

THE LOG PERIODIC

www.scvemc.org Santa Clara Valley Chapter of IEEE Electromagnetic Compatibility Society

IEEE/EMC Society Meeting: Tuesday December 9, 2008

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Time: Social 5:30 p.m. Presentation 6:30 p.m.

Place: Applied Materials Bowers Cafeteria
3090 Bowers Ave., Santa Clara, CA 95051-0804

Subject: WiMAX and White Spaces: What the EMC Engineer Needs to Know for 2009 and Beyond

Speaker: Tom Cokenias, TNC Consultants

Speaker Bio:

Tom Cokenias is an independent consultant for EMC and Radio Approvals, IEEE member since 1983. After spending 8 years at the FCC Laboratory in Columbia, MD, he moved to the SF Bay Area and worked in senior engineering positions for several local EMC Laboratories. He has served the Silicon Valley EMC Society Chapter in several capacities, including chairman. He can be reached at tom@tncokenias.org

Abstract:

The WiMAX standard for radio transmission has been in development for almost ten years, and is now beginning to get significant traction.

There has been an exponential increase in the number of products and types of service available for WiMAX products this past year, and these products are being targeted to compete with WiFi for services and consumer dollars. Traditional base stations and subscriber units are being augmented by WiMAX products in handsets and laptops, which will eventually make them a ubiquitous concern for EMC in the way that cellular telephones have become.

In February 2009 all analog TV stations in the United States will convert to digital. Several prime frequency bands will be vacated, the so called White Spaces between the digital TV allocations, and recent FCC rule making has allowed unlicensed devices to operate in these bands under new Part 15 regulations. The frequencies extend from low VHF to UHF channels, and devices operating under the new rules are expected to be developed at a rapid rate, given the high penetration and low path losses possible for networks that will use these products. Again, it is expected that these white space devices will be everywhere WiFi is now, and so will require new scrutiny from the EMC community.

The presentation will go over the basic WiMAX modulations, frequency allocations in the US, and the types of products offered currently and in the near future. The new White Space rule making will be discussed, including implications for overall EMC of products that will be used with and near these devices.

$$\nabla \times \vec{E} = - \frac{\partial \vec{B}}{\partial t}$$

$$\nabla \times \vec{H} = \frac{\partial \vec{D}}{\partial t} + \vec{J}$$

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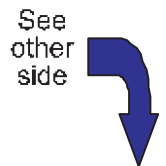
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