

ABSTRACT

The Current technological advances are very helpful for activities carried out by humans, especially for the automotive world. One of them is the Engine Control Unit (ECU) which is the electronic control center of the car. The ECU can detect damage to the sensors that are in the car, besides that the ECU can notify some data to the driver via the dashboard in the car. In the case of platooning, accidents often occur due to sudden braking by one of the car driver so that there will be a lack of anticipation from the driver behind that car. Knowing the performance of the car in front of the platooning case is very important to increase the anticipation of the driver in order to reduce the risk of accidents.

This study aims to design a system that can read some parameters needed by the driver when performing platooning on the highway. Parameters that have been read later can be communicated between cars when platooning.

The test results obtained are Vehicle Speed and Throttle Position data from ECU can be read by ECU reader. Parameters that are read are data packaging and calculation of CRC values to determine the success rate of data packets when sent. The success rate of sending data packets using the Visible Light Communication (VLC) system at night is 99% at a distance of 800 cm with an angle of 0 °. While for sending data packets using infrared the success rate of a data package that reads 85% at the same distance and angle.

Keyword: *Visible Light Communication, ECU, Platooning, ECU Reading, Cyclic Redundancy Check.*