

Wearable dual-band Sierpinski fractal PIFA using conductive fabric

Abstract

A novel planar inverted-F antenna (PIFA), incorporating a triangular Sierpinski gasket, is presented. The used conducting textile and polyester fleece allow easy on-body integration and simple practical fabrication. It shows dual-band response, combining a 16 % band at 2.45 GHz with an upper 12 % band at 5.2 GHz. The broadside gain is 3.1 dBi. Good agreement between calculated and measured data is observed.