A proximity fed annular slot antenna with different a band-notch manipulations for ultra-wide band applications, Progress in

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Abstract:

A proximity-fed annular slot antenna for UWB applica-tions with a band rejection using different techniques is presented. The proposed antenna provides an UWB performance in the frequency range of &asyum; 2:84 to &asyum; 8:2 GHz with relatively stable radiation parame-ters. Three different techniques to construct a resonant circuit for the proposed antenna are investigated to achieve the band-notch property in the band &asyum; 5:11 to &asyum; 5:69 GHz band which include the WLAN and HIPERLAN/2 services without degrading the UWB performance of the antenna. Three resonators are considered; a single complementary split ring resonator (CSRR), a complementary spiral loop resonator (CSLR) and a spurline slot. Furthermore, the band-notched resonance frequency and the bandwidth can be easily controlled by adjusting the dimensions of the resonator. The proposed antenna is simulated, fab-ricated and measured. The measured data show very good agreements with the simulated results. The proposed antenna provides almost om-nidirectional patterns, relatively flat gain and high radiation effciency over the entire UWB frequency excluding the rejected band.

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