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Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: Status report of meeting with passive sciences CORF committee

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Re: general Contribution

Abstract: This presentation is to discuss a recent meeting the author had with representatives of the passive services /science community CORF organization in DC at the FCC, along with Mike Marcus former FCC chief technology officer, in opening up spectrum above 100GHz for device allocations, spectrum coexistence and formation of a active and passive services technology collaboration

Purpose: Support material for 802.15 THz Interest Groups focus and activities

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Conference On Radio Frequencies

CORF – National Academies

May 17, 2012 Meeting

Radio Astronomy

EESS Remote Sensing

AT&T Labs Research

Marcus Spectrum Solutions LLC

CORF represents the interests of U.S. scientists who use radio frequencies for research—for example, radio astronomers and remote sensing researchers. The committee deals with radio-frequency requirements and interference protection primarily through filing comments under the aegis of the [National Academy of Sciences](#) in public proceedings of the Federal Communications Commission. The committee acts as a channel for representing the interests of U.S. scientists in the work of the Scientific Committee on Frequency Allocations For Radio Astronomy and Space Science (IUCAF) of the International Council for Science and in working groups of the Radio communication Sector of the International Telecommunication Union (ITU).

BOARD ON PHYSICS AND ASTRONOMY THE NATIONAL ACADEMIES
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Committee on Radio Frequencies

CORF represents the interests of U.S. scientists who use radio frequencies for research—for example, radio astronomers and remote sensing researchers. The committee deals with radio-frequency of the National Academy of Sciences in public proceedings representing the interests of U.S. scientists in the Science (IUCAF) of the International Council for Scientific Telecommunication Union (ITU).

Project Information

- Upcoming Meetings
- Past Meetings
- Committee Members and NRC Staff
- Current Report-writing Activities
- Past Report-writing Activities
- Related Non-NRC Publications
- Related Links
- CORF Filings
- Global Radio Astronomy Observatory List
- Support
- The National Academies' Current Projects

Upcoming Meetings

October 12-13, 2012
Beckman Center
Irvine, CA

Past Meetings

May 17-18, 2012
Keck Center of the National Academies
Washington, DC

October 14-15, 2011
Brigham Young University
Provo, UT
This meeting was closed in its entirety.

May 16-17, 2011
Keck Center of the National Academies
Washington, DC
Agenda and Presentations

May 18-19, 2010
Keck Center of the National Academies
Washington, DC
Agenda and Presentations

COMMITTEE ON RADIO FREQUENCIES

May 17-18, 2012
Room 206 Keck Center of the National Academies
500 Fifth Street, NW - Washington, D.C. 20001

THURSDAY, May 17, 2011

CLOSED SESSION

8:30 – 9:00 a.m. Working breakfast

9:00 – 9:05 Welcome Dave DeBoer, Chair

9:05 – 9:20 BPA Update Caryn Knutsen, BPA

9:20 – 10:00 Balance & Composition Discussion David Lang, BPA

10:00 a.m. Break

OPEN SESSION

10:15 – 11:15 a.m. Science Talk TBD

11:15 – 11:45 FCC Update & The National Broadband Plan Julie Knapp/Ron Repast, FCC

11:45 a.m. – 12:45 p.m. Working Lunch All

12:45 – 1:45 Cooperative Spectrum Sharing Roundtable Discussion Committee & Michael Marcus and David Britz, International Wireless Industry Consortium

1:45 – 2:00 Concluding remarks and next steps Dave DeBoer, Chair

2:00 – 3:00 Spectrum Update from NSF Tomas Gergely & Andrew Clegg, NSF

3:00 – 3:15 Break

3:15 – 3:45 Update from NASA and Outcomes from WRC-12 John Zuzek, NASA

3:45 – 4:15 NASA Outlook for WRC-15 Tom VonDeak, NASA

4:15 – 4:45 Upcoming and planned NASA missions Betsy Edwards, NASA/SMD

4:45 – 5:30 OSTP Spectrum Policy Discussion Tom Power, OSTP

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Emerging Wireless Services, Small / Nanocells and Spectrum Sharing

Rethink Possible

The Incredible Shrinking Cell

- Increased Bandwidth Demand/User
- Battery/Dissipation Device Constraints

Envisioning Interactive Sensor "Clouds"

An AT&T Multimedia Independent Activity Hub Vision

NIST Smart Grid - Consumer Model

NANO CELL

So how do we move forward?

We as a community of regulatory and industry, standards and radio technology experts need to figure out;

- A common sense and commercially viable approach for cooperative sharing of spectrum for both active and passive services, its no longer a convenient sound bite, **it's now a societal imperative!**
- How can active...
- How can passive...
- Perhaps the e... provides us th... and managem...
- Perhaps the ad... collaborate to... ongoing data...

One last thought!

The emergence of Small cells and eventually Nanocells , may represent one of the last opportunities **to get it right!** By designing in, at the beginning, the critical **active and passive** spectrum coexistence and sharing solutions.

Lets use this new network topography opportunity to work together to find solutions that work for all.

Bottom line..... *neither side is going away!* So we had better figure out, as a community of common interest, how to work together and coexist in this spectrum space, because the challenges and demand for spectrum will only get worse with time.

CORF Meeting..... Objectives?

- To open a discussion between Active and Passive services
- To identify participants and a forum for meetings and discussion
- To initiate and create a means for open dialogue between these two interest groups
- To establish a technical collaboration to define a means for spectrum coexistence at mmWave and THz frequencies
- To identify a means to demonstrate proof of concept for active and passive spectrum coexistence

Possible venues;

- Informal conference call/email dialogue
- 802.15 THz IG meetings Interest group committee
- IWPC MoGIG Spectrum committee
- Other

The *good* news

Both sides of this spectrum issues seem now to recognize the right for the others existence, and viability. Increasingly both sides now realize the need for dialogue and proactive means to identify and define structural, network, standards and technical solutions to support spectrum coexistence

The *bad* news

No current mechanism exists that supports collaboration between active and passive service interests in the 100-600GHz domain. Little means for cooperation has been defined. **But** time and the world is not going waiting for us!

- How do we get started, what is the agenda and means to exchange ideas?
- What is the time line, how do we share costs and responsibilities?
- When can we be ready to demonstrate some solutions?
- Whose responsible, whose in charge?

Status

To date two individuals, representing the CORF organization, have indicated their interest in participating in a joint collaboration with “active services” community with the goal of identifying means for spectrum coexistence.

Now we need to respond to this offer - to move forward!