



EUR 27-17 / WG82-51
 RTCA Paper No. 033-17/SC222-051

St Denis, 27 January 2017
 Washington, 27 month 2017

**Minutes of
 Plenary Meeting of RTCA SC-222 (Meeting #25) and EUROCAE WORKING GROUP 82 (Meeting #27)
 “New Air-Ground Data Link Technologies”
 related to
 SATCOM**

Date	<i>Monday 23rd January 2017</i>
Place	<i>Virtual Plenary Meeting (WEBEX)</i>
Venue	---
Hosted by	RTCA

WG-82 Participants:

Name	Company	Day 23 rd
Martin Arndt	COBHAM	X
Kevan Bracken	INMARSAT	X
Alan Schuster Bruce	INMARSAT	X
Laurent Cadiet	AIRBUS	X
Juan-Carlos Caceres Casanova	SAFRAN Engineering	X
Joan Manuel Cebrian	INDRA	X
Gary Colledge	INMARSAT	X
Nikos Fistas	EUROCONTROL	X
Johan Gericke	COBHAM SATCOM	X
Gonzalo Prieto	ENAIRES	X
Dave Robinson	FAA (SC-222 DFO)	X
Armin Schlereth	DFS (Chair WG-82)	X
Radek Zaruba	Honeywell International	X

RTCA Participants:

Name	Company	Day 23 rd
Darrell Andregg	Rockwell Collins	X

Sachin Chibber	Ligado	X
Victor Gheorgian	BOMBARDIER	X
Ann Heinke	Stellar Solutions (on behalf of FAA)	X
Jun Han	Rockwell Collins	X
Karan Hofmann	RTCA	X
Michael Hooper	IRIDIUM	X
Rainer Koll	Stellar – Solutions (on behalf of FAA)	X
Chuck LaBerge	LaBerge Engineering (Chair RTCA SC-222)	X
Duncan Mobley	Honeywell International	X
Michael Neale	ACES	X
Atena Ponrau	Bombardier	X
Andrew Roy	ASRI	X
Denny Simms	Garmin	X
Stephen van Trees	FAA	X
Mitch Trope	Garmin	X
Anna Yankova	Guest	X
Gregg Zupcsics	Rockwell Collins	X

DOCUMENTS

Agenda Item	Title	File name
1	Agenda	222agn25 - Final.pdf
2	Minutes of last meetings	222_82_Meeting_26_minutes_draft-2017-01-23.doc
4	SATCOM MOPS	SATCOM MOPS Comment table – all - (2017-01-17 HON-INM-COB telco).xls

PRESENTATIONS

Agenda Item	Title	File name
5	SC-228 ISRA	222WP192_SC228ISRA_rev1.pdf
6	IRIDIUM CERTUS UPDATE – SC222/WG-82 January 23 2017	222WP193_Iridium update for RTCA 012317.pdf

1 Welcome, Introductions, Administrative Remarks by Special Committee Leadership

Chuck Laberge welcomed the group. After that IPR and participation statements from RTCA and EUROCAE side were given.

2 APPROVAL OF THE AGENDA

Chuck presented the agenda. The final agenda of the meeting after several re-arrangements looked as follows:

Monday, January 23, 2017

All times are Eastern Standard Time (UTC -5)

09:00 – 14:30 Plenary:

Welcome, Introductions, Administrative Remarks by Special Committee Leadership

- Designated Federal Official (DFO): Mr. David Robinson
- 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. Brief Status of Related Efforts (as necessary)
4. Additional Pre-publication Modifications to DO-262C MOPS HONEYWELL
 - a. Discussion of potential deletion of Appendix B (ISO 8208)
5. Information related to the work of SC-228 regarding use of L-Band SATCOM in UAS application, as requested at October meeting. SC-228
6. Iridium NEXT/CERTUS Technical Details IRIDIUM
7. Other business related to AMS(R)S
8. Establish Agenda, Date and Place
9. Review of Action Items
10. Adjourn – Plenary meeting

All times are EST (Eastern Standard Time), or GMT-5.

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 Brief Status of Related Efforts

There were no items discussed.

5 Additional Pre-publication Modifications to DO-262C/ED-243C MOPS

Radek Zaruba (HONEYWELL) went through additional comments received after the October meeting. In advance of the present meeting RTCA and EUOCAE agreed on handling it as well before publishing the MOPS document.

One major open point identified at the October meeting related to the missing references to INMARSAT MTR and SDM documentation could be closed as they are now available.

Another important point is related to the Appendix B of DO-262C dealing with ISO 8208 protocol. The group reached consensus that this Appendix could be completely deleted as there is no and will be no implementation of it.

Final Revised DO-262C/ED-243C Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS) FRAC resolution was completed. Consensus was reached. Document was approved releasable to Council and PMC for final approval and publication.

6 SC-228 ISRA information

Mike Neale from FAA gave a presentation about the ISRA of SC-228 asking for support in the development of MASPS and MOPS using SATCOM links for their UA CNPC link purposes. It is to investigate if it is possible that a SATCOM L-Band link can be used as CNPC (Control and Non-Payload Communications) link to an UA. Current material (DO-362) forecasts around 10 to 100 kbps bandwidth requirement per UA. It is expected that SC-222/WG-82 supports CNPC Link SATCOM MOPS development after SC-228 CNPC Link SATCOM MASPS are available due 10/2017. Armin Schlereth pointed out that it would be good to first take a look at the DO-362 (Terrestrial MOPS) to be able to further investigate on potential support by SC-222/WG-82.

For more details presentation is uploaded on the RTCA SC-222 and EUROCAE WG-82 workspace.

7 IRIDIUM NEXT/CERTUS Technical Details

Michael Hooper from IRIDIUM gave a presentation about the actual status of the CERTUS implementation and provided some technical details about the communication link. After a successful launch by SPACE X on January 14th 10 satellites of the new IRIDIUM network are now in space and are currently on its way to be finally placed in orbit and technically validated. The final configuration foresees 70 Satellites including spares. After successful completion of validation and testing of the first 10 satellites it is planned to launch the next set of satellites in April 2017 and then every 60 days another 10 when successful at the previous stage of constellation setup. Draft DO-262 MOPS and DO-343 MASPS are scheduled by 1st February 2017. Then beginning in mid-February regular working group calls (every 2 weeks) are planned to finalize the documents.

For more details presentation is uploaded on the RTCA SC-222 and EUROCAE WG-82 workspace.

8 Other business related to AMS(R)S

DO-343A/ED-242 Minimum Aviation System Performance Standard for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP) in Procedural Airspace was revisited. Following the October 2016 Plenary additional work was needed to correct airspace reference and inclusion of all resolved comments. Thus, the final version of DO-343A/ED-242 Minimum Aviation System Performance Standard for AMS(R)S Data and Voice Communications Supporting Required Communications Performance (RCP) and Required Surveillance Performance (RSP) FRAC resolution is now complete. Consensus was reached. Document was approved releasable to Council and PMC for final approval and publication.

9 Establish Agenda, Date and Place of next meeting

The next meeting originally planned as a physical meeting in March in Barcelona is cancelled due to lack of material to be discussed during a 2-day session. In order to keep track of the actual work on SATCOM Performance Class A and IRIDIUM NEXT/CERTUS it was agreed to have a joint virtual plenary on the 7th March from 3pm to 5pm CET with the possibility to extend it dependent on the subjects to be discussed.

A tentative Pre-FRAC/OC meeting related IRIDIUM NEXT/CERTUS might be held around June 2017 including the updated IRIDIUM material on Certus. Therefore, this material includes also the update of the interference scenario between IRIDUM and INMARSAT SBB. Further on material on IPS will be included as well. A FRAC/OC meeting might then be held around October 2017.

The following meetings and dates are planned:

- **7.03.2017 3pm to 5pm CET:** RTCA SC-222/EUROCAE WG-82 SATCOM Joint VIRTUAL Meeting.

Note: This meeting might be extended dependent on the subjects to be discussed.

Action items

RTCA-SC222 / EUROCAE WG-82 26th meeting: 5.10.2016 – 6.10.2016

Action#	Content	Responsible	Deadline	Status
A26-01	MOPS Appendix B (ISO 8208) to be deleted in after next publication. Chuck and Armin to inform PMC and EUROCAE Council accordingly. <i>Status 23.01.2017: Agreed to delete Appendix B.</i>	Chuck / Armin	December 2016	Closed
A26-02	Further discussion on making Security part of 2017 version of MOPS	Radek / Michael / David	ongoing	Open
A26-03	Recommend EUROCAE / RTCA Secretariat to wait for publication of SATCOM MOPS until final SDM document form INMARSAT is published.	Chuck / Armin	December 2016	Closed
A26-04	Recommend EUROCAE / RTCA Secretariat to wait for publication of SATCOM MOPS until final MTR document including G.729 material form INMARSAT is published.	Chuck / Armin	December 2016	Closed
A26-05	Provide half a page material as problem statement related to performance measurement and standardization bodies involved for further discussion within the group. Note: AES versus system considerations.	Ann	ongoing	Open
A26-06	Provide wording for standard and enhanced ACARS if INMARSAT feels necessary.	Alan	21.10.2016	Closed

A26-07	MOPS: Support of continental airspace. Chuck to provide text for App E section 1.3.10 Installation Environment from his interference scenario introduction section text as input. The same holds for section 1 of MASPS.	Chuck	21.10.2016	Closed
A26-08	Coordination with RTCA SC-228 on MASPS and MOPS. Further details about half a day briefing meeting to be defined.	Chuck / Armin	asap	Closed
A26-09	Distribute ISRA from SC-228.	Karan	14.October 2016	Closed
A26-10	DO-262C completely integrated required or not (including App D and E). Chuck to clarify with Karan.	Chuck	28.October 2016	Closed
A26-11	Harmonize wording of IRIDIUM changes with Victor changes proposed.	Michael / Radek	14.October 2016	Closed

RTCA-SC222 / EUROCAE WG-82 27th meeting: 23.01.2017

Action#	Content	Responsible	Deadline	Status
A27-01	Update Draft SATCOM MOPS and deliver it to RTCA/EUROCAE Secretariat for further completion work.	Radek	10.02.2017	Open
A27-02				Open
A27-03				Open

Open Items

Item #	Description
OI - 2	How to handle SECURITY in an ATN/OSI implementation. Also for ATN/IPS IPSec is not yet part of ARINC 664.