ABSTRACT

Indonesia is an archipelago country consists of many islands that are located very strategically, so the marine vessel traffic in Indonesian coast area is very dense. That has caused security and control of Indonesian coast territory to be quite complicated. The security and control of Indonesian coast territory can be performed by using surveillance radars that are mounted all along coastal area which can oversee all coast areas of Indonesia.

This final project discuss about design and realization of an antenna that can support coastal surveillance radar application. This antenna is designed using microstrip antenna because it has a thin, small, light and simple construction and it's cheaper than another type of antenna.

This final project begins with calculating dimension of the antenna using function that define antenna's dimension. The calculation results will be the input of simulation. The best results of some modification on antenna simulation will be used as dimension value on antenna fabrication. This antenna prototype has characteristic which is work at frequency 9,4 GHz with 60 MHz bandwidth frequency for VSWR ≤ 1,414, 12,42 dBi of Gain and less than 10° of HPBW

Key words: ***Array Microstrip Antenna, Coastal Surveillance Radar, Bandwidth, VSWR, HPBW***