

Project Description

- The main objective of our project is to **design a loop antenna in Ansys HFSS software radiating at 3 GHz.**
- A **loop antenna** is a radio antenna consisting of a loop or coil of wire, tubing, or other electrical conductors, that is usually fed by a balanced source or feeding a balanced load.
- For simulating the project, we have used ANSYS HFSS software.
- Ansys HFSS is a 3D electromagnetic (EM) simulation software for designing and simulating high-frequency electronic products such as antennas, antenna arrays, RF or microwave components, high-speed interconnects, filters, connectors, IC packages, and printed circuit boards.
- The performance of the antenna is described by various fundamental parameters such as radiation pattern, radiation power density. These parameters define the electromagnetic wave generated by the antenna. Hence, it is important to understand these parameters to perform antenna analysis. To compute these parameters, sophisticated tools such as MATLAB, ANSYS HFSS are commonly used. These tools are costlier, require high-performance computer and have relatively high computation time.
- This motivated us to have a mobile application which is user friendly, easily accessible and requires less computation power.