

Performance Analysis of Curved U-Slot Patch Antenna with Enhanced Bandwidth and Isolation for MIMO Systems

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Abstract : The paper presents a compact tri band Curved U-Slot patch antenna with improved bandwidth and isolation characteristics. The proposed antenna excited by coaxial feed resonates at tri band of 2.8 GHz, 4.1 GHz and 5.7 GHz for VSWR ≤ 1.5 with an improved bandwidth of 99.7% and also for getting high gain antenna of 11.31 dB. A 2×2 MIMO is developed using the proposed antenna giving an excellent isolation of 28 dB between the two antennas. The simulation results of return loss, Mutual Coupling, Gain, VSWR, Surface Current Distribution and Electrical Distribution are presented. By keeping the substrate thickness constant over various dielectric constants, simulations were carried out using MATLAB® and HFSS (High Frequency Structure Simulator) software.

Keywords : performance analysis, curved U-slot patch, antenna with enhanced bandwidth, isolation for mimo systems

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