Abstract

In this work, a compact and broadband and planar monopole antenna consists of one unit cell of epsilon negative transmission line (ENG TL) is proposed. A disc-shaped monopole antenna is implemented at 2.45 GHz resonance frequency for 2.4 GHz applications. A 50 Ω microstrip line is used as a feedline and element of the antenna has 0.1 0 of diameter. The size of the antenna is reduced to 0.32 λ₀ x 0.32 λ₀, and the -10 dB fractional bandwidth is improved to 12.8% due to using metamaterial transmission line. Prototype antenna is fabricated and tested, and the measured results are compared to the simulated results using Ansoft HFSS.

References


**Index Terms**

Computer Science

Wireless

**Keywords**

Compact antenna, Microstrip feedline, Epsilon negative transmission line, ZOR antenna