Abstract

This paper describes the effect of incorporation of G-shaped defected ground structure (DGS) on the performance of the simple microstrip patch antenna (MPA). The various antenna parameters such as Bandwidth (B. W.), Return loss (S11) and Voltage Standing Wave Ratio (VSWR) get much improved in proposed antenna with Defected Ground Structure. Comparison of the performance characteristics of the proposed antenna with simple MPA without defect has been presented by simulating the antennas with Finite Element Machine (FEM) based software High Frequency Structure Simulator (HFSS) software Version-13.0 package. Simulated results reveal that the bandwidth of MPA is increased by 598.4 MHz with very good return loss of -49.43 dB with G-shaped DGS. Proposed antenna finds its application in C-band such as in satellite communications, Wi-Fi etc.

References

- A. K. Skrivernilk, Zurcher O. Staub and J. R. Mosig, "PCS antenna design: The
Design of G-Shaped Defected Ground Structure for Bandwidth Enhancement


Index Terms

Computer Science

Wireless
Keywords
Defected Ground Structure (DGS)  Microstrip Patch Antenna (MPA)