

## ABSTRACT

*The increasing of demand for mobile data services in Soekarno-Hatta Airport mainly at boarding lounge area of terminal 2 are higher, caused terminal 2 is serves both domestic and international flights. Boarding lounge area of terminal 2 are consists of three sub terminals 2D, 2E and 2F, each of terminal which has seven gates. A large number of users, such as passengers and airport employees who were there led to increased use of mobile data services are required large capacity and high user mobilization.*

*LTE network planning has purposed to maximized coverage and capacity. Therefore, in this LTE network planning is used a frequency of 1800 MHz with a bandwidth of 20 MHz. Prior to performing of network planning, first of all needs to be done the walktest is determine condition of existing network in boarding lounge area. The result of walktest is generate value of RSCP in terminal 2D -91,58 dBm, terminal 2E -90 dBm and terminal 2F -98 dBm.*

*The discussion of final project is carried out 3 scenarios to get the number of antenna sites in each of boarding lounge area at terminal 2. The First scenario is in terminal 2D with the number of antenna are 9, 8 and 7 antennas. The Second scenario at terminal 2E used are 8, 7 and 6 antennas. Then the third scenario at terminal 2F which the number of antenna are 7, 6 and 5 antennas. The result was obtained in the first scenario to get the number of antenna are 8 antennas that the value of RSL is -43,91 dBm and the value of SIR is 13,44 dB. For the second scenario, the number of antenna are 8 antennas which following the value of RSL is -46,06 dBm and the value of SIR is 13,07 dB. The last scenario is using 6 antennas with the value of RSL is -48,85 dB and the value of SIR is 11,18 dB.*

**Keywords:** *LTE, walktest, RSL, SIR, coverage, capacity*