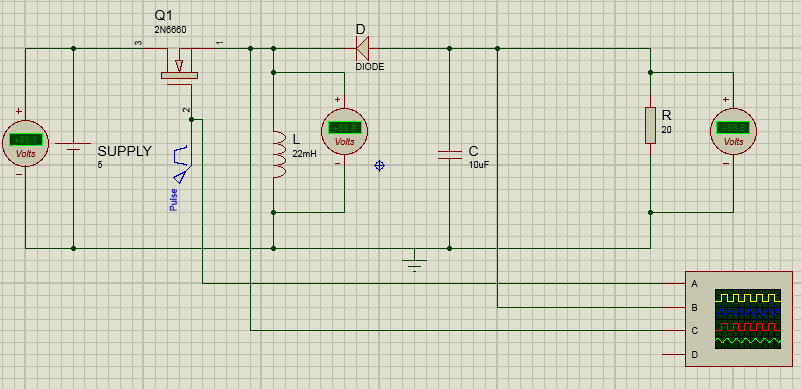
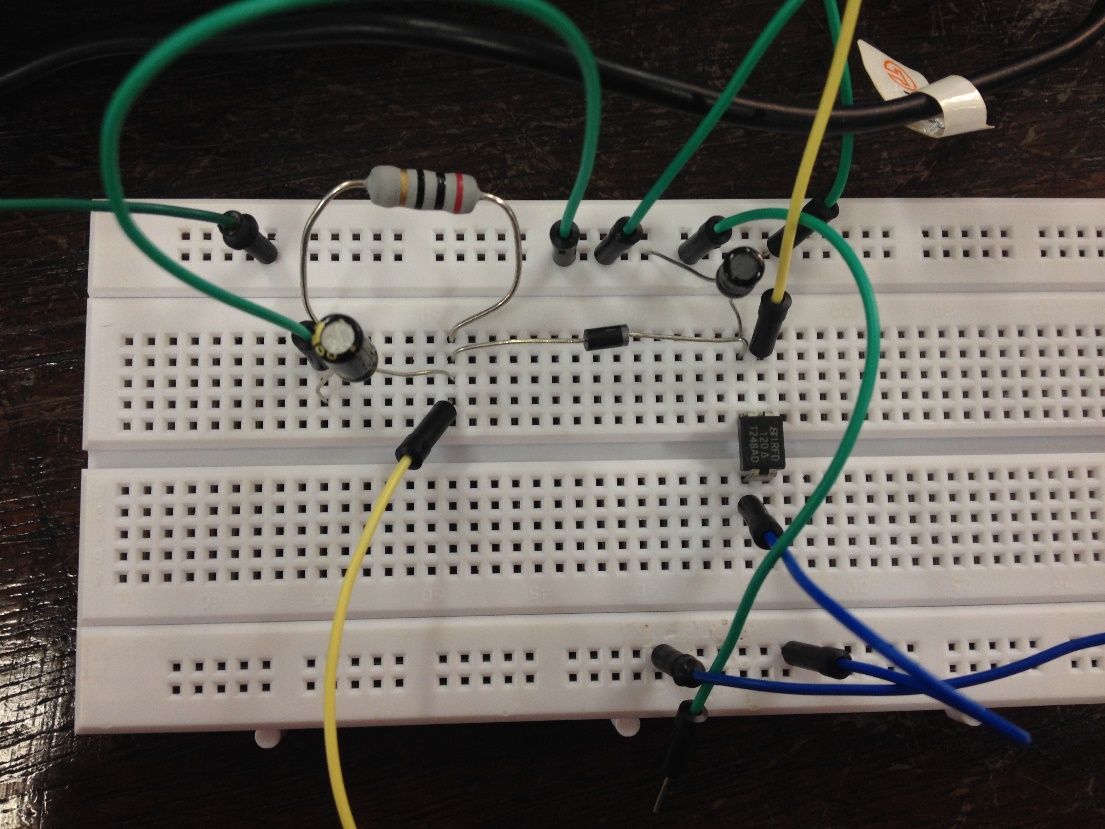
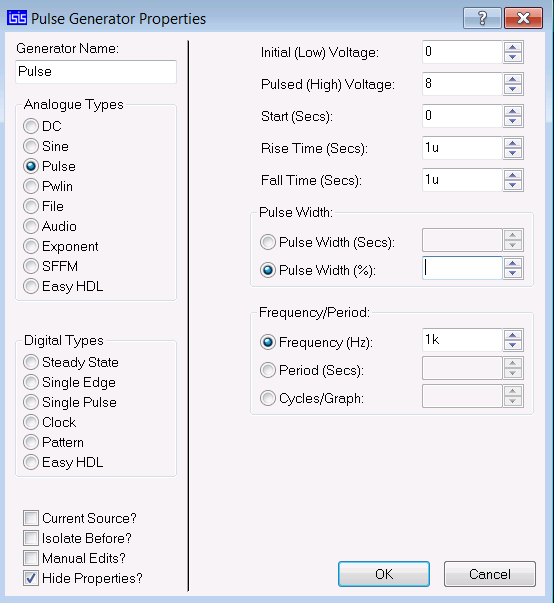
**Buck-Boost Converter Data**

**  
Figure 1: Proposed Buck-Boost converter circuit**

**The oscillator is connected to Pulse Generator (yellow), the voltages across inductor, VL (red) and capacitor, VC (blue).**

**VD: 5V**

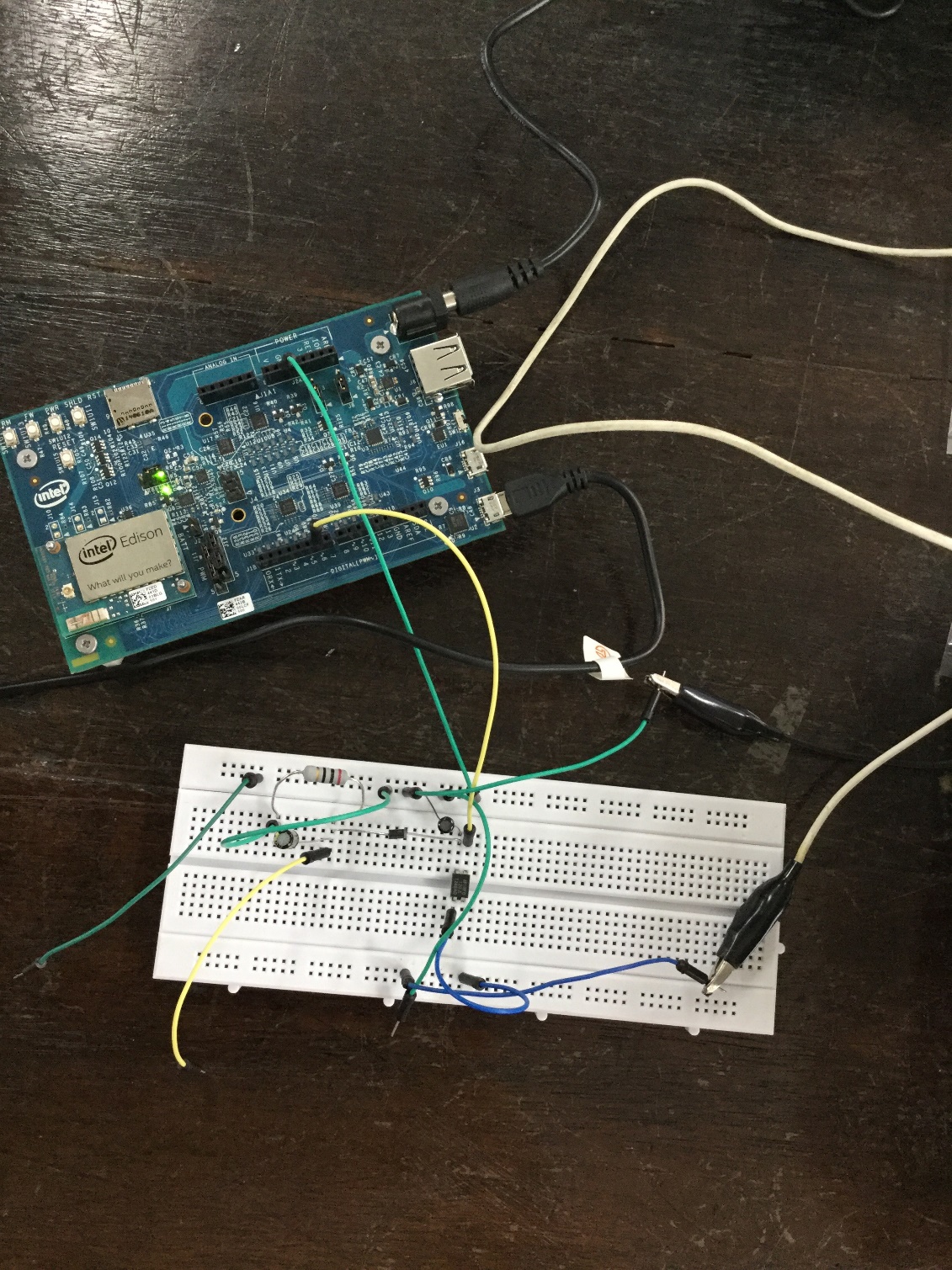
**VG: 8V**

**Figure 2: Values are set for of trise, tfall and Frequency**

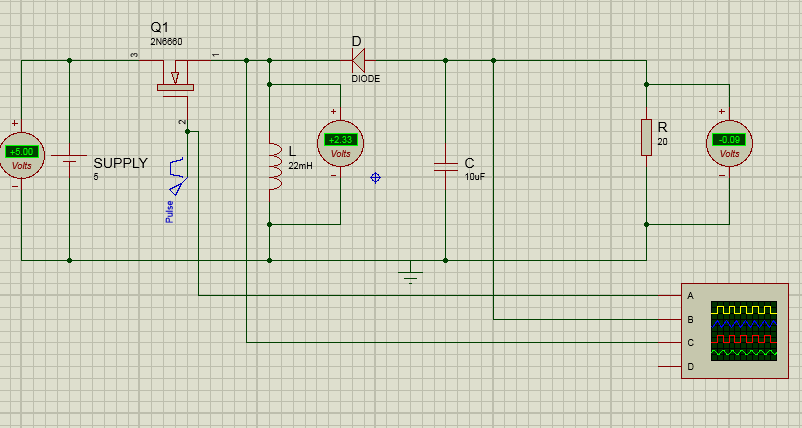
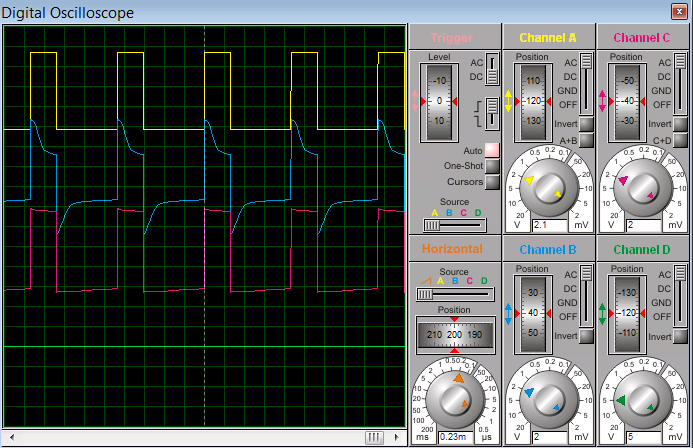
|  |  |
| --- | --- |
| **Duty Cycle** | **VL** |
| **30%** | **(Buck)** |
| **50%** | **8V** |
| **80%** | **(Boost)** |

**Table 1: Output VL for 30% of duty cycle at the gate**

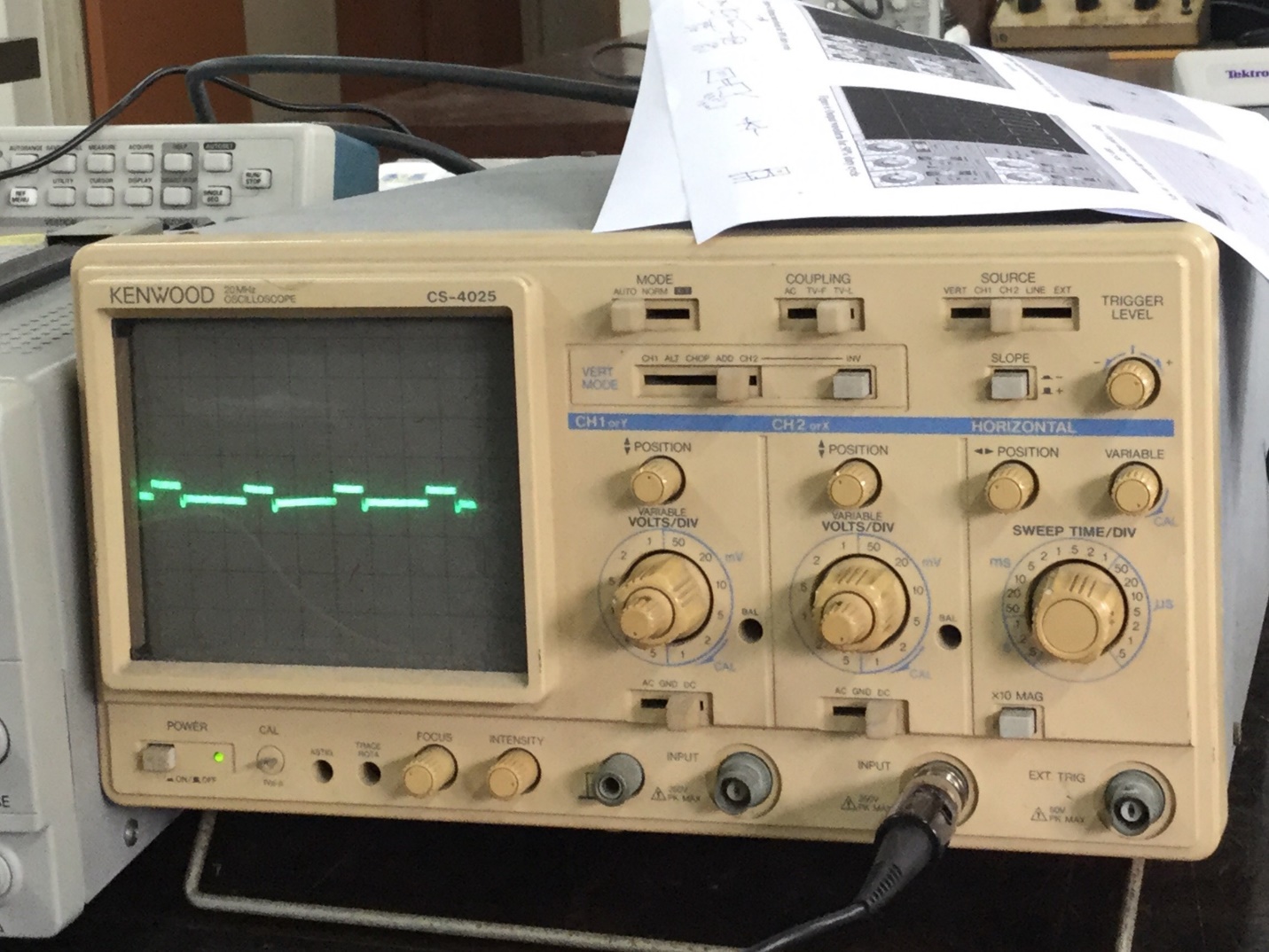
**Circuit setup with Intel Edison**



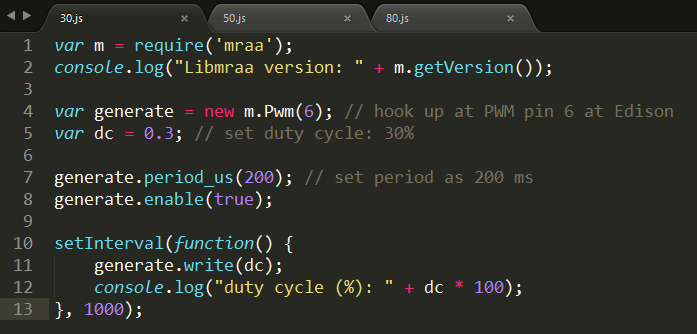
**Activity 1: set 30% duty cycle Edison PWM**

**  
Figure 3: Output voltage across the inductor, VL for 30% duty cycle  
  
  
Figure 4: Example Output waveform for 30% duty cycle**

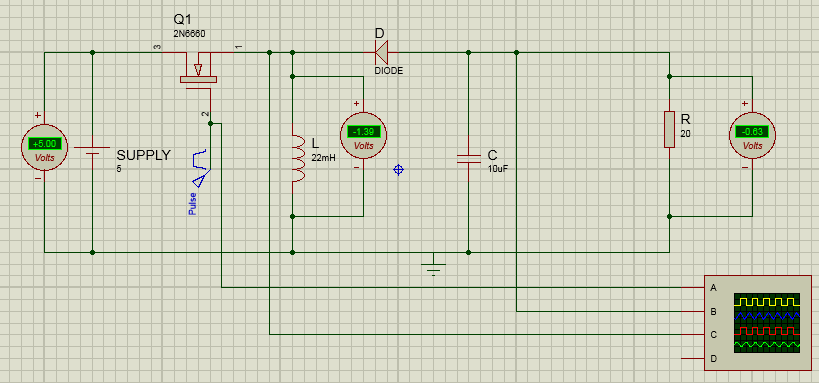
**Expectation observation: Input, 30% duty cycle**

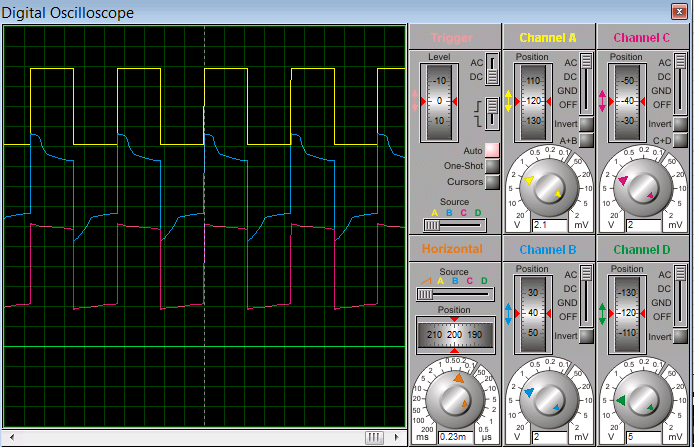
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**Code testing**

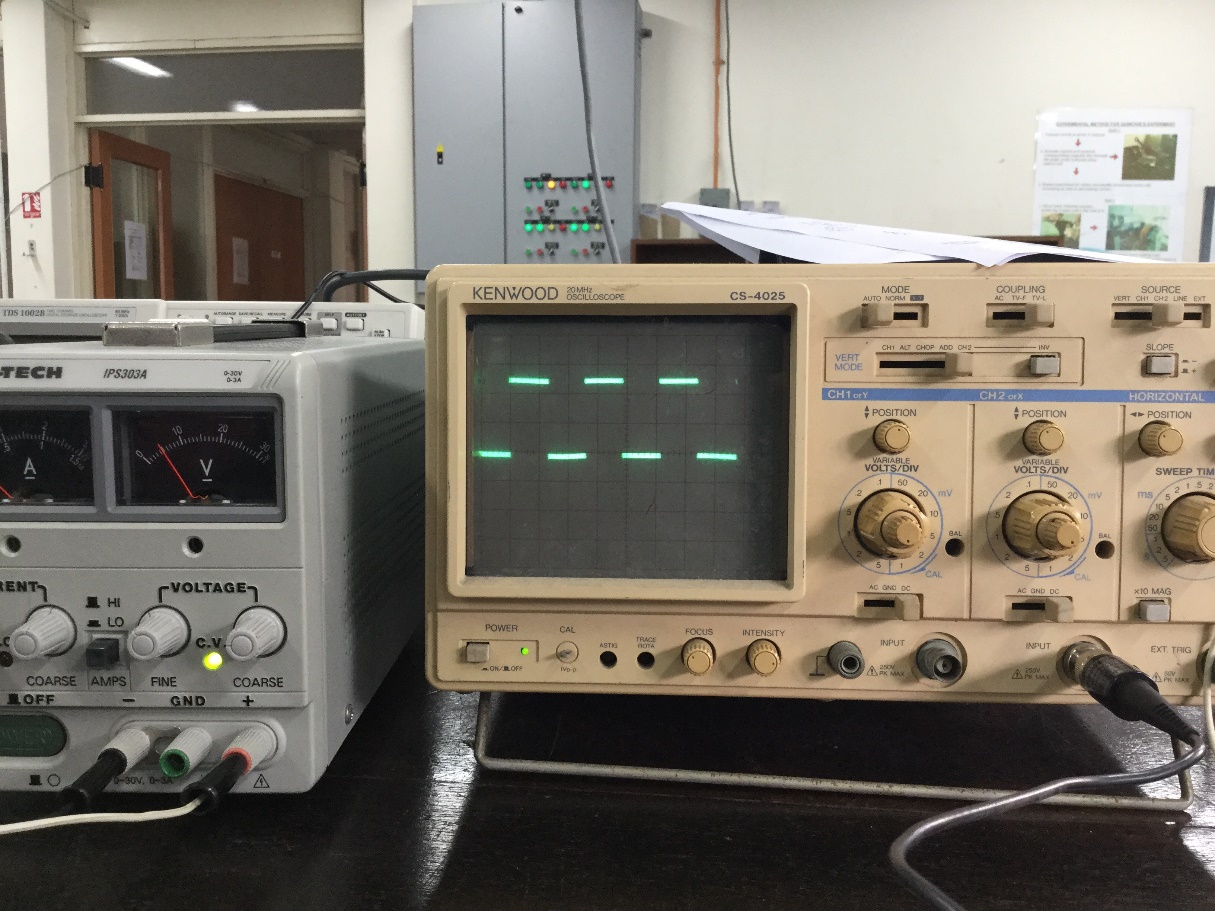


**Activity 2: set 50% duty cycle Edison PWM**

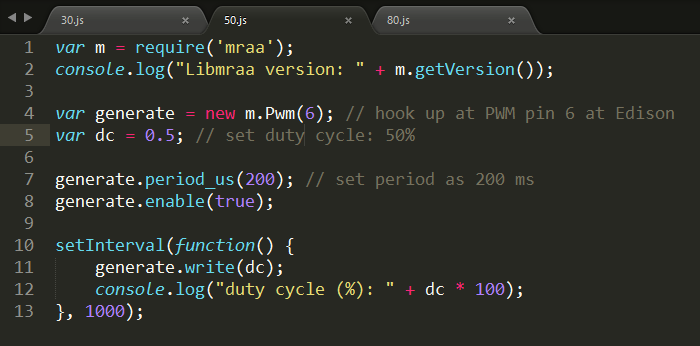
**  
Figure 5: Output voltage across the inductor, VL for 50% duty cycle**

**  
 Figure 6: Example Output waveform for 50% duty cycle**

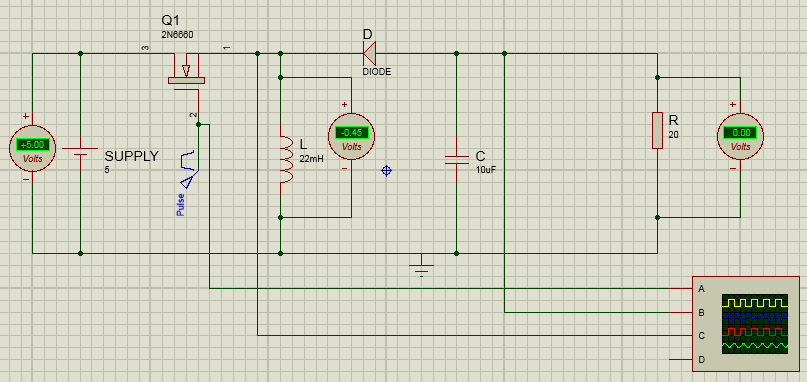
**Expectation observation**

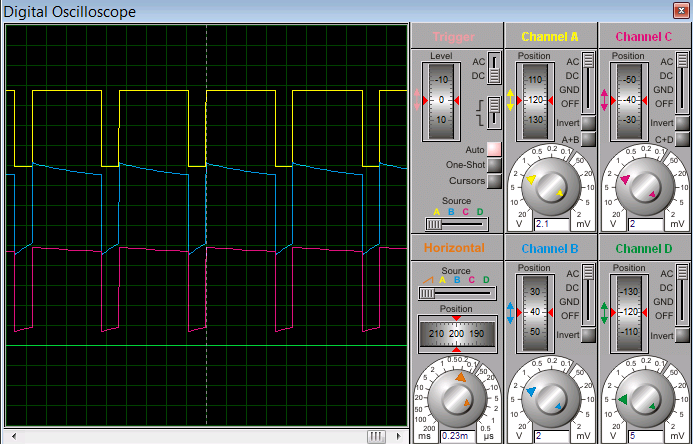
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**Code testing**

****

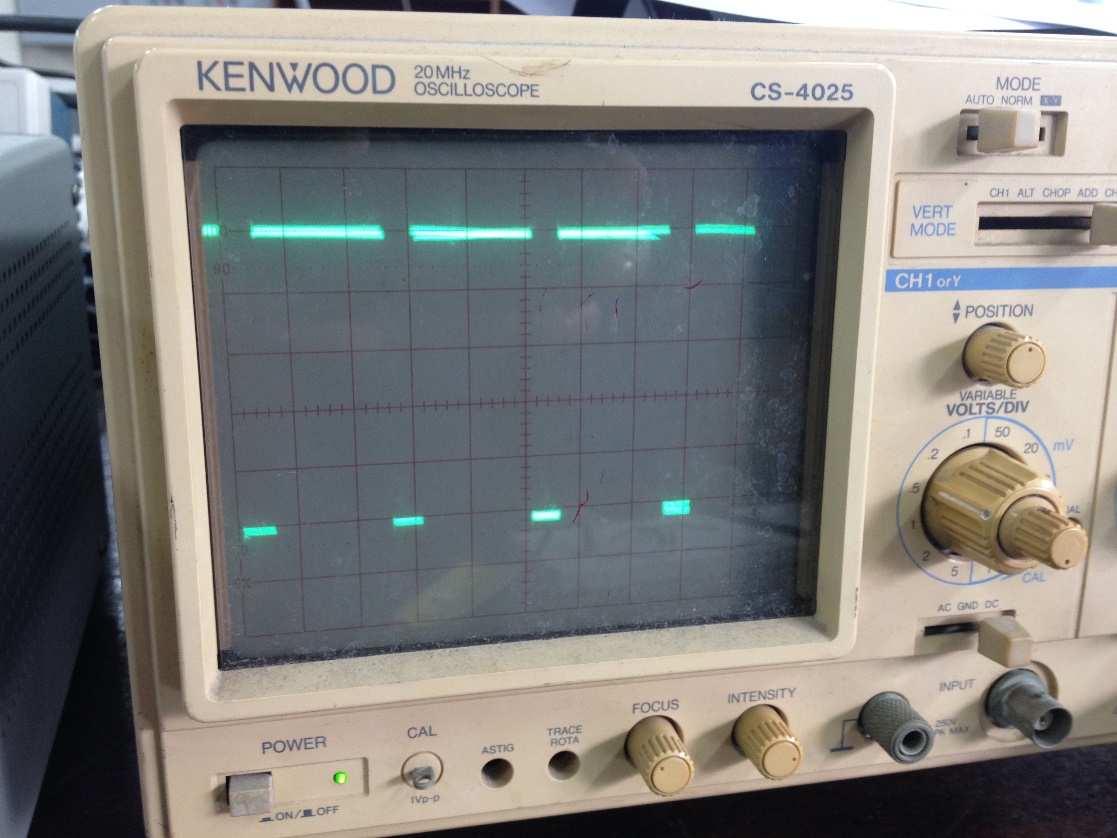
**Activity 3: set 80% duty cycle Edison PWM**

** Figure 7: Output voltage across the inductor, VL for 80% duty cycle**

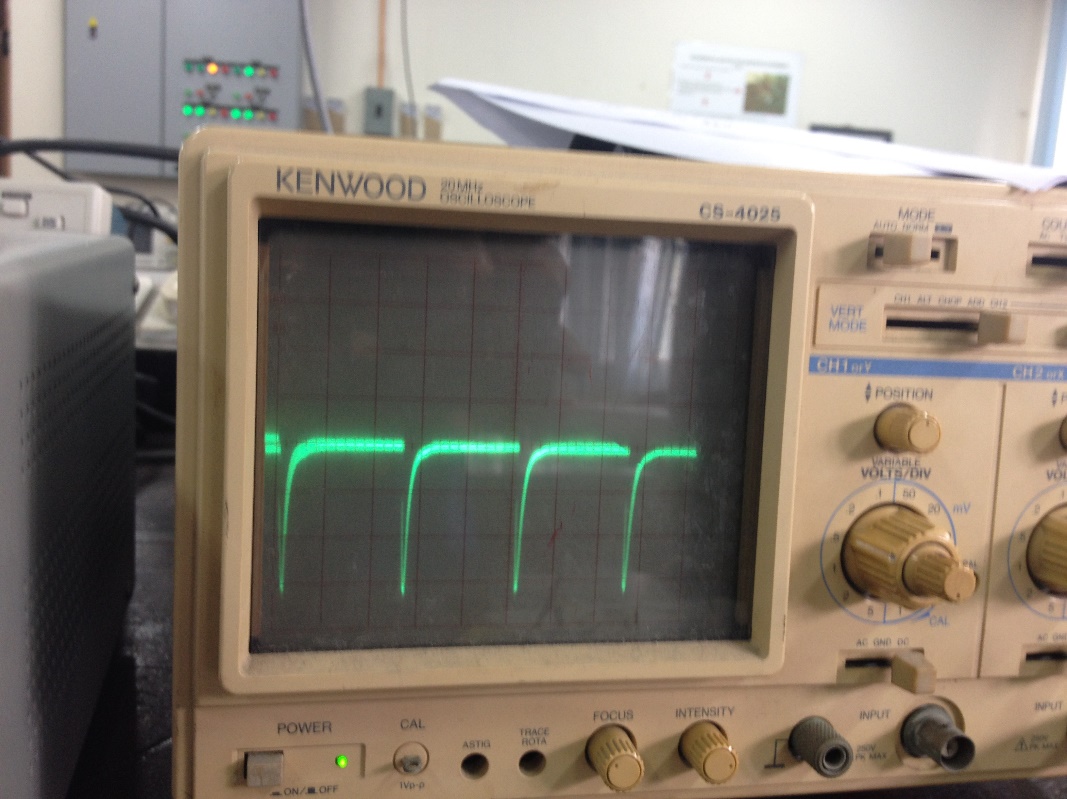
****

**Figure 8: Sample Output waveform for 80% duty cycle**

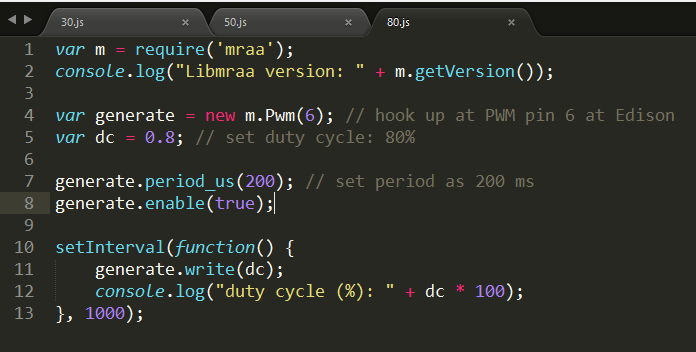
**Expectation: Input, 80% duty cycle**

****

**Expectation: Output, 80% duty cycle**

****

**Code testing**

****

**Prepared by : Prof. DR. Ishak Aris and Syed Khairil Syed Kharuddin  
Modified by: Hadrihl**