ACKNOWLEDGEMENT

I would like to express my deep and sincere gratitude to my guide Dr. D. Rajaveerappa, Professor of Electrical and Computer Engineering, Institute of Technology, Hawassa University, Ethiopia, for his appropriate guidance, affectionate encouragement and wholehearted involvement in my research work. His extensive discussions around my work and logical way of thinking have been of great value for me, without which it would have been difficult for me to complete this work.

I am very much indebted to Prof. K. B. Chandrasekhar, Director, Research and Development, Jawaharlal Nehru Technological University Anantapur, for providing appropriate directions and facilities needed to conduct my research work.

My heartfelt gratitude goes to Prof. K. Soundararajan, former Professor, Department of Electronics and Communication Engineering, JNTUA College of Engineering, Anantapur for his support, encouragement and blessings throughout my research programme.

My earnest thanks go to Prof. T. S. Sivakumaran, Dean, Department of Electrical Engineering and Prof. N. Anandakumar, Associate Professor, Department of Information Technology, Arunai College of Engineering, Tiruvannamalai for their support and encouragement during my research programme.

Certainly, words are insufficient to express heartfelt thanks to my family members and friends for their adjustable attitude, patience and sacrifice over the five years which really helped me to complete this work in appropriate time.

K. UMAPATHY