

## ABSTRACT

Bandung Electronic Center or now called BEC extension is located at Jl. Purnawarman No.5-17, Babakan Ciamis, Sumur Bandung, Bandung City. BEC extension has 10 floors and has the concept of semi mall (one stop shopping), more directed to the concept of entertainment where in each floor there are rooms that can be rented as Restaurant, Cafe, or Foofcourt. The quality of cellular network in the building becomes an important requirement to fulfill LTE technology service, inside the enclosed place with building walls and density of the buildings can cause signals from eNodeB received by the EU within the building is not the same as outside the building due to signal attenuation. The main cause is damping and obstacles around the building blocking the eNodeB signal in the BEC extension.

Solution to overcome the problems that occur is by planning the Installation of Indoor Building Coverage (IBC) on the LTE network in BEC Building extension. In the planning of Indoor Building Coverage (IBC) do Test Drive first to know the quality of signal outside the building and find out whether there is BTS that covers the building or not. Because the quality of signals inside and outside the building is different then it needs to be held Test Walk with TEMS Pocket software to get quality network performance in the building. And will be calculated with two scenarios which are capacity and coverage.

Through the calculation of coverage and capacity planning obtained the number of antennas required in the planning of 53 antennas. Based on the simulation results, the average RSRP is between -50 to -90 dBm and SINR with an average of 9 to 23 dB. By comparing the simulation result with the standard value of RF parameters of HCPT operator, it is found that the planning has fulfilled the standard of operator causing the BEC Extension Building area to increase the coverage.

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