

150. Title: Negative Magnetic Response of Magnetic Metamaterial Elements in a High-Impedance Microstrip Line

Author: Lee, HJ; Yook, JG

Source: JOURNAL OF THE KOREAN PHYSICAL SOCIETY

Volume:58

Issue:4

Pages: 826-830

Publication year: 2011

Document type: Journal article (JA)

Abstract: In this paper, we present numerically and experimentally the negative magnetic response of magnetic metamaterial elements, i.e., single and double split-ring resonators (SRRs), excited by a high-impedance microstrip line at microwave frequencies. Both SRRs exhibit a good resonance peak, as well as a negative magnetic response. The corresponding negative bandwidths of the single and double SRRs are $\Delta f(S) = 800$ MHz and $\Delta f(D) = 400$ MHz, respectively. According to the obtained results, a single SRR is a more effective configuration for simultaneously realizing negative magnetic permeability with a higher Q value than a double SRR in the current system.