

IEEE Transactions on Microwave Theory and Techniques

Special Issue on

"Emerging RF Measurement Techniques and Applications"

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The rapid development of RF measurements on wafer, coaxial, and at system level is a driving force in advancing various microwave theory and techniques. Accurate measurements of RF properties have enabled numerous applications such as characterizations of material properties, devices, and circuits, indoor localization, sensing of biological signals, and non-invasive diagnosis. In recent years, advanced RF measurement techniques and applications have emerged taking advantages of micro- and nanofabrication, semiconductor technology, high speed control, and software configuration. Achievements in fundamental microwave measurement techniques are going hand in hand with the use of advanced measurements for practical problem solving to enhance operational efficiency in industry, and to improve quality of life.

This special issue aims at highlighting recent advancements in various microwave, millimeter-wave measurement techniques made by both industry and academia, and showcase promising applications in areas such as automotive navigation, wireless healthcare, diagnosis, and manufacturing industry.

Topics of interest to this Special Issue include, but are not limited to:

- Measurement of linear and non-linear networks
- Characterisation for PA linearisation and efficiency enhancement solutions
- Correction and de-embedding methods for network measurement
- Measurement for semiconductor device characterization and modeling
- Noise and noise parameter measurement methods
- Uncertainty considerations and validation of measurement systems
- Measurement challenges in fixture and probing/on-wafer environments
- Contactless probing for millimeter wave
- Microwave characterization of biological materials and living systems
- Radar sensing for automotive, biomedical, and industrial applications
- Radio frequency identification (RFID) based sensing and imaging
- Wireless sensors and wireless localization
- Microwave imaging and magnetic resonance imaging (MRI)

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