Dual Band MIMO Antenna Using a Decoupling Network for WLAN Application

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Abstract—— A dual band MIMO antenna using a decoupling network for WLAN application is proposed. The proposed MIMO antenna consists of two planar inverted F antennas and a decoupling network. In order to improve the isolation characteristic between the two radiating elements, a decoupling network was added at the feeding line of each antenna element. The proposed MIMO antenna has the isolation of about 20 dB at the lower band and over 18 dB at the upper band. It is observed that the antenna can cover 2.4/5.2 GHz WLAN operation, simultaneously. Design considerations and experimental results of the dual band MIMO antenna using a decoupling network are presented.

Keywords—— Multiple-input multiple-output antenna, Decoupling Network, planar inverted-F antennas, Isolation, WLAN