

31. 标题: Triple-band polarization-insensitive wide-angle ultra-miniature metamaterial transmission line absorber

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摘要: We report on the design, fabrication, and measurement of a triple-band absorber enhanced from a planar two-dimensional artificial metamaterial transmission line (TL) concept. Unlike previous multiband absorbers, this implementation incorporates fractal geometry into the artificial TL framework. As a consequence of the formed large LC values, the utilized element is compact in size, which approaches  $\lambda(0)/15$  at the lowest fundamental resonant frequency. For independent control and design, a theoretical characterization based on a circuit model analysis (TL theory) is performed and a set of design procedures is also derived. Both numerical and experimental results have validated three strong absorption peaks across the S, C, and X bands, respectively, which are attributable to a series of self-resonances induced in the specific localized area. The absorber features near-unity absorption for a wide range of incident angles and polarization states and a great degree of design flexibility by manipulating the LC values in a straightforward way.

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