Abstracts

Experimental Determination of Wavelength in Dielectric-Filled Periodic Structures (Correspondence)

E. Weissberg. "Experimental Determination of Wavelength in Dielectric-Filled Periodic Structures (Correspondence)." 1959 Transactions on Microwave Theory and Techniques 7.4 (Oct. 1959 [T-MTT]): 480-481.

Let it be required to determine the guided wavelength in a dielectric-filled periodic structure, such as a corrugated wall or serrated waveguide. The accepted traveling probe technique requires a slot in the broad wall of the guide and a groove in the dielectric material. Even if the errors introduced by these modifications could be tolerated, other effects render this technique unsuitable, One of these is a surface-wave effect which results in a measured wavelength higher than the one in the guide and lower than the free-space value. If the structure is dissipative, such as a serrated guide, more difficulties arise.

❑ Return to main document.