

ABSTRACT

CDMA2000 1x system is a cellular technology standard that can accommodate voice and data service with data rate until 153,6 kbps and commercially ready to implemented. This system is alternative for AMPS and CDMA IS-95 to evolve to next generation.

The Final Project research about cellular planning process based on CDMA2000 1x focused on radio core network planning, responsible of *mobile station* and *base station* relation, with calculate link balancing, PN Offset planning, overhead channel power distribution, and cell loading parameter, that have not researched on previous final project.

Steps use by this planning are potential user estimation, site planning based BTS capability, coverage area, topology and inhabitant distribution, power distribution for forward channel, calculation of signal quality at edge of coverage, PN Offset planning, and site mapping. The result from this planning is a CDMA2000 1x cellular network with optimal capacity and capable for many services.

Then, we evaluate the software to get software boundary, system evaluation to get optimal value for some parameter on this planning, and software implementation evaluation for case study Kota Bandung.

Keywords : CDMA2000 1x Network Planning, Cellular Communication System, *Planning Software*