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A Rectangular Inset-Fed Patch Antenna with Defected Ground Structure for ISM Band (Conference Paper)

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Abstract

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An operating center frequency of 2.45 GHz rectangular inset fed microstrip patch antenna with defected ground structures for ISM band applications has been presented in this paper. The return loss of the proposed antenna is -29.726 dB with impedance bandwidth for $S_{11} < -10$ dB is 2.441 to 2.462 GHz, that covers IEEE 802.11 g/n OFDM 20 MHz channel width. The antenna has a directional far-field pattern at the boresight direction of 0° with a good total antenna efficiency of -1.39 dB. The proposed antenna is light weighted, easy to fabricate and achieved good directivity gain of 7.04 dBi and VSWR of 1.06 at the resonant frequency that makes it suitable for WLAN applications. © 2018 IEEE.

SciVal Topic Prominence

Topic: Microstrip antennas | Antennas | rectangular microstrip

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Author keywords

Defected ground structure IEEE 80211 g/n OFDM Inset fed ISM band Patch antenna VSWR WLAN

Indexed keywords

Engineering controlled terms:

Antenna feeders Defected ground structures Defects Directional patterns (antenna) Electric impedance Microwave antennas Natural frequencies Orthogonal frequency division multiplexing Slot antennas Wireless local area networks (WLAN)

Engineering uncontrolled terms

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