ABSTRACT

In LTE-Advanced systems, Physical Resource Block (PRB) is an important part that must be arranged so that all users can be served by the eNB. The system should be able to serve two types of user, ie the LTE user (Release 8) and LTE-A user (Release 10). Optimization must be performed in order to obtain optimal results, both in terms of throughput, fairness, and the time complexity.

Proportional fair algorithm is an algorithm that balances between the choosing of channel quality with fairness among users. This algorithm can be applied in LTE-Advanced systems, that scheme is independent scheduling.

In this thesis has been simulated using three PRB allocation schemes based on proportional fair scheme, that was independent scheduling (INS), INS with Weight Factor, and Modified INS.

From the simulation results, the allocation process using INS WF can improve fairness effectively. In addition to the Modified INS can improve the average user throughput between LTE and LTE-A user becomes balanced, so that each user type gets equal opportunity. In terms of time complexity all three have the same time complexity.

Keywords: LTE-Advanced, Proportional Fair, Resource Scheduling, INS.