



INTERNATIONAL COMMITTEE *on* ELECTROMAGNETIC SAFETY

Sub-Committee 1 Minutes June 2021 IEEE/ICES TC95 Subcommittee 1 Techniques, Procedures, Instrumentation and Computation 1900 – 2100 UTC: 9 June 2021 Via WebEx conference

0. Registration of attendees

Subcommittee 1 on Techniques, Procedures, Instrumentation and Computation meeting convened from 18:45 UTC on 9 June 2021 WebEx. Attendees were welcomed and their attendance registered on the SC1 membership list.

1. Call to order

At 19:06 UTC the meeting was called to order by SC-1 Co-Chair, Peter Zollman. All attendees were again welcomed, especially those who were attending at unsociable times of their day.

2. Approval of agenda

The draft SC-1 agenda was proposed and accepted by the committee on a motion from Marv Ziskin with Cory Kihlstrom seconding and was approved. (Attachment 1)

3. Approval of the December 2020 SC-1 meeting minutes

With no amendments, the December 2020 SC1 meeting minutes were accepted on a motion from Asher Sheppard and seconded by Marv Ziskin.

4. Update of SC-1 membership

The SC1 Co-Chair (Zollman) called the SC1 membership on hand and recorded in the sign-in sheet. He asked if anyone was aware of any errors or omissions - with a few new participants joining. 41 people were in attendance (Attachment 2).

5. Call for Patents

In the meeting announcement and the draft Agenda circulated prior to the meeting, the SC1 members had been asked to state if they had any essential patent claims. No such claim has been recorded. SC1 Co-Chair (Zollman) asked if anyone now in the meeting had any such claims. Again no one made any claim.

6. PC95.3¹ progress

SC1 Co-Chair (Zollman) announced that C95.3:2021 was published at the end of May 2021 and is available via the GET program. He summarized the process from August 2019 when a decision was made by SC1 to change the direction of the recommendation. The aggressive timescale agreed at that time planned for publication by the end of 2021.

¹ PC95.3™/Draft, Draft Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields With Respect to Human Exposure to Such Fields, 0 Hz to 300 GHz



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C95.3 completed the final re-ballot at the beginning of January 2021 when the document was passed to IEEE_SA for final approval and pre-publication edits. Even with the 5 months taken for these final steps, the original publication deadline was beaten by 7 months. The EWG team was thanked for this effort as were the SC1 members who participated in the balloting and review process.

Matt Butcher then took over the chair for the rest of the meeting.

7. Presentations

a) Assessment Complexity Challenges and Techniques Derat

Dr. Derat reviewed challenges of measuring exposure from modern RF communications systems and reviewing code-selective methods, beam-based antenna system measurements and the complications of measuring near-field mmWave arrays. (Attachment 3)

b) Measure Short Signals with Fast Integration Probes Derausseau

Mr. Derausseau discussed how fast broadband probes can be used to assess short signals such as RFID and scanning radars. (Attachment 4)

8. Any other business

Matt Butcher gave a short summary of technical questions relating to assessments that have thus far been identified as needing further study. Matt asked for volunteers to join an ad-hoc group to review these items to contact the Co chairs. (Attachment 5)

No other new business was discussed.

9. Time and Place of Next Meeting:

Next meeting will be via WebEx at the end of 2021 prior to the next scheduled TC95 meeting. SC1 date to be determined depending on the decision of AdCom. In the meantime, if SC1 members are willing to present on a suitable topic, the Co-chairs are prepared to organize additional Webex meetings prior to then.

10. Adjourn

David Maxson made the motion to adjourn, and Asher Sheppard seconded. The Co-Chairs Zollman/Butcher adjourned the SC-1 meeting at 20:55 UTC.



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Attachment 1

**IEEE/ICES TC95 Subcommittee 1
Techniques, Procedures, and Instrumentation
Agenda: 09 June² 2021 1900 UTC Meeting (Draft)
Via WebEx**

	Los Angeles	New York	London	Amsterdam	Jerusalem	Beijing	Tokyo	Sydney	Auckland
Start Time	Wed 12:00	Wed 15:00	Wed 20:00	Wed 21:00	Wed 22:00	Thu 03:00	Thu 04:00	Thu 05:00	Thu 07:00
Start Date	09 June 2021					10 June 2021			
Duration	~1.5 Hrs								
Meeting open	Meeting registration starts 15 minutes prior to scheduled start time.								

- | | |
|---|-------------------|
| 0. Register of attendees (WebEx) from start minus 15 min | Zollman |
| 1. Introduction & Call to Order | Zollman |
| 2. Modifications and approval of agenda | Zollman |
| 3. Approval of SC-1 Minutes (Dec 2020 meeting) | Zollman |
| 4. Update of SC-1 Membership | Zollman |
| 5. Call for Patents³ | Zollman |
| 6. C95.3 update | Zollman |
| 7. Presentations | Butcher |
| a) Assessment Complexity Challenges and Techniques | Derat |
| b) Measure Short Signals with Fast Integration Probes | Derousseau |
| 8. Any other business | Butcher |
| 9. Time and Place of Next Meeting | Butcher |
| a) Ad-hoc WebEx subject to having presenters else Dec 2021 | |
| 10. Adjourn | Butcher |

² 10 June for Far East, Australasia, and New Zealand

³ *Participants have a duty to inform the IEEE of holders of essential patent claims if they or their affiliations hold such claims. Check the web link: <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/patents.pdf> for more details. If anyone in this meeting is personally aware of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please speak to the committee chair today.*



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Attachment 2

SC1 9 June 2021 Attendee list

Last name	First name	Affiliation	Member SC1	Member IEEE-SA	Patent claim
Butcher	Matt	Sublight Engineering PLLC	Y	Y	N
Chou	Chung-Kwang	C-K. Chou Consulting	Y	Y	N
Chrysanthou	Chrysanthos	FCC	O	N	N
Colville	Frank	US Army PHC	Y	Y	N
Coons	Greg	FCC	O	Y	N
DeFrank	John	US Army	Y	Y	N
Derat	Benoit	R&S	O	N	N
Derousseau	Laurent	Wavecontrol	O	N	N
Duvdevany	Amnon	Israel Institute for Occupational Safety and Hygiene	Y	N	N
Eamian	Damian	FCC	O	N	N
Edwards	Johnathan	FCC	O	N	N
Elliot	Zakary	US Army	Y	N	N
Gledhill	Martin	EMF services	Y	N	N
Graf	Kevin	FCC	Y	Y	N
Haes	Donald	Comcast	Y	Y	N
Harrington	Tim	FCC	Y	Y	N
Johnson	Robert	Global RF Solutions	Y	Y	N
Kantner	Kim	AT&T Services, Inc	Y	N	N
Karabetsos	Efthymios	Greek Atomic Energy Commission	Y	Y	N
Kihlstrom	Cory	Verizon Wireless	Y	N	N
Krebs	Paul	Verizon	Y	Y	N
Liu	Daniel	ARPANSA, Australia	Y	N	N
Ludick	Danie	Alphawave	O	N	N
Maruthi	Sathya	FCC	O	N	N
Mathur	Rajat	Hammett & Edison, Inc.	Y	Y	N
Maxson	David	Isotrope	Y	Y	N
Mikulski	Timothy	US Army	Y	N	N
Moule	Brett	Kordia Solutions	Y	N	N
Mustapaeva	Gulmira	FCC	O	N	N
Pan	Yi	ISED (Canada)	Y	Y	N



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Last name	First name	Affiliation	Member SC1	Member IEEE-SA	Patent claim
Roder	Patricia	IEEE SA	Y	Y	N
Šarolić	Antonio	FESB, University of Split (Croatia)	Y	N	N
Sheppard	Asher	Asher Sheppard Consulting	Y	N	N
Sliney	David	Johns Hopkins Univ	Y	N	N
Tell	Ric	Richard Tell Associates, Inc.	Y	Y	N
Thansandote	Artnarong	Individual (retired)	Y	Y	N
Wessel	Marvin	Global RF Solutions	Y	Y	N
Wijayasinghe	Donald	ARPANSA	Y	N	N
Zhao	Xun	DND/QETE	Y	Y	N
Ziskin	Marvin	Temple University	Y	Y	N
Zollman	Peter	PZC (Consultant)	Y	Y	N