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(54) Title of the invention : DESIGN OF BIO INSPIRED TULIP FLOWER SHAPED 2X2 MIMO ANTENNA FOR 5G APPLICATIONS

(51) International classification	:H01Q0009040000, H01Q0001380000, H01Q0001480000, H01Q0001400000, H04B0017100000	(71) <b>Name of Applicant :</b> <b>1)Dr.R.Jothi Chitra</b> Address of Applicant :Professor, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti-601204, Tiruvallur District, Tamil Nadu, India. ----- <b>2)Suciilkumar.M.S</b> <b>3)Sivakkumar.E</b> <b>4)Lakshminarayanan.S</b> <b>Name of Applicant : NA</b> <b>Address of Applicant : NA</b>
(86) International Application No	:NA	(72) <b>Name of Inventor :</b> <b>1)Dr.R.Jothi Chitra</b> Address of Applicant :Professor, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India. ----- <b>2)Suciilkumar.M.S</b> Address of Applicant :Student, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India. ----- <b>3)Sivakkumar.E</b> Address of Applicant :Student, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India. ----- <b>4)Lakshminarayanan.S</b> Address of Applicant :Student, Department of Electronics and Communication Engineering, Velammal Institute of Technology, Panchetti- 601204, Tiruvallur District, Tamil Nadu, India. -----
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(57) Abstract :

[06] In this project, a Bio Inspired Tulip shaped 2x2 (Multiple input Multiple output) MIMO antenna for 5G applications is presented. The proposed antenna is designed to resonate at 4.5 GHz to 13 GHz frequency. The designed antenna has a wide bandwidth. The micro-strip patch antenna uses FR-4 as substrate which has the dielectric constant  $\epsilon_r = 4.4$  and the tangent loss of 0.02. It consists of two tulip shaped radiating patches present on the top of the substrate. Micro-strip feed line mechanism is used as a feed technique. The radiation characteristics such as return loss, VSWR, radiation pattern and gain are simulated and presented using Ansoft HFSS software. The prototype model of the proposed antenna will be tested using Network Analyzer, results will be compared between measured and simulated results. Accompanied Drawing [FIG. 1]

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