

Software changes required for MSP430FR5043

The USS Gas and Water Demo software for MSP430FR6043 requires some software changes to work properly with the MSP430FR5043 device. The changes required are to the device linker file, possible GPIO changes (depending on which MSP430FR5043 device package), and disabling of LCD functionality. This document will describe the required changes.

1. **Linker** – The default MSP430FR5043 linker file must be modified to meet the memory configuration required for the USS library. The included `lnk_msp430fr5043.cmd` can be used. A difference report of the default MSP430FR5043 linker file and modified file is also supplied.
2. **GPIO** - In the 64 pin package of the MSP430FR5043, there are some GPIOs that are used in the MSP430FR6043 which are not available. For example, the internal MSP430FR5043 board that TI has created makes changes to the pins shown below. This means that the software must also represent these different pins being used. These changes are made in `USS_Lib_HAL.h`. An updated `USS_Lib_HAL.h` file and difference report is supplied. If a custom board is created, there may be other GPIOs which need to be configured in other HAL files in the same manner.

EVM430- FR6043	Pin	EVM430- FR5043	Pin
RxEn	P6.7	RxEn	P6.0
RxSel1	P3.6	RxSel1	P6.4
RxSel2	P3.7	RxSel2	P6.5

3. **Disable LCD** – The MSP430FR5043 does not include LCD support, so the software must be modified to disable the LCD and any related functions. This is handled in `hal_lcd.h`. An updated `hal_lcd.h` file and difference report is supplied.