

# Minutes IEEE P802.3ch Multigig Automotive Ethernet PHY TF AdHoc meeting May 31, 2017

Prepared by George Zimmerman

## Proposed Agenda:

1. Agenda/Admin: George Zimmerman, agenda\_3NGAUTOah\_01\_041917.pdf
2. SG Chair's comments: Steve Carlson, no presentation
3. Presentations:
  - a. Unified File Format for Automotive Channels Frequency Responses – Hossein Sedarat, Aquantia
  - b. NG Auto Channel Data Request – Raghu Ganesan, Texas Instruments
4. Next steps – Natalie Wienckowski

Presentations were posted to the adhoc webpage the evening before

## Agenda/Admin George Zimmerman acting as ad hoc chair:

Meeting began at 7:05am PT.

## Introductions & Affiliations.

### Presented file: [agenda 3chah 01 053017.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 7:14AM Pacific Time, none responded
4. Reminded participants to indicate full names and employer/affiliation for the meeting minutes.

The reflector and website are now up, and we are now using the NGAUTO reflector. 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.

Files will be posted under the new Task Force ad hoc area.

## Presentations/Discussion:

**Chair's Comments & Discussion Steve Carlson, Chair, Multigig Automotive Ethernet PHY Study Group:** Steve welcomed the group and discussion moved to the cabling data needed and formats requested for 802.3ch PHY studies.

## Presentation: Hossein Sedarat, Unified File Format for Automotive Channels Frequency Responses (Sedarat\_3ch\_01\_0517.pdf)

The presenter discussed measurements and formats needed. The presenter requested ascii .CSV format data, for insertion loss, return loss and alien crosstalk measurements. These could be in touchstone format

as well, and there was significant discussion on using touchstone format. The frequency range discussed was down to at least 1 MHz, and up to at most 7.5 GHz.

There was also discussion of whether MDI connectors and board traces were to be included in the measurements. At this time, cabling harness measurements were desired. PHY vendors should account margin in their analyses for power coupling networks, board traces, and MDI connectors – all things outside the ‘channels’ measured. Use of the ‘link segment’, the proper terminology of IEEE 802.3 for the cabling between 2 MDIs, was discussed.

### **Presentation: Raghu Ganesan, NG Auto Channel Data Request (ganesan\_3chah\_01\_0517.pdf)**

The presenter discussed the need for both S21 and S11 measurements of the channel response, similar to Sedarat.

At 8 AM, George Zimmerman had to leave the meeting, and Natalie Wienckowski took over as ad hoc Chair, leading the consensus building discussion.

### **Closing Business: Natalie Wienckowski, General Motors**

The group discussed the format for data, and documented it in: link\_segment\_measurements, posted in the ad hoc area. Highlights are below:

Measurements should provide data in magnitude and phase (degrees) format (s4p (STP,SPP) s2p (coax)), from 1 MHz to a maximum of 7.5 GHz, with a frequency step size of 1 MHz.

Link Segments to Measure: 1.25 m cable with 4 inlines (5, 0.25 m segments); 15 m cable with 4 inlines (1 m, 1 m, 1 m, 8 m, 4 m); 10 m cable with 2 inlines (1 m, 1 m, 8m); and 15 m cable only.

Measurements of connector only were also desired.

Alien crosstalk measurements were for further study.

### **Future Meetings**

The next meeting will be the on June 13, at 7am pacific. If you plan to present anything at this meeting please inform the Chair (George Zimmerman) prior to Monday, June 11, 2017 at 8am pacific time.

Meeting closed –8:53 am PT

### **Attendees (from Webex + emails)**

<b>First</b>	<b>Last</b>	<b>Affiliation</b>
Rich	Boyer	Delphi
David	Brandt	Rockwell Automation
Steve	Carlson	High Speed Design/Robert
Mabud	Choudhury	OFS Optics
Eric	DiBiaso	TE
Marc	Dupuis	WebIndustries

Raghu	Ganesan	TI
Mike	Gardner	Molex
Herrmann	GG	Griller
Craig	Gunther	Harman
Anhtuan	Huynh	Leoni
Yasuhiro	Hyakutake	Adamant
Chad	Jones	Cisco
Haysam	Kadry	Ford
David	Law	HPE
HJ	Lee	LG
Jon	Lewis	Dell
Brett	McClellan	Marvell
Wes	Mir	Delphi
Thomas	Müller	Rosenberger
Doug	Oliver	Ford
Sujan	Pandey	NXP
Harsh	Patel	Molex
Rainer	Pöhmerer	Leoni
Victor	Renteria	Belfuse
Hossein	Sedarat	Aquantia
Masood	Shariff	Commscope
Yves	Stricot	Delphi
Geoff	Thompson	(Independent)
Luisma	Torres	KDPOF
Alexander	Umnov	Corning
Karl	Weber	Beckoff
Christoph	Wechsler	Audi
Natalie	Wienckowski	GM
Daniel	Wiesmayer	Draexlmaier Group
Peter	Wu	Marvell
Jens	Wuelfing	TE
Kent	Younglove	Yazaki
John	Yurtin	Delphi
George	Zimmerman	CME Consulting/ADI, Aquantia,