ABSTRACT

The development of cellular technology requires a very rapid rate for data communications to meet the rapid communication of the larger data. Standard Broadband Wireless Access (BWA) is common at this time received and widely used is the standard issued by the Institute of Electrical and Electronics Engineering (IEEE) 802.16 standard such as a network for World wide Interoperability for Microwave Access (WiMAX). WiMAX 802.16e standard are able to support portable and mobile applications.

With WiMAX technology appearence, it is necessary tools that can support the WiMAX technology. One is an antenna device, where the required specification in accordance with the needs of the WiMAX technology. Criteria required for the antenna WiMAX technology such as the frequency of work allocated to technology, the radiation pattern of the antenna and the gain required for the WiMAX technology.

Triangle circular loop antenna, which is the development of a loop-shaped antenna and a square with a circle and outside the reflector. Triangle circular loop antenna is working at a frequency of 2,3GHz -2,4GHz with VSWR $\leq$ 1.3 and unidireksional radiation pattern with vertical polarization.

Comparative analysis between measurement results directly antenna and results with simulation software Ansoft HFSS 10. Measurements made include: the measurement of antenna radiation pattern, antenna gain measurements, the type of polarization measurement, the measurement of VSWR and wide working frequency band antenna.

Key word : WiMAX, Triangle Circular Loop Antenna, Reflector.