

ABSTRACT

Pati Regency is a land transportation mode that is widely used by traffic users. Pati Regency is passed by many vehicles from Jakarta to Surabaya. Ring Road of Pati Regency was built to support the dense traffic users in the city center in order to have an alternative route when. The density of traffic users affects the quality of cellular data services along the road. At this time, cellular data that is widely connected by smartphone is LTE, because LTE services do not all areas have a good connection, therefore optimization of LTE network services is carried out. Optimization aims to get a stable and good signal, so that it affects the comfort of traffic users.

In this final project analysis begins with a drive test along the pati ring road carried out using a vehicle and containing devices that support cellphones and Toms. After that, it is analyzed using Actix Analyzer, there are 3 bad spot areas. Improvements in bad spot areas using Atoll software. The proposed improvements support the maximum parameter value in accordance with the KPI standards in the bad spot area. Improvements are made with the stages of physical tuning scenarios, power configuration scenarios, and finally the combination of physical tuning, power configuration, and additional sites.

In this research, the mixed scenario experienced a very significant increase compared to the others. For the bad spot area, the RSRP parameter value increased by -95.81 dBm, SINR by 11.9 dB, Throughput by 45,495.81 kbps. In the bad spot 2 area also experienced an increase in the parameter value of the RSRP parameter value of -97.56 dBm, SINR of 15.63 dB, Throughput of 55,828.51 kbps. In the bad spot 3 area has increased, the RSRP parameter value is -99.51 dBm, SINR is 119.51 dB, Throughput is 61,289.13 kbps. So it can be seen that the results of the improvement are very significant so that they can overcome the problem of bad spots. Judging from the results of the throughput parameter value after improvement has increased so that streaming video can be played with signal quality above 480p.

Keywords: *Drive Test, Video Streaming, LTE, Signal Quality, SINR, RSRP, and Throughput*