

ABSTRACT

Microstrip antenna is a type of antenna which has thin board shape and able to work at a very high frequency. It has many shapes and one of the shapes is rectangular shape. This form is the most common form to be realized. Microstrip antenna has several shortcomings that have low bandwidth. To cover the shortage then this antenna will be modified so the existing deficiencies can be resolved.

The final task was designed and realized of microstrip antenna with U-slot to widen the bandwidth and perturbation techniques to obtain circular polarization. Antenna works at frequency of 2.3 to 2.39 GHz for LTE, which is mounted on repeater. Simulation using CST Microwave Studio and realization of microstrip antenna using FR4 epoxy.

From the result of the design using CST Microwave Studio were obtained in accordance with the specifications of antenna, with ≤ 1.5 VSWR at frequency range 2.3-2.39 GHz. The measurement result of realization of antenna with additional U-slot has a bandwidth of 90 MHz, circular polarization, 2.134 dBi gain and unidirectional radiation pattern.

Keyword : microstrip, antenna, wideband, U-slot, perturbation