

## **ABSTRACT**

*Achievement of Low Power Wide Area Network (LPWAN) Long Range (LoRa) in sending data to meet needs of various sensors or End Nodes. This TA focuses on determining the path quality used for traffic so that optimal data communication with Received Signal Strength Indicator (RSSI) test parameters and Signal Noise Ratio (SNR). Fair Adaptive Data Rate Algorithm used for increasing the Received Signal Strength Indicator (RSSI) and Signal Noise Ratio (SNR). This test also counts the packet loss, delay, and throughput. This test is carried out as many as 50 times the shipment. The tested distance is 0 km, 1 km, 1.5 km and 2 km. LoRa operates at a frequency of 920.100 MHz using Industrial, Scientific, and Medical radio bands which are usually referred to as ISM Bands. The data transmission is Uplink, namely End Node sends data to the gateway using class A.*

**Keyword :** *LoRa, LPWAN, LoRaWAN, Wireless Communication*