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MULTIBAND GROUND PLANE BASED SQUARE RING FRACTAL ANTENNA FOR WIRELESS APPLICATION

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Abstract

An optimized design for Multiband ground plane based square ring fractal antenna with microsptip feed line is presented in this paper. The fractal geometry influences triple band and it is carefully investigated. These triple band antennas are used in GPS (L1), Wibro and ISM frequency bands. With Space filling and self similarity properties of fractal geometry the antenna possess considerable size reduction and Multiband operation as compared to the conventional microstrip antenna. Ground plane based square ring fractal antenna is designed as efficient scheme for generation of multi and wideband applications. The acceptable impedance bandwidth (return loss-10db) has been realized within the frequency spectra from 1.1-1,7GHz, 2.3-2.5 and 2.6- 2.9GHz and the total bandwidth 56.16% with acceptable radiation characteristics is achieved. The properties of the antenna such as return losses, radiation pattern and gain have been studied via simulation.

Keywords: Square Ring Fractal Antenna, Multiband Antenna, size reduction in square ring

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