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AYRANCI et al.(10) **Pub. No.: US 2024/0223131 A1**(43) **Pub. Date: Jul. 4, 2024**(54) **LNA ARCHITECTURE WITH
CONFIGURABLE FEEDBACK FILTERING**(71) Applicant: **Murata Manufacturing Co., Ltd.**,
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(57)

ABSTRACT

A low noise amplifier (LNA) with configurable feedback that includes a filter circuit for improved stability is presented. The filter circuit includes an L-C tank. The filter circuit further includes a resistor in parallel with the L-C tank. The filter circuit is tunable/adjustable/programmable. The filter circuit further includes a capacitor selectively arranged in parallel with the L-C tank. The filter circuit is coupled to an input of the LNA via a series resistor. The filter circuit is coupled between the input and an output of the LNA via one or more switches. The LNA includes a first stage with a common-source transistor and a common-gate transistor. The LNA further includes a wideband feedback circuit coupled between the input and output of the first stage. The LNA includes a source-follower circuit. The source follower circuit is configurable as a second stage, or a feedback circuit, coupled to the filter circuit.

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