EET4340

Interface Techniques

Lab 4 – I2C

You will need two Explorer 18 boards. Load the I2CSlave code into one of them. Check the Register Map for register descriptions. You will not need to modify the slave code for this lab (unless you want the extra challenge!) Check your connections between the master and slave carefully before powering up. Don’t forget about the 2.2K pull-up resistors. Make sure they go from the SDA and SCL lines to the correct Vcc (the 3.3V pins on the expansion connectors will have the correct voltage for the attached PIC.)

1. Modify the master firmware so it reads the temperature from the slave and displays it on the LCD. You can quit displaying the WhoAmI value;
2. Modify the master firmware so it reads the pressure from the slave and displays it on the LCD.
3. Modify the master firmware to write a new value to the slave’s Sample Rate register.
4. If you have time add a new register to the slave – This will be fairly challenging and is not necessary for full credit on the lab.