Abstracts

A FET transceiver suitable for FMCW radars

K. Yhland and C. Fager. "A FET transceiver suitable for FMCW radars." 2000 Microwave and Guided Wave Letters 10.9 (Sep. 2000 [MGWL]): 377-379.

We present a new FET transceiver suitable for frequency modulated continuous wave (FMCW) radars. The circuit obviates the need for dual antennas, a circulator, or a coupler for the separation of the transmit and receive signal paths. A FET is used simultaneously as an amplifier for the transmitted signal and as a resistive mixer for the received signal. At the optimum bias point, the circuit has an output power of 7 dBm and a conversion loss of 9 dB. Also, the noise performance is investigated. The circuit performance is shown to be insensitive to bias voltage variations. Furthermore, the transceiver's simple topology makes it suitable for commercial high-volume applications.

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