Abstracts

A balanced FET FMCW radar transceiver with improved AM noise performance

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A balanced FET frequency-modulated continuous-wave radar transceiver designed to suppress AM noise is presented. The transceiver utilizes the same device for output power amplification as for down-conversion of the received signal, thereby avoiding the need for separation of these signals. This makes the transceiver suitable for integration in monolithic-microwave integrated-circuit technology. A test circuit operating at 10 GHz was designed. The AM noise suppression is characterized, as well as output power and noise performance. Comparison with an unbalanced transceiver using the same principle of operation shows an improvement of 20 dB in AM noise performance. The output power is 14 dBm at 7-dBm input power.

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