Unconfirmed Meeting Minutes: IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force

November 16 & 18, 2020
Telephonic

Prepared by George Zimmerman, Natalie Wienckowski, and Jon Lewis

George Zimmerman started as the Recording Secretary

IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force meeting convened at 10:01 AM (US EST), Monday November 16, 2020 by Steve Carlson, Task Force Chair.

Attendance is listed in Appendix A and B

Administrative Matters

Steve Carlson displayed the agenda in agenda_3cy_01_1120.pdf.

The Task Force Chair noted that introductions would be skipped.

Steve Carlson reviewed the agenda in agenda_3cy_01_1120.pdf.

(10:04) Motion #1: Move to approve the agenda as shown in https://www.ieee802.org/3/cy/public/nov20/agenda_3cy_01_1120.pdf
M: J. Lewis
S: H. Kadry
Approved by unanimous consent (Procedural > 50%)

(10:06) Motion #2: Move to approve the minutes from the 5 August, 2 September, 16 September, 30 September, 14 October, 21 October, and 28 October ad hoc teleconferences, and the 16 August interim teleconference meetings as posted.

M: H. Sedarat S: F. Dawson
Approved by unanimous consent (Procedural > 50%)

Mr. Carlson reviewed Task Force decorum and asked if anyone from the press was present, none responded. (10:07)

Mr. Carlson reviewed the Task Force organization, the goals for the meeting, access to the reflector and website, and ground rules for the meeting.

Attendance, Mr. Carlson noted that the attendance for this meeting was being recorded in IMAT and provided a link to IMAT training.

The Chair reviewed the IEEE structure for standards development and the bylaws by which the Task Force is governed.

IEEE Patent Policy, at **10:13 AM**, Mr. Carlson read aloud the patent policy slides (agenda slides 13-14). Mr. Carlson made the call for potentially essential patents at **10:14 AM**, and none responded. Mr. Carlson continued to read aloud slides (agenda slides 15-16).

Mr. Carlson asked if anyone had not heard and needed to hear the IEEE-SA copyright policy. None responded. He showed the IEEE-SA copyright slides (agenda slides 18-19).

Mr. Carlson asked if anyone had not heard and needed to hear the IEEE-SA participation policy. None responded. He showed the IEEE-SA participation slides, (agenda slides 20-22).

The Chair reviewed the IEEE 802.3 Standards process and where the Task Force was in the process and the process by which we will develop the standard.

Liaisons:
None

The Chair shared the location of the Action Items for the Task Force, AKA the To – Do List, which will be reviewed and updated during the meeting.

The Chair then showed the locations of the approved project documents for the Task Force and reviewed the objectives for the Task Force.

The Chair told the Task Force that a draft timeline will be created after the meeting and it will be shared at a future ad hoc.

Mr. Carlson reviewed Task Force virtual meetings slides from the agenda.

Mr. Carlson reviewed the 802.3 Virtual Plenary Policies.

PRESENTATIONS:

Mr. Carlson then moved to the presentations for the meeting.

10:22 AM EST – Recording Secretary is now Natalie Wienckowski

Title: A Straw-man Proposal Approach to a PHY Specification
(zimmerman_3cy_01_1120.pdf)
Presenter: George Zimmerman, CME Consulting, Marvell

Mr. Zimmerman proposed creating a “straw-man” proposal draft for this specification as a start for discussion. To start, he proposes scaling 802.3ch to 25G as it already provides scaling.

Simply extending the IL in frequency probably won’t work, but scaling the IL equation in frequency to have the same loss at the Nyquist frequency provides a target for the cable and something the PHY can probably work with.

Based on previous presentations, as shown on slide 10, there are some issues with a simple scaling.

A participant was concerned that this presentation is scaling the IL which forces a shorter cable than our objectives call for. The presenter clarified that he is not proposing that we adjust the objectives, he’s just suggesting that we provide a target for the cables to meet instead of looking at what existing cables can meet. This may mean a change in the cable construction. The PHY development time is longer than cable design time, so we need to start on the PHY while the cable is being developed.

The straw-man would not be intended to be a final spec, but a starting point. It is suggested that presentations proposing something else should compare/contrast to the straw-man.

The fscaled IL on slide 8 is a target for the cables to try to meet. This is not intended to be the final proposal.

Participants who are affiliated with cable vendors appreciate having a target to try to meet.

A question was raised as to whether or not there would be a motion on this topic on Wednesday. Based on our policy defined on slide 7 of https://www.ieee802.org/3/cy/public/jul20/wienckowski_3cy_01a_0720.pdf, we will not have a Motion on a new topic presented at an ad hoc or Interim. With a minimum of 10 days notice an ad hoc can be changed to an Interim to hold a Motion. This means that a Motion cannot be voted on for a topic presented at this Interim/Plenary series prior to December 1st, assuming a request is made by November 20th.

Title: PHY Complexity Insertion Loss and Modulation (sedarat_3cy_01_1120.pdf)
Presenter: Hossein Sedarat, Ethernovia

The presenter compared the impact of different modulation options on various PHY, cable, and noise factors.

There was a question as to why the presenter only considered PAM up to 5 instead of going higher. He used 5 as this could work with some of the cables that have been presented. He didn’t go higher as the RF Immunity goes down as the PAM goes up.

A participant thinks that PAM5 probably deserves more attention than participants affiliated with PHY vendors have given it to this point.

A participant suggested that we may not need to limit our designs to what has been shown in cable presentations as it may be possible to make better cables. Don't use a single cable data point, suck-out, to make a final decision.

The Meeting was recessed at 11:59 AM US EST on November 16

The Meeting was resumed at 10:02 AM US EST on November 18

Jon Lewis as the Recording Secretary

Administrative Matters

Steve Carlson displayed the agenda in agenda_3cy_01a_1120.pdf.

Attendance, Mr. Carlson noted that the attendance for this meeting was being recorded in IMAT and provided a link to IMAT training and the session code for today's meetings.

PRESENTATIONS:

Mr. Carlson then resumed the presentations for the meeting.

Title: Asymmetrical 1-pair and Symmetrical 2-pair operation
(dalmia_3cy_01_1120.pdf)
Presenter: Kamal Dalmia, Aviva Links

Title: Time-Domain Limits on Reflections (sedarat_3cy_02_1120.pdf)
Presenter: Hossein Sederat, Ethernovia

Title: Realistic Parameter Values in Capacity Calculations
(jonsson_3cy_01_1120.pdf)
Presenter: Ragnar Jonsson, Marvell

Title: P802.3cy To Do List (P802_3cy_to-do.xlsm)
Presenter: Natalie Wienckowski, GM

Information on Future Meetings was reviewed.

The Chair noted that the agenda had been completed and asked if there was any further business. None responded.

The Meeting was adjourned at 11:06 AM US EST on November 18

Appendix A: Attendees at the IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force, November 16, 2020.

Name	Employer	Affiliation
Aono, Michikazu	Yazaki Corporation	Yazaki Corporation
Araki, Nobuyasu	Yazaki Corporation	Yazaki Corporation
Baggett, Tim	Microchip Technology, Inc.	Microchip Technology, Inc.
Beaudoin, Denis	Texas Instruments Incorporated	Texas Instruments Incorporated
Bhatt, Vipul	Finisar Corporation	Finisar Corporation
bordogna, mark	Intel	Intel
Boyer, Rich	Aptiv - Signal and Power Solutions	Aptiv Signal and Power Solutions
Carlson, Steven	High-Speed Design Inc.	Robert Bosch GmbH
Dalmia, Kamal		INDEPENDENT
Dawson, Fred	Chemours Canada Company	Chemours Canada Company
Dearing, Mark	Leviton Manufacturing Co.	Leviton Manufacturing Co.
DiBiaso, Eric	TE Connectivity	TE Connectivity
Diminico, Christopher	M C Communications, LLC	Panduit Corp.
Dimitrov, Kirill	Western Digital Corporation	Western Digital Corporation
Dube, Kathryn	UNH-IOL	UNH-IOL
Eyal, Massad	Valens Semiconductor	Valens Semiconductor
Feyh, German	Broadcom Corporation	Broadcom Corporation
Fung, Hon Wai		Marvell Semiconductor, Inc.
Gauthier, Claude	NXP Semiconductors	NXP Semiconductors
gianordoli, stefan		GG-group
Goto, Hideki	Toyota Motor Corporation	TOYOTA MOTOR CORPORATION
Grow, Robert	RMG Consulting	RMG Consulting
Gubow, Martin	Keysight Technologies	Keysight Technologies
Hartmann, Stephan		Siliconally GmbH
Hess, David	CORD DATA	CORD DATA
Horrmeyer, Bernd	Phoenix Contact	Phoenix Contact
HYAKUTAKE, YASUHIRO	Adamant Namiki Precision Jewel Co., Ltd.	Adamant Namiki Precision Jewel Co., Ltd.
Jonsson, Ragnar	Marvell Semiconductor, Inc.	Marvell
Kabra, Lokesh	Synopsys, Inc.	Synopsys, Inc.
Kadry, Haysam	Ford Motor Company	Ford Motor Company
Kagami, Manabu	Nagoya Institute of Technology	Nagoya Institute of Technology (NITech)
Kikuta, Tomohiro	Adamant Namiki Precision Jewel Co., Ltd.	Adamant Namiki Precision Jewel Co., Ltd.
Kim, Yongbum	NIO	Axonne
Koczwara, Wojciech	Rockwell Automation	Rockwell Automation
Koeppendoerfer, Erwin	LEONI Kabel GmbH	LEONI
Kondo, Taiji	MegaChips Corporation	MegaChips Corporation
Koppermueller, Daniel	MD Elektronik GmbH	MD Elektronik GmbH
Lackner, Hans	QoSCom GmbH	QoSCom - Quality in Communications - GmbH
Lewis, Jon	Dell EMC	Dell EMC

Name	Employer	Affiliation
Lin, Alex	MediaTek	MediaTek Inc.
Luo, Yuanqiu	Futurewei Technologies	Futurewei Technologies
Madgar, Zahy	Valens Semiconductor	Valens Semiconductor
Marris, Arthur	Cadence Design Systems, Inc.	Cadence Design Systems, Inc.
mash, chris	Marvell Semiconductor, Inc.	Ethernovia Inc
Matheus, Kirsten	BMW Group	BMW Group
Mcclellan, Brett	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
McMillan, Larry	Western Digital Corporation	Western Digital Corporation
mortazavi, sanaz	Volkswagen Ag	Volkswagen Ag
Mueller, Thomas	Rosenberger	Rosenberger
Muller, Shimon	Axalume, Inc.	Axalume, Inc.
Murty, Ramana	Broadcom Corporation	Broadcom Corporation
Nariya, Makoto	Sony Semiconductor Solutions Corporation	Sony Corporation
Neulinger, Christian	MD Elektronik	MD Elektronik
New, Anthony		Prysmian Cables & Systems
NIIHARA, YOSHIHIRO	Fujikura Ltd.	Fujikura Ltd.
Pandey, Sujan		Huawei Technologies (Netherlands) B.V.
Pardo, Carlos	Knowledge Development for POF SL	KDPOF
Patel, Harsh	Molex LLC	Molex LLC
Perez De Aranda Alonso, Ruben	Knowledge Development for POF SL	KDPOF
Petrarca, Ryan		TDK Corporation
Potterf, Jason	Cisco Systems, Inc.	Cisco Systems, Inc.
Preis, Roland	MD Elektronik GmbH	MD Elektronik GmbH
Regev, Alon	Keysight Technologies	Keysight Technologies
Reinhard, Michael	SEI ANTech-Europe GmbH	SEI ANTech-Europe GmbH
Sedarat, Hossein	Ethernovia	Ethernovia
Shiino, Masato	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC
Souvignier, Tom	Broadcom Corporation	Broadcom Corporation
Takahashi, Tadashi	Nitto Denko Corporation	Nitto Denko Corporation
Torres, Luis	Knowledge Development for Plastic Optical Fiber	Knowledge Development for Plastic Optical Fiber
Tran, Viet	Keysight Technologies	Keysight Technologies
Tu, Mike	Broadcom Corporation	Broadcom Corporation
Wang, Tongtong	Huawei Technologies Co. Ltd	Huawei Technologies Co., Ltd
Wendt, Matthias	Signify (Philips Lighting)	Signify
Wienckowski, Natalie	General Motors Company	General Motors Company
Withey, James	Fluke Corporation	Fluke Corporation
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Xu, Dayin	Rockwell Automation	Rockwell Automation
YANG, Yumeng	Huawei Technologies Co. Ltd	Huawei Technologies Co., Ltd
Zhuang, Yan	Huawei Technologies Co. Ltd	Huawei Technologies Co., Ltd

Name	Employer	Affiliation
Zimmerman, George	CME Consulting	CME Consulting/ADI, CommScope, Cisco Systems, Marvell, and SenTekse

Appendix B: Attendees at the IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force, November 18, 2020.

Name	Employer	Affiliation
Aono, Michikazu	Yazaki Corporation	Yazaki Corporation
Araki, Nobuyasu	Yazaki Corporation	Yazaki Corporation
Boyer, Rich	Aptiv - Signal and Power Solutions	Aptiv Signal and Power Solutions
Carlson, Steven	High-Speed Design Inc.	Robert Bosch GmbH
Chang, Jae-yong		Keysight Technologies
Cuesta, Emilio		TE Connectivity
Dalmia, Kamal		INDEPENDENT
DiBiaso, Eric	TE Connectivity	TE Connectivity
Dimitrov, Kirill	Western Digital Corporation	Western Digital Corporation
Eyal, Massad	Valens Semiconductor	Valens Semiconductor
FAn, DAWEI	HUAWEI	Huawei Technologies Co., Ltd
Feyh, German	Broadcom Corporation	Broadcom Corporation
Fung, Hon Wai		Marvell Semiconductor, Inc.
gianordoli, stefan		GG-group
Goto, Hideki	Toyota Motor Corporation	TOYOTA MOTOR CORPORATION
Gubow, Martin	Keysight Technologies	Keysight Technologies
Hartmann, Stephan		Siliconally GmbH
Ichimaru, Toshihiro		Sumitomo Electric Industries, LTD
Jonsson, Ragnar	Marvell Semiconductor, Inc.	Marvell
Kadry, Haysam	Ford Motor Company	Ford Motor Company
Kagami, Manabu	Nagoya Institute of Technology	Nagoya Institute of Technology (NITech)
Kim, Yongbum	NIO	Axonne
Koeppendoerfer, Erwin	LEONI Kabel GmbH	LEONI
Kondo, Taiji	MegaChips Corporation	MegaChips Corporation
Koppermueller, Daniel	MD Elektronik GmbH	MD Elektronik GmbH
Kumada, Taketo	Yazaki Corporation	Yazaki Corporation
Lewis, Jon	Dell EMC	Dell EMC
Lin, Alex	MediaTek	MediaTek Inc.
Little, Terrance		Foxconn Electronics Inc.
Luo, Yuanqiu	Futurewei Technologies	Futurewei Technologies
Madgar, Zahy	Valens Semiconductor	Valens Semiconductor
mash, chris	Marvell Semiconductor, Inc.	Ethernovia Inc
MASUDA, TAKEO	OITDA	OITDA
Mcclellan, Brett	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
McMillan, Larry	Western Digital Corporation	Western Digital Corporation

Name	Employer	Affiliation
mortazavi, sanaz	Volkswagen Ag	Volkswagen Ag
Mueller, Thomas	Rosenberger	Rosenberger
Murty, Ramana	Broadcom Corporation	Broadcom Corporation
Nariya, Makoto	Sony Semiconductor Solutions Corporation	Sony Corporation
Neulinger, Christian	MD Elektronik	MD Elektronik
Pandey, Sujan		Huawei Technologies (Netherlands) B.V.
Patel, Harsh	Molex LLC	Molex LLC
Perez De Aranda Alonso, Ruben	Knowledge Development for POF SL	KDPOF
Preis, Roland	MD Elektronik GmbH	MD Elektronik GmbH
Razzell, Charles	Maxim Integrated Products	Maxim Integrated Products
Reinhard, Michael	SEI ANTech-Europe GmbH	SEI ANTech-Europe GmbH
Sedarat, Hossein	Ethernovia	Ethernovia
Shiino, Masato	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC
Souvignier, Tom	Broadcom Corporation	Broadcom Corporation
Torres, Luis	Knowledge Development for Plastic Optical Fiber	Knowledge Development for Plastic Optical Fiber
Tu, Mike	Broadcom Corporation	Broadcom Corporation
Wienckowski, Natalie	General Motors Company	General Motors Company
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
YANG, Yumeng	Huawei Technologies Co. Ltd	Huawei Technologies Co., Ltd
Yi, Louise		Foxconn Electronics Inc.