A Power-Efficient Noise Canceling Technique Using Signal-Suppression Feed-forward for Wideband LNAs

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Research Objective
Low Noise Amplifier (always working in RF circuit) → Achieve low power

Our Innovation
Using signal-suppression feed-forward to noise canceling amplifier

Conventional noise canceling technique
- Large signal
- $v_{in}$
- $M_i$ (Dominant noise)
- Cancel $i_{in,Mi}$
- High power

Proposed noise canceling technique
- Signal-suppression
- $v_a$
- $R_{f1}$
- $R_{f2}$
- $v_{in}$
- $A_{v,c}$
- Cancel $i_{in,Mi}$
- Low power

Verified low power & low noise with SPECTRE simulation