

Experimental Investigations of an Omni-directional Dielectric Resonator Antenna for UWB Systems

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Abstract : In this paper, a new dielectric resonator antenna(DRA) is presented and investigated for ultra wideband (UWB)applications. The UWB antenna has a U-shape and excited by amicrostip fed monopole. The proposed antenna was simulatedand designed using two electromagnetic simulators. To validateour design, a prototype antenna was fabricated and measured.From the measurements, the U-shaped DRA has a 117.6 %impedance bandwidth (from 2.94 GHz to 11.34 GHz, for returnloss below -10 dB, largely covering the UWB spectrum band).Moreover, the proposed antenna provides an omni-directionalradiation pattern. With these features, the present antenna canbe used in ultra-wideband wireless systems.

Keywords : Dielectric Resonator Antennas, Measurements, Radition Pattern, UWB applications.