

# **DESIGN OF ULTRA WIDE BAND ANTENNA**

## **A PROJECT REPORT**

*Submitted by*

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*in partial fulfilment for the award of the degree*

*of*

**BACHELOR OF ENGINEERING**

*in*

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**RAJALAKSHMI INSTITUTE OF TECHNOLOGY**

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**APRIL 2018**

## **BONAFIDE CERTIFICATE**

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**Branch & Semester : Electronics and Communication Engg. VIII Semester**

**Subject : EC6811 PROJECT WORK**

### **TITLE OF THE PROJECT:**

**DESIGN OF ULTRA WIDE BAND ANTENNA**

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The report on the project work submitted by the above students in partial fulfilment for the award of the degree of Bachelor of Engineering in ELECTRONICS AND COMMUNICATION ENGINEERING of Anna University, reported the work done by the above students and then evaluated.

**The University Viva-voce was held on \_\_\_\_\_.**

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## ACKNOWLEDGEMENT

We wish to express our hearty and sincere gratitude to our chairman **Dr.S.MEGANATHAN, B.E., F.I.E.**, for his sincere endeavour in educating us in his premier institution.

We wish to express our deep gratitude to our beloved chairperson **Dr.(Mrs.)THANGAM MEGANATHAN, M.A., M.Phil., Ph.D.**, for her enthusiastic motivation which helped us a lot in completing the project.

We express our thankfulness to **Dr.M.VELAN M.E., Ph.D.**, Principal, Rajalakshmi Institute of Technology for their kind support and the facilities provided to complete our work in time.

With profound sense and regards, we acknowledge with great pleasure **Dr.G.R.SURESH, M.E., Ph.D**, Head of the Department, Department of Electronics and Communication Engineering for his valuable suggestions and guidance for the development and completion of our project.

We express our sincere thanks to our guide **Mr.L.FRANKLIN TELFER, M.E., (Ph.D)**, Professor, Department of Electronics and Communication Engineering, for leading us on the project.

We extend our gratitude to **Mr.K.SIVAKUMAR**, Assistant Professor (SS), project Coordinator for their timely organization of reviews and their support throughout the project work.

We also thank our review committee members **Dr.R.RAJESWARI**, professor, **Dr.G.NIRMALA**, professor, Department of Electronics and Communication Engineering for his valuable suggestions and guidance for the development and completion of our project.

Finally, we express our deep sense of gratitude to our parents, all our faculty members, technical staff and all our friends for their constant encouragement and moral support.

## **ABSTRACT**

In this paper we propose an Ultra wide band antenna which operates on UWB range (3.1 to 10.6GHz). We use micro strip line feeding and rectangular shape as a base shape for patch. FR4 is used as a substrate material with thickness 1.57mm with copper cladding for a ground and patch as 0.035mm. Rectangular patch and defected ground structure is used to attain UWB range. The design is carried out using Computer Simulation Technology (CST) microwave studio 2014. The optimization is achieved by varying the length and width parameters. Simulation results show that the antenna works well in the UWB region and satisfies premier antenna parameters such as return loss, VSWR and radiation pattern. Finally, the proposed UWB antenna structure is fabricated and verified. The measurement shows a good agreement with the simulated results. Mainly used in the application like military, satellite, cognitive radio etc.

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## **LIST OF ABBREVIATIONS**

<b>UWB</b>	Ultra Wide Band
<b>CST</b>	Computer Simulation Technology
<b>VSWR</b>	Voltage Standing Wave Ratio
<b>FR-4</b>	Flame Retardant
<b>dBi</b>	Decibel over Isotropic
<b>dBd</b>	Dipole over Dipole
<b>IEEE</b>	Institute of Electrical & Electronics Engineering
<b>RF</b>	Radio Frequency