A Design of Rectangular Patch Antenna with Fractal Slots for Multiband Applications

Volume 138 - Number 6

Year of Publication: 2016

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Abstract

The design of rectangular patch antenna with fractal slots is presented in this paper. For designing the antenna FR4 epoxy substrate with thickness 1.6mm and relative permittivity of 4.4 is used as substrate. The resonant frequency used for designing the proposed antenna is 2GHz. Three iteration of proposed antenna is designed and simulated by using HFSS V13 software and different parameters of antenna such as return loss, gain VSWR and radiation pattern are analyzed and observed. The simulated result shows that the designed antenna works on eight different resonant frequencies where the return loss is below -10dB with VSWR less than 2 which is the desired condition for the antenna to work efficiently for practical applications. The designed antenna can be used for different wireless applications in frequency bands such as L-band, S-band, C-band and X-band.

References

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Index Terms

Computer Science
Circuits and Systems

Keywords

Fractal slots, VSWR, HFSS multiband.