

ABSTRACT

Problems of quality and capacity including wide coverage from a cellular communication system occur in communications segment of BTS to Mobile Station (MS). Because quality and capacity of cellular system are more determined by communications segment between BTS and MS, strength of cellular system operator depend on the ability to provide BTS including its effective location according to the condition of service area. To increase the Telkom Flexi quality of service in West Java due to additional amount of customer, one of the solutions by PT. Telkom is increasing the number of BTS. Along with the addition of BTS, PT. Telkom will also expand the coverage area, perform the optimization and improve network capabilities.

This final project describes BTS SC4812T calibration, network optimization and BTS performance analysis in CDMA 2000-1X network at Telkom Flexi Bandung cluster 1 area. The objective of this process is to know the accuracy of downlink and uplink RF power level from and to the BTS. The performance parameter including the condition of coverage which covers the service area, accomplishment of KPI (Key Performance Indicator) and possibility of drop call.

The result of final project analysis indicates that performance of BTS cluster 1 as a whole have reached goals of KPI specified. Mean Access Failure is 2,17 % and RF Loss 0,55 % for KPI target of Access Failure Rate $\leq 4,6$ % and *RF Loss* $\leq 0,9$ %. BTS Terusan Pasir Koja has the smallest reverse link radius which is 0,979 km for carrier 1 and 0,978 km for carrier 2. It causes high handoff failure rate, so that greater RF Loss may occur.