

PIC Activity 6 Designing, Planning and Deliverables:

Section 1: Pseudo Code:

For 1 kHz Triangle Wave:

1 period:

- 1 triangle = 1 period
- $1/f = 1/(1000 \times 2 \times 256) = 4 \text{ us}$

For sawtooth:

Need DAC to increment and then become zero

Need delay of period (probably same as triangle wave)

For Sin wave:

Need array of sin values

Need if statement for time when max value is reached

DAC needs to be updated according to max and min values of sin wave.

Need to increment counter through array.

Section 2: Waveforms and stuff:

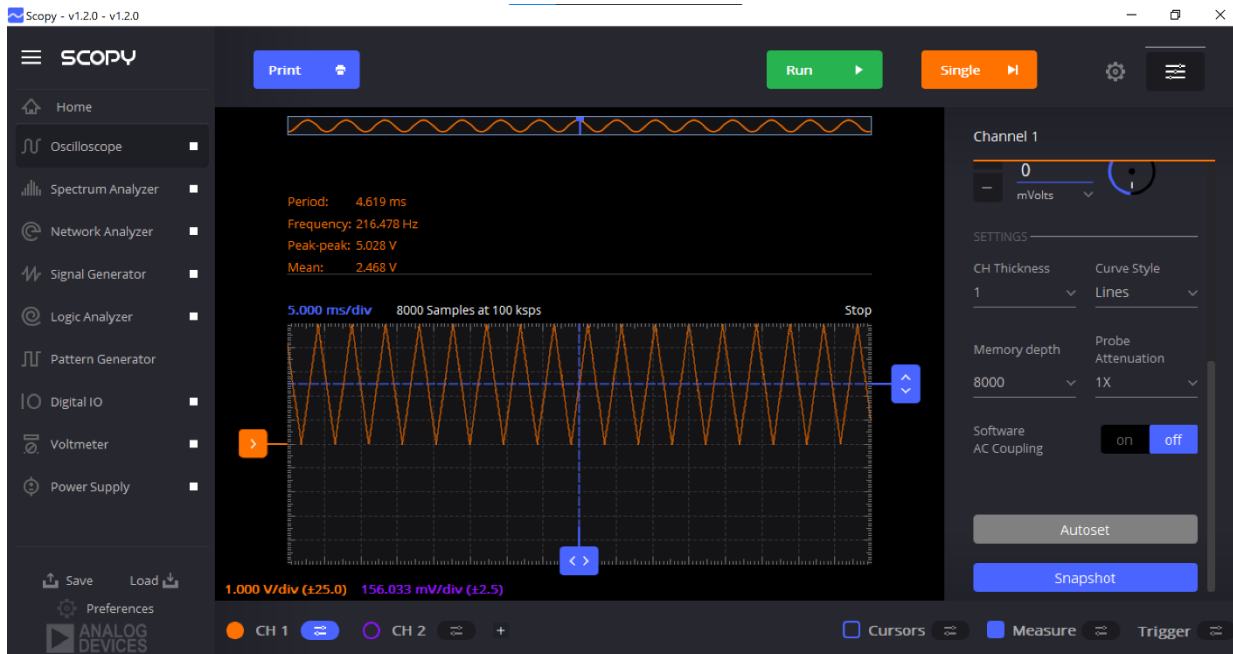
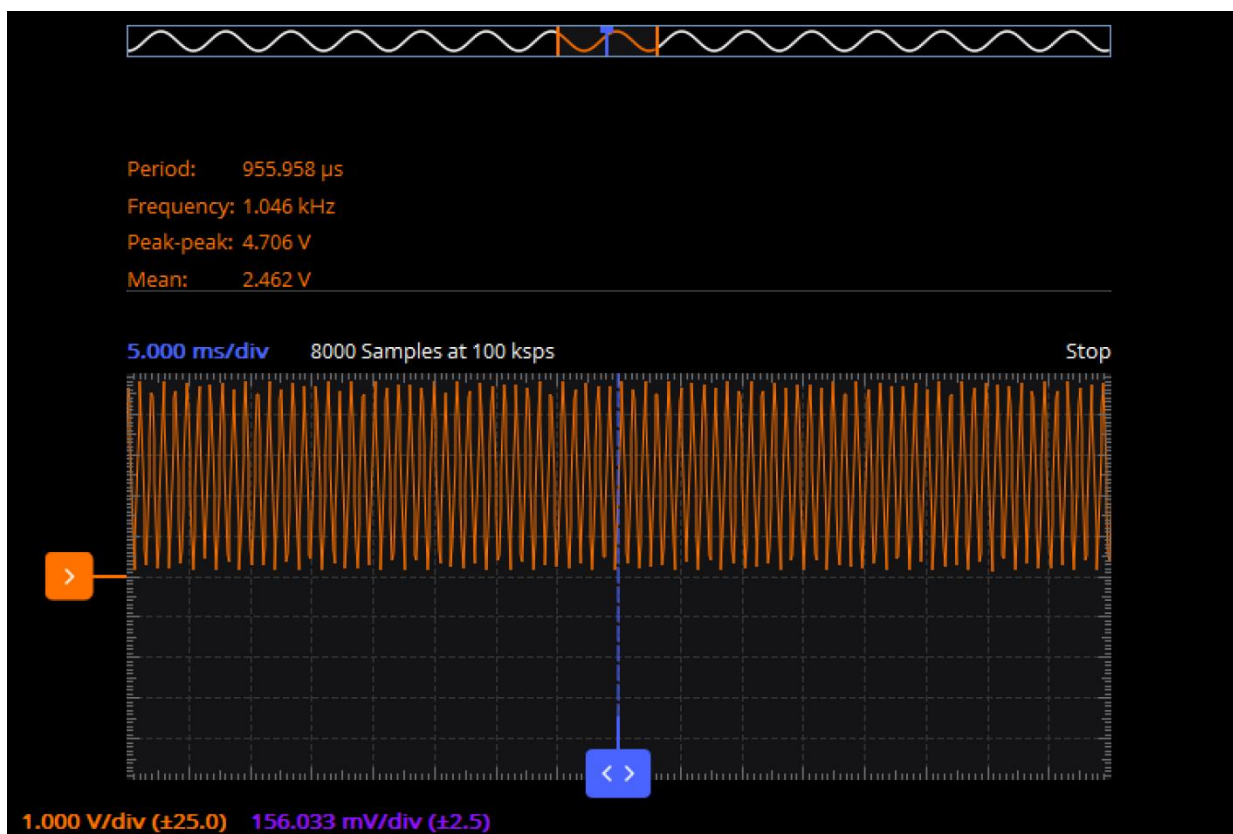


Figure 1: Triangular Waveform



Sawtooth DAC:

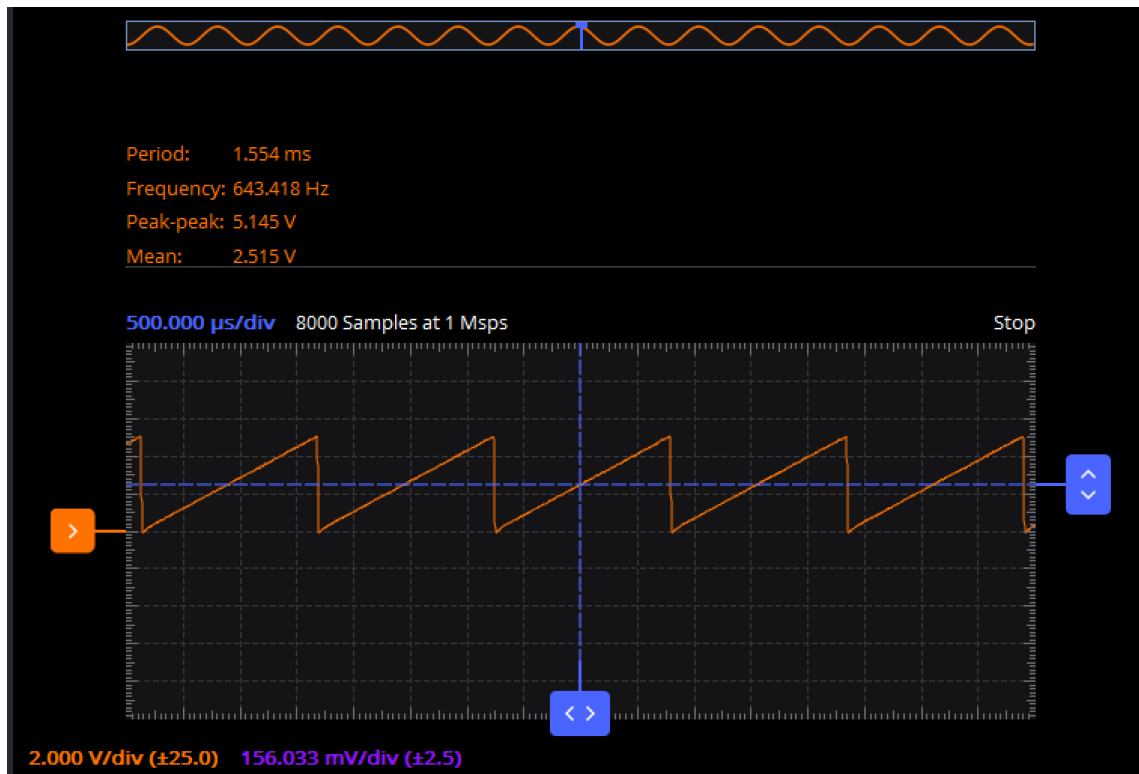


Figure 2: SAWTOOTH DAC++

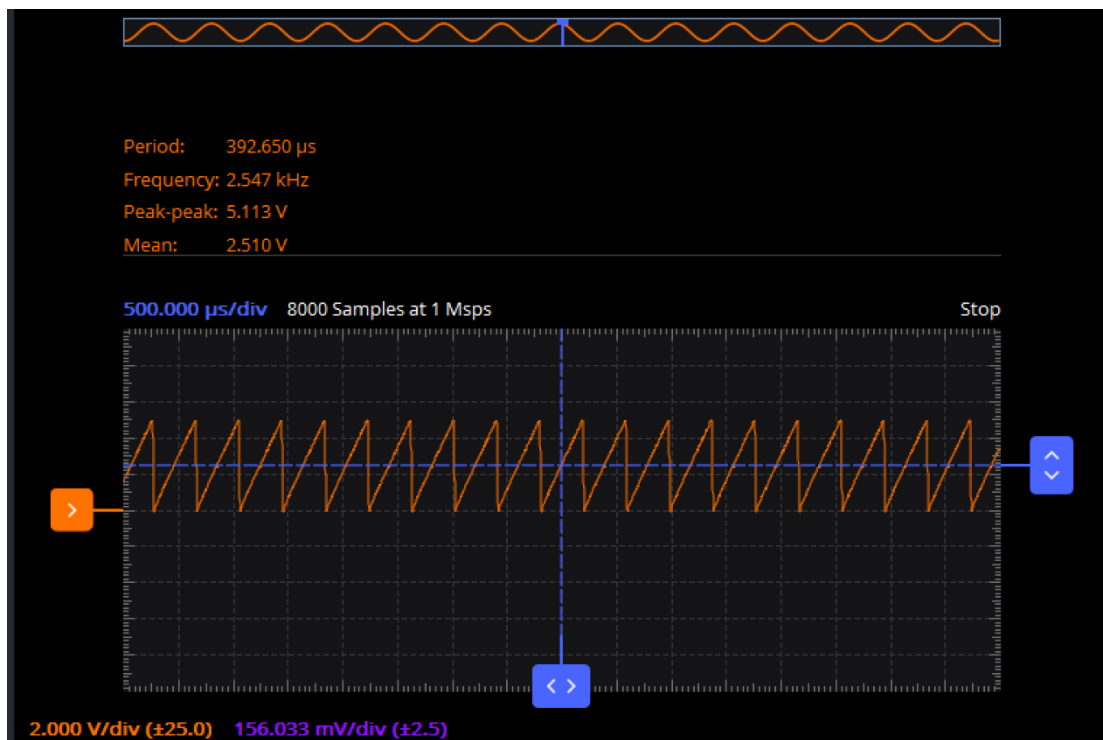


Figure 3: SAWTOOTH DAC+=4



Figure 4: SAWTOOTH rising edge zoom in

Sin Wave:

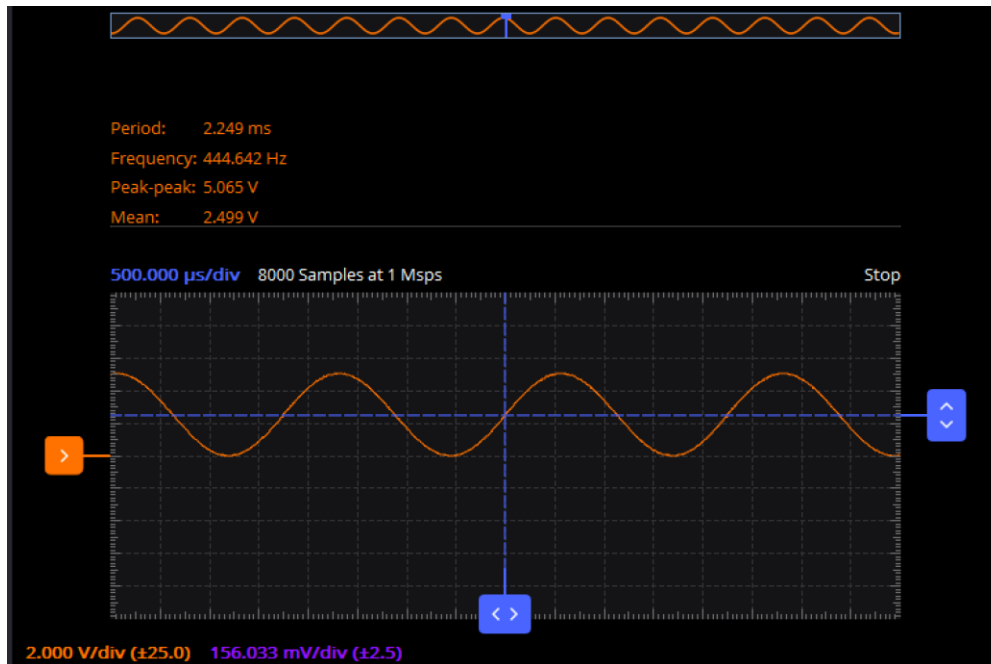


Figure 5: u8Counter++

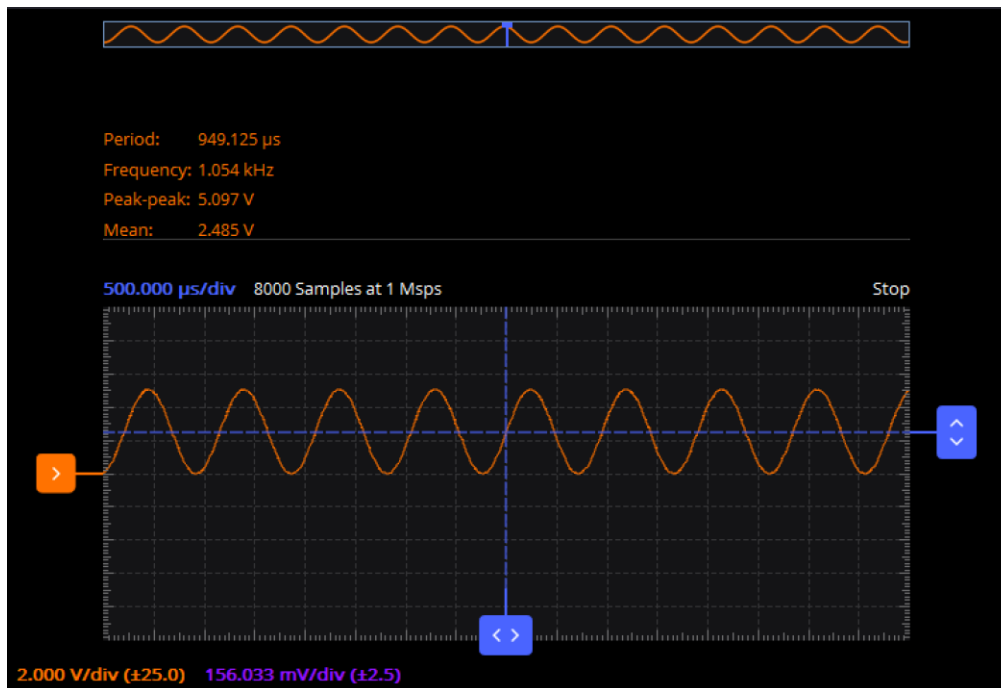


Figure 6: u8Counter+=4 and 10 μ s in TimeXus()