Project	**IEEE 802 Executive Committee Study Group on TV White Spaces – ADHOC USE CASE SUB-GROUP**
Title	**ECSG ADHOC INTEROPERABILITY AND COEXISTENCE DISCUSSION**
Date Submitted	**2009-01-23**
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Abstract	IEEE 802 ECSG on White Space interoperability vs coexistence
Purpose	To provide input to the ECSG a discussion platform to consider the possibility of interoperability and coexistence in the TVWS spectrum.
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802 Whitespace Interoperability and Coexsitence Discussion Seed

Purpose: to help the 802 EC SG to decide if it should recommend that 802 should aim toward interoperability or limit itself to simple coexistence between 802 stds in the TVWS

Interoperability

- There are winning factors for everybody
  - From the end-user point of view
  - From the standards point of view
  - From a manufacturer's point of view
  - For 802

Interoperability

- End-user point Win points
  - Roaming from one system (4W) to the next (100mW) may be desirable
  - Inter-operable standards would probably be better than simply coexisting standards
  - Single NIC use is simpler than having multiple NICs

Interoperability

- Standards Win points
  - Coexistence amongst inter-operable devices may be more natural
  - Spectrum sharing and access fairness may be enhanced
  - Common hardware across standards creates economies of scale
  - Leveraging the contents of one standard to another may be simplified
  - Thereby reducing development costs and time to market for ensuing standards
  - Favor cohesive rather than maverick expansion

Interoperability

- Manufacturer's Win points
  - Added perceived value gives consumers an impetus to update their hardware
  - Drive sales via leveraging as rural areas are served by .11 and .22 networks
  - Create a larger unified consumer base
  - Allow economies of scale than a fragmented market provides

Interoperability

- For 802
  - Give a professional unified image of highly cohesive and extremely functional group
  - Improve the 802 brand value simultaneously for all Working Groups

Interoperability

- A prime example
  - Most if not just about all 802.11 NICs have 802.11b and 02.11g
  - It is to b expected that 802.11n NICs will have a,b,g and n support

Interoperability

- What would be required
  - Common PHY
  - Muliti-mode MAC