

Abstracts

A low-IF RX two-point /spl Sigma//spl Delta/-modulation TX CMOS single-chip Bluetooth solution

C. Durdodt, M. Friedrich, C. Grewing, M. Hammes, A. Hanke, S. Heinen, J. Oehm, D. Pham-Stabner, D. Seippel, D. Theil, S. van Waasen and E. Wagner. "A low-IF RX two-point /spl Sigma//spl Delta/-modulation TX CMOS single-chip Bluetooth solution." 2001 Transactions on Microwave Theory and Techniques 49.9 (Sep. 2001 [T-MTT] (Mini-Special Issue on the 2001 IEEE Radio Frequency Integrated Circuit (RFIC) Symposium)): 1531-1537.

A new low-cost concept for a system-on-chip Bluetooth solution is proposed in this paper. The single chip includes all necessary baseband and RF parts to achieve full Bluetooth functionality and is implemented in a standard 0.25-/spl mu/m CMOS technology. The two-point modulation /spl Sigma//spl Delta/ fractional N phase-locked loop achieves a phase noise of -124 dBc/Hz at 3-MHz offset. The sensitivity of the embedded low-IF receiver is measured to be -82 dBm at a bit error rate of 0.1%. The power supply voltages for the digital and analog parts are internally regulated to 2.65 V. The maximum current consumption of the analog part is 60 mA.

[Return to main document.](#)