**Preface**

Industrial training has been done at IC Microsystems Sdn Bhd located in Cyberjaya. The main activity of this company is to design, develop and market advanced mixed-signal and high frequency IC products. Besides that, this company also provides guided industrial training (GIT) program to university students. This program is to train university students in area of IC design by giving assignments related to IC design and give them guide to do it by using software tools. It also give opportunity to them expose to real working environment.

The following report describes the history of company, activities, achievements and organization structures of this company. The duties given during 10 weeks period of industrial training will be detailed in terms of table. Details about working experience gained which include projects done, problems occurred, problems solving, and critical assessments will be described in the following sections. Weekly report and some of the assignments’ full report that has been done will be attached in appendix. Other information are also included in this report.

Appreciation to Director of IC Microsystems Sdn Bhd on the given opportunity so that I could complete my industrial training at there from 9 May 2011 to 15 July 2011. Also, a special thanks to my module work supervisors, Mr. Mohammad Muhaimin Aminuddin, Mr. Aiman Abdul Rashid, Mr. Muhammad Afham Mohd Rusli and my functional work supervisor, Kulanthaivelu Ramaswamy on their guidance, reprimand and help throughout the duration of the training. I would also like to thanks all the staffs of the company for their help at the time when I need them. Besides that, I would like to thanks my colleagues for lending their hand to me when I am in trouble. Furthermore, I would like to express my gratitude to Dr. Shaiful Jahari b. Hashim, the coordinator of industrial training for give me guidance on preparing for training. Thanks to my visiting lecturer, Dr. Sharifah Mumtazah bt Syed Ahmad Abdul Rahman, who had spent her time to visit me during my training. Last but not least, I would like to convey my gratitude to other people who directly or indirectly help me for making my industrial training complete successfully.

Table of Contents

1.0 Company Background 1-2

1.1 Company History 1

1.2 Organization Chart 2

2.0 Summary of Tasks 3-8

3.0 Work Experience 8-19

3.1 Projects Done 8

3.2 Tools Being Used 12

3.3 Problems Faced and Solved 16

3.4 Critical Assessment 17

4.0 Conclusion 19-20

5.0 References 20

6.0 Appendices 21-64

A Weekly Report 21

B Module Report 31-57

 B.1 Module A1: Module Assignment of design NMOS and PMOS 31

 B.2 Module A2: Preliminary Assignment of MOSFET Characterizations 34

 B.3 Module A2: Module Assignment of CMOS Inverter Design 38

 B.4 Module A3: Preliminary Assignment of CMOS Adder Design 54

C Functional 3rd Weekly Report 58