

## ABSTRACT

In the process of allocating radio resources, the indicators derived from the user is an important thing that needs to be obtained by the eNodeB to appropriately allocating Resources blocknya, growing users who use smartphones and more varied services, and applications that require high speed and wide bandwidth is incorrect the basic reason why the proper allocation of RB is an attempt to guarantee the good performance of the LTE network. Therefore, cooptation an appropriate allocation algorithm maximizes system throughput values obtained. Orientation is usually always an appropriation for optimization, but if the optimization itself would produce a general solution for all systems is not guaranteed.

In the process of allocating RB, things to note are the indicators of efficiency and link adaptation, in this simulation technology used Adaptive Modulation and Coding (AMC) is quadrature Phase Shift Keying (QPSK), 16- and 64-Quadrature Amplitude Modulation with different rate values -beda. With the modulation technique this will be the value of the power loss and the spectral efficiency of SNR, so that the allocation will be oriented on the value of the spectral efficiency of the canal each user before finally allocated using an algorithm scheduling, comparison algorithm will be made to the algorithm Greedy, Modified Greedy, and Round Robin, comparison of performance in terms of system throughput, fairness factor, and time complexity. Scenario testing is done with three user distribution pattern, namely Random Deployment, Cell Edge Deployment, and Cell Center Deployment.

In this research, based on three user deployment scenarios, algorithm Greedy has the highest system throughput, 4852.368 kbps for random deployment, 4013.046 kbps for deployment cell edge and cell center 4815.718 kbps for deployment. Round Robin algorithm and Modified Greedy fairness index has a value much higher than the algorithm Greedy, Modified Greedy algorithms has a higher fairness index value at about 0.2 - 0.3 than Round Robin algorithm.

Kata kunci : LTE, *subcarrier*, *resource block*, Greedy Algorithm.