

Polarization reconfiguration planar antenna radiating unidirectional pattern for WLAN applications operated at the center frequency of 2.45 GHz is presented. The proposed antenna consists of the square planar structure, three switches (six P-I-N diodes), transmission-line phase shifters of 0 and 90 degrees. The antenna can be changed among 5 different states: vertical, horizontal and 45deg-slant directions for linear polarization (LP), left-handed circular polarization (LHCP) and right-handed circular polarization (RHCP) by controlling the DC bias of 5 V and the current of 16 mA for the P-I-N diodes. The simulated and measured results show that the antenna can cover the impedance bandwidth from 2.400 GHz to 2.484 GHz and acceptable axial ratio and gain.

Unidirectional planar antenna

with reconfigurable polarization

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