Abstracts

Design and modeling of uniplanar double-balanced mixer

Shau-Gang Mao, Kwann-Kaeo Chiou and Chun Hsiung Chen. "Design and modeling of uniplanar double-balanced mixer." 1998 Microwave and Guided Wave Letters 8.10 (Oct. 1998 [MGWL]): 354-356.

A novel uniplanar double-balanced mixer (UDBM) including coplanar waveguide (CPW)-to-coplanar stripline (CPS) baluns as well as CPS high-pass and low-pass filters is designed and implemented. This mixer is simulated by an equivalent-circuit model, and its measured and simulated results are compared. The proposed mixer has conversion loss ranging from 6 to 10 dB and LO-to-IF and LO-to-RF isolations greater than 30 and 20 dB, respectively, and also provides broader LO and IF bandwidths of 10-35 GHz and 0.15 GHz, respectively.

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