

SMALL RECTANGULAR PARASITIC PLANE AS PATCH ANTENNA GROUND PLANE FOR BROADBAND WLAN APPLICATION

Abstract

This paper proposed a microstrip patch antenna for broadband WLAN application. The antenna is based on an octagonal patch, which is simulated and analyzed by using Microwave Office (MWO) for WLAN applications. The designed antenna exhibited a broad 230 MHz bandwidth, by using a small parasitic plane as the ground plane. Specification of this antenna, printed over a thin FR4 substrate of dielectric constant $\epsilon_r = 4.7$, $\tan\delta = 0.019$ and thickness, $h = 1.6$ mm. Details of the proposed antenna design and simulation results for WLAN operations in the 2.4 GHz bands are presented and discussed.