ABSTRACT

In the development of technology in this age the high needs of network connectivity, hence the importance of allocating resources that can include and efficiently required by User Equipment (UE). Allocation of resources using the Mean-Greedy algorithm that will be implemented in the Visible Light Communication (VLC) system which is a transmission media using light as an information bearer, has an easy installation process and a high level of security.

In this final task study the algorithm method used has a level of efficiency and complex in the use of power transmitter. The simulation specifications used are on the LED, in a closed room with a dimension Of room measuring 5 x 5 x 3 meters, then using the channel Line Of Sight (LOS), the Mean-Greedy algorithm is used in this research because the algorithm of allocating resources based on Time Division Multiple Access (TDMA) by allocating time slots which are less than the number of User Equipment The study uses 2 scenarios that are scenarios using the Mean-Greedy algorithm and without algorithms.

In the results of the total Data Rate test against the number of UE has an increase with the Mean-Greedy algorithm. At power consumption the use of the Mean-Greedy algorithm sparingly 5.8% for the target of 960 Mbps on the use of 6.6 watts. Then in the test results The system fairness value is affected by the number of UES, the highest fairness value gained at the time of 5 UE with a value of 0.79 and there is the lowest fairness amount gained at 17 UE with a value of 0233 with an increase in the number of EU total value Data Rate will increase and decrease fairness value.

Keywords: VLC, Mean Greedy, Fairness, Data Rate, Efficiency.