Abstract

In this paper a new technique is used to enhance the band width with standard gain using HFSS software. The radiation pattern has been investigated in C and X band. The design of wideband antenna is very challenging when there is a trade-off in between gain and bandwidth. The reason to simulate this antenna in HFSS is because of its easy simulation and optimization of the various dimension of antenna. The design consists of a feeding probe and rectangular parallelepiped of different parasitic dielectric constant to surround the feeding probe. In this paper a new design of antenna is studied. The proposed structure is very simple and wide band. The wideband characteristics are observed in the frequency range of 5.18 GHz to 8.71 GHz. The above design has 10 –dB impedance band width of more than 65 %. Gain obtained in this design is average. But this gain is distributed over all band width. Maximum gain is at 7.78 GHz and equal to 6.34 dB
2. George W. Hanson, IEEE transactions on antennas and propagation, vol.41, no.12, December 1993.
6. Pekka M. T. Ikonen, Student Member, IEEE, Pekka Alitalo, Sergei A. Tretyakov, Senior Member, IEEE ‘On Impedance Bandwidth of Resonant Patch Antennas Implemented Using Structures with Engineered Dispersion’

Index Terms

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