ACKNOWLEDGEMENTS

The journey of this Ph.D. has been a life-changing experience for me and it would not have been possible without the support and guidance that I received from my professors, mentors, family and friends.

Foremost, I would like to express my humble gratitude and sincere thanks to my supervisor Dr. Nitin Chaturvedi for his guidance, encouragement, suggestions, and moral support throughout the period of this research work. It has been a privilege for me to work and learn under him.

I owe a great debt of gratitude to my committee members, Prof. Chandra Shekhar and Prof. S. Gurunarayanan, for their valuable and constructive feedback.

I am deeply grateful to BITS, Pilani for providing all the necessary facilities and support to complete the research work. My special thanks to Prof. Souvik Bhattacharyya, Vice-Chancellor, BITS, Pilani, and Prof. Sudhirkumar Barai, Director, BITS Pilani, Pilani campus, for giving me an opportunity to pursue my research successfully.

I am very thankful to Prof. H. D. Mathur, Prof. Navneet Gupta, Prof. Anu Gupta, Prof. Vinod Kumar Chaubey, Prof. Surekha Bhanot, Dr. Abhijit Asati and other faculty colleagues of Dept. of Electrical & Electronics Engineering for their constant motivation and encouragement.

I will forever be thankful to Prof. A. P. Singh, Dean, AUGSD, BITS Pilani, Pilani Campus and Prof. Jitendra Panwar, Associate Dean, AGSRD, BITS Pilani, Pilani Campus, for providing all necessary guidelines and extending full support which were crucial for the completion of this thesis.

I also want to thank staff members of EEE Department: Mr. Surender, Mr. Manoj Kumar, Mr. Amitabh, Mr. Mahesh Sani, Mr. Yogesh and Mr. Sanjay for their kind help in laboratory and other official work.

Last but certainly not the least, I would also like to thank my parents Mr. Rajinder Monga and Mrs. Mamta Monga, my beloved brother Kashish, and my friends Aishwarya, Vidya and Prachi for their invaluable support and everlasting trust.

Most of all, I would like to thank God for everything especially his love and grace.