Recap and Program Plan Update

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GPS Adjacent Band Compatibility Assessment Workshop IV
RTCA – Washington, DC

Recap [1/2]

- Initial Workshop-I held on September 18, 2014 at the Volpe Center
  - Overview of DOT GPS Adjacent Band Compatibility Assessment Plan and plans/timeline for implementation
  - Presentation on GPS use cases and list of representative GPS receivers
  - Description of GPS receiver and antenna information needed from manufacturers
- Telecons with individual manufacturers
- Workshop-II held on December 4, 2014 at Aerospace Corporation
  - Feedback on the program's implementation plan
  - GPS receiver Use Case information shared
  - Applicable testing and associated challenges discussed

Recap [2/2]

- Drafting requirements for a test plan
- Workshop-III held on March 12, 2015 at Aerospace Corp.
  - Discussion/Identification of GPS and Global Navigation Satellite System (GNSS) receivers to be considered for testing
  - Discussion/feedback on a GPS/GNSS receiver test plan
  - "Today's" GPS receivers [also] include GNSS receivers
- Develop draft receiver test plan
  - Coordinate/comments within USG
  - Release for public comment
- Drafting considerations for GPS/GNSS test procedure

Next Steps

- Finalize GPS/GNSS Receiver Test Plan
- Anechoic Chamber Identification and Coordination
- Manufacturer and User Involvement Coordination
- Test Procedure Development/Design
- Develop/Validate Radiated RF Test Environment
- GPS/GNSS Receiver Testing

Finalize GPS/GNSS Receiver Test Plan

- Comment period ends Oct 9, 2015
  - All comments, to be considered, must be submitted before the comment period ends
  - Comments cannot be submitted through this workshop (i.e., we cannot accept written/verbal comments)
  - Please follow the directions outlined in the Federal Register Notice
- Review comments from the comment period and update the test plan as necessary
- Release final Test Plan to public
  - Attached to the FRN/public notice
  - http://www.gps.gov/spectrum/ABC/

Anechoic Chamber Identification and Coordination

- Revisit/identify anechoic chamber options
- Support and Equipment available at the chamber
- Placement/Configuration Requirements
  - Understand how the receivers can be placed
  - GPS/GNSS and interference sources
- Visitor access requirements
- Anechoic chamber scheduling
  - One week of actual testing
  - Additional time needed for setup, calibration, validation, and tear down

Manufacturer and User Involvement Coordination

- Verify who is willing to participate
- Based on participation, finalize set of GPS/GNSS receivers to be tested and how the receivers will be provided
- Coordinate what data can be provided, based on what is indicated in the test plan but realized against what the actual receiver can provide
- NDAs

Test Procedure Development/Design and RF Test Environment

- Development of test procedure
  - System level functional block diagram
  - Define each GNSS scenario
  - Define each interference signal scenario
  - Overall test schedule
- Identify make and model, source, and alternatives/backup (if necessary) of test equipment needed (cavity filter and control hardware procurement typically takes ~10-12 weeks)
- Develop control software
- Generate and validate predefined GPS/GNSS signal & interference scenarios
- Validate/Test end-to-end RF interference and GPS/GNSS signal generation

GPS/GNSS Receiver Testing

- Chamber calibration mapping
- Test equipment installation (GPS/GNSS Signal and RF interference sources and automation hardware)
- GPS/GNSS receiver installation
- Validation of correct/normal operation (GPS/GNSS Receivers and “Test system”)
- Conduct GPS/GNSS receiver testing
- Possible need to repeat aspects of test
- Test teardown

Schedule

- Final Test Plan released: Nov 6, 2015
- NDA execution: Dec 1, 2015
- Finalize list of GPS receivers to be tested: Jan 16, 2016
- Test Procedure Presentation (workshop): Late 2015 or Early 2016
- Workshop –V : Late 2015 or Early 2016
- GPS/GNSS receiver testing: Mar 2016

Tentative Topics for Workshop-V

- Test Procedure overview
- Down-selected list of receivers for testing
- Testing logistics and schedule

Questions?