

ABSTRACT

After conducting a survey and checking the network quality of operator 3 in the Majalaya area, Bandung Regency, the signal quality obtained specifically for LTE produced was quite bad, with the results of RSRP = -86.16 dB, SINR = 5.84 dB and throughput = 9.612 Kbps. This is because the number of users of operator 3 in the Majalaya area is quite a lot so that the service of operator 3 in that area is quite bad.

In this after project, microcell planning will be carried out in the Majalaya area, Bandung Regency on band 3 FDD LTE 1800 MHz to improve the quality of the LTE network according to operator eligibility standards 3. By using the cell splitting method and also conducting planning simulations using Atoll software to determine the values of the parameters including RSRP, SINR, and throughput on the results of the drive test.

In this case, the cell splitting method will be used to optimize the signal quality in the Majalaya area, Bandung Regency to improve the signal quality interference that occurs in that area. After carrying out the cell splitting method, there was an improvement in network quality in the planning area, the results of the parameters obtained after performing the optimization had met the standards of operator 3, namely for RSRP an improvement of 11.59% in scenario 1 and 12.66% in scenario 2, for SINR experienced an improvement of 39.89% in scenario 1 and 103.25% in scenario 2, and for throughput an improvement of 56.52% for scenario 1 and 107.12% in scenario 2.

Keywords: quality, LTE, microcell, cell splitting, Atoll, SINR, RSRP, Throughput