

## ABSTRACT

The capacity of the cellular CDMA is very influence by interference. This interference caused by the transmit power of the Mobile Unit in that cell and the interference from the other Mobile Unit in the neighbouring cells. This interference will be decreased the value of the  $E_b/N_0$  system. If the value of the  $E_b/N_0$  decrease to the threshold value then communication will discontinuous. In the urban area, where is many of user active then the interference level is also large. This situation will decrease the quality level of the cellular communication service. To solve this problem then the base station pilot will be controlled refer to cell breathing.

Cell breathing is the phenomena that explained the size of the cell shrink as the load increase and expand as the load decrease dynamically. Pilot signal will be reduced in high traffic condition so the size of the cell will be decreased. But in the normal traffic condition, the pilot signal will be increased to it's normal level to achieve normal size of cell. In this final assignment will simulate the process of cell breathing that happened in the CDMA with use CDMA cell parameters according to IS-95.

The result is that algorithm controlled pilot signal increased the value of the  $E_b/N_0$ , that means improved communications quality. From the simulation obtained recommendation for minimum handoff region that used in the CDMA cell planning.