

ABSTRACT

Parking doorstop systems in various locations, on average using a cable or Bluetooth that is connected to a button or switch to open and close the parking door bar, and for those who use the ticket button to indicate the vehicle identification, ticket, then open the parking bar door becomes a problem challenging, like a queuing vehicle that is quite dense because of the parking system process that requires a long time.

Because the Parking system above cannot be relied on for a faster parking system, this final project has carried out research on the characteristics of several photodiode sensors on the market that have been used as receiver systems from visible light communication. The type of photodiode that has been used to receive text data from Visible Light Communication (VLC) is a 5 mm photodiode. From this study, the characteristics of each type of photodiode are used in the actual conditions inside and outside the room taking into account the influence of other light, so the results of VLC reception in the photodiode can receive text data at a considerable distance, which is more than 150 cm using Communication Pulse Width Modulation (PWM) from the sender with a frequency of 490 hz with an efficient time.

The results of the study and the selection of photodiodes in the receiver that the author has used to receive motor vehicle data is by receiving data from the sender with PWM modulation. On the side of the distance, the data is truly effective and the recipient responds well, namely 220cm during the day with lux 245 and 290cm at night with lux values of 163. Then the delay, the average value of data from the delivery is 0.28 seconds . As well as on the corner, the recipient's response at 50 to 90cm and data is effective at a 5 degree angle.

Keywords: VLC, Photodiode, Database, Parking dropstop.