

## ABSTRACT

In WCDMA system, there is breathing cell phenomena. Breathing cell is ability of cell to become bigger or smaller from its normal size which is caused by traffic fluctuation. If there is a cell which being shrink, it can make a blank spot area. So, there must be a planning about how to decide the cell size in WCDMA system.

In WCDMA system overlapping area is needed. This area is used to called Soft Handoff Overhead (SHO). SHO is absolutly needed by cells in WCDMA system to solve the breathing cell effect. Usually in planning, SHO is measured in prosentase size.

This paper will research about how to get soft handoff area. Beside that, this paper will measure haow big Sho based on mechanical tilting mekanism an with  $P_{TX}$  improvement. Mechanical tilting si the way to direct node-B antena to some angle to give overlapping area to acell. An  $P_{TX}$  improvement is the way to make overlapping area / SHO with rise/ variaton  $P_{TX}$ .

**Key word : WCDMA, breathing cell, Soft Handoff Overhead, mechanical tilting**