Abstract

Wireless networks are becoming universal day by day which gives freedom of movement and flexibility in wireless communication. This technology is developing and it has many possibilities in future. Different wireless applications or facilities are available in different frequencies. So, an antenna with multiple frequency bands, which is essential part of this system, has greater acceptance in this regard. In this paper, a dual band rectangular microstrip patch antenna (RMPA) has been proposed for WLAN and WiMAX application. Cutting U-slot inside the patch is used to obtain the dual band characteristics. The dimension of patch of the antenna is 42×26×3.2 mm³ where FR4 material has been used as substrate. The antenna operates in the 2.40 GHz WLAN range and 3.45 GHz WiMAX (3.2 – 3.8 GHz) range with return loss -23.3 dB and -20.2 dB respectively. It reaches 5.4 dBi gain and 6.8 dBi directivity at 2.4 GHz and 3.33 dBi gain and 8.1 dBi directivity at 3.45 GHz resonant frequency. WLAN is widely used for internet connectivity worldwide and the most important application offered by WiMAX Technology is business, consumer connectivity, and backhaul. Hence the proposed antenna is a promising one for practical WLAN and WiMAX devices.
References


Index Terms

Computer Science  Signal Processing
Keywords

Dual-band, WLAN, WiMAX, patch antenna, U-slot