

ABSTRACT

Lately, rapid development of technology causing the need for data communications is increasing. This is demonstrated by the increasing demand for high-speed Internet access. In addition to the needs of the greater data speeds, it takes also a network access with a wide range. Broadband Wireless Access (BWA) is a new alternative technologies to fulfill the request.

WIMAX (Worldwide Interoperability for Microwave Access) is one form of technology Broadband Wireless Access (BWA). WiMAX is a fixed Broadband Wireless Access based on IEEE 802.16 standards. WiMAX has a standard for designing a packet-scheduling algorithm based on the need to support the new Quality of Service (QoS) for real-time service.

In this final task has been made a tool or software to be used to facilitate design of the WiMAX network. This Tools is compared with previous work which is using manual calculation, the results of the comparison is there are some differences in the calculation of the number of cells, which because of differences of accuracy between the manual calculations with calculations using the software. Additionally, this tools is also simulated by using a few cases. From the calculation results obtained by using the tools can be achieved in some cases the factors that influence Dimensioning of WiMAX networks, such as population, number of users, height of antenna BS and MS, and the frequency used.

Keywords : Broadband Wireless Access (BWA), WiMAX, IEEE 802.16