



Happy Holden Author of "The HDI Handbook"

Part 1: Introduction to HDI Technology

SINGAPORE, 12-13 March 2012

Part 2: Next Generation HDI, Advanced Fabrication and Design

SINGAPORE, 14 March 2012

Holiday Inn (City Centre) Orchard

Happy Holden served as the Chief Technical Officer for Foxconn Advanced Technology, a major part on Hon Hai Precision Industries of Taiwan. Formerly, he was the Senior PCB Technologist for Mentor Graphic's System Design Division. Prior to joining Mentor, he was the Advanced Technology Manager at NanYa/Westwood Associates and Merix Corporations. He retired from Hewlett-Packard after over 28 years. Mr. Holden formally managed Hewlett-Packard's application organizations in Taiwan and Hong Kong. His prior assignments with HP had been as director of PCB R&D. He holds degrees in Chemical Engineering and Computer Science and is a member of the IPC, SMTA, IMAPS and the IEEE.

Organized by:

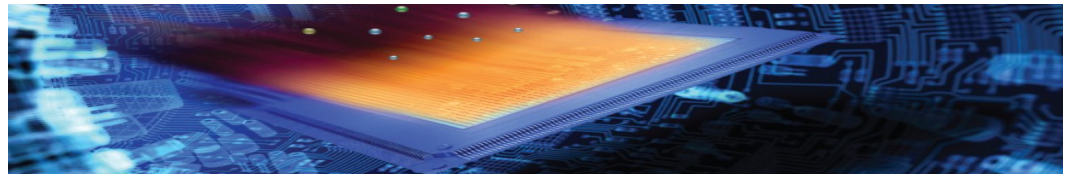


mims@shrdc.org.my

info@shrdc.org.my

+603 55133560

Mr. Halim Osman



HDI has become the most widely used emerging technology for high-performance electronics, with fine-pitch and high I/O BGAs being a major driver. These are particular applicable to FPGA, LGAs, and large CCGA, now common in high-performance mission-critical electronics. But "Implementation" can be formidable! This is a series of Workshop to relate the successful Training Program used by a number of large Aero/Military, Telecom OEMs, Computer/ Notebook OEMs and Consumer Portable product OEMs to successfully implement HDI Technologies in their Printed Circuit Board programs. The Workshop is divided into two parts, two days for each part that follow the implementation Program:

Part 1 : Introduction to HDI Technologies [2 days]

Part 2 : Next Generation HDI, Advanced Fabrication and Design [1 day]

Although both are intense courses, these will provide a detailed enough training to understand the challenges and work required to be successful in HDI product implementation.

Join us for these exciting workshops, send in your registration soon.

Regular fees (per pax) : S\$ 1,600 [2 days] or S\$ 900 [1 day]

SHRDC member or early bird discount before 10 Feb 2012 : 5%

Group registration (>=5 pax) discount : 5%

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What you will learn:

- ◆ What are the critical Printed Wiring Boards (PWBs) and Microvias (HDIs) Fabrication Technologies that are needed.
- ◆ What are the critical differences in TH versus HDI PCB design?
- ◆ Understanding the changes in PCB materials due to RoHS and HDI fabrication.
- ◆ How electrical performance can be improved with HDI strategies.
- ◆ Working with fabricators and sorting 'hype' from actual capabilities.
- ◆ The importance of custom test vehicles to evaluate new materials, new fabricators and new design strategies.
- ◆ How other OEMs were able to use HDI to redesign TH multi-layers with fewer layers.
- ◆ The implementation of buried passives and their signal / power integrity performance.
- ◆ Future technology trends in optical waveguides and printed electronics.

Course Outline:

Day 1	Introduction and Advanced HDI Technologies
Session 1:	HDI Fabrication Processes
Session 2:	IPC HDI Standards and HDI Materials HDI Quality, Fabrication Problems and Issues
Session 3:	Controlled Impedance for HDI Design Rules / Structures for BGA w/fine-Pitches
Session 4:	Structures for BGA w/fine-Pitches Case Studies of TH to HDI Conversions
Day 2	High Density Design Strategies, Using HDI, For Your Products
Session 5:	Why Do You Need HDI In Your Designs? Design Features of High Density PWBs
Session 6:	Seven (7) Most Popular HDI Stackups New Wiring Strategies In HDI
Session 7:	Electrical Performance of Signal Integrity & Power Integrity of HDI
Session 8:	Cautions About HDI Technology and Fabricators Understanding Fabricators HDI Capability-IPC 9151
Part 2 : Day 3	Introduction and Advanced HDI Technologies
Session 1:	Buried Passives & Very Small Discretes/SMT Overview
Session 2:	Buried Passives-Resistors/Capacitor Materials Cost, Design & Fabrication Issues
Session 3:	Buried Actives and Signal Integrity/Power Integrity Optical Waveguides in PCBs-1
Session 4:	Optical Waveguides in PCBs-2 Printed Electronics

Additional Information:

In view of supporting the environment, all participants will receive a softcopy version of the course notes and references. Hence, it is advisable to bring your laptop devices. All tea breaks and lunch are included.

10-11 July

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