

## ABSTRACT

WCDMA is a CDMA/FDD hybrid system of the third generation that provides high data rate service. With using bandwidth of 5 MHz, WCDMA support data rate up to 2 Mbps on forward link. To achieve maximum data rate, there are some techniques will implemented on forward link. One of them is scheduling mechanism. Scheduler is needed for optimize and efficient resource system sharing process. Bandwidth constantly changes appropriate with wireless channel fluctuation. Additionally an algorithm is needed for balancing the process of users scheduling.

In this final project will be simulated with software Matlab 7.1 and given scenario a wireless system using proportional fair as a solution alternative. Proportional fair scheduler algorithm is a scheduling mechanism that effort to increase system performance by schedule user data transmission when user channel condition in optimal condition.

This final project show that in vehicular condition, throughput system increase when PF scheduler used as scheduling mechanism. System throughput using PF scheduler is 1.73 Mbps, higher than system throughput when using FIFO scheduler is 1.52 Mbps. In pedestrian condition, PF scheduling is not too significantly influence increasing of system throughput. Both of two mechanisms produces throughput 4.21 Mbps.

At pedestrian condition, latency system when using PF scheduler is 0.8 *second*, higher than using FIFO scheduler, 0.5 *second* . But at vehicular condition, latency system using FIFO scheduler is 9.53 *second*, higher than latency of system when using PF scheduler, 3.56 *second*.