

# Compact Directional Patch Antenna with Slotted Ring for LTE Frequency Band

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*Abstract*—A compact directional patch antenna is proposed. The antenna, operating in LTE frequency band, is designed on Taconic Ceramic ( $\epsilon_r = 10$ ). By loading the antenna with a slotted ring, the size of the antenna is further reduced. To verify its properties the antenna is simulated using CST Microwave Studio and the return loss response of a fabricated prototype with frequency is measured. A very good match between computed and measured reflection coefficient is obtained. Furthermore, the antenna is compact in size and its radiation pattern is directional, making it suited for arrays in LTE wireless communication systems.