

Abstracts

A New Leaky Waveguide for Millimeter Waves Using Nonradiative Dielectric (NRD) Waveguide-Part II: Comparison with Experiments

H. Qing, A.A. Oliner and A. Sanchez. "A New Leaky Waveguide for Millimeter Waves Using Nonradiative Dielectric (NRD) Waveguide-Part II: Comparison with Experiments." 1987 Transactions on Microwave Theory and Techniques 35.8 (Aug. 1987 [T-MTT]): 748-752.

Accurate measurements were taken of the leakage constant of a leaky-wave structure based on nonradiative dielectric (NRD) waveguide in order to verify the theory derived in the companion paper, part I. Although the structure is intended for millimeter-wave use, measurements were made on a model scaled to X band ($\lambda = 3$ cm) to improve the accuracy of the experimental results. The measurements were taken by probing the electric near field strength along the longitudinal direction. Comparisons with accurate theoretical data are presented for different frequencies and geometrical parameters, and very good agreement is found between the measurements and the theory.

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