

## How To Capture Data with FMCW

1. Use ADC Data Capture using Capture Demo and CCS Memory Browser IWR14xx/AWR14xx example
  - a. <https://e2e.ti.com/support/sensors/f/1023/t/795821?CCS-IWR1443BOOST-Capture-demo-config-parameter->
  - b. Code Composer Studio
  - c. Uniflash
    - i. Format SFLASH (clear firmware) before loading new firmware
    - ii. Do not attach DevPack
    - iii. Do not auto detect
    - iv. Use SDK v2.1.0.4
    - v. If get header is wrong error
      1. Do not load RadarSS, only MSS
2. Which Profile Config to use
  - a. Use profile configs in profile config notes (at bottom)
    - i. Modify as needed
    - ii. More information on what the variables mean is in the DemoProfile.txt
  - b. If get *Invalid usage of the CLI Set High Speed Interface command* error in tera term
    - i. setHSI CSI ADC disable
3. Extract Data from CCS
  - a. Number of bytes comes from calculation in powerpoint
4. How to Unwrap the data
  - a. Check Profile Config 2 excel file
  - b. First: open the file in notepad++ and transfer to excel
    - i. Transfer as text to excel
    - ii. Divide columns in half to get Q (right) and I (left) data
      1. Make sure to keep both columns as text
      2. Label Rx1\_I and Rx1\_Q
      3. Dependent on interleaved versus non-interleaved
        - a. Set up in adcbufCfg and adcCfg variables
    - iii. Convert from hex to decimal
  - c. Calculate time (Time\_sec)
    - i. Based on sampling frequency frameperiodicity/(samples/chirp)
      1. Set in profileCfg

## Notes

- Cannot use radar studio to grab the raw data
  - Needs to be this way
- Cannot run in real-time
- This is an old project
  - May be taken offline soon because TI wants you to buy the new EVM