ABSTRACT

Nowadays, along with the technology development and needs of massive cellular technology then the power control strategy really matters. On selecting a channel by the user, the transmitted power must be utilized properly so that the power used in the system has high efficiency and nothing wasted. Therefore, a scheme that can distribute power on the channel is needed.

In this final assignment, the research is about the simulation of resource scheduling on the LTE system. This research using mean greedy algorithm as an allocation resource method because it can give higher spectral efficiency and has lower computation complexity. In addition to that, waterfilling power control and inverse waterfilling power control applied to the system as a modification on mean greedy algorithm in order to get higher efficiency in transmitted power.

There are some parameters used in this research including spectral efficiency, energy efficiency, and fairness. From the test results, the fairness index for mean greedy-waterfilling power control (MG-NWF) algorithm is showing better value than all three algorithms. It increasing the value from mean greedy algorithm by 9,48% for user variation simulation and 85,65% for distance variation simulation. Otherwise, on the simulation of spectral efficiency and energy efficiency, mean greedy-inverse waterfilling power control (MG-IWF) shows better value than all three algorithms both on user variation and distance variation test.

Kata kunci: LTE, *Mean Greedy, Water Filling Power Control, Spectral Efficiency, Energy Efficiency, Fairness.*