Abstracts

A balanced self-oscillating mixer

N. Bourhill, S. Iezekiel and D.P. Steenson. "A balanced self-oscillating mixer." 2000 Microwave and Guided Wave Letters 10.11 (Nov. 2000 [MGWL]): 481-483.

A balanced self-oscillating mixer is proposed. It consists of a pair of AlGaAs/GaAs 10/spl times/45 /spl mu/m pHEMTs, oscillating at 7.53 GHz and uses the extended resonance effect. The circuit exhibits a conversion gain of 3.6 dB and reduces the second-order intermodulation products by 18.3 dB. The balanced nature of the oscillators also provides good LO to RF isolation of 40.5 dB when used as an upconverter. This approach relaxes the filtering requirements for generating single-sideband AM.

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