

ULTRA-WIDEBAND ANTENNA WITH WLAN AND WIMAX BAND-NOTCH CHARACTERISTIC

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ABSTRACT

- A symmetrical staircase design coplanar waveguide (CPW)-fed, Ultra-Wideband (UWB) antenna having measurements $40.0 \times 30.0 \times 1.60 \text{ mm}^3$ with 5.0GHz WLAN and 3.5 GHz WiMAX notch-band characteristic.
- In literature, only WLAN band is being notched, whereas, in our design, the WLAN, as well as WiMAX band, is being notched that has huge advantage in security aspect like jamming of 4G signals and broadband signals.
- The staircase pattern in the radiating patch of VWB antenna design, V-shaped slot resonator in the feed line and V-formed slot on the staircase patch are utilized to achieve the UWB, notch the 3.5GHz WiMAX band respectively.



EXISTING SYSTEM

- The antennas micro-strip patch antennas have been used to implement this technology because of their enchanting features as they are low cost, light weight and most importantly they are simplest in their geometry and designing .
- The major issues in the designing of UWB antennas which limit their performance are radiation losses, bandwidth and gain.
- Different design techniques have been implemented to minimize the limitations and to achieve the UWB using these patch antennas.



PROPOSED SYSTEM

- The frequency range for UWB systems approved by the FCC between 3.1 to 10.6 GHz will cause interference to the existing wireless communication systems, such as the IEEE 802.16 WiMAX system at 3.5 GHz (3.3-3.7 GHz) and the IEEE 802.11a wireless local area network (WLAN) system at 5 GHz (5.15-5.825 GHz).
- The proposed antenna has impedance bandwidth ranging from 2.00GHz-11GHz to cover UWB. GaAs substrate with dielectric constant of 12.9 and thickness of 1.6mm has been utilized to print the presented antenna



SOFTWARE REQUIREMENT

- Ansoft HFSS(High Frequency Structure Stimulator)
- CST

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