



Antenna Design for Radio Frequency (RF) Products

28-29 August 2009 (Friday & Saturday)

***This course is under review by NTTS as its pre-approval course.
If approved, eligible participant can get 50% of the course fee reimbursed.***

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 in 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 Agilent Technologies Hong Kong Ltd. The course is 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

Organizers:



Co-organizer:



Supported by:



Sender: Hong Kong Productivity Council, 78 Tat Chee Avenue, Kowloon, Hong Kong, Tel: (852) 2788-5563
發送者：香港生產力促進局 香港九龍達之路 78 號生產力大樓 電話：(852) 2788-5563。

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Who Should Attend

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

Course Content

Day 1 (August 28)	Day 2 (August 29)
<p>1. Antenna Fundamentals</p> <ul style="list-style-type: none">● Types of Antenna● Radiation Mechanism <p>2. Specification and performance</p> <ul style="list-style-type: none">● Radiation pattern● Antenna efficiency, aperture● Impedance and circuit matching● Directivity, gain● Friis Transmission Equation <p>3. Selection of antenna</p> <ul style="list-style-type: none">● Monopole antenna● Rubber ducky antenna● Case-fit metal plate antenna● Miniature chip type antenna● Loop antenna	<p>4. How to make a good antenna</p> <ul style="list-style-type: none">● Antenna size and thickness● Mounting and soldering● Electrostatic damage prevention <p>5. How to make a good working environment for antenna</p> <ul style="list-style-type: none">● Best location● Distance to PCB, battery and metal object● Hand effect and head effect● RF cables and connectors <p>6. Working together with product designers, electronic engineers and mechanical engineers</p> <p>7. Antenna Parameter Measurements with Network Analyzer</p> <ul style="list-style-type: none">● 2D Antenna Gain/Pattern Measurement● 3D Antenna Gain/Pattern Measurement● RFID 13.56MHz/UHF Antenna Impedance/Gain Measurement <p>8. Measurement Demonstration</p> <ul style="list-style-type: none">● VHF/UHF Antennas● UWB Antenna

About the Instructors

Dr C.M. Yuen received his B.Eng. and Ph.D degrees 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 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 USA respectively. He has more than 21 years of experience in designing RF systems, products and RFICs in both Hong Kong and US. He worked for Motorola and Conexant in US as Principal Engineer on developing RFICs for cellular phone and silicon tuner applications. Mr Lau holds five US patents and has one patent pending. He is currently running Lexiwave Technology Ltd., a fabless semiconductor company in Hong Kong and US designing and selling RFICs.

Medium of Instruction

Cantonese (with English terminology)

Award of Certificate

A Certificate of Completion will be awarded to participants who have attended through the 2-day training

Date & Time

9:30am – 5:00pm, 28 -29 August 2009 (Friday & Saturday)

Venue

1/F., HKPC Building, 78 Tat Chee Avenue, Kowloon

Course Fee (including course materials)

Registration Fee : HK\$2,500 per person (Early Bird Registration : HK\$2,250 per person **for Payment makes on or before 14 August 2009**)

This course is under review by NTTs as its pre-approval course. If approved, eligible participant can get 50% of the course fee reimbursed.

Application

To enroll, please complete the attached enrolment form and send it together with the appropriate fee to :

Ms Catherine Lam

PTI, Hong Kong Productivity Council,

3/F., HKPC Building, 78 Tat Chee Avenue, Kowloon

(All cheques should be crossed and made payable to 'Hong Kong Productivity Council')

Enquiries

Hong Kong Productivity Council

Tel: 2788 5563

Fax: 2788 5567

Email: catlam@hkpc.org

Lexiwave Technology (Hong Kong) Limited

Tel: 2144 2592

Fax: 2144 2595

Email: henry.lau@lexiwave.com



Enrolment Form 報名表

1. Course 課程 Antenna Design for Radio Frequency (RF) Products
 Course Fee 學費 HK\$2,500 (Normal) / HK\$2,250 (Early Bird)
 Duration 日期 28 - 29 August 2009 Course Code 課程編號 40104014
2. Name (English) (Mr/Mrs/Ms*) 姓名 (中文) (先生/女士/小姐*)
 Mobile / Pager 手提 / 傳呼機 _____ E-mail Address 電郵地址 _____
3. Organization (English) _____ 公司名稱 (中文) _____
 Position 職位 _____
 Mailing Address 通訊地址 _____
 Tel 電話 (Day 日間) _____ (Night 晚間) _____ Fax 傳真 _____

4. Payment Method 付款方法

(A) By Credit Card (No.): _____ - _____ - _____ - _____ Expiry Date 有效日期 ____ (yy) ____ (mm)
 Please debit my credit card A/C _____ Name of Cardholder _____
 for HK\$ _____ VISA MASTER

Signature _____ Date _____

(B) Enclosed is my cheque of HK\$ _____. Cheque No. _____. **(The cheque has to be crossed and made payable to the "Hong Kong Productivity Council.")**

** For cheque payment, please send the cheque for the appropriate fee with this completed form to Productivity Training Institute, 3/F., Hong Kong Productivity Council, HKPC Building, 78 Tat Chee Avenue, Kowloon Tong, Kowloon (Attn: Ms. Catherine Lam)

** For reservation (if applicable), please fax the completed form to (852) 2788 5567.

IMPORTANT NOTE 注意:

21.9.07

- Course fee must accompany this form (or its photocopy), otherwise enrolment may be rejected.
報名表(可用影印本)必須連同學費一併繳交, 否則報名可能無效。
- HKPC has adopted a Personal Data (Privacy) Policy. Information about the policy is available at HKPC enrolment counters for collection. You may also contact our Personal Data Controlling Officer for further details.
本局已實施個人資料(私隱)政策, 有關資料單張可於報名處索閱, 或閣下可與本局個人資料管理主任查詢。
- Applicants are encouraged to pay by credit cards, EPS or cheques, if possible. Amount received will be imprinted. Cheques are subject to bank clearance.
本局建議申請者以信用卡、易辦事或支票繳交學費。學費收據以本局機印方為有效, 支票收妥作實。
- Enrolment fee is **not refundable** unless HKPC is notified in writing of your withdrawal **at least 5 working days** before the course commences. A handling charge of HK\$200 will also be levied.
除非本局於課程開始前最少五個工作日收到申請者書面通知退學, 否則已繳學費概不退還。申請者申請退還學費需繳交手續費二百元正。
- An applicant may, subject to approval from HKPC, nominate a person to attend the course on his/her behalf.
申請者可提名他人代替其本人出席課程, 惟事先須得本局同意。
- HKPC reserves the right to reject any application in any circumstances and for whatever reasons. Payment of fees should only be construed as conditional acceptance of application.
香港生產力促進局保留在任何情況下及以任何原因拒絕任何入學申請的權利。申請者繳付學費後, 仍須符合入學的所有條件, 其申請方可獲得接納。
- HKPC reserves the right to change the contents, venue and / or time as necessary.
香港生產力促進局保留在任何情況下更改課程內容、授課地點、日期及時間的權利。
- Classes in the morning, afternoon or evening will be cancelled if typhoon signal No. 8 or above OR black rainstorm warning is still hoisted after (or is announced by the Hong Kong Observatory to be hoisted at/after) 6:00 a.m., 11:00 a.m. and 4:00 p.m. respectively. Participants will be notified when the class will be made up as soon as possible.
颱風及黑雨警告: 如課堂時間是在早上(9:00-12:00)、下午(2:00-5:00)或晚間(6:30-9:00), 將在下列情況下取消: (一)八號或以上颱風訊號或黑色暴雨警告訊號在早上 6:00、11:00 或下午 4:00 仍然懸掛; 或(二)香港天文台在早上 6:00、11:00 或下午 4:00 或之後, 宣佈將懸掛八號或以上颱風訊號或黑色暴雨警告訊號。本局將盡早通知學員補課的日期及時間。