Abstract :

In this paper, Defected Ground Structure (DGS) Microstrip patch antenna using complementary metamaterial (C-MTM) is studied and analyzed. The aim of the study in such type of antenna is to achieve multiband application which is the demand of current technology. The rectangular patch antenna has been designed and simulated using CST Microwave Studio 2013. The simulations results are presented for a patch antenna with and without the Complementary metamaterial. The simulation results shows that antenna with complementary metamaterial etched in the ground plane is resonating at three different frequency; 1.88 GHz, 2.02 GHz, and 2.43 GHz with minimal return loss of-11.85 dB,-15.64 dB and-11.84 dB respectively. Whereas, the antenna without C. MTM is resonating at 2.4 GHz. The size reduction is achieved.