Abstract

Now-a-days wireless communication has made the world a smaller than it used to be a couple of decades ago. With the evolving technologies emerging, a continuous and seamless connectivity with the artificial planetary objects such as Satellite and ground station has become a demand of time. Hence researchers are relentlessly working on to overcome the challenge of integrating a budget-friendly yet miniature in shape and multimode supporting antenna in wireless devices. Microstrip Patch Antenna, a technology invented in the 70s, can easily accommodate the entire requirement. But there are some trade-off in terms of performance and design. In this particular paper we analyzed the performance of a slotted Swastika Shaped microstrip Patch antenna with meta-material layer. The probe feeding technique and design structure provides the antenna to operate in five different frequencies. The antenna resonates at 9.11 GHz in X band and 12.56 GHz, 13.82 GHz, 14.71 GHz and 15.50 GHz in X band with return loss of -17.84 dB, -13.86 dB, -13.52 dB, -20.4 dB and -15.9 dB respectively of proposed antenna have been examined and discussed.
Performance Study of Swastika Shaped Microstrip Patch Antenna loaded with Meta-material Layer


Index Terms

Computer Science Communications

Keywords

Microstrip Patch Antenna (MPA) Rectangular Microstrip Patch Antenna (RMPA)
Electromagnetic (EM)

Meta-material