Abstracts

A New Method for Measuring the Properties of Dielectric Substrate

G. Kent. "A New Method for Measuring the Properties of Dielectric Substrate." 1988 MTT-S International Microwave Symposium Digest 88.2 (1988 Vol. II [MWSYM]): 751-754.

The TE/sub 01/ mode in a cylindrical waveguide at a frequency below cutoff is used to probe a ceramic dielectric substrate located on the central plane between input and output coupling loops. Maximum transmission occurs at a frequency determined by the waveguide radius, the substrate thickness and the dielectric constant. The dielectric constant and loss tangent are obtained from the resonant frequency and the absorption bandwidth. The measurement is insensitive to the position of the subtrate in the gap between waveguide sections, and no intimate contact is required.

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