

ABSTRACT

The ability of the human's eyes as one of the important senses are limited. Visibility to the human's eyes are also not exceed 100 meters. Indonesia has approximately 18.000 islands so Indonesians are not easy to supervise, maintain, and protect the heritage of the country abound. Therefore we need a tool that can detect the territory coast of Indonesia, which is named RADAR (Radio Detection and Ranging). The radar is mounted along the coastline of Indonesia territory, so can reaches all of the coast of Indonesia.

This end of the project focuses on creating microstrip antenna that can work at 9400 MHz frequency using Epoxy dielectric material (FR4) for radar applications beach supervisor. Epoxy is used because these materials can produce a low loss and has a relatively cheap price. The antenna is designed to have the order of 8 square patch. In the third chapter explained the design using a simulator Ansoft HFSS13. In the fourth chapter a discussion of the performance of antennas in accordance with the parameters of the success of the VSWR, gain, bandwidth, impedance, polarization, and radiation pattern.

The result of this Final Project has a characteristic, that is working at a frequency of 9400 MHz with 60 MHz bandwidth at $VSWR \leq 1.5$, which has a $Gain \geq 12$ dBi, linier polarization and unidirectional pola radiation.

Key words: microstrip antenna, Epoxy, Radar, Ansoft HFSS13