

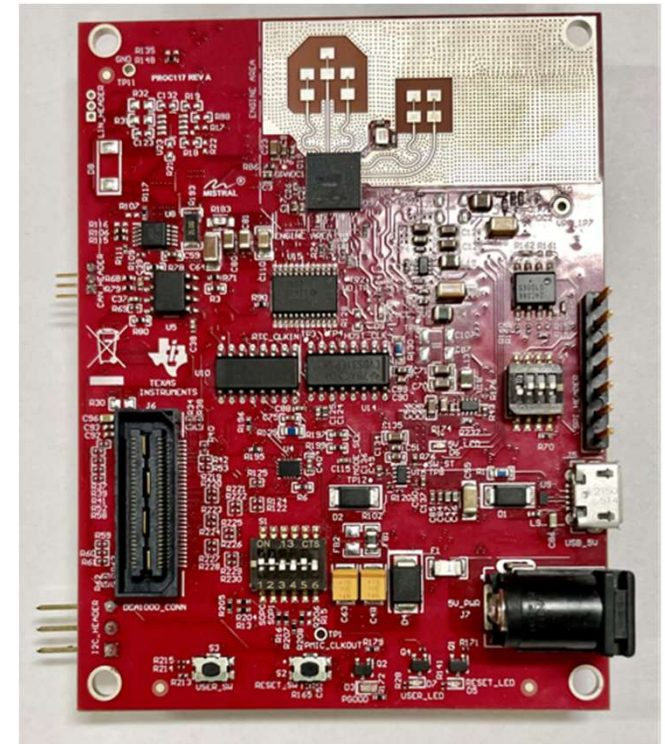
# CCS Debug with IWRL6432

Feb. 2023

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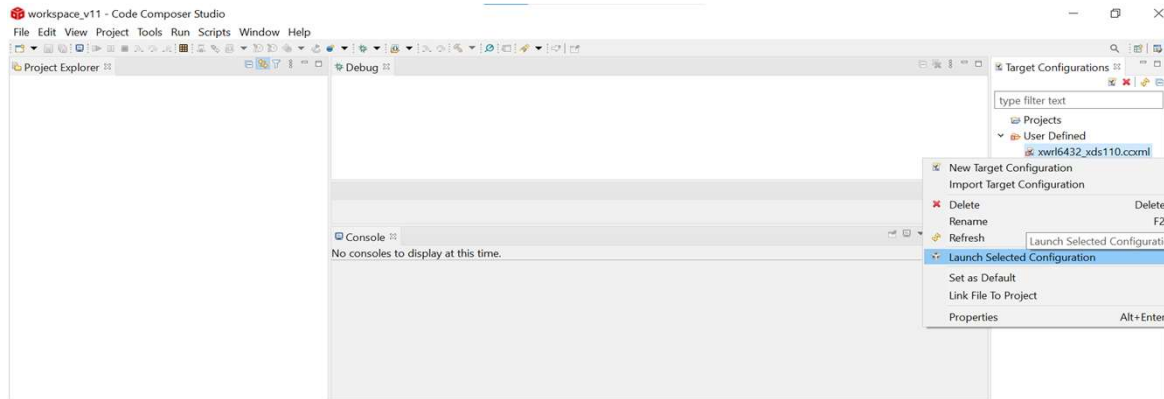
# Setup

- Follow [SDK documentation to install CCS](#)
- For CCS v12.1 or older, there are several first-time setup steps which must be completed in order for the xwrl6432 device to be recognized in CCS. These steps are listed in the [Pre-requisites To Detect Low Power Radar Devices in CCS](#) section of the SDK documentation.
  - For CCS v12.2 and on these steps are not required
- Ensure the EVM is configured for **Debug Mode** as specified [here](#)
  - S1.1 = ON, S1.2 = ON, S1.6 = OFF, S4.1 = OFF



# Execute the Demo in CCS Debug Mode

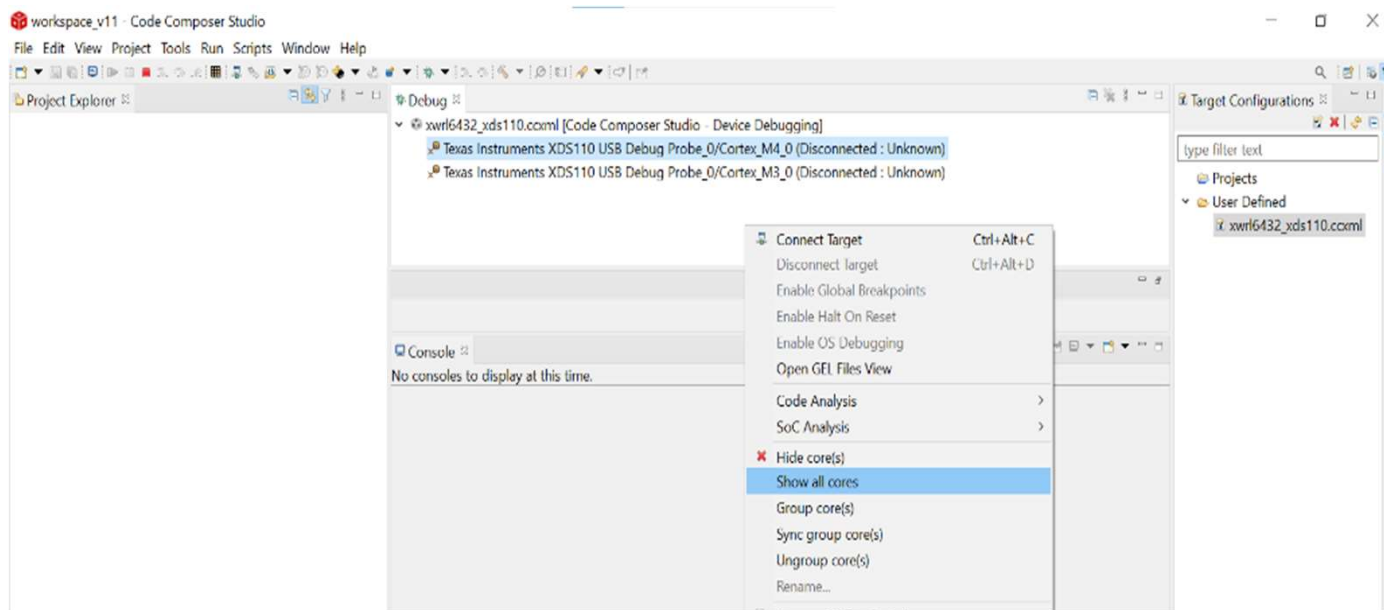
- CCS, go to the **Debug** view and in the **Target Configurations** window under **User Defined** right click on **xwrl6432\_xds110.ccxml** and select **Launch Selected Configuration**



- If you do not see a target configuration file (.ccxml), follow the steps in the [Create Target Configuration](#) section of the SDK documentation

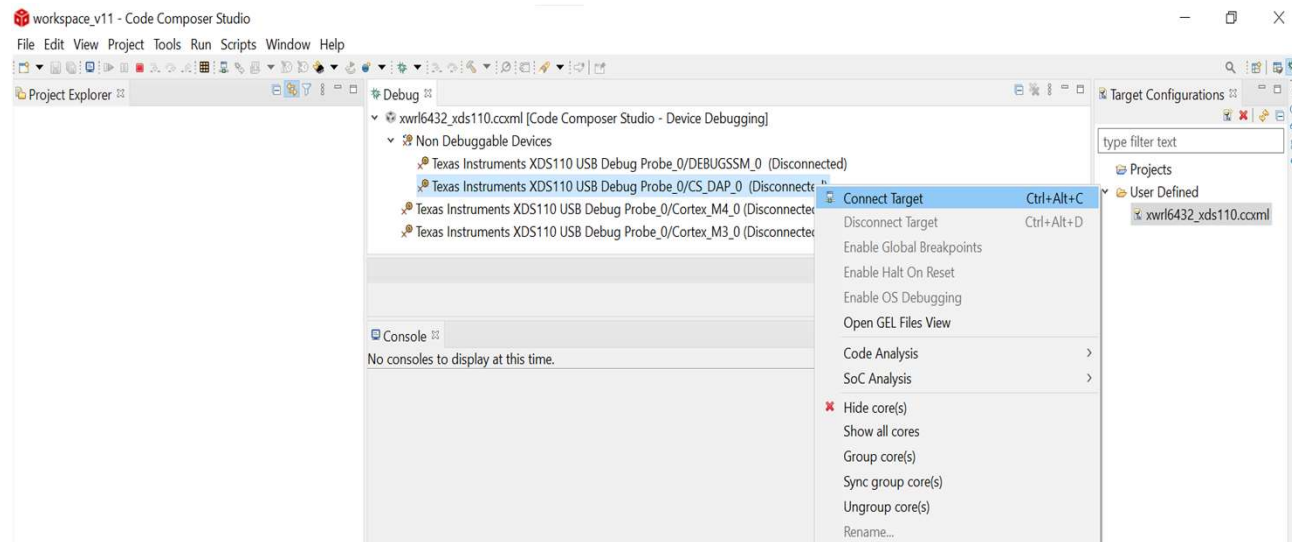
# Execute the Demo in CCS Debug Mode (cont.)

- In the **Debug** window, right click and select **Show all cores**



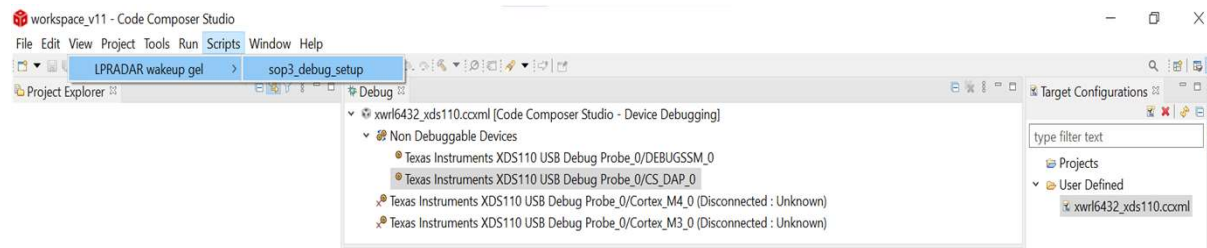
## Execute the Demo in CCS Debug Mode (cont.)

- Expand the **Non Debuggable Devices**. Right click on **Texas Instruments XDS110 USB Debug Probe\_0/CS\_DAP\_0** and select **Connect Target**



## Execute the Demo in CCS Debug Mode (cont.)

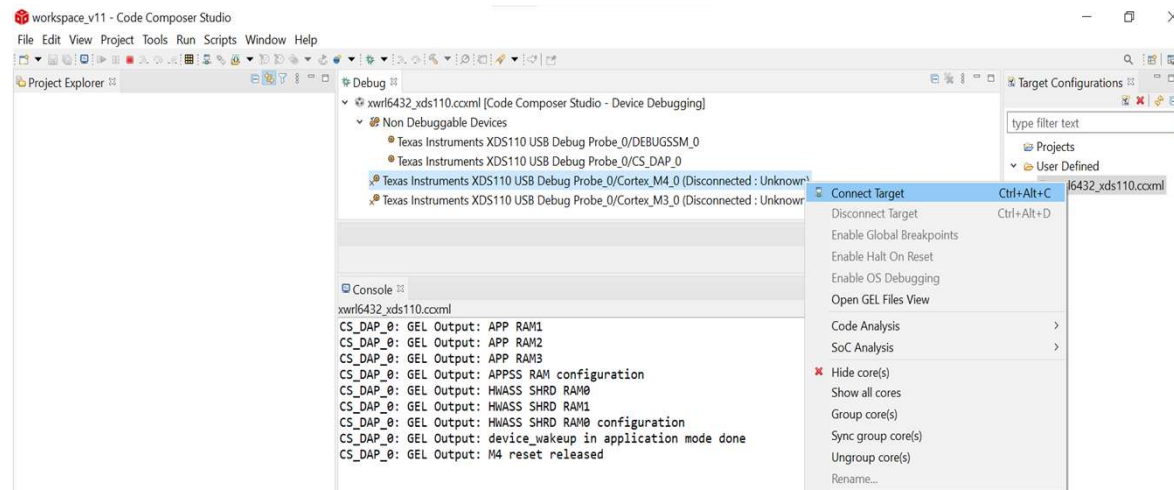
- Click on **Scripts** at the top and select **LPRADAR wakeup gel** → **sop3\_debug\_setup**. The console should read “M4 reset released”



- If you do not see the script in the menu when the DAP is selected then you must add it to your target configuration file
  - Double-click on the target configuration file to edit
  - At the bottom select the **Advanced** tab. Under **All Connections**, select **CS\_DAP\_0**
  - For the **initialization script**, click **Browse** and navigate to the GEL file located at `<SDK_INSTALL>/tools/gelfile/xwrlLx432.gel`
  - Save the target configuration file

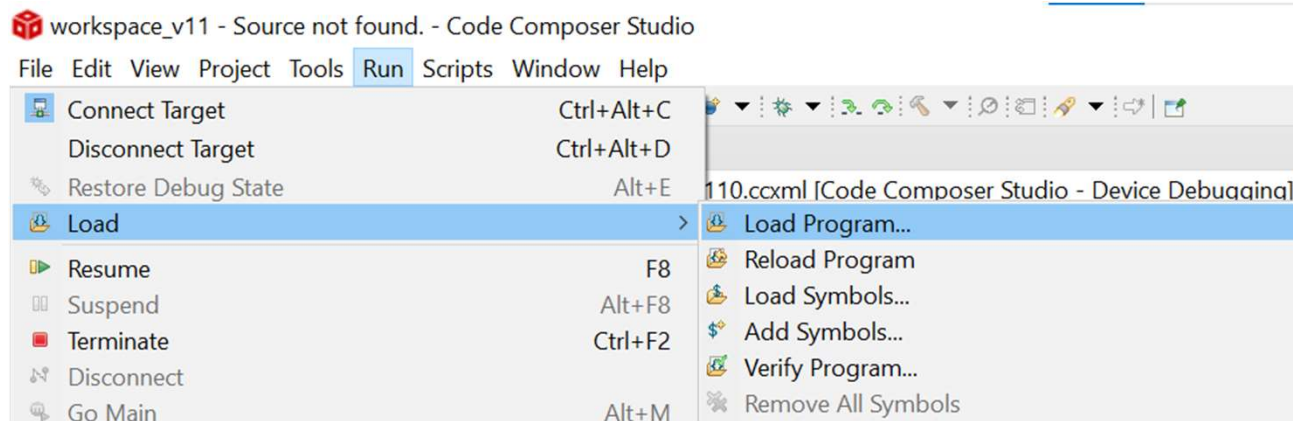
## Execute the Demo in CCS Debug Mode (cont.)

- Right-click on **Texas Instruments XDS110 USB Debug Probe\_0/Cortex\_M4\_0** in the debug window and select **Connect Target**. Do a CPU reset on the m4 (ctrl+shift+r)



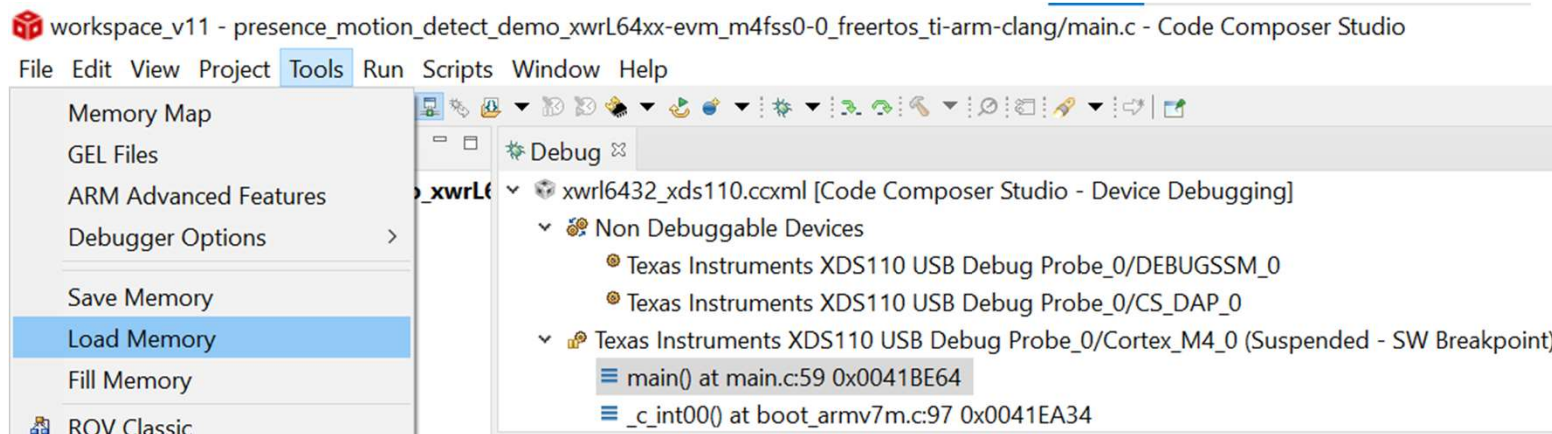
## Execute the Demo in CCS Debug Mode (cont.)

- To load the demo code onto the device, click on **Run** at the top and select **Load** → **Load Program...** and browse for the .out file located at <CCS\_WORKSPACE>/motion\_and\_presence\_detection\_demo\_xwrL64xx-evm\_m4fss0-0\_freertos\_ti-arm-clang/<PROFILE>.



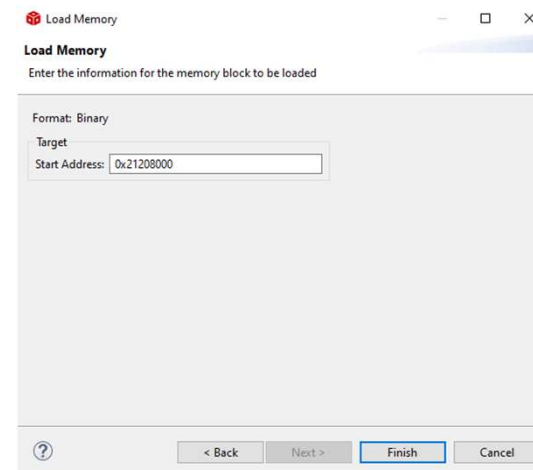
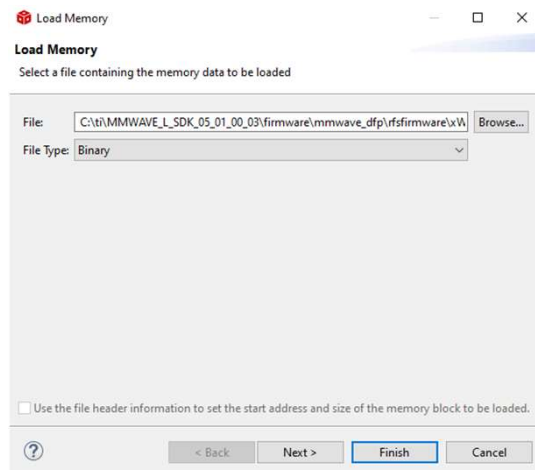
## Execute the Demo in CCS Debug Mode (cont.)

- Once the program is loaded the rfs binary must be loaded into memory before running the demo. In the toolbar click on **Tools** → **Load Memory**.



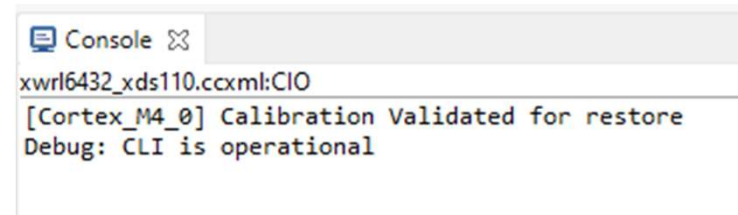
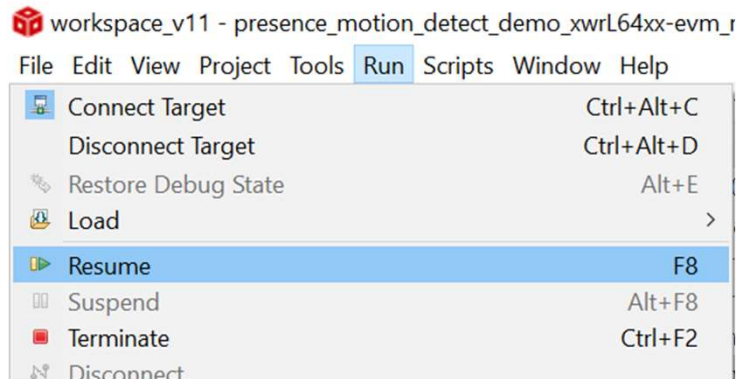
## Execute the Demo in CCS Debug Mode (cont.)

- In the window that opens, for **File Type** select **Binary**. Click **Browse** and navigate to the rfs binary at:  
<SDK\_INSTALL>\firmware\mmwave\_dfp\rfsfirmware\xWRL6432\mmwave\_rfs.bin. Click **Next**.
- In the **Start Address** box, enter: 0x21208000. Click **Finish**.



## Execute the Demo in CCS Debug Mode (cont.)

- To run the demo, click **Run** at the top then select **Resume**.
- The console should read “CLI is Operational”



- From this point you can send the configuration file (.cfg) over UART (using the GUI, terminal emulator, etc...) and the device will begin chirping