



-Study of Elliptical Slot UWB Antennas with A 5.0-6.0GHz Band Notch Capability

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Abstract:

Two microstrip fed ultra-wideband (UWB) antennas with different band rejection techniques are presented in this paper. The designed antennas consist of a defected ground plane with an elliptical slot and two different radiator shapes. The first design is composed of a half circular ring radiator element while the second one uses a crescent shaped radiator. The radiators are fed by a 50- microstrip line with a tapered microstrip transition to ensure good impedance matching. The calculated impedance bandwidth of the proposed antenna ranges from 3 GHz to 14 GHz with relatively stable radiation patterns. To achieve band-notch characteristic in the 5.0-6.0 GHz WLAN frequency band, two different techniques have been implemented. The first technique uses a C-shaped slot etched in the ground plane while the other one uses another C-shaped slot in the feed line.

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