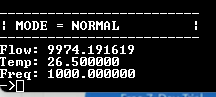
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ECEN 5803-401

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Project 1 – Module 5

1. Code5.zip downloaded and used as reference.
2. Used a Peak Detection frequency algorithm. ADC data file was provided by Professor Scherr, where each sample was taken every 100 uS. Simulink model found in ***../Simulink/Flow.slx*** directory.
3. Used Keil MDK for project.
4. Calculated frequency from sample data = 1000 Hz. Calculated flow = 9974 gallons/min.



1. Given a 100mS operating cycle, and the CPU operating frequency of 84 MHz, we estimate the number of CPU cycles to be 8.4 \* 10^6.
2. Power consumption in full power mode is:
   * Without LCD backlight: STM32F401RE + DS1631 + NHD\_0216HZ = 146uA(5V) + 400uA(5V) + 1.5mA(3.3V) = 7.68 mW
   * With LCD backlight: STM32F401RE + DS1631 + NHD\_0216HZ = 146uA(5V) + 400uA(5V) + 1.5mA(3.3V) + 15mA(3.3V) = 57.18 mW
3. Doxygen found in ***..\Code5\Doxygen*** directory.
4. CPP-checker.xml file found in ***../Code5/src*** directory.
5. The range of temperatures measured were 0x26 to 0x27 (38 degrees C to 39 degrees C).