Minutes IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet PHY TF AdHoc meeting September 7, 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
Modulation SNR Margin Evaluation and Precoder Proposal for the 25G Automotive PHY	German Feyh Mike Tu Tom Souvignier	Broadcom
Text for PAM4 Modulation	Ragnar Jonsson	Marvell
802.3cy Test Fixture Considerations	Chris DiMinico Haysam Kadry	(MC Communications/PHY-SI LLC/ Panduit/SenTekse) Ford Motor Company
EMC REQUIREMENTS	Haysam Kadry	Ford Motor Company
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_09_07_21.pdf

1. Reviewed the Attendance information related to the ad hoc.
2. Displayed patent slide deck and asked if any participant had not read the IEEE-SA Patent Slides slide set, none responded.
   Call for Patents was made at 10:08 am Eastern Time, none responded
3. Displayed the IEEE-SA Copyright policy slide and asked if any participant had not read the IEEE copyright slide set, none responded.
4. Displayed the IEEE-SA Participation slide and reviewed it.
5. 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: We have a full agenda. Presenters and participants are asked to be concise. Please use the "raise hand" feature of Teams to enter the queue.

Presentations/Discussion:

Presentation: Modulation SNR Margin Evaluation and Precoder Proposal for the 25G Automotive PHY (German Feyh, Mike Tu, Tom Souvignier; Broadcom)

German presented evaluations of various potential modulation techniques for P802.3cy. He shared the assumptions used to do the evaluation. Based on this analysis, PAM4 is a clear winner.

Presentation: Text for PAM4 Modulation (Ragnar Jonsson, Marvell)

Ragnar presented potential text for PAM4 modulation to be considered for adoption. This is based on Clause 149 with minor changes for the new speed. There are some items which would still need to be determined, including final RS-FEC block size, EEE, and potentially adding another level of interleaving.

There was a question about the precoder and what is best. It is likely that different precoders are optimal with different implementations, e.g. line length,

Keep in mind that whatever is approved at an upcoming meeting can be changed through the commenting process.

Presentation: 802.3cy Test Fixture Considerations (Chris DiMinico, MC Communications/PHY-SI LLC/Panduit/SenTekse ; Haysam Kadry, Ford Motor Company)

Chris showed the proposal for a test fixture for P802.3cy based on the P802.3cy channel characteristics and the header and harness connectors in a mated state as reviewed last week.

He then did a straw poll on this content.

I support adoption of test point definitions and test fixture specifications on slide 6 - 9 of https://www.ieee802.org/3/cy/public/adhoc/diminico_kadry_3cy_01a_9_7_21.pdf.

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13 – 3 – 8

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

The to-do list was reviewed and 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

Information for the upcoming 802.3 Interim was reviewed. This information is also available in the agenda.

Mr. Carlson reminded the members that we will be "load balancing" between the Sept. 21st and 28th meetings. Feel free to send any Motions you would like to have reviewed to Steve ASAP so that he can provide feedback.

Steve will send out an email with deadlines for the Interim meeting series soon.

Meeting adjourned at 11:52 AM ET.

Attendees (download participant list, email)

First	Last	Affiliation
Brett	McClellan	Marvell
Chris	DiMinico	MC Communications, PHY-SI, SenTekse / Panduit
Chris	Goralka	Foxconn Interconnect Technology
Clark	Carty	Cisco
Curtis	Donahue	Rohde & Schwarz
Dan	Kennefick	Daikin America
Dave	Hess	Cord Data
Emilio	Cuesta	TE Connectivity
Eric	DiBiaso	TE Connectivity
Erwin	Köeppendörfer	Leoni Kabel GmbH
George	Zimmerman	CME Consulting / ADI, APL Group, Cisco Systems, CommScope, Marvell, SenTekSe
German	Feyh	Broadcom
Giuseppe	Tofanicchio	ST
Haysam	Kadry	Ford
Hossein	Sedarat	Ethernovia
Jae-yong	Chang	Keysight
Jim	Graba	Broadcom
Jonathan	Silvano de Sousa	GG - Austria
Kambiz	Vakilian	Broadcom
Keisuke	Kawahara	FURUKAWA ELECTRIC
Kirsten	Matheus	BMW
Larry	McMillan	Western Digital
Louise	Yi	FIT
Manabu	Kagami	NITech (Nagoya Institute of Technology)
Masato	Shiino	Furukawa
Matthew	Ronning	Sony
Mike	Tu	Broadcom
Natalie	Wienckowski	General Motors
Peter	Wu	Marvell
Qiwen	Zhong	Huawei
Ragnar	Jonsson	Marvell
Rich	Boyer	Aptiv
Ryan	Petrarca	TDK
Sami	Akin	VW

First	Last	Affiliation
Steve	Carlson	High Speed Design, Robert Bosch GmbH, Ethernovia
Sujan	Pandey	Huawei
Taiji	Kondo	MegaChips
Thomas	Müller	Rosenberger
Tom	Souvignier	Broadcom
Yoshihiro	Niihara	Fujikura Ltd.
Yusuke	Yano	NI Tech
TOTAL	**41**	**Attendees**