Abstracts

An analog baseband chain for a UMTS zero-IF receiver in a 75 GHz SiGe BiCMOS technology (2002 [RFIC])

W. Schelmbauer, H. Pretl, L. Maurer, B. Adler, R. Weigel, R. Hagelauer and J. Fenk. "An analog baseband chain for a UMTS zero-IF receiver in a 75 GHz SiGe BiCMOS technology (2002 [RFIC])." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 267-270.

A zero-IF receiver for UMTS realized by using an advanced 0.35 /spl mu/m SiGe BiCMOS process with 75 GHz transit frequency is presented. The focal point is the analog baseband chain consisting of a low-noise buffer (LNB), a fully integrated channel selection filter, programmable gain amplifiers (PGA) and circuits to reduce the effects of DC-offsets. The whole chain is able to provide a voltage gain from -14 dB up to 50 dB in 1 dB steps and 43 dB adjacent channel selectivity. The total receiver current consumption for a supply voltage of 2.7 V is less than 45 mA, whereby the baseband chain consumes 15 mA.

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