ABSTRACT

Cellular communication system has get in to third generation by this time, which is knew as 3G. It uses Wideband Code Division Multiple Access (WCDMA), a wireless communication standard. WCDMA is a direct spread technology, which means this system will spread its transmission by a large bandwidth, 5 MHz. This technology is used in 3G-UMTS within data rate up to 2Mbps. It may serves the tansmission of voice, data, and video for internet mobile service.

Orthogonal Variable Spreading Factor (OVSF) is used to generate the data rate based on the Walshcode algorithm. It is used to transmit the variable rate of the data. It provide a real time high speed data service in good performance and able to work in multipath fading channel in WCDMA.

In this final project, it will be analyzed and compared the QoS performance of WCDMA system in several data rates. The parameters of Qos used are BER and throughput.

The expectation output is the performance of each service, that will be showed in the graph of QoS parameters to Eb/No for each data rate. They are R=9,6 kbps, R=19,2 kbps, R=38,4 kbps, R=76,8 kbps, and R=153,6 kbps. It also will shows the graph for user in certain condition within v=0, 5, 10, and 90 km/hour.

Keywords: WCDMA, QoS, *data rate, direct spread,* OVSF.