ABSTRACT

W-CDMA (*Wideband Code Division Multiple Access*) is the 3rd Generations of communications system technology support multimedia with high speed. This technology give the expectation there will be technology supporting high speed data communications capable to transfer the data which is in the form of text, picture and also data multimedia.

WCDMA represent the technology being based on packet service by using standard of Direct Sequence Spread Spectrum which using FDD (frequency division duplex). The advantage from spread spectrum techniques is good performance in frequency selective channels, high data rate and capacity flexibility. With the entirety performance from the system, the first synchronization to yield the sequence PN from received signal is critical task. This matter closely related with the process of cell searching in WCDMA. The Process the cell searching using synchronization channel has 3 procedure steps which needed for FDD mode.

This Final Project will discuss about analytical approach to analysis WCDMA cell search performance in Rayleigh fading channel. From analysis result will be searched the optimal parameters from cell searching. The optimal parameters will use to get better synchronization.