Abstracts

An S-band low-noise amplifier with self-adjusting bias for improved power consumption and dynamic range in a mobile environment

Wei Xiong and L.E. Larson. "An S-band low-noise amplifier with self-adjusting bias for improved power consumption and dynamic range in a mobile environment." 1999 Radio Frequency Integrated Circuits (RFIC) Symposium 99. (1999 [RFIC]): 193-196.

A discrete low-noise amplifier designed to operate in a mobile wireless environment is presented. The amplifier utilizes two cascaded GaAs FETs to achieve 25 dB gain and 0.9 dB noise figure at 2.5 GHz. An active bias control circuit automatically and continuously adjusts the drain-source currents of the FETs to maintain power consumption at 33 mW in nominal small-signal conditions, and to provide elevated input IP3 and reduced noise figure during jamming. A 15 dB improvement in input IP3 is achieved in large-signal operation.

❑ Return to main document.