Abstracts

Multiple-frequency-tuned photonic bandgap microstrip structures

M.A.G. Laso, T. Lopetegi, M.J. Erro, D. Benito, M.J. Garde and M. Sorolla. "Multiple-frequency-tuned photonic bandgap microstrip structures." 2000 Microwave and Guided Wave Letters 10.6 (Jun. 2000 [MGWL]): 220-222.

Photonic bandgap (PBG) structures in microstrip technology have been recently proposed as efficient Bragg reflectors. The periodic patterns employed until now were formed by a distribution of nonconnected holes (cermet topology) etched in the ground plane or drilled in the dielectric substrate, giving rise to single-frequency-tuned band reflectors. In this letter, a novel pattern that follows a continuous profile (network topology) is proposed to simultaneously reject multiple frequency bands. It is formed by the addition of various sinusoidal functions tuned at the design frequencies. Measurements performed for two-and three-frequency-tuned PBG microstrip prototypes show that multiple deep and wide stopbands can be obtained using these novel devices.

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