

Minutes IEEE P802.3ch Multigig Automotive Ethernet PHY TF AdHoc meeting June 13, 2018

Prepared by George Zimmerman

Proposed Agenda:

1. Agenda/Admin: George Zimmerman, agenda_3chah_01a_061318.pdf
2. SG Chair's comments: no presentation
3. Presentations:

FEC/Framing/Modulation for 10GBASE-T1 PHY	Ramin Farjadrad Paul Langner George Zimmerman	Aquantia Aquantia CME Consulting/Aquantia
802.3ch Coupling Attenuation Measurement Results (added during meeting)	Thomas Mueller	Rosenberger

4. Discussion & Next steps – All

See adhoc webpage for agenda deck and presentations

Agenda/Admin George Zimmerman acting as ad hoc chair:

Meeting began at 7:05am PT.

Introductions & Affiliations.

Presented file: [agenda 3chah 01a 061318.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 7:14 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 – Natalie Wienckowski, Chief Editor

Steve Carlson was not present on the call. Natalie Wienckowski reminded the group of the upcoming plenary meeting and the need to make progress.

Presentations/Discussion:

Presentation: FEC/Framing/Modulation for 10GBASE-T1 PHY, Ramin Farjadrad and Paul Langner, Aquantia, & George Zimmerman, CME Consulting/Aquantia

[farjadrad_3chah_01b_061218.pdf](#)

(presenters: Ramin Farjadrad & George Zimmerman)

The presenters discussed options for framing and FEC in conjunction with PAM-4 transmission for 10GBASE-T1. The presenters reviewed modulation performance results presented in the May meeting by multiple vendors, showing that modulations between 2 and 2.5 bits/PAM symbol were within 1 dB, and therefore focus on implementation of modulation with framing and FEC was probably more important than modulation alone. The presenters also reviewed results from May showing PAM 4 had better in-band RFI resistance, and therefore focused the analysis on impulse performance in RFI. They presented an overview of using interleaving with shorter block-length codes to reduce complexity and minimum latency, and extend the burst performance and presented DFE BER results (including error propagation) for 10BASE-T1 in the presence of impulse burst noise.

There were questions about the results and an observation of a graph axis mislabeled. The presentation was updated as "01b".

Following the presentation, the Chair asked the group's consent to hear a second contribution which the Chair had received during the meeting. There was no objection, and the group proceeded to hear Mr. Mueller's contribution.

Presentation: 802.3ch Coupling Attenuation Measurement Results, Thomas Mueller, Rosenberger

[mueller_3ch_channel_01_0618](#)

The presenter presented updated coupling attenuation measurement results showing passing results relative to the limit line adopted at the May meeting. There was brief discussion.

Closing Business

Participants were advised that requests for contributions to the July meeting were due next Thursday 21 June (before the next ad hoc) and that draft contributions were due to the Task Force Chair (Mr. Carlson) by Monday 25 June. The next ad hoc meeting will be June 27 at 7 am pacific, and might be a good time to review some of those contributions and build consensus.

Meeting adjourned at 8:30 PT.

Attendees (from Webex + emails)

First	Last	Affiliation
Franz	Aletsee	hs-augsburg
Dale	Amason	nxp
Jim	Bauer	marvell
Youssef	Bouri	aktiv
Rich	Boyer	aktiv
David	Brandt	rockwell automation
Phillip	Brownlee	us.tdk
Clark	Carty	cisco
Marven	Dawood	aktiv
Gerrit	denBesten	nxp
Eric	DiBiaso	te
Michael	Doerndl	md-elektronik
Ramin	Farjad	aquantia
German	Feyh	broadcom
Mike	Gardner	molex
Claude	Gauthier	nxp
Amrit	Gopal	ford
Kyle	Jones	aktiv
Haysam	Kadry	ford
Paul	Langner	aquantia
Kirsten	Matheus	bmw
Larry	Matola	aktiv
Brett	McClellan	marvell
Greg	McSorley	amphenol-highspeed
Wes	Mir	aktiv
Thomas	Müller	rosenberger
Henry	Muyshondt	microchip
Douglas	Oliver	ford
Sujan	Pandey	nxp
Harsh	Patel	molex
Vimalli	Raman	yazaki-europe
Jean	Razafiarivelo	aktiv
Tom	Souvignier	broadcom
Mike	Tu	broadcom
Christoph	Wechsler	audi
Natalie	Wienckowski	gm
Peter	Wu	marvell
Fred	Zimm	????
George	Zimmerman	CME Consulting/Aquantia, ADI, APL
TOTAL	39	Attendees