



EUR 235-18 / WG82-060
RTCA Paper No. 243-18/SC222-061

St Denis, 18 September 2018
Washington, 18 September 2018

**Minutes of
Working Group of the whole meeting of RTCA SC-222 (Meeting #30) and EUROCAE WORKING
GROUP 82 (Meeting #32)
“New Air-Ground Data Link Technologies”
related to
SATCOM**

Date	Thursday 13th September 2018
Place	Virtual Meeting
Venue	RTCA-Webex
Hosted by	RTCA

Participants:

Name	Company	13 th
Darrell Andregg	Rockwell Collins	X
John Bard	Thales	X
Laurent Cadiet	Airbus	X
Alan Schuster Bruce	INMARSAT	X
Andrew Ives	INMARSAT	X
Sachin Chhibber	Ligado	X
Anna Guegan	EUROCAE	X
Nikos Fistas	EUROCONTROL	X
Johan Gericke	COBHAM SATCOM	X
David Green	Rockwell Collins	X
Karan Hofmann	RTCA	X
Rainer Koll	Stellar Aerospace	X
Stefano La Barbera	Thales Alenia Space - Italy	X
Sean McGinnis	Honeywell	X
Alessia Miglietta	Thales Alenia Space - Italy	X
Chuck LaBerge	LaBerge Engineering (Chair SC-222)	X
Steve Van Trees	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
Mike Hooper	IRIDIUM	X
Radek Zaruba	Honeywell	X
Duncan Mobley	Satcom Direct	X
Aristides Cintra	EMBRAER	X
Jose Godoy	ARINC Inc	X

DOCUMENTS

Agenda Item	Title	File name
1	WG-82 Calling notice	SC-222 and WG-82 Draft Calling notice Meeting 31.doc
2	Minutes of last meeting	222_28_82_Meeting_30_minutes_final version.doc
6	IRIDIUM COMMUNICATIONS – NORMATIVE REQUIREMENTS FOR IRIDIUM AMS(R)S – Appendix “TBD” (for Certus)	SC-222 Iridium Certus MOPS DRAFT 091018 SC-222groupv2.docx
6	Appendix B – USE OF DUAL SATCOM AS A LONG RANGE COMMUNICATIONS SYSTEMS	ED-242 Appendix LRCS (2018-08-29).docx

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

PRESENTATIONS

Agenda Item	Title	File name
7	SC-222 IRIDIUM CERTUS MASP/MOPS DISCUSSION	SC-222 Iridium Certus MSP & MOPS Status.pptx
7	EUROCAE WG-82: TOR Status – 2018-09-13	EUROCAE WG-82 TOR status 2018-09-13.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 and an update of actual situation regarding standardization of IRIDIUM.

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:

13th September 2018 (3:00 pm – 6:00pm CEST)

Welcome, Introductions, Administrative Remarks by Special Committee Leadership

- Government Authorized Representative (GAR): Steve van Trees
- 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)
4. Industry Presentations
5. SC-228 IRSA Discussion
6. Updates on DO-343B/ED-242A and DO-262D/ED-243A
7. Detailed Work Plan for SC-222 and WG-82
8. Establish Agenda, Date and Place for next meeting
9. Review of Action Items
10. 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

Nikos Fistas, Rapporteur of CP PT-S of ICAO, outlined that the next meeting will take place in 1st week of October. Plan is to finalize draft version of SARPS at that meeting.

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 Phönix. Currently working on items:

- ATCt / LTE interference

SESAR

No input provided at the meeting.

5 Industry Presentations

IRIDIUM

Mike Hooper from IRIDIUM gave a slide presentation on the actual status of IRIDIUM work. He also distributed just before the meeting a first draft version of the Certus MOPS. Mike summarized the status of IRIDIUM, with the intent of having a review of updated draft material at the next SC-222/WG-82 meeting. Chuck LaBerge suggested that this review might take place on Thursday afternoon, as IRIDIUM work is not, strictly speaking, in the WG-82 TOR.

6 SC-228 ISRA Discussion

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.

7 Updates on DO-343B/ED-242A and DO-262D/ED-243A

SATCOM MOPS (DO-262D/ED-243A) development

Draft Annex E changes

Radek went through the remaining comments. Some open items requires further discussion. Radek will finish work on it within the next 2 weeks and distribute the updated MOPS afterwards.

SATCOM MASPS (DO-343B/ED-242A) development

Radek introduced a new Appendix for the MASPS dealing with Dual SATCOM implementation. A first discussion on comments took place. Radek will setup regular meetings (every 2 weeks) of the MOPS subgroup to finalize work in a timely manner.

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

Armin gave a short slide presentation on the topics of actual status of work according to TOR of WG-82 and as a second item showing a proposal coming from Alan (on behalf of INMARSAT, COBHAM and HONEYWELL) with a request to extend the TORs related to LTE and ATCt (update of frequency and power plan, resilience of SBB terminals on LTE and ATCt). This also affects the TOR of SC-222.

Chuck and Armin agreed to make a TOR text proposal to include this item for an intermediate version of MOPS and MASPS scheduled for end 2019.

Regarding the actual status of work related to TOR WG-82 it could be confirmed that the following items are complete:

MOPS and MASPS:

- VoIP via VPN
- Inclusion of derived security requirements

Not yet complete is the material on Dual SATCOM, which mainly affects the MASPS with the new proposed Appendix on this subject.

9 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:

- **8.11.2018 and 9.11.2018 WG-82/RTCA SC-222: WEBEX from 3pm to 6pm CET**
(WEBEX will be organized by RTCA)

Note: At this WEBEX the final document comments on SATCOM MASPS Rev A and MOPS Rev A update shall be discussed. It is intended to start the FRAC,/Review process on SBB material after this meeting

- **31.01.2019 and 1.02.2019 WG-82/RTCA SC-222: 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 Karen Hofmann on the 7th February 2019.

Meetings:

- **Radek** will organize regular meetings **every two weeks** of his MOPS group to finish documentations. This will also include the Dual SATCOM Appendix to the MASPS.
Agreed meeting dates are:
 - **25th September from 3pm to 6pm CEST**
 - **9th October from 3pm to 6pm**
- **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>	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>	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>	Armin	end of 2018	Open
A31-03	Contact EUROCAE WG-105 (RPAS) to ask for requirements on SATCOM Performance Class A	Armin	asap	Open
A31-04	<p>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.</p> <p><i>Note: This is also input to ICAO PT-S work on requirements definition.</i></p>	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	Open
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	Open