

Seminar on

Loadpull Measurement System for RF Power Amplifier Design

by

Dr. Fan-Hsiu Huang
Chang Gung University, Taiwan

Abstract

The object of load/source-pull measurements is the experimental determination of the performances of a device in large-signal operations and the identification of the conditions that yield the optimum or desired results. Typical performances of interest for power amplifiers are not only large-signal input and output match, output power, power gain, efficiency and distortion but also conversion gain and conversion efficiency for mixers and frequency multipliers or frequency pulling for oscillators. The performances are evaluated as functions of input and output loads, bias point and input power for power amplifiers and of local oscillator power for mixers.

This course will demonstrate the load-pull measurement procedure including the system calibration, components de-embedding, and the power measurement. The relative measurement concepts such as the oscillation effect at large-signal operation, bias point choice for an optimized load impedance, and the power performance mismatch causing from harmonic impedances are also discussed how to properly measure a power device or transistor with a correct performance.

Biography

Fan-Hsiu Huang was born in Taipei, Taiwan, R.O.C. He received the M.S. degree and the Ph.D degree in electrical engineering from National Central University, Chungli, Taiwan, in June, 2003 and October, 2007, respectively. His research is interesting in microwave/millimeter-wave integrated circuits, fiber-optic communication front-end circuit design, and high-speed signal transmission. After he received the Ph.D degree, he was a postdoctoral researcher in Optical Sciences Center, National Central University, Taiwan, where he was engaged in researching and developing of microwave CMOS high-power switch and power amplifier circuits, injection locking technology, and 60 GHz phased array system. Since 2012, he joined the faculty at Chang Gung University as an assistant professor in the Department of Electronics Engineering. His currently research areas focus on microwave high-power devices and circuits, millimeter-wave monolithic integrated circuit, and high data rate wireless systems.

Date : 07 Aug., 2012 (Tuesday)
Time : 10:00am – 4:00pm
Venue : P7822, Academic 1,
City University of Hong Kong

*** ALL ARE WELCOME ***

Enquiries: Prof Quan Xue, Department of Electronic Engineering
Tel. : 3442 4680 Fax : 34420353 e-mail: eeqxue@cityu.edu.hk