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(51) International classification	:H01Q 21/06, H01Q 1/38, H01Q 9/04, H01Q 5/20	(71) <b>Name of Applicant :</b> <b>1)Chitkara University</b> Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India Punjab India
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(57) Abstract :

A flexible four-port MIMO dual-band antenna system (100) for millimeter-wave communication comprising, a flexible dielectric substrate composed of Rogers RTDuroid 5880 material, four radiating patch elements disposed on a top surface of the substrate, each radiating patch element comprising, a circular patch being partially etched by an external circular slot of radius R of 1.36 mm to generate dual-band resonance, a microstrip feed line, a common continuous ground plane disposed on a bottom surface of the substrate, the ground plane matching substrate dimensions to achieve narrow-bandwidth, wherein the four radiating patch elements are spatially arranged with inter-element spacing, wherein the antenna system operates at dual millimeter-wave frequency bands first band (n260) ranging from 35.95 GHz to 38.44 GHz, and second band (n263), wherein substrate flexibility enables conformal bending up to 45° in both x-axis and y-axis directions while maintaining operational bandwidth at both frequency bands. FIG. 1

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