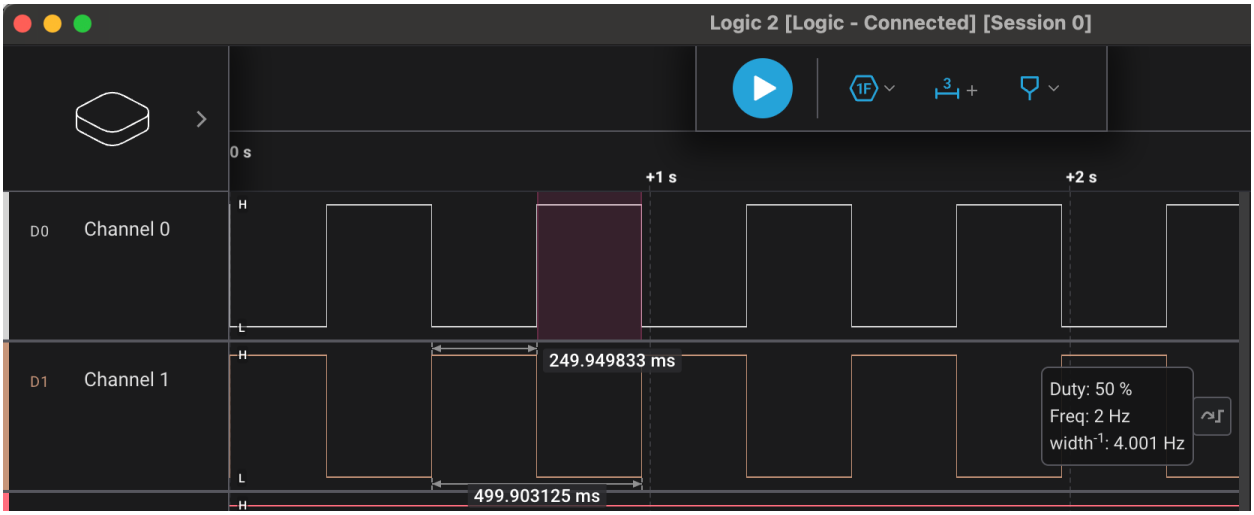
Tenace Crane
ECE5780

Lab 3 Postlab

1.) 60Hz = 8Mhz/PSC*ARR
60Hz = 8000000Hz/PSC*ARR
Setting PSC to 8000 reduces the clock frequency to 1kHz.
Setting ARR to 17 gets us the final result close to 60 Hz:
58.82Hz = 8Mhz/8000*17

2.) PE3, PA6 selectable with alternate function number 22, PC6 selectable with alternate function number 37, and PB4 selectable with alternate function number 56.

3.) A target frequency 4Hz results in a period of 250 ms which is achieved and shown here in the image below.



4.) As the CCRx value increases in PWM mode 1, the duty cycle decreases. PC7 is in PWM mode 1. So, when the CCRx value is high or close to the ARR value, PC7 is dimmer than PC6.

5.) The inverse to PWM mode 1 happens to PWM mode 2. As the CCRx value increases, the duty cycle increases. PC6 is in PWM mode 2. So, when the CCRx value is high or close to the ARR value, PC6 is brighter than PC7.

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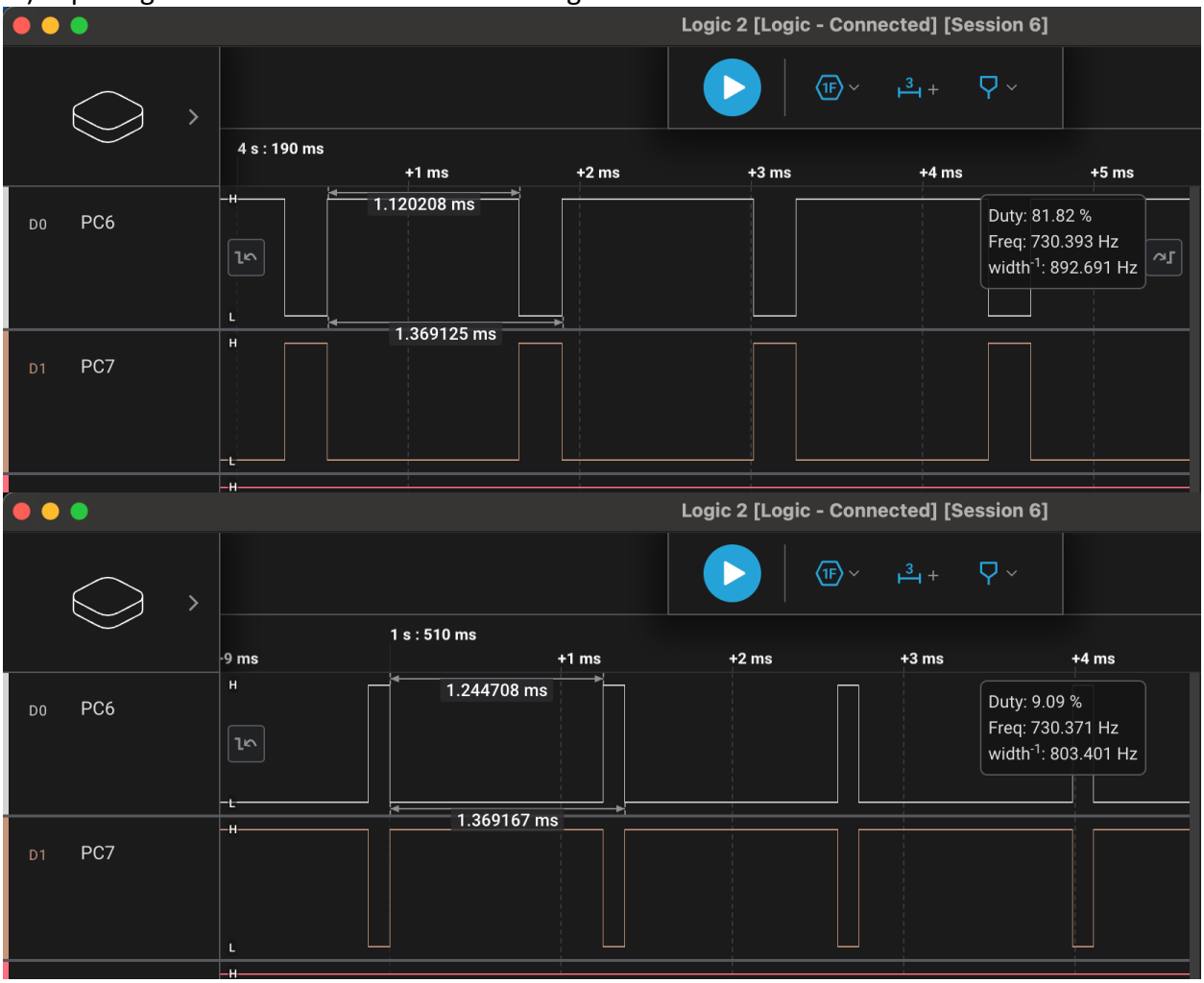
6.) Top image is CCRx values of 2. Bottom image is CCRx values of 10.



7.) PWM Mode 1