

Polarization Insensitive Absorber with Increased Bandwidth Using Multilayer Metamaterial

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Abstract : A wide band polarization insensitive metamaterial absorber with bandwidth enhancement in X and C band is proposed. The structure proposed here consists of a periodic unit cell of resonator arrangements in double layer. The proposed structure shows near unity absorption at frequencies of 6.21 GHz and 10.372 GHz spreading over a bandwidth of 1 GHz and 6.21 GHz respectively in X and C bands. The proposed metamaterial absorber is designed so as to increase the bandwidth. The proposed structure is also independent for TE and TM polarization. Because of its simple implementation, near unity absorption and wide bandwidth this dual band polarization insensitive metamaterial absorber can be used for EMI/EMC applications.

Keywords : absorber, C-band, metamaterial, multilayer, X-band

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