

ABSTRACT

Milk is a food with high nutritional value, where the content and composition of nutrients are almost perfect. In addition, milk is one of the best sources of animal protein compared to other foods. Quality control of pasteurized milk is needed to determine whether or not the milk circulating in the market is safe. Because, there are several possibilities that make pasteurized milk pasteurized milk can be contaminated by microorganisms.

This research studies how to use microstrip sensors to measure the quality of pasteurized milk sold in the market. The antenna is designed at a frequency of 2.4 GHz using one antenna as the S11 parameter and two antennas as the S21 parameter.

The results of measurements made for three consecutive days showed that the S11 and S21 values changed, indicating a change in the quality of the milk. The measurement results for the S11 parameter are close to -6 dB to -5 dB and for the S21 parameter are close to -47 dB to -50 dB. These changes are related to changes in the milk during storage. This research shows that microstrip sensors can be an effective tool for monitoring milk quality.

Keywords: *Microstrip, Pasteurized Milk, Product Quality, S11 Measurement, S21 Measurement*