Abstract

With the increase and development of technology needs, developers are competing to create more sophisticated tools, one of which is LoRa. The main advantage of LoRa compared to other existing tools is that it covers a considerable distance and saves energy. With this advantage, LoRa can be applied outdoors or indoors for a variety of needs, such as evacuation guidance tools in emergency situations inside buildings. Emergencies in building, especially fires, require electricty in the building to be turned off, making it difficult to evacuate victims who are still trapped, especially on high floors. In this situation LoRa is reliable because it can use energy from battery. From the results of the LoRa performance test at the Tokong Nanas Building in Telkom University prove, of the 100 data packages sent to the 5th floor with Spreading Factor 12, LoRa can receive 100% of data with 0% data error with *noise* mean >0. LoRa combined with MP3Shield can be used to give instructions to victims who are still trapped inside the building when an emergency occurs. This tool is placed near the fire extinguisher (APAR) and transmitter as an evacuation controller device placed outside the building (security post).

Keywords: Emergency Situation, LoRa, MP3Shield, Saving Energy