ABSTRACT

Visible Light Communication (VLC) is one of the rapidly developing communication system technology developments, which use light appears as a medium of propagation. The development of communication through the medium of water is VLC for *tsunami* detection, which is believed to replace technology previously, radio frequency waves.

In this final project, we analyze the performance related to the VLC system with using a green and yellow LASER, with a wavelength of 560, 570 nm as a light source placed on the seabed and receiver above sea level. The difference in absorption and scattering values for each type sea water that has been determined is pure water, coastal water and turbid water.

In this study using Pulse Position Modulation modulation (M-PPM) with 1 level value, namely 4-PPM. The performance parameters used are bit error rate (BER) and signal noise to ratio (SNR). Based on this research, it can be concluded that sending data or information to detect tsunamis with a propagation distance of 8 meters using LA SER with a wavelength of 570 nm, using clear water at absorption value of 0.144 and using the scattering value in non-particle conditions in seawater, has better results compared to 5 scenarios other. The value obtained from considering the scenario is an SNR of 14,89461 dB, and a BER of 5.82649×10^{-5}.

Key Word : Visible Light Communication, LASER, M-PPM, Bit Error Rate, Signal Noise to Ratio