

ABSTRACT

Development of the telecommunications world today is very fast and so we need a reliable network that can transmit data at high speed and supports all the features required services. Thus was born the third generation of cellular technologies-4 is Long Term Evolution (LTE). Bandung potential to be developed as an LTE cellular technology because the population in the city is quite dense and the number of mobile users.

In this final project, backhaul access technologies that are designed using fixed WiMAX (802.16d-2004). Geographically in the city is very supportive construction of WiMAX as a backhaul. Based on the planning of fixed WiMAX technology is based microwave communications system that can support the function of access and backhaul.

This plan resulted in a 10 hop backhaul for LTE with 49 site network throughput of 944 095 Mbit LTE and LTE user targeted total reach 99 541 users. In the calculation of the condition of LOS (Line Of Sight), Received Signal Level reached -45.39 dBm. The results obtained in this thesis is the design of fixed WiMAX-based backhaul technology that can meet the throughput needs of LTE in the city of Bandung.

Keywords : LTE, WiMAX, Backhaul, Line of Sight