

Agenda and General Information

IEEE P802.3ch MultiGigabit Automotive Ethernet
PHY Task Force Ad Hoc

George Zimmerman (Ad Hoc Chair)

CME Consulting

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MultiGigabit Automotive Ethernet PHY TF Ad Hoc Communications

- The SG ad hoc area files are posted at:
 - <http://www.ieee802.org/3/NGAUTO/public/adhoc/index.html>
- The TF ad hoc area files are posted at:
 - <http://www.ieee802.org/3/ch/public/adhoc/index.html>
- Reflector instructions are at:
 - <http://www.ieee802.org/3/NGAUTO/reflector.html>

Attendance

- Attendee names and affiliations for these ad hoc meetings will be taken from the Webex participants list.
- Please ensure that your full name and employer/affiliation are indicated correctly.
- If the Webex participants list does not correctly indicate your name and employer/affiliation, please send an e-mail to the TF and/or AdHoc chair.

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 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

Participation in IEEE 802 Meetings

All participation in IEEE 802 Working Group meetings is on an individual basis

- **Participants in the IEEE standards development individual process shall act based on their qualifications and experience.**
(https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1)
- **IEEE 802 Working Group membership is by individual; “Working Group members shall participate in the consensus process in a manner consistent with their professional expert opinion as individuals, and not as organizational representatives”. (subclause 4.2.1 “Establishment”, of the IEEE 802 LMSC Working Group Policies and Procedures)**
- **Participants have an obligation to act and vote as an individual and not under the direction of any other individual or group. A Participant’s obligation to act and vote as an individual applies in all cases, regardless of any external commitments, agreements, contracts, or orders.**
- **Participants shall not direct the actions or votes of any other member of an IEEE 802 Working Group or retaliate against any other member for their actions or votes within IEEE 802 Working Group meetings, see https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1.3 and the IEEE 802 LMSC Working Group Policies and Procedures, subclause 3.4.1 “Chair”, list item x.**

By participating in IEEE 802 meetings, you accept these requirements. If you do not agree to these policies then you shall not participate.

(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: <http://www.ieee802.org/devdocs.shtml>)

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**
<http://standards.ieee.org/about/sasb/audcom/pnp/LMSC.pdf>
- **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 shall 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 should 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 WG 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 ... do formally object.**

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**

OBJECTIVES! (1 of 2)

http://www.ieee802.org/3/NGAUTO/0317_approved_objectives_3NGAUTO.pdf

- 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 data rates of 2.5 Gb/s, 5 Gb/s and 10 Gb/s at the MAC/PLS service interface.
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent)
- Support optional Auto-Negotiation
- Support optional Energy Efficient Ethernet
- Support operation in automotive environments (e.g., EMC, temperature)
- Do not preclude meeting FCC and CISPR EMC requirements.

OBJECTIVES! (2 of 2)

http://www.ieee802.org/3/NGAUTO/0317_approved_objectives_3NGAUTO.pdf

- Define the performance characteristics of an automotive link segment and an electrical PHY to support 2.5 Gb/s point-to-point operation over this link segment supporting up to four inline connectors for at least 15m on at least one type of automotive cabling (e.g., UTP, STQ, STP, SPP, Coax, or Twinax).
- Define the performance characteristics of an automotive link segment and an electrical PHY to support 5 Gb/s point-to-point operation over this link segment supporting up to four inline connectors for at least 15m on at least one type of automotive cabling.
- Define the performance characteristics of an automotive link segment and an electrical PHY to support 10 Gb/s point-to-point operation over this link segment supporting up to four inline connectors for at least 15m on at least one type of automotive cabling.
- Support optional Clause 104 power over data lines on appropriate media.

Presentations

Title	Presenters(s)	Affiliation(s)	Time
Agenda	George Zimmerman	CME Consulting/ADI, Aquantia, BMW, Cisco, Commscope	7-7:07
SG Chair's Comments / Chief Editor's comments	Steve Carlson/ Natalie Wienckowski	High Speed Design and Robert Bosch GmbH / General Motors, NA	7:07-7:15
Reflection on the insertion loss template in relation to 24AWG cabling for the longest cables	Gerrit den Besten	NXP	7:15-7:30
Transcode, FEC & Interleaver Optimization	Mike Tu	Broadcom	7:30-7:45
802.3ch PCS + FEC Design	Paul Langner	Aquantia	7:45-8:00
Brief discussion break			8:00-8:05
EEE for 802.3ch	Saeid Benyamin	Aquantia	8:05-8:20
RS & PCS for Asymmetrical Data Transmission	Jim Graba	Broadcom	8:20-8:35
PHY Link Synchronization (SEND_S) Modification Proposal for Multi-Giga PHY	Peter Wu & Shaoan Dai	Marvell Semiconductor	8:35-8:50
Brief discussion			8:50-8:55
Closing/Plans for Sept Interim	Steve Carlson	High Speed Design & Robert Bosch GmbH	8:55-9:00

Future Meetings

- See: <http://www.ieee802.org/3/interims/index.html>
- Ad hoc meetings every 2 weeks, this time slot
- Next meeting is TBD – to be decided at the interim, but nominally would be 19 Sept. 2018

Thank You!