

## ABSTRACT

Drop call is traffic channel release by MS or BTS that is not desired by the customer. It becomes a problem while customers are communicating, suddenly the communication connection is cut off. In the CDMA technology there are several causes of high drop call, such as: poor RF coverage, pilot pollution, missing NL, error on search settings window, and time setting or wrong synchronization.

In this final project, the writer discusses the Analysis of Drop Call causes on CDMA 2000-1x in the Semarang-Ungaran highway that is perceived by customers by using test driving method. Semarang-Ungaran highway has 16.3 km of length. It is the first step of Semarang-Solo highway project with the topography in the form of hills and valleys. As the parameters in that test drive, it consists of: FFER, EC / IO, RSSI, TxGA, Tx Power. And the analysis calculation, it is using 4 scenarios, namely the calculation of antenna azimuth, antenna tilting, power antenna, and neighbour list settings.

The conclusion on this final project is that it is necessary to move azimuth antenna BTS on Puduk Payung from the previous angle of  $140^\circ$  to  $5,535^\circ$ . It is done by moving the antenna from the previous position of  $10^\circ$  to  $0^\circ$ . As for power Puduk Payung BTS, it is reduced from the previous  $36\text{dBm}$  to  $22.2\text{dBm}$ . The neighbour list addition on the Sendang Mulyo and Pandalangan BTS should be added to the neighbour list on the Puduk Payung BTS. The results from this study can be used as input for PT Telkom, especially broadband wireless on Central Java & DIY to optimize coverage area.

Keywords: CDMA2000-1x, drop call, the antenna, the optimization