

ABSTRACT

Ciparay region is one of the sub-districts in Bandung Regency. The Ciparay area is one of the areas that has a fairly dense residential area. Based on OSS data, Ciparay area in Bandung Regency has a low throughput value which has an average value of 6.8 Mbps. This value does not meet operator standards where throughput > 16 Mbps. Then the penetration of the LTE-A network in Ciparay has also touched 90%, meaning that the region has a fairly dense traffic density.

To overcome these problem, then the final project this time is carried out LTE-Advanced planning using Carrier Aggregation. Carreir Aggregation is a technique of combining two or more carrier components simultaneously in the same frequency band or in a different frequency band to increase throughput users. Therefore planning is carried out using the type of Inter-band carrier aggregation which is combining two component carriers at a bandwidth of 15 MHz in band (1800 MHz) and bandwidth 20 MHz in band 40 (2300 MHz). Where in the IIA scenario, band 3 is made as the primary cell and band 40 is made as a secondary cell. Whereas in the IIB scenario, band 40 is made as a primay cell and band 3 is made as a secondary cell.

The results of the planning simulation are based on the predetermined scenario in the Atoll 3.3 software in this final project by taking into account the initial conditions of the network. that there is an increase in average throughput of 21.28 Mbps from the initial network condition of 4.88 Mbps.

Keywords : *LTE-A, carrier aggregation, inter band, throughput*