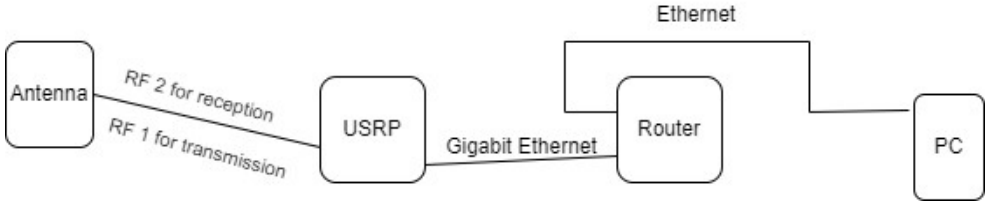
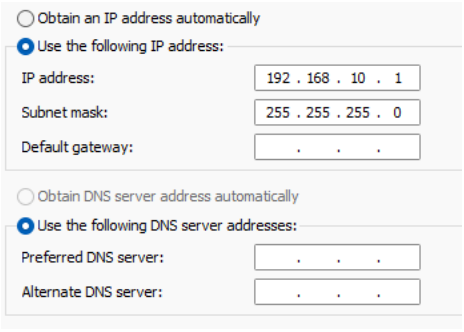
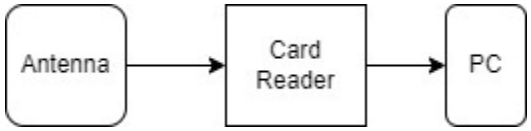
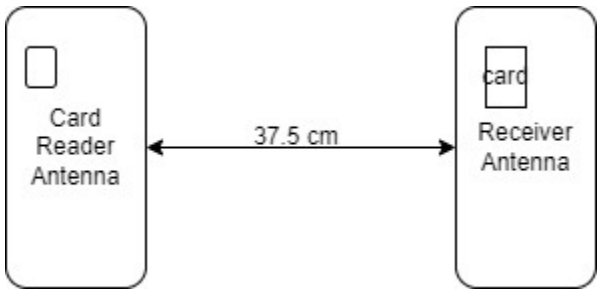
- Setup:
  - USRP
    - Antenna -> USRP (RF 2 slot for reception, RF 1 for transmission)
    - USRP -> Router via gigabit ethernet cord
    - Router -> PC via ethernet
    - Keep antenna away from metal
    - 

    - Must change ethernet adapter settings
    - Must have wifi disabled to connect to USRP
    - Control Panel -> Network and Internet -> Network and Sharing Center -> Change adapter settings
    - Right click on ethernet adapter -> Properties -> Internet Protocol Version 4 -> Properties
    - Change to: 

    - Use “findsdru” in Matlab to test connection
  - Card Reader
    - Antenna -> Card Reader -> PC
    - 

    - Download ISOStart+ v11.06.00
    - Open ISOStart+ -> File -> Detect Reader ->USB -> Detect -> Run without change
    - Use the “Get System Information” command in NON-ADDRESSED mode to get the correct data
  - Antenna and Card Placement
    - Antennas placed flat on ground, away from metal
    - Right antenna is the receiver antenna
    - Left antenna is the card reader antenna
    - Antennas are parallel to each other

        - Antennas are 37.5 cm apart
        - The card is placed flat in the upper left part of the square on the right antenna
        - 

- Functionality
    - Upon startup the program will test the connection to the USRP Receiver. If It connects successfully it will allow the user to:
        - Save a signal to a baseband file
        - Plot the receiver signal in real-time
        - Decode a card signal in “real-time” (it still take about 2 minutes)
    - If the connection fails the user can:
        - Retest the connection
        - Decode a baseband file
        - Plot a baseband file
    - Regarding writing to a baseband file
        - The user must specify the name of the file to be created and how long the receiver will write to the baseband file (default is 5 seconds)
        - The baseband file will be created in the BasebandFiles Folder
    - Regarding decoding and plotting a baseband file:
        - The user must select the baseband file to be acted upon from the dropdown. This list of files is populated from the BasebandFiles Folder
        - After decoding, the information will be populated on the fields. The green UID field is the ID of the card.
        - If no card is found, then red text will appear saying such.
    - Regarding real-time plotting and decoding
        - The real-time reception button will simply plot the signal received from the USRP receiver, it is not necessary to enter the amount of seconds for this
        - For the real-time decoding, the number of seconds will determine the time frame you have to send out a signal from the card reader to the card. The program will receive the signal for this amount of seconds no matter what, then decode the signal after all the data has been received. After pressing this button, a real-time plot will appear to make it easier to time up sending the command.
    - Regarding the sampling rate
        - The sampling rate should be kept at the default value of 2,000,000. This is the value that has been tested, other values have not been tested and there is no guarantee that they will work correctly.