

ABSTRACT

Communication of visible light or Visible Light Communication (VLC) is a communication system for sending and receiving information through visible light. Light appears to offer several advantages namely not harmful to human health, and cheap. The use of visible light as a communication medium has been used for vehicles.

In this Final Project, a Monitoring System for Railroad Merger Based on Visible Light Communication has been designed by utilizing data transfer from LED, Photodetector. The Photodetector will be connected to the buzzer. Each train car will be installed LED, photodetector, I2C for LCD, LCD 16x2 and buzzer where it aims to monitor when the train is running.

From the results of the tests conducted, it shows that the 100% system successfully sends data information from the LED to the Photodiode, where at a distance of more than 5cm it cannot send information so that the buzzer sounds. As close as the distance between the LED and Photodiode, the value of Lux and Lumen obtained will be even greater. On a straight line the device can transmit data. Whereas on the turn path the device cannot transmit data due to the light emitting pattern of the LED.

Keyword : *Monitoring system, Railway, Visible Light Communication.*