

## ABSTRACT

Data service and signal quality is one of the most important things in the communication system, especially in the West Java International Airport, especially at the departure check-in terminal and domestic departure boarding lounges. All international airlines and several domestic airlines located on the 3rd floor of the West Java International Airport (BIJB). The results of the drive test measurement of RSRP value and SIR value at the check-in terminal and boarding lounge area of the domestic departure of West Java International Airport (BIJB) obtained a value of  $>-100$  dBm for RSRP, a value of  $< 0$  dB for SIR, the value is included in the bad category and results substandard measurement of throughput.

In this Final Project, LTE indoor network planning is carried out at the departure check-in terminal and the boarding lounge for the domestic departure of West Java International Airport (BIJB). The network planning method is carried out by calculation based on coverage planning and capacity planning with the Cost-231 Multiwall propagation model, after the design model is obtained then it is simulated in the Radiowave Propagation Simulation (RPS) software 5.4.

From the results of planning based on coverage planning and capacity planning the results obtained for the check-in area of departure RSRP value of  $-89.48$  dBm and SIR of  $0$  dB with a percentage of RSRP of  $73.88\%$ . As for the boarding lounge area for domestic departures, the RSRP value of  $-100.94$  dBm and SIR of  $0$  dB with a RSRP percentage of  $69\%$  so that it meets the KPI standard, which is the RSRP value below  $-90$  dBm and the SIR value below  $0$  dB for  $90\%$  of the area. The throughput generated for the uplink direction is  $40,435$  Mbps and for the downlink direction is  $33,695$  Mbps, while for the selection of cells for the boarding lounge area and check-in area both use 1 cell.

Keywords: LTE, RSRP, SIR, Cost-231 *Multiwall*, *Throughput*.