

Test and diagnosis of analogue, mixed-signal and RF integrated circuits: the system on chip approach

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Abstrak

Systems on Chip (SoC) for communications, multimedia and computer applications have recently received much international attention; one such example being the single-chip transceiver. Modern microelectronic design adopts a mixed-signal approach as a complex SoC is a mixed-signal system including both analogue and digital circuits. Automatic testing becomes crucially important to drive down the overall cost of next generation SoC devices.

Test and fault diagnosis of analogue, mixed-signal and RF circuits, however, proves much more difficult than that of digital circuits due to tolerances, parasitics and nonlinearities and therefore, together with challenging tuning and calibration, remains the bottleneck for automatic SoC testing.

This book provides a comprehensive discussion of automatic testing, diagnosis and tuning of analogue, mixed-signal and RF integrated circuits, and systems in a single source. The book contains eleven chapters written by leading researchers worldwide. As well as fundamental concepts and techniques, the book reports systematically the state of the arts and future research directions of these areas. A complete range of circuit components are covered and test issues are also addressed from the SoC perspective.

An essential reference companion to researchers and engineers in mixed-signal testing, the book can also be used as a text for postgraduate and senior undergraduate students.