

ABSTRACT

Communication technology is one of the technologies that have developed gradually rapidly, one of the developing communication technologies is Visible Light Communication (VLC). This technology is increasingly widespread because of the use of lights LED, as well as growing rapidly because of the need for innovation in the system wireless information delivery. VLC has the advantage of having speed as well as ease of application and use by the community.

The modulation technology used in this Final Project is On Off Keying - Non Return to Zero (OOK-NRZ). Both of these modulations were chosen because they have advantages in the simplicity of the system but have low data transmission capability. This research will be carried out in a closed room with a lot of interference inside and measuring 5x5x3 meters, with white LED lights and has a power of 45 W, and using a Line of sight (LOS) and Non line of sight (NLOS) channel with random orientation.

The results obtained from this Final Project are when the use of random orientation is carried out in the room, the user (receiver) can use the device in the position from $0 < x < 45^\circ$ at any point in the room, and when the use of LOS channels is carried out, the area in the right under the lamp are covered really good because the use of LOS channels does not get other interference from the room, while the use of NLOS channels gets the opposite results.

Keywords: VLC, OOK-NRZ, Coverage Area, Random Orientation, BER.