

Course on **Antenna Design for Radio Frequency (RF) Products**



Date: Feb 29- Mar 1, 2008
Time: 9:30am – 5:00pm
Fee: HK\$ 2,000 per person
HK\$ 1,800 ONLY
for early birds !

Venue: Training Room, 1/F, Core Building 1, Hong Kong Science Park, Shatin

Introduction:

Shorter time-to-market for wireless communication products is needed to stay competitive in today's business environment. RF design particularly on antenna becomes crucial on the success of new introduction of any RF products as an antenna plays a critical role on determining the communication range of the products. Competency on antenna design therefore becomes a competitive advantage for any RF product design or manufacturing companies.

This 2-day course is aimed to provide an opportunity for participants to acquire technical insights on some vital aspects on antenna design from a practical and industrial perspective. The first day of the course will cover the fundamental antenna concepts and definitions. Different types of commonly used antennas in RF products will be presented. On the second day, participants will gain an understanding of practical design issues and tips from a product design perspective. Followed by a discussion on practical antenna measurement and testing, impedance measurement and matching of antennas will be demonstrated by Rohde & Schwarz Hong Kong Ltd. The course will be conducted by RF experts with rich local and overseas industrial experience. Given the knowledge and information provided by the training, it is hoped that the participating engineers or managers can develop RF products with top performance but yet the fewest number of design iteration.

A letter of Completion will be issued to those participants who have successfully completed the course.

Who should attend:

RF designers, wireless product designers, field application engineers, business development engineers and managers, design managers, and related professionals.

Medium of Instruction: Cantonese (with English terminology)

Instructors:

Dr. C M Yuen received his B.Eng. and Ph.D degree in Electronic Engineering from the City University of Hong Kong. His research interest is mainly in the design of RF and Microwave circuits for low voltage and low power consumption wireless systems. He has more than twenty years of experience in RF product design and manufacturing in Hong Kong and Mainland China. Dr. Yuen is currently an advisory engineer in the field of HDTV and IPTV.

Mr. Henry Lau received his M.Sc. and MBA degrees from UK and US respectively. He has more than twenty years of experience in designing RF system, products and RFICs in both Hong Kong and US. He had worked for Motorola and Conexant in US as Principal Engineer on developing RFICs for cellular phone and silicon tuner applications. Mr. Lau holds four US patents and has two patents pending. He is currently running Lexiwave Technology Ltd., a fabless semiconductor company in Hong Kong and US designing and selling RFICs.

Course Content:

Day 1 (February 29)

1. Antenna Fundamentals
 - Types of Antenna
 - Radiation Mechanism
2. Specification and performance
 - Radiation pattern
 - Antenna efficiency, aperture
 - Impedance and circuit matching
 - Directivity, gain
 - Friis Transmission Equation
3. Selection of antenna
 - Monopole antenna
 - Rubber ducky antenna
 - Case-fit metal plate antenna
 - Miniature chip type antenna
 - Loop antenna

Day 2 (March 1)

4. How to make a good antenna
 - Antenna size and thickness
 - Mounting and soldering
 - Electrostatic damage prevention
5. How to make a good working environment for antenna
 - Best location
 - Distance to PCB, battery and metal object
 - Hand effect and head effect
 - RF cables and connectors
6. Working together with product designers, electronic engineers and mechanical engineers
7. Test and measurement
8. Measurement Demonstration
 - Network Analyzer
 - Impedance measurement and matching

Note: The course is sponsored by Murata Co. Ltd. and Rohde & Schwarz Hong Kong Ltd. Each participant will receive a set of design tools as souvenir from Murata (<http://www.murata.com/index.html>) and a souvenir from Rohde & Schwarz.

Registration Form

Course on Antenna Design for Radio Frequency (RF) Products

Date: Feb 29- Mar 1, 2008 (Friday - Saturday)
 Time: 9:30am – 5:00pm
 Venue: Training Room, 1/F, Core Building 1, Hong Kong Science Park, Shatin
 Course Fee*: HK\$ 2,000 per person (Standard)

HK\$ 1,800 per person for full payment received on or before February 14, 2008

**Reimbursement for 75% course fees from entitled Training Assistance Fund applicable for Science Park Tenants/Incubatees*

Return form with full payment on/before **February 21, 2008** to

FAX: 2607-4040 or **EMAIL:** tifanni.fong@hsktp.org

Company :				<input type="checkbox"/> SP Tenant	<input type="checkbox"/> Incubatee
Address:					
Contact:				Title :	
Tel:		Fax:		E-mail:	

Note: Payment receipt will be mailed to above address and contact person

Name	Position	Email	Sub-Total
Total:			

Payment

I shall pay for the Total Amount of HKD _____ by below marked payment method:

By Cheque

Payable to "Hong Kong Science and Technology Parks Corporation" with copy of this registration form to:

Hong Kong Science and Technology Parks Corp.
Unit 307, IC Development Centre, Hong Kong Science Park, Shatin
Attention: Training (Antenna)

By Credit Card VISA MasterCard

Card Number: _____ - _____ - _____ - _____ Expiry Date: _____(MM)/_____(YY)

Name of Cardholder: _____ Signature: _____

- Remarks: 1. First-come-first-served for registration completed with full payment. Substitutions allowed. Cancellations non-refundable.
 2. Successful applicants will receive an e-mail notification of confirmation on February 22.
 3. Class would be re-scheduled/cancelled (refundable) if registration below expected size.
 4. Organizer reserves the right to amend program without prior notice.

Enquiry: 2629 6718 (HKSTP) or 2144 2592 (Lexiwave Technology Ltd.)

This information is brought to you by Industry & University Collaboration, HK Science & Technology Parks Corp ("HKSTP"). HKSTP is a statutory body set up by the Government of the Hong Kong Special Administrative Region with the mission in leading the transformation of Hong Kong into Asia's hub for technology and innovation in the four focused clusters: Electronics, Biotechnology, Precision Engineering, Information Technology & Telecommunications.

Transportation: http://www.hkstp.org/HKSTPC/en_html/en_corporation1_2.jsp