Abstracts

The cause of conversion nulls for single-diode harmonic mixers

J. Hesler, D. Kurtz and R. Feinsaugle. "The cause of conversion nulls for single-diode harmonic mixers." 1999 Microwave and Guided Wave Letters 9.12 (Dec. 1999 [MGWL]): 532-534.

Recent experimental measurements have found that for a single-diode harmonic mixer there exists a DC bias level for which the conversion to the IF goes to zero, with reasonable efficiency on either side of this null. The authors show that these nulls are caused by competition between the different mixing paths through which a signal can be converted from the RF to the IF. A simple small-signal analysis is used to give a clear insight into the mixing behavior behind the nulls.

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