

## ABSTRACT

*Visible Light Communication* (VLC) utilizes light as a medium of transmission in sending data information. In transmitting data it is necessary to pay attention to system performance performance. (*Code Division Multiple Access*) CDMA is a conventional access in wireless communication, but the number of users is limited because of the length of the distribution code.

This makes CDMA less optimal in working for *multiuser*. In the use of *multi-user*, there are two or more *users* who can work together using information at the same time. data transmission. Multichannel causes intersubcarrier overlapping so that it becomes orthogonal. This orthogonal nature benefits bandwidth efficiency in addition, its resilience in overcoming *Inter-Interference* (ISI).

The results of the OFDM *multiuser* transmission technique for VLC systems with *users* used are 1 *users*, 2 *users*, 3 *users* and 4 *users*.  $E_b / N_0$ . The results showed that to get BER  $10^{-3}$  in conducting a communication system,  $E_b/N_0$  of 16 dB is required for 1 *users*. This is the best result among 2, 3, 4 *users* where the experimental results show that more *users* are being used The higher the BER.

**Keywords:** *VLC, OFDM, BER, Multiuser*