Circuits and Systems for Future Generations of Wireless Communications

The explosive demand in wireless-capable devices, especially with the proliferation of multiple standards, indicates a great opportunity for adoption of wireless technology at a mass-market level. The communication devices of both today and the future will have not only to allow for a variety of applications, supporting the transfer of characters, audio, graphics, and video data, but they will also have to maintain connection with many other devices rather than with a single base station, in a variety of environments. Moreover, to provide various services from different wireless communication standards with higher capacities and higher data-rates, fully integrated and multifunctional wireless devices will be required. Multifunctional circuits and systems can be made profitable by a large scale of integration, elimination of external components, reduction of silicon area, and extensive reuse of resources. Integration of (Bi)CMOS transceiver RF front-end and analog baseband circuits with computing CMOS circuits on the same silicon chip further reduces costs of multifunctional mobile devices. However, as batteries continue to determine the lifetime and size of mobile equipment, further extension of capabilities of wearable and wireless devices will depend critically on the integrated circuits and systems solutions. The demand for multifunctional and multi-mode wireless-capable devices is accompanied by many significant challenges at system, circuit, and technology levels. In Circuits and Systems for Future Generations of Wireless Communications circuit and system solutions for multiple communication standards and future generations of wireless Download | **Size:** 17.47 MB