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## **3G WCDMA Mobile Terminal Chipset Development: Market, Business, and Design** by Robert C. Qiu

**Date:** November 8, 2001 (Thursday)  
**Time:** 5:00 pm (refreshment starts at 4:45pm)  
**Place:** 202 ECEC, NJIT

### **About the Speaker**

Robert C. Qiu is currently the founder, Chief Scientist and President, Wiscom Technologies Inc. ([www.wiscomtech.com](http://www.wiscomtech.com)), Clark, New Jersey, USA. During 5/2000- 1/2001, Dr. Qiu was Founder-CEO & President. He holds 15+ US patents pending in WCDMA, and authors 35+ technical papers, 20+ internal technical memorandums, and 15 paper contributions to ITU 3GPP standard body. He delivered 5 keynote speeches in technical conferences and developed 4 courses for doctoral students in universities and professionals in Bell Labs. From 1995 to 1997, Dr. Qiu was a research scientist in GTE Laboratories, Waltham, MA. As one of the leading GTE experts, Dr. Qiu was involved in Bell Laboratories' first CDMA trial, in Austin, Texas. Within 1997-2000, Dr. Qiu was with the Wireless Technology Laboratory, Bell Labs, Lucent Technologies, where he was one of the global pioneers in WCDMA, working on ARIB/UMTS/3GPP WCDMA prototype and commercial system development. In 2001 his technical proposal for using Long Range Prediction (LRP) in HSDPA was written into 3GPP final Technical Report (TR) and received support from companies like NTT DoCoMo.

Dr. Qiu is a member of Sigma Xi and IEEE, IEEE Radio Communications Committee. He received his M.S from University of Electronic Science and Technology of China (UESTC), and Ph.D. in EE specialized on Wireless Communications from Polytechnic University, Brooklyn, NYC. He was an adjunct professor of Polytechnic University.

### **About the Talk**

On Oct. 1 2001 NTT DoCoMo rolled out the first 3G WCDMA commercial services in Japan. These phones provide packet communication with a maximum downlink 384 kbps and 64 kbps data communications services. M-stage video and M-stage music distribution services will be rolled out in Spring 2002. DoCoMo forecasts 150,000 3G phones in the first year to next March and expects six millions subscribers by March 2004. Soon Europe and China will follow. China is going to have 3G trials starting in the end of 2001. WCDMA phones are expected to account for 80% of 3G phones in the global market

There are a lot of challenges in front of the world. Thomas Edison famously remarked that "invention is 1% inspiration and 99% perspiration." For third-generation wireless technology known as 3G, much of the needed inspiration is there. But many engineers will have to do a serious amount of sweating before data start zipping through the air at high speeds for mobile phone users around the globe. This was the case for IS-95. One of the big challenges for 3G WCDMA services is the availability of mobile terminals and especially chipsets. This talk will present the related topics like 3G market, business, and chipset development of 3G WCDMA mobile terminals. Critical issues like power consumptions will be highlighted. The style of this presentation will be suitable for professionals to understand the underlying 3G issues and for technical community to understand the technical challenges in the engineering design. Design of 3G chipsets is far from perfect. Sharing this knowledge is the primary goal of this talk.

**Sponsors:** IEEE Communications Society North Jersey Chapter  
NJIT Department of Electrical and Computer Engineering

For more information contact Nirwan Ansari (973) 596-3670, or check <http://www-ec.njit.edu/~iceenj> for latest update