NATEA SIG Wireless Seminar

Date/Time: Tuesday, Feb. 24, 2004 / 6:15 - 8:45 PM

Place: Mountain View City Library (free basement parking, see the map below)

                         585 Franklin St., Mountain View, CA 94041

Subject-1:   **A Standard Serial BB-RF Interface for 802.11 WLAN Industry**
                         -- A Tutorial on JEDEC JC61

Speaker: **Dr. Ed Liu, Director of Mixed-Signal Design, Nvidia Corp.**

Abstract

This tutorial will go over the motivation, application, schedule of the publication of the upcoming JEDEC ("Joint Electron Device Engineering Council" of EIA) full specifications, and how IC companies can implement the required serial/deserializer blocks. Special focus will be on the electrical specifications and circuit techniques that help implement the requirements. Also, FCC's newly proposed rule changes for modular transmitter will be described, and how these potential changes benefit JC61 implementations will be discussed.

Speaker Biography

Dr. Ed Liu obtained his Master's and Doctorate Degree in Electrical Engineering from Stanford University and UC Berkeley, respectively. He was a Senior Manager with LSI Logic's Wireless Division responsible for mixed-signal design in single-chip baseband processors for CDMA. Currently, he is a Director of Mixed-Signal Design at Nvidia responsible for 802.11 RF and baseband chipset development. He is also the current Chairman of the JEDEC JC61 committee with the goal to define a digital RF-to-baseband interface for wireless LANs.

Subject-2:   **RFID Standards and Trend**

Speaker: **Dr. Richard Zai, CTO, PacketMicro**

Abstract

Radio frequency identification (RFID) technology has attracted tremendous attention in the last few years for its potential in letting retailers and suppliers better track products from the factory to the shelf, improving overall supply-chain efficiency, and reducing labor and warehouse costs. Companies, including Gillette, Michelin, P&G, Wal-Mart, IBM, Microsoft, Oracle, and SAP, have all announced plans to use or develop platforms for the RFID technology.
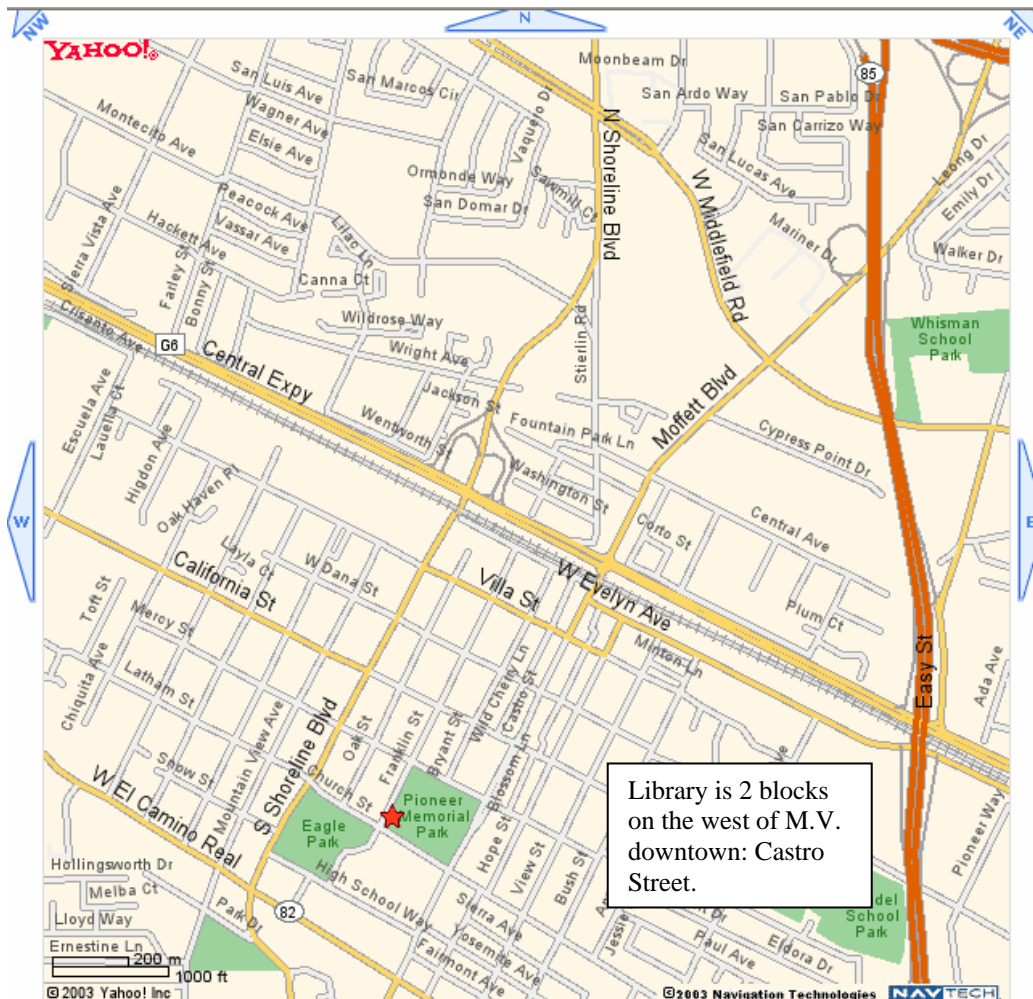
In this presentation, we will first introduce both passive and active RFID systems operating in different frequencies and discuss some of the RFID applications in supply-chain management, transportation security, and livestock tracking. These applications show how the RFID systems work to solve the current business problems.

The second part of the presentation covers the standards established by EPCglobal, Inc., a not-for-profit organization launched by EAN International and Uniform Code Council. EPCglobal has published specifications in EPC Class 0 & 1 tags, Reader Protocol, Savant, Physical Markup Language (PML), and Object Name Service (ONS).

Finally, we will discuss the challenges and opportunities for the RFID technology in the next few years. Especially, we will focus on the opportunities in the reader and middleware areas for start-up companies.

Speaker Biography

Dr. Richard Zai serves as CTO of PacketMicro, a consulting company specializing in the areas of RFID and ASIC design. Before co-founding PacketMicro, he was Vice President of Systems Engineering and co-founder at Pico Communications, where he managed an engineering team to deliver one of the best Bluetooth access points, which was the first to qualify under the Bluetooth 1.1 specification. From 1987 to 1997, Richard was a manager and research staff member at IBM Watson Research Laboratory, where he delivered a high-performance 2.45 GHz RFID reader and the real-time controller for the fastest 3DOF robot, Hummingbird, in the world. He also represented IBM in many standard activities, such as ANSI-X3T6 technical subcommittee for Radio Frequency Identification, and TIA-41.6 technical subcommittee for Unlicensed Personal Communication Services. Richard specializes in architecting and delivering technology solutions in the areas of RFID, wireless communications, and robotics. He is a hands-on person and has developed digital and analog hardware and embedded software for various applications. Richard has a Ph.D. EE. degree from the University of Wisconsin-Madison and holds 12 US patents.

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