Abstracts

Nondestructive Measurement of Complex Permittivity for Dielectric Slabs (Short Papers)

M.C. Decreton and M.S. Ramachandraiah. "Nondestructive Measurement of Complex Permittivity for Dielectric Slabs (Short Papers)." 1975 Transactions on Microwave Theory and Techniques 23.12 (Dec. 1975 [T-MTT] (1975 Symposium Issue)): 1077-1080.

A method has been developed for the precise nondestructive measurement of the dielectric constant and losses of slab-like samples such as microstrip substrates, for instance. Basically, the test setup consists of an open-ended rectangular waveguide, the flange of which is placed in contact with one side of the dielectric material, the other one being backed by a metal plate. The waveguide can be either simply cut at its end, or terminated by an inductive or capacitive iris. The reflection characteristics or the resonance parameters are related to the real and imaginary parts of the permittivity by means of computer-generated charts or an optimization program.

❑ Return to main document.