## ABSTRACT

There are certain antennas needed for on satellite communication system which has conical beam so it does not need tracking and furthermore has a low figure of merit. These kind of antennas used in radio broadcasting or Digital Audio Radio Satellite (DARS) and land mobile maritime. The application operates on frequency range S 2,3 GHz with 20 MHz bandwidth capacity needed. Therefore, it needs certain antennas which could work well on it.

Discussed within this final assignment. On this final project explains about design and realization of conical beam mikrostrip antenna at frequency 2,3 GHz using dielectric substrat FR4. Design and realization of this antenna using  $TM_{51}$  mode at its operation mode, and to make the circular polarization by using four feeding that connected to *microstrip power divider 1 to 4*. the method that used is magnetic cavity resonator for calculation and Moment of Method (MoM) for simulation. The simulator software that used is Ansoft Ensemble Version 7.

Bandwidth in SWR 1.5:1 is 19.6 MHz. Input impedance is 50,5 ohm 2,072  $\Omega$  +138,7pH. Gain is 9,17 dBi, with circular polarization.