Design a Flexible Microwave Sensor for Detection of Water Adulteration in Honey

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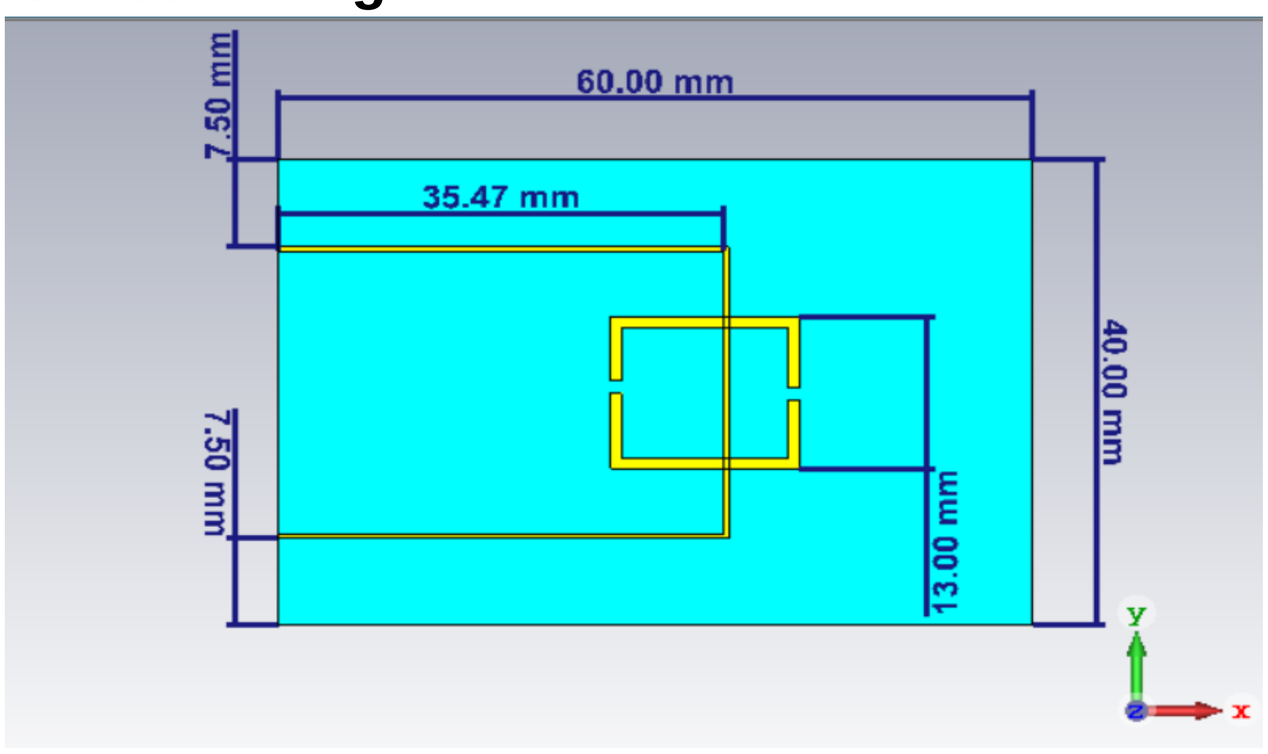
Abstract

The main purpose of our project is to produce a flexible sensor, measure its frequency response with a VNA device, and then convert it into a sensor that will measure the Adulteration of honey if it is close to the value we want.

Sensor Design in CST

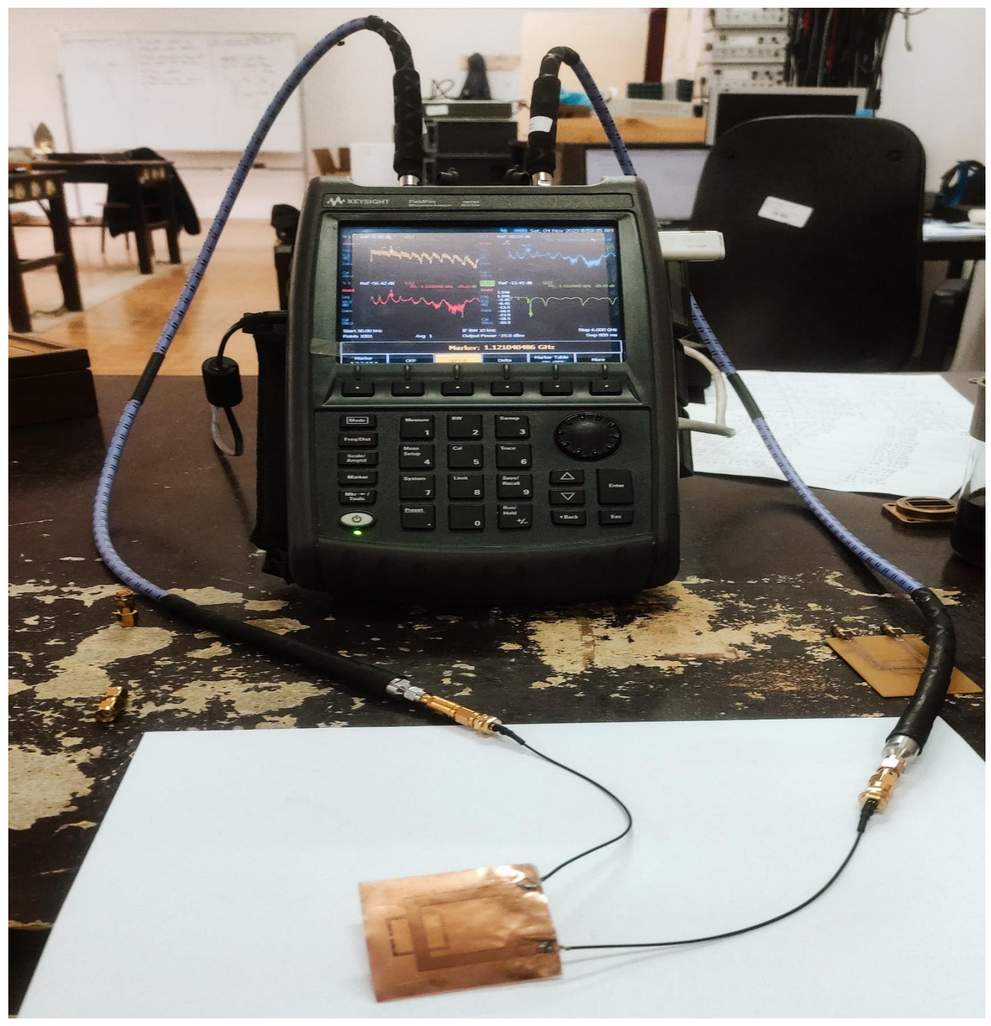


Flow Chart

Design in CST → Simulate → Produce → Testing → Measurement

Main Components

Flexible Copper,PVC Substrate,Flexible Copper Tape,Coaxial Cable,VNA Device



Goal Of the Flexible Sensor

This Project explores the innovative design and implementation of a flexible microwave sensor specifically designed for detection of water adulteration in honey. The concerns regarding honey production and the need for reliable quality control in the food industry have prompted the development of this kind of sensors.The sensor integrates advanced technologies to provide efficient solution for the purity measurement of honey.

Conclusion

The production of a sensor compatible with the desired resonance frequency has been achieved. By adding honey to the sensor, the purity level of honey can be determined on MATLAB due to the shift in resonance frequency. With this project, consumers will be able to determine the purity level of their honey.

References:

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