ABSTRACT

CDMA 2000 1x, a TELKOMFlexi platform, is newest wireless telecommunication technology system with various capability could answer future communication problems. Based on technology curves, CDMA2000 1x is third-generation (3G) after analog and digital cellular phones and early CDMA generation, it uses spread spectrum techniques with random unique codes.

This final project study TELKOMFlexi based CDMA2000 1x network planning in GARUT, analyze optical network existing performances of Garut – Bandung link connecting several BTS in Garut with BSC in Bandung, and business planning.

Based on planning result up to year 2010, it estimates 21.555 subscribers spread all over area. To provide the requirements, it needs 34 BTS with each 36 channels capability. Garut is un-flatted topography area. Hill blocks the diffraction from BTS. And it causes some of BTS could not cover overall area. *Power Link Budget* for Garut - Bandung link has ≥ -28dBm power received each of links. Estimation of *Rise Time Budget* obtains total *rise time* (0,26 ns) lower than system *rise time* (0,28 ns). Based on investment planning criteria use *cash flow* method results a value those fulfill the proper requirements of investment. It results NPV value bigger than zero, 16,47% of IRR value, 1,12 of PI, 42 months and 11 days *payback period*, and 49,34% of ARR