



EUR 283-18 / WG82-062
RTCA Paper No. 292-18/SC222-065

St Denis, 24.January 2019
Washington, 24.January 2019

**Minutes of
Working Group of the whole meeting of RTCA SC-222 (Meeting #31) and EUROCAE WORKING
GROUP 82 (Meeting #33)
“New Air-Ground Data Link Technologies”
related to
SATCOM**

Date	Thursday 8th November 2018
Place	Virtual Meeting
Venue	RTCA-Webex
Hosted by	RTCA

Participants:

Name	Company	8 th
Darrell Andregg	Rockwell Collins	X
John Bard	Thales	X
Alan Schuster Bruce	INMARSAT	X
Andrew Ives	INMARSAT	X
Gary Colledge	INMARSAT	X
Sachin Chhibber	Ligado	X
Anna Guegan	EUROCAE	X
Johan Gericke	COBHAM SATCOM	X
David Green	Rockwell Collins	X
Karan Hofmann	RTCA	X
Rainer Koll	Stellar Aerospace	X
Chuck LaBerge	LaBerge Engineering (Chair SC-222)	X
Ravi Jain	FAA (SC-222 GAR)	X
Armin Schlereth	DFS (Chair WG-82)	X
Nigel Silverthorn	Honeywell	X
Richard Tapp	Honeywell	X
Glenn Torgerson	The Boeing Co	X
Radek Zaruba	Honeywell	X
Duncan Mobley	Satcom Direct	X
Ayaz Nemat	L3	X

Tan Ye Eugene	CAAS	X
Dan McLaren	Bombardier	X
Keng Boon	CAAS	X
Ricardo de Sousa	NATS	X
Victor Gheorghian	Bombardier	X
Joan Manuel Cebrian	Indra	X
Laurent Cadiet	Airbus	X

DOCUMENTS

Agenda Item	Title	File name
1	WG-82 Calling notice	SC-222 and WG-82 Draft Calling notice Meeting 32.pdf
2	Minutes of last meeting	222_29_82_Meeting_32_minutes.doc
5	Draft MASPS with Appendix B on Security Recommendations and Appendix C on Dual SATCOM	ED-242A-part 1 draft4.docx
5	Inmarsat SwiftBroadband Specific Material	DO-343B Att 1 draft1.docx
6	ED-243 MOPS comments	ED-243 MOPS Comment table – all (2018-11-05).xlsx
6	Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS)	ED-243 (2018-11-05).docx
13	WG-82 TOR update	WG-82 ToR_approved 2018-01-16 update on LTE and ATCT version 0-1.doc

All SBB related documents are available on the EUROCAE WG-82 SharePoint and RTCA SC-222 Workspace.

PRESENTATIONS

Agenda Item	Title	File name
4	Open Consultation / Final Review And Comments	Joint_EUROCAE_RTCA_doc process_222_82_Nov2018v2.pptx

All presentations are available on the EUROCAE WG-82 SharePoint and RTCA SC-222 Workspace.

1 Welcome, Introductions, Administrative Remarks by Special Committee Leadership

Chuck LaBerge and Armin Schlereth welcomed the group. Main items were related to INMARSAT SBB update of MASPS and MOPS material to prepare for the FRAC/OC process to follow,

Before starting the meeting Karan Hofmann from RTCA secretariat explained the actual updated role of RTCA and IPR and participation statement from RTCA and EUROCAE side.

2 APPROVAL OF THE AGENDA

The final agenda of the RTCA SC-222 and EUROCAE WG-82 Plenary meeting looked as follows:

8th November 2018 (3:00 pm – 6:00pm CET)

Welcome, Introductions, Administrative Remarks by Special Committee Leadership

- Government Authorized Representative (GAR): Ravi Jain
- Chair RTCA-SC222: Dr. Chuck LaBerge, LaBerge Engineering
- Chair EUROCAE WG-82: Dr. Armin Schlereth, DFS

1. Agenda Overview
2. Review/Approve prior Plenary Meeting Summary – (action item status)
3. Coordination with other GROUPs (EUROCAE, RTCA, SESAR, AEEC, ICAO)
4. Overview of FRAC/OC procedures
5. Review DO-343B/ED-242A for Final Review and Comment(FRAC)/Open Consultation Comments (OC) release
6. Decision to approve release of DO-343B/ED-242A for FRAC/OC
7. Review DO-262D/ED-243A for FRAC/OC release
8. Decision to approve release of DO-262D/ED-243A for FRAC/OC
9. Review new Iridium CERTUS material for inclusion in DO-262C
10. Review new Iridium CERTUS material for inclusion in DO-343, if available
11. Industry Presentations
12. SC-228 IRSA Discussion
13. Update Work Plan for SC-222 and WG-82
14. Establish Agenda, Date and Place for next meeting
15. Review of Action Items
16. Adjourn – Plenary meeting

3 Minutes of last meeting

The minutes of the last meeting were approved after taking into account comments from the group. The action item list has been reviewed. The updated action item list is outlined at the end of the present minutes.

4 Coordination with other GROUPs

EUROCAE

No input provided at the meeting.

ICAO

As Nikos Fistas, Rapporteur of CP PT-S of ICAO, could not join the meeting, Armin outlined a summary of the PT-S report given by Nikos at the last DCIWG (COM Panel Infrastructure Working Group) ICAO meeting in October. Main points are:

- Originally planned for applicability of SATCOM Performance Class B SARPs in November 2020,
- Due to over-scribed ANC session in 2019 target date would shift to November 2022,
- PT-S decided not to wait until then and to complete SARPS in Q1/Q2 2019 timeframe,
- PT-S will try to convince ICAO to already process material in 2019,
- SATCOM manual work will start in 2019 and planned to be completed in 2020.

RTCA

According to the input from SC-228 participant the SC-228 UAS MASPS are expected end of 2018. Currently no input on performance requirements are expected from SC-222/WG-82 until UAS MASPS is available as some changes might happen. After availability of these requirements discussion on potential support of C2-link requirements by SATCOM will be re-opened.

AEEC

Next meeting of the A/G Communications Subgroup planned for 10th to 12th December 2018 in Phoenix. Currently working on items:

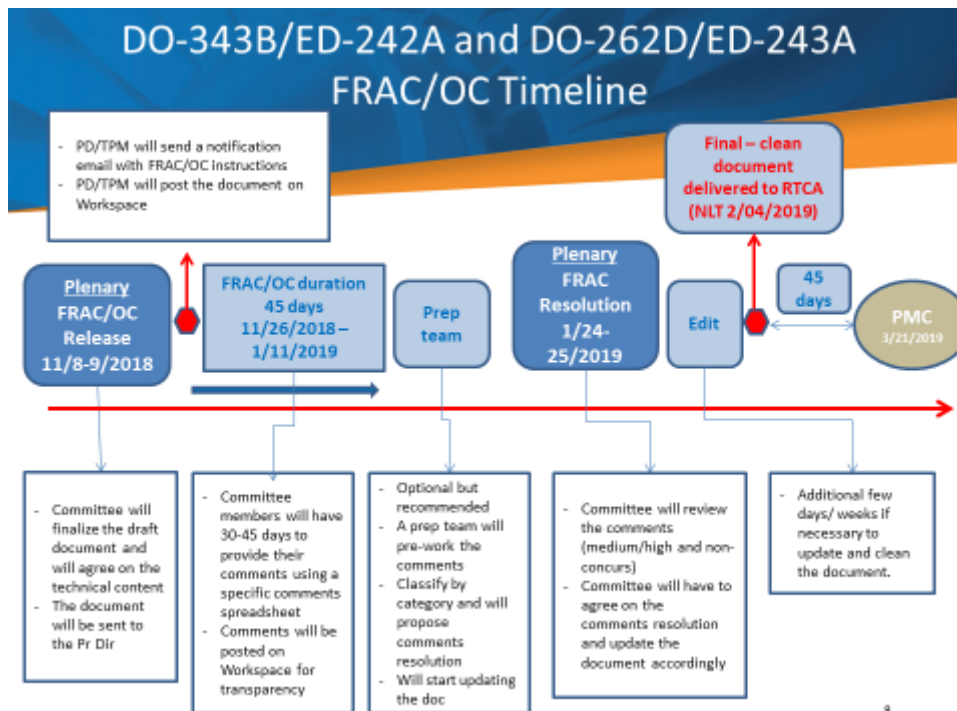
- ATCt / LTE interference

SESAR

No input provided at the meeting.

5 Overview of FRAC/OC procedures

Karan gave an overview on the FRAC/OC procedure to follow including agreed dates for the different milestones. The following figure summarizes the different steps and deadlines.



6 Review DO-343B/ED-242A for FRAC/OC release

Alan presented the material on SATCOM MASPS and asked for final comments. Some editorial changes have been agreed. Alan will update the material accordingly and send it to the RTCA and EUROCAE secretariat for starting the FRAC/OC process even before the deadline set at 26.11.2018.

7 Decision to approve release of DO-343B/ED-242A for FRAC/OC

RTCA SC-222 and EUROCAE WG-82 finally approved the documents for release for FRAC/OC.

8 Review DO-262D/ED-243A for FRAC/OC release

Radek went through the remaining comments. All open items could be closed except 2 TBD values related to voice latency. The group agreed to complete this material during the FRAC/OC process. Further on it has been agreed that for now no specific changes are required related to Dual SATCOM implementation. First step will be to consolidate on the proposed MASPS Appendix on the avionics architecture, which then will allow to include concrete technical means within the MOPS if needed.

Radek will send the updated material to the RTCA and EUROCAE secretariat for starting the FRAC/OC process even before the deadline set at 26.11.2018.

9 Decision to approve release of DO-262D/ED-243A for FRAC/OC

RTCA SC-222 and EUROCAE WG-82 finally approved the documents for release for FRAC/OC.

10 Review new Iridium CERTUS material for inclusion in DO-262C

No material have been presented at the meeting.

11 Review new Iridium CERTUS material for inclusion in DO-343

No material have been presented at the meeting.

12 Industry Presentations

No industry presentation have been given at the meeting.

13 SC-228 ISRA Discussion

According to the input from SC-228 participant the SC-228 UAS MASPS in C2 (Command & Control) link are expected end of 2018 as it is currently within FRAC procedure. Currently no input on performance requirements are expected from SC-222/WG-82 until UAS MASPS is available. After availability of these requirements discussion on potential support of C2-link requirements by SATCOM will be re-opened.

14 Detailed Work Plan for SC-222 and WG-82

Armin showed a proposed update of the EUROCAE WG-82 TOR. This now includes an intermediate step for Revision B publication to cover LTE /ATCt material as proposed at the last meeting by Inmarsat for end of 2019. The former Revision B planned for end of 2020 will now become Revision C. Deadline will stay for it as is.

The next meeting planned for 24th and 25th of January 2015 will on Review of SATCOM FRAC/OC comments review. As another item first material to be presented by Inmarsat (Alan) on LTE/ATCt subject will be put on the agenda as well but has lower priority for the Plenary meeting.

No further meetings have been planned as the outcome of the January meeting has to be considered first before planning of consecutive work.

During this agenda item also an issue related to LTE document ECC report 299 was raised by Richard Tapp (Honeywell), that feedback from EUROCAE is required until 11th December 2018. It was agreed that Alan Schuster-Bruce will contact directly EUROCAE Secretary General on this matter to clarify further steps.

15 Establish Agenda, Date and Place of next meeting

RTCA SC-222 and EUROCAE WG-82 agreed on the following planning to complete next Revision of MASPS and MOPS:

WEBEX's:

- **24.01.2019 and 25.02.2019WG-82/RTCA SC-222: Plenary WEBEX from 3pm to 6pm CET** (WEBEX will be organized by RTCA)

Note: This WEBEX is intended as resolution meeting of the fore-mentioned FRAC/Review process. It is intended to hand over the final material to Anna Guegan and Karan Hofmann on the 7th February 2019.

Meetings:

- **No next physical meeting(s) are planned.**

Action items

RTCA-SC222 / EUROCAE WG-82 30th meeting: 6.02.2018 and 7.02.2018

Action#	Content	Responsible	Deadline	Status
A30-09	<p>Review of SC-228 slides and material (ITU M.2127) to provide feedback on the following items:</p> <ol style="list-style-type: none"> 1) Support of 2000 UA 2) 10 – 100 kbps per UA (Peak!) 3) Voice latency of 390 millisecond maximum 4) Use of protected spectrum (L-Band) <p>Discussion at WG-82#31: Chuck will provide a response on it asap.</p> <p>Discussion at WG-82/#32: Values might change in the MASPS for UAS. MASPS are available end of the year. So no activities required by WG-82/SC-222 until availability of MASPS.</p> <p>Discussion at WG-82/#33: MASPS on C2 link support by SATCOM expected Q1/2019.</p> <p>Discussion at WG-82/#34: Status unchanged.</p>	Chuck	asap	Open

RTCA-SC222 / EUROCAE WG-82 31st meeting: 26.06.2018 and 28.06.2018

Action#	Content	Responsible	Deadline	Status
A31-01	<p>Coordinate with RTCA SC-159 on GNSS issues (sensitivity level etc.)</p> <p>Discussion at WG-82/#33: e-mail from Laurent (AIRBUS) → Chuck will respond asap on the numbers provided.</p> <p>Discussion at WG-82/#34: In context of IRIDIUM review will take care of it soon.</p>	Chuck	end of 2018	Open
A31-02	<p>Coordinate with EUROCAE WG-62 on GNSS issues (sensitivity level etc.)</p> <p>Discussion at WG-82/#33: Follow activities of A31-01</p> <p>Discussion at WG-82/#34: Status unchanged.</p>	Armin	end of 2018	Open
A31-03	<p>Contact EUROCAE WG-105 (RPAS) to ask for requirements on SATCOM Performance Class A</p> <p>Discussion at WG-82/#34: Still open. Armin to take care of it soon.</p>	Armin	asap	Open

A31-04	Write a paper to explain performance value split between backward and forward channel with total loop requirement available and distribute it to SC-222 and WG-82. <i>Note: This is also input to ICAO PT-S work on requirements definition.</i>	Chuck	asap	Closed
A31-05	Is round trip delay be measurable in reality? Alan to check with Garry at INMARSAT. Discussion on WG-82/#32: It is implemented but not fully verified. Discussion on WG-82/#33: Currently investigated within ICAO PT-S. It is up to ICAO to make a decision.	Alan	end of July 2018	Closed
A31-06	Distribute updated MASPS with new material on DUAL SATCOM for review by the group.	Alan	end of August 2018	Closed
A31-07	Distribute updated MOPS with new material on DUAL SATCOM for review by the group.	Radek	end of August 2018	Closed
A31-08	Radek to setup subgroup working on QoS Monitoring issues.	Radek	end of July 2018	Closed

RTCA-SC222 / EUROCAE WG-82 32nd meeting: 13.09.2018

Action#	Content	Responsible	Deadline	Status
A32-01	Armin to coordinate with Laurent (AIRBUS) on the AI31-02	Armin	asap	Closed
A32-02	Provide a text proposal to include new items on LTE and ATCt in the work plan of SC-222 and coordinate with Chairman of WG-82.	Chuck	asap	Closed
A32-03	Provide a text proposal to include new items on LTE and ATCt in the TOR of WG-82 and coordinate with Chairman of SC-222.	Armin	asap	Closed

RTCA-SC222 / EUROCAE WG-82 33rd meeting: 08.11.2018

Action#	Content	Responsible	Deadline	Status
A33-01	Send SATCOM SBB MASPS material to RTCA and EUROCAE secretariat for starting the FRAC/OC process	Alan	13.11.2018	Closed
A33-02	Send SATCOM SBB MOPS material to RTCA and EUROCAE secretariat for starting the FRAC/OC process	Radek	13.11.2018	Closed
A33-03	Prepare an overview on actual status of LTE/ATCt work.	Alan	Before January meeting 18 th January 2019	Closed

