

(54) Title of the invention : EIGHT-PORT MIMO ANTENNA FOR IOT APPLICATIONS

<p>(51) International classification :H01Q 013800, H01Q 015200, H01Q 212800, H04B 070413, H04B 070600</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant :</p> <p>1)Chitkara University Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----</p> <p>2)Chitkara Innovation Incubator Foundation Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor :</p> <p>1)SHARMA, Manish Address of Applicant :Chitkara University Institute of Engineering & Technology, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----</p> <p>2)KUMAR, Ashwni Address of Applicant :Indira Gandhi Delhi Technical University For Women, Madrasa Road, Opposite St. James Church, Kashmere Gate, Delhi - 110006, India. Delhi -----</p> <p>3)KIKAN, Vaishali Address of Applicant :Indira Gandhi Delhi Technical University For Women, Madrasa Road, Opposite St. James Church, Kashmere Gate, Delhi - 110006, India. Delhi -----</p> <p>4)JAITLEY, Gaurika Address of Applicant :MU 60, Pitampura, Upper Ground Floor, Kothi, Delhi - 110034, India. Delhi -----</p>
--	---

(57) Abstract :

The present disclosure relates to an eight-port super wideband MIMO antenna on FR4 substrate for internet-of-things applications. The antenna is designed to operate across a broad frequency range, including multiple wireless standards such as GSM, 3G, 4G, and WiFi, making it versatile and suitable for various IoT devices and applications. The antenna design uses eight-port antenna elements to achieve MIMO technology, enabling it to transmit and receive data from multiple devices simultaneously, improving system capacity and throughput. The antenna exhibits excellent radiation efficiency, gain, and pattern characteristics, ensuring reliable and robust wireless communication in various environments and scenarios. The antenna has an Envelope Correlation Coefficient (ECC)<0.025, Directive Gain (DG)>9.995dB, Total Active Reflection Coefficient (TARC)<-40dB and Channel Capacity Loss (CCL)<0.30b/s/Hz in the entire operating band (2.85GHz-20.0GHz).

No. of Pages : 36 No. of Claims : 6