

**SCHOOL OF ENGINEERING & TECHNOLOGY**

**Department of Electronics Engineering**

**6th Semester**

**TRANSMISSION LINES AND ANTENNAS**

**4BEC602**

**A Report on**

**“An Analysis/Summary of the characteristics/Parameters of Square Wave Patch Microstrip Antennas”**

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**SCHOOL OF ENGINEERING & TECHNOLOGY**

**Department of Electronics and communication Engineering**

Certificate

This is to certify that Mr. YOGANAND D bearing Register Number 17BTEC043 6th semester has submitted a report in subject **Transmission Lines and Antennas**, code **4BEC602** prescribed by the CMR University, Bengaluru for the academic year 2019 – 2020.

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**Abstract**

This paper presents the design and simulation of 2.45 GHzsquare patch microstrip antenna in MATLAB software by using Simulink and antennatool boxes. The paper aims the a very short document on history of development of antennas for wireless communication systems, trends in the antennas technologies, merits and de-merits of microstrip patch antennas in various aspects and all in the introduction section. The paper highlights the design aspects of the rectangular microstrip patch antenna, the coding and the results of the designed microstrip patch antenna.

**Introduction**

Generally, an antenna is a static electronic device is a type of transducers, which converts an input of electrical energy into the output of radio wave energy i.e., electromagnetic energy and vice versa. The antennas are being used for transmitting and receiving electromagnetic wave receiver in many wireless communication systems. The definition of the antenna is from the standards of IEEE, “Antenna is considered as the means of transmission and reception of radio waves”. According to the new demand in the field of the communication system, all the components of the system needs to be small, portable in size and also which occupy less space in the board design.

The new trend in the field of communication systems of Government and Private sectors are seriously working on the development of cost-effective, lightweight, small size and low profile antennas with the capable of wide range of frequency coverage with high performance.

Deschamps has introduced the microstrip patch antennas in 1953. Baissinot and Gutton were got a patent by France in 1955. However, in the early year of 1970, the first practical implementation was done by Howell and Munsoon. By using the availability of good dielectric substrates the development has been accelerated during the 1970s. The edge fed patch and the probe fed patch were developed during the same research time intervals.

Microstrip patch antennas have more advantages than other antennas because of its merits like, very less in weight, simple structure, cost-effective device by means of fabricating by using a printed circuit board, low profile and they can fit for planar and non-planar surfaces.

The MSPA shape can be designed to have many geometrical shapes and dimensions. The few of the examples are dipole, triangle, square, rectangular, pentagon, hexagon, circle, ellipse, semi-circular ring.