ABSTRACT

Service needs of data and signal quality is good on the mobile phone, is very important in this era, in particular at the Airport Soekarno Hatta especially in terminal 3 Ultimate. Because all international airline and several domestic airlines moved to terminal 3 Ultimate that were in the sub terminal 2E and 2F on terminal 2. So the number of users such as mobilization of passengers and airport officials in these areas will lead to increased demand for data services and need more capacity.

In this final project, it will be discussed indoor network planning LTE in terminal 3 departure of Soekarno Hatta – Ultimate. LTE technology is the technology of the latest generation which has better service than previous technology. A method of network planning is done to get the number of a cell, by performing calculations based on coverage planning and capacity planning. To obtain the results of the calculation with a good accuracy of propagation modeling used Cost-231 Multiwall. The number of cells obtained from the calculation result, will be simulated into the RPS (Radiowave Propagation Simulatior) software. The parameters used in the simulation, are Reference Signal Power Received (RSRP and SIR (Signal Interference Ratio).

LTE indoor network planning results in terminal 3 departure of Soekarno Hatta – Ultimate on this final project, obtained a value of simulation results to RSRP scenarios 1, 2, 3, 4 respectively are -78.87 dBm, -68.94 dBm, -78.00 dBm, and -67.88 dBm. For the value of the SIR in scenarios 1, 2, 3, 4 respectively are 40.46 dB, 49.83 dB, 41.2 dB, and 50.71 dB. From the results of the simulation, network planning LTE indoor meet the KPI (Key Performance Indicator) that is used by telecommunication operators reference.

Keywords: LTE, Coverage planning, Capacity Planning, RSRP, SIR