ABSTRACT

Mobile technology is currently growing very rapidly. Increasing customer demand for high capacity and high-speed data services is currently urgently needed. To increase customer needs required the latest technology that is 4G LTE technology. Operators should further expand the internet network not only in urban areas but also the suburbs, so that the Internet network can be enjoyed evenly for all operator customers. Legok is an area that has a density of both buildings and residents. This area is an underserved area of 4G LTE network, so it is necessary to plan 4G LTE network to meet consumer needs.

In this planning, two methods of calculation are based on the scope and capacity to get the number of sites needed. To perform this planning simulation use atoll software. The case study area of this Final Project is Legok. Signal measurement using the drive test method to determine whether the Legok area served by 4G LTE network.

The results obtained in this Final Project is required 5 sites to be able to serve 4G LTE network Legok area. The parameters obtained from planning of 4G LTE network are RSRP equal to -80,92 dBm, SINR equal to 16,1 dB, Downlink throughput equal to 41,69 Mbps, and uplink throughput equal to 18,48 Mbps. The value has been able to meet the standards of KPI Operator Telkomsel.

Keywords: Planning 4G LTE, drive test, Atoll, KPI, Legok