

ABSTRACT

Based on survey and initial drive test results using 3 standard in Kebon Kopi, Cimahi City area, that the value of the LTE parameter obtained was poor, such as RSRP values < -90 dBm, SINR < 6 dB, and throughput < 1 Mbps. This also reinforced by data from 3 that shows the consumption of telecommunications traffic in the area is high, so that the LTE network service in the area has become poor.

In this final project, microcell planning will be carried out in Kebon Kopi, Cimahi City area. This microcell planning on the FDD LTE 1800 MHz band using cell splitting method to improve the performance and increase LTE network capacity in the area. Then, this planning simulation will be carried out using Atoll 3.3 by considering the RF parameter value, such as RSRP, SINR, and especially throughput.

The results of the planning simulation are based on the scenario that has been determined in this final project, namely by increasing the average RSRP value of 7.18 dBm, SINR of 2.62 dB, and throughput of 1.291 Mbps.

Keywords: *Microcell, cell splitting, LTE, RSRP, SINR, throughput.*