

Printed Monopole Antenna size miniaturization using Fractal Geometry and Partial Cutting Method for L band application

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MOHD HASSANI BIN ABBAS
FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM

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The Final year Masters Project is a major component of the Postgraduate degree course in Masters of Science in Telecommunication and Information Engineering. The main objective is to develop problem solving, analysis, synthesis and evaluation skills in the field of Telecommunication and Information Engineering. While working on the project, students should also be able to develop personal and social skills such as interaction, self - confidence and time management. The evaluation of the Final Year Masters Project indirectly provides the students with training in technical and communication skills as well.

This final project report is written as part of evaluation on the Final Year Project to ensure the standard and quality of the Final Year Masters Project. The purpose of the report is to present a clear logical report on the completed project work and to establish the significant outcomes of the work done.

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ABSTRACTS

This paper presents a study of Printed monopole Antenna design size miniaturization for L band application. Conventional antenna has been designed for performance and dimension size reference. Two steps of antenna design has been developed which is fractal geometry shape antenna and fractal geometry shape with partial cutting antenna to form the proposed antenna. Two miniaturization technique is applied to the proposed antenna. Each Fractal geometry and partial cutting techniques has been approached for each developed antenna respectively. In the study process, Conventional, Koch Fractal, Koch Fractal *Peano and Koch Fractal Peano with Partial Cutting antenna has been simulated. But only Conventional and Koch Fractal Peano with Partial Cutting antenna has been fabricated. Impedance matching and bandwidth performance of Conventional, Koch Fractal, Koch Fractal Peano and Koch Fractal Peano with Partial Cutting antenna has been compared through simulation and fabrication measurement. The proposed antenna and conventional printed monopole antenna dimension size has been compared. The proposed printed monopole antenna give the overall size is 16.00 x 43.06 x 1.67 mm is 39.88% smaller than conventional antenna.

TABLE OF CONTENTS

ITEM	CONTENTS	PAGE
	Title	i
	Approval	ii
	Declaration	iii
	Acknowledgement	iv
	Abstract	v
	Table Of Contents	vi
	List Of Figures	x
	List Of Tables	xiii
	List Of Abbreviations	xiv
1.	CHAPTER 1: INTRODUCTION	
1.1	Overview	1
1.2	Problem Statement	3
1.3	Objective	4
1.4	Scope Of Work	5
1.5	Project Limitation	5
1.6	Thesis Organization	6
2.	CHAPTER 2 : LITERATURE REVIEW	
2.1	Introduction	8
2.2	Directional Antenna	9

ITEM	CONTENTS	PAGE
2.3	Omni-Directional Antenna	10
2.4	Printed Monopole Antenna	11
2.5	Microstrip Antenna Performance	12
2.5.1	Return Loss, S_{ii}	13
2.5.2	Bandwidth	14
2.5.3	Radiation Pattern	15
2.5.4	Radiation Beam-Width	16
2.5.5	Gain	17
2.5.6	Efficiency	17
2.6	Microstrip Antenna Feeding Technique	18
2.6.1	Quarter-Wavelength Transformer Line Technique	18
2.7	Fractal Geometry Antenna	20
2.7.1	Koch Fractal Geometry	21
2.7.2	Giuseppe Peano Fractal	22
3.	CHAPTER 3 : DESIGN METHODOLOGY	
3.1	Introduction	23
3.2	Antenna Development	24
3.3	Project Flowchart	25
3.3.1	Project Flowchart Description	26
3.4	Microstrip Patch Antenna Design	27
3.4.1	Conventional Printed Monopole Antenna (Step 1)	28
3.4.2	Fractal Geometry Shape Antenna (Step 2)	30