

ABSTRACT

A telecommunication antenna cannot be able to protect itself from something that could make damage to the antenna, even rain in outdoor area. Because of that the antenna needs protector names radome. Radome (Radar Dome) can protect antenna from something that can damage the antenna. But in its application, radome can reduce antenna performance such as gain and beam produced. In this Final Project will discuss about the influence of characteristic of radome on telecommunication antenna.

The beginning of this Project is to make an antenna as a source of electromagnetic waves that uses a horn antenna with a frequency of 9 GHz in 3D electromagnetic software, then design a flat shaped radome in front of the antenna. The data from the simulation can be analyzed the influence of the radome on the beam and gain produced.

The simulation results show that the beam produced due to the influence of the paper-based radome does not change much from the original shape (without radome) compared to the beam produced by the rubber and silicon radome. Then the paper-based radome can reduce and increase the gain value by -1.84 dBi to +2.49 dBi, the rubber-based radome can reduce and increase the gain value by -2.58 dBi to +3.29 dBi, and silicon-based radome can reduce and increase the gain value by - 8.74 dBi to +0.31 dBi which depends on the thickness and distance of the radome from the antenna.

Keywords : Radome, characteristics radome