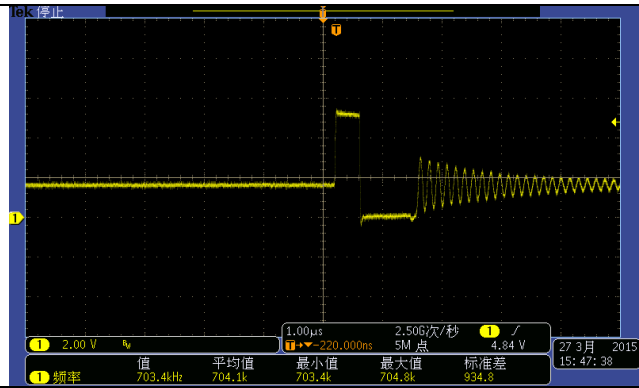
42Vin No load Vsw(TPS54360)



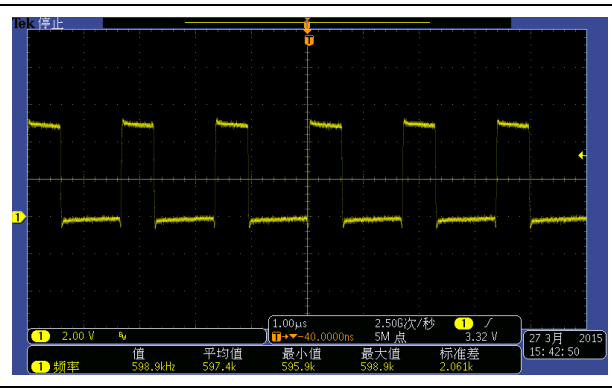
42Vin Full load Vsw(TPS54360)



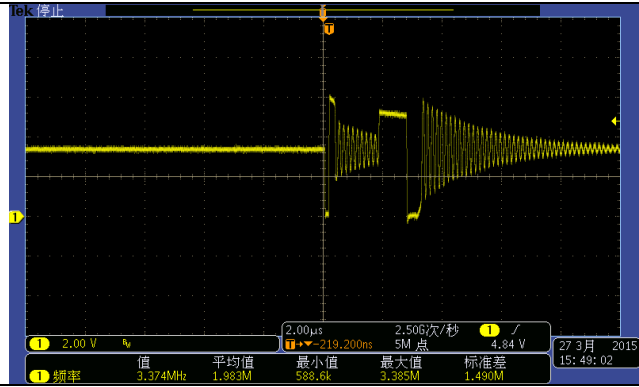
TPS65262 Buck1 No load Vsw



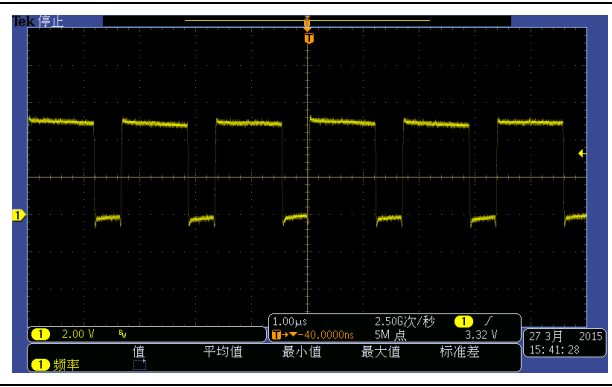
TPS65262 Buck1 Full load Vsw



TPS65262 Buck2 No load Vsw



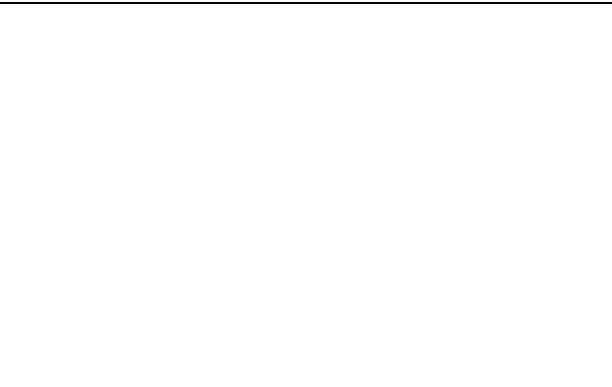
TPS65262 Buck2 Full load Vsw



TPS65262 Buck3 No load Vsw

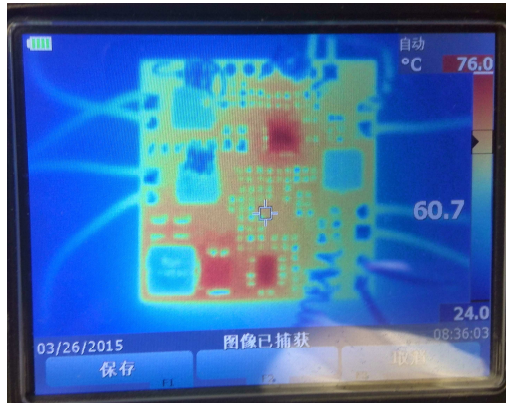


TPS65262 Buck3 Full load Vsw



## 2.7 Thermal Performance

The thermal is tested under 12V<sub>in</sub> with full load output 1hour W/O LDO.





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