

ABSTRACT

The development of mobile networks Universal Mobile Telecommunication System (UMTS) requires the optimization of performance in improving service quality. The service became one of the main problems on the network is the UMTS voice and data services. Therefore it needs to be optimized so that the quality of voice and data to be better. This optimization stage must pay attention to the values of the services of voice and data services must comply with established standards.

In this final project case studies conducted in the area of East Jakarta with problems in voice and data services. In voice services, namely the occurrence of overshoot which led to bad coverage, the problem of overshoot can occur because of errors in the tilt antennas, transmit power cell that is too big, and the differences in contour. As for data services is a problem that occurs is low throughput. The problem occurs because the density of traffic or are affected by poor coverage and quality. Performance analysis done by the method of the test drive by taking into account the parameters of the test drive. RSCP value for optimal voice service has not been carried out is -96 dBm to -87 dBm for data services while RSCP value obtained is -115 dBm to -96 dBm.

Simulation optimization results obtained using software Atoll RSCP value for voice services amounted to -76 dBm up to -86 dBm. As for data services RSCP that is obtained after optimization is -76 dBm up to -86 dBm Based on a comparison of data before and after optimization can be concluded 3G network performance for handling overshoot and low throughput achieve maximum performance value.

Keywords: UMTS, Drive Test, Optimization, antenna tilt, overshoot.