

Dual-band, parabolic, slotted ground plane-directive antenna for WLAN applications

Abstract

Wireless local area network (WLAN) is one of the common terms used by researchers in the communications area that allows wireless, long-range communication. Antennas are used as a medium of transmission, and in recent WLAN applications, manufacturers have tended to use antennas which are small, have simple structures, are inexpensive, and can operate at several sets of frequencies. In this paper, a dual-band antenna with defected ground plane structure is introduced. With the proposed combination of slots in its radiating element and defected ground plane, the antenna can operate at two frequencybands 2.45 and 5.8 GHz and direct the main beam at 30° at these respective bands. Simulated results and measurements show good agreement in terms of return loss and radiation pattern.

Keywords

Dual band antennas; Wireless local area networks (WLAN); Parabolic