ABSTRACT

Lack of monitoring and good communication between fishermen on the coast or sea with fishermen on land so that important information cannot be conveyed such as fish chart conditions, number of fish, water levels, and water currents. This is an obstacle that requires a solution so that all information can be conveyed correctly and accurately to the recipient on land. Furthermore, the LoRaWAN network design was carried out which can connect LoRa devices to the LoRa Gateway. The parameters used as a reference that the data can be received well on the LoRa Gateway side are Received Signal Strength Indicator (RSSI), Signal to Noise Ratio (SNR), Time on Air (ToA) and Delay. There are 5 experiments with different signal quality categories in this study. From the 5 experiments conducted, the signal strengths were different and the best signal value was in the first experiment with an RSSI value of -99 dBm, SNR 10.701 dB, ToA 7 s, and delay 16 s and the worst signal was in the fifth experiment with an average RSSI value of -104.1 dBm, SNR 9.115 dB, ToA 7 s and delay 17 s. Comparison of signal quality on the coast was conducted to distinguish the difference in signal strength in coastal areas and rice fields. From the comparison conducted, it can be concluded that the signal strength in rice fields is better than in coastal areas with the best value in the first experiment with an RSSI value of 72.66 dB, an SNR value of 11 dBm and the worst in the fifth experiment with an RSSI value of -86.74 dBm, an SNR value of 9.25 dB.

Keywords: *LoRa, The Floating Fish Platform, Device Tx, LoRa Gateway.*