Recent FCC Actions to Promote Spectrum Innovation

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SDR '10 Wireless Innovation Conference
And Product Exposition
December 1, 2010

Note: The views expressed in this presentation are those of the author and may not necessarily represent the views of the Federal Communications Commission

FCC NBP Spectrum Agenda

- National Broadband Plan (NBP) laid out a detailed plan to meet need for spectrum for wireless broadband
- Executive memo similarly laid out plan to identify 500 MHz of spectrum for wireless broadband
- Both identified dynamic spectrum access as important component in meeting spectrum needs

Recent FCC Spectrum Actions

- May: Order providing Wireless Communications Service with flexibility to offer mobile service
- July: Proposal to provide mobile satellite service greater flexibility to offer terrestrial service
- August: Proposal to expand provisions for backhaul
- September: TV White Space reconsideration order
- October: Spectrum Summit
- November: Proposal to facilitate efficient use of TV bands; proposal to expand experimental licensing program; inquiry to advance dynamic spectrum access

TV White Spaces

- Final Rules Adopted September 23, 2010

- Highlights:
  - Technical rules generally unchanged
  - Reserved 2 chs for wireless microphones in lieu of sensing
  - Set conditions for wireless mic. registration in data base
  - Retains provisions for certification of sensing-only devices

- To do:
  - Select data base managers
  - Establish details for wireless microphone registration
  - Certify equipment

TV Bands NPRM

- Notice of Proposed Rule Making (NPRM) initiates process to make more efficient use of TV broadcast spectrum
- Would add Fixed and Mobile allocations to TV spectrum
- Invites comment on channel sharing where two or more stations voluntarily combine their operations on a single TV "channel" - - similar to "multicast" capability
- Seeks comment on steps to improve TV reception on the VHF channels (2-13), such as by increasing transmitting power, and establishing standards for indoor antennas.

Experimental Licensing NPRM

- Notice of Proposed Rule Making (NPRM) seeks to promote research and development of new radio technologies, devices, and applications.

- Proposed to create a new type of Program License, which would give qualified entities broad authority to conduct a program of research without the need for approval of each experiment. Includes appropriate interference safguards

- Proposed three types of Program Licenses:
  - **Research license** would allow universities, laboratories, and other qualified research institutions to conduct experiments over a wide variety of frequencies and other operating parameters, without the need for individual authorization or reauthorization for each individual experiment.
  - **Geographic "innovation zones"** – generally relatively remote locations - where researchers could conduct a wide range of experiments under certain general conditions.
  - **Medical institutions** to innovate and develop new devices that can save lives, have a significant impact on reducing medical costs, and provide new treatment options for our wounded service men and women.

- Proposed ways to streamline and clarify the existing rules such as expanding opportunities for researchers and manufacturers to conduct market trials

Dynamic Spectrum Access NoI

- Notice of Inquiry (NOI) considers how dynamic access radios and techniques can provide a more intensive and efficient use of spectrum.
- Seeks comment on the current state of the art and how FCC can promote these technologies - - test-beds or modifying its spectrum management practices and policies.
- Asks about use of DSA under both licensed services and unlicensed approaches.
- What spectrum bands would be most suitable?
- Asks whether TV White Space model might be used for access to other bands.
- Asks whether and how to incorporate spectrum sensing for other bands.
- Asks how to approach establishment of transmitter standards.
- Asks whether current FCC provisions for secondary market arrangements could be enhanced to increase use by dynamic access radios and techniques.
- Asks how to improve FCC "Spectrum Dashboard" for dynamic access technologies.

Other Notable Developments

- NTIA recently released spectrum reports:
  - **An Assessment of the Near-Term Viability of Accommodating Wireless Broadband Systems in the 1675-1710 MHz, 1755-1780 MHz, 3500-3650 MHz, and 4200-4220 MHz, 4380-4400 MHz Bands**
  - **Plan and Timetable to Make Available 500 Megahertz of Spectrum for Wireless Broadband**
- FCC established Technological Advisory Council and held first meeting on November 4, 2010

Conclusion

Questions and Answers