

ABSTRACT

The microstrip antenna have been used in a variety of radio communication applications, such as coastal radar application. Coastal radar application requires small device, light weight, and portable, so it can be used in the monitoring area of waters/coastal to move in accordance with the monitoring data to be obtained. Therefore, microstrip antenna is a candidate which is able to provide those needs.

In this final project designed a rectangular patch microstrip antenna planar array 2×4 elements for coastal radar application at S-Band frequency (2,97-3,03 GHz). Microstrip antenna is designed using arrays antenna technique in order to obtain a narrow beamwidth .

From the measurement results, the antenna has been designed is able to work in the 2.97 to 3.03 GHz frequency range. VSWR values ≤ 1.22 can be achieved over a range of 2.97 to 3.044 GHz (74 MHz), the antenna horizontal beamwidth obtained at 13.217 °, while the vertical beamwidth of 53.93 °. Gain acquisition is approximately 11,424 dBi.

Keyword : *coastal surveillance radar, array, planar array, VSWR, beamwidth, gain*