Minutes IEEE P802.3ch Multigig Automotive Ethernet PHY TF AdHoc meeting December 19, 2018

Prepared by George Zimmerman

Proposed Agenda:

1. Agenda/Admin: George Zimmerman, agenda_3chah_01_121918.pdf
2. TF Chair's comments: no presentation
3. Presentations:

Agenda	George Zimmerman (ad hoc Chair)	CME Consulting/ADI, Aquantia, BMW, Cisco, Commscope
Editor's to do list (updated as 12/05) Timeline with commitments for next meeting: to be updated during meeting	Natalie Wienckowski, Chief Editor	General Motors NA
MDI return loss proposal (updated – rev c)	German Feyh	Broadcom
Asymmetric Reconciliation Sublayer	William Lo	Axonne
EEE, OAM, and Alert	Saeid Benyamin	Aquantia

4. Discussion & Next steps – All

See adhoc webpage for agenda deck and presentations

Agenda/Admin George Zimmerman as ad hoc chair:

Meeting began at 7:05 am PT.

Introductions & Affiliations.

Presented file: agenda_3chah_01_121918.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 7:10 am Pacific 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/ch/reflector.html. If you cannot subscribe to the reflector for some reason, and need additional assistance please contact the Task Force chair.

Chair's/Chief Editor's Comments – Steve Carlson & Natalie Wienckowski

Steve reminded the group that the 802.3ch group would meet Monday through Wednesday at the interim. Our primary task is review and comment on draft 1.0 and that comments were needed to close all technical holes (TBDs and yellow text) to get to a technically complete draft 2.0 for working group ballot. Please avoid figures and formatted text in your comment input. If you need to attach formatted input, please attach a separate document.

Natalie shared that timeline had not been updated so it might be revisited at the end of the meeting.

http://www.ieee802.org/3/ch/todo/P802_3ch_Timeline_status_1218.xlsm

Presentations/Discussion:
Presentation: MDI return loss proposal, German Feyh, Broadcom

The presenter reviewed an update to his proposal at the previous ad hoc to modify the MDI return loss based on concerns that with configurations necessary to meet ESD requirements, parasitic capacitances, and estimated component tolerances the existing return loss might be impossible to meet. The proposal was modified based on feedback to terminate at 0dB at 1 MHz and have a floor of 18 dB. The presenter noted that on slide 8 the values of C_T were incorrect, an update was posted.

There was discussion of the component values to be used, that some of the lower inductance values were driving the specification. Additionally, there was concern about the impact of the relaxed MDI return loss on the echo cancellation requirements, as well as the equalization fit to the partial response precoders.

Discussion raised that input from PoDL designers were needed with optimized designs for 10 GBASE-T1 to help further the analysis of just what relaxation was needed.

Presentation: Asymmetric Reconciliation Sublayer, William Lo, Axonne

The presenter discussed an update to defining an asymmetric reconciliation sublayer, including a EEE-like transition between a low-speed MII and a high speed MII with a new 'inactive' symbol to indicate which speed was active. In discussion it was raised that you may want a burst of high speed rather than always the lowest speed for some camera systems. Additionally, in discussion it was clarified that in the model presented, PHYs implementing the asymmetric mode would have a reference model with both an MII and XGMII, with one active per direction each time. Transition would involve a period of sending the inactive and a switching between the two MIIs. In discussion, there were two other possibilities raised, including slower XGMII (by defining a duty cycle for the clock), and possibly the use of Clause 4A deference, similar to Clause 61. More research on these, especially clause 61, is needed.

Presentation: EEE OAM and Alert, Saeid Benyamin, Aquantia

The presenter discussed proposed changes to OAM, EEE, and Alert signaling. Since OAM was already protected by its own RS FEC, the proposal was to not require the data mode RS FEC when OAM was sent

during refresh. Additionally, Alert, desirably using the link synchronization sequence, was proposed to be aligned with every 8th RS frame. During discussion there was some support.

Closing Business

The group agreed to hold the next ad hoc on January 2, which would be the last ad hoc before the interim meeting. Early requests for presentations was encouraged.

Meeting adjourned at 8:22 AM PT.

Attendees (from Webex + emails)

First	Last	Affiliation
Jim	Bauer	Marvell
Saied	Benyamin	Aquantia
Rich	Boyer	Aptiv
Phillip	Brownlee	Consultant/TDK
Steven	Carlson	High Speed Design/Robert Bosch GmBH
Clark	Carty	Cisco Systems
Sean	Chiang	Mediatek
Gerrit	den Besten	NXP
Eric	DiBiaso	TE
Ramin	Farjadrad	Aquantia
German	Feyh	Broadcom
Jim	Graba	Broadcom
Marty	Gubow	Keysight Technologies
Craig	Gunther	Craig Gunther Consulting
Dave	Hess	Cord Data
Bin	Lin	TE
William	Lo	Axonne
Brett	McClellan	Marvell
Wes	Mir	Aptiv
Henry	Muyshondt	Microchip
Sujan	Pandey	NXP
Harsh	Patel	Molex
Masood	Shariff	CommScope
Tom	Souvignier	Broadcom
Mike	Tu	Broadcom
Natalie	Wienckowski	General Motors, NA
Peter	Wu	Marvell
John	Yurtin	Aptiv
Conrad	Zerna	Fraunhofer IIS
George	Zimmerman	CME Consulting/ADI, Aquantia, APL Group, BMW, Cisco, CommScope
TOTAL	**30**	**Attendees**