Abstract

The study of microstrip patch antennas has made great progress in recent years. Compared with conventional antennas, microstrip patch antennas have more advantages and better prospects. Different researchers have used different dielectric substrates to fabricate microstrip patch antenna. So a question arises that which dielectric substrate among the common substrates available gives better performance and what are the properties of the dielectric substrates which affects antenna performance. So a comparative study has been performed to know the dielectric properties of five different substrates which affect antenna performance. The aim of the study to design and fabricate five triangular microstrip patch antennas on five different substrates and analyze their radiation characteristics. The antenna is designed to work in X-band applications. The resonant frequency is taken to be 10 GHz and height of the dielectric substrate is kept constant i.e., 1.5mm for all the five antennas. This study will help for authors and researchers to get a fair idea of which substrate should be given preference and why for fabricating microstrip patch antenna.
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**Index Terms**

Computer Science  
Signal Processing

**Keywords**

Dielectric Substrate  
Microstrip Patch Antenna  
Triangular Patch  
X-band Radiation Characteristics.