

UNIVERSITI TEKNOLOGI MARA

**DESIGN OF STACKED PATCH ANTENNA USING
LTCC TECHNOLOGY**

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

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is result of my own work, unless otherwise indicated or acknowledge as referenced work. This topic has not been submitted to any other academic institution or non-academic institution for any other degree or qualification.

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ABSTRACT

This project presents the design of Stacked Patch Antenna using the LTCC technology with aperture coupler as the feeding technique. The proposed design was simulated using CST Microwave Studio software based on operating frequency of 5.8 GHz. The advantages of LTCC technology over the PCB technology are observed and output from the result shows that LTCC technology is better than PCB technology with 88% improvement in term of gain and 75.9% improvement on the antenna size. A comprehensive study focusing on the optimization of the antenna performance was done to understand the effect of various dimensional parameters towards the antenna. The results were analysed and discussed in term of radiation pattern, gain, return loss, resonant frequency and antenna size.

TABLE OF CONTENTS

	PAGE
DECLARATION.....	ii
ABSTRACT.....	iii
ACKNOWLEDGEMENT.....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
LIST OF ABBREVIATIONS.....	xi

CHAPTER

	PAGE
1. INTRODUCTION.....	1
1.1 Background	1
1.2 Problem Statement	2
1.3 Objectives	3
1.4 Scope Of Work	3
1.5 Structure of the Project	4
2. LITERATURE REVIEW.....	5
2.1 Introduction	5
2.2 Basic Antenna Parameters	5
2.2.1 Radiation Pattern	5
2.2.2 Beamwidth	6

2.2.3 Bandwidth	7
2.2.4 Directivity	8
2.2.5 Gain	9
2.2.6 Antenna Efficiency	10
2.2.7 Return Loss	11
2.2.8 VSWR	11
2.2.9 Polarization	12
2.3 Microstrip Antenna	12
2.4 Feeding Techniques	14
2.4.1 Coaxial Probe Feed	15
2.4.2 Microstrip Feed	16
2.4.3 Proximity Coupling	18
2.4.4 Aperture Coupling	19
2.5 LTCC Technology	20
2.6 Patch Dimensions	21
2.7 Parasitic Patch	23
2.8 Summary	24
3. METHODOLOGY.....	25
3.1 Introduction	25
3.2 Flow Chart of Design Methodology	26
3.3 Design and Simulations	27
3.4 Design and Specifications	28
3.5 Summary	29