Abstracts

Radiation from ground plane photonic bandgap microstrip waveguides

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This paper presents an analysis of radiation of photonic bandgap (PBG) microstrip structures along with the pass and stopband behavior. Simulations are compared with measurements performed on a PBG microstrip waveguide with circular slots in the ground plane, designed to have a broad stop-band centered around 10 GHz. Radiation can be significant at some frequencies for a microstrip PBG and should be considered when designing filters, harmonic terminations and antenna feeds. Radiation of -3.4 dB was measured at 15 GHz relative to the input power in the passband. Measurement data agree well with simulations.

❑ Return to main document.