

Abstract

In this work, the effect of adding a dumb-bell-shaped defected ground structure is used to suppress higher order harmonics of a small slotted patch antenna. This work is further extended to integrate a band pass filter (double-rejection bands) that simultaneously allows a central frequency and eliminates the lower and the outer frequencies. This is achieved by cascading the rectangular and the U-shaped slots in the ground plane. Measurement results on prototype antennas fully demonstrate the validity of the obtained structures