

ACAST Spectrum Research WRC-07 Support

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WRC-07 Agenda Item 1.6

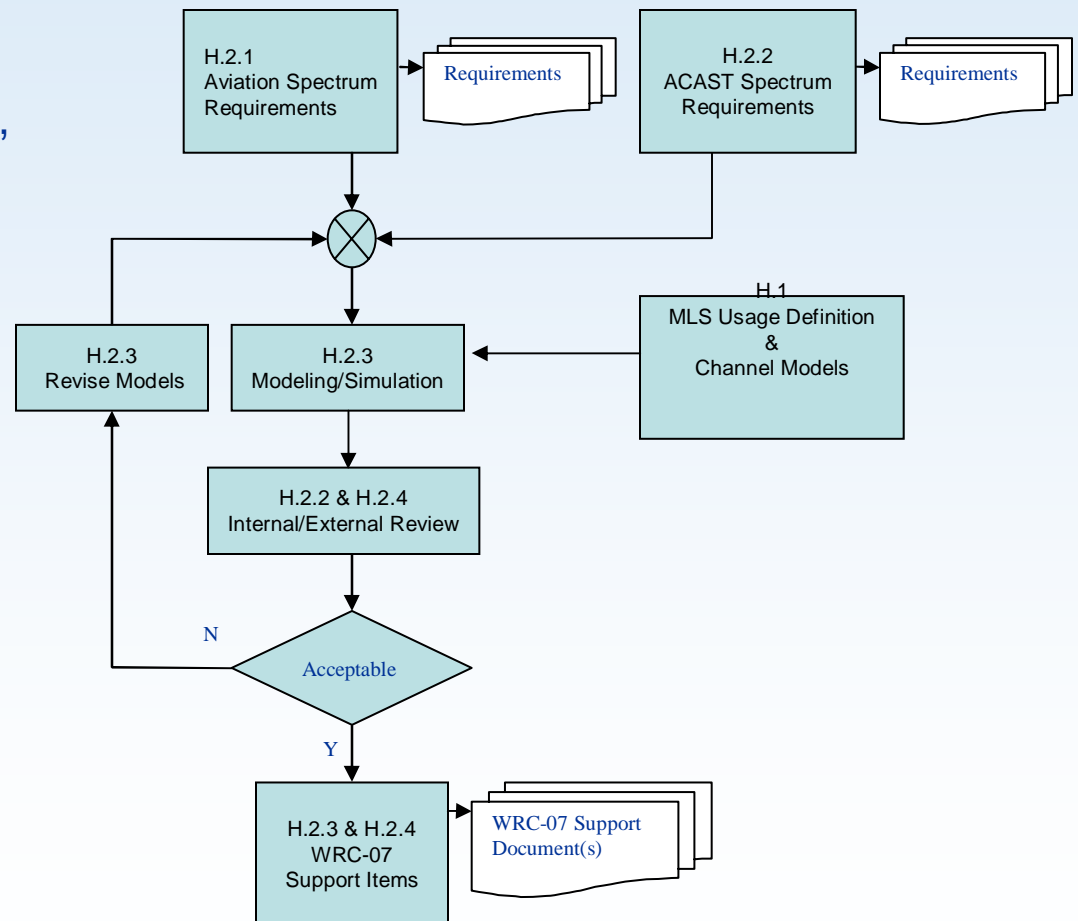


“To consider allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz to 6 GHz, and to study current frequency allocations that will support the modernization of civil aviation telecommunication systems.”

- ACAST Spectrum Research has focus on 2 bands
 - C-band - 5.000 – 5.150 GHz
 - L-band – 960 - 1024 MHz

Plans for the Coming Year

- Address all items from last year's flow diagram to be considered as inputs to ICAO WG-F, ITU-R WP8B, and other governing bodies.
- Aviation and ACAST Spectrum Requirements
 - C-band requirements derived from surface area networks.
 - L-band requirements derived from FCS A-G links.
- MLS and L-Band Channel Models
 - Conducted under OU grant.
 - Literature review for L-band models.
- WRC-07 Support Items
 - Present in submission form papers to ICAO WG-F, ITU-R WP8B, and possibly RTCA that support the usage and standardization of systems in the C and L bands.





C-Band Efforts



- Ultimately, demonstrate AM(R)S system potential in the 5.091-5.150 GHz band.
 - Characterize the environment via channel sounding techniques.
 - Ohio University grant
 - Analyze the performance of COTS WLAN waveforms with respect to the channel models.
 - NASA GRC internal effort.
 - Studies also to be done under the 2nd phase of the FCS contract with ITT.
 - Develop a usage scheme for the MLS extension band considering outcome of WLAN waveform analysis.
- Results published via workshops and international standards organizations (ITU, ICAO, etc).
- Investigating the demonstration of a C-band system with a surface area 802.11a network.





L-Band Plans



- Coordinate with other ACAST subprojects, NASA programs, and working groups to build arguments for an AM(R)S allocation in the 960-1024 MHz range.
 - L-band channel modeling.
 - FCS currently addressing this.
 - Looking for model verification through L-band A-G channel sounding.
 - Interference analysis
 - FCS currently addressing this.
 - UAV/ROA data/communications requirements
 - Coordinating with GRC ACCESS 5 activities to understand UAV/ROA requirements.

