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(71)Name of Applicant :  
**1)Chitkara University**  
 Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

**2)Chitkara Innovation Incubator Foundation**  
**Name of Applicant : NA**  
**Address of Applicant : NA**

(72)Name of Inventor :  
**1)GEETANJALI**  
 Address of Applicant :Department of Electronics and Communication, CUIET, Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

**2)SHARMA, Rashbha**  
 Address of Applicant :Department of ECE, Thapar Institute of Engineering & Technology, Patiala, Punjab - 147001, India. Patiala -----

**3)KHANNA, Rajesh**  
 Address of Applicant :Department of ECE, Thapar Institute of Engineering & Technology, Patiala, Punjab - 147001, India. Patiala -----

(57) Abstract :

The present disclosure relates to a ‘W’ shaped multi-band MIMO antenna an antenna substrate (100) with parasitically placed metamaterial isolator MIMO antenna for internet-of-things applications. The antenna structure (100) is designed to operate across a broad frequency range, including multiple wireless standards any or a combination of, but not limited to 5G sub-GHz and millimeter wave range, basically 5G new radio applications making the antenna structure versatile and suitable for various IoT devices and applications. The antenna structure (100) is configured to use multi-band MIMO elements to achieve MIMO technology, enabling it to transmit and receive data from multiple devices simultaneously, improving system capacity and throughput. The antenna structure (100) exhibits excellent radiation efficiency, gain, and pattern characteristics, ensuring reliable and robust wireless communication in various environments and scenarios.

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