ABSTRACT

The area of West Bandung Regency, especially the Lembang area is a tourist destination that is crowded with tourists. In this area, there are several excellent tours such as Farm House, Cardboard Park, Green Forest, Amazing Art World and many others that are visited by tourists every day. The need for voice and data communication services is very much needed in this area. Based on the survey results, an RSRP of -102.21 dBm was obtained, SINR of <5 dB, and a low throughput average of 15750.31 kbit / s was obtained.

This final project a plan to improve LTE-Advanced network performance in the Lembang area is carried out using Telkomsel operator standards. The method used is the Inter-band Carrier Aggregation method in band 8 (1800 MHz) and band 40 (2300 MHz) with two approaches, namely capacity planning, and coverage planning. In the planning process, it is simulated using Atoll 3.3 software and LTE parameters measured and analyzed, namely RSRP, SINR, and throughput.

Results of the simulation of the implementation of interband carrier aggregation by considering the initial network based on the scenarios specified in this final project, namely an increase in scenario 1 the average RSRP value of -97.22 dBm, SINR of 6.11 dB, and throughput of 31,915 Mbps.

Keywords: RSRP, SINR, carrier aggregation, coverage planning, coverage planning, throughput.