



RTCA Paper No. 258-22/SC242-006
EUROCAE Paper No. 330-22/WG124-06

September 9, 2022

**Summary of the 3rd Meeting
Summary of the 3rd Meeting
Spectrum Compatibility**

**RTCA Special Committee 242 (SC-242)
EUROCAE WG-124**

Executive Summary

The joint RTCA SC-242 / EUROCAE WG-124 Plenary meeting was held on September 9, 2022. The meeting was held in hybrid format with both in-person at EUROCONTROL and virtual attendees.

- Briefings were presented on the following topics:
 - Subgroup 1 Output to SC-242/WG-124 Plenary
 - Subgroup 2 Plenary Summary – SC-242/WG-124

Meeting materials are available in the September 9, 2022 Plenary Meeting #3 folder on AerOpus and Workspace at the following links (link may need to be copied into browser):

- RTCA AerOpus:
<https://aeropus.i3cloudservices.com/Group/GroupLanding/10010?tab=Documents&folder=Plenary+Sessions%2F2022+Sessions%2F3-September+7-9%2C+2022>
 - EUROCAE Workspace: <https://eurocae.sharepoint.com/sites/strato/143ce6de-838d-ec11-b400-000d3ab41693/eea0710b-fbfd-ec11-82e5-000d3ad99c44/SitePages/Documents.aspx>
- Next Meeting:
 - November 8-10, 2022 at RTCA facilities
 - Joint RTCA SC-242 (Meeting 4) / EUROCAE WG-124 (Meeting 4) Plenary

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Joint Plenary Meeting Summary

The joint RTCA SC-242 / EUROCAE WG-124 Plenary meeting was held on Friday September 9, 2022. The meeting was held in hybrid format with both in-person at EUROCONTROL and virtual attendees.

Meeting materials are available in the September 9, 2022 Plenary Meeting #3 folder on AerOpus and Workspace at the following links (link may need to be copied into browser):

- RTCA AerOpus:
<https://aeropus.i3cloudservices.com/Group/GroupLanding/10010?tab=Documents&folder=Plenary+Sessions%2F2022+Sessions%2F3-September+7-9%2C+2022>
- EUROCAE Workspace: <https://eurocae.sharepoint.com/sites/strato/143ce6de-838d-ec11-b400-000d3ab41693/ea0710b-fbfd-ec11-82e5-000d3ad99c44/SitePages/Documents.aspx>

Friday, September 9^h Plenary

The Plenary convened at approximately 0700 EDT / 1300 CEST

1. Host and Co-Chairs Welcome and Introductions
 - Ed Hahn and John Micallef welcomed participants.
 - Ed and Rebecca Morrison managed introductions by participants.
 - Attachment A lists the combined participants for the Plenary and subgroup meetings.
2. RTCA & EUROCAE Policy Presentation
 - Rebecca Morrison and Anna Guegan presented RTCA and EUROCAE mandatory slides on anti-trust, proprietary/intellectual property, committee participation membership, and GDPR privacy policies.
3. Review and Approval of Meeting Agenda
 - Ed Hahn presented the meeting agenda and proposed some amendments. Ed asked if there were other agenda items and none were offered.
 - Agenda was approved as amended.
4. Review and Approval of the Minutes from SC-242/WG-124 Plenary Meeting #2
 - Clay Barber presented the draft April 20, 2022 plenary minutes. Clay proposed an amendment to fill in the actual dates for this meeting, which was undetermined at the time the draft minutes were posted.
 - Minutes were approved as amended.

Post meeting note: The final minutes were posted to the April 20, 2022 Plenary Meeting #2 folder on AerOpus and Workspace.

5. Review of Actions and Risk Register
 - Review of Actions: The open actions from the April 20, 2022 plenary minutes were reviewed.
 - March 20, 2022 plenary #1: Action 1: It was noted that efforts are being made to identify a WG-124 Secretary. Action 2: The due date to identify document editors was extended to the Plenary Meeting #4.
 - April 20, 2022 plenary #2: All actions (#7 through #10) were closed.

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- Risk Register: John Micallef explained the purpose of the risk register is to keep track of tasks that need to be completed and to identify the associated risk to meeting the committee's deliverable schedule. The concept is to establish a short table of tasks and identify their associated risk with red, yellow, or green color coding. The committee agreed the risk register would be beneficial.
- ACTION: John Micallef to prepare an example risk register and present it to the committee for discussion.

6. Internal Coordination

a. Update of Work Plan by Subgroup Leads

- Subgroup 1:
 - Andy Roy led the discussion of the Subgroup 1 (SG1) slides (attached).
 - Due to a lower-than-expected number of survey responses from other Special Committees (SCs)/Working Groups (WGs), the SG1 survey report publication date will slip but not to the point it is necessary to update the TOR. The delay is expected to have only a minor impact to the Subgroup 2 (SG2) guidance document schedule.
 - Discussion ensued about what SC-242/WG-124 can do to facilitate other SCs/WGs returning their responses in a timely manner.
 - ACTION: Ed Hahn and John Micallef to refine the survey request to other SCs/WGs and send updated request.
 - ACTION: Andy Roy, assisted by Ed Hahn and John Micallef, to schedule Webex meetings with other SCs/WGs to aid returning their responses.
 - Rebecca Morrison noted other SCs/WGs are in the process of dealing with spectrum and asked if it would be helpful for the RTCA Program Management Committee (PMC)/EUROCAE Technical Advisory Committee (TAC) to share the survey report with these other SCs/WGs to help them resolve spectrum gaps as part of their tasks. Andy explained it might not be of benefit because the survey report is primarily intended to identify the issues that SG2 will resolve in the guidance document.
- Subgroup 2:
 - Capucine Amielh led the discussion of SG2 slides (attached).
 - Discussion occurred on various points identified on the SG2 slides.

b. Tasks Allocation

- The committee agreed the primary allocation of tasks between SG1 and SG2 is:
 - SG1 will survey what exists in RTCA DO and EUROCAE ED standards and raise the questions that need to be resolved by SG2
 - SG2 will answer the questions raised by SG1 through recommendations in the Guidance document

7. External Coordination

a. Correspondence and Announcements on Input Material from Other RTCA/EUROCAE SCs/WGs

- Ed Hahn provided a summary of the correspondence that has been received from other SCs/WGs.

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b. Status from Other External Groups [e.g., CEPT, ICAO, etc.]

- Ed Hahn and John Micallef indicated they have had no interactions with external groups.
- Andy Roy explained the ICAO Frequency Spectrum Management Panel (FSMP) is currently updating the ICAO Handbook. Andy requested that the SC-242/WG-124 provide an update on the committee at the February ICAO FSMP. Rebecca Morrison and Anna Guegan noted that SC-242/WG-124 should coordinate its presentation with RTCA/EUROCAE before making the presentation to FSMP since committee members are not RTCA/EUROCAE employees and cannot speak on their behalf.
- **ACTION**: SC-242/WG-124 to prepare a presentation for the February ICAO FSMP (ensuring coordination with RTCA/EUROCAE).
- Anna noted that EUROCAE is in the process of creating a Memorandum of Understanding (MOU) with the European Conference of Postal and Telecommunications Administrations (CEPT) that should be useful to this committee for sharing information. Rebecca noted that a RTCA MOU with CEPT will be based on the EUROCAE MOU.

8. Other Business

- **Deliverable Titles**: John Micallef explained that the EUROCAE TAC had noted concern with the words “Compendium” and “Primer” used in the two report deliverables not being sufficiently well known or translatable for its members. Discussion ensued with the committee proposing the following alternatives for consideration by the TAC:

Report #1: Compendium on Radio Frequency (RF) Performance of Standards for Aeronautical RF Systems

- Proposal: Replace “Compendium on” with “Survey of”
 - Or if TAC prefers, “Summary of”

Report #2: Primer on Aeronautical Radio Frequency Systems, their Regulatory Framework, and Operational Considerations

- Proposal: Replace “Primer on” with “Introduction to”
 - Or if TAC prefers, “Report on”

- **ACTION**: Anna Guegan to present proposed report title changes to EUROCAE TAC for consideration.

9. Review Action Items

- Clay Barber provided the list of actions he had captured from the September 9 Plenary. The actions were amended as suggested by the committee and are captured in the following table.
- Current SC-242/WG-124 Plenary Action Item list
 - Action Items closed during this Plenary are shaded in grey in the following table.
 - New Action Items identified during this Plenary are shaded in green in the following table.
 - Actions closed in previous Plenary sessions are not listed.

#	Owner	Action	Date	Due Date	Status
1	Anna Guegan / John Micallef	Identify WG-124 Secretary	Mar 10, 2022	Apr 20, 2022	Open

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#	Owner	Action	Date	Due Date	Status
2	Ed Hahn / John Micallef	Identify subgroup leads and document editors • Subgroup leads identified Apr 20, 2022	Mar 10, 2022	Nov 8, 2022	Partially Open
7	Ed Hahn / Clay Barber	Finalize RTCA TOR for submission for PMC approval	Apr 20, 2022	Apr 22, 2022	Closed
8	John Micallef / Anna Guegan	Amend EUROCAE TOR to align with RTCA TOR	Apr 20, 2022	May 6, 2022	Closed
9	Clay Barber	Post John Mettrop document list to AerOpus and Workspace	Apr 20, 2022	Apr 22, 2022	Closed
10	All	Committee to provide comments on draft work plan by May 4, 2022	Apr 20, 2022	May 4, 2022	Closed
11	John Micallef	Prepare an example risk register and present it to the committee for discussion	Sep 9, 2022	Nov 8, 2022	Open
12	Ed Hahn / John Micallef	Refine the survey request to other SCs/WGs and send updated request	Sep 9, 2022	Sep 20, 2022	Open
13	Andy Roy	Schedule Webex meetings with other SCs/WGs to aid returning their responses (assisted by Ed Hahn / John Micallef)	Sep 9, 2022	Sep 26, 2022	Open
14	Ed Hahn / John Micallef	SC-242/WG-124 to prepare a presentation for the February ICAO FSMP (ensuring coordination with RTCA/EUROCAE)	Sep 9, 2022	Feb 1, 2023	Open
15	Anna Guegan	Bring proposed report title changes to EUROCAE TAC for consideration	Sep 9, 2022	Nov 8, 2022	Open
16	Rebecca Morrison	Send survey to establish March 2023 virtual Plenary 5 date	Sep 9, 2022	Dec 1, 2022	Open
17	John Mettrop / Anna Guegan	Determine April 2023 Plenary 6 location	Sep 9, 2022	Jan 15, 2023	Open

10. Date, Place, and Time of Next Meeting

- Subgroup biweekly meetings will resume on September 20, 2022.
- Rebecca Morrison noted that SC-242/WG-124 had previously proposed meeting from November 8-10 at RTCA facilities (with hybrid option) in Washington DC. The committee agreed to these dates and that Plenary 4 would occur as part of these meetings. To help members obtain travel authorizations from their respective organizations, Rebecca Morrison requested that the subgroup meeting agendas include more details.
- Based on the updated SG1 workplan, the committee agreed to a virtual Plenary 5 in March 2023 to approve Report #1. The specific date will be agreed via a survey.
- The committee agreed to meet April 19-21, 2023 to include Plenary 6 with possible locations being UK CAA or EUROCAE (with hybrid option).
- **ACTION:** Rebecca Morrison to send survey to establish March 2023 virtual Plenary 5 date.
- **ACTION:** John Mettrop and Anna Guegan to determine April 2023 Plenary 6 location.
- The following table includes the future meeting dates / locations:

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Meeting Dates	Locations (Hosts)	Meeting Goal
November 8-10, 2022	Washington DC (RTCA) (hybrid)	Progress Report #1 and Guidance document
March TBD, 2023	Virtual (RTCA)	Finalize and approve Report #1
April 19-21, 2023	TBD UK CAA or EUROCAE (EUROCAE) (hybrid)	Progress Guidance document and Report #2

11. Adjournment

- The Plenary adjourned at approximately 0845 EDT / 1445 CEST on Friday September 9, 2022.

CERTIFIED as a true and accurate summary of the meeting.

Clay Barber, SC-242 Secretary

TBD, WG-124 Secretary

Ed Hahn, SC-242 Chair

John Micallef, WG-124 Chair

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Attachment A – Participants

Leadership

Name	Organization
Ed Hahn SC-242 Chair	ALPA
John Micallef WG-124 Chair	EUROCONTROL
Clay Barber SC-242 Secretary	Garmin
Chris Tourigny, SC-242 Government Authorized Representative	FAA
Rebecca Morrison SC-242 Program Director	RTCA
Anna Guegan WG-124 Technical Programme Manager	EUROCAE
Andrew Roy Subgroup 1 Lead	ASRI
Capucine Amielh Subgroup 2 Lead	Airbus

Membership

Name	Organization
Alex Milns	EUROCAE
Bart Van Den Einden	EUROCONTROL
Christophe Delanaud	EUROCONTROL
Earle DePass	TCCA
Gerhard Berz	EUROCONTROL
Ihor Skydra	EUROCONTROL
Jessie Turner	Boeing
John Mettrop	UK CAA
Josep Gine	ATR Radio fx
Kim Kolb	Boeing
Mauro Pagliarini	EASA
Naruto Yonemoto	Electronic Navigation Research Institute (ENRI), Japan
Nick Rico	Textron Aviation
Rockee Zhang	University of Oklahoma
Sai Kalyanaraman	Collins Aerospace
Sasa Jankovic	Bundesaufsichtsamt für Flugsicherung, Germany
Sergiu Marzac	Boeing
Wen Chan	Delta Airlines
Wes Googe	American Airlines
Xavier Esneu	Collins Aerospace

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Guests

Name	Organization
James Hatlestad, SC-135	Boeing
Kyle McMullen, SC-135	NIAR

SG-1 Output to SC-242/WG-124
Plenary

SC-242/WG-124 Plenary

SG-1 Work/Outputs

- Review/update workplan
 - Timelines
- Review of the RF survey responses received so far
 - Develop criteria for how the responses are reviewed
- SG1 report planning
 - Discuss and agree structure of report
 - Volunteers for relevant sections in the report

SC-242/WG-124 Plenary

SG-1 Review/update workplan

- Workplan has been reviewed
- Timelines for RF survey not as expected
 - Lower than expected response for SC/WGs
 - Though majority of inactive SC/WGs docs have been returned
 - Deadline extended now until 31 Dec
 - 242/124 leadership will be refining the request to SCs and providing additional info/support
- Updated timeline would imply 30 Apr publication date for SG-1 report
- Delay should not have major impact to SG-2 spectrum guidance document
 - Concurrent work and research for rest of 2022

SC-242/WG-124 Plenary

SG-1 RF survey responses improvements

- Survey request considerations
 - If an individual class of parameter is not specified, it should be made clear in the RF survey that this is the case, and if it is a parameter is out scope/Not applicable to the system, then this should also be explained.
 - Nil vs N/A
 - Color coding red(?) for missing
 - Is the material provided part of the specification, or part of the background (i.e. implied, but not explicit in its requirements)?
 - Identify explicit or implicit dependencies to external documents for RF parameters

SC-242/WG-124 Plenary

SG-1 Report planning

- Report objectives
 - Potential variations in how spectrum performance is documented
 - Gaps in spectrum information (i.e. a fully defined Tx and Rx functions?)
 - Identify and catalog unresolved and/or unqualified deficiencies (i.e. all unknowns)
 - Examples of extensive work on spectrum considerations that may be used as future models for guidance material
 - Identify explicit or implicit dependencies to external documents for RF parameters
 - Raise the questions that need to be resolved in the spectrum guidance document
- Target audiences
 - SG-2
 - Aviation community
 - Standards organizations (including ICAO)

SC-242/WG-124 Plenary

SG-1 Report Planning

- Report elements
 - Capture context/purpose of the report (first stage of the RTCA/Eurocae spectrum policy process)
 - Supplemental material package of survey responses (limited only to parameter questions and references, not contextual questions or remarks)
- Level of detail for each RF survey review
 - System summary and purpose
 - Summary of material contained
 - Should explain context of document
 - Age of document, last update, and if a corresponding MASPS/supplements/other sub-system specific MOPS exists for the system
 - Identify gaps with some examples, and the potential reasons for these
 - Principle of 'can you do a study against it from an external interference source?'
 - Fully defined Tx and Rx parameters?
 - Operational parameters?
 - Report is not an assessment, but should be honest about the gaps
 - Context of other known standards that may support if not specifically referenced
 - Specific comments made in the survey on responses to contextual questions

Plenary summary – SC242/WG124

SG2

Sept. 9th, 2022

Workplan and planning – SG2

- Workplan
 - Proposed workplan has been reviewed
 - Recommendation on propagation models should be proposed → references can be found in ITU Handbook on propagation
 - Operational volume recommendations should be detailed (usage, operation scenario...)
 - Clarifications on what margins could include (ex: scintillation, multipath, safety...)
- Planning
 - Proposed planning has been reviewed
 - 1st internal review of complete deliverable in Nov. 2023
 - Identify an editor by end of 2022
 - Propose a new planning considering parallel activities assuming a certain number of volunteers
 - Possibility to write issue paper for early capitalization → to be identified for next WG meeting
 - Issue paper 1: SG1 parameters synthesis and guidance towards ITU recommendations
 - Issue paper 2: receiver model...

List of ICAO/CEPT/ITU/ETSI documents 1/2

- Give references on spectrum in and outside aeronautics
- Gather definitions from RF receiver/transmitter descriptions, RF parameters, interference assessment and effects
- Trace documents relevant to spectrum management philosophy
- Identify documents to support SG1 2nd deliverable
- Identify documents useful for recommendations on:
 - Interference scenarios
 - Measurements (not include here)
 - Interference reduction/mitigation techniques
 - Use of spectrum
 - Margins

List of ICAO/CEPT/ITU/ETSI documents 2/2

- ICAO handbook (Doc9718) and Annexes are highly related to this DO work
- IP will be addressed by RTCA and EUROCAE IP Policies. The leadership will coordinate as needed so it isn't a blocking issue for publication.
- SG2 is tasked to have a look at documents from the list and provide insight of interesting matter (for SG1 or SG2)
- SG2 is tasked to merge present list from April for next WG meeting

Definitions of RF parameters from the ICAO/CEPT/ITU/ETSI document list

- Following step would be to compare parameters definition encountered in the survey to various definitions from outside RTCA/EUROCAE
- The intention is to harmonize the use of terminology with regulatory documents, not reconcile between these organizations' definitions
- Possibility to issue a glossary document as an ER to gather our definitions
- Annex 4 of ITU Regulations contains list of parameters for coordination that should be checked

SG1/SG2 coordination

- SG1/SG2 roles
 - SG1 is in charge to assess what is existing in DO/ED and raising questions on spectrum
 - SG2 intent is to answer SG1 questions through recommendations
- For Nov 2022 plenary, SG2 is tasked to review an early draft from SG1
- Issue paper on guidance from SG1 work
 - Draft on ITU recommendations can start right away
 - Synthesis of SG1 findings/questions will have to wait end of March 2023