ABSTRACT

RFID or Radio Frequency Identification is a method of identification by means of the so-called RFID tags or transponders to store and retrieve data remotely. Labels or RFID cards is an object that can be installed or incorporated in a product, animal or even human beings for the purpose of identification using radio waves. RFID tags consist of silicon microchip and an antenna. Labels are passive does not require power source, whereas active labels that require a source of energy to function.

Freeway or toll road which is often referred to was not entirely free from obstacles. Congestion that occurs on the highway mostly caused by the payment system is still conventional. Congestion can be reduced, even it is not impossible to remove. By leveraging the development of these technologies is by using a customer card that has been integrated with a passive RFID tag. Cards that have embedded RFID tags are passive, then no need to stop long to bring the card into the reader of the RFID, then the automatic toll payment has been made. And then bolt the door will open automatically.

This study was conducted to analyze the feasibility of a tool used in systems that will be made in the form of range of that reader read the tag with parallel and perpendicular position, the maximum speed required by the tag to be read by the reader. And of testing and analysis carried out found that the maximum range of that tag to the reader to the parallel position is 8 cm and with the upright position is 1 cm. And also the maximum speed of tags to be read by the reader is 14 cm / s or 0.504 km / hour.

Keywords: RFID, Toll Road, Automation.