Tutorial Sections
Monday November 9, 2015
Landmark B/C Hyatt Regency Dallas

SECTION #1   **6:00 PM to 7:30 PM**

TITLE OF TUTORIAL: A Quick Walk Around the Block with PoDL

NAME OF PRESENTERS, THEIR AFFLIATIONS AND CONTACT INFO:

Presenter(s) Name	Affiliation	Email Address
Dave Dwelly	Linear Technology	ddwelley@linear.com
Steve Carlson	High Speed Design	scarlson@hspdesign.com

ABSTRACT:

IEEE P802.3bu 1-Pair Power over Data Lines (PoDL) is a new draft power delivery standard for Ethernet that complements the single-twisted-pair Ethernet PHYs, 100BASE-T1 and 1000BASE-T1. After two years of work, the IEEE P802.3bu PoDL Task Force has a technically complete draft and intends to request IEEE 802.3 Working Group ballot. Since power delivery is a relatively esoteric subject in IEEE 802, the IEEE P802.3bu PoDL Task Force chair would like to take this opportunity to walk interested parties quickly through the document and summarize the interesting parts. The goals are to make the IEEE 802 community aware of PoDL and assist with review the PoDL draft.

SECTION #2   **7:30 PM to 9:00 PM**

TITLE OF TUTORIAL: Perspectives on IEEE 802.11 in NGMN/5G

NAME OF PRESENTERS, THEIR AFFLIATIONS AND CONTACT INFO:

Presenter(s) Name	Affiliation	Email Address

ABSTRACT:

The planned format for this section will consist of panelists from different parts of the WLAN/cellular industry, each of whom will give a brief presentation, followed by questions and discussion from the audience

TITLE OF TUTORIAL: **IEEE802.15.7r1 – Expanding User Experiences**

NAME OF PRESENTERS, THEIR AFFLIATIONS AND CONTACT INFO:

Presenter(s) Name	Affiliation	Email Address
William Young	NIST	william.young@nist.gov
Michael Janezic	NIST/NASCTN	michael.janezic@nist.gov

ABSTRACT:

Spectrum sharing offers a potential leap forward on how the frequency spectrum is accessed and utilized. In the unlicensed bands, uncoordinated spectrum sharing, often called wireless coexistence, occurs between the range of technologies and products that access that particular spectrum. One common example of coexistence is the interaction between IEEE 802.11 (Wi-Fi) and IEEE 802.15.1 (Bluetooth). However, there are other standard and non-standard wireless technologies that raise coexistence concerns. For example, radio frequency personal alert safety systems for emergency responders utilize ISM bands but are not based on the dominant industry protocols. In addition, technologies such as LTE are now being considered for deployment in the unlicensed bands.

In this tutorial, we provide an introduction on the implications of spectrum sharing in the unlicensed frequency bands from a practical deployment perspective. The need and benefits of coexistence test methods for industries such as medical, energy (i.e. Smart Grid), automotive, and emergency response are discussed. We will review several wireless coexistence test methods in-practice and proposed for industry standards such as ANSI C63.27. The test methods include conducted and radiated setups, and utilize a range of technologies at various levels of sophistication, including consumer electronics, laboratory grade test equipment, and anechoic test chambers. Some key parameters associated with the testing environments are outlined, and the benefits and limitations of the different test methods are discussed. Research ideas needed to reconcile the outputs from the various tests are explored along with efforts to generalize coexistence testing so that proposed spectrum access schemes can be validated in a general framework.

Finally, we will provide background on the National Advanced Spectrum and Communications Test Network (NASCTN) and its role in promoting spectrum sharing. Established earlier this year by the National Institute of Standards and Technology (NIST), the National Telecommunications and Information Administration (NTIA) and the Department of Defense (DoD), NASCTN is focused on developing robust test processes, facilitating access to test facilities, and validating the measurement data necessary to accelerate the development, evaluation and deployment of spectrum sharing technologies that can increase access to spectrum by both Federal agencies and non-federal spectrum users. We provide an introduction to this new capability and describe how industry can propose and participate in spectrum-sharing projects.