



Surface Air-Ground Datalink Communications System (AeroMACS) Status

AFC Spring 2016 - Portland

Aeronautical Mobile Airport Communications System



- Aeronautical Mobile Airport Communications System (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

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 will be addressing system security as it applies to AeroMACS and other systems being defined by RTCA special committees
 - Last meeting held on April 26-28, 2016 in Washington, DC
- The ICAO WG-S has completed a Standards and Recommended Practices (SARPs) and is continuing to develop a Technical Manual which is scheduled for completion by the end of 2016
 - Last meeting held February 29 – March 2, 2016 in Montreal, Canada
 - Holding teleconferences every 2 weeks to status work completed
 - Next meeting is scheduled for May 24-26, 2016 in Montreal, Canada

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 last AeroMACS WG meeting was held February 4-5, 2016 in conjunction with the DLUF
- A draft ARINC Project Paper 766 (AeroMACS Transceiver and Aircraft Installation Standards) has been prepared
- The goal of the WG is to develop a mature draft of ARINC Project Paper 766 by the end of 2016
- Teleconferences are being scheduled to progress the work
- Next meeting is scheduled for July 28 - 29, 2016 in London, England

AEEC AeroMACS Working Group



- Key issues being addressed by the AEEC AeroMACS WG include:
 - AeroMACS network issues
 - Address a coverage study concerning the use of dual AeroMACS networks in an airport
 - Single or dual AeroMACS units in one box?
 - Aircraft Radio Unit (ARU) specific issues
 - Segregation between safe and non-safe sections: logical or physical?
 - ATN/OSI integration?
 - DAL level design?
 - Connection to A/C safe domain: Ethernet or AFDX?
 - ARU security aspects
 - Proposed airport ground network architecture
 - Allow multiple Access Service Networks
 - Allow multiple Service providers
 - System architecture that would allow frequency diversity and security



- Questions?