Abstract

Microstrip patch antennas are frequently used in many integrated circuits due to their compactness, planar nature and ease of integration. These antennas are modified according to the designer's application and specifications. One such modified antenna is slotted antenna. Slotted antennas are usually used to enhance gain, bandwidth and low VSWR. Increasing slots on the patch will enhance bandwidth with the degradation of gain. The problem of surface waves also arises with the increment in slots. Many structures like Electromagnetic Bandgap Structures (EBG), Defective Ground Structures (DGS) are proposed in order to reduce the surface waves. This paper presents the detailed design of double split ring slotted patch antenna mounted on the swastika EBG structure at 21.29GHz. The proposed antenna is simulated using Advance Design System-2016. Gain and bandwidth of the proposed antenna are observed to be 11.92dB and 3.2GHz respectively.

Index Terms
Keywords

Microstrip patch, split ring slot, swastika EBG, VSWR, DGS