

# Getting Started Guide

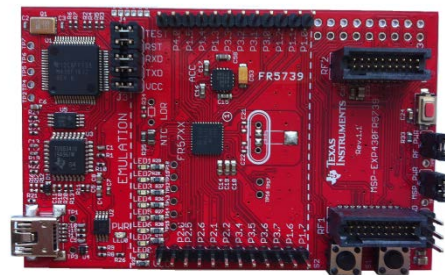
## IAR KickStart Kit™ for TI MSP430FR5739

This getting started guide briefly describes how to get started using IAR Embedded Workbench® with the TI MSP-EXP430FR5739 Experimenter's Board.

For more detailed information, see the IAR Embedded Workbench IDE Project Management and Building Guide and C-SPY Debugging Guide. These documents are available from the Help menu and IAR Information Center in the IAR Embedded Workbench IDE.

### Features of the MSP-EXP430FR5739 Experimenter's Board

- Integrated TI MSP430FR5739 device
- USB debugging and programming interface
- 3-axis accelerometer
- NTC thermistor for temperature sensing
- 2 user input switches and a reset switch
- 8 LEDs for output display
- Connectivity to the MSP-EXP430F5438 Experimenter Board
- Connectivity to CCxxx radio daughter cards
- Easily accessible device pins for debugging purposes
- Separate power jumpers to measure power to the MSP430 and the RF daughter card. High quality stereo audio output
- User experience: Demo code with 4 modes to test FRAM features



## Software installation

- 1 Download the latest IAR Embedded Workbench for MSP430 from [www.iar.com/kit\\_updates](http://www.iar.com/kit_updates).
- 2 Run the software installer. It may take several minutes for the installation files to unpack.

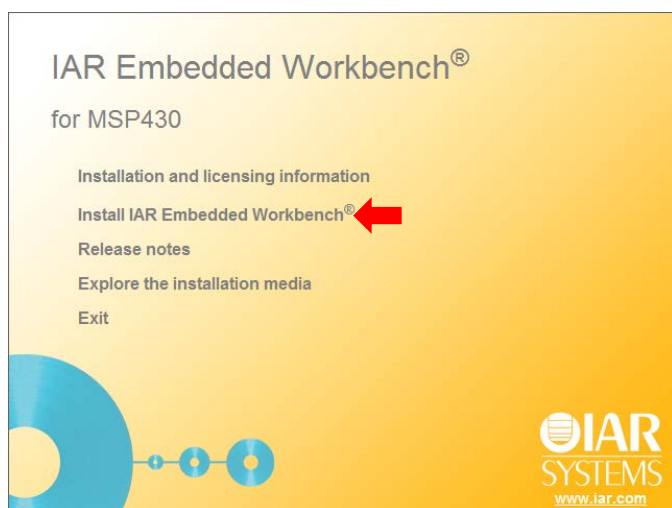


Figure 1 - Software installer

- 3 Click **Install IAR Embedded Workbench** and follow the prompt instructions to install the software. We recommend that you use the default directories on your installation.
- 4 When you start IAR Embedded Workbench for the first time, the License Wizard will open. Choose **Register with IAR Systems to get an evaluation license** (the internet access is needed).

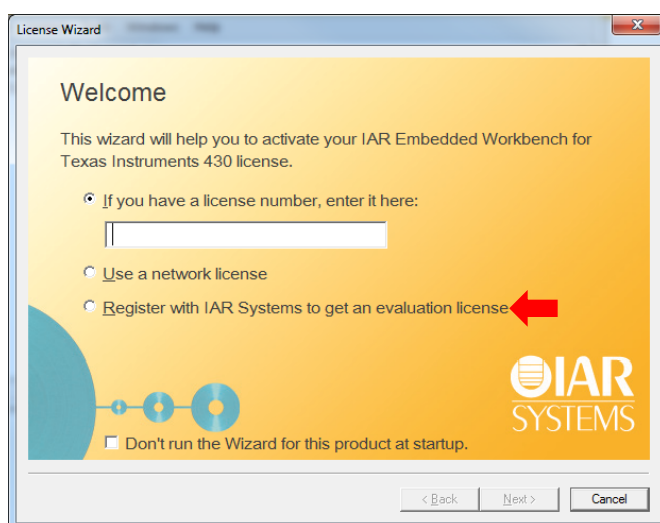


Figure 2 - Register to get an evaluation license

- 5 Click **Register**, choose a time or code size limited evaluation license, and then register to get your license number, which will be delivered to you via e-mail within a few minutes.
- 6 Activate the license in the License Wizard window.

You may register both the kickstart and the evaluation license, activate and switch in between from the **License Manager**. For further information, see the *IAR Embedded Workbench, Licensing Guide*, under the **User Guide** section in the **Information Center** (Figure 2).

We assume that you have already installed Java software in your computer. A free version is available from [www.java.com](http://www.java.com).

## Hardware configuration

- 1 Connect the MSP-EXP430FR5739 evaluation board to the PC using the enclosed USB cable. The driver files will be automatically located and installed. This also supplies power to the board.

For more details, please read the *MSP-EXP430FR5739 FRAM Experimenter Board User's Guide*.

## Running example application

To take the full advantage of the example application, some working knowledge of IAR Embedded Workbench IDE is preferred. For a quick introduction, see the **GETTING STARTED** and the **TUTORIALS** in the **IAR Information Center for MSP430**.

The example application described here is MSP-EXP430FR5739 Experimenter's Board User Experience Demo.

- 1 From the Start menu, start the IAR Embedded Workbench IDE by choosing **All Programs> IAR Systems> IAR Embedded Workbench for MSP430 x.xx >IAR Embedded Workbench**. You will get straight into the **IAR Information Center for MSP430**.
- 2 Click **EXAMPLE PROJECTS** and select **Hardware boards>MSP-EXP430FR5739**.

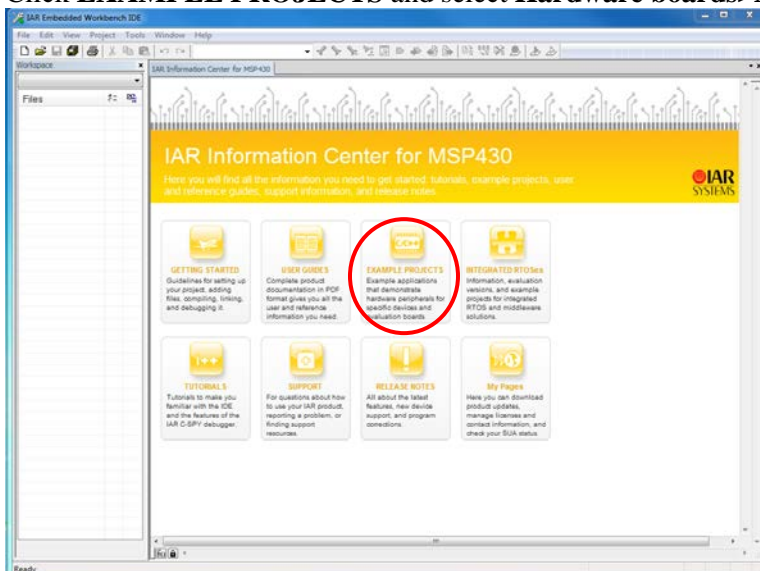



Figure 3 - IAR Information Center for MSP430

- 3 Open project **MSP-EXP430FR5739** (click the  icon).
- 4 Click **Choose** to select a destination folder to save a copy of this project for testing, so that the original project will not be updated for any changes you made during testing.
- 5 Read the demo description and make sure that the compilation target, at the top of the workspace window is set to Debug.

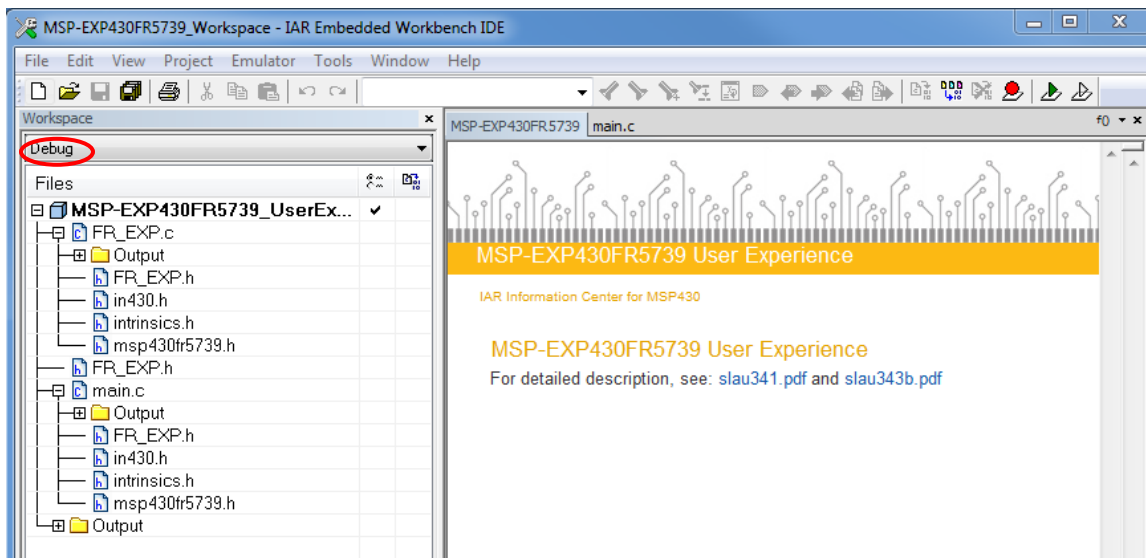





Figure 4 - Example description and compilation target

- 6 Choose **Project>Make** or click the **Make** button  on the toolbar (Figure 5). The project should be compiled and linked without any errors (you may ignore the warnings).
- 7 Click the **Download and Debug** button  to download your program to the evaluation board.
- 8 Click the **Go** button  to start the application. The user LED on the board will blink.

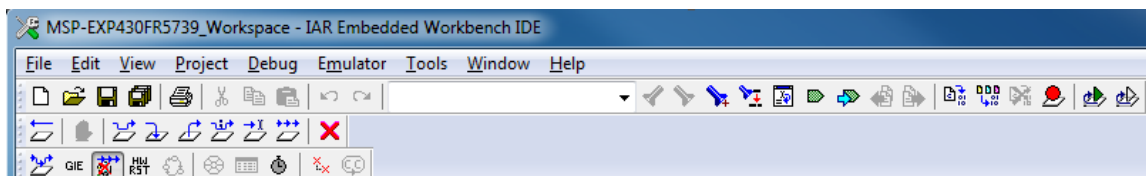


Figure 5 - IAR Embedded Workbench IDE - Menu and Toolbar

- 9 Start the PC GUI application by double clicking `FRAM_GUI.exe`, which is located under the IAR Embedded Workbench installation path

IAR Systems\Embedded Workbench 6.5\430\examples\examples\Hardware boards\MSP-EXP430FR5739\MSP-EXP430FR5739\FRAM\_GUI

**Note:** The Java software must be installed on your computer when running this application.

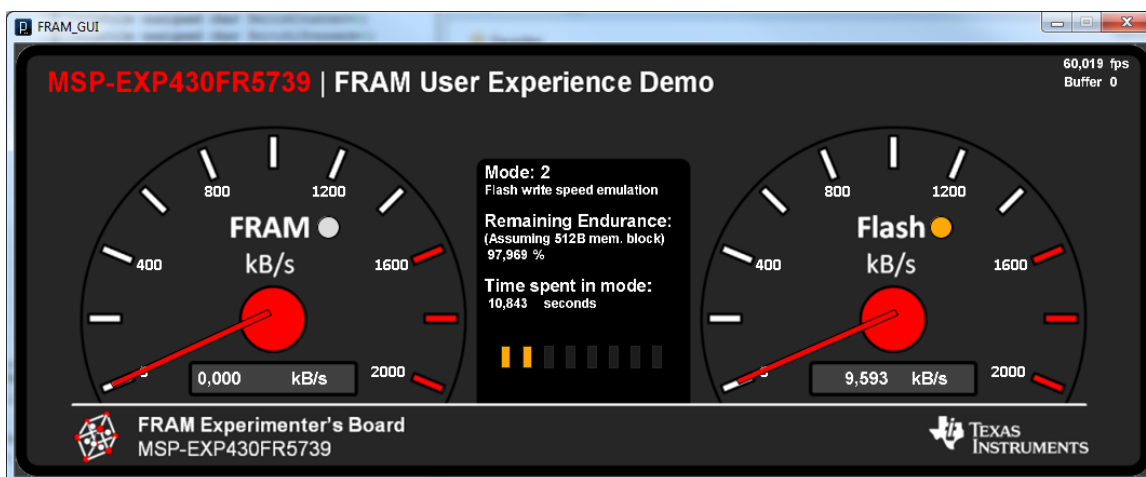




Figure 6 - PC GUI for FRAM User Experience Demo

- 10 Press switch S1 and S2 on the board to select the demo mode:
- Press switch S1 for mode selection. After you press S1, LED8 through LED5 light up to show the corresponding mode.
  - Press switch S2 when inside a mode to turn off the display (LED and UART output). This is useful when measuring power.
  - Press S1 to exit a mode and return to mode selection.
- 11 To stop C-SPY, click the **Break** button .
- 12 To exit C-SPY, click the **Stop Debugging** button .

## Learning more

You can find more information about TI FRAM technology and kit documentation at

<http://www.ti.com/fram> and <http://www.ti.com/tool/msp-exp430fr5739>

For the latest updates on the kit and IAR Embedded Workbench for MSP430, please check at

[http://www.iar.com/kit\\_updates](http://www.iar.com/kit_updates) and <http://www.iar.com/ew430>

### Troubleshooting

If you are unable to find the cause of a problem, try resetting the evaluation board by using the reset button on the board. Then restart the C-SPY Debugger in the IAR Embedded Workbench IDE. You can also try disconnecting and reconnecting the power to the evaluation board, pressing the reset button and then restarting C-SPY.

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