Russell Silva, 10/27/2017 – Extracting In-phase and Quadrature (IQ) Information from the CC 1310 (In Progress)

Most of the details on how to do this is provided in the following links. Most of the information I put in this document consists of steps elaborating on these tutorials or outside these tutorials in order to mitigate time figuring out things.

Step 1: Install Code Composer Studio

IDE for CC1310 : Code Composer Studio (TI): <http://processors.wiki.ti.com/index.php/Download_CCS#Code_Composer_Studio_Version_7_Downloads>

Step 2: Install the programs necessary for IQ extraction (<http://www.ti.com/lit/an/swra571/swra571.pdf>)

To check where Code Composer Studio is checking for new installations (e.g. SimpleLink)

1. Click Window in the Top Pane
2. Click on Preferences
3. Click the drop-down arrow to the left of the Code Composer Studio Option
4. Click on products and not the drop-down arrow next to it

Here you will see a list of directories where CCS automatically checks for new installations on startup.

Helpful Links and Notes

How-To: Start a New Ti-RTOS Project (also helpful for uploading code on to the CC1310):

<https://www.youtube.com/watch?v=qLDfDRuVkSE>

(Note: In order to do this tutorial you will need to install Ti – RTOS : <http://software-dl.ti.com/dsps/dsps_public_sw/sdo_sb/targetcontent/tirtos/index.html>

Additional Note: The empty project used in this tutorial is found under Ti-RTOS for CC2650, development tools, and then CC1310 Launchpad in the resource explorer)

SmartRF Studio Tutorial:

<https://www.youtube.com/watch?v=NapAQvlqjSo>

<http://www.ti.com/lit/an/swra571/swra571.pdf> - Extracting IQ samples from the CC1310. The downloads for the necessary programs (SimpleLink, SmartRF) are included in this link.

(Note: There seems to be no changes to the smartrf\_settings.c as the document suggests. But, I would double check this)

The only changes that need to be made come from Section 3 of this document (Building a Software Example). It seems to me that the previous sections go over what has already been implemented and background information. All the changes discussed in Section 3 deal with the rfPacketRX.c file.

Finding rfPacketRX.c in Code Composer Studio

1. Click on view in the Top Pane
2. Choose Resource Explorer
3. Click on Software
4. Click on SimpleLink CC13x0 SDK…
5. Click on Examples
6. Click on Development Tools
7. Click on CC1310 LaunchPad
8. Click on TI Drivers
9. Click on rfPacketRX
10. Click on TI-RTOS
11. Click on CCS Compiler
12. Click on rfPacketRx
13. Click on rfPacketRX.c

How to import the rfPacketRX project into CCS to be uploaded to the CC1130 Board:

Go one step up (Step 12 above) and click on the rfPacketRx folder in Resource Explorer. You should see the folder and all of its contents on the right once you click it. Now click on the code composer studio icon on the top right (the box with three dots on each of its sides). Accept the terms and conditions.

The project explorer will now open on the left.

Right click on rfPacketRx\_CC1310 and click Build

(I am receiving some build errors)

This is the extent of the findings so far, and I hope to expand upon this document once I/Q samples have been successfully retrieved.