A Switched-LNA in 0.18μm CMOS for Bluetooth Applications

Abstract:
A 2.45 GHz switched low-noise amplifier (LNA), intended for use in an integrated Bluetooth receiver, was implemented in a standard 0.18 /spl μ/m CMOS process. The LNA is optimized for a fully integrated mixer stage, with a mixer-input capacitance of 150 fF. The amplifier provides a switchable gain (textbarS/sub 21/textbar/sup 2/) of 7 dB/-17 dB with a noise figure (NF) of 3 dB in a 50 /spl Ω/m measurement environment. The power consumption is 7.6 mW from a 1.8 V supply. The die area of the LNA is 0.79 mm/sup 2/.

Stichworte:
0.18 micron, 1.8 V, 150 fF, 2.45 GHz, 3 dB, 7.6 mW, Bluetooth, Bluetooth applications, CMOS analogue integrated circuits, CMOS process, fully integrated mixer stage, integrated Bluetooth receiver, low-noise amplifier, radio receivers, RF CMOS technology, switched networks, switched-LNA, UHF amplifiers, UHF integrated circuits

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