

ABSTRACT

Gedung Kuliah Umum Universitas Islam Bandung (UNISBA) is located at Jalan Tamansari No 1 Bandung. The building is the lecture building with the highest capacity in UNISBA but does not have indoor network system installation resulting in poor quality of LTE network, especially in XL oerator case study. The location of the building, building construction and building materials become the factor of poor quality of indoor network in the building. Based on the results of the initial walktest showed the mean RSRP <100 dBm and SINR <5 dB indicating that the network quality is poor

The most appropriate solution to overcome the problem is Indoor Buildiing Coverage (IBC) on LTE network. In doing this planning is done the calculation of capacity and coverage. The simulation results are calculated using Radio Propagation Simulator Version 5.4 software and using the Cost 231 Multiwall Model propagation model. The target of simulation result from planning is > -70 dBm for RSRP average value and average SINR value > 15 dB.

From the calculation of coverage and capacity planning obtained the most appropriate number of antennas used is based on the calculation coverage with the number of 23 antennas. Based on the simulation result, the average RSRP value is -55,99 dBm to -12,08 dBm and SINR with average 22,6 dB to 40,99 dB. Thus the result of planning has fulfilled the standard parameters of XL operators.

Keyword: Indoor Building Solution, LTE, RSRP dan SINR, Coverage dan Capacity