SINGLE TOUCH CAPACITIVE SENSING USING THE MSP430

This document has the required information necessary to run the example code that implements a capacitive touch sensing pad using the MSP430.

Note: Read the Experimenter's User's Guide and the FET User's Guide documents more information.

Requirements

Figure 1 shows the board with the associated jumpers and their configuration for proper functionality of the demonstration.

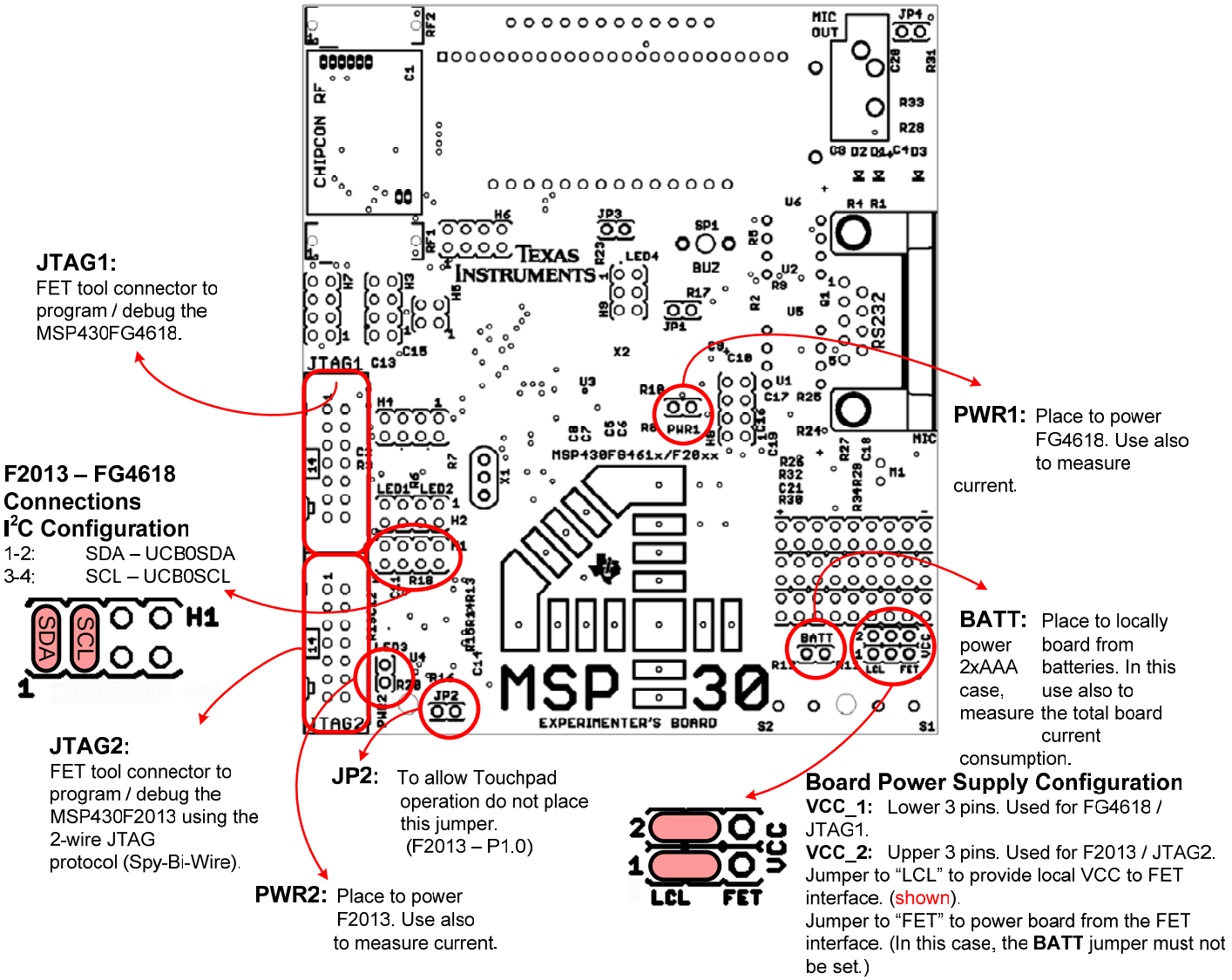

Figure 1: Board settings to demonstrate capacitive touch sensing

Associated code files

The code files associated with this demonstration is

- FG4618 host_comms.c → Implements an I2C based communication between the FG4618 and the F2013. It must be run on FG4618.
- F2013 touchbutton.c → Implements the touchbutton example on must run on the F2013
- F2013 touchpad.c → Implements the touchpad example and must run on the F2013.

Steps to run the demonstration codes

1. Connect JTAG header of USB FET to JTAG1 to debug the FG4618
2. Open IAR Embedded Workbench V 3.42.
3. Choose **Project→ Add Existing Project** from the drop down menu.
4. Select the project file the FG4618 host_comms.ewp from the Labs directory.
5. Confirm if the target is MSP430FG4618 and FET Debugger option is selected.
6. Build and load the project on the device by selecting **Project→ Debug**.
7. Come out of Debug mode by selecting **Debug→Stop Debugging**.
8. Disconnect JTAG header of USB FET from JTAG1 and connect it to JTAG2 debug the F2013.
9. Choose **Project→ Add Existing Project** from the drop down menu.
10. Select the project file F2013 touchbutton.ewp or F2013 touchpad.ewp from the Labs directory.
11. Confirm if the target is MSP430F2013, FET Debugger and Spy-Bi-Wire interface is selected.
12. Build and load the project on the device by selecting **Project→ Debug**.
13. Cycle power to the FG4618 based on its power selections to start its operation.
14. From the IAR Embedded Workbench window from the drop down menu select **Debug→ Go** to start operations on the F2013.
15. The LCD would activate a three-digit display.
16. Experiment with this setup using instructions provided starting from Page 9 of the document “Hands-on Capacitive touch sensing with MSP430.pdf” to see the effects of running a capacitive sensitive touch button demo.