**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 doorstop,

and for those who use the ticket button to record vehicle identity, issue a ticket, then open

the parking door challenging problems, such as the queue of vehicles which is quite dense

because of the parking system process that takes a long time.

Because the Parking system above cannot be relied on for a faster parking

system, in this final project research has been carried out regarding the characteristics of

several vehicle lighting lamps on the market that have been used as a visible light

communication sending system. The type of vehicle lighting that has been used to transmit

text data through Visible Light Communication (VLC) is a Light Emitting Diode (LED)

lamp front and rear of a motorcycle. From this study, the characteristics of each type of

motorcycle lighting used in the actual conditions inside and outside the room taking into

account the influence of other lights, so that the results of VLC implementation on the

motor LED lights can transmit text data at a considerable distance, which is more than 150

cm using Communication Pulse Width Modulation (PWM) with a frequency of 490 hz

with efficient time.

The results of research and selection of vehicle LED lights that have been used

by the author to transmit data or information using PWM communication with two 0 dutty

cycle bits of 40% and 1 bit of 80% by sending a number of bits 1 and 0 which are quite

optimally converted characters in beside the lighting function as a tool to transmit / send

data that is more than 150 cm apart. Then the PWM communication has a frequency of 490

Hz. The characteristics of recipients have been examined by other members of the team of

writers.

Keywords: VLC, vehicle lights, LED, environmental interference, PWM

iν