

## **ABSTRACT**

The development of wireless technology grow quickly, began with WiFi technology that provide the easily of internet access. The emerge of WiMAX gave good change in the wireless world due to it wide coverage and speed that 7 times faster than WiFi. WiMAX is developed for broadband including fixed, nomadic, and mobile without have to at the LOS condition. Usually it can reach 3 until 10 km. WiMAX forum certification researched that WiMAX can provide access speed until 15 Mbps in the coverage 3 km.

This final exam will study about the network planning of mobile WiMAX for broadband services with data and a few assumptions need for this planning. Will be explained about the traffic demand forecasting, coverage, capacity of the network, simple payback period analysis, and will be made tools for calculate the traffic demand forecasting and link budget use matlab 7.3.

The result of network planning in Bandung area with specification frequency operation 2.3 GHz and bandwidth system 5 MHz, based on traffic demand and link calculation the cells need are 60 cells, 49 cells are in urban area and 11cells are in suburban area. Also the network planning tools can used for another mobile WiMAX network planning with bandwidth system 5 MHz, 10 MHz, and 20 MHz.

**Keywords : network planning, wireless, mobile WiMAX**