ABSTRACT

CDMA2000 1x is the development from CDMA IS-95 with advantages of more service for data packet. The component at CDMA2000 1x almost equal to CDMA IS-95, plus: PDSN (Packet Data Serving Node), AAA (Authentication, Authorization, and Accounting), Router, Firewall, and also Home Agent.

In this final project will be evaluate and analize performance of radio network on CDMA2000 1x system at PT.Mobile-8 Bandung , by exploiting frequency allocation which have been owned by PT.MOBILE-8 Bandung that is 800 Mhz.

The steps of performed within evaluate the performance of radio network will take on performance from cluster #1. Evaluation done with compare the drive test result against Link Budget estimation. The drive test result there is status coverage voice for loaded : Ec/Io ≥ -14 dB, RSSI ≥ -95 dB, and FER ≤ 1,9 %. And from Link Budget estimation for forward link, example site Alun-Alun 2,68 km , site PPTM 2,95 km. Then the evaluation continued with effort to have a solution for coverage trouble is to decrease the transmit power, example for site Alun-Alun from 16,24 dBm became 11,984 dBm. Or to increase the antenna's tilt example for site Alun-Alun (tilt) from 5° to 1,70°. Except of that, the evaluation can be done by analizing PN offset which is used for cluster #1, where getting Adjacent PN Offset for cluster #1 that still fullfill the distance requirement is, the occupied distance is under the maximal distance ($D_{occupied} < D_{req}$), to avoid aliasing between BTS PN codes. The other way will be evaluate with analizing statistical data, where getting highest access failure rate 4,285 in site Alun-alun and highest dropped call rate 6,29% in site Kopo.