

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202311050472 A

(19) INDIA

(22) Date of filing of Application :26/07/2023

(43) Publication Date : 25/08/2023

(54) Title of the invention : ULTRA-WIDE BAND MULTIPLE INPUT MULTIPLE OUTPUT ANTENNA WITH TVC-EBG STRUCTURE

(51) International classification :H05K0001020000, H01Q0001520000, H01Q0001480000, H01Q0015000000, H01L0023552000

(86) International Application No :NA  
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

(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)THAKUR, Ekta**

Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

**2)JAGLAN, Naveen**

Address of Applicant :J.U.I.T, Wagnaghat, Solan - 173234, Himachal Pradesh, India. Solan -----

(57) Abstract :

The present disclosure relates to ultra-wide band (UWB) multiple input multiple output (MIMO) antenna (300) with TVC-EBG structure. The antenna (300) may include a ground plane (302), a radiating element (304) positioned above the ground plane (302), and an Electromagnetic Band Gap (EBG) structure (306) placed near the feed line (312) to create a stopband to block electromagnetic waves of certain frequency bands. The equivalent value of inductance and capacitance of the EBG structure (306) included in the antenna (300) can be increased by etching slots on the EBG structure (306) and by increasing the number of via (106).

No. of Pages : 38 No. of Claims : 10