LAB6
Geofence

EEIC LAB
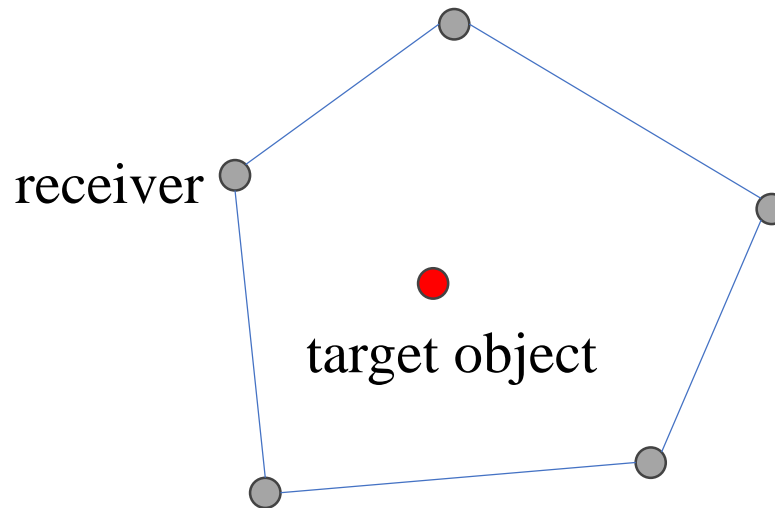
Introduction

- Please complete a **geofence**. This system uses five receivers to construct a virtual fence on a plane. The geofence system determines whether the target object is inside or outside the fence based on the coordinates of the receivers and the target object

receiver

target object

Hardware Description

Signal	I/O	length	Description
clk	I	1	Clock signal
rst	I	1	Active high synchronous positive edge triggered reset
X	I	11	Signed X coordinate
Y	I	11	Signed Y coordinate
is_inside	O	1	Pull high if target object is in the geofence
valid	O	1	Pull high when "is_inside" signal valid

Criteria

- Grading Policy

  Fail any scenario   (0%)

  Scenario all pass   (100%)

Criteria

Situation	Command
Run simulation	make vcs
Launch nWave	make wave
Delete waveform files	make clean
Compress homework to tar format	make tar

HDL 2025