

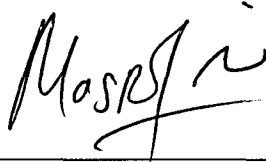
**TO STUDY THE EFFECT OF THE ANTENNA LENGTH BESIDES
THE POWER SUPPLY IN A SIMPLE MULTI BAND RECEIVER**

CHE MOHAMAD FAIZ BIN CHE NOH

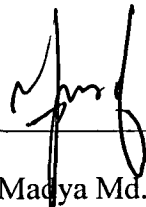
**Final Year Project Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Physics
in the Faculty of Applied Sciences
Universiti Teknologi MARA**

JANUARY 2013

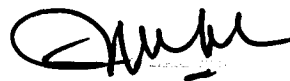
The Final Year Proposal entitle **EFFECT OF THE ANTENNA LENGTH BESIDES THE POWER SUPPLY IN A SIMPLE MULTI BAND RECEIVER** was submitted by Che Mohamad Faiz Bin Che Noh in partial fulfillment of the requirements for the Degree Of Bachelor of Science (Hons) Physics in the Faculty of Applied Sciences, and was approve by



Masnawi Bin Mustaffa
Supervisor
B. Sc. (Hons.) Physics
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor



Prof Madya Md. Yusof Theeran
Project Coordinator
B.Sc. (Hons.) Physics
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor



Prof Madya Ab Malik Marwan Ali
Coordinator of Programme
B.Sc. (Hons.) Physics
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

Date: 1 FEB 2013

ACKNOWLEDGEMENTS

Firstly, in the name of ALLAH S.W.T, the most merciful and the most Gracious, it is with deepest sense of gratitude to ALLAH S.W.T. who has given the strength and ability to complete this FINAL YEAR PROJECT proposal.

I would like to express my sincere gratitude and appreciation to my Supervisor, Mr Masnawi Mustaffa for giving me full explanation about this Final Year Project.

Special thanks to Bahruddin Ahmad Kanan (Assistant Science Officer) at Faculty of Applied Science UiTM Shah Alam for the guidance, concern, care that his was shown throughout the duration of my Final Year Project is running.

My gratitude is also extended to my family who have been most factors behind this project. I would like to thanks them for their advices, concern and cooperation and also their encouragement.

A special thanks for all my friends, who also have been a great help throughout for this project.

Che Mohamad Faiz Bin Che Noh
Faculty of Applied Science
University Teknologi MARA (UiTM)

ABSTRACT

Simple multiband circuit was made from TDA 7000 integrated circuit. TDA 7000 integrated circuit is a monolithic integrated circuit for mono FM portable radios, where a minimum on peripheral components is important. In order to study the effect of the antenna length to the voltage gain besides the power supply, two examples length of antenna $L=20\text{cm}$ and 40cm have been analyzed by connect the copper wire to the circuit, then observed on the oscilloscope by referred the shape of the sinusoidal graph. The power supply 2V to 10V was set up to measured the voltage gain and the output voltage produced by oscilloscope. The output voltage produced lower than input voltage where the input voltages are constant when frequency increased. The voltage gain measured by a ratio between output voltages over the input voltage in its unit in decibels (dB). When increased the power supply from 2V to 10V the voltage gain will increase. Such behaviors of electronics properties of this simple multiband circuit are suggested to be due to the decrease in length of antenna and increased the power supply.

TABLE OF CONTENTS

Title Page	Page
ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS	ii
LIST OF TABLES	iv
LIST OF FIGURES	v
LIST OF ABBREVIATIONS	vi
ABSTRACT	vii
ABSTRAK	viii
CHAPTER 1: INTRODUCTION	
1.1 Background of Study	1
1.2 Problem Statement	2
1.3 Objective	3
1.4 Significance of study.	3
1.5 Scope of Work	3
CHAPTER 2: LITERATURE REVIEW	
2.1 Multiband Radio Receiver	4
2.2 Radio Basics	5
2.3 RCL Theory	6
2.3.1 Series RCL Circuit	7
2.3.2 Parallel RCL Circuit	9
2.4 Voltage Gain	9
2.5 Common-mode Rejection Ratio	10
CHAPTER 3: METHODOLOGY	
3.1 Part/Component	12
3.2 Technical Specification	12
3.3 Apparatus	13
3.4 Flow Chart of Circuit Preparation	14
3.5 Circuit Description	15
3.6 Circuit Analysis	16