ABSTRACT

As the development of technology, especially in the field of telecommunications, wireless communication system began to be widely updated, one of them is the communication of visible light or Visible Light Communication. Visible Light Communication (VLC) has two common types of communication scenarios: Vehicle to Infrastructure (V2I) and Vehicle to Vehicle (V2V). Obviously Visible Light Communication is expected to be implemented to support the realization of smart home or smart city.

The utilize of Visible Light Communication is can be implemented to any automatic home device for daily activities. for example, the dynamo motor that give the order to open the garage door using the LED that integrated with IOT as monitor. the principle of this tools is transmitting data from LED as transmitter device to photodiode as receiver device, then the data are continuing to microcontroller as the core of the dynamo motor and notify message to the owner.

Final result and analysis from the tools that was made for well performance, and knowing the pattern of transmitter of the headlamp, the maximum lux that generated by headlamp is 2570 lux when sunny weather and 4760 lux when cloudy, also the receiver angle maximum is 10˚ and the transmitter to receiver maximum range is 3,20 meters when cloudy weather and 1,85 meters when sunny.

***Keywords**: V2I, V2V, Visible Light Communication, Internet of Things*