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Saint Denis, 23May2025  
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**EUROCAE WG-119 Plenary Meeting #18 “Radar Altimeter” /  
RTCA SC-239 Plenary Meeting #18 “Low Range Radar Altimeter”**

**DATE:** 23 May 2025

**TIME:** 9 – 11 AM EDT (USA)

**PLACE:** Hybrid (Cologne, Germany / Online)

**CONTACTS:**

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**AGENDA**

1. Welcome and Introductions
2. EUROCAE/RTCA presentations (Administrative Reminders – Rebecca, Mark)
3. Validation of the previous Plenary MoM (17<sup>th</sup> plenary) (Sai)
5. Review of Schedule and Scope for MOPS development
6. Review Terms of Reference Progress for SC-239
4. Working Group Reports (Kim, Miles, Eddie, Dave, Timo, Behlul/Sophia)
7. Discussion of Future Meetings
9. Review of Action Items
8. Other Business
10. Adjourn

**PARTICIPANTS –**

<b><u>Name</u></b>	<b><u>Organization</u></b>
Andrew Roy	ASRI
Barbara Clark	FAA
Behlul Poonawalla	FreeFlight Systems
David Redman	AVSI
Donny Morrow	ALPA
Doug Hyslop	CTIA
Eddie Straub	Garmin
Hussain Al-Sadi	Boeing
Italo Aguiar	Embraer
James Gilb	GA-ASI
Jean-Luc Robin	Airbus
Jerry Golden	UAL
Kambiz Rahnvardy	FCC
Kim Kolb	Boeing
Mark Watson	EUROCAE
Nic Shrout	ASRI
PAGLIARINI Mauro	EASA
Rebecca Morrison	RTCA
Sai Kalyanaraman	Collins Aerospace
Seth Frick	Honeywell
Shunichi Futatsumori	ENRI
Stephane TALLET	Thales
Ted Peterson	Collins
Timo Warns	Airbus
Shahrukh Virani	Free flight systems
Gustavo Baeni	ACES Corp.
Victor Jara	Honeywell
Wes Googe AAL	American Airlines
Rob Steinle	FAA
Hang Li	FreeFlight Systems
Sal Mazza	
Jerry Golden	UAL
Rockee Zhang	Univ of Oklahoma
Andronikos Nouragas	
Andrew Tasso	FAA
Carmelo Rivera	ACES Corp.

**Agenda Item 1: Welcome, Introductions and Administrative Remarks**

Jean-Luc Robin welcomed the group and the group did a round of introductions.

**Agenda Item 2. EUROCAE/RTCA presentations (Administrative Reminders)**

Rebecca and Mark Watson provided the RTCA and Eurocae policies and administrative reminders.

**Agenda Item 3. Validation of the previous Plenary MoMs**

Sai presented the minutes, pending updates to the participant list, the group approved the minutes.

**Agenda item 5: Review of Schedule and scope for MOPS development**

Jean Luc presented slides on schedule and scope and laid out the plan all the way out to baseline 5 (delivery of post FRAC doc to the PMC for approval).

**Agenda Item 6: Review Progress for SC-239**

Seth provided an update on progress. Since the previous plenary in Brussels and the workshop in Melbourne (FL), the working meetings have continued at a particularly sustained pace. Thanks to this pace, all chapters of the MOPS document from all Sub-Groups were finalized this week in accordance with the established schedule that supports the delivery dates required by the ToR. As a result, all Sub-Groups, together with the entire committee, provided a go ahead for RAC entry. RAC Comment period will open for Committee Members on Aeropus the Wednesday 28th May and close on July 2nd.

**Agenda item 4 : Working Group Reports**

Jean Luc went through the list of SG's with updates to share at this plenary and handed it over to Kim Kolb who leads SG2.

Kim indicated that SG2 was mostly dormant and reminded that spectrum is always dynamic and changing. He highlighted the two WRC AI's of interest (identifying 4400-4800 MHz band – WRC-27 and opening up 3400 – 3700 MHz for aeronautical mobile applications - WRC 31). There are plans of expansion of terrestrial applications in frequency bands approaching 4200 MHz on the lower side of the RA band (in line with the FCC NOI).

Miles Bellman was unable to attend and leadership presented the SG3 slide. All SG3 (requirements and test procedures) contributions were completed for RAC.

Eddie Straub, chair of SG4 presented an update on his SG activities. Excellent progress achieved during in-person meetings since last plenary, despite the large scope of material under SG4 responsibility. The expectation is that all needed SG4 material will be completed on time for RAC entry and material not needed for RAC entry will worked in parallel. Risks identified were forming consensus on remaining unresolved requirements and validation of all requirements, especially new loop loss model. It was identified that debate around class Delta was also a risk in terms of closing validation. Next steps include processing of RAC comments when available. The plan was for SG4 meetings to continue as normal during RAC comment period and validation period (for material not yet needed/completed for RAC entry).

Dave Redman provided the SG5 update. He indicated that the ITM has been compiled with consensus from at least two Rad Alt manufacturers for each class and stated that test procedures were completed and all relevant material was ready for RAC. He added that the ITM needs additional review from other Rad Alt manufacturers and Committee members during RAC. Next steps include completion of RAC review and incorporate resolutions to any comments as needed.

Timo Warns (chair of SG6) was present for the plenary. Given the increased amount of background noise at his location, he requested Jean Luc to present on his behalf who indicated that regular SG6 meetings continued with increased cadence as planned. He stated that SG6 material was completed on time for RAC entry and that they formulated an approach for requirements and verification procedures that was aligned with the overall MOPS approach. Key discussions centered around verification procedure details and applicable environmental test conditions. Identified next steps include processing of RAC comments when available and preparation of Appendix on Security Considerations.

Behlul Poonawalla presented the SG7 updates. He indicated that progress was made to ensure we meet RAC entry date of May 28<sup>th</sup>, 2025. Main items to address included agreement on Values and information for Group Delay and to work on removing the yellow highlighted items in the antenna sections. Next steps include obtaining data based on prototypes from RAAM's, finalize Measured Data collection results. Risks identified include ground plane impacts on the requirements once antenna manufacturers leverage their prototypes and begin validation efforts

## Risk Register

Risk ID	Effect of SG	Technical or Logistics Risk	Description of Risk	Part of Schedule Effected or Impacted	Owner (who is responsible for	Likelihood (1-Low, 2-Med, 3-High)	Impact (1-Low, 2-Med, 3-High)	Criticality (1,2=Low, 3=High)	Probability of Risk	Risk Event Date (the date when an active risk is	Effect on Schedule	Mitigation action(s)	Risk Status (Proposed, Active, Retired)
R04	SG-4	Technical Risk	TRX Prototypes Ready for test after RAC Comment Closure	Completing Validation (BL3)	Participants	1	3	3		01/09/2026	Delay in completing validation (BL3)	At least two Rad Alt manufacturers (per class) allocate	Active
R05	All	Logistics Risk	Flight test assets are not available by two	Completing Validation (BL3)	Participants	1	3	3		01/09/2026	Delay in completing validation (BL3)	At least two Rad Alt manufacturers (per class) allocate	Active
R07	SG-4	Technical Risk	Unresolved requirement - Flight test procedures values of altimetry requirements	Entering Validation (BL2)	SG-4	1	2	2		01/10/2025	Delay in entering validation (BL2)	Appendices will build consensus that may lead to better requirement via the RAC commenting	Active
R08	SG-4	Technical Risk	Definition of Class delta	Completing Validation (BL3)	SG-4	1	2	2		01/09/2026	Delay in completing validation (BL3)	It is possible Delta class could be removed or the appendices work will clarify this risk	Active
R09	SG-4	Technical Risk	details of loop loss model could change and need consensus	Entering Validation (BL2)	SG-4	2	2	4		01/10/2025	Delay in entering validation (BL2)	Appendices will build consensus that may lead to better requirement via the RAC commenting	Active
R10	SG-7 (ATN)	Technical Risk	Changes to the ground plane implementation may modify values associated with existing requirements	Entering Validation (BL2)	SG-7	2	2	4		01/10/2025	Delay in entering validation (BL2)	Date should be available prior to resolving all RAC comments. Existing designs could be used	Active
R01	SG-7 (ATN)	Technical Risk	Prototypes are not ready for testing prior to mid March	Entering RAC (BL1)	SG-7	3	3	3		03/05/2025	Delay, day for day, to initiate RAC	Realized by mitigated by indentifying subassembly tests	Realized and replaced with Risk 8
R03	SG-4	Technical Risk	Requirements are not Ready for RAC May 2025	Entering RAC (BL1)	Chairs	2	3	6		30/05/2025	Delay, day for day, to initiate RAC	In person meeting to finish capturing requirements	Retired
R06	All	Technical Risk	Display Requirements validation is delayed	Completing Validation (BL3)	SG-4	1	1	1		01/09/2026	Delay in completing validation (BL3)	Mitigated by the way we captured requirements and test procedures	Retired

### **Agenda Item 7: Discussion of Future Meetings**

1. SC-239 meeting and plenary – Cologne - Week of July 8'th, 2025 at EASA in Cologne, Germany. Plenary to be held on Friday morning at 9 AM US CT.
2. Fall plenary in week of 15Sep in the US. Location TBD.

### **Agenda item 9: Review of Action Items:**

The existing action item register was reviewed for updates and the following updates were implemented:

- 1) **Action Item 17-1:** Committee chairs to define internal committee milestone dates (“not-to-exceed” dates) for 1) RAC entry, and 2) Start of Final Validation in order to support the schedule in the updated ToR (with September 2026 OC/FRAC entry). Committee chairs will coordinate with sub-group leaders and take into consideration the dates of planned in-person committee meetings - **Closed**

### **Agenda item 10: Other Business**

None

### **Agenda item 11: Adjourn.**

The meeting was adjourned (at 10:32 AM US CT).