ABSTRACT

Telecommunication technology now a days developing rapidly in the world. LTE is one of the telecommunication technology for data communication, voice and video with high speed. This technology has begun to be implemented in some countries in the world. Antenna with wide *bandwidth* is required to support the LTE technology.

This final project discuss about design of 4-element *dipole* microstrip antenna that work on 2.1 GHz frequency for LTE application. 4-element *dipole* microstrip antenna are 4 antennas arranged in from of *array* and light weight antenna. The purpose of *array* configuration is to produce a higher gain.

Based on measurement results obtained VSWR value at the frequency of 2.1 GHz is 1.086 and 600 Mhz *bandwidth* at VSWR $\leq$ 2. *Return lost* value of 27.685 dB. Gain antenna measurement results of 6.18 dBi, The resulting polarization is *elips* polarization with *omnidirectional* radiation pattern. The measurement results has been in accordance with the initial design specifications, then this 4-element *dipole* microstrip antenna can be realized in LTE application on frequency 2.1 GHz.

Keywords : Microstrip, LTE, Array, Dipole