Unconfirmed Meeting Minutes: IEEE P802.3dm Asymmetrical Electrical Automotive Ethernet Task Force

November 11-13, 2024
IEEE 802. Plenary, Vancouver, BC Canada

Prepared by George Zimmerman

IEEE P802.3dm Task Force meeting convened at 1:16 PM PST, Monday, November 11, 2024, by Jon Lewis, IEEE P802.3dm Task Force Chair.

Attendance is listed in Appendix A

Presentation: https://www.ieee802.org/3/dm/public/1124/agenda_3dm_01_1124.pdf
Note that this was replaced by an "01a" version including the motions and adjustments made to presentation order.
(https://www.ieee802.org/3/dm/public/1124/agenda_3dm_01a_1124.pdf)
Presenter: Jon Lewis, Chair.

Mr. Lewis turned to presentation agenda_3dm_01_1124.pdf and reviewed the agenda for the meeting.

The chair reminded the group that attendance credit would be taken from IMAT, and that as announced by the 802.3 Working Group Chair, IMAT registration would be for individual slots (AM1, AM2, PM1, and PM2) through the day's meeting.

Previous Meeting Minutes: The chair announced that the minutes from the Task Force meeting on Sept 18-19 at the 802.3 interim had been posted. (https://ieee802.org/3/dm/public/0924/Unconfirmed_minutes_3dm_091824.pdf) and asked the group to consider any additions or corrections to them, and that confirmation would be entertained Wednesday AM.

Additionally, the minutes from the ad hoc meeting held Oct 10 were posted, and he asked the group to consider if any additions or corrections to those were necessary for consideration Wednesday morning.

The chair requested participants to email him any potential motions prior to Wednesday morning.

Confirmation of Vice Chair:
The chair handed the floor to David Law, Chair of the 802.3 Working Group, who had previously announced his intent to appoint Natalie Wienckowski as Vice Chair of the IEEE P802.3dm.

Motion #1
Move to confirm Natalie Wienckowski as Vice Chair of the IEEE P802.3dm Task Force
M: Bob Voss
S: Peter Jones
75% by rule
MOTION PASSES BY UNANIMOUS CONSENT

Mr. Lewis then resumed the review of agenda_3dm_01a_1124.pdf, showing the agenda.

Approval of Agenda: The chair asked whether there were additions or corrections to the agenda, and there were none. He then considered the following motion:

Motion #2
Move to approve the agenda
M: Bob Voss
S: Peter Jones
(Procedural > 50%)
MOTION PASSES BY UNANIMOUS CONSENT

He announced that the agenda was approved.

Mr. Lewis then resumed the review of agenda_3dm_01a_1124.pdf

- Mr. Lewis noted that there should be no recording or photography without permission.
- Mr. Lewis asked if anyone was attending from the press including those who would run a public blog on this meeting – there were no indications from the group.

The chair announced that the meeting was being conducted as part of the IEEE 802 plenary meeting series and that registration, including payment of meeting fees, was required for attendees. He further announced that attendance without properly registering is subject to penalties under IEEE 802 rules.

Mr. Lewis then continued review of the presentation, reviewing decorum, goals for the meeting, information for the reflector, private area, and ground rules.

The Chair announced that as this meeting was an electronic Task Force meeting, under 802.3 rules, only working group voters may vote on motions.

Attendance
The chair reminded the group that meeting participants can only claim IMAT attendance credit if they attend 75% of a meeting slot's duration, and that officers may remove IMAT attendance if a participant is found to attend less than 75% of a slot's duration. He further reminded the group of the rules for gaining and maintaining voting rights.

The Chair advised the group that attendance would be taken from IMAT, and that zoom attendance would be used to reconcile the attendance, but IMAT was the official record. He then reminded attendees that they should show their employer & affiliation, and how to set these to make them correct.

IEEE Structure, Policies

Mr. Lewis continued review of the IEEE SA structure, where to find the rules, and asked whether anyone in the room or online had not seen the various policy slides this week. There were no responses. He therefore announced that he would show the slides and summarize.

IEEE SA Patent Policy, Mr. Lewis reviewed slides 0 through 4 of the IEEE SA Patent Policy (slides 16 – 19 in the agenda deck), showed and read aloud slides 1 and 2 of the IEEE SA patent policy from the agenda deck, and made the call for patents on the slide labeled "Ways to Inform IEEE" **(1:41 pm)**.

There was no response to the call for patents at **1:41pm**.
He then showed and read aloud slide 3 of the patent policy.

Other IEEE Policies
Mr. Lewis showed and read aloud the slides on the IEEE SA copyright, Participant behavior (ethics), IEEE individual participation, and fair and equitable consideration policies as shown in the agenda deck. (1:46 PM).

There were no questions.

Mr. Lewis reviewed the standards development process for IEEE and where this Task Force is in the process.

LIAISONS
The chair noted that the Task Force had received a liaison with the ASA-MLE specification for use by the task force. He clarified that this is the same document previously liaised to the 802.3 Working Group, this time allowing for use by Task Force members who might not be working group members. The ASA-MLE specification has been placed in the 802.3dm Task Force private area.

He suggested a simple 'thank you' response may be considered later in the meeting.

Other Procedures
The chair announced that the group would review a sample timeline during closing business discussions.
The chair then also announced guidelines for the meeting and use of meeting times. He indicated that as the group was considering baseline text at this stage that he would be more lenient regarding time limits this time to ensure full and complete discussion.

The Chair completed a review of the presentation, showing the order of presentations. He reviewed each page and asked each day whether there were any presenters who wished to adjust the timing of their presentation.

He made some minor adjustments to the order, resulting in the order of presentations shown in agenda_3dm_01a_1124.pdf.

PRESENTATIONS

The Chair then moved to the presentations for the meeting.

(1:58PM)
Title: P802.3dm proposed outline
URL: https://www.ieee802.org/3/dm/public/1124/wienckowski_3dm_01_202411.pdf
Presenter: Natalie Wienckowski, IVN Solutions LLC / Ethernovia
Discussion: The editor (the presenter) presented a proposed outline for the 802.3dm draft standard. She emphasized that the draft outline would likely adjust as baselines were adopted.

There was brief discussion of PHY naming, and participants were asked to consider prior phy names. Some links with history of phy naming in 802.3 were posted to the reflector.

(2:18PM)
Title: Automotive Cable Harness and Channel Limit
URL: https://www.ieee802.org/3/dm/public/1124/Zerna_802.3dm_01_241110_CableHarness.pdf
Presenter: Conrad Zerna, Avivalinks, Inc.
Discussion: The presenter presented measurements and a proposed limit for the link segment return loss.
The chair reminded the group of the individual process and that the presenter should refer to individuals.
Questions were asked and answered.
During discussion, the chair needed to remind the presenter that while we had information liaised from ASA, discussing internal ASA proceedings in IEEE might be inappropriate.

The presenter indicated that he would be seeking a straw poll in conjunction with the presentation, and a possible motion later in the meeting. The following straw poll was offered:

Straw Poll #1:
I would support the RL as presented in Zerna_802.3dm_01_241110_CableHarness.pdf slide 9.
Y:21
N:20
A:20

(2:55PM)
Title: Considerations on Return Loss and Insertion Loss
URL: https://www.ieee802.org/3/dm/public/1124/Kleinwaechter_dm_IL_RL_Considerations_Nov24.pdf

Presenter: Mathias Kleinwaechter, in-tech GmbH
Discussion: The presenter presented a review of several contributions on insertion loss and return loss and offered some conclusions. He suggested adopting different insertion loss limits for the different media types and suggested following ASA conclusions.
Questions were asked and answered.

At 3:18 PM, the chair announced it was time for the afternoon break, to resume at 3:38pm.

(3:38 PM) The meeting resumed with presentations.

Title: Proposed text for 802.3dm RL & IL Limits and Shield Performance Proposal
URL:https://www.ieee802.org/3/dm/public/1124/boyer_sharma-3dm_xx_11-12-24.pdf
Presenter: Rich Boyer, Aptiv
Discussion: The presenter made proposals for insertion loss, return loss in the first half (through slide 5) and then took initial questions looking for feedback.

Questions were asked and answered for insertion loss and return loss.

Following discussion on the first half, a straw poll was taken:

Straw Poll #2:
I would support the RL and IL limits as shown in boyer_sharma-3dm_xx_11-12-24.pdf slides 4 and 5 as baseline text for P802.3dm. (Single Choice)
Y: 24
N: 23
A: 19

Following the straw poll, the presentation continued with a discussion of screening attenuation (beginning at slide 6)
Questions were asked and answered.

(4:30PM)
Title: On Channels with Poor Return Loss and Equalization Issues
URL: https://www.ieee802.org/3/dm/public/1124/ahuja_8023dm_01e_11112024_poorreturnloss_equalization.pdf
Presenter: Ramanjit Ahuja, Onsemi
Discussion: The presenter presented some simulations and measurements of channel return loss, as well as some simulations of a receiver for the low data rate direction.
Questions were asked and answered.

(5:08 PM)
Title: Power over Coax and single inductor options
URL: https://www.ieee802.org/3/dm/public/1124/Kleinwaechter_dm_PoC_inductors_Nov24.pdf
Presenter: Mathias Kleinwaechter, in-tech GmbH
Discussion: The presenter presented a review of prior analysis on inductors and some measurements of MDI return loss based on new inductors.
Questions were asked and answered.

(5:15PM)
Title: MDI RL limit proposal
URL: https://www.ieee802.org/3/dm/public/1124/jonsson_3dm_02_11_11_24.pdf
Presenter: Ragnar Jonsson, Marvell
Discussion: The presenter presented text for adopting an MDI Return Loss limit based on prior contributions.
The presenter deferred a straw poll to work with others on a compromise. Questions were asked and answered.

(5:21PM)
Title: BCI-Induced Noise Ingress to Coaxial MDI, Test Method and Measured Levels
URL: https://www.ieee802.org/3/dm/public/1124/Pischl_3dm_01a_1124.pdf
Presenter: Neven Pischl, Broadcom

Discussion: The presenter presented a discussion of BCI EMC measurement methodology and some measurements of noise ingress into coaxial links.
Questions were asked and answered.

(5:54PM)

Title: EMI consideration and measurement.
URL: https://www.ieee802.org/3/dm/public/1124/EMI_consideration_and_measurement_110124.pdf
Presenter: Ky-Anh Tran, Aeonsemi
Discussion: The presenter presented a measurement setup and results for EMC noise ingress in coaxial links.
Questions were asked and answered.

(6:11PM)
Title: On RF immunity and modulation
URL: https://www.ieee802.org/3/dm/public/1124/razavi_fung_jonsson_3dm_01a_11_07_20204.pdf
Presenter: Alireza Razavi; Marvell
Discussion: The presenter presented relationships between duplexing method and EMC immunity, as well as some discussion of higher-frequency RADAR EMC considerations.
Questions were asked and answered.
The chair admonished the presenter and a participant to take discussion offline.

The meeting recessed for the day at 6:32PM, to resume at 8:00AM PST 11/12/2024.

The meeting reconvened at 8:00AM PST 11/12/2024

Presentation: https://www.ieee802.org/3/dm/public/1124/agenda_3dm_01a_1124.pdf
Presenter: Jon Lewis, Chair.

Mr. Lewis turned to presentation agenda_3dm_01a_1124.pdf and briefly reviewed the agenda for the meeting. He went quickly to review the IEEE patent policy, individual participation, and copyright policy slides.
Call for Patents
At 8:02 AM he made the call for patents (slide 2 of the IEEE SA patent policy deck, “Ways to Inform IEEE”). There were no responses.

He then reviewed the IEEE copyright policy, IEE codes of ethics and conduct, individual process, and ‘equitable consideration’ (anti-dominance) slides, reading and displaying the slide text.

There were no questions.
The chair reminded participants to sign into IMAT for attendance.
…
Following the review of process, presentations resumed in the order announced:

(8:08AM)

Title: PHY Delay Survey

URL: https://www.ieee802.org/3/dm/public/1124/Lo_3dm_01_1124.pdf
Presenter: William Lo, Axonne
Discussion: The presenter presented a review of PHY latencies in IEEE 802.3 standardized automotive links. The presenter suggested setting an objective for a phy latency of no more than 15 us.
Questions were asked and answered, including issues of the latency reference points and the suggestion that 10 us might be reasonable as well.

The working group chair interrupted discussion to remind all participants not to refer to themselves as 'OEMs' or a type of affiliation, and to remind individuals that expertise resides with individuals rather than with their employment or affiliation.

(8:27 AM)
Title: Application level view and PHY requirements
URL: https://www.ieee802.org/3/dm/public/1124/Zerna_802.3dm_03_241110_SystemRequirements.pdf
Presenter: Conrad Zerna, Avivalinks
Discussion: The presenter presented a view that subsystem requirements from existing systems should be used and requested participants to present requirements based on reuse of technology.
During the closing of the presentation, the presenter suggested that only OEM-affiliated individuals were qualified to provide requirements. The chair corrected this that all individuals were able to provide requirements. After some discussion, including the working group chair, the presenter clarified that it was his opinion that these individuals were in a better position, not necessarily the only ones qualified.

There were no further questions.

(9:02 AM)
Title: TDD proposal
URL: https://www.ieee802.org/3/dm/public/1124/Zerna_802.3dm_02_241110_TDD_proposal.pdf
Presenter: Conrad Zerna, Avivalinks
Discussion: The presenter presented a baseline proposal for transmit levels for all 3 rates using TDD.
Questions were asked and answered. During discussion there was particular attention on the noise models used.

(9:20 AM)
Title: Modulation for 2.5 Gbps Data Rate: PAM4 vs PAM2
URL: https://www.ieee802.org/3/dm/public/1124/sedarat_3dm_01_202411.pdf
Presenter: Hossein Sedarat, Ethernovia
Discussion: The presenter presented SNR analysis for PAM4 and PAM2 in the high data rate direction at 2.5 Gbps.
Questions were asked and answered.
During questioning, the chair reminded one of the participants that affiliations don't bring contributions, individuals do.
Additionally, the chair reminded participants that only publicly available or material available to the task force in general (i.e., without NDAs) should be referenced. Using publicly available information is considered a path to success.

(10:05AM) Following the presentation, the chair announced it was time for the morning break. The meeting resumed at 10:22 AM

(10:22 AM) The chair announced that while Mr. Zimmerman stepped out for a few minutes, Valerie Maguire would act as recording secretary until he returned.

(10:24 AM) Presentations resumed…
Title: Manchester Encoding: Differential or Not?
URL: https://www.ieee802.org/3/dm/public/1124/sedarat_3dm_02_202411.pdf
Presenter: Hossein Sedarat, Ethernovia
Discussion: The presenter discussed Manchester and differential Manchester Encoding (DME) showing DME could be considered a version of precoding often used in wireline transceivers.
(During the presentation, at 10:27AM, Mr. Zimmerman resumed recording secretary duties)
Questions were asked and answered.

(10:35 AM)
Title: Reference text for ACT modulation
URL: https://www.ieee802.org/3/dm/public/1124/jonsson_sedarat_lo_3dm_01_11_11_24.pdf
Presenter: Ragnar Jonsson, Marvell
Discussion: The presenter presented an overview of baseline text for the ACT proposal. During the presentation, the presenter asked permission to update the presentation with links to references and update contributor affiliations resulting in the "01a" version.
Questions were asked and answered.

(11:18AM)
Title: Integration into Cameras
URL: https://www.ieee802.org/3/dm/public/0924/Zerna_802.3dm_01_240918_IL_Limit_Proposal.pdf
Presenter: TJ Houck and Paul Fuller, Marvell
Discussion: The presenter presented tradeoffs and considerations for integration of PHYs into camera modules with respect to the ACT and TDD proposals
During the presentation the Chair reminded the presenter to refer to 'individuals affiliated' with an entity rather than the entity. At another point, the working group chair reminded the presenter and the group not to refer to entities, or employees of the affiliation(.
Questions were asked and answered.

(11:54AM)
Mr. Lewis asked consent to skip the "TDD Baseline Proposal for 802.3dm" presentation until after the lunch break, and to address the following presentation, expected to be of shorter duration, in order to efficiently use the remaining time prior to the lunch break. There was no objection.
(11:55)
Title: Power Spectral Density (PSD) and MDI Return Loss for TDD Baseline
URL: https://www.ieee802.org/3/dm/public/1124/Chini_3dm_02a_1124.pdf
Presenter: Ahmad Chini; Broadcom
Discussion: The presenter presented a proposed PSD mask and MDI return loss for a TDD based system.
Questions were asked and answered.

(12:20PM) The group recessed for lunch

(1:21 PM) Following lunch, presentations resumed.
Title: TDD Baseline Proposal for 802.3dm
URL: https://www.ieee802.org/3/dm/public/1124/Chini_3dm_01a_1124.pdf
Presenter: Ahmad Chini, Broadcom
Discussion: The presenter presented two options for TDD parameters for a baseline proposal for 802.3dm.
Questions were asked and answered. During discussion, the presenter clarified that he was not proposing 2 optional FECs, but rather a choice of two example FECs for the Task Force, and that he was open to other proposals.

(2:35 PM)
Following discussion, the following straw poll was offered:
Straw Poll #3
I would support further investigation of a TDD-based PHY for 820.3dm (single choice)
Y: 35
N: 17
A: 12

(2:36 PM)
Title: TDD Benefits and Baseline Proposal for 802.3dm
URL: https://www.ieee802.org/3/dm/public/1124/Dalmia_Goel_3dm_01a_11112024.pdf
Presenter: Kamal Dalmia, Aviva Links
Discussion: The presenter presented a review of prior uses of time division duplexing and parameters of a proposed baseline, based on time division duplexing, along with comparison to the proposal in Chini_3dm_01a_1124.pdf.
Questions were asked and answered.
In particular, individuals thanked the presenter for carefully navigating the boundary between individual experience of processes for decision making within an OEM entity and (avoiding) speaking as an entity.

The group recessed for afternoon break at 3:22PM.
The group reconvened at 3:45PM

(3:48 PM) Presentations resumed

Title: Benefits and Tradeoffs of Time Division Duplexing (TDD) over Single-Wire Links
URL: https://www.ieee802.org/3/dm/public/1124/muma_3dm_01_2411.pdf
Presenter: Scott Muma, Microchip
Discussion: The presenter discussed views of various benefits and tradeoffs of using TDD technology.
Questions were asked and answered.

(4:08 PM)

The chair made administrative announcements reminding participants to record attendance in IMAT, and testing procedures for voting on motions the following day.
Presentations then resumed…
(4:11 PM)

Title: Further Thoughts Regarding Timeline Considerations
URL: https://www.ieee802.org/3/dm/public/1124/gorshe_3dm_01a_2411.pdf
Presenter: Steve Gorshe, Microchip
Discussion: The presenter presented thoughts on simulation needs of technical approaches for 802.3dm and the timeline and suggested reusing ASA as an alternative.
Questions were asked and answered.

(4:25 PM)
Having completed the scheduled presentations for the day, the chair moved to discussing a proposed liaison response to the Automotive SERDES Alliance.

Motion #3
Move to approve 1124_802d3_to_ASA_draft.docx as liaison to the Automotive SERDES Alliance, and to seek approval from the IEEE 802.3 Working Group with editorial license granted to the Chair or his designated appointee.
M: Max Turner
S: Bob Voss
(Procedural > 50%)
Approved by unanimous consent

Other Administrative Matters
The Chair entertained feedback from the group on the system used for requesting presentations at this meeting. In general, positive feedback was heard.

The Chair also announced he plans to discuss ad hoc meetings in the morning and asked participants to consider how to best drive consensus using ad hocs.

Brainstorming session – PHY naming
The chair proposed that because the presenters for the remaining presentations were remote and had been told they were scheduled for the next morning that the additional time in the day be used to try to progress the PHY naming.
The following presentation was heard:

Title: P802.3dm PHY names discussion
URL: https://www.ieee802.org/3/dm/public/1124/wienckowski_3dm_02_NOV2024.pdf
Presenter: Natalie Wienckowski, Vice Chair & Chief Editor
Discussion: The presenter led a discussion on naming for the PHYs.

The meeting recessed for the day at 5:13 PM, to resume at 8:30AM PST 11/13/2024.

The meeting reconvened at 8:30AM PST 11/13/2024

The chair opened the meeting and briefly reviewed the agenda deck, agenda_3dm_01a_1124.pdf. He showed the patent policy slides and made the call for patents (slide 18 of the agenda deck) at 8:35AM. There were no responses to the call.

He then reviewed the IEEE copyright policy, participant behavior, individual process, and equitable consideration slides in the agenda deck.

At 8:38 AM Presentations resumed in the previously announced order.

(8:39AM)
Title: Missing considerations on 802.3dm
URL: https://www.ieee802.org/3/dm/public/1124/veloso_dm_02_11xx2024_v1.6_final.pdf
Presenter: Gumersindo Veloso Cauce, BMW
Discussion: The presenter discussed views of automotive OEM decision considerations.
Questions were asked and answered.
In particular, individuals thanked the presenter for carefully navigating the boundary between individual experience of processes for decision making within an OEM entity and (avoiding) speaking as an entity.

(9:17AM)
Title: Pros and Cons from OEM perspective
URL: https://www.ieee802.org/3/dm/public/1124/matheus_dm_01_pros_cons_13112024.pdf
Presenter: Kirsten Matheus, BMW
Discussion: The presenter discussed her view of the state of the ASA ML ecosystem and experience of implementations.
During the presentation, the working group chair reminded the presenter to speak as an individual rather than as "we" – implying an OEM entity (based on the subject matter).
At the conclusion of the presentation, the working group chair thanked the presenter for correcting through the remainder of the presentation.
Questions were asked and answered.

(9:44 AM) The Chair announced that the requested presentations had been completed.

The chair suggested that following the break the group would begin with motions and straw polls. He urged participants to use the break time to build consensus and to forward any motions and straw polls to the chair and secretary.

(9:49 AM) The chair announced a (prolonged) break until 10:40 AM.

(10:40 AM)
STRAW POLLS AND MOTIONS

The chair reminded the group that the minutes from the September interim and the ad hoc had been posted for review.

MOTION #4:
Move to approve:
Task Force minutes from Sept 2024
https://ieee802.org/3/dm/public/0924/Unconfirmed_minutes_3dm_091824.pdf

Ad Hoc Minutes:
https://ieee802.org/3/dm/public/adhoc/101024/Unconfirmed_minutes_3dm_101024.pdf
M: Bob Voss
S: Chad Jones
(Procedural >= 50%)
Approved by unanimous consent.

The chair announced he had received a presentation to accompany a motion:
Title: Proposed text for MDI Return Loss

URL: https://www.ieee802.org/3/dm/public/1124/jonsson_chini_3dm_01_11_13_24.pdf
Presenter: Ragnar Jonsson (Marvell), and Ahmad Chini (Broadcom)
Discussion: The presenter discussed a proposed MDI return loss.
Questions were asked and answered.

Motion #5:

Move to adopt MDI Return Loss Limit proposal on slide 2 of jonsson_chini_3dm_01_11_13_24.pdf with editorial license.
M: Ragnar Jonsson
S: Ahmad Chini

(Technical >= 75%)
Y: 45
N: 4
A: 6
Motion Passes
See Appendix B for Roll Call Vote.

The chair then turned back to the 802.3dm PHY names discussion, revisiting:
Title: P802.3dm PHY names discussion
URL: https://www.ieee802.org/3/dm/public/1124/wienckowski_3dm_02_NOV2024.pdf
Presenter: Natalie Wienckowski (IVN Solutions LLC, Chief Editor & Vice Chair IEEE P802.3dm Task Force)
Discussion: The presenter reviewed the prior day's discussion and presented the following straw poll, related to slide 7 of the deck:

Straw Poll #4:
I prefer:
Option 1 (High (H) , and Low (L): 2.5G/100MBASE-T1-H, 2.5G/100MBASE-T1-L). 10
Option 2 (High Speed (HS) and Low Speed (LS), e.g., 2.5G/100MBASE-T1-HS) : 13
Option 3 (Put H before T or V only one –, e.g., 2.5G/100MBASE-HT1): 8
Option 4 (Put H before T or V, two -, e.g., 2.5G/100MBASE-H-T1): 10
Option 5. (Put the transmit speed first and the receive speed second, e.g., 2.5G/100MBASE-T1 and 100M/2.5GBASE-T1): 25

Straw Poll #5
As second choice, I prefer:
- Option 1: 11
- Option 2: 14
- Option 3: 13
- Option 4: 17

Straw Poll #6:
Between Option 4 and Option 5 I prefer:
- Option 4: 25
- Option 5: 42

The presenter then addressed slide 8, the symbol between the speeds, and offered the following straw poll:

Straw Poll #7:
I prefer:
Option 1 (continue to use "/" between the speeds): 9
Option 2 (use "+" instead of "/" between the speeds): 37
Option 3 (use "_" instead of "/" between the speeds): 13

Straw Poll #8:
I prefer:
use "+" between the speeds: 32
use "-" between the speeds: 22

The chair announced there were no further straw polls.

Formation of Ad Hocs:
The chair announced the formation of a general purpose ad hoc, to be chaired by Jason Sisk, on Dec 12 and Dec 19, 1000-1300 EST.

FUTURE MEETINGS
Mr. Lewis reviewed future meetings and announced the next meeting would be the week of January 20-24 at the IEEE 802 plenary meeting session (in-person with remote access) in Phoenix, AZ USA. There is a potential that the meeting may be 5 days long, number of days for 802.3dm is to be announced.

The chair also announced continuing to use the online system for requesting presentations in the task force. Details will be forthcoming.

The Chair indicated that the agenda had been exhausted.

Mr. Lewis adjourned the meeting at **11:35AM PST.**

Appendix A: Attendees at the IEEE P802.3dm Asymmetrical Electrical Automotive Ethernet Task Force Meeting, Nov 11-13, 2024

Name	Employer	Affiliation	Mon IMAT	Mon zoom	Tues IMAT	Tues zoom	Wed IMAT	Wed zoom
Ahuja, Ramanjit	ON Semiconductor	ON Semiconductor	X	X	X	X	X	X
Baggett, Tim	Microchip Technology, Inc.	Microchip Technology, Inc.	X	X	X	X	X	X
Bar-Niv, Amir	Aquantia Corp	Marvell	X	X	X	X	X	X
Benyamin, Saied	Ethernovia	Ethernovia	X	X	X	X	X	X
Boiger, Christian	Infineon Technologies	Infineon Technologies					X	X
Borda, jamila josip	BMW Group	in-tech GmbH	X	X	X	X	X	X
Boyer, Rich	Aptiv - Signal and Power Solutions	Aptiv Signal and Power Solutions	X	X	X	X	X	X
Brandt, David	Rockwell Automation	Rockwell Automation	X	X	X	X	X	X
Chang, Jae-yong	Keysight Technologies Inc	Keysight Technologies Inc	X	X	X	X	X	X
Chini, Ahmad	Broadcom Corporation	Broadcom Corporation	X	X	X	X	X	X
Cordaro, Jay		Analog Devices Inc.	X	X	X	X	X	X
Dalmia, Kamal	Aviva Links Inc	Aviva Links Inc	X	X	X	X	X	X
de Koos, Andras	Microchip Technology Inc	Microchip Technology Inc			X	X		
DiBiaso, Eric	TE Connectivity	TE Connectivity	X	X	X	X	X	X
Donahue, Curtis	Rohde & Schwarz	Rohde & Schwarz	X		X	X	X	
Estrakh, Daniel	Valens Semiconductor	Valens Semiconductor	X	X	X	X	X	X
Fellhauer, Felix	Robert Bosch GmbH	Robert Bosch GmbH	X	X	X	X	X	X
Fuller, Paul		Marvell		X	X	X	X	X
Ganesan, Aravind	Texas Instruments Inc.	Texas Instruments Inc.	X	X	X	X	X	X
Gauthier, Claude	NXP Semiconductors	NXP Semiconductors	X	X	X	X	X	X
Gilb, James	General Atomics Aeronautical Systems, Inc.	General Atomics Aeronautical Systems, Inc.	X					
Glanzner, Martin	SEI ANTech-Europe GmbH	SEI Automotive Europe GmbH	X	X	X	X	X	X
Goel, Sachin	Aviva Links Inc	Aviva Links Inc	X	X	X	X	X	X
Gorshe, Steven Scott	Microchip Technology, Inc.	Microchip Technology, Inc.	X	X	X	X	X	X
Goto, Hideki	Toyota Motor Corporation	Toyota Motor Corporation	X	X	X	X	X	X

Name	Employer	Affiliation	Mon IMAT	Mon zoom	Tues IMAT	Tues zoom	Wed IMAT	Wed zoom
Graba, James	Broadcom Corporation	Broadcom Corporation			X	X	X	X
Graber, Steffen	Pepperl+Fuchs SE	Pepperl+Fuchs SE			X	X	X	X
Gubow, Martin	Keysight Technologies	Keysight Technologies	X	X	X	X	X	X
Hirose, Takeshi	AGC Inc.	AGC Inc.	X	X	X	X	X	X
Hogenmueller, Thomas	Robert Bosch GmbH	Robert Bosch GmbH	X	X	X	X	X	X
Hoshino, Masayuki		Continental Automotive	X	X	X	X	X	X
Houck, TJ		Marvell	X	X	X	X	X	X
Hu, Mark		Aptiv	X	X	X	X	X	X
HYAKUTAKE, YASUHIRO	Orbray Co., Ltd.	Orbray Co., Ltd.	X	X	X	X	X	X
Jones, Chad	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X	X	X
Jones, Peter	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X	X	X
Jonsson, Ragnar	Marvell Semiconductor, Inc.	Marvell	X	X	X	X	X	X
Kabra, Lokesh	Synopsys, Inc.	Synopsys, Inc.			X	X		
Kapoor, Samay	Aviva Links	Aviva Links Inc.	X	X	X	X	X	X
Kawatsu, Yasuaki	APRESIA Systems	APRESIA Systems	X	X	X	X		
Kikuta, Tomohiro	Orbray Co., Ltd.	Orbray Co., Ltd.	X	X	X	X	X	X
Kleinwaechter, Mathias		in-tech GmbH	X	X	X	X	X	X
Kock, Joerg	NXP Semiconductors	NXP Semiconductors		X	X	X	X	X
Kotani, Yasuhiro	DENSO	DENSO	X		X	X	X	X
Kumar, Niraj		NXP	X	X	X	X	X	X
Lackner, Hans	QoSCom GmbH	QoSCom GmbH	X	X	X	X	X	X
Lasry, Ariel	Qualcomm Technologies, Inc	Qualcomm Technologies, Inc	X	X	X	X	X	X
Law, David	Hewlett Packard Enterprise	Hewlett Packard Enterprise			X		X	X
Lewis, Jon	Dell Technologies	Dell Technologies	X	X	X	X	X	X
Lo, William	Axonne Inc.	Axonne Inc.	X	X	X	X	X	X
Lou, Wei		Broadcom Corporation	X	X	X	X	X	X
Maguire, Valerie	Copperopolis	Copperopolis, affiliated with CME Consulting and Cisco	X	X	X	X	X	
Mark, Simon	Wurth Electronik Group	Wurth Electronik Group	X	X	X	X	X	X

Name	Employer	Affiliation	Mon IMAT	Mon zoom	Tues IMAT	Tues zoom	Wed IMAT	Wed zoom
mash, chris	Nupero Ltd	Ethernovia Inc			X	X	X	X
Matheus, Kirsten	BMW Group	BMW Group			X	X	X	X
McClellan, Brett	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X	X	X	X	X
Mueller, Thomas	Rosenberger	Rosenberger	X	X	X	X		
Muma, Scott		Microchip Technology, Inc.	X	X	X	X	X	X
Murray, Brian	Analog Devices Inc.	Analog Devices Inc.			X	X	X	X
Ng, Hiok Tiaq	Aviva Links Inc.	Aviva Links Inc.	X	X	X	X	X	X
NIIHARA, YOSHIHIRO	Fujikura Ltd.	Fujikura Ltd.	X	X	X	X	X	X
Oberg, Mats	Marvell Semiconductor, Inc.	Marvell	X	X	X	X	X	X
Pal, Debajyoti		ON Semiconductor	X	X	X	X	X	X
Paul, Michael	Analog Devices Inc.	Analog Devices	X	X	X	X	X	X
Pineda, Luis	LP Tech Advisors, LLC	LP Tech Advisors, LLC (Samsung; 7Rays; Ethernovia)	X	X	X	X	X	X
Pischl, Neven	Broadcom Corporation	Broadcom Corporation		X	X	X	X	X
Potterf, Jason	Cisco Systems, Inc.	Cisco Systems, Inc.			X	X	X	X
Razavi, Alireza	Marvell	Marvell	X	X	X	X	X	X
Schreiner, Stephan	Rosenberger Hochfrequenztechnik GmbH & Co. KG	Rosenberger			X	X	X	X
Sedarat, Hossein	Ethernovia	Ethernovia	X	X	X	X	X	X
Sharma, Rohit		Molex Incorporated	X	X	X	X	X	X
Shiino, Masato	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC	X	X	X	X	X	X
shirani, ramin	Ethernovia	Aquantia	X	X	X	X	X	X
sisk, jason	University of New Hampshire InterOperability Laboratory (UNH-IOL)	University of New Hampshire InterOperability Laboratory (UNH-IOL)	X	X	X	X	X	X
Sun, jingcong		Motorcomm Electronic Technology Co	X	X	X	X	X	X
Tan, Yuxuan	Motorcomm	Motorcomm	X	X	X	X	X	X
Tanc, Ahmet	NXP Semiconductors	NXP Semiconductors;	X	X	X	X	X	X

Name	Employer	Affiliation	Mon IMAT	Mon zoom	Tues IMAT	Tues zoom	Wed IMAT	Wed zoom
TAZEBAY, MEHMET	Broadcom Corporation	Broadcom Corporation	X	X	X	X	X	X
Thompson, Geoffrey	GraCaSI S.A.	INDEPENDENT	X	X	X	X	X	X
Torres, Luisma	Knowledge Development for Plastic Optical Fiber	Knowledge Development for Plastic Optical Fiber	X	X	X	X	X	X
Tran, Ky-Anh	Aeonsemi Inc	Aeonsemi Inc	X	X	X	X	X	X
Tu, Mike	Broadcom Corporation	Broadcom Corporation	X	X	X	X	X	X
Turner, Max	Ethernovia	Ethernovia		X	X	X	X	X
Veloso Cauce, Gumersindo	BMW Group	BMW AG; BMW Group	X	X	X	X	X	X
Voss, Robert	Panduit Corp.	Panduit Corp.	X	X	X	X	X	X
Wang, Shun-Sheng	Realtek Semiconductor Corp.	Realtek Semiconductor Corp.	X	X	X	X	X	X
Wienckowski, Natalie	IVN Solutions LLC	IVN Solutions LLC; Ethernovia	X	X	X	X	X	X
Wu, Dance	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X	X	X	X	X
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X	X	X	X	X
Zerna, Conrad	Aviva Links Inc	Aviva Links Inc	X	X	X	X	X	X
Zhang, Tingting	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	X
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	X
Zimmerman, George	CME Consulting, Inc.	CME Consulting/ADI, APL Group, Cisco, Marvell, OnSemi, SenTekSe LLC, Sony	X	X	X	X	X	X

ZOOM PARTICIPATION ONLY – NO IMAT RECORD

Name	Employer	Affiliation	Mon IMAT	Mon zoom	Tues IMAT	Tues zoom	Wed IMAT	Wed zoom
Jodi Haasz	IEEE-SA	IEEE-SA		X				
Venkat Arunarthi		Broadcom						X

Appendix B: Roll Call Voting Record on Motion #5

Name	Employer	Affiliation	Motion #5
Ahuja, Ramanjit	ON Semiconductor	ON Semiconductor	
Baggett, Tim	Microchip Technology, Inc.	Microchip Technology, Inc.	
Bar-Niv, Amir	Aquantia Corp	Marvell	Y
Benyamin, Saied	Ethernovia	Ethernovia	Y
Boiger, Christian	Infineon Technologies	Infineon Technologies	
Borda, jamila josip	BMW Group	in-tech GmbH	Y
Boyer, Rich	Aptiv - Signal and Power Solutions	Aptiv Signal and Power Solutions	
Brandt, David	Rockwell Automation	Rockwell Automation	Y
Chang, Jae-yong	Keysight Technologies Inc	Keysight Technologies Inc	Y
Chini, Ahmad	Broadcom Corporation	Broadcom Corporation	Y
Cordaro, Jay		Analog Devices Inc.	
Dalmia, Kamal	Aviva Links Inc	Aviva Links Inc	N
de Koos, Andras	Microchip Technology Inc	Microchip Technology Inc	
DiBiaso, Eric	TE Connectivity	TE Connectivity	
Donahue, Curtis	Rohde & Schwarz	Rohde & Schwarz	
Estrakh, Daniel	Valens Semiconductor	Valens Semiconductor	A
Fellhauer, Felix	Robert Bosch GmbH	Robert Bosch GmbH	Y
Fuller, Paul		Marvell	
Ganesan, Aravind	Texas Instruments Inc.	Texas Instruments Inc.	
Gauthier, Claude	NXP Semiconductors	NXP Semiconductors	Y
Gilb, James	General Atomics Aeronautical Systems, Inc.	General Atomics Aeronautical Systems, Inc.	
Glanzner, Martin	SEI ANTech-Europe GmbH	SEI Automotive Europe GmbH	
Goel, Sachin	Aviva Links Inc	Aviva Links Inc	N
Gorshe, Steven Scott	Microchip Technology, Inc.	Microchip Technology, Inc.	Y
Goto, Hideki	Toyota Motor Corporation	Toyota Motor Corporation	A
Graba, James	Broadcom Corporation	Broadcom Corporation	
Graber, Steffen	Pepperl+Fuchs SE	Pepperl+Fuchs SE	Y
Gubow, Martin	Keysight Technologies	Keysight Technologies	A
Hirose, Takeshi	AGC Inc.	AGC Inc.	
Hogenmueller, Thomas	Robert Bosch GmbH	Robert Bosch GmbH	
Hoshino, Masayuki		Continental Automotive	Y
Houck, TJ		Marvell	
Hu, Mark		Aptiv	
HYAKUTAKE, YASUHIRO	Orbray Co., Ltd.	Orbray Co., Ltd.	Y

Name	Employer	Affiliation	Motion #5
Jones, Chad	Cisco Systems, Inc.	Cisco Systems, Inc.	Y
Jones, Peter	Cisco Systems, Inc.	Cisco Systems, Inc.	Y
Jonsson, Ragnar	Marvell Semiconductor, Inc.	Marvell	Y
Kabra, Lokesh	Synopsys, Inc.	Synopsys, Inc.	
Kapoor, Samay	Aviva Links	Aviva Links Inc.	
Kawatsu, Yasuaki	APRESIA Systems	APRESIA Systems	
Kikuta, Tomohiro	Orbray Co., Ltd.	Orbray Co., Ltd.	A
Kleinwaechter, Mathias		in-tech GmbH	Y
Kock, Joerg	NXP Semiconductors	NXP Semiconductors	Y
Kotani, Yasuhiro	DENSO	DENSO	
Kumar, Niraj		NXP	
Lackner, Hans	QoSCom GmbH	QoSCom GmbH	Y
Lasry, Ariel	Qualcomm Technologies, Inc	Qualcomm Technologies, Inc	Y
Law, David	Hewlett Packard Enterprise	Hewlett Packard Enterprise	
Lewis, Jon	Dell Technologies	Dell Technologies	
Lo, William	Axonne Inc.	Axonne Inc.	Y
Lou, Wei		Broadcom Corporation	Y
Maguire, Valerie	Copperopolis	Copperopolis, affiliated with CME Consulting and Cisco	
Mark, Simon	Wurth Electronik Group	Wurth Electronik Group	
mash, chris	Nupero Ltd	Ethernovia Inc	Y
Matheus, Kirsten	BMW Group	BMW Group	A
McClellan, Brett	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	Y
Mueller, Thomas	Rosenberger	Rosenberger	
Muma, Scott		Microchip Technology, Inc.	
Murray, Brian	Analog Devices Inc.	Analog Devices Inc.	Y
Ng, Hiok Tiaq	Aviva Links Inc.	Aviva Links Inc.	N
NIIHARA, YOSHIHIRO	Fujikura Ltd.	Fujikura Ltd.	
Oberg, Mats	Marvell Semiconductor, Inc.	Marvell	
Pal, Debajyoti		ON Semiconductor	Y
Paul, Michael	Analog Devices Inc.	Analog Devices	Y
Pineda, Luis	LP Tech Advisors, LLC	LP Tech Advisors, LLC (Samsung; 7Rays; Ethernovia)	
Pischl, Neven	Broadcom Corporation	Broadcom Corporation	Y
Potterf, Jason	Cisco Systems, Inc.	Cisco Systems, Inc.	Y
Razavi, Alireza	Marvell	Marvell	Y

Name	Employer	Affiliation	Motion #5
Schreiner, Stephan	Rosenberger Hochfrequenztechnik GmbH & Co. KG	Rosenberger	
Sedarat, Hossein	Ethernovia	Ethernovia	Y
Sharma, Rohit		Molex Incorporated	
Shiino, Masato	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC	Y
shirani, ramin	Ethernovia	Aquantia	Y
sisk, jason	University of New Hampshire InterOperability Laboratory (UNH-IOL)	University of New Hampshire InterOperability Laboratory (UNH-IOL)	
Sun, jingcong		Motorcomm Electronic Technology Co	Y
Tan, Yuxuan	Motorcomm	Motorcomm	
Tanc, Ahmet		NXP Semiconductors; NXP Semiconductors	
TAZEBAY, MEHMET	Broadcom Corporation	Broadcom Corporation	Y
Thompson, Geoffrey	GraCaSI S.A.	INDEPENDENT	A
Torres, Luisma	Knowledge Development for Plastic Optical Fiber	Knowledge Development for Plastic Optical Fiber	Y
Tran, Ky-Anh	Aeonsemi Inc	Aeonsemi Inc	
Tu, Mike	Broadcom Corporation	Broadcom Corporation	Y
Turner, Max	Ethernovia	Ethernovia	Y
Veloso Cauce, Gumersindo	BMW Group	BMW AG; BMW Group	Y
Voss, Robert	Panduit Corp.	Panduit Corp.	
Wang, Shun-Sheng	Realtek Semiconductor Corp.	Realtek Semiconductor Corp.	Y
Wienckowski, Natalie	IVN Solutions LLC	IVN Solutions LLC; Ethernovia	Y
Wu, Dance	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	Y
Zerna, Conrad	Aviva Links Inc	Aviva Links Inc	N
Zhang, Tingting	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	
Zimmerman, George	CME Consulting, Inc.	CME Consulting/ADI, APL Group, Cisco, Marvell, OnSemi, SenTekSe LLC, Sony	Y