

Minutes IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet PHY TF AdHoc meeting January 5, 2021

Prepared by Natalie Wienckowski

Proposed Agenda:

Title	Presenters(s)	Affiliation(s)
Agenda	Natalie Wienckowski (ad hoc Chair)	General Motors
TF Chair's Comments	Steve Carlson	High Speed Design, Robert Bosch GmbH, Ethernovia
Tx Function to Rx Function Channel Considerations	Chris DiMinico	MC Communications / PHY-SI LLC / Panduit / SenTekse
Limit Line for Insertion Loss	Hossein Sedarat	Ethernovia
Proposed IEEE 802.3cy Timeline	Steve Carlson	High Speed Design, Robert Bosch GmbH, Ethernovia
January 2021 IEEE P802.3cy interim	Steve Carlson	High Speed Design, Robert Bosch GmbH, Ethernovia
P802.3cy To-do list	Natalie Wienckowski	General Motors
Closing Remarks	Steve Carlson	High Speed Design, Robert Bosch GmbH, Ethernovia

[See adhoc webpage for agenda deck and presentations](#)

Agenda/Admin Natalie Wienckowski as ad hoc chair:

Meeting began at 10:03 am ET.

Introductions & Affiliations.

Presented file: [cy Task Force adhoc agenda 01 05 21.pdf](#)

1. Reviewed the Attendance information related to the ad hoc.
2. Displayed the Participation slide and reviewed it.

3. Displayed patent slide deck, and reviewed it.
Call for Patents was made at 10:07 am Eastern Time, none responded
4. Reminded participants to indicate full names and employer/affiliation for the meeting minutes.

Instructions for subscribing to the reflector may be found at <http://www.ieee802.org/3/cy/reflector.html>. If you cannot subscribe to the reflector for some reason, and need additional assistance please contact the Task Force chair.

Chair's comments: None at this time

Presentations/Discussion:

Presentation: Tx Function to Rx Function Channel Considerations (Chris DiMinico, MC Communications / PHY-SI LLC / Panduit / SenTekse)

Chris provided some background on link segment and PCB specifications for other PHYs at the speeds we are working on. Chris also discussed PCB losses and the impact on the signals. He provided information on a model that was created by P802.3bj to determine the affect of the PCB.

Showed the impact of cable structure variations on IL based on a model.

Chris proposed that we work to create a channel model that includes the PCBs and create a TX to RX IL model similar to what was done for ch Annex 149C.

Comments: Structural RL does not include in-line connector RL; however, micro reflections may include the connector RL when using "high loss" cables.

Ragnar stated that his proposal doesn't treat cables and connectors differently for RL. The proposal that Chris used for his model of the wires in the pair being different distances from each other is the same as what Ragnar has used for his calculations.

Ragnar stated that the phase information is very important in designing the echo canceller at the speeds we are looking at.

Chris feels that it is important to add test points to the spec to be able to test devices, in applications, without the cable.

Information was requested on whether 105C is a must and what portion of the cable needs what temperature. This is on the to do list and will be presented at a future meeting.

Presentation: Limit Line for Insertion Loss (Hossein Sedarat, Ethernovia)

Hossein reviewed a history of the proposals for IL. He shared his reasoning and information used to propose a 0 dB margin IL limit line. This supports a cable length maximum of 6.5 m.

There are a number of items that need to be agreed upon to finalize this, including PCB loss, discrete component losses, implementation loss budget, and acceptable minimum transmit power.

Discussion and agreement are required on what the required margins are. This will impact the available link length and cables that can be used. You need to be careful not to include margins in multiple ways that overlap and make things look worse.

Haysam asked if there is anticipation that a CMC will be needed as there is a shielded cable. Hossein believes one is needed.

Ragnar says more information is needed on the EMC environment. Neither Haysam nor Natalie has any requirements on this at this time. Rich Boyer plans to present on this at a future meeting based on existing EMC standards.

Presentation: [Proposed IEEE 802.3cy Timeline](#) (Steve Carlson, High Speed Design, Robert Bosch GmbH, Ethernovia)

Traditionally, 802.3 Working Groups create a timeline to show how they plan to complete their task and get to a published specification. This proposal is based on ch with just the years changed. With the uncertainty of when we will return to F2F meetings, this seems a reasonable way to go.

Presentation: [January 2021 IEEE P802.3cy interim \(slide 22 of agenda\)](#) (Steve Carlson, High Speed Design, Robert Bosch GmbH, Ethernovia)

Reviewed the P802.3cy meeting plans for the January 2021 virtual Interim. The January 26th ad hoc will be changed to an interim to vote on the proposed time-line. Other votes may be taken if there are requests for additional motions.

Presentation: [P802.3cy To-do list usage](#) (Natalie Wienckowski, General Motors)

The To-Do list was updated. Participants are urged to review the list for topics they can support and for missing topics. Please send a message to the reflector with requested changes to the list.

The current list can be found on this page: [To Do spreadsheets](#)

Closing Discussion

None

Meeting adjourned at 12:00 PM ET.

Attendees (snapshot of participants in meeting, email)

First	Last	Affiliation
Anthony	New	Prysmian Group
Bernd	Hormmeyer	Phoenix Contact
Brett	McClellan	Marvell
Charles	Razzell	Maxim Integrated Products
Chris	DiMinico	MC Communications, PHY-SI, SenTekse / Panduit
Clark	Carty	Cisco
Dan	Kennefick	Daikin America
Daniel	Koppermüller	MD Elektronik
David	Law	HPE
Doug	Oliver	Ford
Emilio	Cuesta	TE Connectivity
Eric	DiBiaso	TE Connectivity
Erwin	Koependoerfer	Leoni Kabel GmbH
George	Zimmerman	CME Consulting / ADI, APL Group, Cisco Systems, CommScope, Marvell, SenTekSe
Harsh	Patel	Molex
Haysam	Kadry	Ford
Hossein	Sedarat	Ethernovia
Jae-yong	Chang	Keysight
Jim	Graba	Broadcom
Kamal	Dalmia	Aviva Links
Kambiz	Vakilian	Broadcom
Larry	McMillan	Western Digital
Leon	Bruckman	Huawei
Louise	Yi	FIT
Makoto	Nariya	Sony
Michael	Reinhard	SEI ANTech
Michikazu	Aono	Yazaki
Mike	Tu	Broadcom
Natalie	Wienckowski	General Motors
Nobuyasu	Araki	Yazaki
Patrick	Casher	FIT - Foxconn
Peter	Wu	Marvell
Ragnar	Jonsson	Marvell
Rich	Boyer	Aptiv
Roland	Preis	MD Elektronik
Ryan	Petrarca	TDK
Shaowu	Huang	Marvell
Stefan	Andrä	SEI ANTech – Europe GmbH
Steve	Carlson	HSD, Bosch, Ethernovia
Sujan	Pandey	Huawei

First	Last	Affiliation
Takeo	Masuda	OITDA/PETRA
Terry	Little	Foxconn Interconnect Technology
Thomas	Müller	Rosenberger
Tom	Souvignier	Broadcom
Toshihiro	Ichimaru	Sumitomo
Yoshihiro	Niihara	Fujikura Ltd.
TOTAL	47	Attendees

Presenters (49)

+1 (802) 999-9290 Guest

Anthony New (Prysmian Group) Guest

Bernd Hormmeyer - Phoenix Contact Guest

Boyer, Rich - External Network

Brett McClellan (Marvell) Guest

Charles Razzell Guest

chris diminico Guest

Clark Carty (Cisco) Guest

Dan Kennefick Guest

Daniel Koppermüller - MD Elektronik GmbH Guest

David Law (HPE) Guest

Doug Oliver [Ford] Guest

Emilio Cuesta (TE Connectivity) Guest

Eric DiBiaso - TE Guest

Erwin Koepfendorfer; Leoni Kabel GmbH Guest

George Zimmerman (CME Cnsltng/ADI,A... Guest

German Feyh (Broadcom) Guest

Haysam M. Kadry (Ford) Guest

Hossein Sedarat (Ethernovia) Guest

Jae-yong Chang (Keysight) Guest

Jim Graba (Broadcom) Guest

Kamal Dalmia - Aviva Guest

Kambiz Vakilian -Broadcom Guest

Larry McMillan (Western Digital) Guest

Leon Bruckman (Huawei) Guest

Louise Yi (FIT) Guest

Makoto Nariya (Sony) Guest

Michael Reinhard - SEI ANTech Guest

Michikazu Aono - Yazaki Guest

Mike Tu (Broadcom) Guest

Müller, Thomas Guest

Natalie A. Wienckowski

Nobuyasu Araki YAZAKI Guest

Patel, Harsh Guest

Patrick Casher (FIT-Foxconn) Guest

Peter Wu, Marvell Guest

Ragnar Jonsson (Marvell) Guest

Roland Preis - MD-Elektronik GmbH Guest

Ryan Petrarca (TDK) Guest

Shaowu Huang Guest

Shaowu Huang (Marvell) Guest

Stefan Andrä SEI ANTech-Europe Guest

Steve Carlson (HSD, Bosch, Ethernovia) Guest

Sujan Pandey (Huawei) Guest

Takeo Masuda - OITDA Guest

Terry Little (Foxconn Interconnect Technol... Guest

Tom Souvignier (Broadcom) Guest

Toshihiro Ichimaru (Sumitomo) Guest

Yoshihiro Niihara - Fujikura Ltd. Guest