

ABSTRACT

VLC (Visible Light Communication) is a communications technology system that offers green and energy-efficient solutions from RF technology, and has good potential to be developed by bringing information using light modulation in the visible spectrum (400-700 nm) in principle used for lighting. Utilizing visible light provides solutions and becomes a necessity for developing wireless communications. [1]

Rolling door automatic is a garage door driven by a 600kg rolling door operator, commonly used in homes, market, and factories. The final project discusses how to open, stop, and close rolling door by using visible light communication (VLC) technology. Each test such as distance and reception angle from the photodiode light sensor, as well as weather conditions will be observed and evaluated in order to obtain the good results.

The rolling door is automatically tested using a customized flashlight using a 3 watt LED power lamp and a photodiode light sensor assembled in parallel. Placed outside the garage and inside the garage. The result of the maximum distance of photodiode reception outside the garage is 115 cm and the minimum distance is 15 cm with the receiving angle 15° . While in the garage obtained the results from the maximum distance of photodiode reception is 125 cm and the minimum distance is 15 cm with the acceptance angle 15° .

Keywords: Visible Light, Visible Light Communication (VLC), Light Transmission, rolling door operator, Receiver, Automatic garage, Rolling door