Abstract

Broadband suspended microstrip antenna on thicker substrate is realized by using non-contact L-probe feeding technique. The guidelines for selecting total L-probe length are not available in the reported literature. In this paper, an analysis of broadband L-probe fed variations of microstrip antenna like, circular microstrip antenna, annular ring microstrip antenna, rectangular microstrip antenna, E-shaped microstrip antenna and half E-shaped microstrip antenna, is presented. It was observed that, total L-probe feed length nearly equals quarter wavelength at the resonance frequency of equivalent patch. Further using this quarter wavelength approximation, L-probe fed rectangular and circular microstrip antennas were re-designed at different frequencies which results into the broadband response with formation of loop inside the VSWR = 2 circle. The comparison between two non-contact feeding techniques of microstrip
antenna, namely proximity feed and L-probe feed is presented. The two have similar performance in terms of bandwidth and radiation pattern, with proximity feeding technique to be the simplest method to be implemented in thicker substrates.

References

- Bhartia, B., and Bahl, I. J. 1980, Microstrip Antennas, USA.
Analysis of Broadband L-probe fed Microstrip Antennas


Index Terms

Computer Science     Communications

Keywords
Rectangular microstrip antenna   Circular microstrip antenna   Annular ring microstrip antenna   E-shaped microstrip antenna

Broadband microstrip antenna
L-probe feed