

## ABSTRACT

Development of *wireless* telecommunication technology in modern era moves faster and has many variety, then causes a lot of newly and sophisticated technology. Antenna holds necessary role in developing *wireless* telecommunication which generally uses in changing waveguide through transmission media into independent wave, and same with the contrary.

In this final assignment, design and implemention of microstrip ring antenna in 2300 MHz – 2400 MHz frequency range would work properly on WiMAX (*Worldwide Interoperability for Microwave Access*) application. It is done by teoritically counting antenna dimension and simulating it with Ansoft HFSS 9.2 before doing realization. In order to get a good result the dimension of antenna is changed numerous times by changing the stripline dimension which is teoritically counted as  $\lambda/4$  transformator. The simulation result then implemented with 1.6 mm PCB.

To know performance of this antenna the measurement mechanism is needed. The measurement consist of radiation pattern, VSWR measurement, bandwidth, and antenna gain. From measurement result, radiation pattern of this antenna is unidirectional, the bandwidth with  $VSWR < 1.65$  limits was 100 MHz in frequency design and gain 5.338dBi.

**Keywords : microstrip, ring, WiMAX**