Abstracts

Dual Function Mixer Circuit for Millimeter Wave Transceiver Applications (1985 [MWSYM])

A. Chu, W.E. Courtney, L.J. Mahoney, M.J. Manfra and A.R. Calawa. "Dual Function Mixer Circuit for Millimeter Wave Transceiver Applications (1985 [MWSYM])." 1985 MTT-S International Microwave Symposium Digest 85.1 (1985 [MWSYM]): 120-123.

A monolithic performing either function has been mixer circuit capable of a receiver or transmitter fabricated. The mode of operation is determined by applying either forward bias or reverse bias to a pair of mixer diodes. The circuit integrates Schottky-barrier diodes, bias lines, Ta/sub 2/0/sub 5/ blocking and by-pass capacitors, a radial line stub filter and a microstrip branch-line coupler. For the receiver function the unit exhibits a conversion loss of 6.5 ± 0.5 dB from 34 to 36 GHz. For the transmitter function the circuit directs the signal from the local oscillator port to the antenna port with an insertion loss of approximately 2 dB at 33.5 GHz over a bandwidth of 1 GHz.

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