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Call for papers **Special Issue on**

Chipless RFID, an emerging technology

The rapid development in wireless identification devices and subsequent applications is at the origin of intensive investigations in order to fulfill various constraints that can exist when implementing applications. RadioFrequency IDentification (RFID) is a well established technique for automatic data capture using reflected electromagnetic waves by scatters usually called tags or transponders. Last decades, roughly since the mid of 1960's, very effective IC based tags have been developed and implemented in numerous applications from the most simple like the Electronic Surveillance Article (EAS) to the more sophisticated like the Internet Of Things (IOT). However, these tags have several drawbacks, among them economic cost, security and privacy, electromagnetic and mechanic robustness. Therefore, several research projects have been developed toward the concept of Chipless RFID tags with no ICs, known also as RF barcode. Chipless technologies exhibit many advantages; they are fundamentally wireless and batteryless devices, can be fully passive technology, which potentially means infinite lifetime. More recently sensing properties of chipless device have been demonstrated, which open the door to new paradigms and ubiquitous applications. However, chipless technology is still in its infancy age and many scientific challenges are facing its development. Several groups worldwide are contributing to the development of Chipless RFID in terms of technology process, coding capacity, miniaturization, electromagnetic signature, sensing capabilities…

Given the importance and the enabling character of RFID technology, *Annals of telecommunications* is organizing a Special Issue on these topics, from the perspective of engineering science. This special issue on chipless RFID is twofold. First, review of the state of the art of the chipless technology and its main applications. Second, recent developments and novel and advanced concepts under consideration worldwide.

The topics of interest include, but are not limited to

- State of the art of RFID solution
- Mastering of electromagnetic signature of chipless tag
- Surface Acoustic Wave chipless tags
- Chipless solution in the THz domain
- Impact of regulation on RFID solutions
- Sensing capabilities of chipless tags
- Nanotechnology based chipless tags.

Guest Editors

- **Prof. Smail Tedjini,** Grenoble-inp/LCIS, Valence, France
- **Prof. Nemai Karmakar,** Dpt of Elect. and Comp. Systems Eng., Monash University, Australia

Papers must be written in English and describe original research not published or currently under review by other journals or conferences. Submissions should be sent according to the editorial procedure described in the instructions available at: http://www.annals-of-telecommunications.com/p_en_publish_6.html

Proposed schedule

- **Manuscript submission**: June 30th, 2012
- **Expected publication**: 2nd semester 2013