

## ABSTRACT

Microstrip Antenna is made of three layer materials, those are conductor, dielectric substrat, and earth field. Conductor is usually made of copper, aluminum, or gold. Dielectric with thickness  $h < \lambda$  has relative permittivity ( $\epsilon_r$ ) for about 2,2 up to 10. Dielectric constant is made low to increase overflow area which is usefull in radiation. In analysis, earth field is made of perfect conductor, but in application earth field was made of less perfect conductor.

In the last project whose the title is Planning and Realization of Rectangular Microstrip Antenna on Frequency 3,3 – 3,4 GHz using DGS (Detected Ground Structure shaped standing square) for Wimax Application, Microstrip Antenna in this last project applies Defected Ground Structure (DGS). This DGS is put on ground field from substrat, supposed that microstrip antenna can work at 3,3 GHz – 3,4 GHz with VWSR  $< 1,5$  Gain  $> 5$  dBi, with bandwidth specification that is wanted can reach 100 MHz or even more than that limited by VSWR  $\leq 1,5$  Gain needed reach more than 5 dBi, input impedance =  $50\Omega$  (koaksial) has radiation pattern unidirectional and linier polarization which can give a good work show to support all applications. Planning method on this last project is using accounting that uses equation to find dimension antenna. The result which has been got from calculation is the input for simulation process.

The result of application DGS on Conventional Antenna not only notices Bandwidth Impedance, return loss value, but also gains antenna repairs.

**Key words :** *DGS (Defected ground Structure), impedance, bandwidth, return loss, gain.*