



RTCA, Inc.
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RTCA Paper No. 275-23/SC-230-078
11/1/2023

Summary of the 35th SC-230 Plenary

Virtually held on 31 October 2023.

(originally scheduled subsequent days of 2-3 November cancelled)

Attendees list	Organization	Date(s) Attended
Bob Avjian	The MITRE Corporation	31 Oct
Dawn Gidner (Co-Chair)	SeaTec Consulting, Inc	31 Oct
Divesh Lakhi	Collins Aerospace	31 Oct
Jan Lukáš	Honeywell	31 Oct
Jean-Baptiste Berthier	Airbus	31 Oct
Jeff Finley (Co-Chair)	Collins Aerospace	31 Oct
Karan Hofmann	RTCA, Inc	31 Oct
Marius Irimia	Collins Aerospace	31 Oct
Mariusz Starzec	Garmin	31 Oct
Mark Smith	Collins Aerospace	31 Oct
Matthew Lug	USAF	31 Oct
Mohammed Ahmed	Boeing	31 Oct
Moin Abulhosn (GAR)	Federal Aviation Administration	31 Oct
Rockee Zhang	University of Oklahoma	31 Oct
Venkata Sishtla	Collins Aerospace	31 Oct



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Summary of Day 1 (October 31st, 2022)

Welcome and Administrative Remarks

- RTCA Opening remarks on Anti-Trust Laws, IP Policy, and Membership Policy provided by Karan Hofmann.
- Jeff Finley led the introductions of attendees.
- Minutes from August Plenary were approved without comment or amendments after the corrections done by Karan before the plenary was in session.
- The current secretary, Mohammed Ahmed, was not present at the start of the plenary and it was not known whether he would attend. Mariusz Starzec agreed to be the acting secretary for this plenary meeting.

Overview of Agenda given

Going over previous activities:

- DO-220B previously presented and approved.
 - According to Moin, FAA is actively working on updating and approving the relevant Advisory Circular and the TSO.
- Went over the brief history of how SC-230 got to the point of the new ToR, with the original plan being to put SC-230 activities on pause. PMC recommended that SC-230 perform analysis to determine X-band airborne weather radar susceptibility to RFI from in-band and out-of-band sources, with a focus on 6G.
- Working Group 12 created with Venkata and Yahya acting as working group leads. Need to generate white paper on susceptibility of airborne weather radar systems to RF interference.
 - FRAC date is listed as December 2024. Discussion that most of the work would need to be done by October 2024 to meet FRAC date.
 - Need to verify that Yahya is still able to help lead/participate in effort.

Overview of ToR and WG-12:

- Briefly went through the scope, coordination, and expected use of deliverables.
- Discussed that we were originally only including susceptibility to modern solid-state radars, but PMC wanted that to change to include older magnetron-based radar systems.
- Anticipated that white paper will be used by spectrum regulatory committees over the next several years; need to get it completed asap.



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Presented slide giving historical look at previous working groups.

Presented slides looking at previous SC230 plenary meetings and member counts (73 members – not all active).

Started discussion on organizing work for the spectrum white paper:

- Ven suggested following along with a similar methodology used by SC-239 – just modifying it to be suitable for airborne radar.
- Discussion on how to include radar characteristics from various manufacturers without revealing proprietary information or directly being able to link characteristics to a particular manufacturer.
 - Agreement that this will likely need some third-party to oversee; details to be figured out later.
- Everyone needs to review SC-239 document and see what portions are applicable and whether any simulations or test methodologies and can be used in this white paper.
- Discussion on what information we have on 6G spectrum usage characteristics. How do we ‘model’ it if we have no idea what the properties are?
 - If we have no information, do we stick to known in-band emissions? Idea brought up to get a couple examples of in-band X-band sources and using characteristics of those systems to test against.
 - Bob said he will try to ask personnel in MITRE who worked with 6G (?) to see if they could provide any details.
- Discussed document layout. Going through SC-239 document and noting which sections are directly applicable to us.
 - Some introduction and background sections can be done ahead of time – assigned to certain individuals to be drafted and presented at a working group meeting about a month out.
- No one on the call has strong RF expertise – need to seek out and invite people that may be able to help. Main problem is setting up a methodology on how to tackle susceptibility problem and how to test for it.
 - Radar manufacturers to discuss internally with RF engineers to get an idea of how to tackle the problem.
 - Mohammed to discuss internally with Boeing personnel that were involved with the altimeter.



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- Discussion on challenges of finding people who know about magnetrons. Task given to find/reach out to other manufacturers or operators of magnetron radars and give them invite to join the WG. Radar manufacturers to look within their companies.

Scheduling Working Group sessions and next Plenary. Working group sessions to be held every two weeks until the end of the year.

Decided to cancel the next two plenary days of 2nd and 3rd of November.



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Upcoming Meetings:

- | | | |
|---------------------|--------------------------|---------|
| • 14 November 2023 | WG Meeting | Virtual |
| • 28 November 2023 | WG Meeting | Virtual |
| • 12 December 2023 | WG Meeting | Virtual |
| • 6-8 February 2024 | 36 th Plenary | Virtual |

The WG Meetings are expected to meet virtually at 10:30 AM ET.

The next plenary meeting in February will be held virtually.



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Action item summary

Action Item #	Action	Person(s)	Estimated Completion Date
Day 1:			
1	Review SC-239 document – Sections 6 and 7 are most important. Are there any applicable simulations, tests scenarios, or testing methodologies that we can use for our white paper?	Group, especially radar manufacturers	Next WG Meeting
2	Communicate with members of SC-242 to figure out if they have any knowledge on of expected 6G spectrum-related characteristics.	Venkata	Next WG Meeting (?)
3	Locate information pertaining to the Tahiti ground-based weather radars.	Venkata	Next WG Meeting (?)
4	Get working drafts of the opening sections of the white paper. Introduction – Mariusz, Background – Jeff/Ven, Scope – Jeff/Ven, Potential impact to aircraft operations – Jean-Baptiste/Jeff/Mohammed/Ven	Jean-Baptiste, Jeff, Mariusz, Mohammed, Venkata	Second WG Meeting (Nov. 28 th)
5	Investigate Boeing’s internal work with regards to interference of radar altimeters – is there anyone knowledge on the matter who can help setup an analysis methodology?	Mohammed	Next WG Meeting (?)
6	Define aircraft operation scenarios where interference can cause as impact.	Radar Manufacturers	Next WG Meeting
7	Contact Yahya and see if he is still able to support the white paper effort.	Venkata	Next WG Meeting
8	Radar manufacturers: Discuss internally with RF colleagues about ways to set up an interference analysis methodology/testing	Group, radar manufacturers	Next WG Meeting



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	procedure. Others (e.g., Bob) to follow up on any contacts or information that may be helpful.		
9	Inquire for information about magnetron radars.	Mariusz	Next WG Meeting
10	Is there any other organization, manufacturer, or person that would be invited to attend the SC230 WG/plenary meetings?	Group	On-going

CERTIFIED as a true and accurate summary of the meeting.

Mariusz Starzec, SC-230 Acting Secretary

Jeff Finley, SC-230 Co-Chair

Dawn Gidner, SC-230 Co-Chair