ABSTRACT

This project involves the design and implementation of a location tracking module using the STM32WLE5JC and Quectel L86-M33, focusing on the application of LoRaWAN technology for data transmission. The author was responsible for designing the PCB that integrates the LoRa-E5 and Quectel L86-M33 modules, as well as configuring and testing the LoRaWAN gateway and ChirpStack platform. The testing aimed to ensure communication stability and data accuracy, including signal range tests and platform integration. The results demonstrate a reliable and efficient location tracking system, even in areas with limited connectivity.

Keywords: LoRaWAN, GPS Tracker, STM32WLE5JC, Quectel L86-M33, PCB Design, Chirpstack