

ABSTRACT

Increasing request communication mobile service give impact to fast development at multiple access method. UMTS technology that use wideband CDMA that form developed from CDMA multiple access method. CDMA multiple access method give more high capacity in UMTS system. UMTS technology is three generation from mobile communication system that capable to ready multimedia service.

In W-CDMA system , all station use same frequency so the major noise contributed is interference one carrier to another carrier. Something that cause interference inter user because difference power receive signal level at base station (Node B) from everyone user.

In order to guard interference level in UMTS system be needed power control existence. By power control , receive power signal level at base station (Node B) from all user in cell that user have far distance from base station and near distance from base station have same power signal level. So near – far interference can be decrease and cause system capacity to be high.

In the simulation final project result that maximum cell capacity with power control mechanism for voice service is 84 channel per cell at 1dB step size. While for 2 dB and 3 dB step size result that maximum cell capacity is 77 channel and 67 channel. So can be conclusion that more step size in the power control caused decrease cell capacity.

Key Word : : UMTS , WCDMA , Multiple Access , Power Control