

ABSTRACT

The development of satellite technology in the millennial era is growing rapidly due to the increasing need for information. Indonesia is an archipelago country that has a large area and has high rainfall. This can trigger depolarization. Reconfigurable antennas can be a solution to solve the problem of depolarization.

In this final project, a reconfigurable antenna with a frequency of 5.5 GHz has been designed in the form of a patch design using a circular patch using two methods, namely asymmetric cross slot and ring slot. To change the polarization, use a switch in the form of two bricks placed at the end of the asymmetric cross slot and 3 bricks in the ring slot. The resulting polarization of the antenna that has been designed is circular and linear polarization. Circular polarization when the state is off or without a brick, while linear polarization when the state is on or using a brick.

Based on the simulation results, the antenna that has been designed can reconfigure the polarization at a frequency of 5.5 GHz. When the state is off, the return loss value is -29.11999 dB and the axial ratio value is 2.2505987 dB, indicating circular polarization. Meanwhile, when the state is on, the return loss value is -32.000304 dB and the axial ratio value is 40 dB. Then the measurement results on the antenna in the off condition that have been fabricated get a return loss value of -16.86028602 dB and an axial ratio value of 2.524 dB indicating circular polarization. Meanwhile, when the state is on, the return loss value is -17.64810948 dB and the axial ratio value is 34.27283262 dB, indicating elliptical polarization.

Keys Word : Microstrip Antenna, Depolarization, Reconfigurable Polarization, Asymmetric Cross Slot