ABSTRACT

Visible Light Communications (VLC) is a technology that allows a sender sends an information data via visible light will be accepted but the recipients of the information as a whole. In its implementation the maximum sensor distance can transmit information data using VLC still below standard, between 3cm to 6cm in the condition of the four sensors is active.

In this final project had been designed and implemented a system of delivery of data sensors on Smart Home using visible light, this tool consists of two side i.e. the Tx and the Rx. A component that is used on the sender side (Tx) is a lamp HPL and modules IRF520 MOSFET are connected with multiple sensors connected to the Arduino. While on the side of the receiver (Rx) component used is photodioda. The system is designed for monitoring and controlling household tools based on the situation and conditions in the surrounding area especially at home automatically.

From the results of testing that has been done shows that the system is 100% managed to provide the information the data transmitted by the sensor for the occupants of the House as expected. In addition, each sensors has a different accuracy, for example, motion sensor has an accuracy of 100%, rain detection sensor has an accuracy of 86%, temperature sensor has an accuracy of 96% and light sensor has accuracy of 100% when sending sensor data with a maximum distance of 15cm and has a delay in sending sensor data to the recipient of 5.88 seconds

***Keywords : Visible Light Communication, Smart Home, Sensor, NRF24L01* Module.**