

## IET Science, Measurement & Technology Call for Papers

### SPECIAL ISSUE ON: Energy Efficient and Reconfigurable Transceivers

The beyond3G vision envisages higher data rates and multi standard radio interfaces to provide all users with a continuous seamless connection at any place, anytime and on any system. Therefore the large number of multimode devices, coupled with the increase in power requirements for future emerging handsets, raises significant challenges in terms of reducing energy consumption and reducing the amount of electromagnetic radiation in order to minimize the global impact of CO2 emissions. In fact, current state-of-the-art multi-standard devices have significant power requirements for maintaining two or more radio interfaces. It is expected that a dramatic increase in the energy consumption of 4G devices will make active cooling a necessity. Indeed, from the manufacturer's perspective, the issue of power consumption is becoming a key concern since there is a continuously increasing gap between the energy required by emerging radio systems and what can be actually achieved by: i) the evolutions of battery technology; ii) the progresses of scaling and circuit design; iii) the design of novel system level architectures; and iv) the development of novel thermal and cooling techniques.

Therefore, one of the biggest challenges for the future of wireless systems is the need to limit the energy consumption of battery-powered devices, with the aim of prolonging their operational time and to avoid active cooling. Without new approaches to energy saving, there is significant concern that 4G mobile users will be searching for power outlets rather than for network access, thus being confined to a single position and therefore losing their mobile capabilities.

Prospective authors are invited to submit original, unpublished research, that focuses on one or more of the following topics:

- design techniques for energy efficient transceiver power amplifiers
- energy efficient processing (DSP)
- energy efficient reconfigurable radios and software defined radios
- MEMS and applications
- MMICs and RFICs
- device and IC technology for power amplifiers
- system requirements and transceiver architectures
- matching techniques
- device and system level modelling
- active antennas
- integrated circuits and antennas
- linearisation techniques
- system integration (SoC, mixed-signal)
- device characterisation/modelling
- systems architectures and applications

All papers must be submitted through the journal's Manuscript Central system:  
<http://mc.manuscriptcentral.com/iet-smt>

#### Proposed publication schedule:

**Deadline for submission of papers:** 30 April 2011

**Authors to receive a 1st decision by:**

29 August 2011

**Final notification of acceptance:**  
30 January 2012

**On-line and print publication:**  
Early/mid 2012

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