

# RF AND MICROWAVE APPLICATIONS AND SYSTEMS

Ubiquitous. That's a word commonly used when discussing cell phones, GPS navigation, and many other products that utilize RF and microwave technology. Items that used to be considered unusual have become a part of everyday life, so much so that most people can't imagine doing without them. Yet as essential as these items seem, soon they too will be obsolete and a whole new range of products requiring RF and microwave technology will be available. Helping you meet the needs of the future, **RF and Microwave Applications and Systems** covers a broad array of RF and microwave systems used for communication, radar, and heating applications. The book discusses the fundamentals, technologies, and applications at the heart of modern wireless communications. It contains 304 illustrations, 93 tables, and 372 equations in material contributed by leading experts from industry and academia.

In addition to new chapters on WiMAX 802.11g, fiber optic links, electronics for defense applications and ground penetrating radar, nearly every existing chapter features extensive updates and several were completely rewritten to reflect the significant changes in areas such as wireless PANs, satellite communication systems, RF and microwave avionics, system considerations, and underlying electromagnetic physics.

## Features

- Provides an overview of commercial communications systems including avionic, medical, and military applications
- Explores past, current, and emerging cellular systems, navigation systems, and satellite-based systems and includes coverage of voice and data systems
- Examines military electronics, avionics, and military and automotive applications of radar
- Discusses systems considerations including thermal, mechanical, reliability, power management, and safety
- Elucidates engineering processes through coverage of corporate initiatives, cost modeling, and design reviews
- Delineates the underlying physics of electromagnetic propagation and interference
- Covers RF/microwave energy used for therapeutic medicine



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