

## **ABSTRACT**

*LoRa modulation is an important part of LoRaWan (Long Range Wide Area Network) communication technology. LoRa technology is widely used to communicate over long distances because of its very wide range of up to 15 kilometers and has low power consumption. LoRa communication technology is an alternative to the companion of IoT technology that is developing rapidly today. With LoRa, it makes IoT-based tools that can be controlled from a very long distance. LoRa is also effective in energy use due to its low power consumption. Therefore, LoRa is both used as a means of communication for remote monitoring and in remote areas that do not have a power source. LoRa can be combined with rechargeable and reusable Li-Ion batteries. In this study, we looked at the effect of the power possessed by the battery on the RSSI and SNR parameters produced by LoRa Communication and the use of the Buck-Boost Converter when the power possessed by the battery is low. The results of the study concluded that the LTC 3440 circuit affects voltage changes in the battery. The LTC 3440 circuit will still provide a voltage input of at least 3.1 volts to the transmitter. In the use of the Buck-Boost Converter, the output value obtained from RSSI improved by 2 dBm while the SNR value improved by 4.5 dBm, making the data received by the receiver more stable.*

*Keywords : LoRa, Power, Buck-Boost Converter, RSSI, SNR*