ABSTRACT

Cellular technology continues to develop to meet the demand for cellular data according to user needs and the mobile wireless network will continue to grow at a high speed. However, the 4G LTE network cannot be separated from various problems, one of which is the high traffic density in a network which causes the speed during the data transfer process to decrease. Open RAN technology is a solution to the problems that occur by testing the comparison of Open RAN throughput.

In this final project, a comparison of the real Open RAN throughput from the simulation results and based on 3GPP on a 4G LTE network at a frequency of 900 MHz on the downlink side is carried out. Network quality parameters are measured by RSRP, SINR, and throughput. The parameter to be analyzed in this research is throughput. The eNodeB used is Parallel Wireless which is in the Telkom University Telecom Infra Project (TIP) lab. Where the drive test is carried out by the TIP lab. This study aims to determine the speed of sending Open RAN data received by the EU.

Based on the simulation results, the average value of the RSRP parameter is -80.157 dBm, the average SINR value is 8.5 dB, and the throughput is 45.64 Mbps. Then the calculation of Open RAN throughput based on 3GPP is 50.35 Mbps, with a difference of 4.71 from the simulation results. From the results of the comparison of Open RAN throughput, it shows that Open RAN devices can refer to the 3GPP standard.

Key Word : LTE, RAN, *Open* RAN, *throughput*, 3GPP, *downlink*.