



RTCA Paper No. 130-21/SC222-094  
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Washington, 26 May 2021  
St Denis, 26 May 2021

**Minutes of EUROCAE  
WORKING GROUP 82 (WG-82) (Meeting #49) and RTCA SPECIAL COMMITTEE 222  
(SC-222) (Meeting #43)  
“New Air-Ground Data Link Technologies”  
related to SATCOM**

<b>Date</b>	<b>12<sup>th</sup> May 2021</b>
<b>Place</b>	<b>Virtual Meeting</b>
<b>Venue</b>	<b>RTCA – Webex</b>
<b>Hosted by</b>	<b>RTCA</b>

**Participants:**

<b>NAME</b>	<b>COMPANY</b>
Adam Sarhage	Garmin
Ajay Parikh	Ligado Networks
Alan Schuster-Bruce	INMARSAT
Andy Morin	Iridium
Angelo Rossi	The MITRE Corporation
Anna Guegan	EUROCAE (WG-82 TPM)
Armin Schlereth	DFS Deutsche Flugsicherung GmbH (Chairman WG-82)
Ayaz Nemat	Thales Group
Ben Huang	Iridium
Chuck LaBerge	EFCLEA- Chair of SC-222
Cindy Freud	The MITRE Corporation
Darrell Andregg	Collins Aerospace
Florin Grafu	ROMATSA
Gary Dent	Thales Group
Hiroshi Okochi	Japan Radio Air Navigation Systems Association
Jeff Bull	Iridium
Jim Williams	JHW Unmanned Solutions LLC
Johan Gericke	Cobham Aerospace Communications
John Barry	FAA
Karan Hofmann	RTCA (SC-222 PD)
Keith Howland	Thales Group
Luke Sienkiewicz	Iridium

Mark Insley	MICOM Consulting
Matt Harris	The Boeing Company
Michael Hooper	Iridium
Nkululeko Ntombela	ATNS
Rainer Koll	Stellar Aerospace
Ravi Jain	FAA (SC-222 New GAR)
Richard Tapp	Honeywell International
Ryan Mustoe	The Boeing Company
Sai Kalyanaraman	Collins Aerospace
Santanu Dutta	Ligado Networks
Stephen Van Trees	FAA (SC-222 GAR – Final Meeting)

## DOCUMENTS

Agenda Item	Title	File name
1	Calling Notice and Agenda	SC-222 (43) and WG-82 (48) Calling Notice Meeting.pdf
2	Meeting Minutes of last Meeting	222_42_WG-82_Meeting_47_draft minutes_for review.pdf
3	WP for SC-159 on GLONASS L1-Operations, 29 April 2021	210429_WP317F Coordination Letter on GLONASS FINAL.pdf
3	EXCEL Frac MOPS Comments Sheet Remark: Status at the end of the meeting	FRAC_IridiumCompile_Bulk_Comments DO-262F_ED-243C.xlsx
3	<b>GPS MOPS changes</b>	

Documents related to IRIDIUM are available on the RTCA SC-222 AerOpus.

## PRESENTATIONS

Agenda Item	Title	File name

There were no presentations given at the meeting.

### **Welcome, Introductions, Administrative Remarks by Special Committee Leadership**

Chuck LaBerge (chair SC-222) welcomed the group. He led through the whole remaining meeting.

Karan Hofmann informed about the anti-trust policy, IPR policy, and call and participation membership policies for RTCA Special Committees (SC) and EUROCAE Working Groups.

### **1. APPROVAL OF THE AGENDA**

After a round table, Chuck LaBerge introduced the proposed agenda of the RTCA SC-222/ EUROCAE WG-82 Plenary meeting. The scope of the meeting was specifically related to open items on GNNS interference aspects related to IRIDIUM Certus MOPS. All other

comments have already been concluded on in former meetings. The final agreed agenda looks as follows:

## **AGENDA**

12 May 2021 (9:00 am – 5:00 pm EDT) – (15:00 – 23:00 CEST)

Welcome, Introductions, Administrative Remarks by Special Committee Leadership

- Government Authorized Representative (GAR): Ravi Jain
- Chair RTCA SC-222: Dr. Chuck LaBerge, LaBerge Engineering
- Chair EUROCAE WG-82: Dr. Armin Schlereth, DFS

1. Review Agenda
2. Review Minutes and Actions
3. Review/Resolution of SATCOM MOPS DO-262F/ED-243C FRAC / OC Comments associated with SC-159 comments on GPS/GLONASS Issues
4. Decision to approve release and presentation of DO-262F/ED-243C to PMC and Council
5. Other Discussion as needed
6. Agreement on Actions
7. Agreement on Meeting Schedule  
Adjourn

### **2. Review Minutes and Actions**

The minutes of the last meeting have been reviewed and approved. All action items were already closed except the two ones on RPAS C2-link issue according to ISRA with SC-228. The action item list is therefore kept unchanged. For the closing of these two action items a dedicated meeting is planned in June 2021.

### **3. Review/Resolution of SATCOM MOPS DO-262F/ED-243C Iridium-specific FRAC / OC Comments**

Luke Sienkiewicz updated the group on the GPS GLONASS discussions held within SC-159.

MOPS text update and WP317F have been sent to SC-159 for review until 7<sup>th</sup> May COB. So far only editorial comments have been received. Luke led through the proposed changes of the MOPS. Final agreement within the Plenary on the proposed changes could be reached.

After that Mike Hooper led through WP317F on GLONASS aspects. Some editorial changes have been agreed during the Plenary discussion. Further on it has been decided to use this material and the basic assumptions on GLONASS included as an Appendix to the MOPS.

Finally, Luke went through the open comments from the FRAC/OC process. All could be finally closed.

### **4. Decision to approve release and presentation of DO-262F/ED-243C to PMC and Council**

With the completion of all comment inputs, the group decided to release DO-262F/ED-243C to PMC and Council.

### **5. Other discussions as needed**

No other items have been discussed at the meeting.

### **6. Agreement on actions**

Chuck and Armin went through the action items of the meeting. The final version is attached to the minutes.

### **7. Agreement on Meeting Schedule**

The Plenary agreed on the following time planning:

12.05.2021 PLENARY SC-222/WG-82 for Final FRC/OC resolution on MOPS  
14.05.2021 Delivery of final MOPS document to RTCA/EUROCAE secretariats  
17.05.2021: Delivery of MOPS to PMC/Council  
17.06.2021: PMC meeting  
22.06.2021: PLENARY SC-222/WG-82 for discussion of ISRA SC-228 material

**8. Establish Agenda, Date and Place for next meeting**

RTCA SC-222 and EUROCAE WG-82 have agreed on the following next meeting:

**WEBEX's:**

**22.06.2021** WG-82/SC-222: Plenary WEBEX from 3pm to 6pm CET  
*(WEBEX will be organized by RTCA)*

**Physical Meetings:**

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

**12. Adjourn – Plenary meeting**

Chuck and Armin thanked the group for the completion of the work. Especially they thanked Luke and Mike for their support in producing the MASPS and MOPS draft documents and leading the according subgroups of SC-222. They also thanked Karan Hofmann and Anna Guegan for their secretarial help in keeping all things organized and synchronized to be able to finalize work according to schedule. Finally, they also thanked Martina Angelone from ESA for her help in writing the minutes of the meetings in the past.

## Action items

### RTCA-SC222 / EUROCAE WG-82 30<sup>th</sup> 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"> <li>1) Support of 2000 UA</li> <li>2) 10 – 100 kbps per UA (Peak!)</li> <li>3) Voice latency of 390 millisecond maximum</li> <li>4) Use of protected spectrum (L-Band)</li> </ol> <p><b>Discussion at WG-82#31:</b> Chuck LaBerge will provide a response on it asap.</p> <p><b>Discussion at WG-82/#32:</b> 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><b>Discussion at WG-82/#33:</b> MASPS on C2 link support by SATCOM expected Q1/2019.</p> <p><b>Discussion at WG-82/#34:</b> Status unchanged.</p> <p><b>Discussion at Plenary June 2019:</b> Status unchanged.</p> <p><b>Discussion at Plenary July 2019:</b> Current priority on MASPS and MOPS actual documents. Status unchanged.</p> <p><b>Status Plenary Sept 2019:</b> Status unchanged. Current publication schedule has higher approval.</p> <p><b>Status Plenary Nov 2019/Jan 2020:</b> Status unchanged. Current publication schedule has higher approval</p> <p><b>Discussion at Plenary June 2020:</b> Status unchanged.</p> <p><b>Discussion at Plenary Nov 2020:</b> Early 2021 SC-228 finishing RPAS MASPS. Restart coordination then.</p> <p><b>Discussion at Plenary Jan 2021:</b> Early 2021 SC-228 finishing RPAS MASPS. Restart coordination then.</p> <p><b>Discussion at Plenary Feb 2021:</b> Early 2021 SC-228 finishing RPAS MASPS. Restart coordination then.</p> <p><b>Discussion at Plenary March 2021:</b> Report expected to be available in May 2021.</p>	Chuck LaBerge	asap	Open

**RTCA-SC222 / EUROCAE WG-82 31<sup>st</sup> meeting: 26.06.2018 and 28.06.2018**

Action#	Content	Responsible	Deadline	Status
A31-03	<p>Contact EUROCAE WG-105 (RPAS) to ask for requirements on SATCOM Performance Class A</p> <p><b>Discussion at WG-82/#34:</b> Still open. Armin Schlereth to take care of it soon.</p> <p><b>Discussion at WG-82/#35:</b> Still open.</p> <p><b>Discussion at Plenary June 2019:</b> Status unchanged.</p> <p><b>Discussion at Plenary July 2019:</b> Current priority on MASPS and MOPS actual documents. Status unchanged.</p> <p><b>Status Plenary Sept 2019:</b> Status unchanged.</p> <p><b>Status Plenary Sept 2019/Jan 2020:</b> Status unchanged. Current publication schedule has higher approval.</p> <p><b>Discussion at Plenary June 2020:</b> Status unchanged.</p> <p><b>Discussion at Plenary Nov 2020:</b> Early 2021 SC-228 finishing RPAS MASPS. Restart coordination then.</p> <p><b>Discussion at Plenary Feb 2021:</b> Early 2021 SC-228 finishing RPAS MASPS. Restart coordination then.</p> <p><b>Discussion at Plenary March 2021:</b> Report expected to be available in May 2021.</p>	Armin Schlereth	asap	<b>Open</b>