Abstracts

Radiation Characteristics of a Dielectric Slab Waveguide Periodically Loaded with Thick Metal Strips

M. Matsumoto, M. Tsutsumi and N. Kumagai. "Radiation Characteristics of a Dielectric Slab Waveguide Periodically Loaded with Thick Metal Strips." 1987 Transactions on Microwave Theory and Techniques 35.2 (Feb. 1987 [T-MTT]): 89-95.

A theoretical analysis is presented for the radiation characteristics of a dielectric slab waveguide periodically loaded with thick metal strips. A boundary-integral-equation formulation is employed to describe the fields in the grating layer. Through numerical calculations, we show that the leakage constant of the fundamental TM mode is much larger than that of the fundamental TE mode. This property will find application in mode filters for millimeter- and submillimeter-wave integrated circuits.

❑ Return to main document.