LOW POWER OPERATION OF MSP430F2013

This document has the required information necessary to run the example code that exhibits ultra low-power current on the F2013.

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.

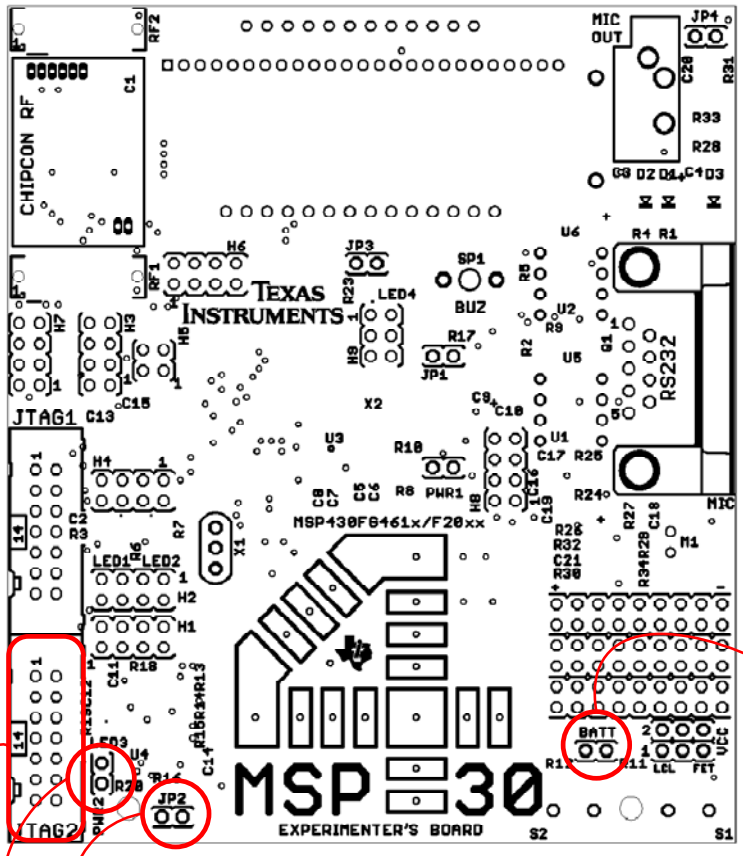

Figure 1: Board settings to demonstrate low-power operation of F2013

Associated code files

The code files associated with this demonstration is

- F2013_LPM.c → Implements the ultra low-power example for the F2013

Steps to run the demonstration codes

1. Connect JTAG header of USB FET to JTAG2 to debug the F2013
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 F2013 Low_power.ewp from current directory.
5. Confirm if the target is MSP430F2013 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 JTAG2.
9. This is a battery powered example so use the 2 AAA battery and connect the jumper on **BATT.**
10. Ensure jumper is placed on header **JP2** that connects LED 3 to F2013.
11. Remove jumper on **PWR2** and connect the Ammeter between the pins of header **PWR2**.
12. Remove any jumpers present on header **H1** and remove jumper on header **PWR1**.
13. Cycle power to the F2013 by removing and placing the **BATT** jumper.
14. This should toggle LED 3 at intervals approximately equal to 3 seconds exhibiting an ultra-low power operation of the F2013.
15. The LPM3 current should be around 0.5 microamperes.