Abstract

The government's attention to floods should be given more attention, especially in rural areas. Floods need to be monitored for changes in water levels that have potential flooding while considering the volume and accuracy of sensor data transmission. The problem is that flood monitoring is still an obstacle related to the area that must be monitored. In addition there are rivers that are still in the rural area and difficult to reach by the internet. Because of that, a tool for handling data transmissions over very long distances. This final project proposes a flood monitoring tool that can be used to monitor floods in rural areas even though rural areas are difficult to reach by the internet. The tool used is to use LoRa to communicate and microcontroller as processing data that has been obtained. Several experiments have been carried out using simulations to test how precisely the tool can monitor water levels in the river and river water flow. The results of testing the sensor functionality are successfully implemented and LoRa has an average RSSI of -95 dbm by testing broadcast loss time intervals of 1 second data transmission shows that at a further distance traveled the higher the risk of packet loss.