Surface Air-Ground Datalink Communications System (AeroMACS) Status

AFC Fall 2016 - Austin

Aeronautical Mobile Airport Communications System

- <u>Aero</u>nautical <u>M</u>obile <u>A</u>irport <u>C</u>ommunications <u>S</u>ystem (AeroMACS) is a WiMAX based technology (IEEE 802.16) supporting airport broadband communications

- Operation in 5091-5150 MHz (extended MLS band) protected spectrum

- 5 MHz channel BW - 11 adjacent channels

- In band Interference considerations: Globalstar (uplink), telemetry AMT (reverse link only)

- Intended for use on airport surface (not on Runways) with aircraft speeds <= 50 knots

- Supporting both ATC and AOC applications

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AeroMACS Standardization Activities

- The RTCA Special Committee 223 has completed a Profile document and Minimum Operational Performance Standard (MOPS)
- The RTCA Program Management Committee meeting held on March 17, 2016 redefined the scope of SC-223 and it is now called the Internet Protocol Suite (IPS) and AeroMACS
- SC-223 has completed the security functionality definition for the AeroMACS documents
- SC-223 is currently developing Profile and MOPS standards for the IPS
  - The Profile document is scheduled to be completed by the end of 2017
  - The MOPS document is scheduled to be completed by the end of 2019
- The last meeting was held on August 17-19, 2016 in Washington, DC
- Monthly subgroup teleconferences are being held to status work progress
- Future meetings are scheduled for November 8-10, 2016 and February 28 – March 2, 2017 in Washington, DC

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AeroMACS Standardization Activities

- The ICAO WG-S has completed a Standards and Recommended Practices (SARPs) and a draft Technical Manual (TM)

- The last WG-S meeting was held February 29 - March 2, 2016 in Montreal, Canada

- The ICAO Communications Panel (CP-2) meeting held October 10-14, 2016 approved the draft Technical Manual

- The TM will now go the Air Navigation Commission for final approval before being published in 2018

AEEC AeroMACS Working Group

- The AEEC formed an AeroMACS Working Group (WG) which is tasked with defining an airborne radio suitable for installation in all types of aircraft

- The ARINC 766 AeroMACS Radio Characteristic status:
  - Draft 4 of Project paper 766 was released in August 2016 for review
  - Aiming for completion and grey cover release by mid-2017
  - Teleconferences are being used to status the work
  - The next face-to-face meeting is scheduled for November 3-4, 2016 in Annapolis, MD
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- Key functional issues:
  - CMU-ARU A429 interface definition: file transfer protocol and data format
  - How to accommodate ACD and AISD data?
    - Per IEEE 802.16 service flows
    - Separate Ethernet ports for ACD and AISD
  - Security
    - AeroMACS provides security on the air-ground link
    - Reference other AEEC characteristics such as IPS for end-to-end security.

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- Questions?

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