

## **ABSTRACT**

*This tool is designed using an Internet of Things-based pulse detection system that can monitor a person's heart health condition remotely. The design of a heart rate detection system based on the Internet of Things uses several devices consisting of a pulse sensor, LCD and NodeMCU ESP8266 as a data processor and Wi-fi connection. Vital sign data will be displayed via LCD and Thingsboard platform. In this research, the average percentage of error from manual testing with testing using sensors is 1.28%. Although the system still has errors, the level of accuracy obtained by the system is still quite good, namely 98.72%. So it can be concluded that the designed tool can be used to measure the human pulse. As for the performance of the communication network, the delay value in the first test was 1119 ms, the second test was 795 ms, and the third test was 1147 ms. The throughput value in the first test is 0.89 packets/s, the second test is 1.25 packets/s, and the third test is 0.87 packets/s. Based on the TIPHON standard, the delay and throughput values obtained are quite bad and the packet loss value produced in this test is very good, namely 0%.*

*Keyword-component – Pulse, IOT, NodeMCU ESP 8266, Thingsboard*