

ABSTRACT

Tamansari Panoramic Bandung Apartment has unsatisfactory network quality so users in this building do not get maximum service. There are many LTE users who difficult to communicate, especially for voice service. This indicates that this building does not have a good enough LTE service quality yet. With this background, this Final Project aims to resolve the problem using the indoor repeater planning on the LTE network.

Network measurements were performed using the walk test method and the software used was TEMS Pocket and TEMS Investigation to determine the value of the KPI. In an effort to improve the quality of cellular networks in this apartment area, coverage planning calculations are performed to find the number of repeaters needed for each floor. Radiowave Propagation Simulator (RPS) software is used to simulate repeaters that have been placed on floors that require an increase in cellular network quality.

Simulation results using RPS software show signal quality on the 5th Floor, GF Floor, P1 Floor, and P2 Floor has increased. The percentage of RSL values with more than -90 dBm is 100% for the simulation results from the four floors above. The highest percentage of SIR with more than 0 dB is 99.4% and the lowest is 91.7%. From the data above it can be seen that the planned increase in coverage of this Apartment has been successful because each floor has a 90% Received Signal Level (RSL) and Signal to Interference Ratio (SIR) above KPI.

Keywords: *walk test, RSL, SIR, coverage, repeater, RPS*