Abstract

The paper proposes design of an array antenna with proximity coupled feeding at frequency 2.55 GHz. At first, a linearly polarised rectangular patch antenna is discussed. The basic rectangular structure is modified using proximity coupled feed to enhance the impedance bandwidth. Then, in order to introduce circular polarisation, the patch structure is further modified into Split Ring structure. An Array of these Split Rings is constructed to increase the directivity. Inter-element spacing of the array is further changed with 5mm offset and it is observed that the antenna turns in to a dual band antenna. The performance of Split Ring Array Antenna (SRAA) is investigated in terms of relevant parameters viz. impedance bandwidth,
gain, axial ratio and efficiency. The SR Array antenna exhibits qualitatively better performance and can be used for wireless LAN and WAN in MIMO environment.

Reference

3. Antenna Theory by C.A. Balanis.
5. The IEEE website.

Index Terms

Computer Science
Communications
Key words

Array Antenna
Split Ring Array

Antenna Array

MIMO

Wireless Local area Networks

Wide Area Network