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(57) Abstract :
 The demand for high data rate, good channel capacity, and reliability is always the primary area of concern in the modern era of wireless communication systems. The 5G mm-wave technology standards have the guts to deliver high data rates, low latency communications, and massive device connectivity. In this communication, a compact millimetre wave dual band om shaped slotted octagon patch antenna was presented for 5G applications. Here, the radiating patch was modeled by incorporating om shaped slot and fed using strip feeding technique. This printed radiating structure was mounted on one side of Rogers RT/duroid substrate (dielectric constant 2.2) with in dimensions of 6.8X6.8X0.8mm³ with respect to length, width and height. Plane metal ground with a rectangular slot was filled on bottom side of substrate. This embedded radiating structure was resonated in dual mm-wave wide bands, 27.24GHz-28.88GHz and 36.38GHz-38.14GHz. The 7.73 dBi and 6.55dBi were the maximum gains obtained over the both bands respectively. The efficiency greater than 80% was observed over both operating bands. The evaluated results show that, the proposed antenna capable to operate in the 5G NR n-260 and n-261 bands with significant bandwidth, gain and efficiency. Thus the antenna can be considered as a potential candidate for 5G mm-wave wireless communication systems. Keywords: 5G; dual band; mm-wave; slotted ground.

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