

ABSTRACT

Technological developments among people who continue to develop are increasingly innovative, to offset the need for data access and to be able to communicate quickly and easily requires new technology without the barriers of distance and time. Therefore, in this study the design and construction of a microstrip antenna bowtie with the DGS method is capable of being applied to radar altimeter which can work at a frequency of 4,3 GHz. Based on the results obtained from simulations that have been carried out in the CST Suite Studio 2019 software, namely the results of resonance frequency = 4.3 GHz, return loss = -41.57 dB, bandwidth = 1.383 GHz which is in the frequency range 1 GHz-10 GHz, the value VSWR = 1.01, and gain value = 0.1653 dBi. Improvement during simulation in CST Suite Studio 2019 software return loss = 1178 %, bandwidth = 252.52 %, VSWR = 434,7 %, gain = 129.9 %. This happened due to adjustments to the antenna parameters and the addition of the DGS method. After the author carried out the fabrication and measurements of the antenna, the results obtained were resonance frequency = 4.3 GHz, and return loss = -22.27 Db. The decrease in return loss during measurements occurs due to changes in antenna specifications.

Keywords: *Antenna, Microstrip antenna, bowtie, radar altimeter, DGS, bandwidth, frequency, gain, VSWR, return loss.*