

ABSTRACT

Train is one of the public transportation media that is quite popular with the community because of good, comfortable services, and affordable fares. On the other side, there are still a lot of railroad crossings that do not have a doorstop security system that can prevent accidents. At this time to maintain a railroad crossing without a doorstop still using local residents to remind when a train crossed at that crossing. This encourages the implementation of the use of technology to build a railroad crossing warning system without radio-based NRF24L01 frequency beams with a frequency of 2.4 GHz and uses the Arduino Nano as a controlling microcontroller. Radio frequency is an electromagnetic wave that functions as a communication medium through the air. There are 2 pieces of devices used in this tool that function as TX and RX. From the results of testing the wireless module connectivity, obtained a maximum distance of communication as far as 700 meters. From this test, the farther distance between TX and RX will cause a large delay. The average distance from the mobile testing of this tool is obtained as far as 638.15 meters which then the tool will be active. In this tool TX (sender) have a functions to send information signals. And the RX (receiver) have a functions to receive information signals.

Keywords: Train, Radio Frequency, Arduino Nano, NRF24L01 Radio Module