

ABSTRACT

Microstripe antenna is made from three material layer, that is conductor layer, dielectric substrat, and earth plane. Conductor is made from copper, aluminum, or gold. Dielectric with $h < \lambda$ of thickness has relative permitivity (ϵ_r) around 2,2 up to 10. Dielectric constant is being made low to gain the overflow field for the radiation. In the analysis, earth plane is made from the perfect conductor material, yet in the earth plane application is made from unperfect conductor material.

On the final task which is titled “*Perancangan Dan Implementasi Antena Mikrostrip Rectangular Pada Frekuensi 2,3 – 2,4 GHz menggunakan DGS (Defected ground Structure) berbentuk silang*”. Microstripe antenna on this final task is defected ground structure (DGS). The DGS is put on the ground plane from substrat, which is hoped the microstripe antenna work on 2,3 GHz – 2,4 GHz with VSWR $< 1,5$ Gain > 4 dBi, with the wanted Bandwidth specification can reach 100 MHz or even more. Input Impedance $= 50\Omega$ (coaxial), has unidirectional radiation pattern and linear polarization that gives good work to support in any application. The planning method on this final task is calculation using equation to find the antenna dimension. The result of the calculation is the input for the simulation process.

The result of DGS application on conventional antenna not only notice the impedance, bandwidth, and return loss value but also notice the gain antenna refinement.