



1 Introduction

This is the introduction

2 Outcomes

This describes the desired outcomes

- Determine the correct PLL settings using the device datasheet
- Perform bitwise operations on microcontroller registers
- Create a reusable PLL library
- Incorporate a C library into a Code Warrior project
- Measure code execution speed with an oscilloscope

3 Assignment

In this assignment, you will be creating a library to

3.1 Blink an green LED at 5Hz

Use the `while();` loop blocking delay that you developed in ICA04 to blink the green LED at 5Hz. When you measure the LED with an oscilloscope, you should see a square wave with a period of 200ms. Remember that each full waveform represents two LED toggles, the the blocking delay will is 100ms.

3.2 Set the Bus Speed to 2MHz

Add a function yo your clock library that will set the bus speed to 2MHz.

3.3 Set the Bus Speed to 20MHz

3.4 Set the Bus Speed to 40MHz

3.5 Questions

What is the maximum bus frequency of your microcontroller? Look in appendix A of the ‘Big Pink’ Datasheet.

Bus Frequency	Expected LED Frequency	Measured LED Frequency	Blocking Delay Time
8 MHz	5 Hz	5 Hz	100ms
2 MHz			
20 MHz			
28 MHz			