Linear CMOS RF Power Amplifiers for Wireless Applications [Efficiency Enhancement and Frequency-Tunable Capability /

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Monografía

The RF power amplifier is a key component in a wireless transceiver and is considered by many as the design bottleneck in the transmitting chain. Linear CMOS RF Power Amplifiers for Wireless Applications addresses two fundamental aspects in RF power amplifier design for integration in CMOS technologies at 2.4, 3.7 and 5.2 GHz: efficiency enhancement and frequency agility. The well-known linearity(QA(B(3C(Befficiency trade-off is circumvented by employing an efficiency-enhancement technique called the dynamic supply RF power amplifier. The design of this system is described with great detail and compared with other efficiency enhancement techniques. The frequency agility is achieved with a novel impedance matching network based on coupled inductors. The design of a dual-band RF power amplifier is shown, with a careful analysis of the tunable matching network and its interaction with the rest of the circuit. The considerations and conclusions drawn throughout this book are based on simulation as well as measurement results from the integrated circuit prototypes carefully built and respecting best practices in RF design

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