

**UNIVERSITI TEKNOLOGI MARA**

**SINGLE RING DUAL-BAND  
BANDPASS FILTER WITH MEANDER  
FOR WLAN APPLICATION**

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Dissertation submitted in partial fulfilment  
requirements for the degree of  
**Master of Science in  
Telecommunication & Information Engineering**

**Faculty of Electrical Engineering**

July 2014

## ABSTRACT

A single ring resonator dual-band bandpass filter using quarter-wavelength resonators suitable for WLAN applications is presented in this paper. Both side of ring resonator consist of quarter-wavelength parallel coupled lines. In further reducing the size of the filter, meander structure is applied to an existing design. Using different number of meander slots, a microstrip dual-band single ring resonator are applied and realized on FR4 substrate with thickness of 1.6 mm and dielectric constant of 5.4. The proposed design is to suite filter operating frequencies at 2.5 GHz and 5.2 GHz. Simulation is carried out in analysing the performance of the design using Advance Design System (ADS) and fabrication is done to validate the topology.

## **ACKNOWLEDGEMENTS**

I would like to express the deepest appreciation and thank to everyone who had contributed to the successful completion of this project. I would like to express my gratitude to my supervisor, Puan Zuhani Bte Ismail Khan on her invaluable advice, guidance and enormous patience throughout the development of this project. Without her supervision and constant help this project would not have been possible.

In addition, I would also like to express my gratitude to my loving family, parent and friends who had helped and given me encouragement. This dissertation would not been success without their emotional and unconditional support through hard time. Furthermore, special thanks to Universiti Teknologi MARA (UiTM) staffs especially laboratory assistants that helped me in carry out whole project.

# TABLE OF CONTENTS

	<b>Page</b>
<b>CONFORMATION BY SUPERVISOR</b>	ii
<b>AUTHOR'S DECLARATION</b>	iii
<b>ABSTRACT</b>	vi
<b>ACKNOWLEDGEMENT</b>	v
<b>TABLE OF CONTENTS</b>	vi
<b>LIST OF TABLE</b>	ix
<b>LIST OF FIGURE</b>	x
<b>LIST OF SYMBOLS</b>	xiv
<b>LIST OF ABBREVIATION/NOMENCLATURE</b>	xv
<b>CHAPTER ONE: INTRODUCTION</b>	
1.1 Preamble	1
1.2 Background	2
1.3 Problem Statement	3
1.4 Project Motivation	4
1.5 Aims And Objectives	5
1.6 Scope Of Project	5
1.7 Research Methodology	6
1.8 Flow Chart Of Project Activities	8
1.9 Thesis Organisation	10
<b>CHAPTER TWO: LITERATURE REVIEW</b>	
2.1 Introduction	11
2.2 Dual-Band Bandpass Filter	13

### **CHAPTER THREE: SINGLE RING DUAL-BAND BANDPASS FILTER**

3.1	Introduction	32
3.2	An Ideal DBSRR Structure	33
3.3	Simulation Results	35
3.4	Proposed Ideal DBSRR Filter Configurations	38
3.5	Fabrication Result	39

### **CHAPTER FOUR: SINGLE RING DUAL-BAND BANDPASS FILTER WITH MEANDER**

4.1	Background	41
4.2	DBSRR With <b>ONE</b> Meander Structure	42
4.3	DBSRR With <b>TWO</b> Meanders Structure	46
4.4	DBSRR With <b>THREE</b> Meanders Structure	49
4.5	DBSRR With <b>FOUR</b> Meanders Structure	52
4.6	DBSRR With <b>SIX</b> Meanders Structure	55
4.7	Fabrication Stage	58
4.8	Measurement Stage	59
4.9	Proposed DBSRR Filter With <b>TWO</b> Meanders Configurations.	62
4.10	Results Analysis And Discussions	63
4.11	Simulation Results	63
	4.11.1 Filter Characteristics Pattern	63
	4.11.2 Filter Size	67
4.12	Actual Fabrication Size	69
4.13	Coupling Effect Phenomenon	72