

[My Programs](#) ▶ ▶ [Radar Target Generation and Detection](#) ▶ [Submit Project](#)

Project: Radar Target Generation and Detection

Submission Results

Submission Date: July 23, 2019

[Download Submission](#)

Feedback Details

[Specification Review](#) [Code Review](#)

Reviewer Note

Perfect code and very well documented. Keep up the good work. Much appreciation for taking time and thinking outside the box.

FMCW Waveform Design

- Using the given system requirements, design a FMCW waveform. Find its Bandwidth (B), chirp time (Tchirp) and slope of the chirp.

Reviewer Note

Good Job! The slope is calculated perfectly.

For given system requirements the calculated slope should be around $2e13$

Simulation Loop

- Simulate Target movement and calculate the beat or mixed signal for every timestamp.

Reviewer Note

Awesome! The beat signal is generated nicely.

A beat signal should be generated such that once range FFT implemented, it gives the correct range i.e the initial position of target assigned with an error margin of +/- 10 meters.

Range FFT (1st FFT)

- Implement the Range FFT on the Beat or Mixed Signal and plot the result.

Reviewer Note

Well done, the range FFT output looks great.

A correct implementation should generate a peak at the correct range, i.e the initial position of target assigned with an error margin of +/- 10 meters.

2D CFAR

- Implement the 2D CFAR process on the output of 2D FFT operation, i.e the Range Doppler Map.
- Create a CFAR README File

Reviewer Note

Very detailed and impressive write-up. Appreciate the innovative thinking

In a README file, write brief explanations for the following:

- Implementation steps for the 2D CFAR process.
- Selection of Training, Guard cells and offset.