

ABSTRACT

Radar is electromagnetic wave system that used to detection, distance measuring, and mapping object like plane, ship, vehicle and weather information. Radio wave that radiated by an object can be captured by radar, then analyzed to known the location and kind of the object. Radar use electromagnetic wave spectrum in range frequency 300 MHz to 30 GHz. Radar reach zone can be defined from power beam, bandwidth, propagation signal, gain, polarization and beam width.

Antenna is a part of radar system that needed as transformer in the air media. Antenna that having compact design, small size, large bandwidth, and could fulfill the operate frequency in radar was necessary. This antenna should be work to radar maritime application in frequency range 9370 MHz – 9430 MHz.

In this final project was planning and realized microstrip ring circular antenna in range frequency 9370 MHz – 9430 MHz used duroid 5880 as dielectric. Ansoft software was used to plan this antenna. Parameters that analyzed are gain, radiation pattern, input impedance, polarization, and VSWR. From the simulation we could analyzed that to got the proper main characteristic of antenna that matched with the desire of specification that is $VSWR \leq 1,5$ was influence by circular ring patch dimension and feeding line.

Keyword : ring circular microstrip, radar maritime