

Abstracts

Multiple dielectric slabs in waveguide cell

K.P. Thakur and A.G. Williamson. "Multiple dielectric slabs in waveguide cell." 2001 Microwave and Wireless Components Letters 11.3 (Mar. 2001 [MWCL]): 121-123.

The transverse resonance method is used to evaluate the effective dielectric constant of a material present in the form of multiple slabs that partially fill a waveguide cell. It is shown that the commonly-used linear relationship for the effective dielectric constant of a mixture of dielectrics holds good to better than 1% accuracy only when the slabs are, in general, of a width each less than 5% of the wavelength in the dielectric. Alternative mixture equations with empirical terms are also presented.

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