ABSTRACT

Drones have the potential to pose a danger to privacy and security in certain regions, since they may capture images or gather information without consent, engage in acts of sabotage, and even carry out explosions. An effective approach to mitigate the potential hazard is to use a Jammer or Drone Blocker drone. Jammer Drone or Drone Blocker. Drone Jammer is a radio wave transmitter whose strength is very directed by using a high gain directional antenna transmitting technique to be directed to the drone with the intention of paralyzing / receiving radio wave reception on a target drone. By using high gain / directional antenna, a radio wave beam can be directed to one point with a fairly small transmission angle and large strength. The average Jammer drone is able to polarize the beam with an angle of 30 degrees up to thousands of meters. The work frequency of a Jammer drone is definitely 2.4 GHz, because the majority of drones use this freq for data links and controls. Jammer which is qualified even has 3 frequencies at once, namely 1.5GHz for Jamming GPS Signal, 2.4 GHz and 900 MHz for Jamming Control. Which means there are 3 directional antennas at once in a Jammer drone.

From the simulation results, it was found that at a frequency of 900 MHz the return loss value was -23.48, the VSWR value was 1.14 with a gain value of 5,594 dBi. At a frequency of 1500 MHz the return loss value is -23.91, the VSWR value is 1.13 with a gain value of 5,008 dBi. At a frequency of 2400 MHz, the return loss value is -12.24, the VSWR value is 1.64 with a gain value of 6.41 dBi. After carrying out the simulation, the antenna is fabricated and then measurements are carried out. At a frequency of 900, the return loss value is -25.63 with a VSWR value of 1.1. At a frequency of 1500 MHz, a return loss of -19.4 is obtained with a VSWR value of 1.24. At a frequency of 2400 MHz, the return loss result was -19.44 with a VSWR value of 1.23. based on simulation results and measurement results obtained in accordance with the specified specifications.

The development of unmanned aircraft or more widely known as drones is now very rapid.

Keywords: ***Jammer Drone or Drone Blocker, Microstrip Antenna, LPDA***