

ABSTRACT

Orthogonal Frequency Division Multiplexing (OFDM) downlink physical resource or can be called Physical Resource Block (PRB) is an important part that should be scheduled so that all users can be served by the eNodeB in LTE. Optimization can be done by performing scheduling can allocate resource PRB appropriately to the user based on channel conditions. With the use of proper scheduling algorithms will result in increased spectral efficiency and user throughput so as to improve the performance of LTE systems.

Resource scheduling scheme to be an important thing because it is used to select, in the time domain and frequency domain are correct, how the distribution of resources and the determination of radio channel conditions and achieve the performance of the LTE standard. At the end of this task has been carried out using the PRB allocation process MGA2 and MGA1 algorithm and compare its performance using the comparison algorithm, Greedy and Round Robin.

From the simulation results, the process of allocating using MGA1 and MGA2 was able to increase the average user throughput is equal to 3.72 for MGA1 and 3.69 Mbps for MGA2 and improve spectral efficiency to the increasing number of users. Moreover, the fairness index obtained is also good compared to Greedy Algorithm, for MGA1 0.943 and 0.904 for MGA2. As for the time complexity generated by MGA1 and MGA2 influenced by the increased number of users as and as the number of PRB.

Keyword : LTE, Physical Resource Blok (PRB), fairness, Time Complexity, Greedy.