Abstracts

A Planar Quasi-Optical Subharmonically Pumped Mixer Characterized by Isotropic Conversion Loss

K.D. Stephan and T. Itoh. "A Planar Quasi-Optical Subharmonically Pumped Mixer Characterized by Isotropic Conversion Loss." 1984 Transactions on Microwave Theory and Techniques 32.1 (Jan. 1984 [T-MTT]): 97-102.

By using a subharmonically pumped circuit in a quasi-optical planar mixer, we have found it possible to use an LO frequency of one-half the normal value with little added circuit complexity. This circuit shows conversion loss as low as 8.6 dB ± 2 dB at 14 GHz. Through the means of a newly defined quasi-optical mixer parameter called isotiopic conversion loss (L/sub ISO/), we find that performance of the mixer system degrades less than 10 dB from an RF input of 14 GHz to 35 GHz, which is more than twice the designed RF frequency.

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