Abstracts

Full-Wave and Experimental Investigations of Resonant and Leaky Phenomena of Microstrip Step Discontinuity Problems with and without Top Cover

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In this paper we present both theoretic and experimental investigations of the resonant and leaky phenomena caused by microstrip step discontinuity with and without top cover. The rigorous two-dimensional and three-dimensional full-wave analyses are applied to obtain the dispersion characteristics of leaky behavior of the microstrip and the scattering parameters of the microstrip step discontinuity problems with symmetric and asymmetric excitations. The theoretic scattering analyses show that great transmission loss is closely related to the excitation of the first higher-order leaky wave in the strong leakage region when the microstrip is excited asymmetrically.

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