Test Technology Standards Committee (IEEE-SA TTSC)

Meeting Minutes

July 7th, 2021

1   Name of group

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

2   Date and location of meeting

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

3   Officers

The presiding officer was Adam Ley, 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	Ric Dokken
Adam Ley (VC)	Ian Macintosh (C)	Saghir Shaik
Alfred Crouch	Jason Peck	Saman Adham
Bambang Suparjo	Jeff Rearick	Sankaran Menon
Bradford G. Van Treuren	Michael Laisne	Steve Sunter
Erik Jan Marinissen	Michael Wahl (S)	Tom Thompson (IEEE)
Greg Maston	Mike Ricchetti	

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

5   Call to order, Chair's remarks

The meeting was called to order at: (EST) 11:04 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	Bradford Van Treuren
Second	Al Crouch
Votes	No objections were raised.
Decision	Approved

7   Approval of minutes of previous meetings

7.1   Minutes from regular meeting, February 10th, 2021

MOTION	Approval of the minutes
Mover	Sankaran Menon
Second	Saghir Shaik
Votes	No objections were raised.
Decision	Approved

7.2   Minutes from regular meeting, April 7th, 2021

MOTION	Approval of the minutes
Mover	Greg Maston
Second	Heiko Ehrenberg
Votes	No objections were raised.
Decision	Approved

7.3   Minutes from special meeting, May 28th, 2021

MOTION	Approval of the minutes
Mover	Michael Wahl
Second	Heiko Ehrenberg
Votes	No objections were raised.
Decision	Approved

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.	Ian McIntosh/ Soo Kim	Forthwith

	Action	Who	When
	A draft of the P&P was placed on the iMeet server. There are still questions open, in particular to open-source issues. The members of the TTSC should comment on a short-term basis.		
3	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.	Tom Thompson	Upon PAR approval (NesCom)
4	Create "cookbook" for how to startup a new (or revision) project/ working group. Ian McIntosh has placed some notes on the iMeet server. Members are invited to comment.	Ian McIntosh	Forthwith
5	Communicate expectations concerning submission of WG rosters to IEEE-SA. Ongoing discussion within IEEE.	Tom Thompson	Forthwith

9 Technical Topics

9.1 Projects in active development

9.1.1 SC ballot for P1500 (Mike Ricchetti)

The criteria for ballot were met (minimum: 75%, reached: 83%, approval rate: 85%). Group started with the resolution of 449 comments.

9.2 Election's review

9.2.1 P1581 (Heiko Ehrenberg)

Adam Ley (elections administrator) reported, that the election was concluded on June 30th, 2021. Results: Chair: Heiko Ehrenberg, Vice Chair: Ian McIntosh, Secretary: Yan-Ping Lu (Volunteer).

9.3 Status of projects in active development

9.3.1 P1450.1

Greg Maston: No update, working on forming a group.

9.3.2 P1450.6

Saghir Shaik: Not much activity. Saghir will make a call for a first meeting this month – P&P and officer elections will follow in due course.

9.3.3   P1149.4

Bambang Suparjo: Kickoff-meeting June 8th, 2021 with 10 attendees, next meting July 6th, 2021. Established a schedule for reviewing the current version. First step it updating the P&P.

9.3.4   P1450

Ric Dokken: P1450 had two meetings. P&P have been updated. Questions:

Is it necessary to distinguish between members and voting members? The discussion resulted in that the membership should be distinguished for continuity.

There are multiple problems with the word document, formatting, figures... Ric asked for help in providing sources of previous documents, which are possibly written using other tools such as FrameMaker.

9.3.5   P1687.1

Al Crouch: The group meets weekly. Current topic is the device pin interface to 1687. Challenging is the interaction with 1687.1, 1687.2, and 2654 to make sure that there is a continuity and the three standards work together.

9.3.6   P1687.2 / P2427

Steve Sunter reported, that the P1687.2 and P2427 meetings interleave in a Bi-weekly rhythm. The meetings have around 35 attendees.

Steve expects to get the balloting done within the next 18 months, probably Q1 2022. Challenging is the overlap with P1687.1 and the definition of transfer procedures tor ADCs and DACs. The second is the production of tester code, in particular loops that has been avoided previously.

Steve noted that it was "touch and go" on completing within the PAR timescale. P2427 will probably ready earlier ready than P1687.2.

9.3.7   P2654

Ian Macintosh noted collaboration received from P1687.1 and added that completion within the PAR timescale was possible but currently looked to be tight.

9.3.8   SC Project Tracking

Ian McIntosh: Is still to be worked on.

9.3.9   P2929

Sankaran Menon: 23 – 28 attendees, making good progress.

9.4   Maintenance review

General discussion concerning the end of life of a standard.

- Do nothing: the standard is automatically (IEEE staff) falling into the state Inactive Reserved It still can be used. Compliance can still be claimed as it is done by referring to older versions of a standard, e. g. 1149.1.

- Decision of the TTSC to not further maintain the standard: the standard falls into Inactive Reserved.
- Decision of the TTSC to withdraw the standard. This requires a balloting process.

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
  Needs to be worked on, but first the current usage needs to be evaluated. There have been no publications in the recent years. Possibly Keysight uses the standard (comment Adam Cron).

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
  If TTSC agrees to keep the standard active, a revision PAR needs to be drafted. This should be done before the end of the year.

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

10.1 New patent policy slides

The updated versions were shown at the beginning of the meeting and are available on the iMeet server.

10.2 SASB Operations Manual amendment: SA PM access to WG materials

SA PM can request access to WG materials. Ian McIntosh will provide link to the information.

10.3 Update to TTSC P&P

Due end of 2022. Work on the revised P&P using the current baseline should be started at the end of this year. Ian McIntosh will provide a new version on the iMeet server for review in the next meeting.

11 Any other business

ITC Session. Mike Ricchetti reported on the current state, a presentation session and an interactive session.

12 New action items

- Initiate working group for revising 1149.1 before the end of the year (Ian McIntosh)
- Provide a link to the SA to access the WG materials

13 Subcommittee reports

None

14 Items reported out of executive sessions

None

15 Next meeting

The next meeting will take place on October 20th, 2021, same time.

16 Adjurn

MOTION	To adjurn
Mover	Steve Sunter
Second	Jeff Rearick
Votes	No objections were raised.
Decision	Approved

History of these minutes
- Meeting notes recorded by: Michael Wahl
- Minutes submitted by: Michael Wahl, TTSC Secretary,

17 Appendix

17.1 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		*
Neil	Jacobson	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