

Master 2016

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Embedded System for Testing the Form Stability of Drug Substances.

ABSTRACT - Masterthesis

The objective of the study is to develop a sensor system for investigating the form stability of a drug. Usually in the field of drug development its stability must be investigated with respect to many parameters such as temperature stability or form stability. During the production process the drug is shaken for a certain time period and observed whether its physical form is changing. The drugs are often based on proteins. If these proteins are changing their conformation during this process, they will crystalize.

My hypothesis is that the crystal presence in the liquid causes the change of the material conductivity. To sense this variation the liquid is used as the dielectric of an Interdigital-Capacitors, the value of which change according to the conductivity variation.

- Sensing methodology prove of concept and capacitive sensor characterization with bench instrument
- Design of the acquisition circuit
- Evaluation of the sensor performance