Abstract
The compact rectangular microstrip antenna is realized by placing the shorting post or plate along the zero field line at the fundamental mode of the patch. The dual band antenna is realized by placing the stub on the edges of the patch. In this paper, first a compact shorted rectangular microstrip antenna is discussed. Further a dual band antenna realized by placing the stub on the opposite edge of the shorted rectangular patch, is proposed. The analysis to study the effects of stub on the dual band response in stub loaded antenna is presented. The stub reduces the resonance frequency of second order TM3/4,0 mode of the shorted patch and along with the fundamental TM1/4,0 mode yields dual frequency response. Further by studying the surface current distribution at the fundamental and higher order modes, the formulation in resonant length is proposed. The frequencies calculated using them agrees closely with simulated results with a % error less than 5% over the complete stub length range.

References


Index Terms

Computer Science

Wireless
Keywords
Rectangular Microstrip Antenna  Shorted Rectangular Microstrip Antenna  Compact Microstrip Antenna
Open Circuit Stub
Higher Order Mode