Group 3 CPE 3201 LE4

May G. Ochia

Elisha Isabelle B. Tepait

Part I.

|  |  |  |
| --- | --- | --- |
| **Frequency**  **(Hz)** | **Period displayed at LCD (ms)** | **Calculated Period (ms)** |
| 1 | 472 | 1000 |
| 10 | 96 | 100 |
| 20 | 48 | 50 |
| 30 | 32 | 32 |
| 40 | 24 | 25 |
| 50 | 16 | 20 |
| 60 | 16 | 17 |
| 70 | 8 | 14 |
| 80 | 8 | 13 |
| 90 | 8 | 11 |
| 100 | 8 | 10 |
| 200 | 0 | 5 |
| 500 | 0 | 2 |
| 1000 | 0 | 1 |

**PART II. CALCULATIONS**

**Formulas:**

Formula for PR2 finding the value for PWM Period:

Formula for PWM Duty Cycle:

Formula for Period:

Frequency: 500Hz, 1000Hz, 2000Hz

PWM Period = 1/Frequency

Using a TMR2 Prescaler value of 1:16

**PR2:**

For PR2 @ 500Hz:

For PR2 @ 1000Hz:

For PR2 @ 2000Hz:

Duty Cycle: 10%, 25%, 50%, 75%, 95%

**CCPR1L:CCP1CON<5:4>:**

**Period @500Hz:**

PWM Duty Cycle @ 10%:

PWM Duty Cycle @ 25%:

PWM Duty Cycle @ 50%:

PWM Duty Cycle @ 75%:

PWM Duty Cycle @ 95%:

**Period @1000Hz:**

PWM Duty Cycle @ 10%:

PWM Duty Cycle @ 25%:

PWM Duty Cycle @ 50%:

PWM Duty Cycle @ 75%:

PWM Duty Cycle @ 95%:

**Period @2000Hz:**

PWM Duty Cycle @ 10%:

PWM Duty Cycle @ 25%:

PWM Duty Cycle @ 50%:

PWM Duty Cycle @ 75%:

PWM Duty Cycle @ 95%: