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(57) Abstract :
The present disclosure relates to the field of wireless communication. More particularly, the present disclosure relates to a 1×2 MIMO antenna (100) for 5G Communication at 27 GHz. Initially, a full ground patch antenna with transformer impedance feedline is designed on an FR4 substrate material. Then, to attain the resonance at 27 GHz mm wave band ground plane is etched with a rectangular slot. It tunes the antenna at 30 GHz, further rectangular patch is modified as T-shaped patch (102) and required band is attained. To achieve the MIMO characteristics, similar antenna is placed parallel to designed antenna (200). Mutual coupling between two radiators is below -20 dB. Furthermore, the designed antenna is deployed on the muscle layer, optimized and required results are obtained. Then, specific absorption rate (SAR) is simulated for 1-gram of tissue with input power of I mW. SAR value is within the safety limits is achieved.

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