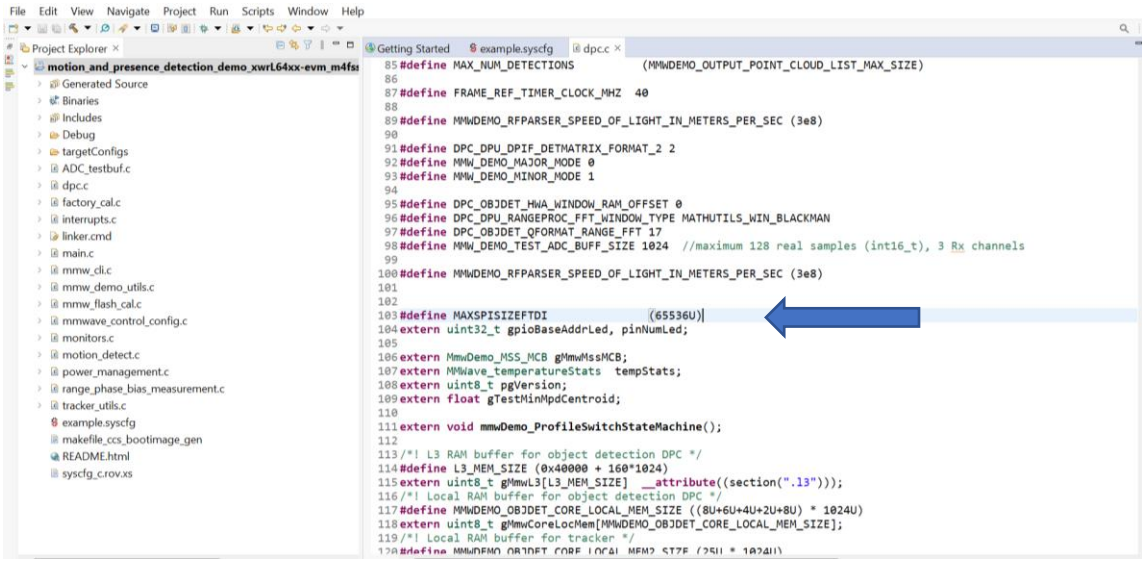
Steps for Raw ADC Data Streaming in IWRL6432:

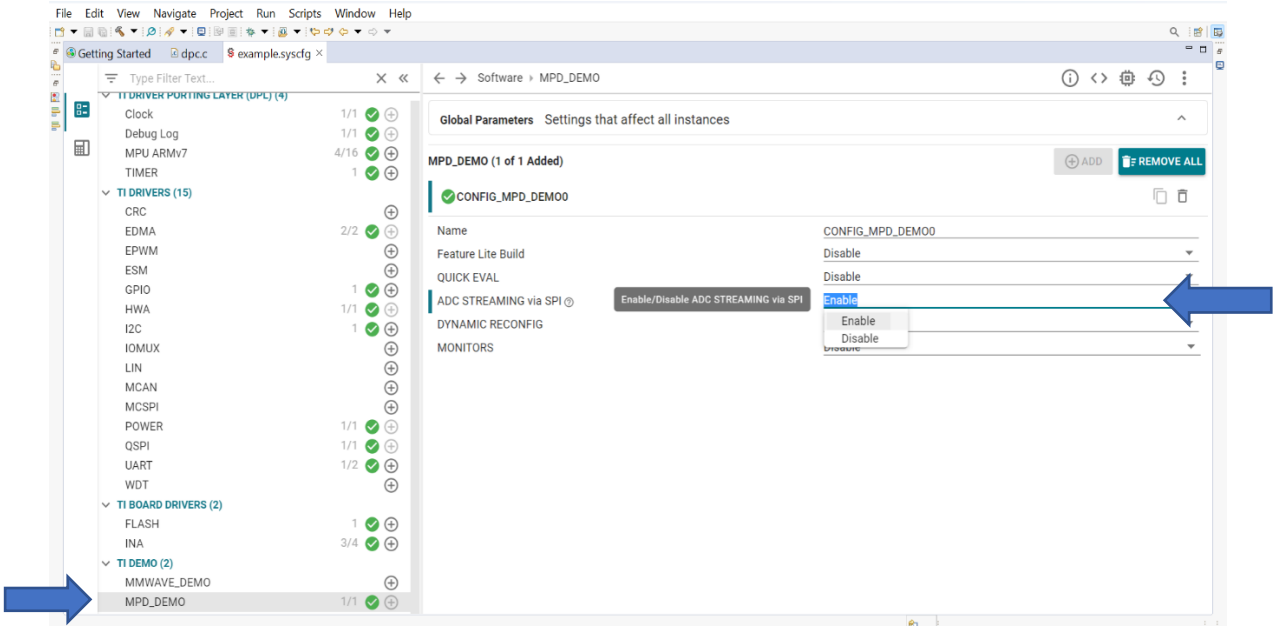
Note : If the User is flashing the attached appimage directly, skip to step 7.

1. In dpc.c file, add these two lines of code.

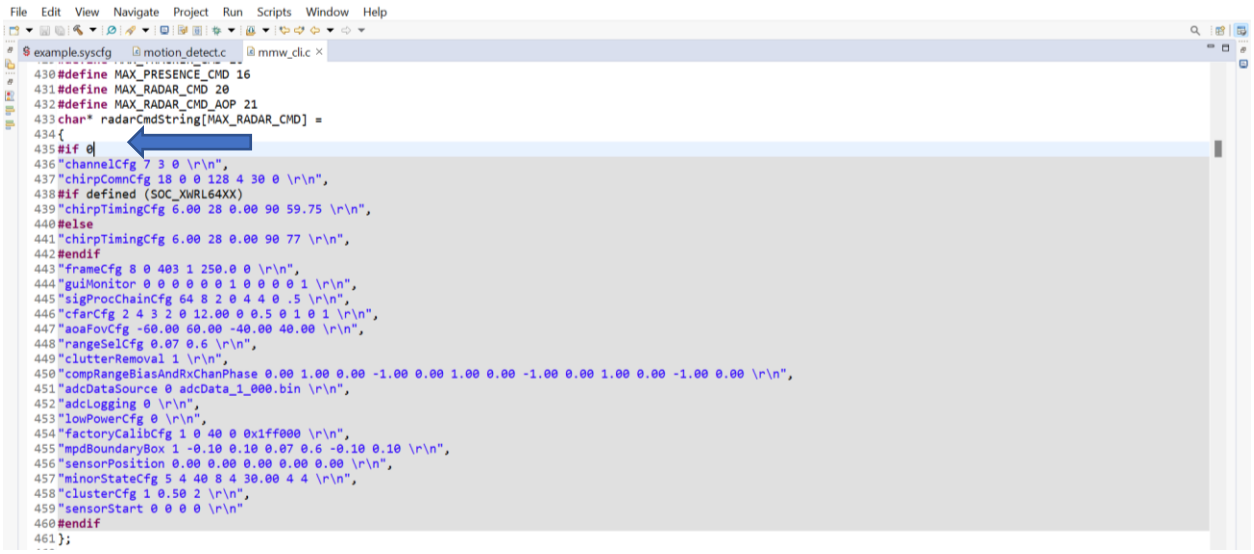
```
#define MAXSPISIZEFTDI                  (65536U)
extern uint32_t gpioBaseAddrLed, pinNumLed;
```



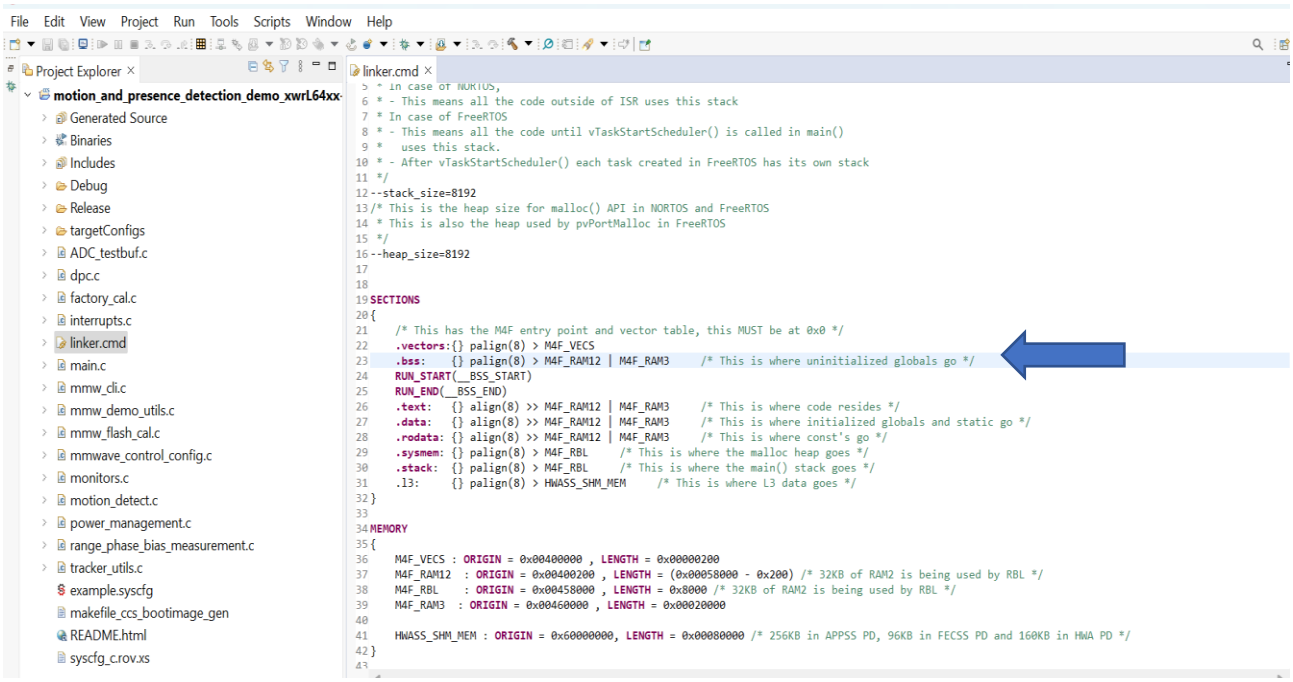
2. Open example.syscfg and click MPD_DEMO. In that enable the field ADC Streaming via SPI.



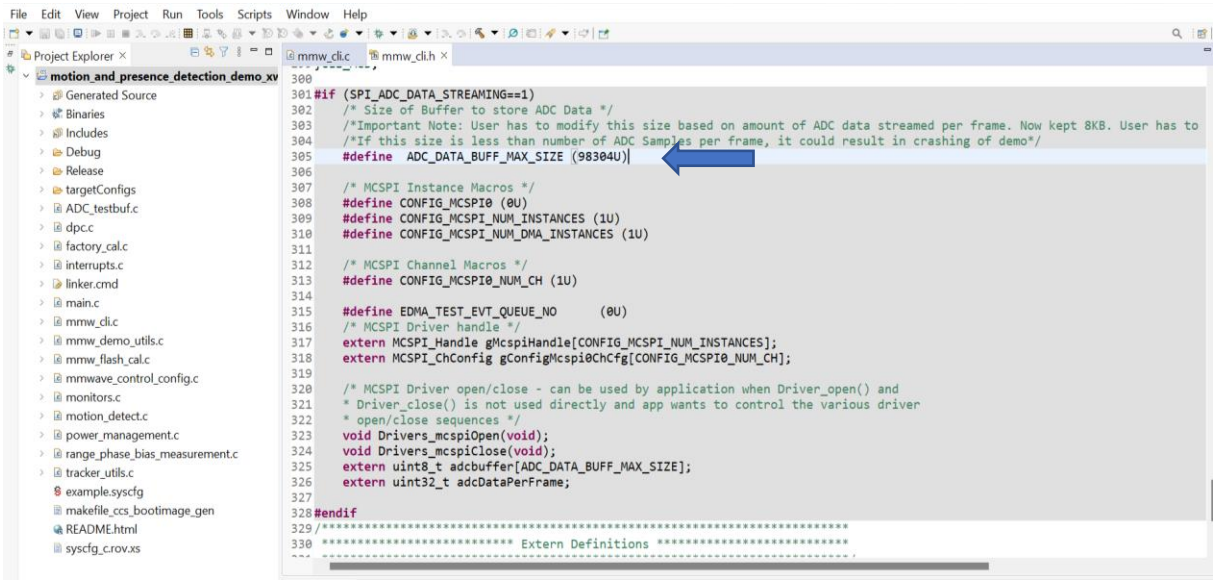
3. Disable the default configuration sent out via mmw_cli.c



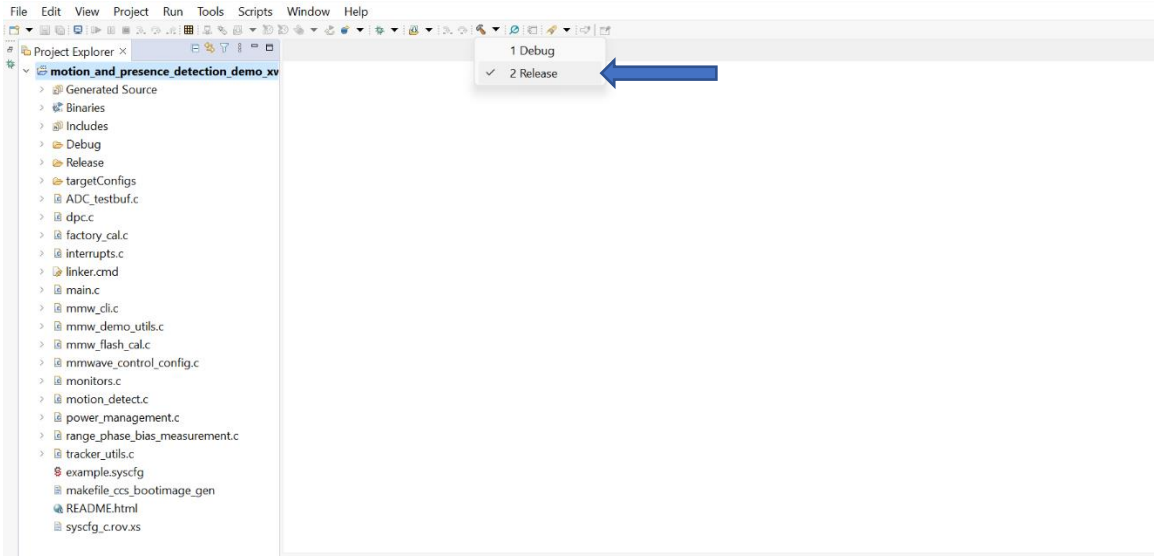
4. Update the linker.cmd file as described below.



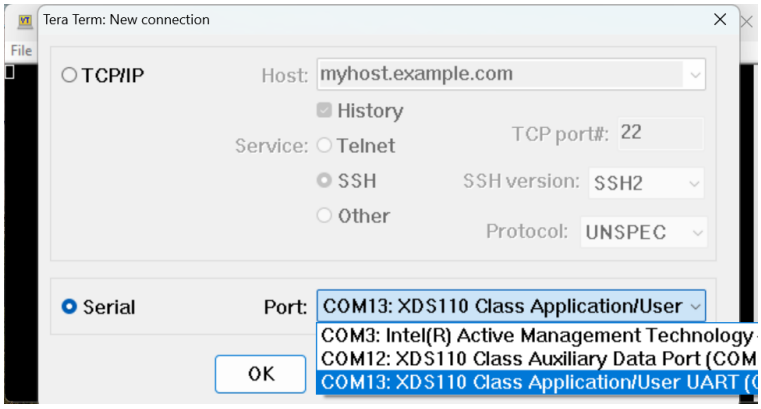
5. Update the ADC buffer size as per requirement in mmw_cli.h



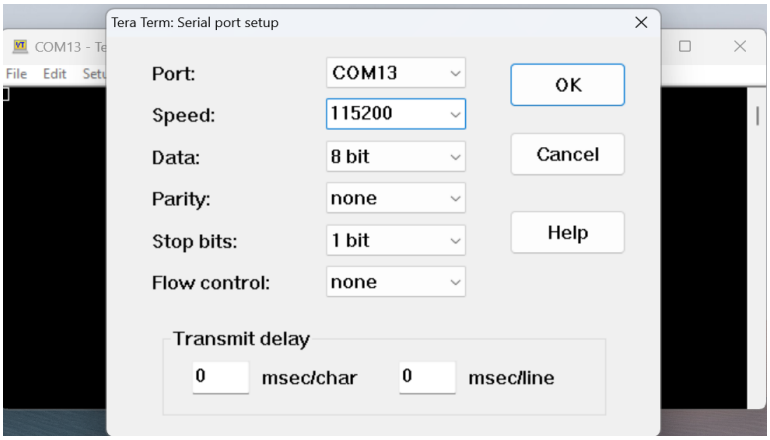
6. Ensure that the build is Release version and rebuild the project.



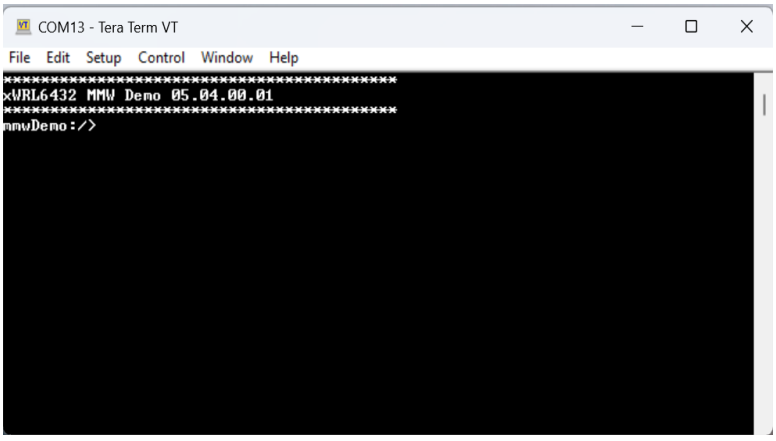
7. Flash the release appimage built in the previous step.
8. Setup the device for SPI transfer by ensuring switch S1.1 and S1.6 are ON.
9. Open tera term and choose the corresponding COM Port.



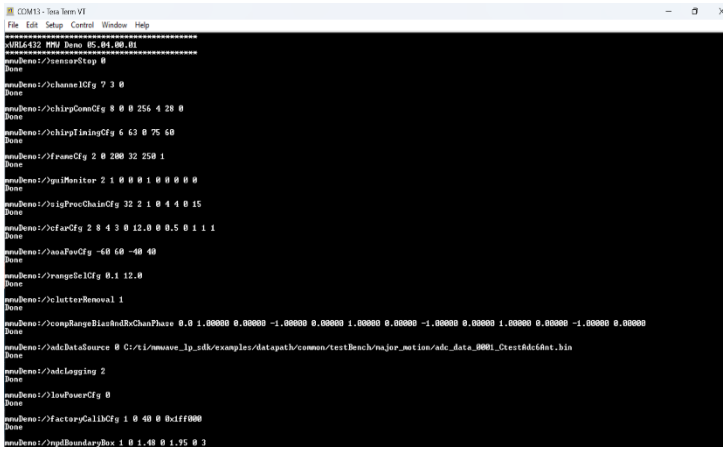
10. Setup the serial port with baud rate 115200.

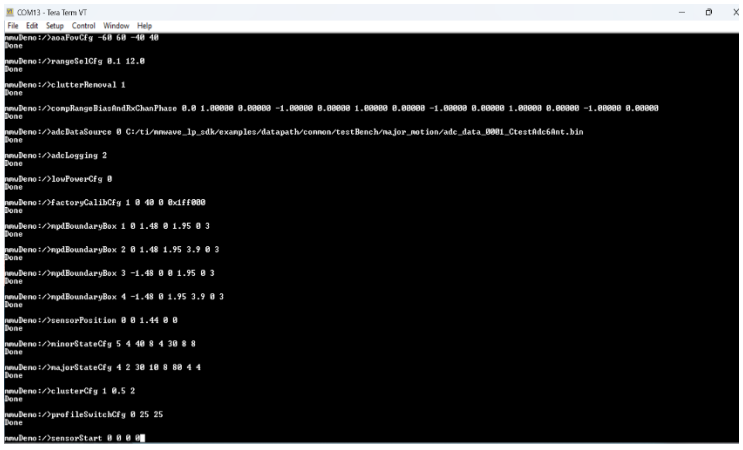


11. Press reset switch from FCCSP. Once pressed, tera term should look like this.

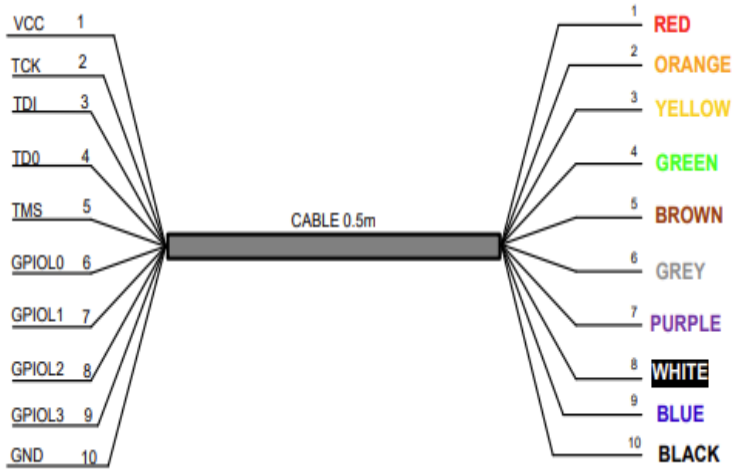


12. Paste the configuration(attached in an earlier email) to tera term. **Do not press enter after sensor start command.**





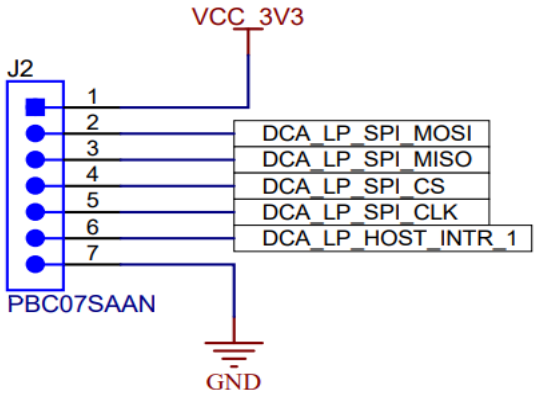
13. FCCSP EVM does not have on board SPI FTDI chip. User has to use external converter cable. We show the usage with C232HM-DDHSL-0 cable here (FT232H device) (https://ftdichip.com/products/c232hm-ddhsl-0-2/).



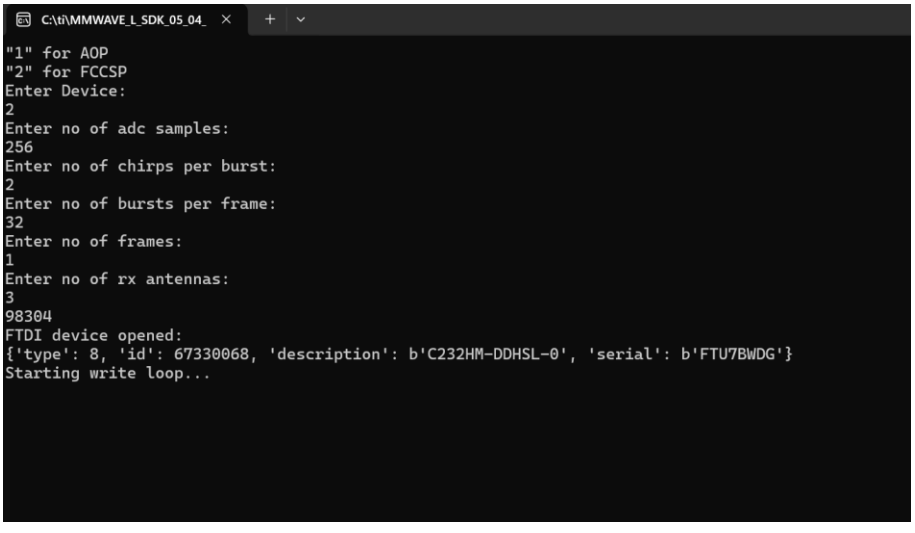
13.1 Connection Table of SPI Interface of xWRL6432 with C232HM-DDHSL-0 Cable

XWRLx4XX FCCSP Device	C232HM-DDHSL-0 Cable
MOSI	YELLOW WIRE
MISO	GREEN WIRE
CHIP SELECT	BROWN WIRE
SPI CLOCK	ORANGE WIRE
SPI BUSY	GREY WIRE
GROUND	BLACK WIRE

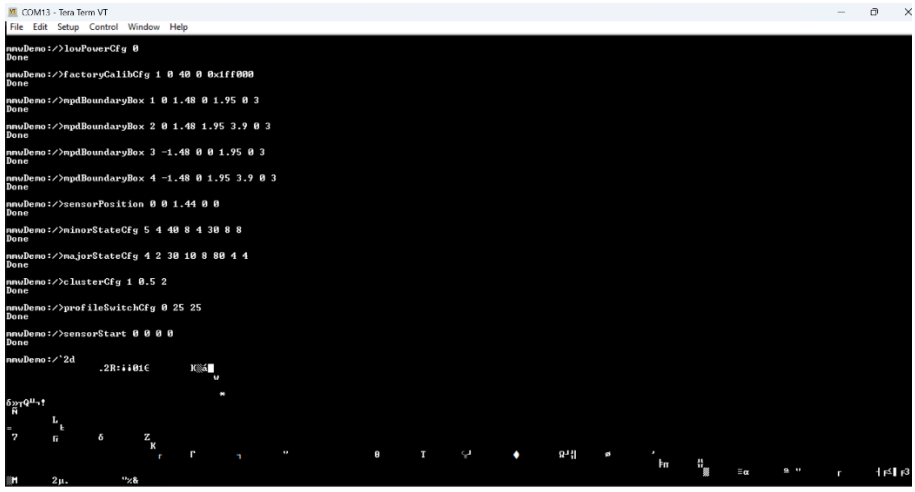
14. SPI Header for FTDI Interface (DCA_LP_HOST_INTR_1 is SPI BUSY SIGNAL)



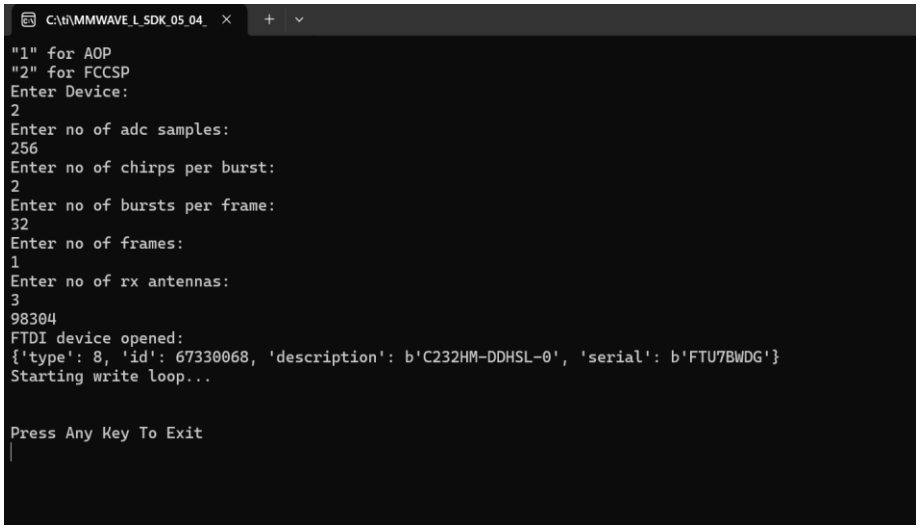
15. Open the adcDataSPIFTDI application and provide all the required parameters.



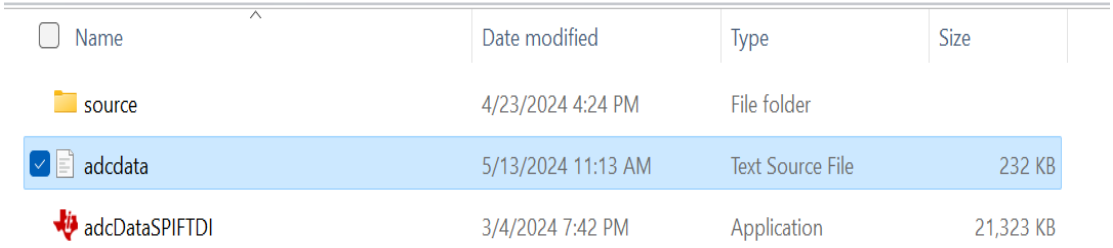
16. Now, Issue sensor start command from tera term.



17. Open adcDataSPIFTDI application and press any key to exit.

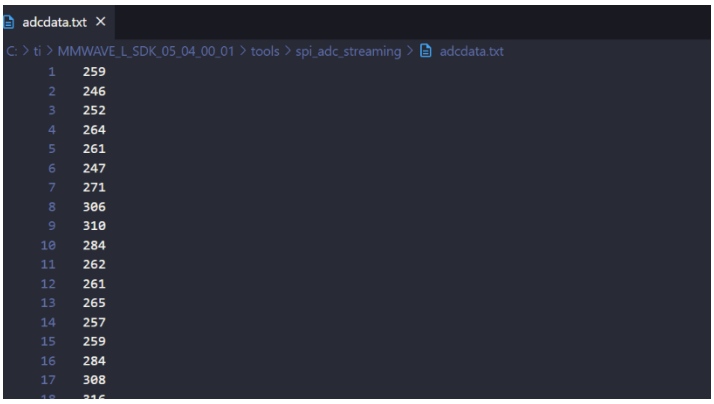


18. In the same directory, adc data would be stored in a text file.

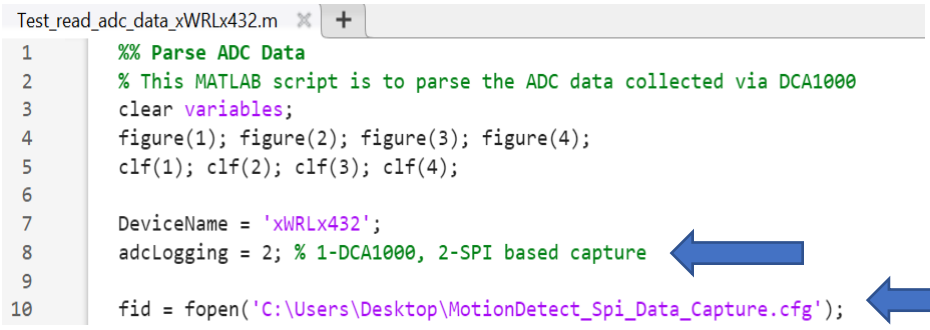


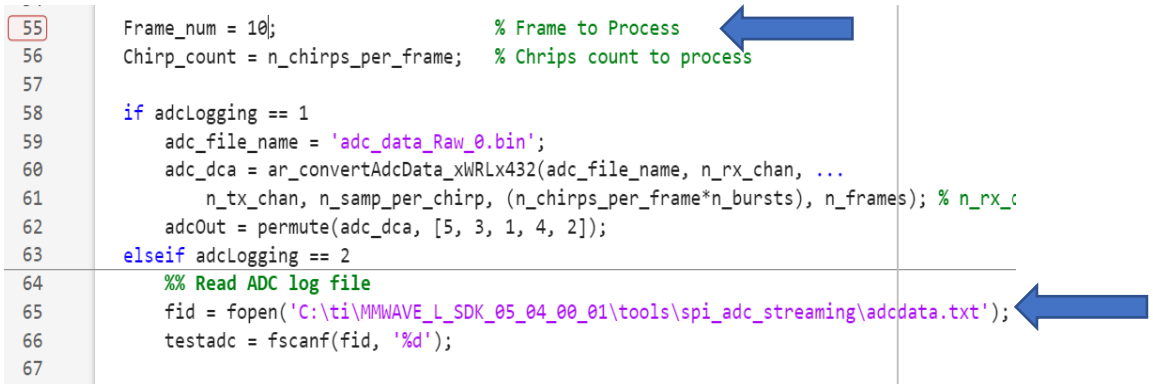
Post Processing of Captured Data:

1. Data Format of the captured values in adcdata.txt file : Frame1 Chirp1 Antenna1, Frame1 Chirp1 Antenna2 and so on.
   Example : 259 – Frame 1 Chirp1 Antenna1; 246 – Frame 1 Chirp1 Antenna2;



2. The captured data can be used to perform post processing with the Matlab script provided in {SDK_INSTALL_DIR}/tools/ADC_parser/Test_read_adc_data_xWRLx432.m
3. Once the above mentioned script is opened in Matlab, ensure that adclogging is 2 in the script. Also, provide the path for adcdata.txt file and configuration file used. Only one frame could be processed with the script. The specific frame number to be processed should be indicated in the script.





4. Run the script to view the output figures.

Sample Output Figures: