

# RF AND MICROWAVE CIRCUITS, MEASUREMENTS, AND MODELING

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. With 532 illustrations, 71 tables, and 573 equations, **RF and Microwave Circuits, Measurements, and Modeling** highlights the challenges RF and microwave circuit designers face in their day-to-day tasks. Discussing the technologies and applications at the heart of modern wireless communications, the 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.

New chapters discuss handset and high-power PAs, magnitude and phase calibration, large signal network analysis as well as behavior modeling of power amplifiers. Other chapters feature new and updated material that reflects recent progress in such areas as linear and pulsed measurements, transmitters and receivers, and CAD tools.

## Features

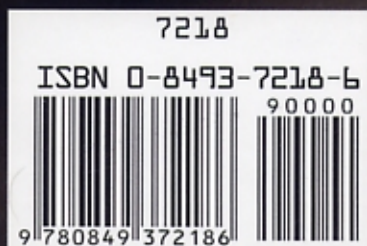
- Details small-signal, phase, pulsed, waveform and noise measurements and calibration procedures for these measurements
- Explores RF and microwave circuit designs in terms of performance and critical design specifications
- Discusses transmitters and receivers first in terms of functional circuit block, then examines each block individually
- Examines fundamental amplifier issues, low noise amplifiers, power amplifiers for handset applications and high power amplifiers
- Covers other circuit functions including oscillators, mixers, modulators, phase locked loops, filters and multiplexers



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