

Abstracts

Short Millimeter Low Local Wavelength Mixer with Oscillator Power

W. Hant. "Short Millimeter Low Local Wavelength Mixer with Oscillator Power." 1985 Transactions on Microwave Theory and Techniques 33.2 (Feb. 1985 [T-MTT]): 135-142.

This paper discusses development, for the 240-GHz region, of whisker contacted diode mixers with LO powers between 10 and 50 μ W. Mixer requirements for low parasitic diodes, situated in high-embedding impedance circuits are described and appropriate RF and IF circuit designs presented. A capacitive post RF matching circuit for a full-height waveguide is developed with superior bandwidth characteristics at high impedance levels and greater ease of fabrication than usual matching circuits in reduced height guide. Corroborating experimental results are presented for an X-band model and for a 235-GHz mixer.

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