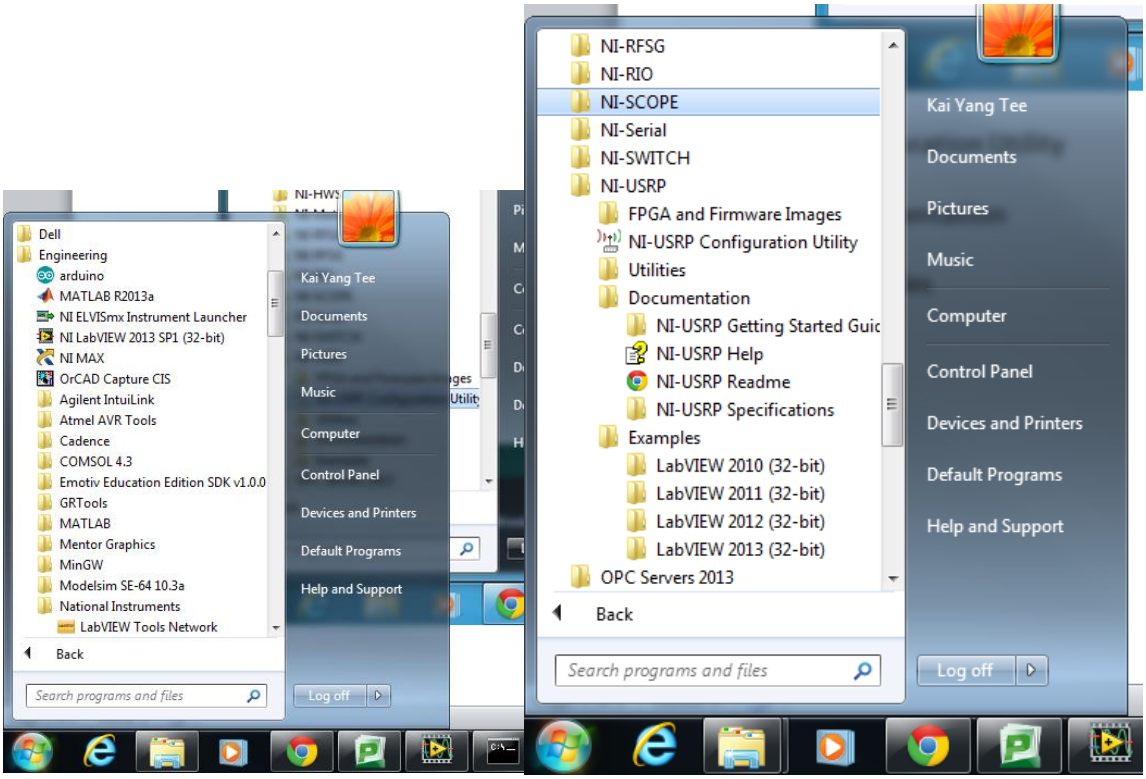
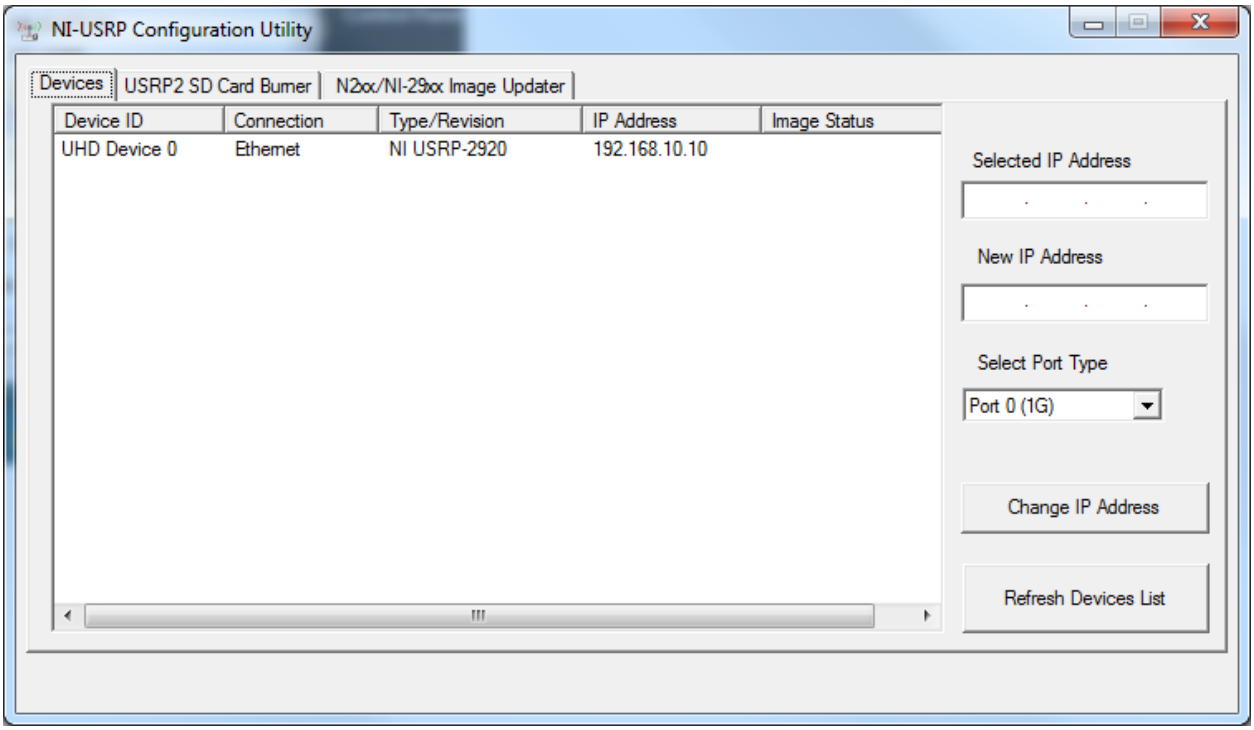
Getting Started with the USRP

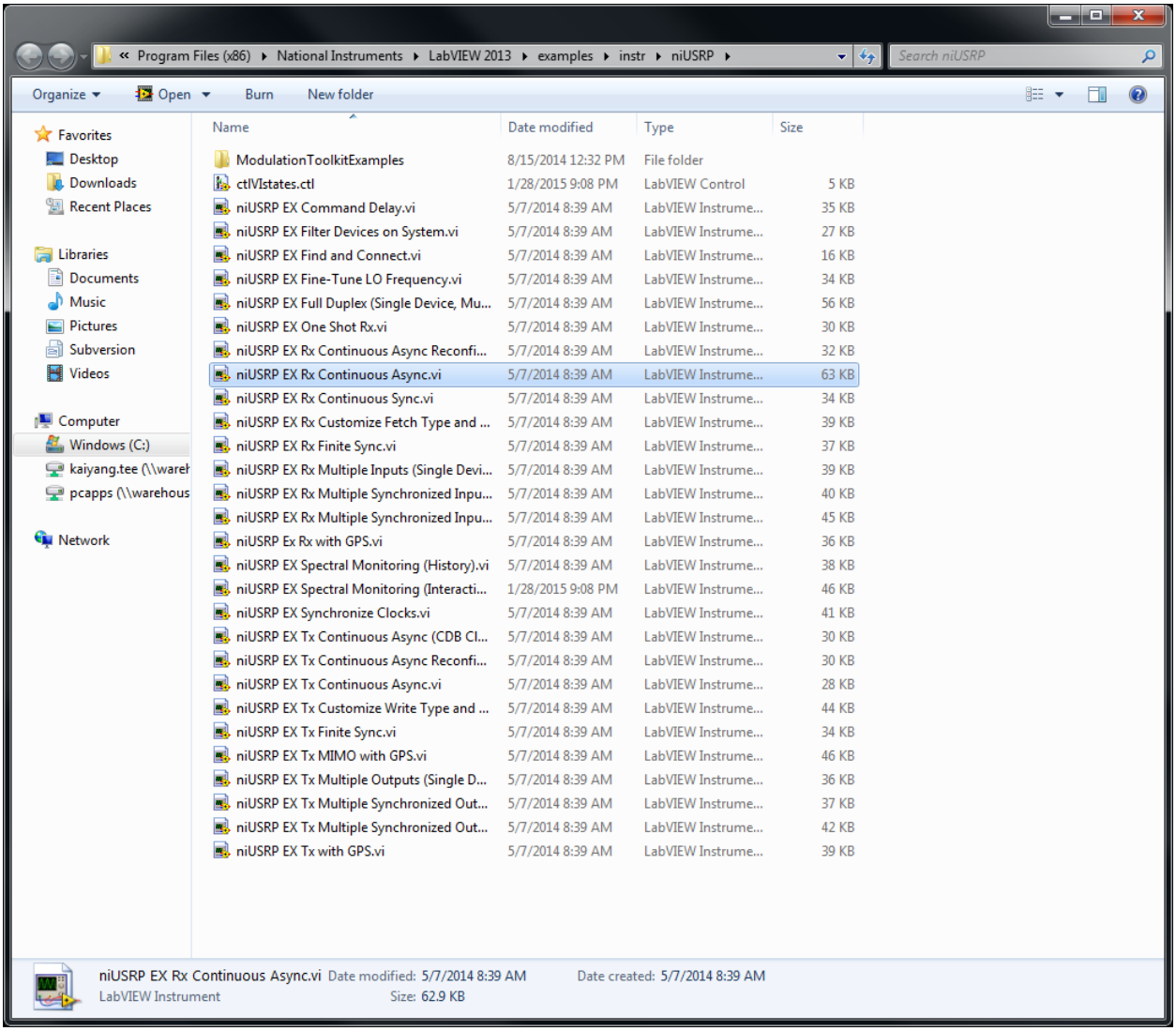
1. Connect the (2) USRPs to the 2nd Ethernet port on (2) lab computers. The IP for the 2nd port on the lab computer should be set to 192.168.10.1. The IP for the USRP is labeled on the chassis.



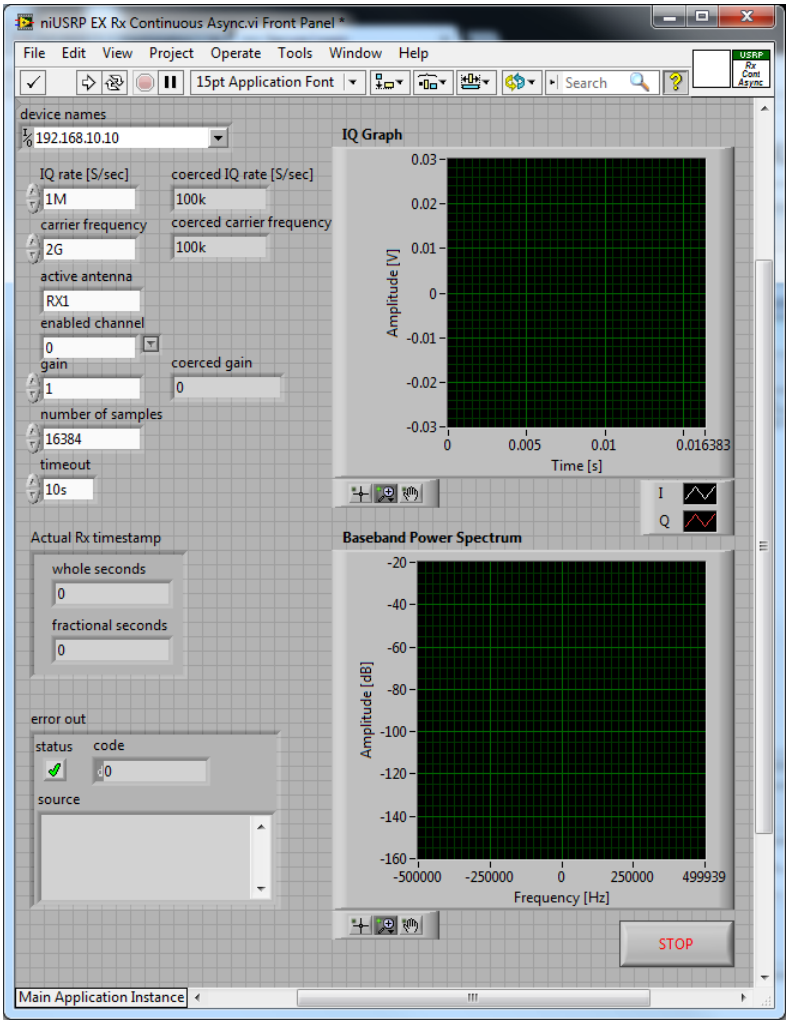
2. Click on Start -> Engineering -> National Instruments -> NI-USRP. You will see the Utilities, Documentation and Example code. Click on USRP Configuration Utility to make sure you USRP is connected.



3. If you device is connected correctly then you will see it listed as shown above. Close this windows if you don't get an error.
    a. If you get a warning about the firmware version, then update it by clicking on the N2xx/NI-29xx Image Updater tab, select the device and click Write Image.



4. Click on Start -> Engineering -> National Instruments -> NI-USRP -> Examples and double click on niUSRP EX Tx Continuous Async.vi on 1 computer and niUSRP EX Rx Continuous Async.vi on another computer.



5. Set the device names to the correct IP. Set the IQ rate to 200k and the carrier frequency to a frequency that is appropriate for both the USRP and the antenna.
    a. There are 2 carrier frequency ranges for the USRP:
        i. 2.4, 5 GHz
        ii. 0.05 – 2.2 GHz

        You can believe the carrier frequencies printed on the front of the chassis unless there is a label on the top of the chassis stating otherwise. If there is a label then someone has swapped out the daughterboard inside the USRP to change the carrier frequency range. In that case, you should either believe the label or open up the box and see what daughter board is installed. The WBX daughterboard works in the 0.05 – 2.2 GHz range.

    b. There are 3 different antennas in the boxes:

i. 2.4 GHz: Digikey Part Number 740-1017-ND, No color band at top.

ii. 1.4 GHz: 1.4GHz Monopole Swivel Antenna, Digikey Part Number ANT-1.4-CW-HWR-SMA-ND, Purple band at top
iii. Blue band at top. I can't find the datasheet on these antennas so I'm not sure what wavelength this is designed for ☹. Please let me know if you figure it out.