Abstracts

Dispersion characteristics of substrate integrated rectangular waveguide

Y. Cassivi, L. Perregrini, P. Arcioni, M. Bressan, K. Wu and G. Conciauro. "Dispersion characteristics of substrate integrated rectangular waveguide." 2002 Microwave and Wireless Components Letters 12.9 (Sep. 2002 [MWCL]): 333-335.

Dispersion properties of the substrate integrated rectangular waveguide (SIRW) are rigorously obtained using the BI-RME method combined with the Floquet's theorem. Our analysis shows that the SIRW basically has the same guided-wave characteristics as the conventional rectangular waveguide. Empirical equations are derived from the calculated dispersion curves in order to estimate the cutoff frequency of the first two dominant modes of the SIRW To validate the analysis results, an SIRW guide was designed and measured. Very good agreements between the experimental and theoretical results were obtained.

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