



Subcommittee 3  
Electromagnetic Compatibility Improvements

# Electromagnetic Compatibility Improvements Subcommittee Tasking by NTIA

- Background: As the spectral environment continues to become more congested and spectrum sharing becomes more common, the potential for adjacent channel interference scenarios remains a limiting factor in expanding access to spectrum. In particular, government radar bands increasingly are being identified for sharing with commercial or other government systems.
- Question: To increase the efficient use of the spectrum resource:
  - How can radar and other systems better co-exist in co-channel and non-co-channel relationships?
  - How should statistical risk-based analysis techniques in spectrum modeling analyses be used to characterize operational impact to federal systems?
  - What improvements in propagation modeling would increase the accuracy?
  - What role should NTIA play in ensuring the independent and timely analysis of these potential interference scenarios?
  - Other improvements suggested by CSMAC.

# ECI Subcommittee Members

**Co-Chairs:** Donna Bethea-Murphy and Tom Dombrowsky  
**NTIA Liaison:** Antonio Richardson, Ed Drocella, Nick LaSorte  
**FCC Liaison:** Jessica Quinley, Kevin Holmes

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# Status of Efforts

- Subcommittee has met at least monthly.
- A series of interviews have also occurred to get other perspectives with draft questions provided prior to the interviews.
  - NTIA/IIC Overview
  - NASA
  - FAA
  - Garmin
  - Collins
- A draft report is nearing completion.
  - Focused on capturing information from the interviews as well as data from other federal agencies that engage in statistical analysis of issues.
  - Some initial draft recommendations are under discussion.
  - The goal is to complete report and ensure that any recommendations are developed based on information within the report.

# Overview of Draft Report

- Radar Discussion
  - Report provides information on aeronautical radar systems in the 5-16 GHz band.
  - Summary of responses and discussions with FAA, NASA, Garmin, and Collins.
- Commercial Wireless Discussion
  - Overview of parameters that could be used to model commercial wireless systems.
  - General values should be used unless the commercial providers submit more granular data.

# Overview of Draft Report (cont.)

- Coexistence Analysis
  - Describes parameters that should be considered as part of coexistence analysis.
  - Provides types of inputs needed for statistical analyses.
  - Discusses the use of statistical analysis by federal agencies and how it could be applied to coexistence modeling in the 5-16 GHz band.
  - Describes the importance of propagation modeling and potential improvements.
  - Suggests potential approaches for coexistence analysis.
  - As commercial and federal systems will evolve over time, suggests that any modeling be an iterative process to allow all affected stakeholders an opportunity to update technical parameters.
- Role of NTIA
  - Importance of NTIA providing independent analysis for coexistence.
  - Process needed to facilitate federal agency/commercial user collaboration on analysis method.
- Enforcement
  - Reasonable assurance of interference protection of systems is required.
  - Must be mechanisms to identify and mitigate interference.

Questions?