Abstract

In the milk fermentation process parameters are found successful formation of a fermented dairy product. In general, the quality of a fermented dairy product is determined by the texture or viscosity, acidity (pH), and the content of flavor compounds [9]. As for obtaining a fermented dairy products such as yogurt with good quality should have a pH level of $\pm$ 4.5 [23]. As noted the impact of the pH acidity levels affect the taste and quality of fermented dairy products, therefore we need a pH monitoring system so that optimal acidity of fermented dairy products can be obtained. In the previous pH measurement we use the pH indicator paper but the accuracy of the paper result is still lacking because of the pH table that used for determine the result.

In response, the implementation is build and done for remotely pH monitoring system which can analyze the accuracy of the pH measurement system and also how the response time and throughput of the system is built. It is expected that with the implementation of this system can be an alternative to be applied in the implementation of wireless sensor networks in case studies measuring pH levels in fermented dairy products .

The results obtained sensors have an average difference of $\pm$ 0.6 to pH indicator results. The results of the RSSI average system ranges between -42 to -82 dBm so that the system can be implemented either at a distance of 1 to 15 meters. And for performance testing scenarios of response time and throughput significant changes to variable spacing and barrier walls .

Key words : pH, Zigbee, performance, acuration.