Abstract

The analysis of dual band double U-slot cut rectangular microstrip antenna is presented. The reported double U-slot cut rectangular microstrip antenna yields dual and wide band operation in 2100 and 5400 MHz frequency bands. To analyze the dual band response at above frequencies, the resonance curve plots and surface current distributions for equivalent rectangular patch and single U-slot and further double U-slot cut rectangular microstrip antennas were studied. The first U-slot primarily optimizes the position of TM01 and TM20 modes of the patch to realize dual and wide frequency response in 2100 MHz frequency range. Further the second U-slot optimizes the position and impedance at higher order modified modes like TM22, TM31 and TM02 modes to yields dual frequency response in 5400 MHz frequency band. Since the higher order modes are involved in dual band response, the cross polar levels
in higher frequency band are higher as compared to first frequency band. The present study gives an insight into the functioning of U-slot cut patches at their lower as well as higher order frequency bands.

References


Index Terms

Computer Science Communications
Keywords

- Rectangular microstrip antenna
- Dual band microstrip antenna
- U-slot
- Higher order mode