

## ABSTRACT

This final project conducts a study of future technologies in telecommunications that can be solution for network users. Optical communication system become communication systems that currently have rapid development. At present many are conducting research on this technology for future use, one of which is visible light communication (VLC) technology.

In this Final Project an experiment or analysis carried out on a visible light communication (VLC) system using On Off Keying modulation Non Return to Zero and make a comparison of several different Bit Rate values, such as Bit Rate 622 Mbit/s, Bit Rate  $2 \times 622$  Mbit/s, Bit Rate 2,5 Gbit/s and Bit Rate 10 Gbit/s simulated in a  $5\text{m} \times 5\text{m} \times 3\text{m}$  enclosed space with 1 *light emitting diode* (LED) at the coordination point (1,25;1,25;3)m.

The contribution of this Final Project can determine the effect of the comparison value of Bit Rate on the receiver to the communication coverage with the largest area coverage value is  $24,24\text{m}^2$  on Bit Rate 622 Mbit/s and the smallest value is  $13,12\text{m}^2$  on Bit Rate 10 Gbit/s. This simulation is carried out in a room with a large area of  $25\text{m}^2$

Keywords: VLC,OOK-NRZ,Bit Rate,LED, BER