Sharing Between TV White Space and Channel 37 WMTS

ET Docket No. 14-165

GN Docket No. 12-268

Prioritize Goals

- The Commission's goals must be prioritized on:
  - **protecting licensed WMTS systems from interference and**
  - **terminating interference promptly when it occurs.**
- These goals must prevail even if appropriate protection distances, power levels and restrictions on mobility and operations result in less than optimal market conditions for the development of TVWS devices using Channel 37.

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Properly Characterize The WMTS Environment Being Protected

- TVWS Proponents ask the FCC:
  - 1) to assume a "best-case" building environment for *all* WMTS systems in hospitals which provides the greatest shielding of TVWS signals, and
  - 2) to deny protection to the substantial number of hospitals whose environment will provide significantly less shielding.
- TVWS Proponents broadly mischaracterize the various RF environments in which WMTS systems are operating.
  - The TVWS Proponents merely assert without evidence the characteristics of WMTS system operating environments that are most favorable to their interests.
- TVWS Proponents also ignore the evidence in the record that shows that WMTS systems operate at antenna heights well above those used to calculate the FCC's proposed power limits and separation distances.
  - WMTS proponents have placed into the record test evidence from an actual, operating hospital that demonstrates that TVWS devices will cause interference at the proposed power and distance levels. The claim that this actual hospital is an "unrepresentative facility" has absolutely no factual support.

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Use An Appropriate Methodology For Calculating The Required Protection For WMTS Licensed Systems

- The Commission's methodology for calculating appropriate protection distances at defined power levels is flawed.
  - GEHC's identification of the FCC's mathematical error is undisputed in the record.
  - That error has caused the FCC to assume that WMTS facilities can tolerate 17.8 dB more interference than they actually can.
- The Commission should revise its methodology for calculating appropriate protection distances at defined power levels.
  - Any revised methodology must consider worst-case conditions as opposed to best case or typical.
  - The revised approach should be put out for further comment before rules are developed.

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Imposing A Form Of Frequency Coordination On WMTS Systems To Accommodate Unlicensed TWVS Devices Is Impractical And Inappropriate

- Parties urging site-specific coordination do not consider the cost and impact to hospitals and how these issues will be addressed.
  - The use of more site-specific hospital data grossly underestimates the work necessary to determine the characteristics of any particular WMTS hospital and system and input into any database.
  - There are limited resources available in any hospital for performing such tasks.
  - Who will pay for these efforts and what responsibilities will be put on the overtaxed hospital staff for performing them?
- These proposals to use more detailed site-by-site characteristics of the hospital campus border in order to further reduce WMTS protection zones would inappropriately create a complex frequency coordination process for unlicensed devices.
  - This approach also relies inappropriately on untested technology in TVWS devices and still unproven reliability in WMTS and TVWS databases to protect patient safety.
  - What happens when the coordinated parameters for TVWS (or WMTS) devices change?
  - How are these "coordinations" monitored to ensure aggregate interference does not occur into WMTS systems?

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The Final Rules Must Include An Expeditious Approach To Interference Mitigation

- Despite the best intended rules, *interference to WMTS will probably occur.*
- If sharing is to be allowed, the rules must provide a clear and expeditious path for hospitals suffering interference to require potential TVWS sources to shut down until the interfering source has been identified and to cooperate in any investigation.
- Relying on a complex "complaint" process will result in significant and long-term losses of patient monitoring capability.

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Only Fixed TVWS Devices Should Be Allowed To Operate in Channel 37

- The Commission should "walk before it runs" in considering what TVWS devices should be allowed to share Channel 37 when patient safety is at risk.
  - Fixed devices should initially be authorized at conservatively determined distances.
  - Personal/Portable devices should not be authorized:
    - Relying on nascent and untested indoor geolocation technology in consumer-oriented, low-cost devices to control access to Channel 37 is bad public policy.
    - Interference from malfunctioning personal portables will be difficult to detect but no less harmful to patient safety.

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