What can be done to increase use of the 4.9 GHz Band?

FCC 4.9 GHz Workshop

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Core 4.9 GHz Challenges

1. Despite FCC rules deployments are uncoordinated
2. Co-located fixed and mobile deployments present interference risks
3. Despite large spectrum allocation, throughput is limited
   - Short range = multi-hop mesh = tends to reduce throughput availability
   - Frequency reuse and multiple uses further divides the spectrum
4. Reliability could hamper deployments
   - Solutions must be able to accommodate any usage configuration (and propagation losses)
   - Interference resulting from uncoordinated uses presents risks
700 MHz and 4.9 GHz coexistence

• Broadband peer-to-peer communications
  - Nothing short-term at 700 MHz - LTE uses entire band
  - Technologies at 4.9 GHz will support direct mode, mesh, and can offload traffic from LTE
  - But....
    • 4.9 GHz connectivity is severely limited in buildings
    • Requires many devices at the incident scene and support standards based meshing protocols
    • Application architectures must accommodate lack of connection to centralized servers
• Backhaul (LTE eNodeB to core)
  - With 10 MHz LTE, 20 Mbps per site is needed
  - 4.9 GHz can accommodate one or two sites, but not a ring of more than three sites
  - An effective solution for single spurs and COWs
What Can The FCC Do?

• Develop 4.9 GHz planning guidelines for regions
  - How to manage temporary and permanent uses
  - Provide guidance on frequency plans
• Provide more education to the vendor and public safety community regarding licensing and coordination
  - Emphasize that all uses must be coordinated
  - Provide recourse mechanism
  - Require vendor marking on product
• Make it easier to coordinate
  - Software tools modeling fixed and mobile
  - Able to manage temporary and permanent uses
• Provide continued flexibility to use all bands based on local needs - allow regions to determine primary and secondary uses and maximally leverage investments
Thank You!

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