

Multiband Frequency Reconfigurable Antenna for 5G Applications

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Abstract: *An MIMO system with an eight-element frequency reconfigurable rectangular slot antenna is presented, which can be tuned over a frequency band spanning 1 to 8 GHz for 5G applications. The operational frequency is 100 MHz. The ground plane has an E-shaped slot structure, and the reverse side of the substrate has a 50 microstrip line feed. The entire design is built on a FR4 substrate. The actual gain is 3.8 dBi. The simulation results show that the proposed antenna provides a good return loss response (for S11 less than 10 dB) across all three bands. Frequency Reconfigurability is achieved by using a Varactor Diode for a stable operation. The proposed antenna meets a number of commercial standards, including WiFi.*

Keywords: Slot Antenna, isolation, 8-port antenna, reconfiguration, 5G, varactor diode

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