

## Seminar on

# Design of a Planar Diplexer Based on Complementary Compact Microstrip Resonant Cell

by

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### Abstract

In this paper, a novel microwave planar diplexer is developed based on the recently proposed complementary compact microstrip resonant cell (CCMRC), which features bandpass filtering response. The diplexer is mainly composed of two different half-of-CCMRCs, each of which represents one transmitter or receiver channel. To verify the design, a diplexer was fabricated by the printed circuit board (PCB) process. The measured results agree with the simulated ones well. The up and down channels are 3.5 GHz - 4 GHz and 5 GHz - 5.5 GHz, respectively. The measured results show good channel isolation and low insertion losses in the passband. In addition, the proposed CCMRC diplexer owns advantages of compact size, planar structure, and easy fabrication, making it applicative for microwave transceiver use.

### Biography

**Wei Qin** was born in Jiangsu, China. He received the B.S. and M.S. degree in electronic engineering from Southeast University, Nanjing, China, in 2007 and 2010, respectively. He is currently working towards the PhD degree in electronic engineering at City University of Hong Kong, Hong Kong. His research interest focuses on design of compact microwave devices and circuits.

**Date** : 18 Dec., 2012 (Tuesday)  
**Time** : 10:20am – 10:40am  
**Venue** : G6302, Academic 1,  
City University of Hong Kong

\*\*\* ALL ARE WELCOME \*\*\*

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