

PMP4482 Test Results

1 General

1.1 Purpose

This test report is to provide the detailed data for evaluating and verifying the PMP4482 which employs the Buck Controller ---- TPS40428 and Smart Power Stage ---- CSD95372BQ5MC.

1.2 Reference Documentation

Schematic: PMP4482_RevA.PDF

Gerber: PMP4482_GerberNCdrills.zip

Layer Plot: PMP4482_PCBlayers.pdf

Assembly Drawing: PMP4482_Assy.pdf

CAD File: PMP4482_CAD.zip

BOM: PMP4482_RevA_Bom.PDF

1.3 Test Equipment

Multi-meter (current): Fluke 287C

Multi-meter (voltage): Agilent 34401A

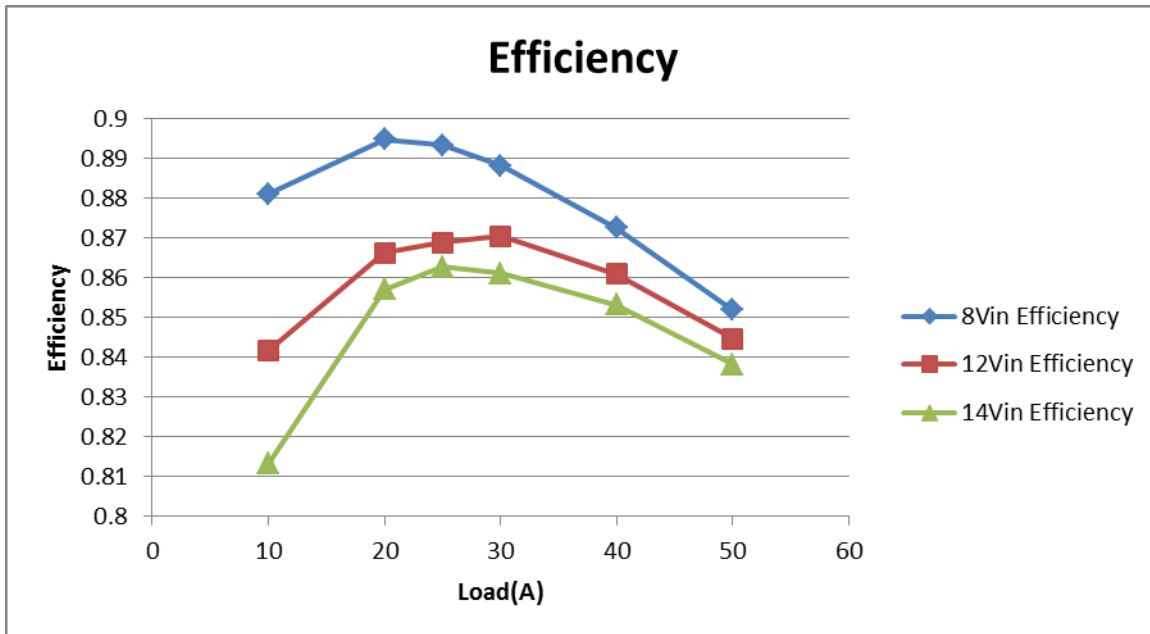
DC Source: GPS 3303C

E-Load: Chroma 63101 module

Oscilloscope: Tektronix DPO3054

2 Performance Data and Waveform

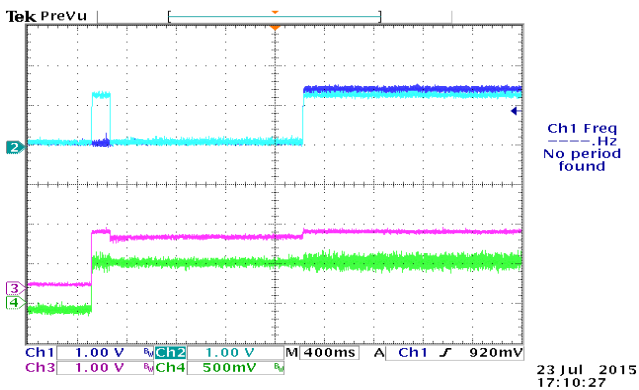
2.1 Efficiency



Note: The efficiency is tested with 1.2Vout.

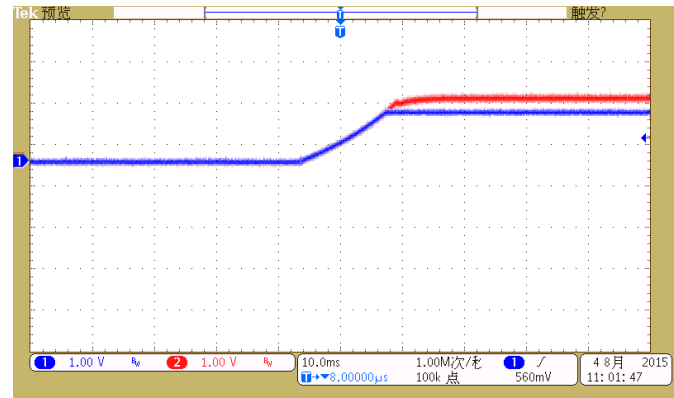
2.2 Tracking Function

Apply the input voltage (Vin). Tracking function will be active after about 150ms.



Strat up with Vtrack 0V

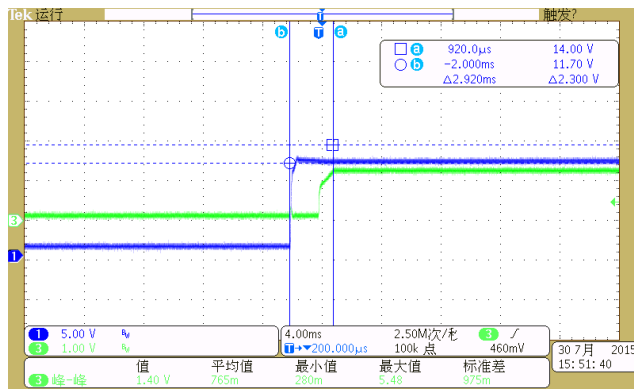
CH1:Vtrack CH2:Vo CH3:Vcomp CH4:VFB



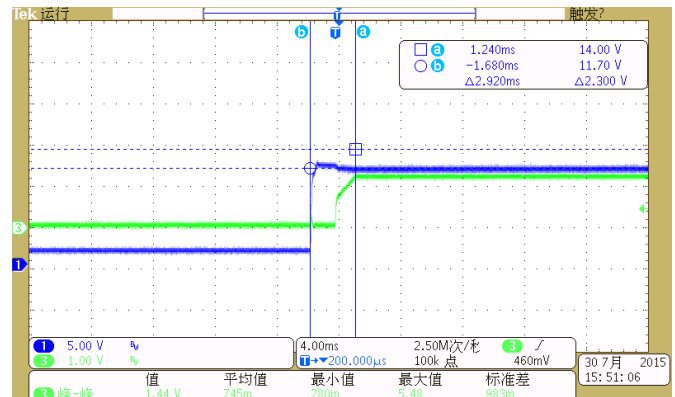
Tracking function is active

CH1: Vtrack CH2: Vo

2.3 Turn On Time

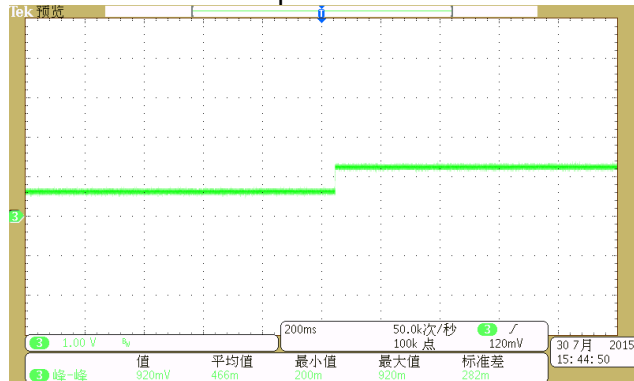


12Vin zero load turn on time
CH1: Vin CH2: Vo

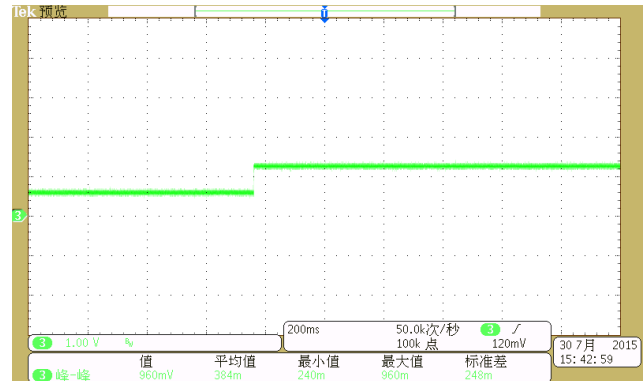


12Vin full load turn on
CH1: Vin CH2: Vo

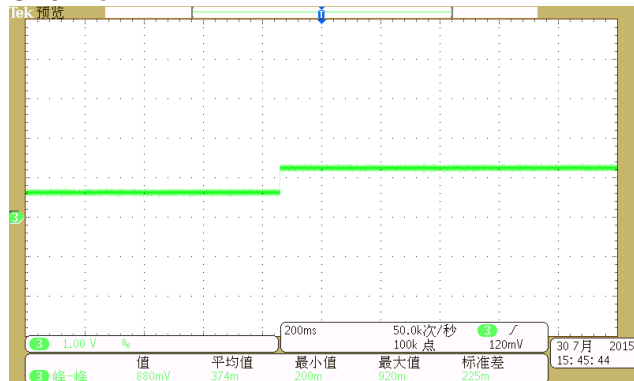
2.4 Pre-bias Start Up



8Vin 0.5V Pre-bias voltage start up
CH3: Vo

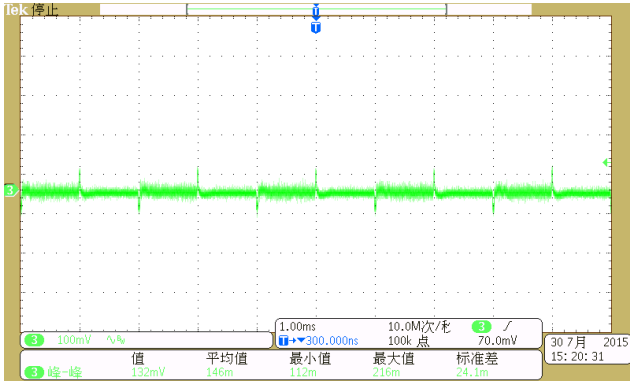


12Vin 0.5V Pre-bias voltage start up
CH3: Vo

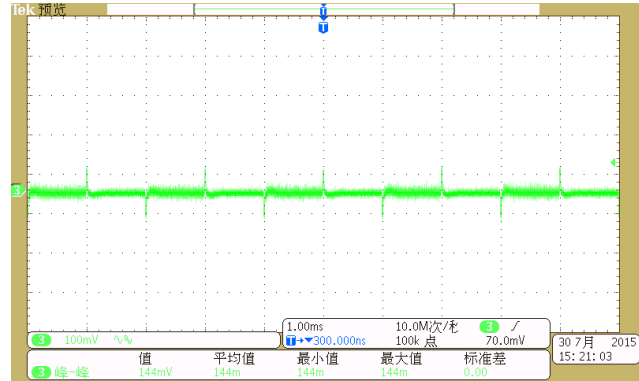


14Vin 0.5V Pre-bias voltage start up
CH3: Vo

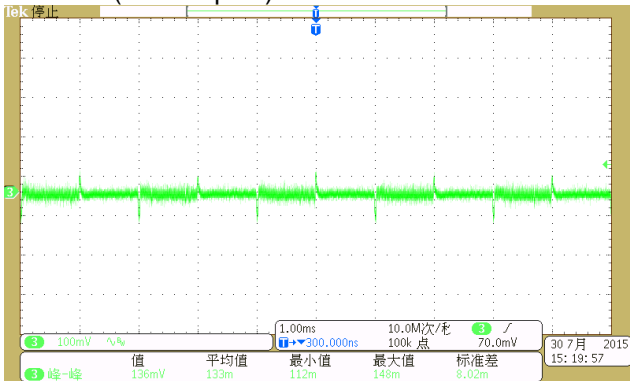
2.5 Dynamic Performance



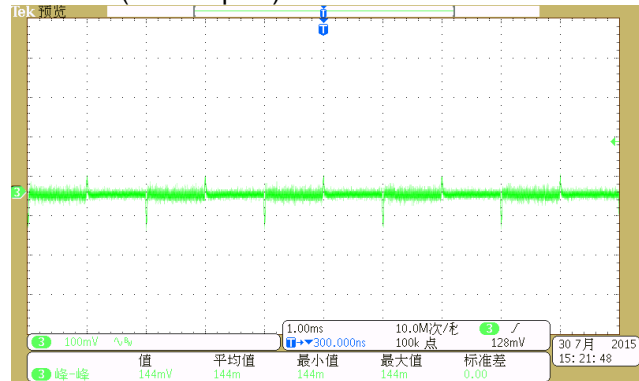
8Vin 50%~100% Dynamic performance 2.5A/us
CH3: Vo (AC Coupled)



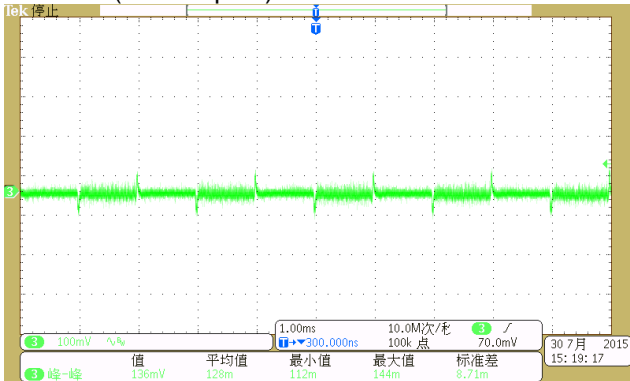
8Vin 30%~80% Dynamic performance 2.5A/us
CH3: Vo (AC Coupled)



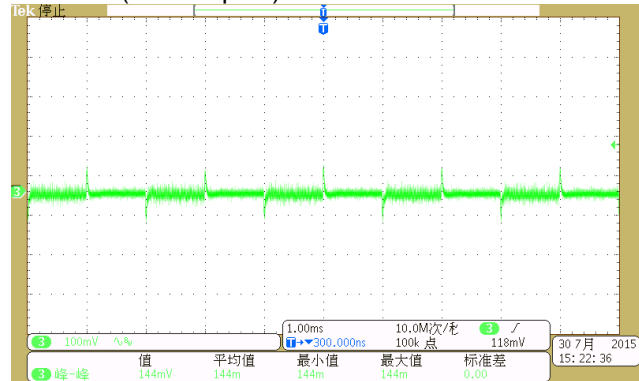
12Vin 50%~100% Dynamic performance 2.5A/us
CH3: Vo (AC Coupled)



12Vin 30%~80% Dynamic performance 2.5A/us
CH3: Vo (AC Coupled)

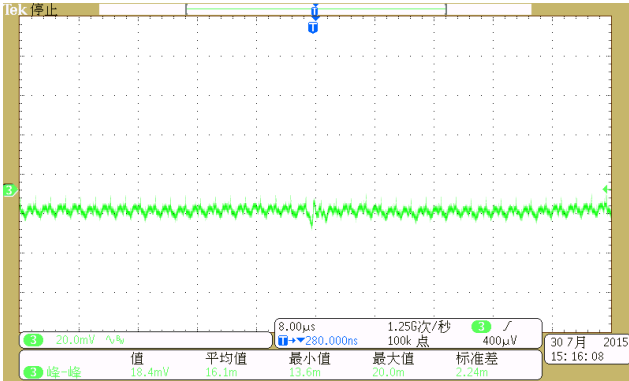


14Vin 50%~100% Dynamic performance 2.5A/us
CH3: Vo (AC Coupled)

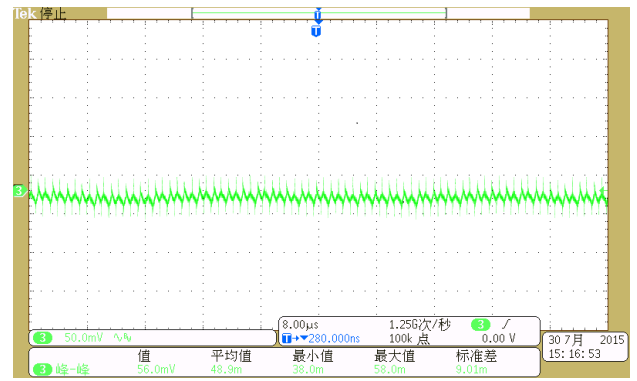


14Vin 30%~80% Dynamic performance 2.5A/us
CH3: Vo (AC Coupled)

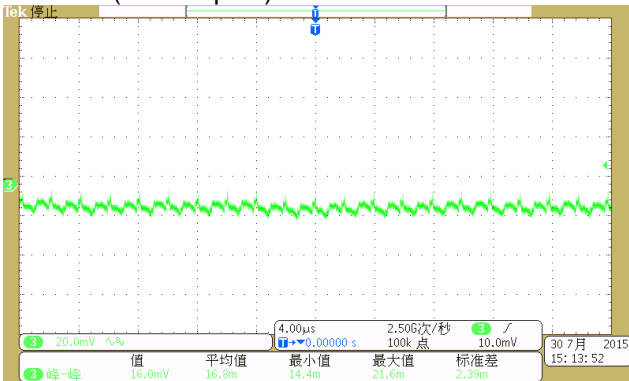
2.6 OUTPUT Voltage Ripple



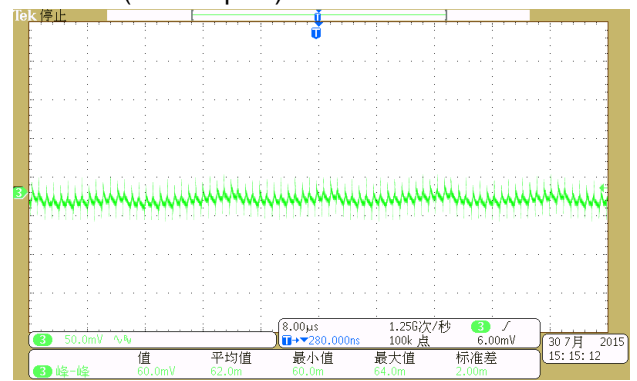
8Vin zero load ripple
CH3: Vo (AC Coupled)



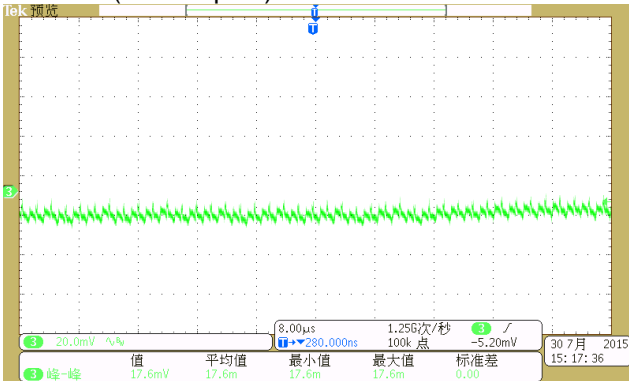
8Vin full load ripple
CH3: Vo (AC Coupled)



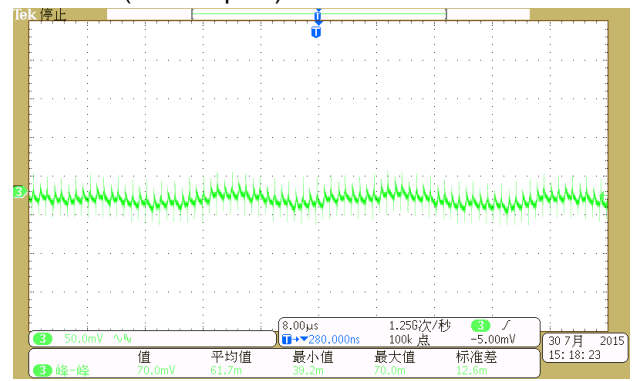
12Vin zero load ripple
CH3: Vo (AC Coupled)



12Vin full load ripple
CH3: Vo (AC Coupled)

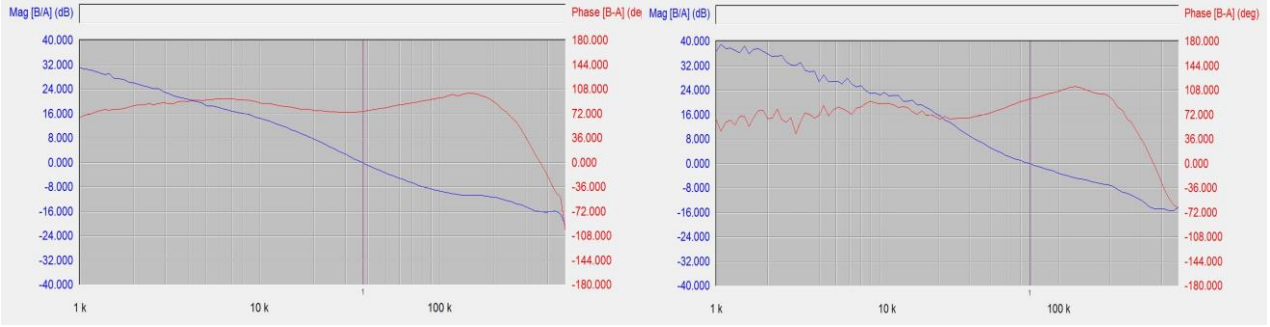


14Vin zero load ripple
CH3: Vo (AC Coupled)



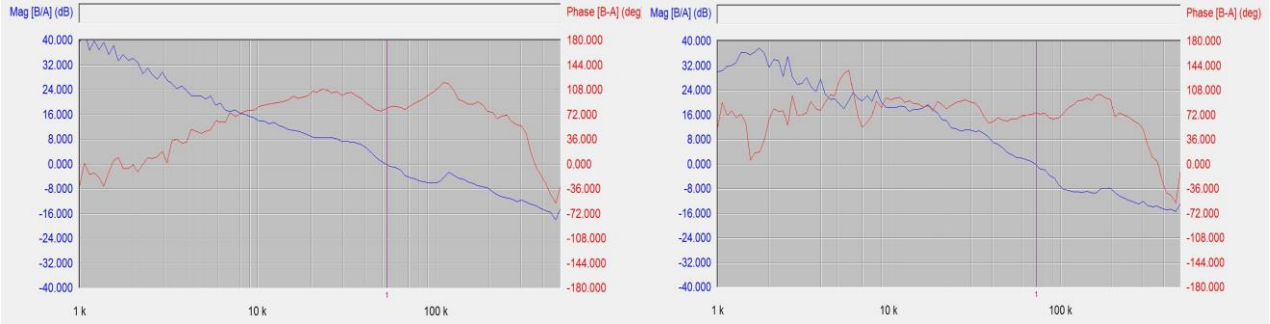
14Vin full load ripple
CH3: Vo (AC Coupled)

2.7 Bode Plot



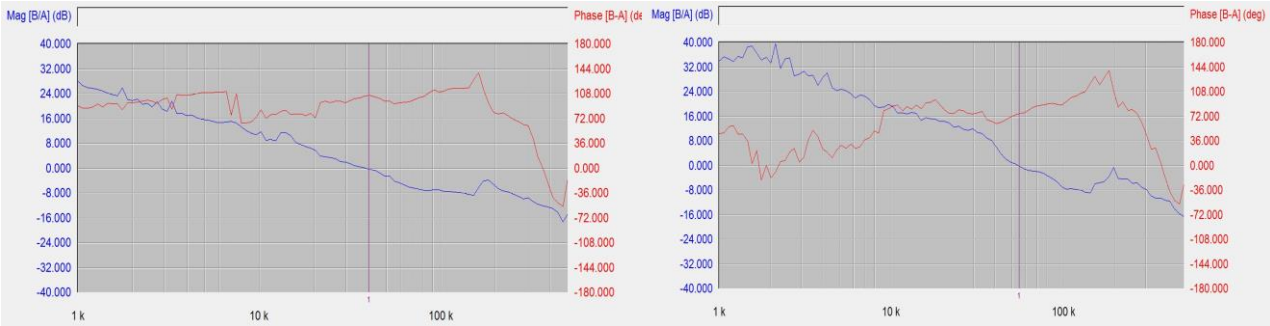
8Vin 25A Bode Plot

8Vin 50A Bode Plot



12Vin 25A Bode Plot

12Vin 50A Bode Plot



14Vin 25A Bode Plot

14Vin 50A Bode Plot

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