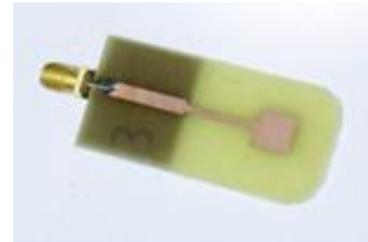


# Microwave resonator for non-invasive monitoring blood glucose system

## Description

Diabetes and its management have become a big problem both healthily and economically for lots of individuals, families and health systems. Diabetes treatment needs for the patients to monitor their blood glucose level, which is done with an invasive and uncomfortable procedure. Therefore, the suitable measurements are hardly ever made, and they are not often enough taken. As a consequence complications associated to the disease take place, which reduce the life expectancy of the individuals and its quality, as well as require hospital stays and treatments which suppose a high annual cost.

This invention proposes a non-invasive blood glucose level monitoring system, based on a double resonator circuit at microwave frequencies that measures the relative permittivity of the biological tissue on which it is placed. Using this device, the level of blood glucose can be determined in a reliable manner and without any need of getting a direct contact with the blood, it is comfortable for the user and ideally it should be able to continuously monitor the blood glucose level. Therefore, this system is an alternative method that improves the diabetes metabolic control in order to increase the quality of life of patients and would reduce the complications that often appear as well as their high associated cost.



## Technical Advantages

This device bets on a system that measures glucose **directly** in blood in a **non-invasive** way. The main technical advantages to determine the level of blood glucose over other options currently available are:

- The use of tongue as biological tissue to be monitored
- The working frequency range
- The signal processing performed

From the business point of view it is interesting to its low cost, which can make it very competitive in the market. Thereby, the innovative aspects introduced by this proposal are diverse and are focused on increasing the accuracy, specificity and reliability of existing technology.

## Status of technology development and intellectual property

The technology has been developed at laboratory phase. Its protection is currently undergoing PCT extension procedure.

## Contact

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