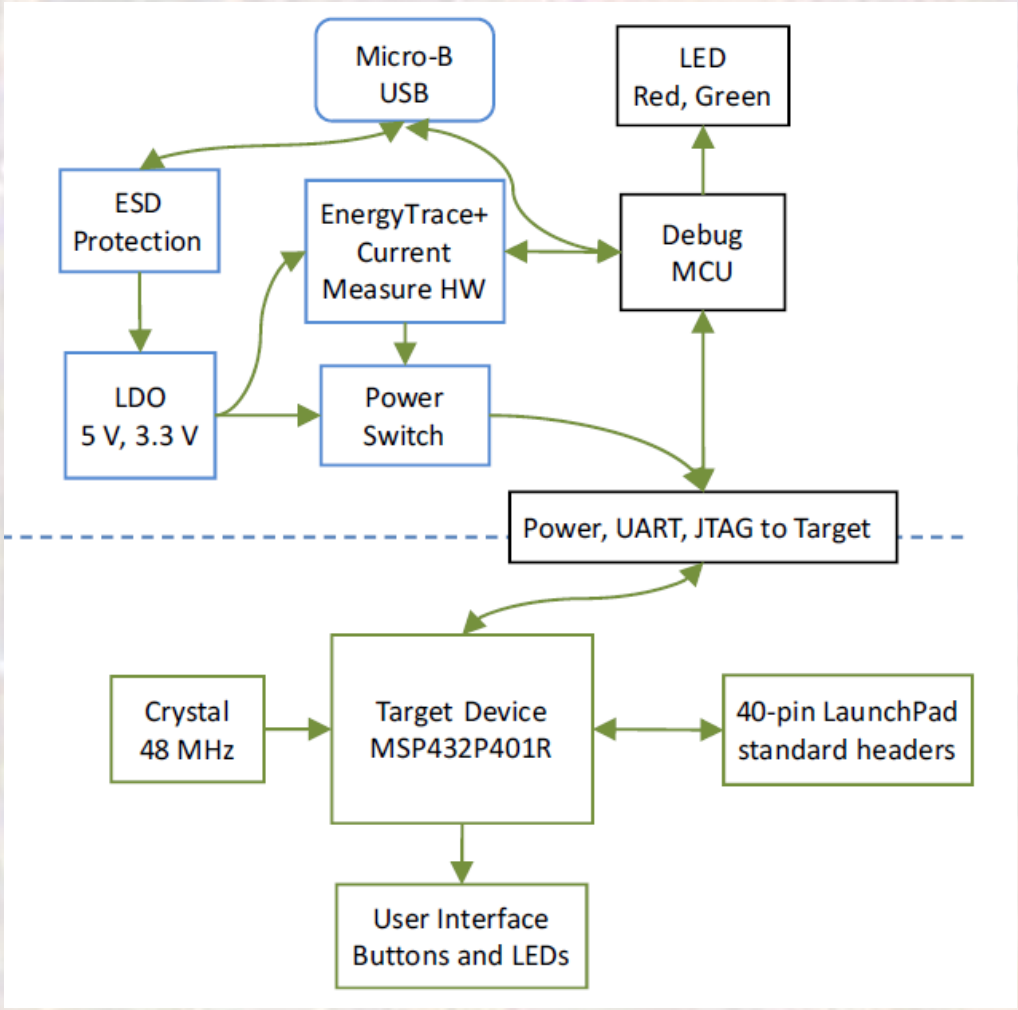
TI-Launchepad

Last Updated 6/17/19

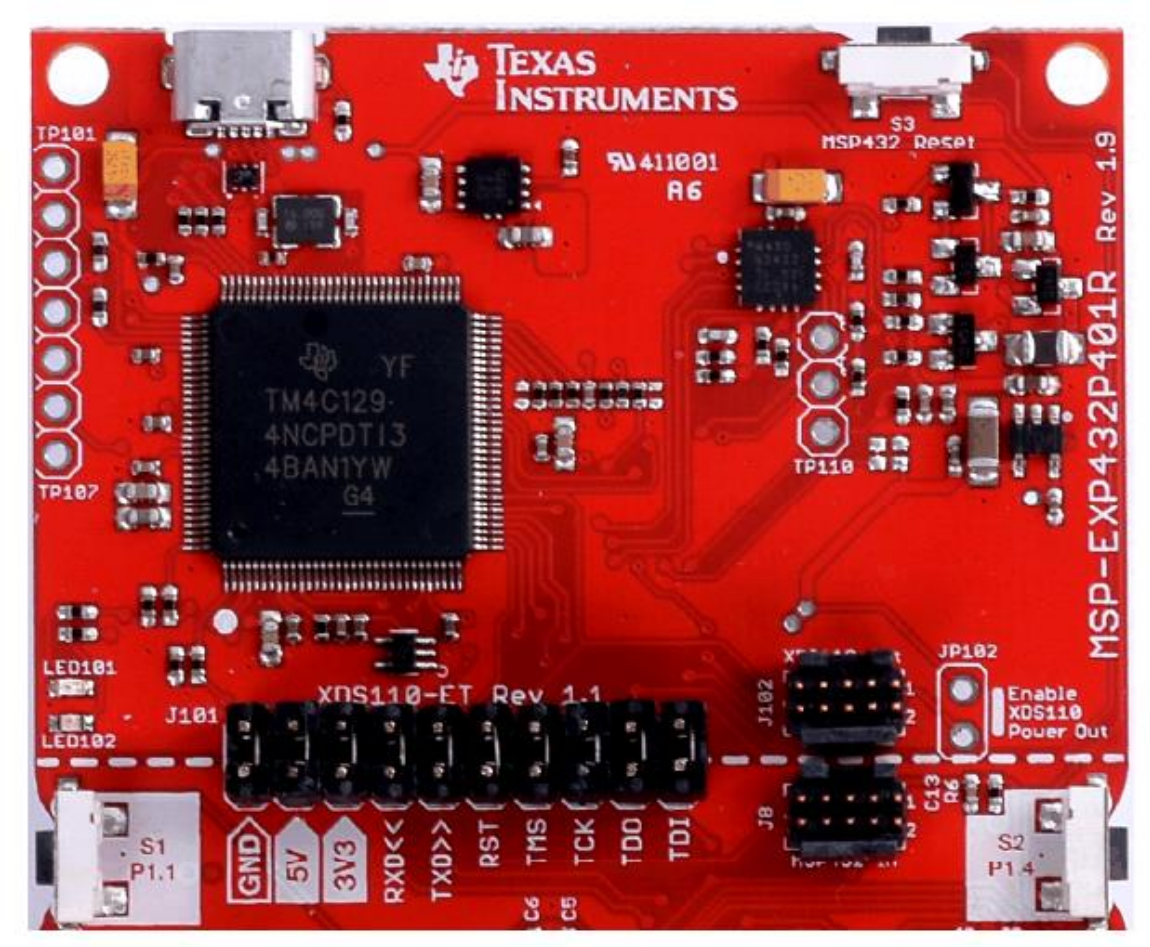
TI Launchpad Schematic

- Block Diagram



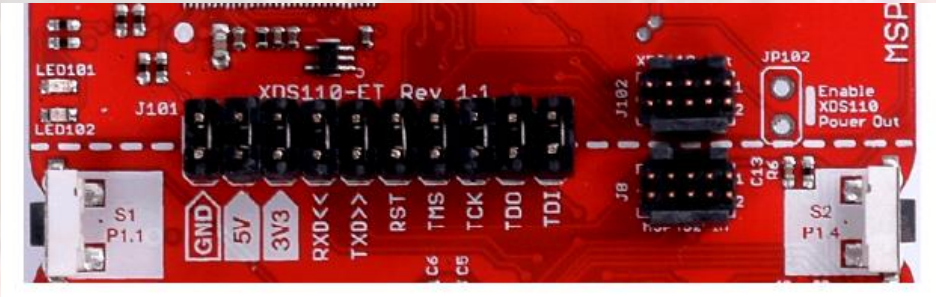
TI Launchpad Schematic

- Debug Probe



TI Launchpad Schematic

- Debug Probe



uses UART eUSCI_A0

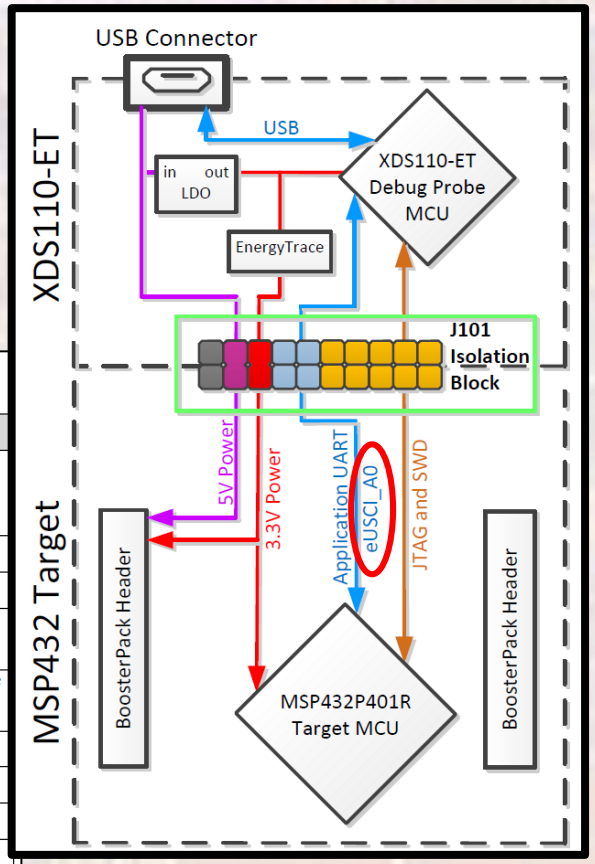
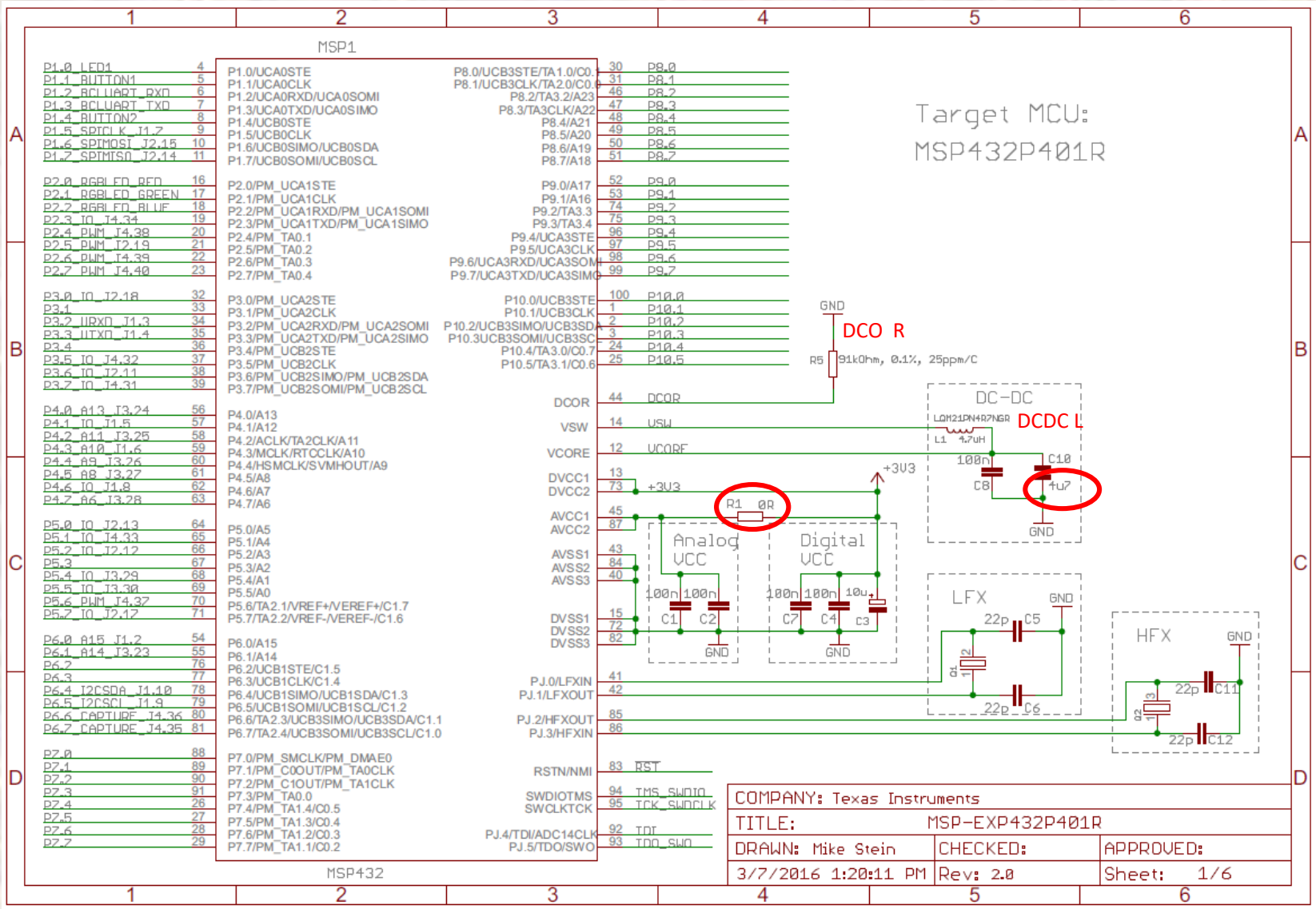


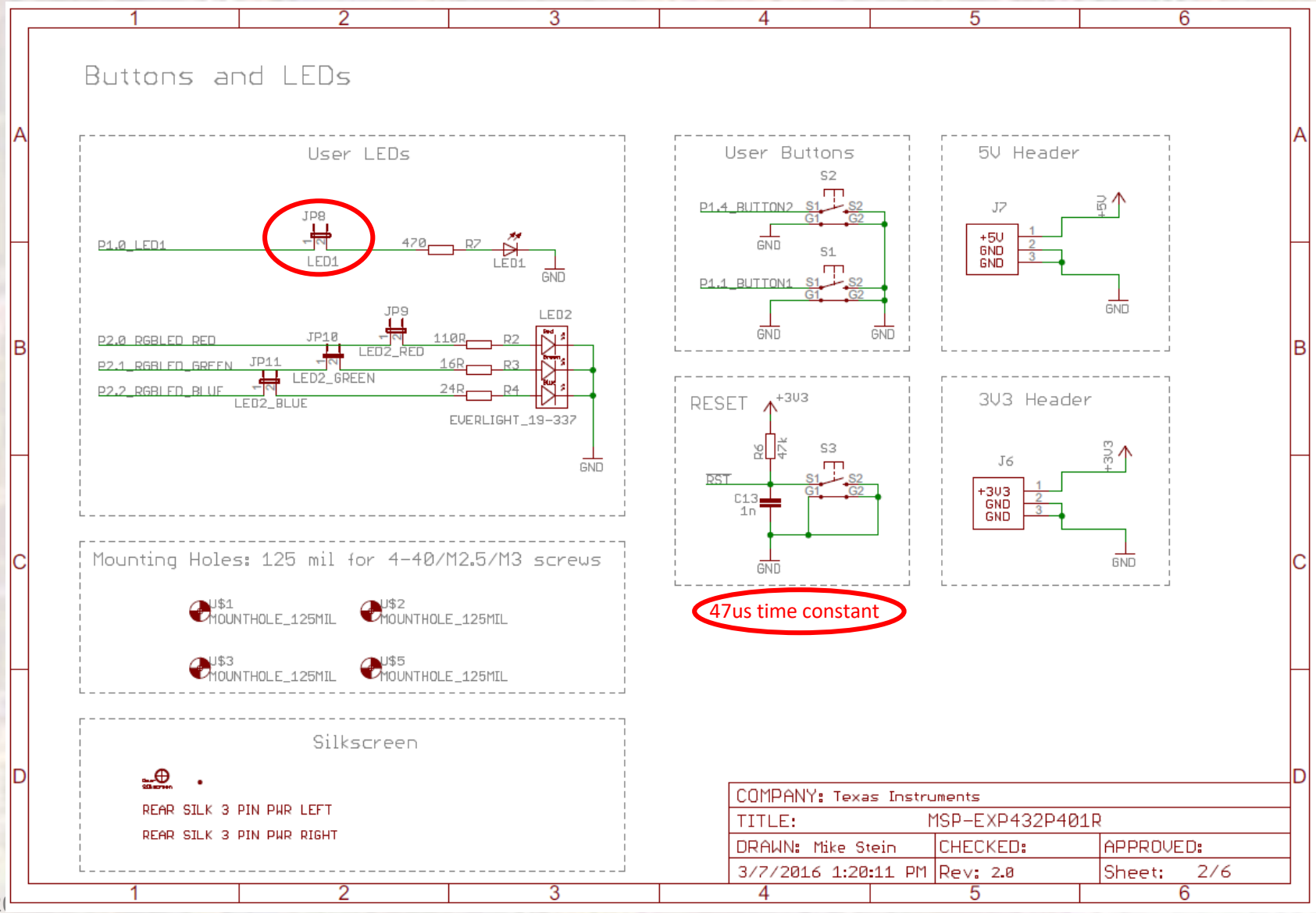
Table 1. Isolation Block Connections

Signal	Description
GND	GND power connection between XDS110 and MSP432 target GND planes. The GND jumper is populated to connect the separate GND planes. This connection is required for proper operation with 3V3, 5V, UART, and JTAG.
5V	5-V power rail, VBUS from USB
3V3	3.3-V power rail, derived from VBUS by an LDO in the XDS110-ET domain
RXD <<	Backchannel UART: The target MCU receives data through this signal. The arrows indicate the direction of the signal.
TXD >>	Backchannel UART: The target MCU sends data through this signal. The arrows indicate the direction of the signal.
RST	MCU RST signal (active low)
TCK_SWCLK	Serial wire clock input (SWCLK) / JTAG clock input (TCK)
TMS_SWDIO	Serial wire data input/output (SWDIO) / JTAG test mode select (TMS)
TDO_SWO	Serial wire trace output (SWO) / JTAG trace output (TWO) (Also PJ.5)
TDI	JTAG test data input (Also PJ.4)

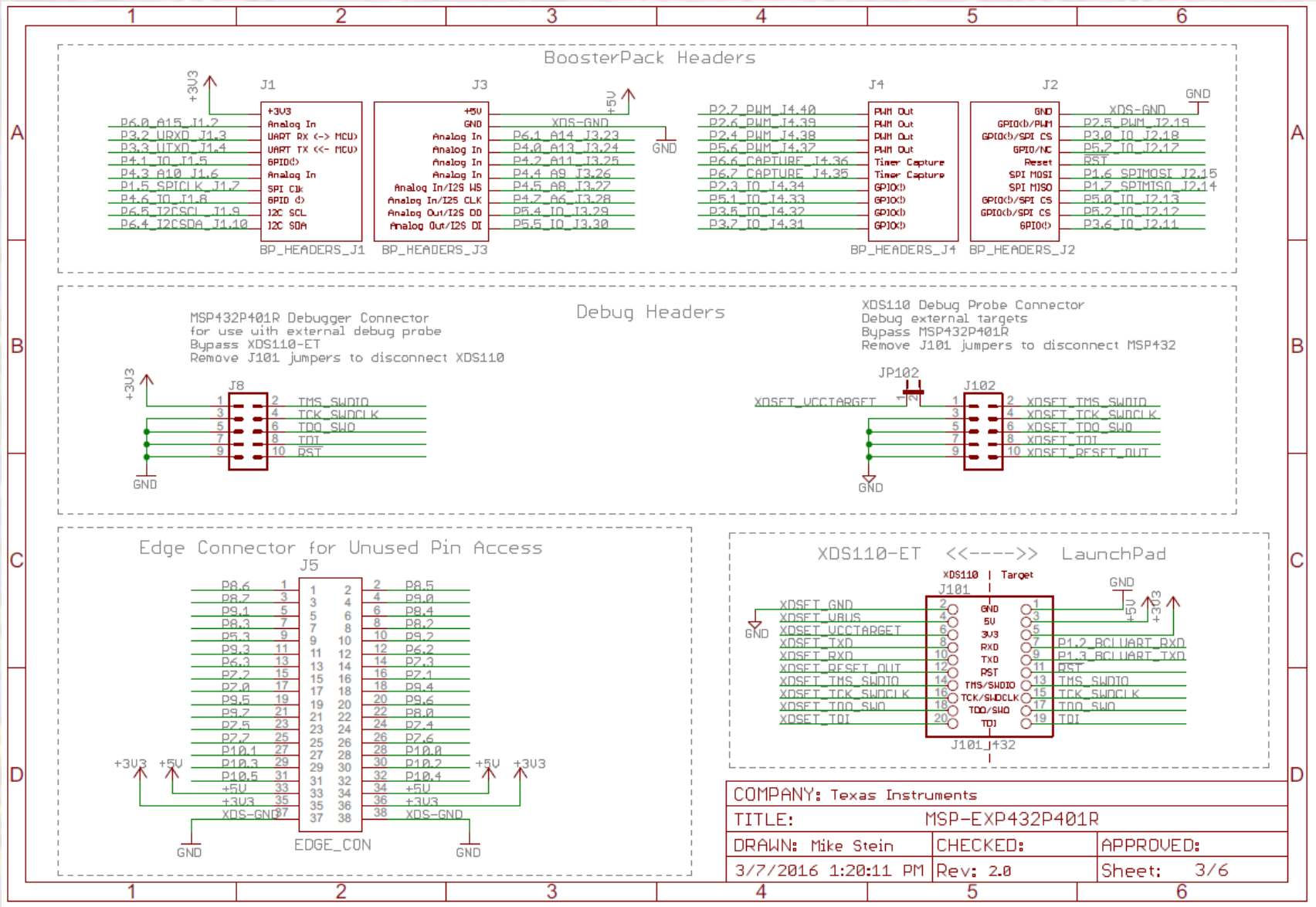
TI Launchpad Schematic



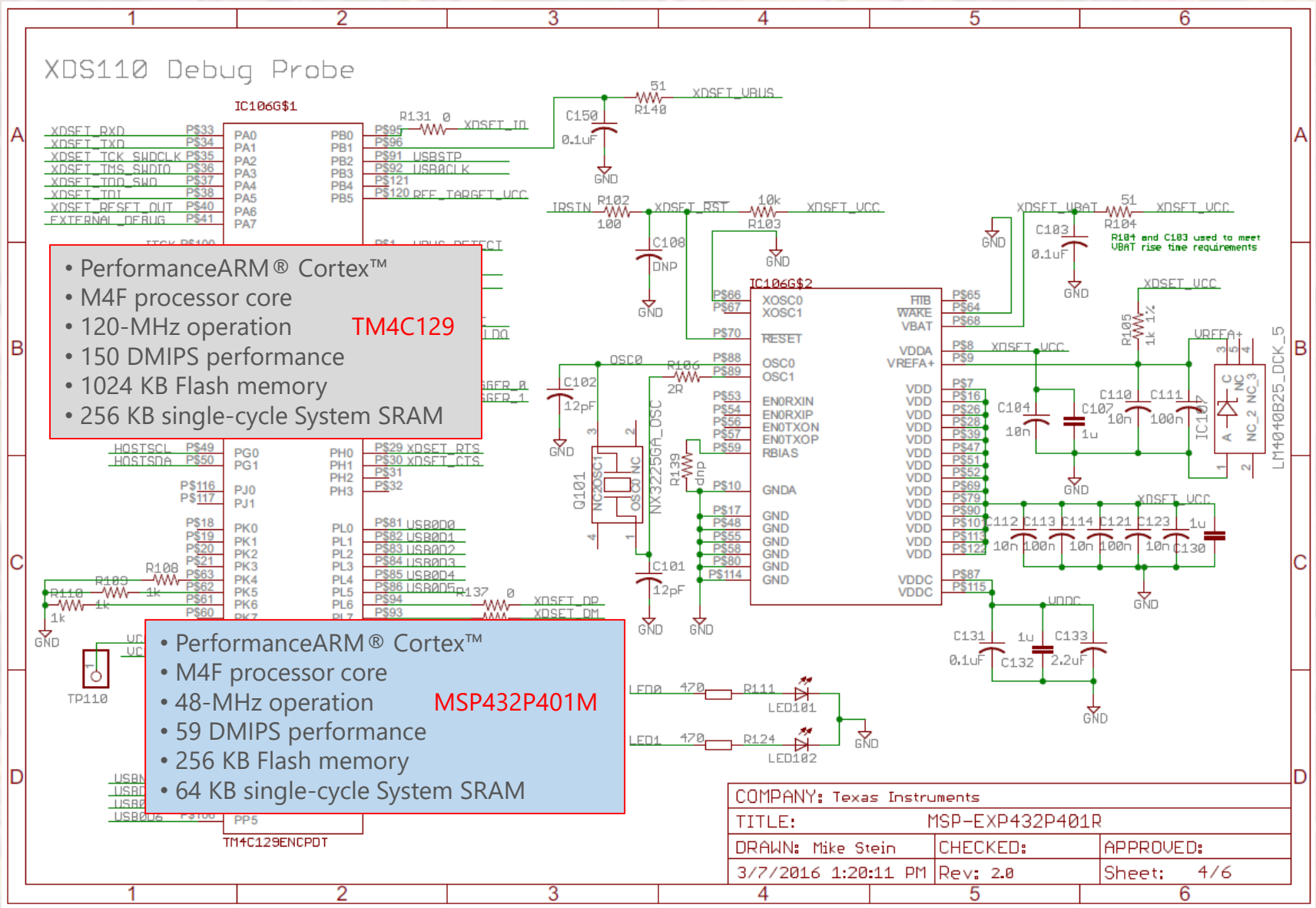
TI Launchpad Schematic



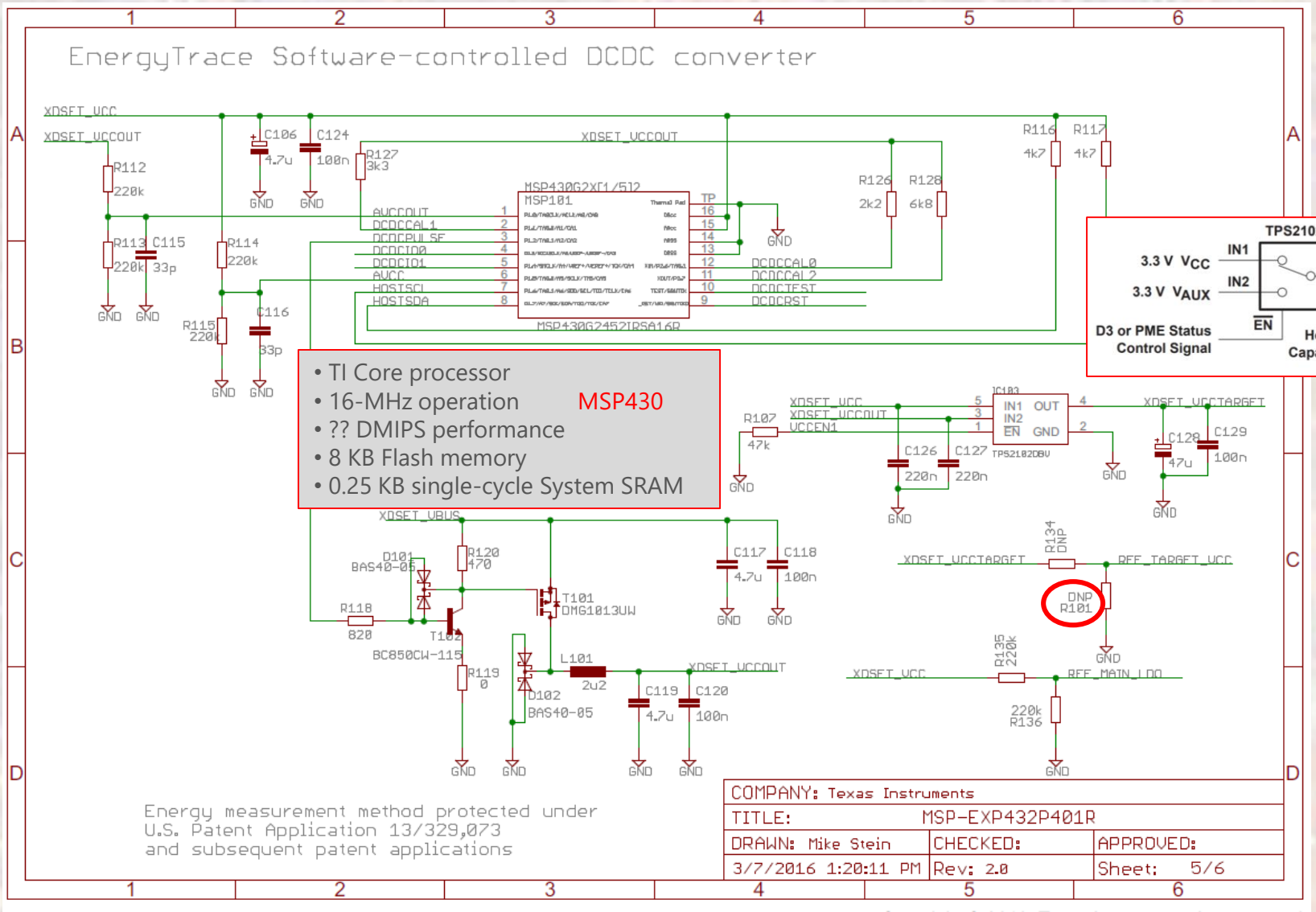
TI Launchpad Schematic



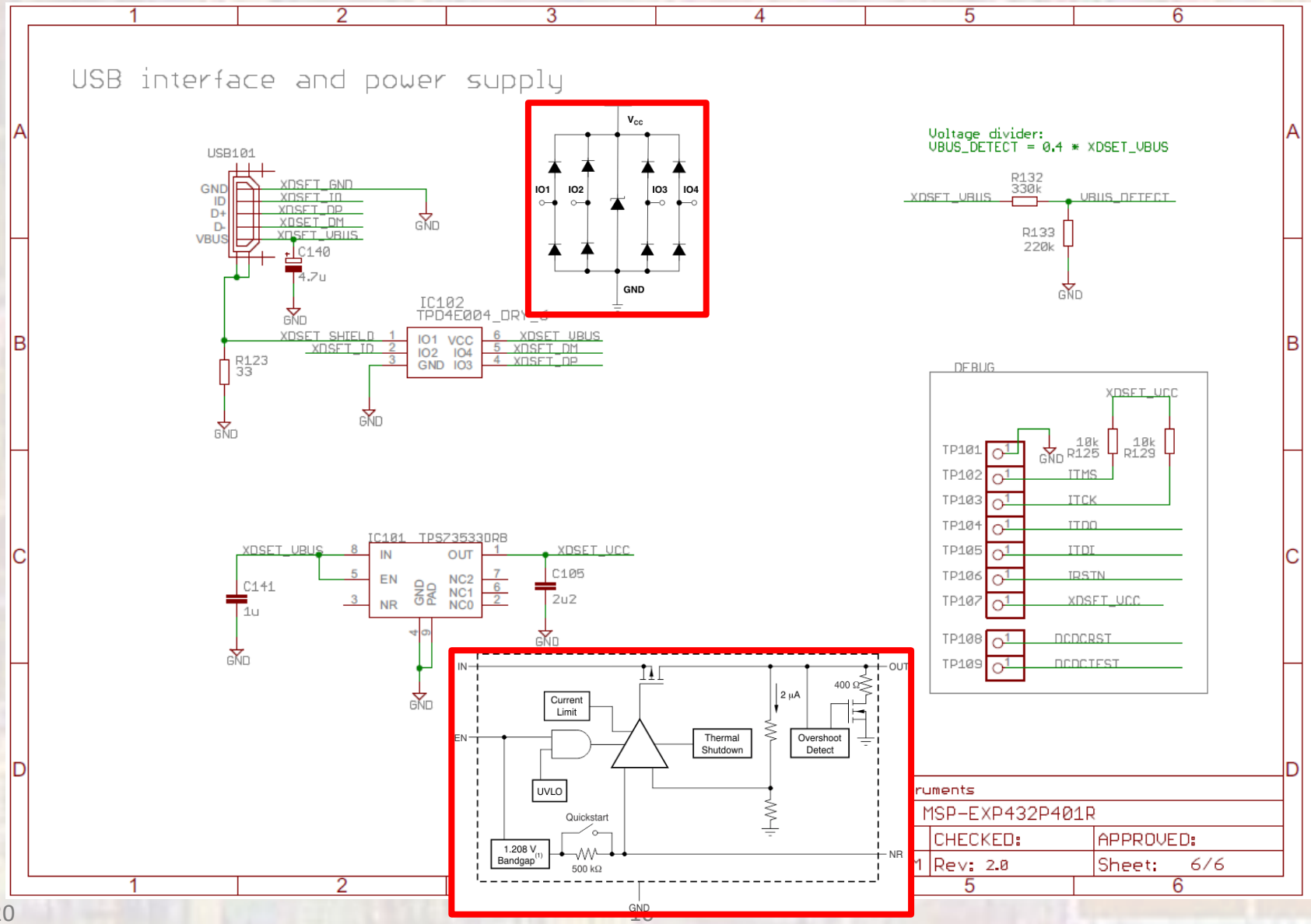
TI Launchpad Schematic



TI Launchpad Schematic



TI Launchpad Schematic

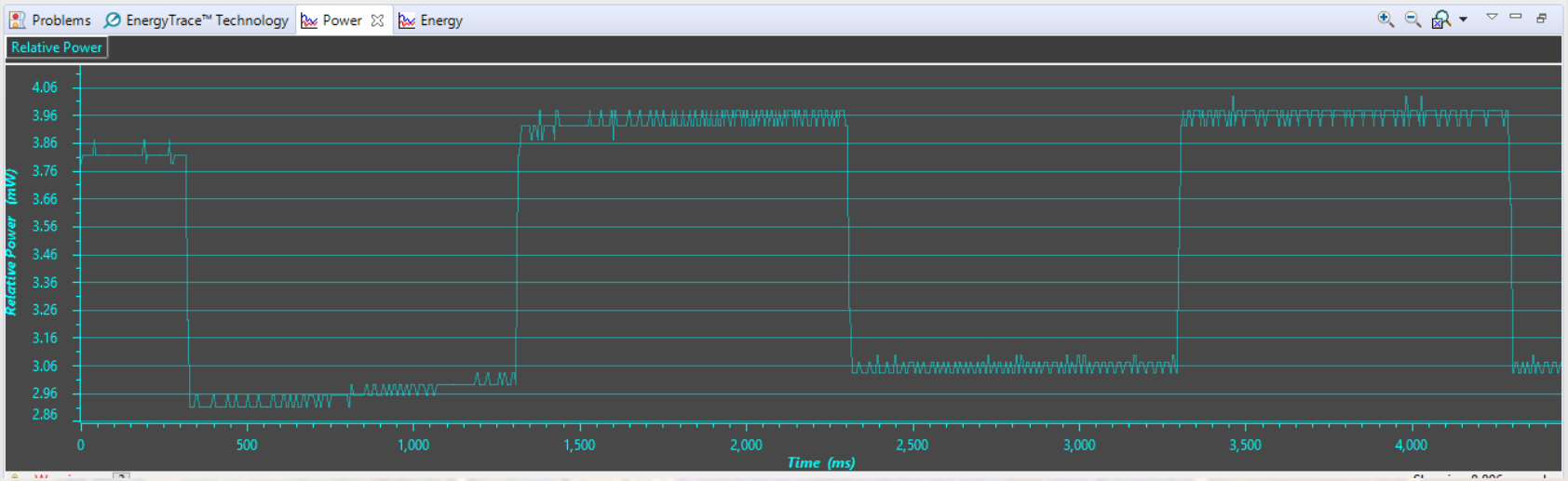


Energy Trace

```c
/*
 * energy.c
 *
 *  Created on: Nov 2, 2017
 *      Author: johnsontimoj
 */

#include <stdio.h>
#include "msp432.h"
#include "driverlib.h"

int main(void){
    int j;
    for(j=0; j<5; j++){
        PCM_setPowerState(PCM_AM_LDO_VCORE1);
        Delay_3MHz_ms(1000);
        PCM_setPowerState(PCM_AM_DCDC_VCORE0);
        Delay_3MHz_ms(1000);
    }
}
```

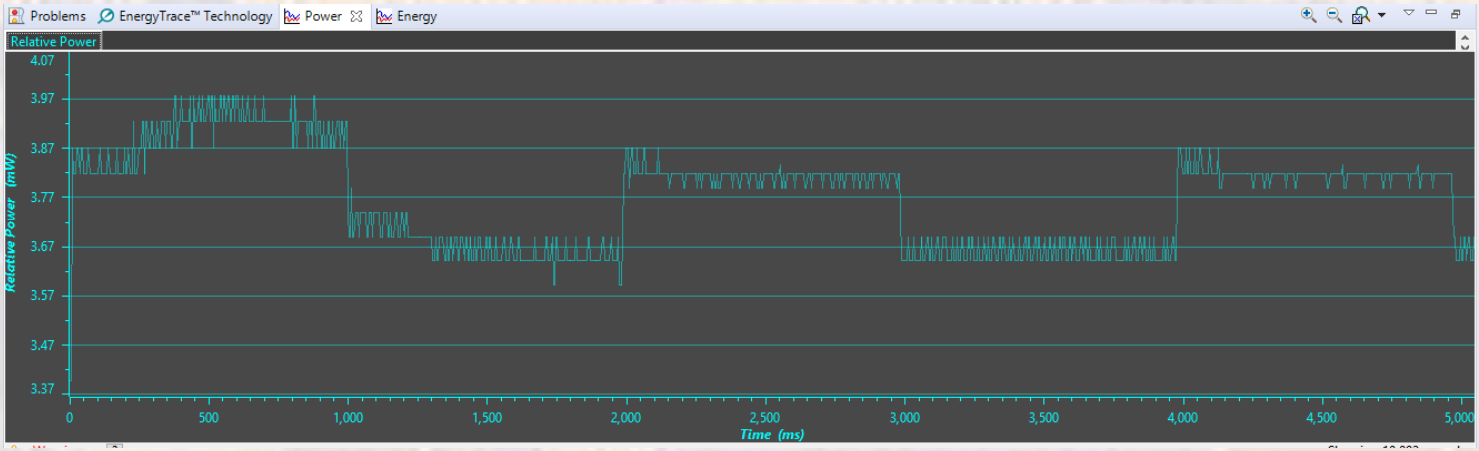


Energy Trace

```
/*
 * energy2.c
 *
 *  Created on: Nov 2, 2017
 *      Author: johnsontimoj
 */

#include <stdio.h>
#include "msp432.h"
#include "msoe_lib_all.h"
#include "driverlib.h"

int main(void){
    P2->DIR |= 0x07;
    P2->OUT |= 0x07;
    int j;
    for(j=0; j<5; j++){
        P2->OUT ^= 0x07;
        Delay_3MHz_ms(1000);
        P2->OUT ^= 0x07;
        Delay_3MHz_ms(1000);
    }
}
```



Energy Trace

```c
/*
 * energy3.c
 *
 *  Created on: Nov 2, 2017
 *      Author: johnsontimoj
 */

#include <stdio.h>
#include "msp432.h"
#include "msoe_lib_all.h"
#include "driverlib.h"

int main(void){
    P2->DIR |= 0x07;
    P2->OUT |= 0x07;

    P2->OUT ^= 0x07;
    Delay_3MHz_ms(1000);
    P2->OUT ^= 0x07;
    Delay_3MHz_ms(1000);
    PCM_setPowerState(PCM_AM_LDO_VCORE1);
    P2->OUT ^= 0x07;
    Delay_3MHz_ms(1000);
    P2->OUT ^= 0x07;
    Delay_3MHz_ms(1000);
    PCM_setPowerState(PCM_AM_DCDC_VCORE0);
    P2->OUT ^= 0x07;
    Delay_3MHz_ms(1000);
    P2->OUT ^= 0x07;
    Delay_3MHz_ms(1000);
}
```