Agenda and General Information

IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet PHY Task Force

Natalie Wienckowski (ad Hoc Chair)
General Motors
22 February 2022

Task Force Decorum

- **Please MUTE if you are not speaking**
- An officer is permitted to make an audio or slideshow recording of this meeting exclusively for the purpose of generating minutes which shall not be copied or distributed. **IEEE 802.3 meetings do not use this option.** Recording of the proceedings by any other participant or observer, in part or in whole, via any means, is prohibited. (January 2020 IEEE-SA Standards Board Ops Manual 5.3.3.2)
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (January 2020 IEEE-SA Standards Board Ops Manual 5.3.3.3)
- Please observe proper decorum in meetings

Greater than 10 Gb/s Electrical Automotive Ethernet PHY TF Ad Hoc Communications

- The TF ad hoc area files are posted at:

  http://www.ieee802.org/3/cy/public/adhoc/index.html

- Reflector instructions are at:

  http://www.ieee802.org/3/cy/reflector.html

Ground Rules

- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may participate in straw polls
  - Only 802.3 voters may vote!
- **RESPECT**… give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
- NO restrictive notices

Attendance

- Attendance will be taken from Teams participant list

- If your name and/or affiliation are not complete or aren't known from previous meetings, please send an email to the following to log attendance at this meeting. Please include your full name and employer/affiliation:

  Ad Hoc Chair: Natalie Wienckowski nwienckowski@msn.com

  TF Chair: Steve Carlson scarlson@hspdesign.com

Non-payment of registration fees

Every attendee at any IEEE 802 virtual plenary meeting must register and pay a fee to participate.

If the individual is in arrears:

[1] The individual is not permitted to register for any future IEEE 802 Plenary or IEEE 802 Subgroup Interim (if registration is required).

[2] As a result of [1], the individual is not permitted to attend any portion of a technical meeting that is part of an IEEE 802 plenary session. They are also not permitted to attend any portion of a technical meeting that is part of an IEEE 802 Subgroup Interim if that IEEE 802 Subgroup Interim required registration.

Important Bylaws and Rules

- **IEEE-SA Operations Manual**
  http://standards.ieee.org/develop/policies/sa_opman/

- **IEEE-SA Standards Board Bylaws**
  http://standards.ieee.org/develop/policies/bylaws/

- **IEEE-SA Standards Board Operations Manual**
  http://standards.ieee.org/develop/policies/opman/

- **IEEE 802 LAN/MAN Standards Committee (LMSC) Policies and Procedures**
  https://ieee.app.box.com/v/PandP-LMSC

- **IEEE 802 LAN/MAN Standards Committee (LMSC) Operations Manual**
  http://www.ieee802.org/devdocs.shtml

- **IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures**
  http://www.ieee802.org/devdocs.shtml

- **IEEE 802.3 Working Group Operating Rules**
  http://ieee802.org/3/rules/P802_3_rules.pdf

INSTRUCTIONS FOR THE WG CHAIR

The IEEE SA strongly recommends that at each WG meeting the chair or a designee:

- **Show slides 1 through 4 of this presentation**
- **Advise the WG attendees that:**
  - IEEE's patent policy is described in Clause 6 of the *IEEE SA Standards Board Bylaws*;
  - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
  - There may be Essential Patent Claims of which IEEE is not aware. Additionally, neither IEEE, the WG, nor the WG Chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.
- **Instruct the WG Secretary to record in the minutes of the relevant WG meeting:**
  - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
  - That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard
  - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.
- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.

- It is recommended that the WG Chair review the guidance in *IEEE SA Standards Board Operations Manual* 6.3.5 and in FAQs 14 and 15 on inclusion of potential Essential Patent Claims by incorporation or by reference.

Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE SA Standards Board.

PARTICIPANTS HAVE A DUTY TO INFORM THE IEEE

- **Participants <u>shall</u> inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents**

- **Participants <u>should</u> inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims**

Early identification of holders of potential Essential Patent Claims is encouraged

WAYS TO INFORM IEEE

- **Cause an LOA to be submitted to the IEEE SA (patcom@ieee.org); or**

- **Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or**

- **Speak up now and respond to this Call for Potentially Essential Patents**

If anyone in this meeting is personally aware of the holder 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 respond at this time by providing relevant information to the WG Chair

OTHER GUIDELINES FOR IEEE WORKING GROUP MEETINGS

- **All IEEE SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
  - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
  - **Don't discuss specific license rates, terms, or conditions.**
    - Relative costs of different technical approaches that include relative costs of patent licensing terms may be discussed in standards development meetings.
      - **Technical considerations remain the primary focus.**
  - **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**
  - **Don't discuss the status or substance of ongoing or threatened litigation.**
  - **Don't be silent if inappropriate topics are discussed. Formally object to the discussion immediately.**

For more details, see *IEEE SA Standards Board Operations Manual*, clause 5.3.10 and *Antitrust and Competition Policy: What You Need to Know* at http://standards.ieee.org/develop/policies/antitrust.pdf

PATENT-RELATED INFORMATION

The patent policy and the procedures used to execute that policy are documented in the:

- *IEEE SA Standards Board Bylaws*
  (http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6)
- *IEEE SA Standards Board Operations Manual*
  (http://standards.ieee.org/develop/policies/opman/sect6.html#6.3)

Material about the patent policy is available at
http://standards.ieee.org/about/sasb/patcom/materials.html

If you have questions, contact the IEEE SA Standards Board Patent Committee Administrator at patcom@ieee.org

IEEE SA STANDARDS ASSOCIATION

◆IEEE

INSTRUCTIONS FOR CHAIRS OF STANDARDS DEVELOPMENT ACTIVITIES

At the beginning of each standards development meeting the chair or a designee is to:

- Show the following slides (or provide them beforehand)
- Advise the standards development group participants that:
- IEEE SA's copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
- Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy;
- Instruct the Secretary to record in the minutes of the relevant meeting:
- That the foregoing information was provided and that the copyright slides were shown (or provided beforehand).

IEEE SA STANDARDS ASSOCIATION

◈IEEE 2

IEEE SA COPYRIGHT POLICY

By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy.

- Previously Published material (copyright assertion indicated) shall not be presented/submitted to the Working Group nor incorporated into a Working Group draft unless permission is granted.

- Prior to presentation or submission, you shall notify the Working Group Chair of previously Published material and should assist the Chair in obtaining copyright permission acceptable to IEEE SA.

- For material that is not previously Published, IEEE is automatically granted a license to use any material that is presented or submitted.

IEEE SA COPYRIGHT POLICY

■ The IEEE SA Copyright Policy is described in the IEEE SA Standards Board Bylaws and IEEE SA Standards Board Operations Manual

- IEEE SA Copyright Policy, see
  Clause 7 of the IEEE SA Standards Board Bylaws
  https://standards.ieee.org/about/policies/bylaws/sect6-7.html#7
  Clause 6.1 of the IEEE SA Standards Board Operations Manual
  https://standards.ieee.org/about/policies/opman/sect6.html

■ IEEE SA Copyright Permission
- https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/permissionltrs.zip

■ IEEE SA Copyright FAQs
- http://standards.ieee.org/faqs/copyrights.html/

■ IEEE SA Best Practices for IEEE Standards Development
- http://standards.ieee.org/develop/policies/best_practices_for_ieee_standards_development_051215.pdf

■ Distribution of Draft Standards (see 6.1.3 of the SASB Operations Manual)
- https://standards.ieee.org/about/policies/opman/sect6.html

IEEE SA STANDARDS ASSOCIATION

◆IEEE   4

Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct

- All participants in IEEE-SA activities are expected to adhere to the core principles underlying the:
  - IEEE Code of Ethics
  - IEEE Code of Conduct

- The core principles of the IEEE Codes of Ethics & Conduct are to:
  - *Uphold the highest standards of integrity, responsible behavior, and ethical and professional conduct*
  - *Treat people fairly and with respect, to not engage in harassment, discrimination, or retaliation, and to protect people's privacy.*
  - *Avoid injuring others, their property, reputation, or employment by false or malicious action*

- The most recent versions of these Codes are available at
  http://www.ieee.org/about/corporate/governance

Participants in the IEEE-SA "*individual process*" shall act independently of others, including employers

- The IEEE-SA Standards Board Bylaws require that "*participants in the IEEE standards development individual process shall act based on their qualifications and experience*"

- This means participants:
  - **Shall act & vote** based on their personal & independent opinions derived from their expertise, knowledge, and qualifications
  - **Shall not act or vote** based on any obligation to or any direction from any other person or organization, including an employer or client, regardless of any external commitments, agreements, contracts, or orders
  - **Shall not direct** the actions or votes of other participants or retaliate against other participants for fulfilling their responsibility to act & vote based on their personal & independently developed opinions

- By participating in standards activities using the "*individual process*", you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation

IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints

- The IEEE-SA Standards Board Bylaws (clause 5.2.1.3) specifies that "*the standards development process shall not be dominated by any single interest category, individual, or organization*"
  - This means no participant may exercise *"authority, leadership, or influence by reason of superior leverage, strength, or representation to the exclusion of fair and equitable consideration of other viewpoints"* or "*to hinder the progress of the standards development activity*"

- This rule applies equally to those participating in a standards development project and to that project's leadership group

- Any person who reasonably suspects that dominance is occurring in a standards development project is encouraged to bring the issue to the attention of the Standards Committee or the project's IEEE-SA Program Manager

IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet PHY TF Approved Project Documents

- ## PAR
  - http://www.ieee802.org/3/cy/P802d3cy_PAR.pdf
- ## 5 Criteria
  - https://mentor.ieee.org/802-ec/dcn/20/ec-20-0094-00-ACSD-p802-3cy.pdf
- ## Objectives
  - http://www.ieee802.org/3/cy/P802d3cy_OBJ_WG_0520.pdf

IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet PHY TF Objectives

- Preserve the IEEE 802.3/Ethernet frame format at the MAC client service interface

- Preserve minimum and maximum frame size of the current IEEE 802.3 standard

- Support full duplex operation only

- Define optional startup procedure which enables the time from power_on=FALSE to a state capable of transmitting and receiving valid data to be less than 100ms

- Support a BER better than or equal to 10-12 at the MAC/PLS service interface (or the frame loss ratio equivalent)

- Support a data rate of 25 Gb/s, 50 Gb/s and 100 Gb/s at the MAC/PLS service interface

- Support optional Auto-Negotiation

- Support optional Energy Efficient Ethernet optimized for automotive applications

- Support operation in automotive environments (e.g., EMC, temperature)

- Do not preclude meeting FCC and CISPR EMC requirements

IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet PHY TF Objectives

- Define the performance characteristics of an automotive link segment and an electrical PHY to support 25 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling

- Define the performance characteristics of an automotive link segment and an electrical PHY to support 50 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling

- Define the performance characteristics of an automotive link segment and an electrical PHY to support 100 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling

- Support optional Clause 104 power over data lines on appropriate media

Presentations

Title	Presenter(s)	Affiliations(s)	Time
Agenda	Natalie Wienckowski	General Motors	10 – 10:10
TF Chair's Comments	Steve Carlson	High Speed Design, Robert Bosch GmbH, Ethernovia	10:10 – 10:15
802.3cy PMA Training Frame	Mike Tu	Broadcom	10:15 – 10:45
Low Frequency IL Proposal for P802.3cy	Natalie Wienckowski	General Motors	10:45 – 11:15
P802.3cy To-do list usage	Natalie Wienckowski	General Motors	
Closing remarks	Steve Carlson	High Speed Design, Robert Bosch GmbH, Ethernovia	
Close			Noon

Note –Times listed are subject to change.

802 March 2022 Plenary

- At the 04 January 2022 802 EC teleconference the Executive Committee reset the registration fee structure. The new registration fee for the March 2022 802 plenary will be as follows:
  - $600 until Friday, February 25, 2022 (refundable with cancellation fee, January 28th to February 25th)
  - $800 after Friday, February 25, 2022 (non-refundable after February 25th).
- See http://802world.org/plenary/ for more information and the meeting registration link. Please read the information at the link carefully.
- See https://www.ieee802.org/3/calendar.html for the IEEE 802.3 Working Group teleconference calendar.
- Attendance at any meeting held during or as part of the plenary session requires registering and paying the appropriate fee. Details on how to register can be found at http://802world.org/plenary/

802.3 Details - 802 March 2022 Plenary

[802.3_DIALOG] March 2022 IEEE 802.3 plenary meeting announcement, *Law, David*

- The IEEE 802.3 Opening plenary meeting on Monday 7 March 2022 and the IEEE 802.3 Mid-session plenary meeting on Thursday 10 March 2022 will be held from 14h00 UTC (06h00 PST, 07h00 MST, 08h00 CST, 09h00 EST, 14h00 GMT, 15h00 CET, 19h30 IST, 22h00 CST, 23h00 JST) to 16h00 UTC. The IEEE 802.3 Closing plenary session on Thursday 17 March 2022 will be held from 14h00 UTC (07h00 PST, 08h00 MST, 09h00 CST, 10h00 EST, 14h00 GMT, 15h00 CET, 19h30 IST, 22h00 CST, 23h00 JST) to 16h00 UTC.

- Attendance credit toward membership requires at least 75% attendance during the plenary session, as well as payment of the registration fee. As a result, you will need to record attendance at a meeting on at least six of the eight meeting days of the March 2022 IEEE 802.3 plenary session, independent of how long a particular subgroup might be meeting. Attendance credit will only be granted for attendance at the IEEE 802.3 plenary meeting on a day with an IEEE 802.3 plenary meeting, and not for other meetings that may occur that day.

- Several WG decisions are expected during the IEEE 802.3 meetings (most during the Thursday 10 March 2022 Mid-session and Thursday 17 March 2022 Closing plenary meetings). Depending on the amount of discussion, IEEE 802.3 WG meetings may run beyond our target 16h00 UTC ending time, so please plan your time accordingly.

- As this is the first plenary session of an even-numbered year, IEEE 802 officer elections will also take place. For the IEEE 802.3 Working Group, this will be for the positions of Chair and Vice-Chair of the Working Group.

Thank You!