Test Technology Standards Committee
(IEEE-SA Standards Committee C/TT)

Meeting Minutes

April 7th, 2021

1   Name of group

The Test Technology Standards Committee (IEEE-SA Standards Committee C/TT) met.

2   Date and location of meeting

Wednesday, April 7, 2021 via IEEE Meetings WebEx (teleconference).

3   Officers

The presiding officer was Ian McIntosh, TTSC Chair. The secondary presiding officer was Adam Ley, TTSC Vice Chair. The recording secretary was Michael Wahl.

4   Attendance roster

The roll was taken from the WebEx attendance list

Adam Cron	Heiko Ehrenberg	Saghir Shaik
Adam Ley (VC)	Ian McIntosh (C)	Saman Adham
Alfred Crouch	Jeff Rearick	Sankaran Menon
Anthony Coyette	Michael Wahl (S)	Tom Thompson (IEEE)
Bambang Suparjo	Mike Ricchetti	Tom Waayers
Bradford G. Van Treuren	Ric Dokken	
Erik Jan Marinissen	Rolf Kuehnis (I)	

C: Chair, VC; Vice Chair, S: Secretary, I: Interested, not yet voting member

5   Call to order, Chair's remarks

The meeting was called to order at: (EST) 11:05 AM, Wednesday, April 7, 2021. The Chair informed the attendants that the meeting will be recorded solely for creating the minutes. The recording will be deleted immediately after the minutes are written.

5.1   Patent slides

The presiding officer shared the patents slide set and provided opportunity for those present to fulfill their duty to inform. None present identified any potentially essential patent claim(s)/patent application claim(s).

5.2   Copyright slides

The presiding officer shared the copyright slide set and provided opportunity for those present to comment. No comments were given.

6   Approval of the agenda

A motion for the approval of the agenda was made.

MOTION	Approval of the agenda
Mover	Adam Cron
Second	Bradford Van Treuren
Votes	The vote was not conducted on a roll call basis. No objections were raised.
Decision	Approved

7   Approval of minutes of previous meeting

There was no opportunity to circulate the minutes in time. Ian MacIntosh suggested to move the approval of the minutes to the next meeting. There were no objections to his suggestion.

8   Action items review

	Action	Who	When
1	Organize a tiger team to work toward draft proposed common form letter for all calls for standard maintenance.	Ian McIntosh	Forthwith
2	Work toward draft proposed common P&P for all TTSC working groups on a staff-provided baseline and template. On hold because we expect a new baseline to be published in March 2021.	Ian McIntosh/ Soo Kim	Forthwith
3	Request IEEE editors prepare Word source, on current template, for revision draft to seed P1450. **Closed.**	Soo Kim/ Tom Thompson	
4	Effect approval of revision PAR for P1450.1 **Closed.**	Adam Cron	
5	Request IEEE editors prepare Word source, on current template, for revision drafts to seed P1450.1. **Tom Thompson believed that this was not requested. He will check.**	Soo Kim/ Tom Thompson	Upon PAR approval (NesCom)
6	Effect approval of revision PAR for P1450.6. **Closed**	Adam Cron	
7	Request IEEE editors prepare Word source, on current template, for revision drafts to seed P1450.6. **Closed**.	Soo Kim/ Tom Thompson	

	Action	Who	When
8	Request IEEE editors prepare Word source, on current template, for revision drafts to seed P1149.4. **Closed**.	Soo Kim/ Tom Thompson	
9	Create "cookbook" for how to startup a new (or revision) project/ working group.	Ian McIntosh	Forthwith
10	Effect approval for SC ballot for P1149.7. **Closed**.	Adam Cron	
11	Conduct P2654 Elections **Closed**.	Ehrenberg/ Menon	
12	Organize P1687.1 Elections **Closed**.	Crouch	
13	Organize P2929 Elections **Closed**.	Menon	
14	Inquire IEEE staff as to alternatives to requesting SC and WG email forwards of items such as requests for awards nominations; else request that such items are formatted in such a way that they do not suggest self-promotion on the part of those asked to do the forwards. **Discussion result: Add a disclaimer that no solicitation is intended. Closed.**	Soo Kim/ Tom Thompson	
15	Communicate expectations concerning submission of WG rosters to IEEE-SA.	Soo Kim/ Tom Thompson	Forthwith
16	Address listserv question offline (can a WG have two listservs= one for full participants versus one for parties who wish to receive only meeting minutes?). **Tom Thompson: Usually one listserv per group** **Discussion on public availably of minutes. Distribution can be done via the myProject, iMeetCentral or via listserv of the group. There are no strict rules. The minutes shall be made available to all who request them.** **Use listserv for all and iMeet internally.** **Closed.**	Sankaran Menon/ Adam Cron	

9   Technical Topics

9.1   Projects in active development

9.1.1   P&P for P1581 (Heiko Ehrenberg)

Quick review of the document. Heiko Ehrenberg mentioned the following items, mostly the points where selections can be made in the base document:

- Voting Membership: 3 out of 5 meetings
- Officers are being elected
- No treasurer and open-source project lead
- No editor due to the small size of the group
- Working group meetings can be held, amongst the other reasons, by petition of 50% of the voting members. The number of 5 members was dropped due to the fact that the WG has only 5 members.

The time frame was estimated by Heike Ehrenberg to be several months, mostly for editorial changes, e. g. master/slave terminology.

A motion for the approval of the P&P was made.

MOTION	Approval of the P&P for P1581
Mover	Heiko Ehrenberg
Second	Bradford Van Treuren
Votes	The vote was not conducted on a roll call basis. No objections were raised.
Decision	Approved (Yeah:14, Nay: 0, Abstain: 0)

9.1.2   SC ballot for P1500 (Mike Ricchetti)

Mike Riccetti: WG approved ballot ready draft and submitted it to MEC. After feedback the document is ready to ballot. Then the approval of the TTSC is necessary which will be probably before the next meeting. An electronic vote is expected.

9.2   Election's review

9.2.1   P1581 (Heiko Ehrenberg)

Election process will start. Adam Ley volunteered as the election officer; Al Crouch volunteered as auditor.

9.3   Status of projects in active development

9.3.1   SC project tracking

Ian McIntosh: Ongoing activity

9.3.2   P1149.4

Bambang Suparjo: The group has started, first official meeting scheduled for May 17th, 2021.

9.3.3   P1450

Ric Dokken: Reported problems with listserv. Tom Thompson will take care of the problem.

9.3.4   P1450.1

Greg Maston: No update

9.3.5   P1450.6

Saghir Shaik: Not very much activity. Saghir needs some time to get familiar with the procedures. Ian McIntosh offered support.

9.3.6   P1687.1

Al Crouch: Making good progress, focusing on language requirements, looking at ICL, SPI and other interfaces.

9.4   Maintenance review

9.4.1   Without SC action, the following standards will expire at the end of 2022:

- 1149.8.1 C/TT/Boundary Scan Architecture
  IEEE Standard for Boundary-Scan-Based Stimulus of Interconnections to Passive and/or Active Components

9.4.2   Without SC action, the following standards will expire at the end of 2023:

- 1149.1 C/TT/Boundary Scan Architecture
  IEEE Standard for Test Access Port and Boundary-Scan Architecture

9.4.3   Without SC action, the following standards will expire at the end of 2024:

- 1687 C/TT/IJTAG
  IEEE Standard for Access and Control of Instrumentation Embedded within a Semiconductor Device

9.4.4   Without SC action, the following standards will expire at the end of 2025:

- 1149.6 C/TT/1149.6
  IEEE Standard for Boundary-Scan Testing of Advanced Digital Networks

10   New Business

None

11   New action items

None

12   Subcommittee reports

13   Any other business

Ian McIntosh shows the progress on the new TTSC Wordpress website at https://sagroups.ieee.org/ttsc/, which is public and will contain, among others, meeting minutes. The transfer of the data from the grouper site will create problems due to the hard

URL links contained in the documents. On iMeet there will be one folder per meeting containing all the files which are mentioned in the minutes, so the information is not lost.

14 Next meeting

The next meeting will take place on July 7th, 2021

15 Adjourn

MOTION	To adjourn
Mover	Jeff Rearick
Second	Bradford Van Treuren
Votes	No objections were raised.
Decision	Approved

History of these minutes
- Meeting notes recorded by: Michael Wahl
- Minutes submitted by: Michael Wahl, submitted June 11th, 2021

16 Appendix

16.1 IEEE TTSC Membership

First name	Name	Company	Affiliation	
Saman	Adham	TSMC		M
Anthony	Coyette	ON Semiconductor		*
Adam	Cron	Synopsys		M
Alfred	Crouch	Amida Technology Solutions		M
Ric	Dokken	Roguevation		M
Heiko	Ehrenberg	Goepel electronics		M
Rodolfo A.	Fiorini	Intel		M
Neil	Jocobson	Formidable Engineering Consultants		M
Rolf	Kühnis	Intel		**
Michael	Laisne	Dialog Semiconducor		M
Adam	Ley	ASSET InterTech		M
Erik Jan	Marinissen	imec	TU Eindhoven	M
Greg	Maston	Self		M
Ian	McIntosh	Leonardo		M
Sankaran	Menon	Intel		M
Spencer	Millican	Auburn University		M
Jim	O'Reilly	Intel		M
Jason	Peck	Texas Instruments		M
John	Potter	Anora		M
Rajesh	Raina	NXP Semiconductors		M
Jeff	Rearick	AMD		M
Mike	Ricchetti	Synopsys		M
Saghir	Shaik	Broadcom		M
Steve	Sunter	Siemena		M
Bambang	Suparjo	Intel		M
Bradford	Von Treuren	VT Enterprises Cons. Services		M
Tom	Waayers	NXP Semiconductors		M
Michael	Wahl	University of Siegen		M

Members   Have attended at least three consecutive meetings and have the right to vote

Observers Have not (yet) attended three consecutive meetings and have no right to vote

    *   Observer

    **   having expressed interest, completion of attendance to this meeting satisfies the requirements to be a voting member