Abstract

Bandwidth of proximity fed E-shaped microstrip antenna has been increased by gap-coupling pair of rectangular slot cut rectangular microstrip antennas along its radiating edges. The patch and slot dimensions were optimized to cover 800 – 1200 MHz frequency band. In this paper, a detail analysis to study the effects of slot and patch dimension on the broadband response in desired frequency band for the gap-coupled configuration is presented. The pair of rectangular slots reduces the resonance frequency of orthogonal TM02 mode of the parasitic patch and along with the modes of the E-shaped patch yields broadband response. The variation in patch dimension of E-shaped patch increases the resonance frequencies of the modes of E-shaped patch which also optimizes the impedance for the broadband response. The slot also modifies the directions of surface currents at TM02 mode and re-orients them along patch length. Thereby it gives broadside radiation pattern over the complete bandwidth.


**Index Terms**

Computer Science

Antenna Systems
Broadband Slot Cut Gap-coupled Proximity fed E-shaped Microstrip Antenna

Keywords
Rectangular microstrip antenna  Broadband microstrip antenna  E-shaped microstrip antenna  Rectangular slot
Higher order modes
Proximity feeding