ABSTRACT

With the modern age the human needs for telecommunication technology keeps increasing, especially in the wireless telecommunication technology. One of the telecommunication technology that is being developed at the moment is Worldwide Interoperability for Microwave Access (WiMAX), this technology offers better communication quality compared to the previous ones.

One of the supporting device in WiMAX technology, is an antenna. Antenna is defined as a transmission structure transformator between the transmission channel and the open air wavelength such as an electromagnetic wave or vice versa. Antenna act as a receiver and a source of electromagnetic energy and such have a very important role and must exist in a wireless communication.

On this final project a design and realization of DIFL microstrip antenna which works on the 3,3 – 3,4 GHz frequency range will be done. This frequency is one of the working frequency of mobile WiMAX technology. From a simulation using the CST Software, a bandwidth that fulfill the requirement of VSWR ≤ 1,5 and Gain of around 2,694 dBi was obtained. After measuring the antenna a VSWR ≤ 1,5 was obtained with bandwidth of 100 MHz and Gain of 3,18 dBi. A bidirectional radiation pattern was obtained during the simulation and measurement. The polarization that was found was an ellipse. From this frequency, Bandwidth, and Gain design, this antenna can be used as an antenna for Mobile WiMAX technology.

Keyword: Double Inverted –FL antenna, WiMAX