Abstract

Ehab Farouk Badran

Analysis Of Stacked Rectangular Microstrip Antenna

A stacked microstrip antenna with C-type feed is designed in order to enhance the bandwidth. The effect of the various parameters, such as the rotation feed angle ($\theta$), the variations of relative permittivity of parasitic patch ($\varepsilon_r$), the distance of the feed point from the center ($r$), and the separation between two stacked patches ($h_2$), have been discussed. Some designs give a good return loss under -40 dB and wide VSWR bandwidth, such as case#2 with $\varepsilon_r = 4.26$, case#4 with $r=6.2$ mm, case#5 with $h_2=6.8$ mm, case#1, and case#2 with $h_2=8.2$ mm. The simulated data are obtained using the IE3D simulator with method of moments (MoM) commercial code. An infinite ground plane has been considered for simulations however, and due to a software constraint, substrate dimensions are infinite.