Minutes IEEE 802.3 Multigig Automotive Ethernet PHY SG AdHoc meeting January 18, 2017

Prepared by George Zimmerman

Proposed Agenda:

1. Agenda/Admin: George Zimmerman, agenda_3NGAUTOah_01_011817.pdf
2. SG Chair's comments: Steve Carlson
3. Shielded Cable for automotive: Chris Diminico (note – Mr. Diminico did not attend the call, Mr. Zimmerman presented http://www.ieee802.org/3/bp/public/jul14/diminico_3bp_01b_0714.pdf for him - questions may be directed to Mr. DiMinico)
4. Next steps

Presentations were not sent to NGAUTO reflector in advance.

Agenda/Admin George Zimmerman:

Meeting began at7:09am PT.

Introductions & Affiliations.

Presented file: agenda_3NGAUTOah_01_011817.pdf

1. Reviewed the Attendance information related to the ad hoc.
2. Displayed pre-par patent slide deck, and reviewed it.
3. Reminded participants to indicate full names and employer/affiliation for the meeting minutes.

The reflector and website are now up, and we are now usingthe NGAUTO reflector. Instructions for subscribing to the reflector may be found at http://www.ieee802.org/3/NGAUTO/reflector.html. If you cannot subscribe to the reflector for some reason, and need additional assistance please contact the study group chair.

Presentations/Discussion:

Chair's Comments & Discussion Steve Carlson, Chair, Multigig Automotive Ethernet PHY Study Group (no slides)

- Steve noted that the Study Group had a successful, but not fully-successful meeting in Huntington Beach the week of January 9. A draft PAR and draft CSD responses were approved by the study group. These have been posted to the website (under the January 2017 meeting area) and are being presubmitted to the 802 EC and the IEEE-SA Nescom agenda. While the group approved 10 objectives, we do not yet have an approved PHY objective. To progress a PHY objective prior to the march meeting, an interim (Feb 21-22) has been scheduled. For more detail, see closing discussion.
- Steve noted that if we do not have a PHY objective in the project, it is likely that the PAR and CSDs will pulled from the agenda in March.

- Participants were encouraged to focus on presentations for objectives and think of wording as they present technical content for the SG.
- Steve reminded participants that an email had been sent to the reflector with instructions for requesting a presentation at the interim.

Presentation on 2. Shielded Cable for automotive: George Zimmerman for Chris Diminico

http://www.ieee802.org/3/bp/public/jul14/diminico_3bp_01b_0714.pdf

The presenter reviewed a presentation on the optional link segment given during the IEEE 802.3bp project, focusing on the performance of shielded cabling. Results showed high frequency performance of shielded cabling systems at 1GHz and up to 2GHz without degradation. Some of the results were derived from UFTP Cat6a cabling given by Nexans during the 802.3bq project: (source: http://www.ieee802.org/3/bq/public/may13/rossbach_0513_40GBT.pdf). Measurements significantly exceeded the performance of Category 8 specifications used for prior technical feasibility analysis. Additional measurements of alien crosstalk to 2GHz also showed good performance without degradation due to frequency. Questions about the 2GHz measurements should be directed to Mr. DiMinico.

During discussion, the importance of good shielded connectors and system-level shielding was pointed out. Future presentations on good connectors and system shielding performance were encouraged.

Closing Business: George Zimmerman, CME Consulting

Future Meetings

The next ad hoc meeting will be held on February 1 at the same time (7-9am pacific time). Webex information will be sent to the NGAUTO (study group) reflector.

Presentation requests for the February 1 ad hoc are due Monday January 30, by 5PM Pacific Time. If no requests are received, the meeting will be cancelled – and this will be announced on the NGAUTO reflector.

There was discussion of the study group interim, February 21-22 in Warren Michigan. The meeting is necessary because the project has yet to approve a PHY objective.

Information on the interim may be found at http://www.ieee802.org/3/interims/index.html . Please email Steve Carlson if you plan to attend. Remote presentations will be allowed, but remote discussion will be limited to the presentation given.

Please consider presentations to help build consensus on PHY objectives.

Discussion on Requested Presentations/Next Steps

A request was made for presentations on the relative cost of 2.5Gbps, 5Gbps and 10Gbps PHY systems. PHY vendors were encouraged to bring these. Discussion noted that we may have to begin with some consensus on the technical feasibility and a description of the 2.5G/5G and 10Gbps PHY systems to have meaningful

relative cost discussions. Presentations from PHY vendors on various speeds and relative cost were encouraged.

The SG Chair (Mr. Carlson) noted that the project scope as described in the draft PAR includes existing Ethernet speeds, (e.g., 2.5Gbps, 5Gbps, 10Gbps, 25 Gbps, 40Gbps, 100Gbps, as well as new rates being defined at 50Gbps, 200Gbps and 400Gbps by other 802.3 task forces) but, as a PHY project would not include defining a new MAC rate.

A question was asked about whether we can add additional PHY objectives later in the project – additional objectives may be added after the initial PHY objective, specifying media or rates; however, it is important to have at least one PHY objective prior to asking to become a Task Force. Proponents of additional PHY objectives were encouraged to move forward sooner rather than later.

Meeting closed –~8:23 am PT

Attendees (from Webex + emails)

First Name	Last Name	Affiliation
Shogo	Akasaki	Denso
Amir	Bar-Niv	Aquantia
Tobias	Belitz	Renesas
Rich	Boyer	Delphi
David	Brandt	Rockwell Automation
Phillip	Brownlee	TDK
Stefan	Buntz	Daimler
Steve	Carlson	High Speed Design
Eric	DiBiaso	TE
Marc	Dupuis	Webindustries
Matthias	Fritsche	Harting
Mike	Gardner	Molex
Olaf	Grau	Bosch
Yasuhiro	Hyakutake	Adamant Co., Ltd.
Dalibor	IGNJATOVIC	Acome
Matthias	Jaenecke	Yazaki
Chad	Jones	Cisco
Peter	Jones	Cisco
Alex	Lin	MediaTek
Tzahi	Madgar	Valens
Kirsten	Matheus	BMW
Larry	Matola	Delphi
Brett	McClellan	Marvell
Greg	McSorley	Amphenol
Richard	Mellitz	Samtec
Wes	Mir	Delphi

Thomas	Muller	Rosenberger
Henry	Muyshondt	Microchip
Doug	Oliver	Ford
Sujan	Pandey	NXP
Alon	Regev	Ixia
Laura	Schweitz	Turck
Ching-Yao	Su	Realtek
Geoff	Thompson	GraCaSi / Independent
Kikuta	Tomohiro	Adamant
Natalie	Wienckowski	General Motors
Daniel	Wiesmayer	Daexl-Maier group
Dance	Wu	Marvell
Peter	Wu	Marvell
Jens	Wuelfing	TE
Sung	Yoo	Molex
George	Zimmerman	CME Consulting / Aquantia, Commscope & LTC
Helge	Zinner	Continental
Harald	Zweck	Infineon