



## RF MEMS and Their Applications

By Vijay K. Varadan, K. J. Vinoy, K. A. Jose

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Microelectromechanical systems (MEMS) refer to a collection of micro-sensors and actuators, which can react to environmental change under micro-circuit control. The integration of MEMS into traditional Radio Frequency (RF) circuits has resulted in systems with superior performance levels and lower manufacturing costs. The incorporation of MEMS based fabrication technologies into micro and millimeter wave systems offers viable routes to ICs with MEMS actuators, antennas, switches and transmission lines. The resultant systems operate with an increased bandwidth and increased radiation efficiency and have considerable scope for implementation within the expanding area of wireless personal communication devices. This text provides leading edge coverage of this increasingly important area and highlights the overlapping information requirements of the RF and MEMS research and development communities.

- \* Provides an introduction to micromachining techniques and their use in the fabrication of micro switches, capacitors and inductors

- \* Includes coverage of MEMS devices for wireless and Bluetooth enabled systems

Essential reading for RF Circuit design practitioners and researchers requiring an introduction to MEMS technologies, as well as practitioners and researchers in MEMS and silicon technology requiring an introduction to RF circuit design.

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## **Editorial Review**

From the Back Cover

The growing requirement for wireless devices with increased functionality and reduced power consumption is driving the development of new RF micro-electro-mechanical systems (RF MEMS).

RF MEMS and their Applications sets out to address an increasing need for information by providing a vital overview of this emerging field.

This book:

- \* Presents an accessible review of MEMS devices and fabrication techniques.
- \* Discusses the development of RF MEMS switches and the attempts to reduce their actuation voltage.
- \* Outlines the design and development of RF MEMS based inductors, capacitors, filters and phase shifters.
- \* Covers the technology behind micromachined antennas.
- \* Describes integration and packaging techniques for RF MEMS devices.

Offering readers a guide to the development of RF MEMS components and systems, this unique reference will appeal to RF and microwave engineers and MEMS experts alike. Graduate students and researchers in the telecommunications and microelectronics field will profit from the detailed overview of current microfabrication techniques. Materials technologists and physicists working in industrial and academic research & development will also find this a valuable reference.

## **Users Review**

**From reader reviews:**

**Sondra Spencer:**

Are you kind of hectic person, only have 10 as well as 15 minute in your morning to upgrading your mind talent or thinking skill actually analytical thinking? Then you have problem with the book in comparison with can satisfy your limited time to read it because this time you only find publication that need more time to be examine. RF MEMS and Their Applications can be your answer mainly because it can be read by anyone who have those short extra time problems.

**Angel Sutton:**

In this period globalization it is important to someone to receive information. The information will make anyone to understand the condition of the world. The fitness of the world makes the information better to share. You can find a lot of personal references to get information example: internet, magazine, book, and soon. You can observe that now, a lot of publisher which print many kinds of book. The actual book that recommended to you personally is RF MEMS and Their Applications this guide consist a lot of the information from the condition of this world now. This book was represented how can the world has grown

up. The terminology styles that writer use for explain it is easy to understand. Often the writer made some research when he makes this book. This is why this book ideal all of you.

**Donna Vandyne:**

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**Kevin Blais:**

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