KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY

Deemed to be University U/S 3 of the UGC Act, 1956

Microwave and Antenna Laboratory

(5^{th} Semester)

Lab Report 2

Aim of the Experiment: To design a wire dipole antenna operating at **215 MHz** and to find the directive gain and half power beam width from the radiation pattern.

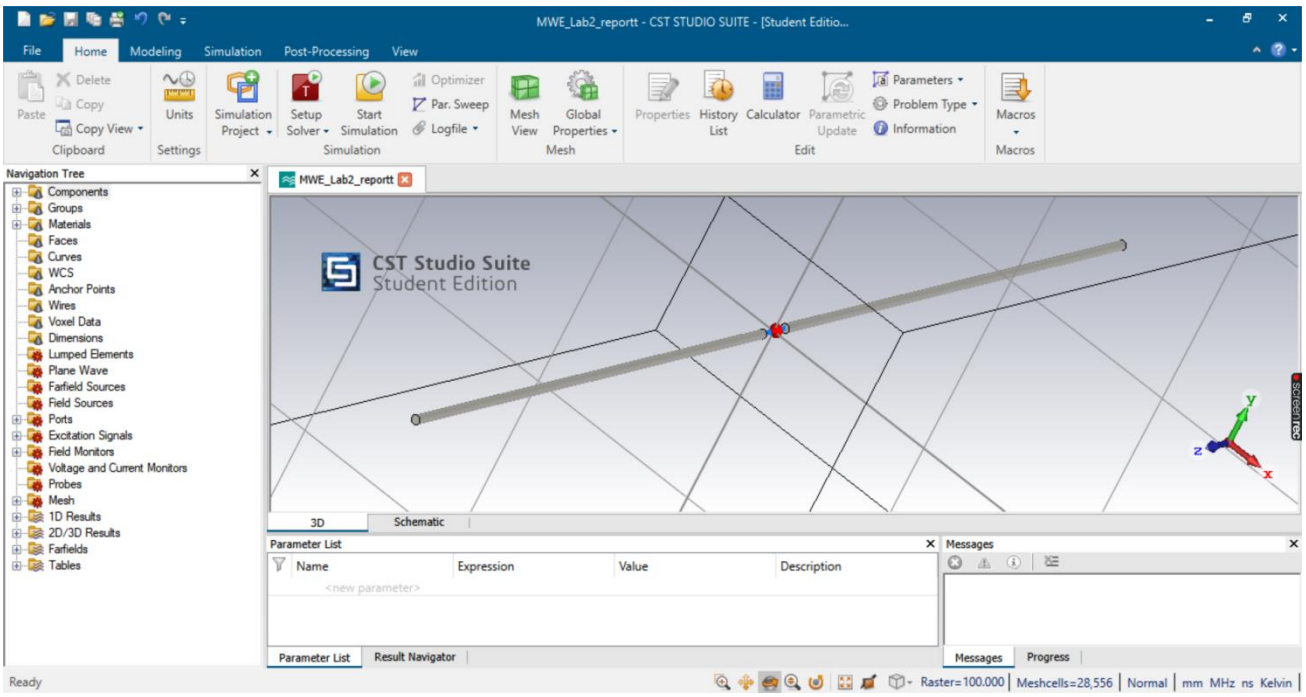
Software to be used: CST studio suite 2019 (Student edition)

Design:

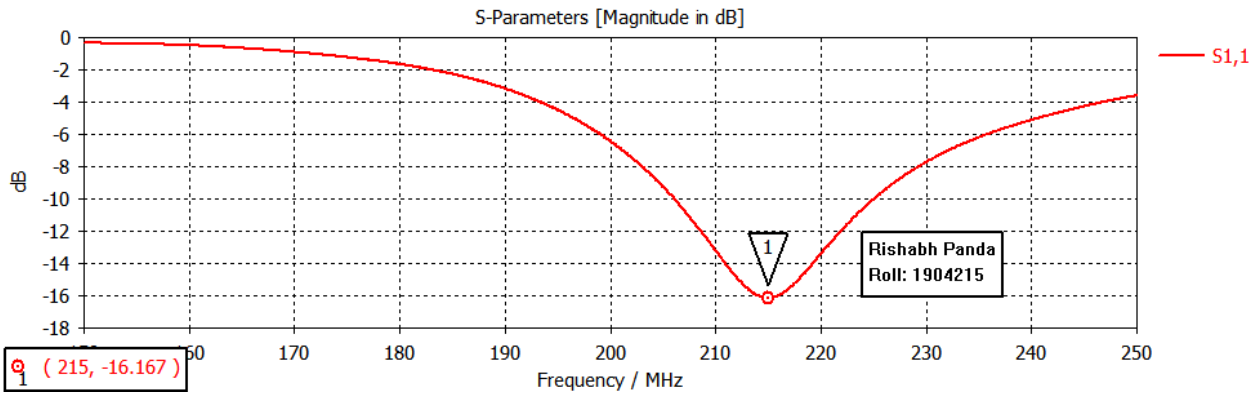
- **Mathematical Calculation**

Length of dipole antenna $= \frac{\lambda}{2} = \frac{C}{2f} = 697.67$ mm

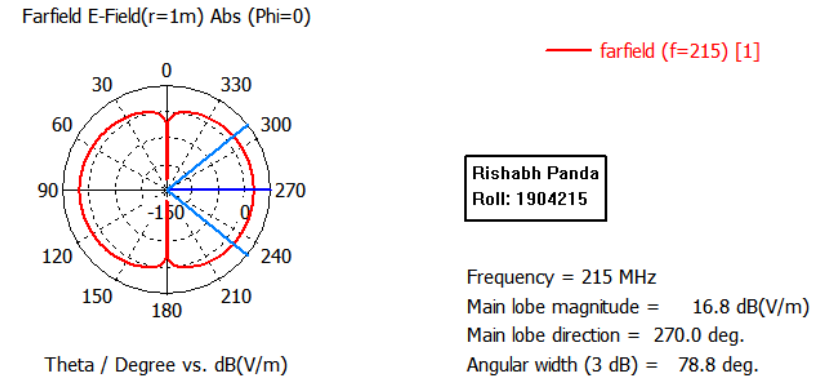
- **Design of wire dipole antenna**

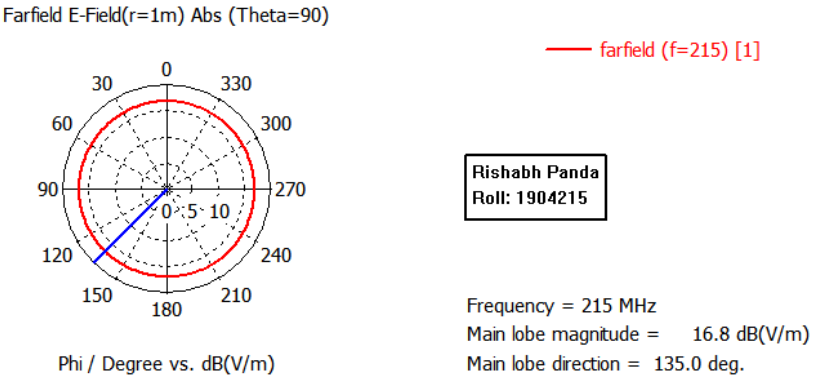


- **S11 Characteristics**

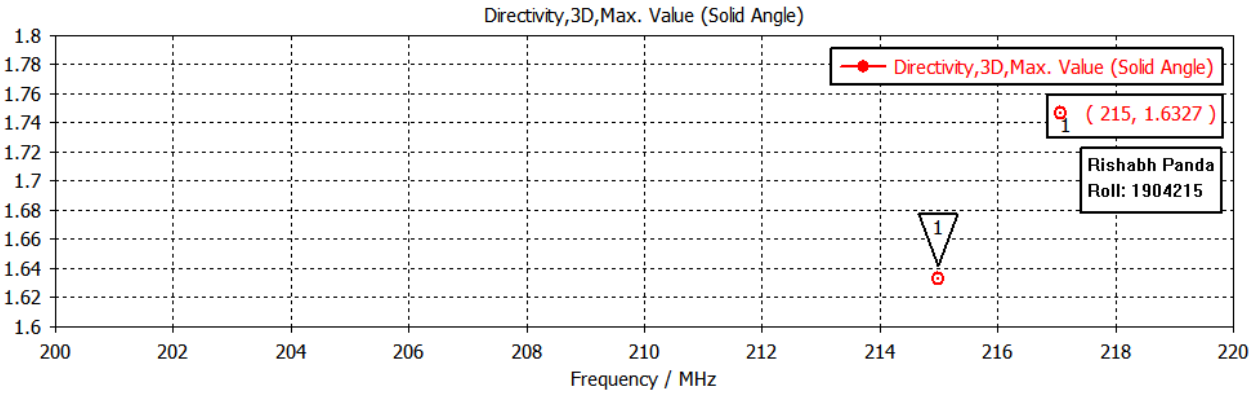


- **Radiation pattern and half power beam width**





- **Directive Gain**



Conclusion

The design of a wire dipole antenna operating at 215 MHz was done successfully. The computed result for directive gain was found to be 1.6327 with the half power beam width equal to 78.8 degrees. The S11 Characteristics, it was found that the dipole was resonating at 215 MHz frequency.

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