ABSTRACT

Radar has difficulty in recognizing very small objects or those moving at high speeds, especially in areas with many obstacles or interference. This happens because Radar has limitations in detecting very small objects or objects moving at high speeds, especially in dense environments with limited detection range, especially for objects that are far away or at angles that are not covered by the radar antenna.

In this case, radar requires additional equipment to improve its detection capabilities. The solution offered in this study is a microstrip antenna. This is to support radar applications that require precise and accurate results. So the antenna is one of the choices because the antenna has directional properties that are useful for determining the location of objects accurately.

The antenna that has been designed and measured in this study produces simulation results. The proposed antenna has parameter results obtained at a frequency of 3.2 GHz, namely return loss -20.48 dB, bandwidth 201 MHz, gain 5,361 dBi, with a directional radiation pattern. Meanwhile, the measurement results showed a frequency shift to 3.29 GHz with a return loss of -32.53 dB, a bandwidth of 220 MHz, with a directional radiation pattern.

Keywords: *Microstrip Antenna, rectangular patch, gain, VSWR bandwidth, return loss*