ABSTRACT

Visible light is no longer merely a lighting medium, but can be used as a medium for delivering information. With technology that utilizes visible light as a communication medium, one does not have to buy an access point to receive data, but only uses visible light from the only lamp. Thus the level of efficiency and mobility will be higher. Only by turning on the lights and data communications can be done. With technology like this one can create a communication by sending audio files (eg music, recordings, and more) and videos from one place to another in a room.

In this Final Project, Visible Light Communication (VLC) technology in communication system to be implemented is data transmission in the form of voice information using VLC system as transmission media. Parameter test of success is the distance sending of voice that is sent with case studies outside the room by analyzing the conditions that is the dark condition and the bright condition to get the voltage and power value. The design of the transmitter passes a frequency of 20-20,000 Hz. Measurements are made at an angle of 0^0, 45^0, 90^0, 135^0, 180^0, with a distance of 0 to 2 meters.

The result of this Final Project is able to send data in the form of voice information using VLC system as transmission medium. From the test conducted voltage and power values obtained in affect the distance, angle and sunlight. The value of the voltage obtained in the sun, this is caused by the value of the voltage at the dark conditions. The value of the voltage in the dark conditions is higher than the voltage value in bright conditions, this is caused at the time of measurement, sunlight will become noise. To get the value of power required voltage values Vin and Vout.

Keywords: LED, VLC,Photodioda,Voice Services, Outdoors