

## ***ABSTRACT***

The development of Visible Light Communication (VLC) technology has been developed in many places. Potentials such as fast switching capabilities, data security delivered, and the large number of LED installations in the community have been the driving force behind the development of this technology. So this technology is considered able to overcome the problems of radio spectrum limitations.

In this study developed a pair of VLC devices based on previous research. In previous studies VLC devices have not been applied to other technologies. So in this study, VLC devices will be integrated with Electrocardiograph (ECG) technology and act as a tool that transmits signal data. The VLC prototype consists of transmitters and receivers, using a half duplex communication system. In the transmitter used LEDs are arranged in arrays and use transistor type P-N-P as LED driver. While the receiver used a light sensor in the form of phototransistor.

In this study the test is based on the prototype's maximum distance to light illuminance. The illuminance that use in this test are 0lx, 15lx, 30lx, 100lx, and 200lx. Which the farthest distance is 450 cm in condition 0lx and the lowest distance is 200 cm in condition 200lx.

**Key Word :** VLC, LED, Transmitter, Receiver, Transistor