ABSTRACT

The development of technology for communication services is currently increasing, especially in the field of underwater communication services. As a result of these increased developments, data transmission is not only carried out on land but also under the sea.

As an archipelagic country, Indonesia has the potential for marine resources which is very important to know the existence of fish and other marine resources. So far, fishermen have been searching for fish based on their experience at sea and for underwater communication, they currently use Visible Light Communication (VLC) but the use of Ultra-Hight Bandwidth from the optical system is very vulnerable to water turbidity and a perfect line of sight is required when communicating.

In this final project, we decided to use radio signal propagation with Frequency Shift Keying (FSK) digital modulation techniques. The use of radio signals to communicate underwater has many advantages, including being able to transmit data in real-time and wirelessly using electromagnetic waves. The results obtained from testing in the air at a frequency of 200 KHz at a distance of 10 cm to 50 cm, 1 meter, 3 meters, 5 meters, 10 meters and 12 meters, there is an attenuation percentage of 13.33% to 55.33% and losses in the air of -61.5294 db to -19.9458 db when the transmitter and receiver are placed in Line of Sight (LoS).

Keywords: FSK Modulation, Attenuation, Free Space Loss (FSL)