

ABSTRACT

In this research analyzes and optimizes 4G (LTE) networks in the area of Situ Podok in South Tangerang. The research was carried out because in that area the level of signal quality received by the user was poor and not in accordance with the standards due to Overshoot, the research was conducted to improve performance and the quality level of the signal received by the user to conform to the standard. Because of the good signal requirements, this study analyzed the causes of signal quality obtained by poor users due to inappropriate antenna direction and others.

The research was conducted by collecting 4G quality network data using the drive test method. The drive test is done using GENEX PROBE software. The results of the drive test were analyzed using GENEX ASSISTANT software, then simulations were performed using ATOLL software.

Existing network performance has increased after the optimization process. The RSRQ value increased from 64.1533 % to 85,092 %, with a minimum KPI target of 85%. The parameter of the spread of the SINR value when viewed from the percentage value above is optimized for an increase from the exiting condition of 87.6289 %, increasing to 94.375 %. The specified KPI target is a minimum of 90 % SINR parameters above 0 dB, Parameters reviewed in this study can meet KPI targets, indicating that the optimization performed successfully overcomes the problem of low RSRP, low SINR, and low RSRQ.

Keywords: *4G-LTE, KPI, Drive Test, Overshoot, RSRP, RSRQ, SINR*