

CONTENTS

CHAPTER 1-INTRODUCTION

- 1.1 Microwave absorbers
 - 1.1.1 Application of microwave absorbers
- 1.2 History of microwave absorbers
- 1.3 Microwave absorbers characteristics
- 1.4 Projection of work

CHAPTER 2- MATERIAL SELECTION AND COMPOSITE PREPARATION TECHNIQUE

- 2.1 Introduction
- 2.2 Polyethylene
 - 2.2.1 Low density polyethylene
- 2.3 Why LDPE
- 2.4 Some basic properties of polymers and fillers
- 2.5 Weight mixing ratio of dielectric and magnetic Composite material
- 2.6 Material preparation technique for LDPE Composite
- 2.7 Flowchart for material preparation

CHAPTER 3- PHYSICAL AND MORPHOLOGICAL STUDIES ON THE LDPE-Ti-Fe-C COMPOSIT

- 3.1 Introduction
- 3.2 XRD studies
- 3.3 Discussion

CHAPTER 4- MICROWAVE CHARACTERISATION

- 4.1 Introduction
- 4.2 Microwave measurement set up
- 4.3 Techniques for measurement of complex permittivity
 - 4.3.1 Cavity resonator technique
 - 4.3.2 Q factor measurement of the cavity
 - 4.3.3 Complex permittivity measurement
- 4.4 Experimental determination of Q, ϵ' and ϵ''