

RTCA Paper No. 051-22/SC135-735
October 21, 2021

SUMMARY OF THE SEVENTY-NINTH MEETING

RTCA SPECIAL COMMITTEE 135
ENVIRONMENTAL CONDITIONS AND TEST
PROCEDURES FOR AIRBORNE EQUIPMENT

The Seventy-ninth meeting of RTCA/SC-135 was held virtually on October 21st, 2021.

The following were in attendance:

Kyle McMullen, SC-135 Chairman	NIAR
Jacob VanDyke, SC-135 Secretary	Honeywell International Inc.
Rebecca Morrison, Program Director	RTCA, Inc.
Rich Adler *	FAA
Patrick Andre *	Andre Consulting
Massimiliano Bertoldi	CELAB
Darrell Burghardt *	Textron Aviation
Eric Borgstrom *	Element Materials Technology
Philippe Chenebault *	Dassault Aviation
Nick Conquest *	NIAR
Charlie Cooper *	Collins Aerospace
Steve Deppen *	GE Aviation
Tim Fletcher	Bell Aircraft
Charles Gervais	BETA Technologies
Jim Hatlestad *	The Boeing Company
Jeffrey Hebert *	The Boeing Company
Thineshan Kathirchelvan *	Aircraft Canada
David Kerr *	Garmin Ltd.
Frank Ku *	Panasonic
Meg Mahre	The Boeing Company



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Evelyn Matheson *	The Boeing Company
Jerome Mavier *	Airbus
Kyle McMullen *	NIAR
Brock Milford *	NIAR
Terry Milks *	Collins Aerospace
Rebecca Morrison *	RTCA
Marc Poncon *	Airbus
Scott Steen *	Garmin Ltd.
Tim Steinbach *	Collins Aerospace
Eric Stewart *	Collins Aerospace
Christophe Taurand *	Thales Group
Jacob VanDyke *	Honeywell International Inc.
Merrill Vaughan *	The Boeing Company
Derek Walton	The Boeing Company
Ken Webb *	Collins Aerospace

* via Conference Bridge

The agenda for the meeting was as follows:

1. Chairmen’s Opening Remarks, Introductions.
2. Approval of Summary from the Seventy-Eighth Meeting – (RTCA Paper No. 210-21/SC135-733)
3. Review Working Group summaries DO-160, DO-357
4. Review Schedule
5. Review and Approve TOR updates
6. New / Unfinished Business
7. Establish date for next SC-135 Meeting.
8. Closing.

(Note: The following report is organized by Agenda Item, although some sections were conducted out of sequence to accommodate some members’ schedules.)



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Agenda Item 1 **Chairman's opening remarks, Introductions**

The plenary session of the Seventy-ninth meeting of RTCA/SC-135 was called to order at 9:12 AM on the 21st of October 2021. Chairman Kyle McMullen opened the meeting by welcoming those in attendance. Rebecca Morrison reviewed the RTCA Anti-trust, Proprietary and Membership policies. Mr. McMullen reviewed the agenda for the meeting, and invited attendees to introduce themselves.

Agenda Item 2 **Approval of the Summary from the Seventy-Seventh Meeting**

SC-135 Chairman Kyle McMullen called for comments to the minutes from the 78th meeting RTCA Paper No. 210-21/SC135-733. No comments or corrections were noted, a motion was made and seconded to accept the minutes, and the motion was approved unanimously.

Agenda Item 3 **Review Working Group summaries – DO-160, DO-357**

The Working Group discussions were centered on the Change Proposals submitted for DO-160 Revision H.

The Change Coordinators described Change Proposals which were reviewed and dispositioned in their respective group meetings. The level of detail in the Plenary session discussions precludes accurate reporting here, so only change proposals creating significant discussion are noted. The actual Change Proposals and any dispositions are found on the SC-135 Workspace and tracked in the Change Proposal Tracking Log, also found on the Workspace.

Sections 1, 2 and 3 – David Kerr, Change Coordinator.

Discussion was held for one change proposals, H-219 regarding moving the general requirements of the EUT setup and configuration from Section 20 and 22 into Section 3. The proposal was Accepted as Modified.

Sections 4, 5 and 6 – Jacob VanDyke, Change Coordinator.

Three change proposals were reviewed for Section 4, one proposal for section 5, and one for section 6. Section 4 addressed increasing the overpressure test level and modifying the Operating Low level, both proposals were rejected. Proposal H-250 was accepted as modified to remove “displays ect...” text from the note in section 4.6.2. Change proposal H-185 was accepted as written to replace “Should not” with “Shall not” in paragraphs 5.3.1 and 5.3.2. In

section 6, proposal H-231 was accepted as modified aligning the figures to the test regarding test tolerances.

Sections 7 and 8, Merrill Vaughan, Change Coordinator.

One change proposal was accepted as modified allowing for increased pre and post sine sweep test levels. Direction was also noted for this proposal that the same test level must be used for both pre and post sweeps. Discussion was also held regarding general test report requirements, with a decision to pull data from DO-380 as a starting point.

Section 15 and 18 – Ken Webb, Change Coordinator

One change proposal was discussed for section 15 which was accepted as modified. This proposal was presented to identify Cat Y as applicable to equipment installed greater than or equal to 0.0 meters from magnetometer or flux gates.

Section 16 – Darrell Burghardt, Change Coordinator

Discussion was held regarding CP H-154 to modify Momentary Power Interrupts to be executed at Vmin as opposed to Vnom. This proposal did not change disposition status.

Sections 19 and 20 – Jim Hatlestad, Change Coordinator

No new change proposals were submitted or discussed for Section 19. General discussion was held around the Inductive Switching Transients test. Data was reviewed regarding comparison of new test method and a Round Robin procedure was defined for first instance. Following preliminary test, the change coordinator will flow out the procedure for a greater distribution dependent on results.

For section 20, seven proposals were discussed/reviewed. Proposal H-12 and H-54 were rejected as H-12 was a duplicate and H-54 addressed the need for LISNs above 400MHz. Proposal H-20 was accepted as written clarifying calibration requirements. H-19, H-30 and H-55 were accepted a modified. These proposals addressed the wavelength of cable exposure, elimination of the requirement to record probe insertion loss, and allowance of disconnecting test equipment during radiated susceptibility testing respectively.



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Section 22 – Eric Stewart, Change Coordinator

An announcement was made that the draft version of new section 22 has been established and is available on the Aero OPUS workspace.

Section 23 – Brock Milford, Change Coordinator

Seven proposals were dispositioned for Section 23. Six proposals were accepted to address several updates to the section. These updates included adding a digital camera option, updating rise time requirements, adding setup diagrams, and changing the text for the number of discharges from “limited to two” to “at least two”.

Section 26 – Presented by Kyle McMullen

Status update: Working group with the FAA and SAE are working to develop alternative method for Category C. The intent is to place the burner inside the EUT to allow for testing the entire unit. The working group is focused on quantify flames from inside the EUT. Early indication from experiments are showing promising results using IR measurements.

Agenda Item 4/5 Review Schedule/Review and Approve TOR updates

Chairman McMullen announced the dates for DO-160H. Baseline will be in March of 2023 to support PMC review in March 2025. Change proposals will no longer be accepted following the baseline date. The TOR was presented and reviewed. Committee will incorporate bullet items into a RAIL for detailed tracking.

Agenda Item 6 New/Unfinished Business

New policy statement (AIR600-21-AIR-600-PM01) from FAA states they will not require certification of ground-based equipment.

The committee reviewed SC-230 presentation on volcanic ash detection.

SC-135 Chairman agreed to create a change Proposal to apply to all sections, defining the outline for minimum data requirements.

SAE is discussing options to cross-reference between ARP standards and DO-357/DO-160. Additional discussion will be needed on this topic.

Agenda Item 7 Establish Date for Next SC-135 Meeting



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The next SC-135 meeting will be held at RTCA Headquarters in Washington DC. Dates of the meeting will be from Tuesday, April 19th through Thursday, April 21st, 2022.

Agenda Item 8 **Closing and Adjourn**

Kyle McMullen asked for a motion to adjourn the meeting. A motion was offered, seconded, and unanimously approved. The meeting was adjourned at 15:16 PM on Thursday, October 21st, 2021.

-S-
Kyle McMullen
Chairman

-S-
Jacob VanDyke
Secretary

Certified as a true and accurate summary of the meeting.