

IEEE Transactions on Microwave Theory and Techniques

Special Issue on

“RF Frontends for Mobile Radio Terminal Applications”

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More data and faster delivery of data in wireless communication systems were the driving forces for the implementation of new 3GPP cellular standards resulting in the adoption of multiband operation, Carrier Aggregation (CA), and MIMO. This results in RF modems with higher complexity and challenging RF requirements on the antenna interface components like switches, filters and amplifiers. Furthermore, highly integrated modules are replacing discrete analog component chains. They enable to handle the complexity of system design and provide a smaller footprint while reducing the power consumption and improving the RF performance.

The aim of this Special Issue is to publish technical papers reflecting the most recent research and application results related to RF frontends for mobile radio terminals, as well as to identify new challenges and opportunities.

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

- Multi-mode and multi-band RF modules for multi-standard/multi-mode systems
- Fusion of major transmit and receive RF functionality in single modules
- Advances in acoustic/micromechanical filter and multiplexer technology
- Multi-band adaptive and reconfigurable filters for handsets
- High efficiency, high linearity and mixed-signal handset PAs
- Ultra-low noise figure LNA technologies for mobile radio terminals
- Frequency synthesizers of multi-band and multi-standard radios
- Modeling techniques of antenna interface components: Nonlinearities, EM, multi-physics, circuit simulation
- High isolation and very high linearity switches
- Matching networks and impedance tuners for (adaptive) RF Frontends
- Packaging technologies and 3D system miniaturization; integrated passive devices (IPD), through silicon via (TSV), and system in package (SiP)

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