



Telecommunications Industry Association

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Approved by General Counsel

TR-8.18

Meeting Date(s): 9 October 2019

Location: Fairfield Inn & Suites Charlotte Uptown – Charlotte, NC

Approved: 17 October 2019

TR-8.18 Wireless Systems Compatibility – Interference and Coverage Meeting Report

19-013

Presiding: Jim Eastwood, Chairman

360-303-3274 / jim.eastwood@motorolasolutions.com

Date: Wednesday, October 9, 2019

Place: Fairfield Inn & Suites Charlotte Uptown

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1. Call to Order:

The Chair called the meeting to order at approximately 10:47 Eastern Time (Charlotte local time) and volunteered to act as secretary. The Chair indicated that all relevant documents are on the TR-8.18 FTP site.

2. Record of Attendance:

Participants were advised to record their attendance with TIA staff and a summary of the attendance is provided later in this report. A quorum was established with 19 of 21 eligible voting organizations present.

3. Review and Approve Agenda:

The Chair noted that the meeting agenda had been distributed by TIA prior to the meeting and that it is available as 19-007. The Chair then called the participants’ attention to the Participation Notice and Important Notice for Participation (see above) and asked for a motion to accept the October meeting agenda. Chris Maiers moved, and Todd Summers seconded, a motion to accept the October meeting agenda as written. The motion passed unanimously by voice vote.

4. Review and Approve Last Meeting Report:

The Chair noted that the previous meeting report had been distributed by TIA prior to the meeting and that it is available as 19-006. The Chair then asked for a motion to accept the February meeting report. Dwight Smith moved, and Chris Maiers seconded, a motion to accept the February meeting report as written. The motion passed unanimously by voice vote.

5. TIA IPR Policy:

The Chair called the participants’ attention to Note 2 on the meeting agenda for information regarding the TIA IPR Policy (see above) that was read to the participants earlier in the day. The Chair asked the question “is there knowledge of patents, the use of which may be essential to any document being considered during this meeting that anyone would like to disclose at this time”? There was no new IPR identified.

6. Old Business:

The Chair called the participants' attention to 19-011-R1 for a summary of subcommittee activities since the previous meeting. The Chair then called the participants' attention to slide 2, and noted that no conference calls were held since the February meeting.

a. Disposition of TIA-PN-88.2-E Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 2: Propagation and Noise:

The Chair called the participants' attention to slide 3 and indicated that the TIA assigned project number for the 6th Edition is TIA-PN-88.2-E. The Chair also indicated that the document was published in January 2016, ACD Telecom was the document editor, and that it is a Working Group 2 document. The Chair then indicated that the latest documents are in the "TSB-88.2" subfolder.

The Chair reminded the participants' that Motorola Solutions identified an issue during the June TR-8 meeting regarding the Local Clutter Attenuation values being required by consultants in cases where they do not necessarily apply. The Chair indicated that Working Group 2 held six conference calls to discuss the issue and draft revisions for consideration. The Chair also indicated that during those conference calls, Softwright noted that the reference to NLCD 2011 should be updated to recently released NLCD 2016 (National Land Cover Database), ACD Telecom proposed a new subclause for "Seasonal Variation", and various organizations proposed combining Tables 2 – 5 as a result of the proposed revisions. The Chair then indicated that the latest draft content is available in contributions 19-009 and 19-010.

The Chair indicated that the Working Group 2 consensus is to incorporate these proposed revisions in Revision F once drafting is complete. The Chair then asked if there was a motion from the floor to open a project for Revision F of TSB-88.2.

Tom Rubinstein moved, and Bernie Olson seconded, a motion to open a project for Revision of TIA-PN-88.2-E Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 2: Propagation and Noise with scope of addressing the content proposed by Working Group 2. The motion passed unanimously by voice vote. The Chair took an assignment to submit the appropriate form to the TIA Standards Department to open a project for TIA-PN-88.2-F which would ultimately be published as TSB-88.2-F.

The Chair indicated that the Working Group 2 goal is to complete work on the Revision F draft proposal well in advance of the February meetings and noted that it is difficult to find a time when the subcommittee can establish a quorum for a vote to approve for ballot. The Chair then indicated that TIA allows subcommittees to hold a quorum vote via email, so the plan is to hold a 15-day email quorum vote to approve the Revision F draft proposal for ballot once drafting in Working Group 2 is complete.

The Chair indicated that Motorola Solutions has volunteered to be editor for Revision F and that the next Working Group 2 conference call is scheduled for October 22nd at 4pm eastern time, 1pm pacific time.

b. Disposition of TIA-PN-88.3-E Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 3: Recommended Methods for Technology-Independent Narrowband Performance Verification:

The Chair called the participants' attention to slide 4 and indicated that the TIA assigned project number for the 6th Edition is TIA-PN-88.3-E. The Chair also indicated that the document was published in November 2018, Softwright was the document editor, and that it is a Working Group 1 document. The Chair then indicated that the latest documents are in the "TSB-88.3" subfolder.

The Chair indicated that L3Harris identified an issue regarding the use of attenuators during coverage verification testing and provided draft text to address the issue in contribution 19-008. The Chair also indicated that Working Group 2 has noted that there may be possible near-far interference issues for radios with wide pre-selectors in proximity of short-tower cellular systems at 700 and 800 MHz that may impact TSB-88.1-E and/or TSB-88.3-E which are both Working Group 1 documents.

The Chair requested that Working Group 1 review the L3Harris proposal and determine appropriate actions. The Chair also requested Working Group 1 to take up discussion of the near-far interference issue and determine appropriate document actions. The Chair then indicated that the next Working Group 1 conference call will be announced shortly and will like occur during the week of October 21st.

Chris Maiers noted that in-building boosters and in-building cellular are becoming frequent issues and asked if the L3Harris proposal would verify coverage for these situations. The Chair indicated that these documents are not requirements documents and do not provide assurance of predicted coverage as these documents only provide guidance for practitioners who model and then verify predicted coverage. Marty Barringer, Bernie Olson, and Tom Rubinstein agreed with the stated intend of the documents and offered guidance regarding coverage prediction verses coverage verification. Marty also noted that the L3Harris submission does not cover the case Chris identified. George Crouch noted that they do drive tests after installation to verify coverage verses the coverage predictions.

c. Work Summary:

The Chair called the participants' attention to slide 5 for a summary of current and future work items for the subcommittee and provided a brief statement regarding each one.

The Chair indicated that a project was approved for Revision F of TSB-88.2 and that an email quorum vote to approve the draft proposal for ballot will occur once drafting in Working Group 2 is complete.

The Chair indicated that Working Group 1 plans to review the L3Harris proposal and make a recommendation regarding possible revisions to the Recommended Methods for Technology-Independent Narrowband Performance Verification Revision E (TSB-88.3-E).

The Chair indicated that Working Group 1 plans to review the near-far interference issue at 700/800 MHz and make a recommendation regarding possible revisions to the Recommended Methods for Technology-Independent Narrowband Performance Modeling Revision E (TSB-88.1-E) and/or revisions to the Recommended Methods for Technology-Independent Narrowband Performance Verification Revision E (TSB-88.3-E).

The Chair indicated that the new TSB "NOTICE" page was applied to both TSB-88.1-E and TSB-88.3-E when they were published last year.

The Chair reminded the participants that TIA was requested to apply the new TSB "NOTICE" Page to the following published TSBs during the October 2018 quorum meeting:

- TSB-88.4 Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 4: Recommended Methods for Technology-Independent Broadband Performance Modeling [December 2016]
- TSB-88.5 Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 5: Recommended Methods for Technology-Independent Broadband Performance Verification [December 2016]
- TSB-176-A Radiowave Propagation – Path Loss – Measurement and Validation [March 2017]

Victoria Mitchell indicated TIA would take care of re-issuing the documents identified above.

The Chair then called the participants' attention to slide 6 for a summary of TIA documents published by this subcommittee and noted that the summary is provided for informational purposes.

7. New Business:

The Chair asked if there was any new business to bring before the TR-8.18 subcommittee. None was offered.

8. Review of Assignments:

The Chair is to submit an Existing Project Request form to the TIA Standards Department for revision of project number TIA-PN-88.2-E, Wireless Communication Systems Performance in Noise and Interference-Limited Situations Part 2: Propagation and Noise. [New]

The Chair is to hold a 15-day email quorum vote to approve the TSB-88.2 Revision F draft proposal for ballot once drafting in Working Group 2 is complete. [New]

9. Schedule Next Meeting:

The Chair requested 30 minutes of meeting time on the schedule for the next meeting.

10. Adjourn:

Dwight Smith moved, and Todd Summers seconded, a motion to adjourn the meeting at approximately 11:19 Eastern Time (Charlotte local time). The motion passed unanimously by voice vote. An attendance roster is on file with the TIA Standards Department.

This meeting was conducted in accordance with the TIA Legal Guides and the engineering procedures.

Jim Eastwood, TR-8.18 Chair

Current Projects

TIA Project Number	Title	Status	WG
<none>			

TIA Published Documents

TIA Number	Title	Date	WG
TSB-88.1-E	Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 1: Recommended Methods for Technology Independent Narrowband Performance Modeling	November 2018	WG-1
TSB-88.2-E	Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 2: Propagation and Noise	January 2016	WG-2
TSB-88.3-E	Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 3: Recommended Methods for Technology-Independent Narrowband Performance Verification	November 2018	WG-1
TSB-88.4	Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 4: Recommended Methods for Technology-Independent Broadband Performance Modeling	December 2016	WG-4
TSB-88.5	Wireless Communications Systems Performance in Noise and Interference-Limited Situations Part 5: Recommended Methods for Technology-Independent Broadband Performance Verification	December 2016	WG-4
TSB-176-A	Radiowave Propagation – Path Loss – Measurement and Validation	March 2017	WG-2
TIA-845-B	Radiowave Propagation Path Loss Measurement Presentation Format	December 2010	WG-2

Voting Organizations

The following table shows the voting organization participation for previous meetings and current voting qualification. A check mark (✓) indicates the organization was present for the indicated meeting.

Voting Organizations	Mesa AZ 02/07/2018	Atlanta GA 06/20/2018	San Antonio TX 10/17/2018	Mesa AZ 02/06/2019	Charlotte NC 10/09/2019	Eligible to Vote at Next Meeting
(1) ACD Telecom	✓	✓	✓	✓	✓	Yes
(2) APCO International		✓	✓	✓	✓	Yes
(3) Bird Technologies		✓	✓	✓		Yes
(4) BK Technologies	✓	✓	✓		✓	Yes
(5) Codan Radio Comm.	✓	✓	✓	✓		Yes
(6) CSI Telecommunications	✓	✓	✓	✓	✓	Yes
(7) E.F. Johnson Technologies	✓	✓	✓	✓	✓	Yes
(8) Etherstack	✓	✓		✓	✓	Yes
(9) FBI	✓	✓	✓	✓	✓	Yes
(10) Icom America Inc.	✓	✓	✓	✓	✓	Yes
(11) InterTalk Critical Info Sys	✓	✓	✓	✓	✓	Yes
(12) ISICSB (State of Iowa)	✓	✓	✓	✓	✓	Yes
(13) JVCKenwood Corporation	✓	✓	✓	✓	✓	Yes
(14) L3 Harris Technologies	✓	✓	✓	✓	✓	Yes
(15) Motorola Solutions, Inc.	✓	✓	✓	✓	✓	Yes
(16) Shapiro Consulting Services						No
(17) Softwright Engineering	✓	✓	✓	✓	✓	Yes
(18) State of South Carolina	✓	✓	✓		✓	Yes
(19) U.S. Coast Guard	✓	✓	✓	✓	✓	Yes
(20) U.S. DHS OEC	✓	✓	✓	✓	✓	Yes
(21) U.S. DoI	✓	✓	✓		✓	Yes
(22) Zetron	✓	✓	✓		✓	Yes

Non-Voting Organizations

A check mark (✓) indicates the organization was present for the indicated meeting.

Non-Voting Organizations	Mesa, AZ 02/07/2018	Atlanta, GA 06/20/2018	San Antonio, TX 10/17/2018	Mesa, AZ 02/06/2019	Charlotte, NC 10/09/2019
(1) Booz Allen Hamilton	✓				✓
(2) Compliance Testing, LLC	✓				
(3) dbSpectra	✓		✓		
(4) Dept. of Emergency Management					✓
(5) DHS OEC Support	✓				
(6) Fairfax County	✓	✓		✓	
(7) FirstNet					✓
(8) FirstNet Built with AT&T				✓	
(9) Grundy County 911	✓		✓	✓	✓
(10) Harris County Central Tech.			✓		
(11) Iowa DPS			✓		
(12) LARICS / LACoFD	✓				
(13) Los Angeles Regional Comms	✓				
(14) National Sheriff's Association					✓
(15) NC Dept. of Public Safety					✓
(16) NYSF	✓	✓	✓	✓	✓
(17) PTIG	✓	✓	✓	✓	✓
(18) Public Safety Communications, CA					✓
(19) State of Indiana - IPSC				✓	
(20) State of Michigan	✓				
(21) TIA				✓	
(22) TX DPS		✓	✓	✓	✓
(23) Viavi Solutions			✓		✓

Attendance Roster Summary

Participant	Organization	Participant	Organization
Tom Rubinstein	<i>ACD Telecom</i>	Jerry Drobka	<i>Motorola Solutions, Inc.</i>
John Mistro	<i>APCO International</i>	Jim Eastwood	<i>Motorola Solutions, Inc.</i>
Chris Wilson	<i>APCO International</i>	John Lambrou	<i>Motorola Solutions, Inc.</i>
Jim Holthaus	<i>BK Technologies</i>	Tim Woodward	<i>Motorola Solutions, Inc.</i>
Liangbi Zhu	<i>Booz Allen Hamilton</i>	Justin Smith	<i>National Sheriff's Association</i>
Bernie Olson	<i>CSI Telecommunications</i>	Greg Hauser	<i>NC Dept. of Public Safety</i>
Scott Wright	<i>Dept. of Emergency Management</i>	Maribel Martinez-Bradwell	<i>NYSP</i>
Josh Johnson	<i>E.F. Johnson Technologies</i>	Stephen Nichols	<i>PTIG</i>
Dwight Smith	<i>E.F. Johnson Technologies</i>	John Lemmon	<i>Public Safety Communications, CA</i>
Doug Chapman	<i>Etherstack</i>	Todd Summers	<i>SoftWright LLC</i>
Richard Massie	<i>FBI</i>	George Crouch	<i>State of South Carolina</i>
William Janky	<i>FirstNet</i>	Christie Bielby	<i>TX DPS</i>
Chris Kindelspire	<i>Grundy County 911</i>	Sonia Kendall	<i>U.S. Coast Guard</i>
Masaaki Takahashi	<i>ICOM America Inc.</i>	James Middleton	<i>U.S. Coast Guard</i>
Glenn Shirley	<i>InterTalk Critical Info. Systems</i>	Robert Ausura	<i>U.S. DHS OEC</i>
Thomas Lamp	<i>ISICSB (State of Iowa)</i>	Joshua Black	<i>U.S. DHS OEC</i>
Chris Maiers	<i>ISICSB (State of Iowa)</i>	Jim Downes	<i>U.S. DHS OEC</i>
Angelina Seay	<i>JVC Kenwood Corporation</i>	Brian Heitman	<i>U.S. DHS OEC</i>
Marty Barringer	<i>L3 Harris Technologies</i>	Britany Higdon	<i>U.S. DHS OEC</i>
Tom Hengeveld	<i>L3 Harris Technologies</i>	April O'Reilly	<i>U.S. DHS OEC</i>
Paul McCarty	<i>L3 Harris Technologies</i>	Brandon Diemer	<i>U.S. DoI</i>
Harrison Reves	<i>L3 Harris Technologies</i>	Ed Latimer	<i>Viavi Solutions</i>
Derek Wells	<i>L3 Harris Technologies</i>	Chad McAsey	<i>Viavi Solutions</i>
Andy Davis	<i>Motorola Solutions, Inc.</i>	Randy Richmond	<i>Zetron</i>

Correspondence Log

Number	Date	Author	Subject
16-001	01-26-2016	Tom Rubinstein	Proposed Reorg of Working Groups
16-002	01-26-2016	Tom Rubinstein	WG-2 Report
16-003	01-26-2016	Tom Rubinstein	88.2-E Comment Resolution
16-004-01	01-26-2016	Sam Makhoulf	WG-4 Report
16-004-06	06-07-2016	Tom Rubinstein	WG-2 Report
16-005	06-07-2016	Tom Rubinstein	TSB-176-A Draft - Markup
16-006	06-07-2016	Tom Rubinstein	TSB-176-A Draft - Clean
16-007	06-07-2016	Sam Makhoulf	Draft of TSB-88.4 for Ballot
16-008	06-07-2016	Sam Makhoulf	Draft of TSB-88.5 for Ballot
16-009	10-18-2016	Tom Rubinstein	Draft of TSB-176-A with Change Tracking
16-010	10-18-2016	Tom Rubinstein	Draft of TSB-176-A for Ballot
16-011	10-18-2016	Tom Rubinstein	Motion to Ballot TSB-176-A
16-012	10-18-2016	Todd Summers	Draft of TSB-88.3-D-1 for ballot
16-013	10-18-2016	Sam Makhoulf	Draft of TSB-88.4 for publication
16-014	10-18-2016	Sam Makhoulf	Draft of TSB-88.5 for publication
16-015	10-18-2016	Jim Eastwood	Eastwood Nomination for Chair
16-016	10-18-2016	Jim Eastwood	Eastwood Support Letter for Chair
16-017	12-13-2016	Jim Eastwood	October 2016 Attendance Log - Next Meeting Vote Eligibility
16-018	12-13-2016	Jim Eastwood	October 2016 Meeting Report
16-019	12-20-2016	Jim Eastwood	January 2017 Meeting Notice and Agenda
17-001	01-10-2017	Jim Eastwood	TIA-PN-88.3-D-1 Ballot Summary Report
17-002-R2	01-25-2017	Todd Summers	TIA-PN-88.3-D-1 Ballot Comment Matrix
17-003	01-10-2017	Jim Eastwood	TIA-PN-176-A Ballot Summary Report
17-004-R2	01-25-2017	Tom Rubinstein	TIA-PN-176-A Ballot Comment Matrix
17-005-R1	01-24-2017	Todd Summers	TIA-PN-88.3-D-1 Post Ballot Draft Proposal
17-006-R1	01-24-2017	Tom Rubinstein	TIA-PN-176-A Post Ballot Draft Proposal
17-007-R1	01-31-2017	Jim Eastwood	January 2017 Activity Report
17-008	01-31-2017	Bob Shapiro	Shapiro Nomination for Vice-Chair
17-009	04-10-2017	Jim Eastwood	January 2017 Attendance Log - Next Meeting Vote Eligibility
17-010	04-10-2017	Jim Eastwood	January 2017 Meeting Report
17-011-R1	06-16-2017	Jim Eastwood	June 2017 Activity Report
17-012-R1	09-22-2017	Jim Eastwood	October 2017 Meeting Notice and Agenda
17-013	10-18-2017	Jim Eastwood	October 2017 Activity Report
17-014	10-18-2017	Tom Rubinstein	WG-1 ACD Telecom Proposal for TSB-88.3-E
17-015	10-18-2017	Sam Makhoulf	WG-1 Motorola Proposal for BAPC-CAR
17-016	10-18-2017	Jim Eastwood	Template for Comments on TSB-88.1-D
17-017	10-18-2017	Jim Eastwood	Template for Comments on TSB-88.3-D
17-018-R7	06-14-2018	Todd Summers	WG-1 Combined Comment Matrix for TSB-88.1-E
17-019-R11	06-14-2018	Todd Summers	WG-1 Combined Comment Matrix for TSB-88.1-E
17-020	11-28-2017	Tom Rubinstein	WG-1ACD Telecom Proposal for TSB-88.3-E section 3.1
17-021	11-28-2017	Tom Rubinstein	WG-1ACD Telecom Proposal for TSB-88.3-E section 5.0
17-022	11-28-2017	Tom Rubinstein	WG-1 ACD Telecom Proposal for TSB-88.3-E section 5.7.1.5.2
17-023	11-28-2017	Tom Rubinstein	WG-1 ACD Telecom Proposal for TSB-88.3-E section 5.7.2
17-024-R2	12-13-2017	Sam Makhoulf	WG-1 MSI BAPC-CAR Proposal for TSB-88.1-E
17-025-R2	12-13-2019	Sam Makhoulf	WG-1 MSI BAPC-CAR Proposal for TSB-88.3-E
17-026-R1	01-31-2018	Sam Makhoulf	WG-1 MSI Feedback on 17-019 Comments

Number	Date	Author	Subject
17-027-R2	01-31-2018	Jim Eastwood	October 2017 Attendance Log - Next Meeting Vote Eligibility
17-028	11-28-2017	Jim Eastwood	October 2017 Meeting Report
17-029-R8	10-01-2018	Todd Summers	WG-1Draft Proposal for TSB-88.1-E
17-030-R12	10-01-2018	Todd Summers	WG-1 Draft Proposal for TSB-88.3-E
17-031	12-22-2017	Todd Summers	WG-1 Softwright Proposal for 17-019 comment A09
17-032	01-03-2018	Tom Rubinstein	WG-1 ACD Telecom Proposal for 17-019 comment A07 (3.0)
17-033	01-03-2018	Tom Rubinstein	WG-1 ACD Telecom Proposal for 17-019 comment A07 (5.6.3)
17-034	01-03-2018	Tom Rubinstein	WG-1 ACD Telecom Proposal for 17-019 comment A04 (3.1)
17-035	01-03-2018	Tom Rubinstein	WG-1 ACD Telecom Proposal for 17-019 comment A04 (5.0)
17-036	01-03-2018	Tom Rubinstein	WG-1 ACD Telecom Proposal for 17-019 comment A04(Annex B
18-001-R1	01-12-2018	Jim Eastwood	February 2018 Meeting Notice and Agenda
18-002	01-11-2018	Sam Makhoulf	WG-1 MSI Feedback on ACD Contributions 17-032 to 17-036
18-003	02-07-2018	Jim Eastwood	TSB "NOTICE" Page Issue Correspondence to TIA
18-004-R1	02-07-2018	Jim Eastwood	February 2018 Activity Report
18-005	03-09-2018	Jim Eastwood	February 2018 Attendance Log - Next Meeting Vote Eligibility
18-006	03-09-2018	Jim Eastwood	February 2018 Meeting Report
18-007	03-22-2018	Todd Summers	Table A1 Proposed Revisions
18-008	03-22-2018	Sam Makhoulf	Example BAPC-CAR Diagram for TSB-88.1-E
18-009	03-22-2018	Sam Makhoulf	BAPC-CAR Draft Proposal v3
18-010	04-05-2018	Jim Eastwood	May 2018 Meeting Notice and Agenda
18-011-R3	04-12-2018	Sam Makhoulf	MSI Adjacent Tile Proposed Revisions
18-012	04-12-2018	Todd Summers	April 12 th WG-1 Meeting Slide Deck
18-013-R1	06-07-2018	Jim Eastwood	June 2018 Meeting Notice and Agenda
18-014	06-20-2018	Sam Makhoulf	Adjacent Test Tile Failure Examples - MSI
18-015	06-20-2018	Jim Eastwood	June 2018 Activity Report
18-016	06-20-2018	Jim Eastwood	TSB "NOTICE" Page Issue Resolution
18-017	08-21-2018	Jim Eastwood	June 2018 Attendance Log - Next Meeting Vote Eligibility
18-018	08-21-2018	Jim Eastwood	June 2018 Meeting Report
18-019	08-04-2018	Jim Eastwood	TIA-PN-88.1-E Ballot Summary Report
18-020-R3	10-01-2018	Todd Summers	TIA-PN-88.1-E Ballot Comment Matrix
18-021	08-04-2018	Jim Eastwood	TIA-PN-88.3-E Ballot Summary Report
18-022-R2	10-01-2018	Todd Summers	TIA-PN-88.3-E Ballot Comment Matrix
18-023	08-21-2018	Jim Eastwood	October 2018 Meeting Notice and Agenda
18-024-R1	10-17-2018	Jim Eastwood	October 2018 Activity Report
18-025	11-05-2018	Jim Eastwood	October 2018 Attendance Log - Next Meeting Vote Eligibility
18-026	11-05-2018	Jim Eastwood	October 2018 Meeting Report
19-001	01-02-2019	Jim Eastwood	February 2019 Meeting Notice and Agenda
19-002	02-06-2019	Jim Eastwood	February 2019 Activity Report
19-003	02-06-2019	Jim Eastwood	Eastwood Nomination for Chair
19-004	02-06-2019	Jim Eastwood	Eastwood Support Letter for Chair
19-005	02-12-2019	Jim Eastwood	February 2019 Attendance Log - Next Meeting Vote Eligibility
19-006	02-12-2019	Jim Eastwood	February 2019 Meeting Report
19-007	08-30-2019	Jim Eastwood	October 2019 Meeting Notice and Agenda
19-008	09-27-2019	Marty Barringer	L3Harris TSB-88.3 - Attenuator
19-009	09-20-2019	Todd Summers	88.2 Section 5 Revision
19-010	09-10-2019	Sam Makhoulf	88.2 Revision F draft proposal
19-011-R1	10-09-2019	Jim Eastwood	October 2019 Activity Report