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NEW!

# RF and Microwave Circuits, Measurements, and Modeling

Edited by Mike Golio • HVVi Semiconductors, Inc., Phoenix, Arizona, USA

## Explore the Technologies and Applications at the Heart of Modern Wireless Communications

Highlighting the challenges RF and microwave circuit designers face in their day-to-day tasks, **RF and Microwave Circuits, Measurements, and Modeling** explores RF and microwave circuit designs in terms of performance and critical design specifications. The book discusses transmitters and receivers first in terms of functional circuit block and then examines each block individually. Separate articles consider fundamental amplifier issues, low noise amplifiers, power amplifiers for handset applications and high power, power amplifiers. Additional chapters cover other circuit functions including oscillators, mixers, modulators, phase locked loops, filters, and multiplexers.

*New chapters discuss high-power PAs, bit error rate testing, and nonlinear modeling of heterojunction bipolar transistors, while other chapters feature new and updated material that reflects recent progress in such areas as high-volume testing, transmitters and receivers, and CAD tools.*

The unique behavior and requirements associated with RF and microwave systems establishes a need for unique and complex models and simulation tools. The required toolset for a microwave circuit designer includes unique device models, both 2D and 3D electromagnetic simulators, as well as frequency domain based small signal and large signal circuit and system simulators. This unique suite of tools requires a design procedure that is also distinctive. This book examines not only the distinct design tools of the microwave circuit designer, but also the design procedures that must be followed to use them effectively.

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A volume in the  
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### FEATURES

- Discusses the technologies and applications at the heart of modern wireless communications
- Includes new chapters on high-power amplifiers, nonlinear modeling of HBTs, and BER testing
- Focuses on RF and microwave circuits, measurements, CAD, simulation, and modeling
- Details small-signal, phase, pulsed, waveform and noise measurements and calibration procedures for these measurements

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