

Abstracts

A flexible 10-300 MHz receiver IC employing a bandpass sigma-delta ADC

R. Schreier, J. Lloyd, L. Singer, F. Weiss, B. Sam, D. Paterson, C. Jacobs, J. Steinheider, M. Timko, J. Zhou and W. Martin. "A flexible 10-300 MHz receiver IC employing a bandpass sigma-delta ADC." 2001 Radio Frequency Integrated Circuits (RFIC) Symposium 01. (2001 [RFIC]): 71-74.

This 0.6 /spl mu/m BiCMOS IC mixes a 10-300 MHz first IF down to a 1.5-3 MHz second IF and digitizes the result with a bandpass sigma-delta ADC. The ADC achieves 88 dB SNR in a 10 kHz bandwidth, 75 dB SNR in a 200 kHz bandwidth and >90 dB of image rejection while consuming only 8 mA from a 2.7 V supply. The complete IC, which incorporates an LNA, mixer, active anti-alias filter, VGA, ADC, decimation filter and two synthesizers, achieves a noise figure of 11 dB and an IIP3 of -1 dBm with a power consumption of 120 mW.

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