Abstracts

A Resonance Method for the Broad-Band Characterization of General Two-Port Microstrip Discontinuities

V. Rizzoli and A. Lipparini. "A Resonance Method for the Broad-Band Characterization of General Two-Port Microstrip Discontinuities." 1981 Transactions on Microwave Theory and Techniques 29.7 (Jul. 1981 [T-MTT]): 655-660.

The paper describes an experimental procedure suitable for broad-band characterization of two-port microstrip discontinuities of any topology. The resonance frequencies of a transmission-type cavity embedding the discontinuity under test and of a set of reference lines are measured and computer processed to obtain the scattering parameters the discontinuity itself. This method features extreme ease of application thanks to the limited number and simple topology of the required microstrip samples, as well as highly accurate and repeatable results. Furthermore, the scattering matrices obtained from the measurement are automatically normalized with respect to the wave impedances of the quasi-TEM modes in the outgoing microstrips. This makes possible an analysis and design approach not requiring the knowledge or calculation of microstrip characteristic impedances.

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