

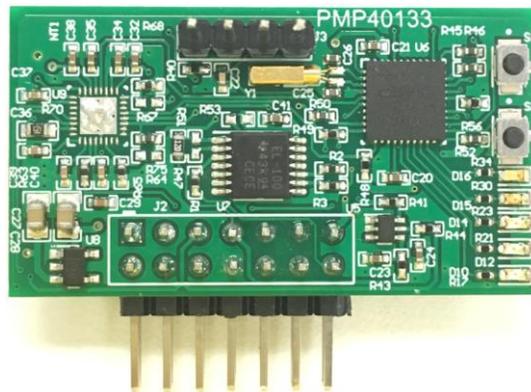
## Design PMP40133 Test Results

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### 1 GENERAL

#### 1.1 PURPOSE

The PMP40133 control board provides the interface with fast charger adapter solution. The main MCU use MSP430G2955 which is in charge of communication with device and fast charge algorithm. TPL0102-100 is used for adapter output voltage fine tune. INA199 current detection circuit and voltage divider circuit net is used for adapter OCP and OVP.



#### 1.2 REFERENCE DOCUMENTATION

Schematic: PMP40133E1(001)\_Sch.PDF

PCB: PMP40133\_RevA.PcbDoc

BOM: PMP40133E1(001)\_TI-BOM.PDF

#### 1.3 TEST EQUIPMENTS

Multi-meter (current): Fluke 287C\*2

Multi-meter (voltage): Agilent 34401A

AC Source: Chroma 61503

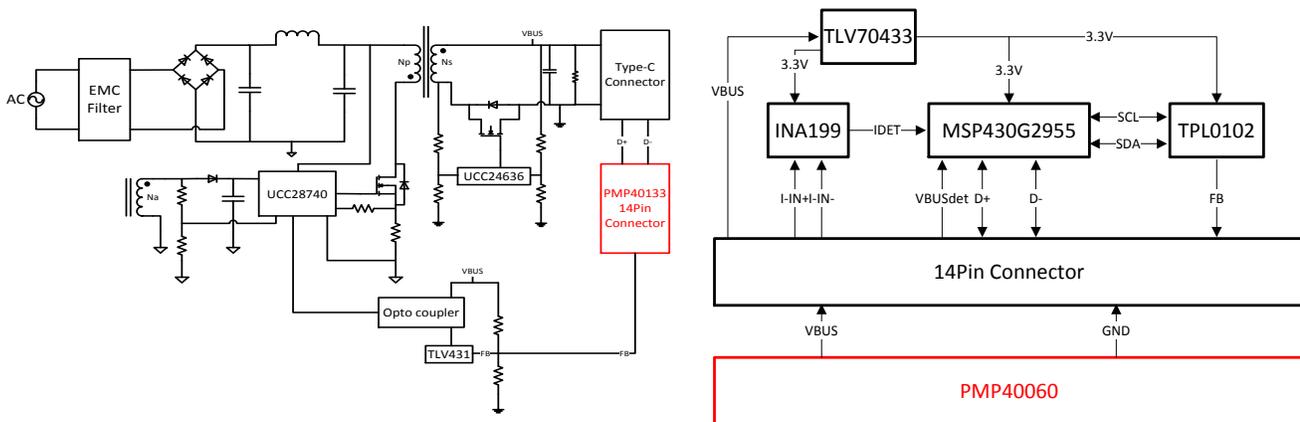
E-Load: Chroma 63101 module

### 2 Performance data and waveform

The following waveform is based on PMP40060 and PMP40133 board. PMP40060 connects TI fast charger BQ25871 EVM board (phone side) through type-c cable. For more information about BQ25871, please contact TI sales or field application engineer. Check the website:

<http://www.ti.com/tool/BQ25871EVM-813?keyMatch=BQ25871&tisearch=Search-EN-Everything>

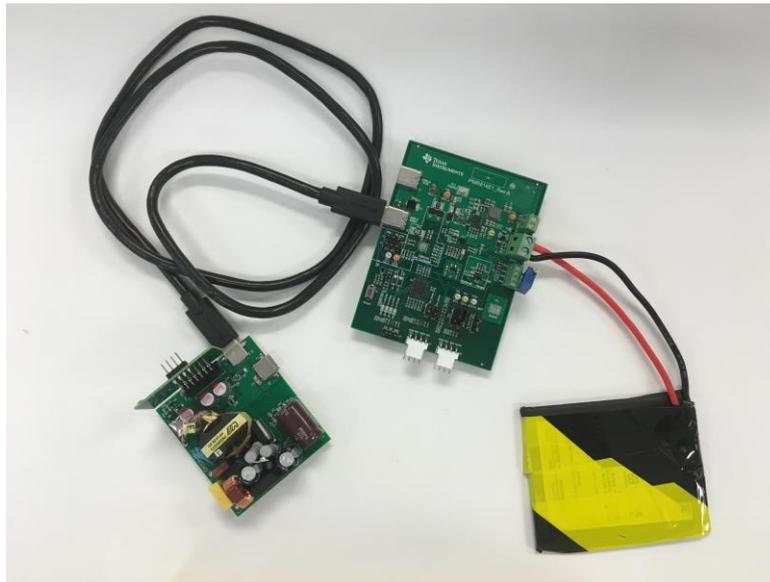
Block diagram:



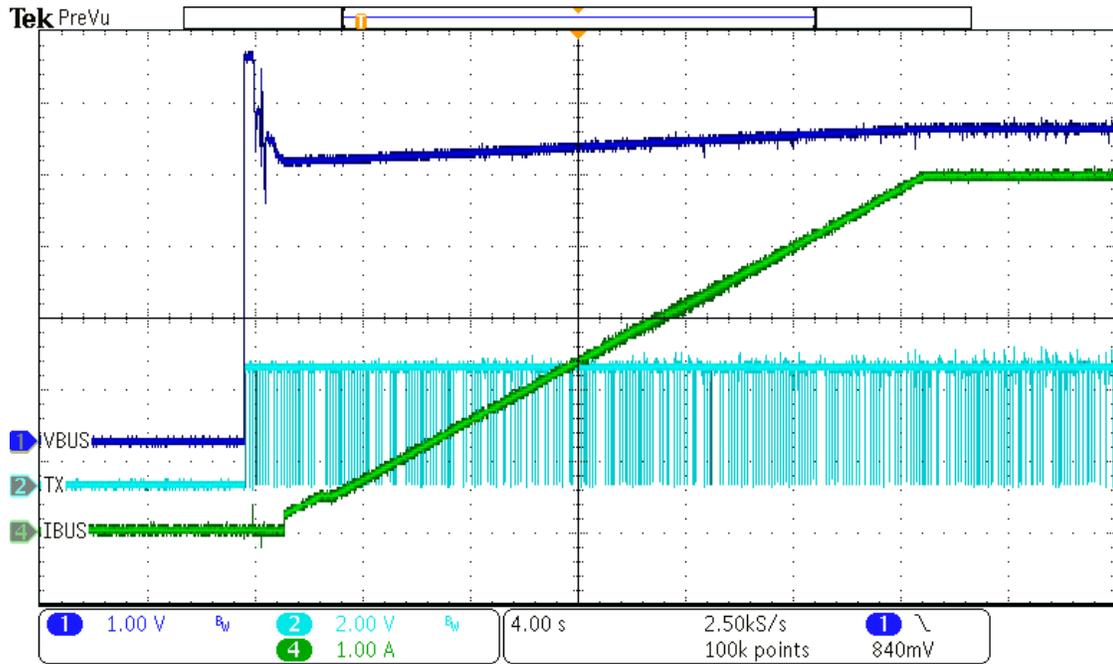
PMP40060

PMP40133

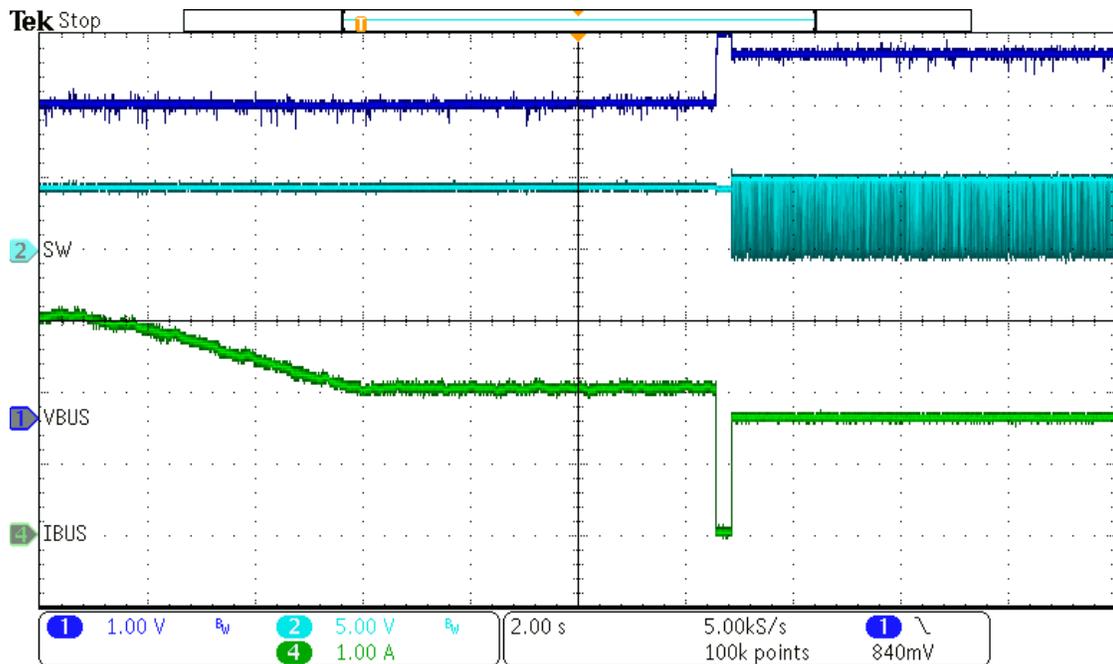
Prototype setup:



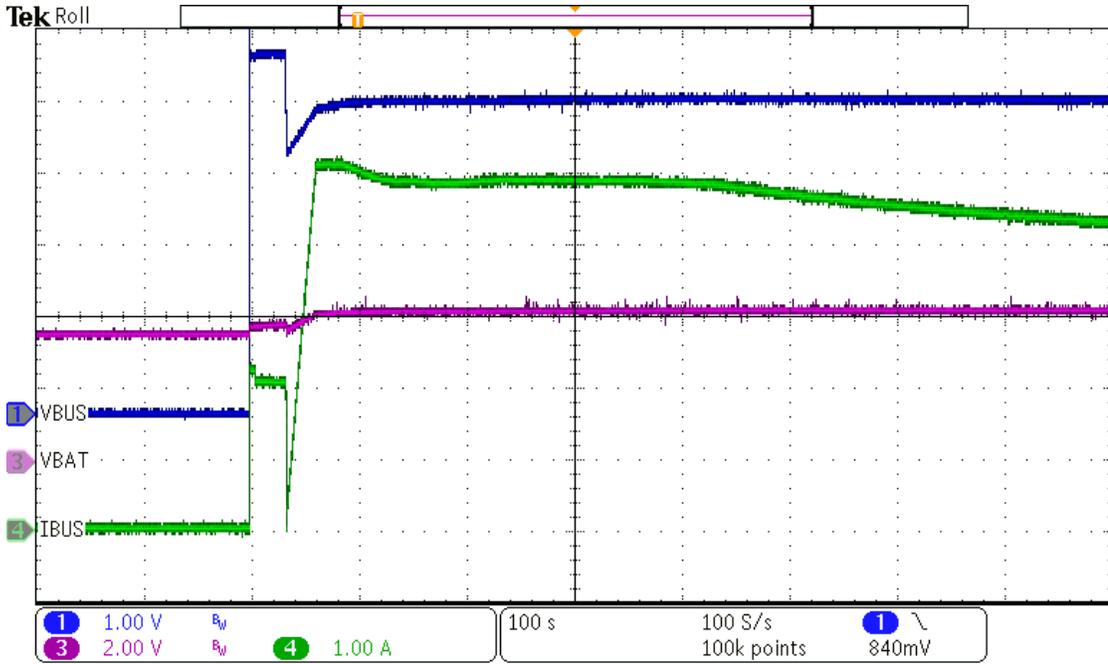
### 2.1 Startup and directly ramp to 5A fast charge



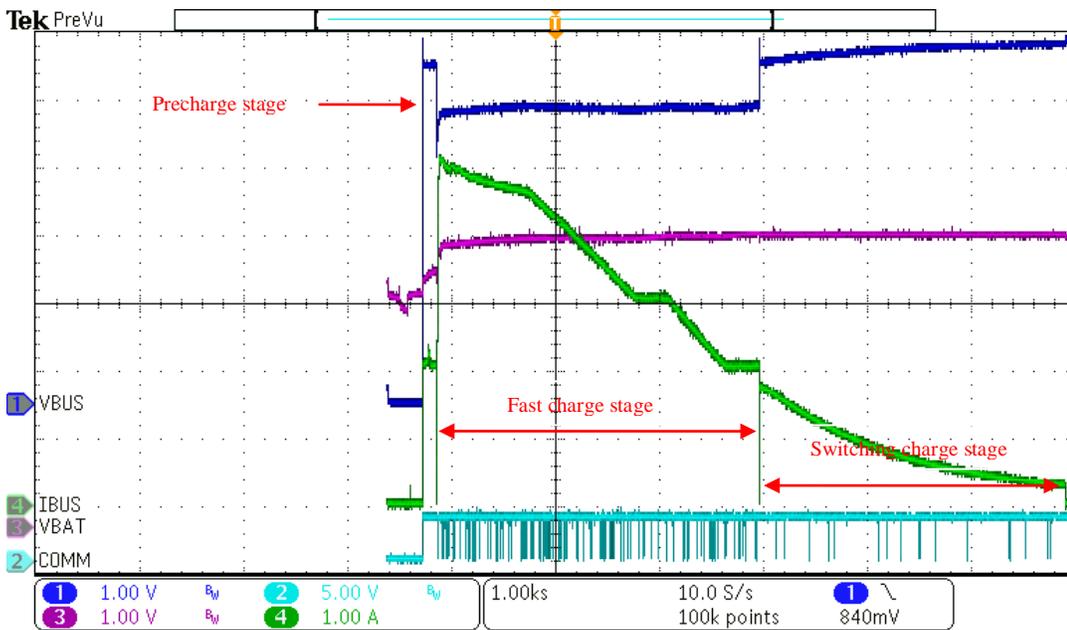
### 2.2 Fast charge to switch charge transition



### 2.3 Precharge to fast charge transition



## 2.4 Full charge cycle-precharge, fast charge and switching charge to battery taper full



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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
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