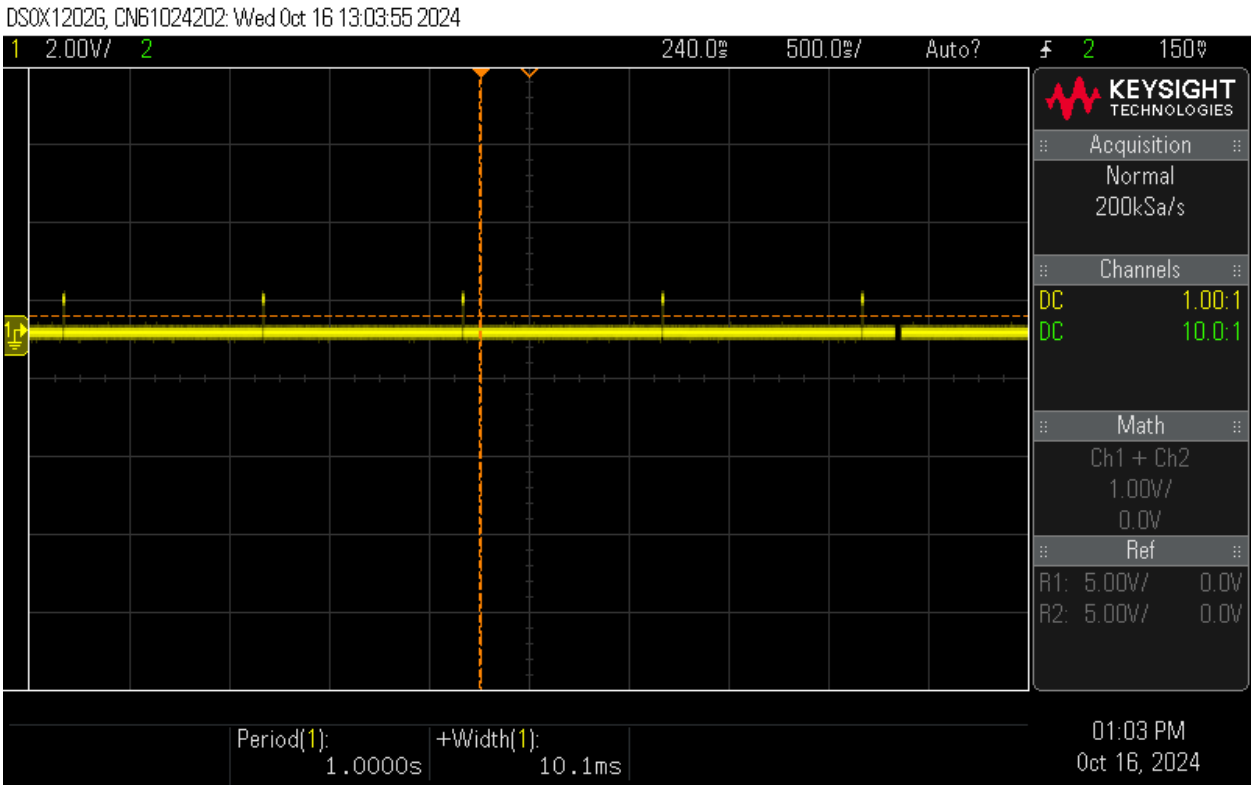
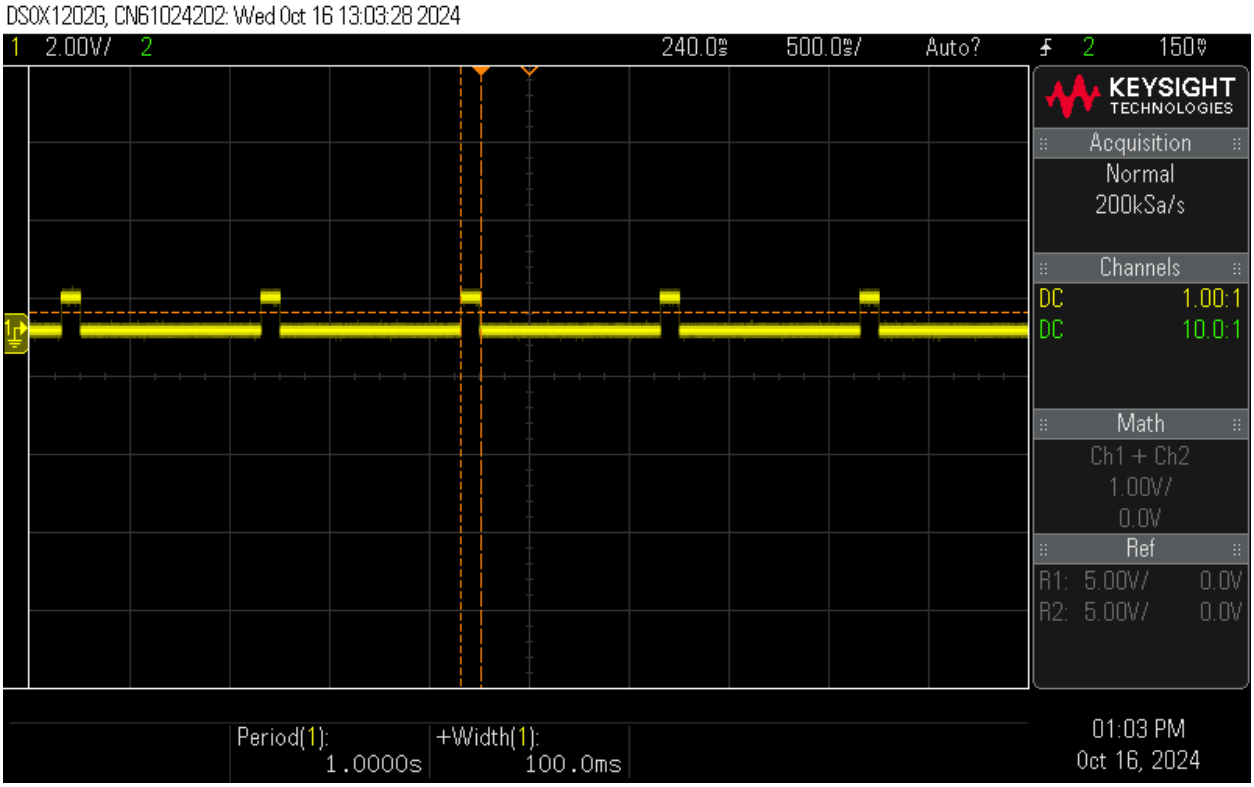
1. Testing Pulse width of 10ms/100ms:





Code to back it up:

```
buzzer = Pin(13, Pin.OUT)
increase_btn = Pin(15, Pin.IN, Pin.PULL_UP)
decrease_btn = Pin(14, Pin.IN, Pin.PULL_UP)

timer = Timer()
interval_ms = 1000 # ms (60bpm)
buzz_duration_ms = 10

def __init__(self):
    self.timer.init(period=self.interval_ms, mode=Timer.PERIODIC, callback=self.buzz)
    self.increase_btn.irq(trigger=Pin.IRQ_FALLING, handler=self.increase_interval)
    self.decrease_btn.irq(trigger=Pin.IRQ_FALLING, handler=self.decrease_interval)
```

```
def buzz(self, timer):
    self.buzzer.on()
    sleep_ms(self.buzz_duration_ms)
    self.buzzer.off()
    print(self.interval_ms)
```

2. Increasing with GP15:

```
1000
1010
1020
1030
1030
1030
1040
1100
1100
1100
1100
1100
1100
1100
1100
```

Decreasing with GP14:

```
1001
980
970
960
950
940
930
910
900
891
882
873
864
864
```

Code to back it up:

```python
class Metronome:
    """The Metronome class holds all the corresponding functions to operate the metronome."""

    buzzer = Pin(13, Pin.OUT)
    increase_btn = Pin(15, Pin.IN, Pin.PULL_UP)
    decrease_btn = Pin(14, Pin.IN, Pin.PULL_UP)

    timer = Timer()
    interval_ms = 1000 # ms (60bpm)
    buzz_duration_ms = 10

    def __init__(self):
        self.timer.init(period=self.interval_ms, mode=Timer.PERIODIC, callback=self.buzz)
        self.increase_btn.irq(trigger=Pin.IRQ_FALLING, handler=self.increase_interval)
        self.decrease_btn.irq(trigger=Pin.IRQ_FALLING, handler=self.decrease_interval)

    def increase_interval(self, pin):
        self.interval_ms = int(self.interval_ms * 1.01)
        self.timer.init(period=self.interval_ms, mode=Timer.PERIODIC, callback=self.buzz)

    def decrease_interval(self, pin):
        self.interval_ms = int(self.interval_ms * .99)
        self.timer.init(period=self.interval_ms, mode=Timer.PERIODIC, callback=self.buzz)

    def buzz(self, timer):
        self.buzzer.on()
        sleep_ms(self.buzz_duration_ms)
        self.buzzer.off()
        print(self.interval_ms)
```

3. Same code as above, decided to use a class for conciseness
4. Demo video is attached within the folder