Test Technology Standards Committee (IEEE-SA TTSC)

Meeting Minutes

July 13th, 2022

1 Name of group

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

2 Date and location of meeting

Wednesday, July13th, 2022, via IEEE Meetings WebEx (teleconference).

3 Officers

The presiding officer was Ian McIntosh, TTSC Chair. The recording secretary was Michael Wahl.

4 Attendance roster

The roll from July 13th, 2022, was taken from the WebEx attendance list.

Adam Ley (VC)	Ian McIntosh (C)	Saghir Shaikh
Al Crouch	Jason Doege	Saman Adham
Bambang Suparjo	Jason Peck	Sankaran Menon
Bradford Van Treuren	Jeff Rearick	Steve Sunter
Erik Jan Marinissen	Michael Laisne	Tom Thompson (IEEE)
Greg Maston	Michael Wahl (S)	
Heiko Ehrenberg	Mike Ricchetti	

The roll from July 27th, 2022, was taken from the WebEx attendance list

Adam Ley (VC)	Glen Pfautsch	Michael Laisne
Al Crouch	Greg Maston	Michael Wahl (S)
Anthony Coyette	Heiko Ehrenberg	Mike Ricchetti
Bambang Suparjo	Ian McIntosh (C)	Ric Dokken
Bradford Van Treuren	Jason Doege	Saghir Shaikh
Erik Jan Marinissen	Jeff Rearick	Tom Thompson (IEEE)

C: Chair, VC; Vice Chair, S: Secretary

5 Call to order, Chair's remarks

The meeting was called to order at: (EDT) 11:07 AM, Wednesday, July 13th, 2022. The meeting was recorded for writing the minutes. The recording will be deleted immediately after the minutes have been written.

The new P&P for the TTSC were approved by the SC. This is now our working document.

5.1   Patent slides

The presiding officer shared the patent 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). No comments were given.

5.2   Copyright slides

The presiding officer shared the copyright slide set and provided opportunity to fulfill their duty to inform. No comments were given.

5.3   Participant behavior slides

Jeff Rearick shared the participant behavior/ethics slide set. 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	Michael Wahl
Second	Adam Ley
Votes	No objections were raised.
Decision	Approved

7   Approval of minutes of previous meetings

7.1   Regular meeting, April 13th, 2022

The minutes are available on the IEEE TTSC iMeet site.

MOTION	Approval of the minutes
Mover	Adam Ley
Second	Jeff Rearick
Votes	No objections were raised.
Decision	Approved

7.2   Special meeting, May 19th – May 26th, 2022

The minutes are available on the IEEE TTSC iMeet site.

MOTION	Approval of the minutes
Mover	Adam Ley
Second	Jason Doege
Votes	No objections were raised.
Decision	Approved

7.3   Minutes from special meeting, June 17th, 2022

The minutes are available on the IEEE TTSC iMeet site.

MOTION	Approval of the minutes
Mover	Adam Ley
Second	Jason Doege
Votes	No objections were raised.
Decision	Approved

8   Action items review

	Action	Who	When
1	Create "cookbook" for how to startup a new (or revision) project/ working group. The work is ongoing. The section on starting a group is getting close to completion.	Ian McIntosh	Forthwith
2	Contact tool vendors such as Teradyne, Keysight, etc. to determine usage/interest in 1149.8.1. There is no much enthusiasm with the TTSC to work on a revision. Ian McIntosh contacted Ryan Flaherty at SMTA: SMTA Test Guidelines were purchased 80 times since 2014 – this may not be an indication of a large interest in 1149.8.1. Options are to withdraw the standard, to consciously allow a lapse to *Inactive Reserved* with a case to support that decision or do nothing and allow lapse into *Inactive Reserved*. It was also discussed that the standard possibly is really complete and as such does not need a "revision". A re-validation is no longer an option. Adam Ley has an SMTA membership and can reach out there. The action is closed. It will be replaced by a new action item for Adam Ley to raise questions in the SMTA forums.	Ian McIntosh	Forthwith
3	Organise a subcommittee on languages to consider commonality and re-use and advise future TTSC policy. Everything is set up but Deepak Asnani, who has been unavailable recently. It is expected that he starts the meetings shortly.	Ian McIntosh	Forthwith

	Action	Who	When
	The item is closed.		
4	Prepare a clean draft of the common P&P for P1687 to trial Some feedback was supplied from the trial use, and the draft was amended accordingly. The action is closed.	Ian McIntosh	Forthwith
5	Summary of expiration terms of WG officers. Adam Ley presented the draft of the spreadsheet (circulated by email shortly before the meeting). He encouraged all members, especially the WG chairs, to check accuracy and advise where corrections are required. The action is closed.	Adam Ley	Forthwith

9   Technical Topics

9.1   Standards Committee action requested/required

9.1.1   P1687.1 PAR extension

The link to the PAR is: https://ieee-sa.imeetcentral.com/p/aQAAAAAE9lXV

MOTION	PAR extension request
Mover	Michael Laisne
Second	Jeff Reasick
Votes	17 Yeah, 0 Abstain, 0 Nay
Decision	Approved

Ian McIntosh will submit the PAR to NesCom in MyProject.

9.1.2   P2654 PAR extension request

The link to the PAR is: https://ieee-sa.imeetcentral.com/p/aQAAAAAE9iv8

MOTION	PAR extension request
Mover	Bradford Van Treuren
Second	Michael Wahl
Votes	17 Yeah, 0 Abstain, 0 Nay
Decision	Approved

Ian McIntosh will submit the PAR to NesCom in MyProject.

9.2   Election's review

9.2.1   Status reports on elections.

- P1687.2: Steve Sunter reported that the elections were concluded. Heiko Ehrenberg conducted the elections.
- P1687: Jeff Rearick reported that the elections were concluded today. Hans Martin von Staudt conducted the elections.
- P1450: Heike Ehrenberg reported that the elections were concluded. The officers were confirmed in their positions.

9.2.2   Election/re-election schedule

- 1149.1: Jeff Rearick can support the elections if the WG cannot supply elections officers. The elections are expected to start mid-August.
- 1450.6.2: Adam Ley can support the elections. Preferably the previous auditor should be reactivated. If this is not possible, Ian McIntosh can support.
- TTSC: Heiko Ehrenberg can support the elections, with Saman Adham as auditor.

9.3   Status of projects in active development

- P1687.1 (Al Crouch): The PAR extension expires December 31st, 2022. The status is summarized in PAR extension request.
- P2654 (Ian McIntosh): PAR expires December 31st, 2022. The status is summarized in PAR extension request.
- P1450.1 (A New interim chair required): The PAR was approved on December 3rd, 2020. Greg Maston is unable to continue. He is in contact with someone who may be able to pick this up.
- P1450.6 (New interim chair required): PAR approved on December 3rd, 2020. Saghir Shaikh is unable to continue. He has a couple of contacts who may be able to pick this up.
- P1687.2 (Steve Sunter): The draft is progressing. It is expected to go to ballot early next year.
- P2427 (Anthony Coyette): The standard is currently in first ballot round.
- P1687 (Jeff Rearick): The work started. The draft is updated at each meeting.
- P1149.1 (Heiko Ehrenberg) The work will commence in mid-August. Heiko needs admin access to ListServ, no right now he did not get any feedback from the current admin. Tom will try to get help from IT and suggested that Liugi Napoli may be able to help.
- P1149.7 (Jason Peck): The standard is approved. The group is working with the IEE editor. Expected publication date is October 2022.
- P1500 (Mike Ricchetti): The standard is approved, but no feedback from the IEEE editor up to now.

Motion to re-convening of the meeting due to the end of the scheduled meeting time.

MOTION	Recess and resume the meeting on July 27th, 2022, same time.
Mover	Greg Maston
Second	Saghir Shai
Votes	No objections were raised.
Decision	Approved

Meeting recessed at 12:07 EDT.

Meeting continued on July 27th, 2022 as planned.

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
  Adam has taken an action to reach out to some of the SMTA membership

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
  A study group should be initiated. Bill Eklow was chair and Ken Parker was the editor. A new team is required. Saghir stated that he will meet some people and ask for a volunteer to lead the study group, not necessary the WG. He will also look for a volunteer for 1450.6.

9.4.2   Without SC action, the following standards will expire at the end of 2027:

- 1149.10 C/TT/HJTAG
  Standard for High-Speed Test Access Port and On-chip Distribution Architecture
  This WG was previously led by C.J. Clark.
- 1450.4 C/TT/P1450.4
  Standard for Extensions to Standard Test Interface Language (STIL) (IEEE Std 1450-1999) for Test Flow Specification
- 1804 C/TT/FACR 1804
  Standard for Fault Accounting and Coverage Reporting (FACR) for Digital Modules

E. J. Marinissen raised the question on the usage of standards. There is no clear view on this. Some remarks from the discussion are listed below.

- 1149.10 (I. McIntosh) did find some industry interest.
- 1687.1 (R. Rearick) no information available
- 2654 (R. Rearick) no information available

9.5   Common P&P

The TTSC P&P is approved by AudCom. Ian McIntosh needs now to submit a sample P&P for the WGs to AudCom. There was an extensive e-mail exchange on the proposal. Subsequently, the WG P&P were discussed. Points of discussions were, among others,

- Spelling/capitalization of Working Group
- Usage "the Working Group" or "Working Group"
- Voting rights during the startup of a new working group.
- Comments from R. Dokken on section 3.1. and 6.3.
- A. Ley on 4.2

The comments raised were discussed and resolved with agreement to defer any change to voting membership requirements to a later date and the draft was amended accordingly.

MOTION	Accept all changes as presented and move forward for AudCom approval
Mover	Adam Ley
Second	Jeff Rearick
Votes	15 Yeah, 0 Abstain, 0 Nay
Decision	Approved

10   New Business

11   Subcommittee reports

None from the language subcommittee.

12   Items reported out of executive sessions

None

13   Any other business

E. J. Marinissen reported that users of 1838 are missing the support of repairability which means that faulty functional connections are replace by spares. He is discussing a study group to deal with the topic.

M. Laisne added that a nice article from E. J. Marinissen and A, Cron on 1838 was published in Computer Magazine.

J. Rearick informed the group the A. Coyette reported the first ballot on 2427 has passed the 75% threshold. I. McIntosh reported that the ballot period can only be extended if the threshold has not been reached.

A discussion followed on what the WG has to change in response to the ballot. Besides the comments from the ballot group, the WG can also take comments into account from within the group without that these comments had to be raised during the ballot period. During recirculation, balloters can also comment on items that have not been changed. The balloting group must not necessarily respond to them.

There is not personal meeting at ITC this year. I. McIntosh may arrange a fringe meeting if wanted.

14 New Action Items

- Adam Ley will raise questions in the SMTA forums concerning the use of 1149.8.1.
- Ian McIntosh will support Deepak in getting the subcommittee on languages started.
- Ian McIntosh will submit the updated P&P to AudCom.

15 Next meeting

The next meeting will take place on October 12th, 2022, 11:00.

16 Adjourn

MOTION	To adjourn
Mover	Adam Ley
Second	Jeff Rearick
Votes	No objections were raised.
Decision	Approved

The meeting was adjourned at 11:59 EDT.

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

17 Appendix

17.1 IEEE TTSC Membership

Saman	Adham	Taiwan Semiconductor Manuf. Corp.
Adam	Cron	Synopsys, Inc.
Alfred	Crouch	Amida Technology Solutions
Anthony	Coyette	ON Semiconductor
Jason	Doege	Intel Corporation
Ric	Dokken	Roguevation, Inc.
Heiko	Ehrenberg	Goepel electronics LLC
Neil	Jacobson	Formidable Engineering Consultants
Michael	Laisne	Renesas
Adam	Ley	ASSET InterTech, Inc.
Erik Jan	Marinissen	imec / TU Eindhoven
Greg	Maston	Self emplyed
Ian	McIntosh	Leonardo S.p.A.
Sankaran	Menon	Intel Corporation
Jim	O'Reilly	Intel Corporation
Jason	Peck	Texas Instruments Inc.
Rajesh	Raina	NXP Semiconductors
Jeff	Rearick	Advanced Micro Devices (AMD)
Mike	Ricchetti	Synopsys, Inc.
Saghir	Shaikh	Broadcom Corporation
Steve	Sunter	Mentor, a Siemens Business
Bambang	Suparjo	Intel Corporation
Bradford	Van Treuren	VT Enterprises Consulting Services
Tom	Waayers	NXP Semiconductors
Michael	Wahl	University of Siegen