

ABSTRACT

Based on the results of the Smartfren OSS operator agreement in the Central Bandung area, it means that six sites with high traffic capacity are with the percentage of physical resource blocks of 82.6%. Physical blocks > 80% are included in the 2nd warning indicator based on operator standards. Then, this also rejects the results of existing site simulations, namely requesting an average RSRP value of -103.3 dBm, SINR of 6.28 dB, and throughput of 27.78 Mbps, so as to be able to perform LTE network performance in the region so that it becomes not optimal.

In this final project, the application of interband CA will be carried out in the Central Bandung area by applying the band 40 TDD (2300 MHz) and band 5 FDD (850 MHz). One of the advantages of implementing this method can be a solution in increasing the capacity of network users in areas that have higher traffic with enhanced resources owned by operators. This application simulation is done by using Atoll 3.3.0 software by taking into account the RSRP parameter values, SINR, throughput, and percentage of physical resource blocks.

The results of the interband CA implementation simulation based on a predetermined scenario taking into account the initial conditions of the network, which represent a decrease in the percentage of physical resource blocks of 44.50% and an increase in the average RSRP value of 12.8 dBm, SINR of 5.14 dB, and throughput of 34.59 Mbps.

Keywords : *LTE-Advanced, carrier aggregation, interband, capacity, physical resource block, RSRP, SINR, dan throughput.*