ABSTRACT

The CDMA technology is now familiar among cell phone users. This new technology has just been applied in the common society and moreover, has been passing many trials to advance it's quality of service (QoS). In the CDMA technology application, there are some problems occurred. Those problems mostly occurred because of inter cell interferences (Interferences among users in the same ares), and the called near-far problem. Some solutions have been offered to overcome this problem, two of them are power control technique and multi user detection technique.

Through this final project, we do some research to the work of power control and multi user detection in overcoming the near-far problem in CDMA communication system. The object parameter of this research is the signal to interference ratio (SIR) of the communication after we apply power control and multi user detection technique. Here, we use 6 dB SIR target, as the standard of CDMA-IS 95. The Result got that technique MUD own the performance 2x better in overcoming near-far problem comparing technique power control that is faster reach the area convergence and also transmission power efficiency .

Following, we will visualize the scheme of this problem through a simulation program. We use Matlab Graphical User Interface (GUI) software to deliver an interesting and easier information about mobile communication scheme, problems occurred and solution offered.

Key Word : *power control, multi user detection, near-far problem.*