

ECE 3208: Antenna Engineering Laboratory
Antenna Design Project (Session: 2021-2022)

Design and simulate the antenna suitable for any specific real-life applications in CST Microwave Studio.

Pre-simulation Requirements:

- 1) Determine the required frequency range for the specific application.
- 2) Explain the working principle of the antenna.
- 3) Describe the analytical (theoretical) procedure to determine the dimensions of different parts of the antenna for your desired operating frequency region.

Simulation Requirements:

- ❖ Use standard materials that are widely used for antenna designing.
- ❖ Use all the values of geometrical parameters as Parameter in CST.
- ❖ Must have to perform mesh convergence test.

Results:

- 1) Explain all the results (S parameters, impedance bandwidth, radiation pattern, gain, and directivity) along with figures.
- 2) Do the simulation results agree with the theoretically expected results? Why?

**** ** Each group has to submit one report at the end of the project and give a presentation.***

Antenna Design Project (Session: 2021-2022)**Group Information:**

Group	Roll	Project Topic
A1	1909001, 1909011, 1909021	Microstrip Dipole Antenna
A2	1900002, 1909012, 1909022	Dipole Antenna
A3	1909003, 1909013, 1909023	Conical Horn Antenna
A4	1909004, 1909014, 1909024, 1909010	Fractal Patch Antenna
A5	1909005, 1909015, 1909025	Triangular Patch Antenna with Inset Feed
A6	1909006, 1909016, 1909026	4 Elements Circular Patch Antenna Array
A7	1909007, 1909017, 1909027, 1909020	Parabolic Reflector Antenna
A8	1909008, 1909018, 1909028	Square Ring Patch Antenna with Coaxial Feed
A9	1909009, 1909019, 1909029	Antipodal Vivaldi Antenna
B1	1909031, 1909041, 1909051	Vivaldi Bow-Tie Antenna
B2	1909032, 1909042, 1909052	Rectangular Loop Antenna
B3	1909033, 1909043, 1909053	H-Shaped Patch Antenna with Inset Feed
B4	1909034, 1909044, 1909054	UWB Vivaldi Antenna
B5	1909035, 1909045, 1909056	4 Elements Rectangular Patch Antenna Array
B6	1909036, 1909046, 1909057	Bow-tie Antenna
B7	1909037, 1909047, 1909058	Circular Loop Antenna
B8	1909038, 1909048, 1909059	Multiband Patch Antenna
B9	1909039, 1909049, 1909060	Multiple Ring Patch Antenna
B10	1909040, 1909050, 1709021	Pyramidal Horn Antenna