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Special Issue on

"5G Hardware and System Technologies"

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The next generation of mobile network, the 5G, is expected to unlock many new services and to provide a platform for growth in many industries. The key requirements for 5G are to provide ubiquitous connections to billions of devices and to enable multi-Gbps data transmission aiming to achieve 1,000 times greater capacity compared to existing systems. To bring 5G to reality, there are countless challenges lying ahead, ranging from spectral regulation to system architecture through to network management. Many of the most difficult scientific challenges are located at the "Physical Layer", due to some fundamental limitations imposed by the nature of the electromagnetic energy used. As a result, significant research is required to enable advanced RF and microwave circuits and smart hardware implementation to achieve a working system, in particular within the transceiver front-end.

The aim of this Special Issue is to publish technical papers reflecting the most recent research and development in hardware and system technologies for 5G, particularly those using RF and millimeter wave circuits and systems and advanced signal processing algorithms in wireless transceiver design.

Topics of interest to be covered by the Special Issue include, but are not limited to:

- 5G RF/Millimeter-Wave Transceiver Architectures and System Design
- 5G Transceiver Front-end Modules and Mixed-Signal Integrated Circuits
- Large-Scale Phased-Array, Beamformer and MIMO Antennas for 5G
- High Efficiency, Broadband RF/Millimeter-Wave Power Amplifiers
- Millimeter Wave Signal Generation, Modulation and Frequency Conversion
- IoT Sensors, RFID Circuits/Chips, Energy Harvesting Techniques for 5G Applications
- Nonlinear Devices and Circuits Measurement, Characterization and Modeling
- Over the Air (OTA) Measurement and MIMO System Characterization Techniques
- Digital Calibration and Linearity Enhancement Techniques and Related Algorithms
- Circuits and Systems for Spectrum Leasing and Resource Sharing

We aim at a broad coverage of microwave circuits and systems, including modular integrated circuits, transceiver architectures, nonlinear modeling and system characterization, as well as digital signal processing algorithms and RF/microwave system applications. Submissions with a broad scope, such as high-level review and tutorial papers, are particularly welcome.

Authors should consult the link https://www.mtt.org/author-information-transactions for instructions on submission.

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