A Multi-Band, Inductor Re-Use Low Noise Amplifier

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BACKGROUND

In recent years, multiple-input multiple-output (MIMO) systems have proven to enhance data rate and provide robust signal reception under a variety of environmental settings. However, its employment of multiple antennas in turn require multiple branches of RF front ends resulting in increased power consumption and increased component costs. Additionally, with the advent of multi-band, multi-standard, and multi-mode radios in conjunction with MIMO techniques, the number of required RF front ends can greatly multiply. These factors provide the motivation to develop circuit techniques to maximize the reuse of components for different bands.

TECHNOLOGY DESCRIPTION

The primary purpose of this novel design is to amplify an extremely sensitive received signal without degrading its s/n ratio too much. The main advantage of this topology is the efficient usage of shared inductors for all frequency bands of interest resulting in a significant reduction in chip area. This multi-band, inductor re-use low noise amplifier can be integrated in any multi-band integrated circuit receiver to provide low noise amplification while retaining superior performance.

APPLICATIONS

RF amplifiers, wireless communications

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	7,622,989	11/24/2009	2007-320

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OTHER INFORMATION

CATEGORIZED AS

» **Communications**
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