



Your complimentary
use period has ended.
Thank you for using
PDF Complete.

[Click Here to upgrade to
Unlimited Pages and Expanded Features](#)

ABSTRACT

CDMA 2000 1xEV-DO is the third generation system which can give high speed data service. Using 1.25 MHz bandwidth, CDMA 2000 1xEV-DO is able to support up to 2.4576 Mbps data rate at forward link. However, the mobility of mobile station will surely give impact on service performance of CDMA 2000 1xEV-DO. The movement of user will cause Doppler spread which creates miss-match frequency between transmitter and the moving mobile station.

In this final project studies about the effect of mobile station movement to CDMA 2000 1xEV-DO data service performance. It is done toward simulation of CDMA 2000 1xEV-DO transmission passed through channel of in Rayleigh distribution multipath fading. The transmission system model used is only on physical layer, which is between mobile station and Base Transceiver Station in form of encoder, interleaving, QPSK/8-PSK modulation, Walsh code, and quadrature spreading. The research uses data rate of 614.4 kbps, 1228.8 kbps, and 1843.2 kbps, where the simulated speeds are 0 km/hour, 3 km/hour, 30 km/hour, and 90 km/hour.

The result from this final project shows that, started from 0 km/hour to 90 km/hour of speed, the performance of system tends to be stable. To reach 100% throughput value, the Eb/No needed between 30 km/hour and 90 km/hour of speed is only differ ± 1 dB for data rate 614.4 kbps, 1228.8 kbps and 1843.2 kbps. On the other hand, the FER value resulted from 0 km/hour to 90 km/hour of speed is around $6,7.10^{-3}$ to $2,8.10^{-1}$. The stable value of FER and throughput shows that with high user mobility, CDMA 2000 1xEV-DO is appropriate to be used in data package service for various application.