Embedded Systems (Spring 2019)

Lab 8 - ESOS and the ECE 4723/6723 Target Board

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Schematic Errata

Component R6 needs a jumper connection from the signal side to LCD V0 or opposing pin of R7. There is no connection from R6 to R7 as evidenced by a continuity test. This connection should be a junction between R6, R7 and the LCD V0 pin.

SDA and SCL need a jumper connection to the microcontroller. They are not currently connected to anything other than the pullup resistors.

A jumper needs to be wired from MCLR (pin 1) on the serial header, to RTS# (pin 6) on the FTDI header.

The pin MCUTX on the FTDI header was connected to RB11 which is an input pin but should be an output pin.

esos\_sensor.c has a few errors, specifically the macro MAX16BITS is not defined, however UINT16MAX is, which represents the same thing. Also there were typos where \*u16\_data should have been \*pu16\_data.  
  
The VREF chip is incorrect for the given board voltage. A 3.0V VREF was supplied with 3.3V, so the potentiometer clips the top 10% to 0xFFF.  
  
SCL and SDA were not connected to their respective pins, therefore two jumpers needed to be soldered from the pads on the board (Found from using a multimeter probe) to the correct header pins on the board.  
  
U4 was not getting the correct chip select output, therefore, a jumper was soldered from the chip select pin from the U4 IC to the RD0 header pin  
  
Solder Jumpers SJ6 and SJ5 need to be soldered in such a way that U4 pin13 and U4 pin11 are connected to VREF on the board, (Determined by using a multimeter probe)  
  
Solder Jumpers SJ3 needs to be soldered in such a way that U4 pin9 is connected to 3.3V on the board. (Determined by using a multimeter probe)