

ABSTRACT

The Grand Asia Africa Residence apartment is an apartment that is located in the center of Bandung city, precisely in Jalan Sunda no. 8. The building is one of the new apartment buildings that doesn't has the indoor network system installation or IBC that causing the building area doesn't get some good signal quality of LTE network. In addition, building construction and building materials become another factor that causes signal attenuation increases.

The finnest solution to overcome the problem that occurs is by arranging the installation of Indoor Building Coverage (IBC) of LTE network in the Grand Asia Africa Residence apartment case study is XL. In order to carry out the design of IBC LTE using software TEMS Pocket to find out the walk test parameters value of RSRP and SINR that is undergone right before capacity and coverage planning, link budget that utilizes propagation models Cost 231 Multi-Wall Models and performs simulation through RPS software.

Through the calculation of coverage and capacity planning, we can obtain the number of required antennas in the planning are 172 antennas. Based on the simulation result, the average RSRP is between -50 to -74 dBm and the average SINR ranges from 14 to 67 dB. By comparing the simulation results with the standard value of XL it is found that the planning has met the operator standard and causing the Grand Asia Africa Residence apartment area has coverage enhancement.

Keywords: Indoor Building Coverage (IBC), LTE, Capacity and Coverage Planning, TEMS Pocket, RPS