(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :28/10/2023

(21) Application No.202341073520 A
(43) Publication Date : 02/02/2024

(54) Title of the invention : A WIDEBAND SIW CAVITY-BACKED ANTENNA WITH L-SHAPED SLOT FOR X-BAND APPLICATIONS

(51) International classification	:H01Q0013180000, H01Q0001380000, H01Q0021000000, H01Q0001500000, H01Q0021060000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Andhra University
Address of Applicant :Andhra University, Waltair, Visakhapatnam-530003, Andhra Pradesh, India. Visakhapatnam ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Anil Kumar Katta
Address of Applicant :Research Scholar, AU TDR HUB, Department of ECE, Andhra university, Waltair, Visakhapatnam-530003, Andhra Pradesh, India. Visakhapatnam ---------- ----------
2)Dr. Praveen Babu Choppala
Address of Applicant :Professor, Department of ECE, Andhra university, Visakhapatnam, Andhra Pradesh, 530003, India. Visakhapatnam ---------- ----------
3)Prof. James Stephen Meka
Address of Applicant :National Chair Professor, Dr. B. R. Ambedkar Chair, Andhra University, Visakhapatnam, Andhra Pradesh, 530003, India. Visakhapatnam ---------- ----------

(57) Abstract :
ABSTRACT: Title: A Wideband SIW Cavity-Backed Antenna with L-Shaped Slot for X-Band Applications The present disclosure proposes a wideband SIW cavity-backed antenna (100) with an L shaped slot (104) and a metallic via (106) for X-band applications. The wideband SIW cavity-backed antenna (100) is designed with the L shaped slot (104) utilizing a substrate integrated waveguide (SIW) cavity (102) to enhance the bandwidth. The introduction of the L shaped slot (104) perturbs the current distribution of the TE120 mode, resulting in the generation of two narrow bands such as 600 MHz (9.6 GHz to 10.2 GHZ) and 300 MHz (10.5 GHz to 10.8 GHz). The wideband SIW cavity-backed antenna (100) comprises a simple construction with usage of a single cavity, thereby overcome the fabrication difficulties. The wideband SIW cavity-backed antenna (100) utilises the micro-strip line 110 as the feeding technique, thereby overcome integration problems with planar circuits.

No. of Pages : 26 No. of Claims : 10