

ABSTRACT

PT. Indo Trans Teknologi is a company that providing logistics management and vehicle tracking services. Their hardware products offered tracking features and i/o ports extensions so it can be integrated with other devices. In sending data, this product relies on GSM signals as a delivering data. This is a burden because this product cannot be installed in areas where there are no GSM towers. Therefore, the role of LoRaWAN can be a solution when this tool must be installed in a place that is not reachable by GSM towers. The LoRaWAN system will use LoRa-E5-Hf chip as a microcontroller on the end-node, SenseCap M2 Gateway as a LoRaWAN gateway, and ChirpStack platform as a LoRaWAN Server. The result LoRaWAN has been successfully implemented using Chirpstack, the end-node can do uplink to Chirpstack, and by using the LoRa-E5-Hf chip and the SenseCap M2 gateway, data can be transferred 415m away in the city and office area.

Keywords: LoRa, LoRaWAN, ChirpStack, LoRa-E5-Hf, SenseCap M2 Gateway