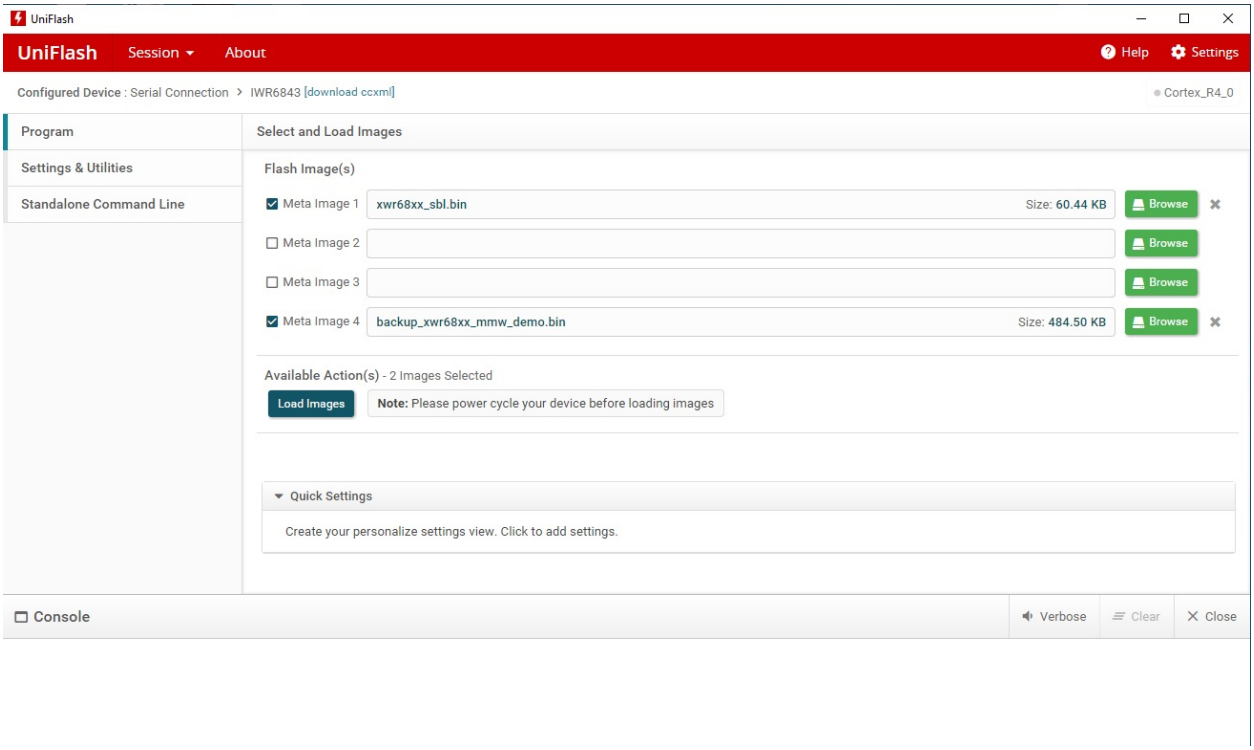
SBL Guide Appendix A

SPI Interface

Version 1.0

The meta image for SBL application will be created automatically along with the out file upon compiling this application. Note that this image will contain only the MSS binary (no BSS or DSS binary). This meta image needs to be flashed once using the conventional method (uniflash). From this point onwards, this image will reside in the SFLASH as the primary meta image (until a new image is flashed using the uniflash) and will be loaded each time after a cold or warm reset. Follow the below steps to run the application.
Note: Since the factory default backup image is not modified by the SBL, it also needs to be flashed once using the conventional method (uniflash).

1. Load the SBL image and a factory default backup image as shown below.



2. Follow the guide below to install D2XX for Linux connected to the device. Install the shared library

http://www.ftdichip.com/Drivers/D2XX.htm

3. Installing the D2XX shared library and static library.

$ ***tar xfvz libftd2xx-x86_64-1.4.8.tgz***

This unpacks the archive, creating the following directory structure:

$ ***cd build***

$ ***sudo -s***
Or
$ ***su***

Promotes you to super-user, with installation privileges. If you're already root, then above is not necessary.

$ cp libftd2xx.* /usr/local/lib

Copies the libraries to a central location.

$ chmod 0755 /usr/local/lib/libftd2xx.so.1.4.8

Allows non-root access to the shared object.

$ ln -sf /usr/local/lib/libftd2xx.so.1.4.8 /usr/local/lib/libftd2xx.so

Creates a symbolic link to the 1.4.8 version of the shared object.

$ exit

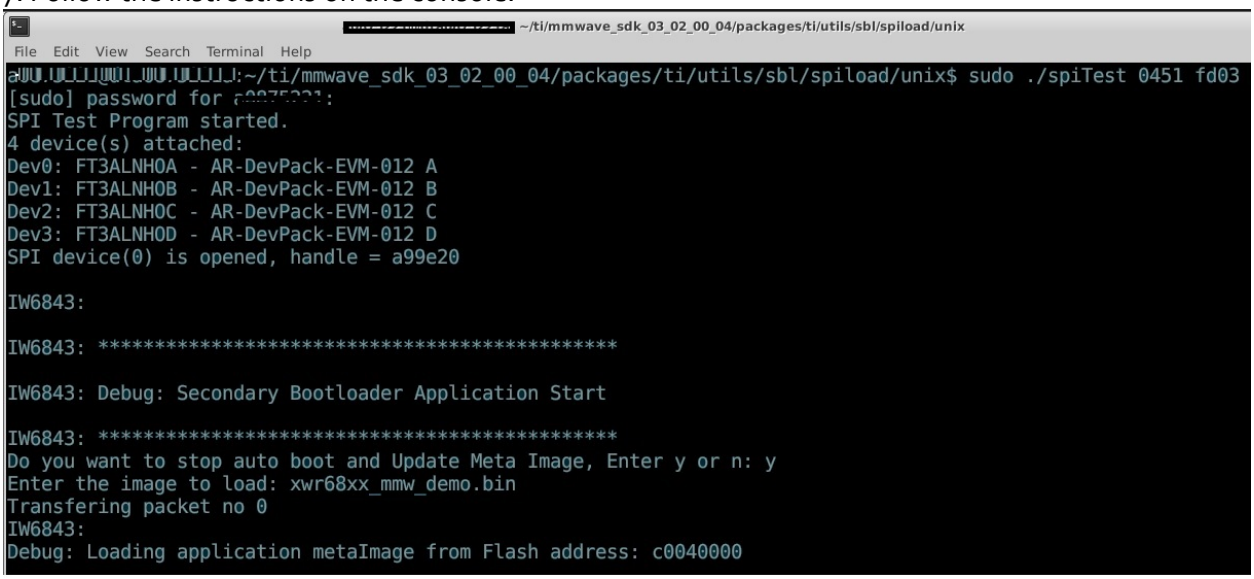
Ends your super-user session.

4. Run "Make" in the ***~/ti/utils/sbl/spiload/unix*** folder

5. You may need to copy ftd2xx.h and WinTypes.h from the "release" folder in libftd2xx-x86_64-1.4.8 to the "unix" folder in order to compile

6. Run "sudo ./spiTest (VID) (PID)"
Note: You MUST be a super user for the program to properly run.
Use "lsusb" to get VID and PID for the device.

7. Follow the instructions on the console.



8. Press "y" key to stop the auto-boot process. The flash at SBL_METAIMAGE_OFFSET address will be erased.

9. Enter the name and path to image to be flashed.

10. Once the image is downloaded, SBL verifies the image and loads from SFLASH to RAM.

Note: If the application meta image boot fails for any reason, the backup image is loaded from SFLASH to RAM.
If both the images fail to load, SBL resets the board and goes back to step 8.