Abstracts

Design of surface-wave band-gaps for planar integrated circuits using multiple periodic metallic patch arrays

R. Leone and H.Y.D. Yang. "Design of surface-wave band-gaps for planar integrated circuits using multiple periodic metallic patch arrays." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 1213-1216 vol.2.

In recent years, there has been significant interest in complete surface-wave elimination (meaning in all-possible directions) with the use of periodic elements in integrated circuit structures. This paper presents the theory for guided surface-wave and leaky-waves of a multi-layer dielectric substrate with multiple planar periodic metallic patch arrays. This paper demonstrates that the use of multiple planar periodic patch arrays enlarges the surface-wave band-gap in all directions and provide more design flexibility as compared to a single planar periodic array. Several design examples are given. Design rules to obtain modeless (omnidirectional band-gap) substrates for integrated circuits are outlined.

❑ Return to main document.