

ABSTRACT

WiMAX (Worldwide Interoperability for Microwave Access) is a new technology that provides broadband information services such as Wi-Fi technology that already exist, capable of providing high-speed data services up to 120 Mbps within a maximum radius of 40-50 km and can work in the NLOS region.

In the transmission process signals from the transmitter to the receiver will experience power fluctuations, it is because the signal power change due to the influence of objects that are obstructions along the path of transmission. As a result the signal received at the receiver is the sum of the direct signal and a number of signals reflected from surrounding objects. The objects causing the barrier reflections, scattering, and diffractions.

In this final task of analyzing the effect of fading on the downlink channel on the IEEE 802.16d WiMAX, where the data obtained from the measurements in the field. Measurements were taken at four different locations points, including: Mayapada, Ciung Wanara, HDTE, and Soreang. The parameters measured include: throughput, jitter, SNR, and RSSI / RSL. Measurement results obtained from the value of the UDP throughput and TCP throughput is greatest in the SS HDTE of 5300 kbps, whereas the UDP throughput value of the smallest on the SS Ciung Wanara for 4300 kbps and for TCP throughput in the smallest value of SS Ciung Wanara and SS Soreang of 4700 kbps . For the highest SNR measurements are in SS HDTE with 28 dB values. To measure RSSI parameter / RSL which is the highest in the SS Ciung Wanara and SS Soreang -68 dBm value. Parameters for jitter measurement is only done on the UDP packet with the highest values found in the SS with a value Mayapada 1.748 ms.

From the results of observation and analysis has been done in getting the influence of fading on the downlink channel causes the difference in received power at the receiver with the power delivered as much as 30 dBm, this is due to obstructions such as flyover objects, vehicles running, tall buildings and trees.

Keywords: WiMAX, downlink, fading, throughput, jitter, SNR and RSSI.