Porting SimpliciTI to the SmartRF CCxx10 Target Board

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Keywords

- *CC1110Fx*
- *CC2510Fx*
- *SmartRF CCxx10 Target Board*
- *SimpliciTI*
- *CC1110 Mini DK*
- *CC2510 Mini DK*

1 Introduction

The purpose of this design note is to show how to easily port the existing SimpliciTI examples [1] to the SmartRF CCxx10 Target Board. The SmartRF CCxx10 Target Boards are included in the CCxx10 Mini DKs. In this document, CCxx10 refers to CC1110 and CC2510.

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2 Abbreviations

DK	Development Kit
LED	Light Emitting Diode
RF	Radio Frequency

3 Step by Step Guide

1. Start by downloading the newest revision of SimpliciTI [1]. By default the SimpliciTI software is placed in a folder called Texas Instruments on C:\.
2. Download the CC1110 and CC2510 Mini DK Software Example [2]. The user must decide where the code should be downloaded. For this design note, it is assumed that the software is downloaded to a folder called CCxx10MiniKit located on C:\
3. Under C:\Texas Instruments\SimpliciTI-IAR-1.1.0\Components\bsp\boards, create a new folder called srfccxx10 as shown Figure 1.

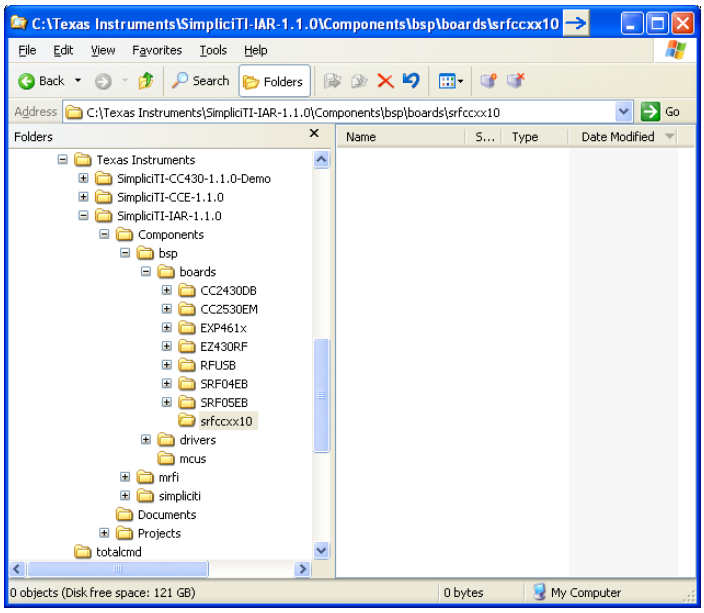

Figure 1. Create the srfccxx10 Folder

4. Copy all content from C:\CCxx10MiniKit\source\components\simpliciti\bsp\boards\srfccxx10 to C:\Texas Instruments\SimpliciTI-IAR-1.1.0\Components\bsp\boards\srfccxx10

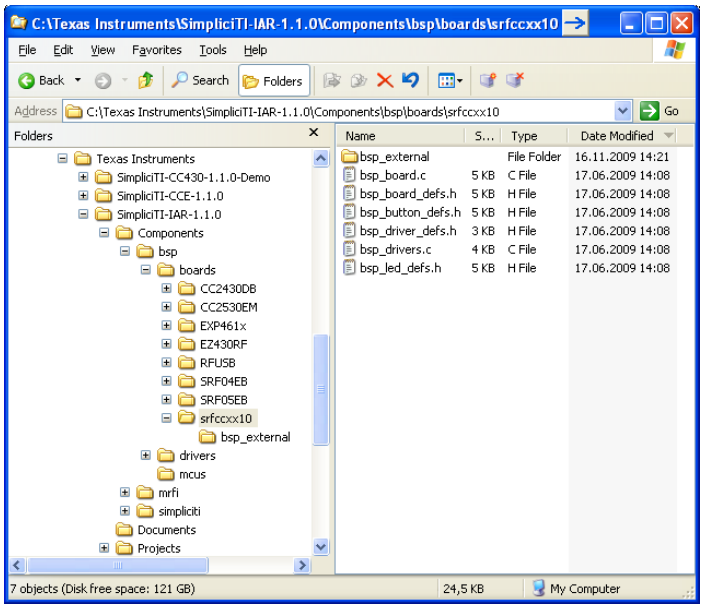

Figure 2. Copy Files from CC1110 and CC2510 Mini DK Software Example

5. Under C:\Texas Instruments\SimpliciTI-IAR-1.1.0\Projects\Examples, take a copy of the SRF04 folder, paste it under the Examples folder, and name it srfccxx10 (see Figure 3). The examples in the SRF04 folder is written for the CC1110 and CC2510 radios and can easily be modified to work on the SmartRF CCxx10 Target Boards.

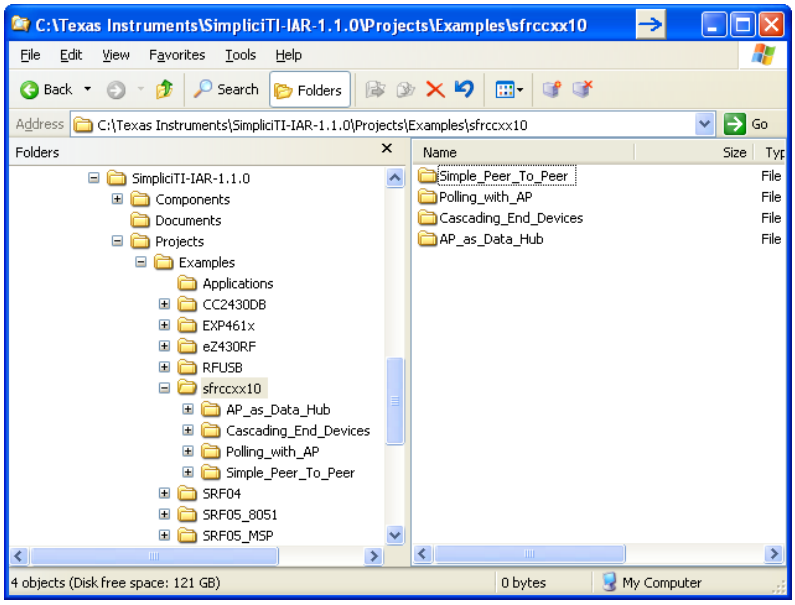

Figure 3. The srfccxx10 Folder Containing all the SimpliciTI Examples

The next step is to change the project settings. This design note will show how this is done for one of the examples (Polling with AP), but the procedure will be identical for all of the examples.

6. Open the Polling with AP workspace found under: C:\Texas Instruments\SimpliciTI-IAR-1.1.0\Projects\Examples\sfrccxx10\Polling_with_AP\IAR.
7. Select ***Edit Configuration*** in the ***Project*** pull-down menu (see Figure 4).

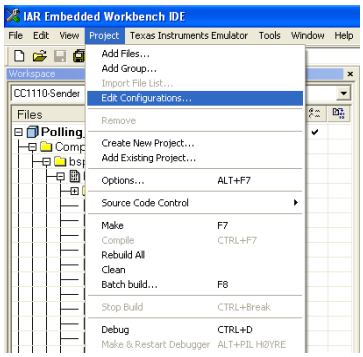

Figure 4. Edit Configuration

8. Remove all configurations that are not for the CC1110 or CC2510. The configurations are removed by selecting them and pressing the Remove button, as shown in Figure 5.

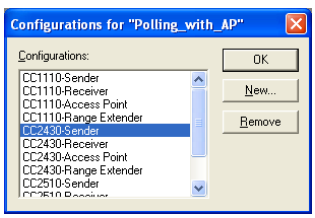

Figure 5. Remove Configuration

9. Right-click on ***Polling_with_AP – CC1110-Sender*** and select ***Options..*** from the menu as shown in Figure 6.

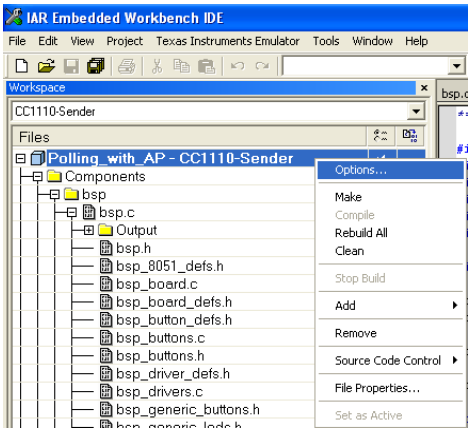

Figure 6. Options..

10. In the C/C++ Compiler category, change $PROJ_DIR$\..\..\..\..\..\Components\bsp\boards\SRF04EB to $PROJ_DIR$\..\..\..\..\..\Components\bsp\boards\srfccxx10 as shown in Figure 7.

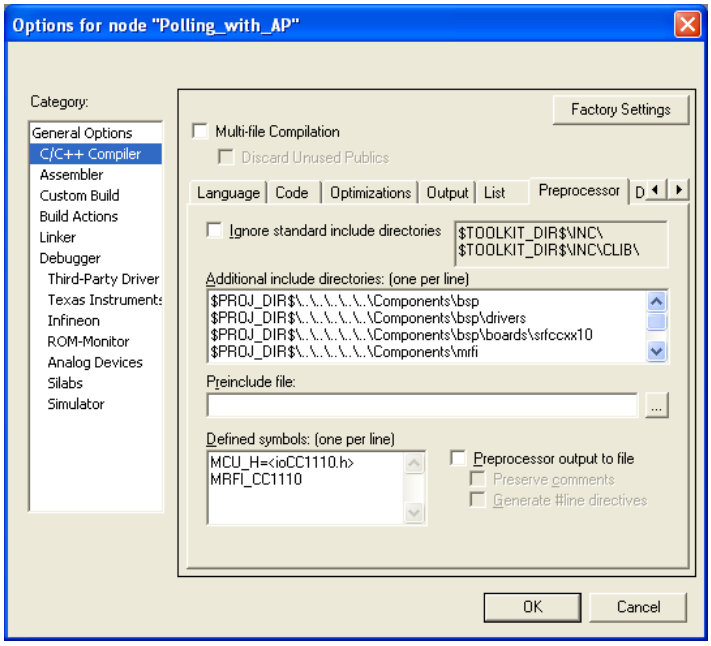

Figure 7. Change Include Directories

11. Repeat step 10 for all 8 configurations (see Figure 8).

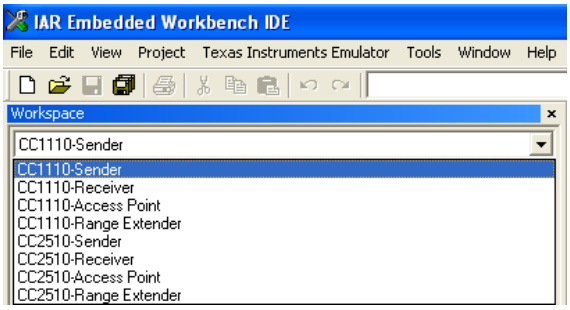

Figure 8. All Configurations

The project is now ready to be compiled and downloaded to the SmartRF CCxx10 Target Boards as described in the CC1110 & CC2510 Mini Development Kit User's Guide [3]. Each of the SimpliciTI sample applications require some form of user input via two logical buttons (Button 1 and Button 2) and provide status display via two "logical" LEDs (LED1 And LED2). The mapping of physical to logical buttons and LEDs for the SmartRF CCxx10 Target Board is shown in Table 1.

Button 1	Button 2	LED1	LED2
S1 MASTER	S2 SLAVE	Green	Red

Table 1. Mapping of Physical to Logical Buttons and LEDs

4 References

[1] SimpliciTI (http://www.ti.com/simpliciTI)

[2] CC1110 and CC2510 Mini DK Software Example (http://www.ti.com\lit\zip\swrc133)

[3] CC1110 & CC2510 Mini Development Kit User's Guide (swru236.pdf)

5 General Information

5.1 Document History

Revision	Date	Description/Changes
SWRA311	2009.11.19	Initial release.

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