Contribution ID: **335** Type: **Oral Presentation**

An all printed LRC resonant circuit

Tuesday, 8 July 2014 14:20 (20 minutes)

Abstract content
   (Max 300 words)
Formatting &
Special chars

Passive devices such as resistors, capacitors and inductors are the essential components in resonant wireless communications. Integrating these components into a resonant circuit with reduced cost using a robust method is vital for wireless sensors and radio frequency identification (RFID) technology if the "internet of Things" is to become a reality. In this work prototype LRC resonant circuits, as well as the individual components, were fabricated on paper substrates using screen printing and characterized using impedance analyzer. An air core square spiral and a parallel plate design were used for the inductor and capacitor respectively. Equivalent circuit models for the individual printed components were investigated from the fits of impedance measurement data. The results show that the printed components are equivalent to conventional discrete components and that the inductance and capacitance values were reproducible for given designs of the components.

Apply to be
 considered for a student
   award (Yes / No)?

yes

Level for award
 (Hons, MSc,
   PhD)?

MSc

Main supervisor (name and email)
and his / her institution

Prof David Britton, david.britton@uct.ac.za
Prof Margit Harting, margit.harting@uct.ac.za
University of cape town

Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

yes

Primary author: Mr ASHEBIR, Getinet (UCT)

Co-authors: Dr MAGUNJE, Batsi (UCT); Prof. BRITTON, David (UCT); Prof. HARTING, Margit (UCT); Mr ZAMBOU, Serges (UCT); Dr WALTON, Stanly (UCT); Dr MANNL, Uli (UCT)

Presenter: Mr ASHEBIR, Getinet (UCT)

Session Classification: Applied

Track Classification: Track F - Applied Physics