Abstracts

A 3 V GaAs MESFET monolithic transmitter with cross-coupled common-source, common-gate pair linear mixer for cellular hand-held phones

Min-Gun Kim, Jae-Kyoung Mun, Jong-Won Lim, Chung-Hwan Kim, Chang-Seok Lee and Jaejin Lee. *"A 3 V GaAs MESFET monolithic transmitter with cross-coupled common-source, common-gate pair linear mixer for cellular hand-held phones." 1999 Radio Frequency Integrated Circuits (RFIC) Symposium 99. (1999 [RFIC]): 207-210.*

A linear mixer with cross-coupled common-source, common-gate pair FET's was proposed and its performances were verified in the GaAs MESFET monolithic transmitter for cellular hand-held phones. The transmitter showed measured conversion gain of 31.2/spl sim/31.6 dB at LO input power of -5/spl sim/0 dBm, 1 dB compression point of power gain was 9.5 dBm at output power, and two-tone (with offset frequency /spl Delta/f=442.5 kHz) third-order intermodulation distortion (IMD3) at a total output power of 0 dBm was to be -47 dBc with a 3 V of supply voltage and 43 mA of current consumption.

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