

CONTENTS

APPROVAL PAGE.....	i
SELF DECLARATION AGAINST PLAGIARISM.....	ii
ABSTRACT	iii
CONTENTS	iv
LIST OF FIGURES	vi
LIST OF TABLES	vii
LIST OF NOTATION.....	viii
ACIEVEMENT	ix
INTRODUCTION	1
1.1 Background.....	1
1.2 Problem Identification.....	2
1.3 Objective.....	3
1.4 Scope of Work.....	3
1.5 Research Method.....	4
1.6 Stucture of Thesis	4
CHAPTER 2.....	5
2.1 Wireless Body Area Network.....	5
2.2 Capsule Endoscopy	6
2.3 Phantom and Electrical Properties.....	7
2.4 Microstrip Antenna.....	8
2.5 Impulse Radio Ultra Wideband	8
2.6 Linear Regression.....	9
DESIGN AND SIMULATION.....	11
3.1 Study of WCE Specification.....	13
3.1.1 WCE Pill in Simulation	13
3.1.2 Environment of WCE	14
3.1.3 Requirements of The Antenna.....	15
3.2 Antenna Design	16
3.2.1 Atenna Materials and Feeding Techniques.....	16
3.2.2 Initial Design for Analysis.....	16
3.3 Simulation and Validation	17

3.3.1 Phantom and Capsule	17
3.3.2 Analysis Scenario	17
3.3.3 Validation Scenario	18
3.3.4 Validation Process	20
RESULT	23
4.1 Linear Regression Output.....	23
4.2 Validation Result.....	26
4.2.1 Gain Value.....	26
4.2.2 Radiation Pattern	28
CONCLUSION	31
BIBLIOGRAPHY	32
APPENDIX A	33
APPENDIX B.....	36
APPENDIX C.....	41