

ABSTRACT

Antennas play an integral part in wireless communication system. In addition, Antenna is generally defined the conversion of the guided wave in which those wave is passed through the transmission line into free space wave and vice versa. Characteristics of a single microstrip patch, like low gain and smaller bandwidth, make it more popular for array configuration.

In this final project linear array of 6 elements rectangular microstrip antenna with circular polarization are designed and implemented at operating frequency 5.675 – 5.875 GHz. All these six radiator elements connected with microstrip line feed. Design process and simulation antenna is facilitated by software Ansoft HFSS (High Frequency Structural Simulator). This Software simulator apply antenna analysis by using finite element method (FEM).

Prototype are made according to the model of simulation and the result which is obtained from the frequency measurement at $VSWR \leq 1.5$, that is frequency range at 5.675 – 5.83 GHz. The impedance antenna value at frequency 5.775 GHz is $51.83 + j0.366$ also the radiation pattern of this antenna is unidirectiona. The available Gain of this antenna are able reach untill approximately 6 dBi.

Kata kunci : Microstrip, antenna array, circular polarization.