Abstracts

Probe Measurements of Guide Wavelength in Rectangular Silicon Dielectric Waveguide

H. Jacobs, G. Novick, R. Walter and C.M. LoCascio. "Probe Measurements of Guide Wavelength in Rectangular Silicon Dielectric Waveguide." 1977 MTT-S International Microwave Symposium Digest 77.1 (1977 [MWSYM]): 118-120.

A probe method for determining the guide wavelength within a dielectric (silicon) waveguide is presented. The experimental results are compared to previously measured experimental values obtained with resonant silicon dielectric cavities and to the theoretical values as determined by Marcatili's theory. There is good agreement between the two experimental methods. The theoretical predicted slope of guide wavelength versus frequency is nearly equal to the slope of the experimental curve. The theoretical and experimental values however, differ, particularly at lower frequencies.

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