

Abstracts

Direct conversion radio for digital mobile phones- design issues, status, and trends

A. Loke and F. Ali. "Direct conversion radio for digital mobile phones-design issues, status, and trends." 2002 *Transactions on Microwave Theory and Techniques* 50.11 (Nov. 2002 [T-MTT] (Mini-Special Issue on the 2002 IEEE Radio Frequency Integrated Circuit (RFIC) Symposium)): 2422-2435.

Applications of direct frequency-conversion techniques have been rapidly getting attention of radio designers worldwide. This paper focuses on bringing out key implementation challenges of direct conversion receivers and transmitters targeted for different second- and third-generation mobile phone standards like global system for mobile communication, code division multiple access (cdmaOne and CDMA 2000), and wide-band code division multiple access. Techniques and tradeoffs to arrive at optimal implementation are highlighted. Some of the commercially available application-specific integrated circuits that are based on direct conversion architecture and their salient features are summarized.

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