Acknowledgements

It is with immense sense of gratitude that I wish to place on record my indebtedness to Dr. K. T. Mathew, Reader, Department of Electronics, Cochin University of Science and Technology, whose able guidance, constant and continuous encouragement were invaluable for this work.

I am grateful to Prof. M. A. Ittyachen, Director, School of Pure and Applied Physics, Mahatma Gandhi University for the keen interest and constant encouragement he has shown in the progress of my work.

Words are inadequate to express my gratitude to Dr. K. G. Nair, Professor Emeritus (CSIR), Department of Electronics, Cochin University of Science and Technology, for his invaluable help, fruitful suggestions and discussions, throughout the course of my study. I am extremely grateful to Dr. C. S. Sridhar, Professor and Head of the Department of Electronics for his keen interest in the progress of my work.

I am deeply indebted to Dr. K. Vasudevan, Dr. P. Mohanan, Dr. C. K. Aanandan, Dr. K. A. Jose, Faculty members, Dept. of Electronics, Cochin University of Science and Technology and Dr. K. K. Narayanan (Lecturer, S. D. College, Alappuzha) for the sustained help and valuable suggestions during the progress of my work.

I express my deep sense of gratitude to Mr. Joe Jacob, Mr. Sebastian Mathew, Research scholars, Mahatma Gandhi University for their valuable suggestions and encouragement. Let me express my sincere thanks to Mr. Thomaskutty Mathew, Mr. Saji Stephen, Mr. Jacob George, Mr. Deepukumar M., Mr. Jagannath Bhatt, Mr. Paul V. John, Mrs. Sumangala Sreekumar, Mr. V. P. Joseph, Research scholars, Dept. of Electronics, Cochin University of Science & Technology, and Mr. H. Sreemoohanathan (RRL, Trivandrum) for their constant encouragement and valuable suggestions throughout the course of my study.

A special expression of gratitude is reserved to the staff members of University Science Instrumentation Centre (USIC), Cochin University of Science and Technology for their immense help in the design and fabrication of microwave devices used in my research work.

I am grateful to the faculty members, School of Pure and Applied Physics, Mahatma Gandhi University for their interest and encouragement during the progress of my study.

This thesis is brought into the final presentable form, by the timely and active help extended by M/s COPY WRITE, Ettumanoor. I take the liberty of expressing my sincere thanks to them.

U. Raveendranath