ABSTRACT

Visible Light Communication (VLC) is a technology that allows the sending of data information through visible light that will be received as a piece of information. In its implementation, a sensor can send information data using VLC in this technological era. One model of data transmission that is widely used in life is to use radio frequency or better known as wireless.

In this final project, a transmitter and receiver of data is realized through the transmission of light, this device consists of a lamp as an electrical converter to light, a photodioda as a converter of light to electric, and receiving data. Through the realization of this tool we can know that the transmission of data through light can occur can be used to transmit data. Data transmitted in this final project is the result of three sensor data namely temperature sensors, gas sensors, and fire detection sensors on the transmitter and on the receiver used firebase to monitor data.

From the test results produce parameter values such as distance with a maximum distance of the data is accepted either 45cm, 50cm of data is damaged and 55cm of data is not accepted, the variations in angles and distances show that at a distance of 10cm it can receive data well from an angle of 0° to an angle of 35°, a distance of 35cm and 40 cm at an angle of 10° the received data is damaged and at a distance of 45cm and 50cm at a 5° angle cannot receive data and as well as the sending speed parameters obtained at a baudrate of 2400 bps, 4800 bps and 9600 bps the data sent can be received well.

Keywords: Smart Kitchen, Sensor, Firebase, Visible Light, Visible Light Communication