Abstracts

A W-CDMA zero-IF front-end for UMTS in a 75 GHz SiGe BiCMOS technology

H. Pretl, W. Schelmbauer, L. Maurer, H. Westermayr, R. Weigel, B.-U. Klepser, B. Adler and J. Fenk. "A W-CDMA zero-IF front-end for UMTS in a 75 GHz SiGe BiCMOS technology." 2001 Radio Frequency Integrated Circuits (RFIC) Symposium 01. (2001 [RFIC]): 9-12.

A zero-IF front-end consisting of an I/Q down-conversion mixer, broadband I/Q-generation, fully-integrated VCO, dual-modulus prescaler, low-noise baseband buffer and blocking filter is presented. Integrated in a 75 GHz f/sub t/ BiCMOS technology with 0.35 /spl mu/m CMOS it draws 33 mA from a 2.7 V supply. Extremely low local-oscillator leakage of -95 dBm together with a high IIP2 of 55 dBm results in very low DC offset values of less than 20 mV at the baseband output of the IC. The presented circuit is intended for application in a highly-integrated UMTS receiver.

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