

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202041049820 A

(19) INDIA

(22) Date of filing of Application :15/11/2020

(43) Publication Date : 20/11/2020

(54) Title of the invention : A 20-180MHZ FREQUENCY BAND ELECTRICALLY TUNEABLE ANTENNA FOR RADIATION IMMUNITY TESTING

(51) International classification	:H01Q1/243
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(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)Mr.Durga Prasad Tumula
Address of Applicant :Assistant Professor, Department of ECE, GITAM Institute of Technology, GITAM (Deemed to be University), Visakhapatnam, Andhra Pradesh, India. Pin Code: 530045 Andhra Pradesh India

2)Mrs.A.Gayatri

3)Dr.G.S.K.Gayatri Devi

4)Dr.Sravana Kumar Bali

5)Mr.M.V.S.Ramprasad

6)Ms.Nupur Biswas

7)Mr.Y.Madhu Babu

8)Mr.K.V.S.N.Sai Krishna Mohan

9)Mr.Pradeep Vinaik Kodavanti

10)Mr.Ramesh Manikonda

(72)Name of Inventor :

1)Mr.Durga Prasad Tumula

2)Mrs.A.Gayatri

3)Dr.G.S.K.Gayatri Devi

4)Dr.Sravana Kumar Bali

5)Mr.M.V.S.Ramprasad

6)Ms.Nupur Biswas

7)Mr.Y.Madhu Babu

8)Mr.K.V.S.N.Sai Krishna Mohan

9)Mr.Pradeep Vinaik Kodavanti

10)Mr.Ramesh Manikonda

(57) Abstract :

The Electromagnetic Compatibility (EMC) is an essential part in today's society and there are more products around us that emit electromagnetic waves than ever before. To make sure that all these products function properly under all circumstances EMC testing is needed. One test that is conducted is radiated immunity testing. A susceptibility antenna is needed to perform immunity testing. The present invention disclosed here in is a 20-180MHz Frequency Band Electrically Tuneable Antenna for Radiation Immunity Testing comprising of: Signal Generator (101); Power Amplifier (102); Directional Coupler (103), and Anechoic Chamber (104); to test the different Electrically Tuneable Antennas in 20-180MHz Frequency Band. The invention presented here aims to show that a tuneable antenna could be used for immunity testing in the frequency band 20-180 MHz and in the future replace the current antenna, which is not tuneable, used at SAAB Support and Services EMC. A method called EZNEC+ was used on different antennas that were tested in the semi-anechoic chamber. Two antenna types showed better efficiency and reached lower in frequency than current antenna available. These antennas were a bowtie antenna and an x-shaped antenna, both extending in only two special directions instead of the normal three. The present invention provides strong E-field and a low VSWR to a bowtie antenna and an X-shaped antenna.

No. of Pages : 16 No. of Claims : 6