

## ABSTRACT

*Drop data call* is process of traffic channel termination either from Mobile Station (MS) or Base Transceiver Station (BTS) caused by transmission or traffic network factor, which not desired by consumer. Drop data call occur when MS already served by BTS, but suddenly it dropped and affect process of communication. Drop data call must be avoided to perform good network performance for achieved customer satisfaction

This Final Assignment analyze the method of finding occurrence drop data call in CDMA 2000-1x EV-DO Rev. A network which owned by PT. Smartfren Telecom. The Area of this research is BDG Cluster 5, West Java, focusing in Tasikmalaya and Garut. Research done by collect existing data from OMC statistic and measurement radio check with drive test method. Parameter are taken into count Rx Power, Ec/Io, Tx Power, Tx\_Adj, Neighbor List, Antenna elevation, antenna azimuth and area geographic.

From this research, there is 102 drop data call cases has been found with total call count is 1442 count. With a classification : 24.51% caused by coverage problem, 16.67% caused by overshooting, 15.69% caused by dominance problem, 12.74% caused by handoff failure, 10.78% caused by edge cell problem, 3.92% caused by uplink interference, 2.94% caused by downlink interference, 0.98% caused by pilot pollution, and 11.76% is unclassified. Recommendation is given for five largest causes. For coverage problem is consider to add some repeater, for overshooting problem may do some tilting for antennas, for dominance problem consider to adjust azimuth for some antenna, and for handoff failure do further research about handoff parameter to find the specific problem. For edge cell problem, suggest to adjust azimuth of site's antenna to focus on drop area. With those five problems recovered, it has improved CDR (Connection Drop Rate) from 7.07% into 1.387% which is below than 2% (Smartfren's KPI)

Key words : Drop Call, Drop Data Call, Packet Data, CDMA 2000-1x EV-DO Rev. A