IEEE P802.3ck 100 Gb/s, 200 Gb/s and 400 Gb/s Electrical Interfaces Task Force

Telephonic series for January-March 2021 Meeting:
January 26, January 27, February 2, February 3, February 9,
February 10, February 16, and March 3 2021
Online Meeting

Prepared by Beth Kochuparambil and Kent Lusted

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Motion #9:

Attendees

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – January 26, 2021

Prepared by Kent Lusted and Beth Kochuparambil

Proposed Agenda:

- Approval of the Agenda
- Approval of collective October/November Series minutes
- IEEE Patent Policy reminder
- IEEE Copyright reminder
- IEEE Participation Requirements reminder
- Ground Rules and Operations
- Chief Editor's Report
- Comment Resolution
    - Common Mode
    - Annex 120G
    - See: https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_01_0121_brown.pdf

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:15 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair. (Note: all times are Pacific time zone unless otherwise indicated)

Beth welcomed attendees and apologized for the delayed start due to technical difficulty.

Meeting began with the agenda presentation
https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_01_0121.pdf

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Presented the proposed agenda and noted that the agenda would cover the meetings on 26 and 27 January. Chair asked if there was objection to the shown agenda. No one responded.

Chair thanked Kent Lusted for the minutes of the last meeting (October-November 2020). Chair asked if there were any other corrections or modifications to be noted for the posted October-November series minutes. No one responded.

Motion #2:

Move to approve the October-November 2020 telephonic interim meeting minutes.
Moved by: Mike Dudek
Second by: Rich Mellitz
Procedural (>50%)
Passed by unanimous consent

Chair reminded participants of the IEEE Participation Requirements and showed the slide with the Participation requirements. (see: http://www.ieee802.org/devdocs.shtml)   Reminded participants of the IEEE copyright policy. (See: https://standards.ieee.org/ipr/index.html) Chair reminded participants of the IEEE patent policy. (See: http://www.ieee802.org/3/patent.html)   She asked if anyone was unfamiliar with the IEEE patent policy. No one responded. Chair made the call for patents. No one responded.

Reviewed the Draft 1.4 Telephonic interim meeting series details.   Meetings 1-8 are for resolving all 154 comments. Meetings 9-10 were reserved to address any open technical issues identified by the editors gating the transition to working group balloting.

Chair reminded participants to focus on technical completeness of the draft. The initial Working Group ballot is 30 days with full scope of the document.

Chair provided an overview of the Task Force status. Chair noted that editors are using a "bucket" for comments deemed non-controversial. The bucket proposed responses would be adopted with motions later in the meeting series. The Task Force was working toward technical completeness and removing TBDs.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool to record attendance for the IEEE 802.3 Working Group. Task Force attendance would be taken from the webex logs.

Chair reviewed the ground rules.

Chair called for members of the press. No one responded.

Chair noted that the intention was to create Draft 1.5 as the document for consideration in the Working Group vote.

Vice Chair reminded participants to declare their affiliation either in their webex id or via the webex chat window.

It was noted that comments currently collected in the "bucket" are to be reviewed by participants and if any of them are to be taken out of the bucket, participants are to notify leadership by 31 January, 2021. The proposed "bucket1a" responses with updates to comment #53 and #10 were posted at
https://www.ieee802.org/3/ck/comments/draft1p4/8023ck_D1p4_comments_proposed_bucket1a.pdf

Chief Editor's Report:

Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/editorsrep_3ck_01_0121.pdf
- Reviewed the big ticket items on slide 8 to resolve in the draft.

Common Resolution Agenda:

Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/comagenda_3ck_01_0121.pdf
- It was noted that the comment resolution agenda was subject to change.
- Noted that there are 14 comments that the editorial team recommends deferring to the Working Group ballot.
- The proposed "bucket1a" responses with updates to comment #53 and #10 were posted at
https://www.ieee802.org/3/ck/comments/draft1p4/8023ck_D1p4_comments_proposed_bucket1a.pdf
- Discussed the recommendation to defer some comments to the working group ballot. It was noted that it was a Task Force decision on how to handle those comments.

Comment resolution began.

Consensus Discussion Slides -   Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/brown_3ck_03_0121.pdf
Reviewed slides 3 and 4.

Presentation #1:

"Comment #101 - Limit for Cable Assembly Diff to Common RL ", Bruce Champion
See: https://www.ieee802.org/3/ck/public/21_01/champion_3ck_02a_0121.pdf
- Updated version '02a' with title corrected
- Discussed the data in the plot on slide 4.

Presentation #2:

"Comment #102 - CA Common Mode to Common Mode Return Loss Limit ", Bruce Champion
See: https://www.ieee802.org/3/ck/public/21_01/champion_3ck_01a_0121.pdf
- Updated version '01a' with title corrected
- Discussed the data in the plot on slide 5.
- Discussed the aspects of the cable assembly test setup that could change the results shown on slide 5.
- Discussed if there was an impact to system performance with the changed specification.

Break at ~9:10 a.m. Resumed at ~9:15 a.m.

Consensus Discussion Slides -   Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/brown_3ck_03_0121.pdf
Reviewed slides 5-11.

Chair noted that the 27 January meeting would resume with the common-mode topic per the comment resolution agenda. Also noted that most of the presentations for 27 January were shown in a prior ad hoc.

Meeting ended at ~10:00 a.m.

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – January 27, 2021

Prepared by Kent Lusted

Continue approved agenda from 26 January following the comment agenda at
https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_02_0121_brown.pdf

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:05 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair. (Note: all times are Pacific time zone unless otherwise indicated)

Beth welcomed attendees.

Meeting began with the agenda presentation:
https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_01_0121.pdf

Chair reminded participants of the IEEE Participation Requirements and showed the slide with the Participation requirements. (see: http://www.ieee802.org/devdocs.shtml) Reminded participants of the IEEE copyright policy. (See: https://standards.ieee.org/ipr/index.html) Chair reminded participants of the IEEE patent policy. (See: http://www.ieee802.org/3/patent.html) She asked if anyone was unfamiliar with the IEEE patent policy. No one responded. Chair made the call for patents. No one responded.

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool to record attendance for the IEEE 802.3 Working Group. Task Force attendance would be taken from the webex logs.

Chair called for members of the press. No one responded.

Reviewed the Draft 1.4 Telephonic interim meeting series details.   Meetings 1-8 are for resolving all 154 comments. Meetings 9-10 were reserved to address any open technical issues identified by the editors gating the transition to working group balloting.

Chair reminded participants to focus on technical completeness of the draft. The initial Working Group ballot is 30 days with full scope of the document.

Chair noted that the intention was to create Draft 1.5 as the document for consideration in the Working Group vote.

Vice Chair reminded participants to declare their affiliation either in their webex id or via the webex chat window.

It was noted that comments currently collected in the "bucket" are to be reviewed by participants and if any of them are to be taken out of the bucket, participants are to notify leadership by 31 January, 2021. The proposed "bucket1a" responses with updates to comment #53 and #10 were posted at
https://www.ieee802.org/3/ck/comments/draft1p4/8023ck_D1p4_comments_proposed_bucket1a.pdf

Comment resolution began.

Consensus Discussion Slides -   Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/brown_3ck_03_0121.pdf
Reviewed slides 11-12.

Consensus Discussion Slides -   Matt Brown

See: https://www.ieee802.org/3/ck/public/adhoc/jan20_21/brown_3ck_adhoc_01_012021.pdf

Presentation #3:

"Revisit TP1a EH and VEC based on New Test Method in IEEE 802.3ck D1p4 ", Mau-Lin Wu
See: https://www.ieee802.org/3/ck/public/21_01/wu_3ck_01a_0121.pdf
- Updated version '01a' from the ad hoc presentation.
- Reviewed the channels used in the analysis (see slide 15)

- Discussed the proposed values for EH and VEC.

Presentation #4:

"Update COM Analysis with Rectangular Window", Ali Ghiasi
See: https://www.ieee802.org/3/ck/public/adhoc/jan13_21/ghiasi_3ck_adhoc_01_011321.pdf
- Discussed the rectangular window analysis results.

Presentation #5:

"C2M VEC and EH (comment 5)", Rich Mellitz
See: https://www.ieee802.org/3/ck/public/21_01/mellitz_3ck_01b_0121.pdf
- Updated version '01b' with new data and typo fix
- Reviewed the data on slide 6. The vertical axis is VEC dB when T_O = 50.

Reviewed the Annex 120G HE/VEC values presentation brown_3ck_adhoc_01_012021.pdf.
Changes and corrections were made. Saved as version 01a. (see:
https://www.ieee802.org/3/ck/public/adhoc/jan20_21/brown_3ck_adhoc_01a_012021.pdf)

Straw Poll #1:

For TP1a EH, I support the following value: (Chicago Rules)
A: 9 mV
B: 9.5 mV
C: 10 mV
Results   A: 7, B: 4, C: 29
(see comment #40)

Straw Poll #2:

For TP1a VEC, I support the following value: (Chicago Rules)
A: 12 dB
B: 12.6 dB
C: 14 dB
Results   A: 28, B: 14, C: 6
(See comment #40)

Break at ~9:00 a.m. Resumed at ~9:05 a.m.

Chair asked if there was objection to seeing a few slides from Mike Dudek's presentation (see:
https://www.ieee802.org/3/ck/public/21_01/dudek_3ck_01_0121.pdf) related to the
VEC/VEO topic. Reviewed slides 5 and 6.

Straw Poll #3:

For TP4 NE/FE, EH, I support the following value:
A: 17/17 mV
B: 22/11 mV
C: 25/15 mV
Results   A: 7, B: 4, C: 17
(see comment #40)

Chair noted that when the brown_01a presentation is reviewed next week, the values of TP1a/TP1 on slide 9 would not be subject to modification based on the straw polls 1 and 2.

Chair noted that comments currently collected in the "bucket" are to be reviewed by participants and if any of them are to be taken out of the bucket, participants are to notify leadership by 31 January, 2021. The proposed "bucket1a" responses with updates to comment #53 and #10 were posted at
https://www.ieee802.org/3/ck/comments/draft1p4/8023ck_D1p4_comments_proposed_bucket1a.pdf

Chair noted that the agenda for next would be announced of the email reflector. Presentations for the copper cable and backplane topics were due on 29 January 2021 AoE.

Meeting ended at ~10:00 a.m.

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – February 2, 2021

Prepared by Kent Lusted and Beth Kochuparambil

Proposed Agenda:

- Approval of the Agenda
- IEEE Patent Policy reminder
- IEEE Copyright reminder
- IEEE Participation Requirements reminder
- Reminder of Ground Rules and Operations
- Comment Resolution
  - See:
    https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_03_0121_brown.pdf
  - CA ERL
  - MTF ERL
  - MTF FOMILD
  - C2M transition time
  - C2M EH/VEC value
  - C2M XTALK
  - C2M Misc

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:00 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair.
(Note: all times are Pacific time zone unless otherwise indicated)

Meeting began with the agenda presentation
https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_03_0121.pdf

Chair reminded participants that Task Force attendance would be taken from the webex logs.

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Presented the proposed agenda and noted that the agenda would cover the meetings on 2 and 3 February.

Chair asked if there was objection to the shown agenda. No one responded.

Motion #3:

Move to approve the agenda for the February 2 and 3 meeting.
M: Pavel Zivny
S: Mike Dudek
Procedural (>50%)
Passed by unanimous consent.

Chair reviewed the slide with the Participation requirements.

Chair asked if anyone participating had not read the copyright slide set – no one responded.
Chair showed the IEEE-SA copyright slides.

Chair asked if anyone participating had not read the patent slide set – no one responded. Chair
showed the patent policy slides and did the call for Potentially Essential Patents – no one
responded.

Reviewed the Draft 1.4 Telephonic interim meeting series details.   Meetings 1-8 are for
resolving all 154 comments. Meetings 9-10 were reserved to address any open technical issues
identified by the editors gating the transition to working group balloting.

Chair reminded participants to focus on technical completeness of the draft. The initial
Working Group ballot is 30 days with full scope of the document. Chair noted that the
intention was to create Draft 1.5 as the document for consideration in the Working Group vote.

Chair reviewed the ground rules.

Chair called for members of the press. No one responded.

Chair noted that the response to bucket comment 56 was modified. Also there were requests
to remove 16, 4, 22, 100, 54, 52, 47, 138, 43 from the bucket. The updated version was
bucket1b. (see:
https://www.ieee802.org/3/ck/comments/draft1p4/8023ck_D1p4_comments_proposed_buck
et1b.pdf)

Motion #4:

Move to adopt the proposed responses in 802.3ck_D1p4_comments_proposed_bucket1b.pdf
M: Mike Dudek
S: Jim Weaver
Technical (>=75%)
Passed by unanimous consent.

Common Resolution Agenda:

Matt Brown
See: https://www.ieee802.org/3/ck/public/21_01/comagenda_3ck_03a_0121.pdf
- The comment agenda 03 was updated as a result of the progress to date.
- An updated version '03a' with editorial changes.
- It was noted that the comment resolution agenda was subject to change.

There was a request to address the mated test fixture topic first. There was no objection.

Comment resolution began.

Consensus Discussion Slides - Chris Diminico

Topics: Test Fixtures RL, ERL, and FOMILD
See: https://www.ieee802.org/3/ck/public/21_01/diminico_3ck_01a_0121.pdf

Consensus Discussion Slides - Chris Diminico

Topics: Cable Assembly
See: https://www.ieee802.org/3/ck/public/21_01/diminico_3ck_02_0121.pdf

Straw Poll #4:

I support using the following value for the MTF ERL (choose one)
A: 9 dB
B: 10.3 dB
Results: A: 6, B: 26
(see comment #112)
It was noted during the discussion of straw poll #4 that it would be a decision straw poll.

Presentation #6:

"CA ERL: COMMENT #103", Bruce Champion
See: https://www.ieee802.org/3/ck/public/21_01/champion_3ck_03_0121.pdf
- Reviewed the pass/fail data on slide 7

Straw Poll #5:

I support the following value for the cable assembly ERL: (chicago rules)
A: 7.4 dB
B: 8.0 dB
C: 8.5 dB
D: 9 dB
Results: A: 15, B: 14, C: 15, D: 15
(see comment #103)

Break at ~9:00 a.m. Resumed at ~9:05 a.m.

Alex Haser withdraw comment #96.

Consensus Discussion Slides - Chris Diminico

Topics: Test Fixtures RL, ERL, and FOMILD
See: https://www.ieee802.org/3/ck/public/21_01/diminico_3ck_01a_0121.pdf
See slide 2.

Chair announced that the meeting would run over by 5 minutes due to discussion on Straw Poll #6 and #7.

Straw Poll #6:

I support the following value for the FOMILD transition time (T_t) parameter: (chicago rules)
A: 7.5 ps (currently in D1.4)
B: 9 ps
C: 9.6 ps
D: 10 ps
Results: A: 12, B: 16, C: 14, D: 11
(see comment #111)

Straw Poll #7:

I support the following value for the FOMILD transition time (T_t) parameter: (choose one)
A: 7.5 ps (currently in D1.4)
B: 9 ps
C: 9.6 ps
D: 10 ps
Results: A: 8, B: 5, C: 5, D: 7
(see comment #111)

Chair reminded participants of the meeting on Wednesday.

Meeting ended at ~10:10 a.m.

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – February 3, 2021

Prepared by Kent Lusted and Beth Kochuparambil

Continue approved agenda from 3 February 2021

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:05 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair. (Note: all times are Pacific time zone unless otherwise indicated)

Beth welcomed attendees.

Meeting began with the agenda presentation: https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_03a_0121.pdf

Chair reminded participants that Task Force attendance would be taken from the webex logs.

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Chair reviewed the slide with the Participation requirements.

Chair asked if anyone participating had not read the copyright slide set – no one responded. Chair showed the IEEE-SA copyright slides.

Chair asked if anyone participating had not read the patent slide set – no one responded. Chair showed the patent policy slides and did the call for Potentially Essential Patents – no one responded.

Chair and Chief Editor noted that the FOMILD topic would be deferred until next week to enable further consensus building.

A revised comment agenda flow was shown. (see: https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_04_0121_brown.pdf)

Chair noted that there was a late presentation on comment 146/154 from Piers Dawe.   She asked if there was opposition to the presentation. No one responded. (see: https://www.ieee802.org/3/ck/public/21_01/dawe_3ck_01_0121.pdf)

Presentation #7:

"Two module electrical output settings means four spec conditions, C2M eye mask", Piers Dawe
See: https://www.ieee802.org/3/ck/public/21_01/dawe_3ck_01_0121.pdf

- Discussed the eye mask proposed on slide 13

Consensus Discussion Slides - Matt Brown

Topic: C2M
See: https://www.ieee802.org/3/ck/public/21_01/brown_3ck_04_0121.pdf

Comment resolution began.

Straw Poll #8

I support adding one extra EH/VEC test for each of near-end and far-end module output tests.
Y: 26, N: 1
(see comment #146)

Straw Poll #9

I support adding one extra EH/VEC test for each of near-end and far-end module output tests
for D1.5.
Y: 18, N: 7
(see comment #146)

Chair noted the need for additional technical details on the new EH/VEC test and
recommended deferring the close of the topic until next week. There was no objection.

Break at ~8:30 a.m. Resumed at ~8:35 a.m.

Consensus Discussion Slides - Matt Brown

See:
https://www.ieee802.org/3/ck/public/adhoc/jan20_21/brown_3ck_adhoc_02a_012021.pdf
Slides 2-4

Presentation #8:

"Considerations for Transition time and slew time for C2M", Mike Dudek
See: https://www.ieee802.org/3/ck/public/21_01/dudek_3ck_01_0121.pdf

- The pattern used for the analysis was PRBS13Q.
- On slide 7, the slew time of 67ps was correct because the time spans multiple bits.

- On slide 4, the values of Cb and Cp should have units of pF.

Straw Poll #10:

I support changing the value of host output transition time (min) to: (Choose one)

A: 7.5 ps (current value)

B: 9.5 ps

C: 10 ps

Results: A: 7, B: 12,   C: 14

(see comment #83)

Straw Poll #11:

I support changing the value of host output transition time (min) to: (chicago rules)

A: 7.5 ps (current value)

B: 9.5 ps

C: 10 ps

Results: A: 6, B: 23,   C: 25

(see comment #83)

Consensus Discussion Slides - Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/brown_3ck_04_0121.pdf
Slide 4

Chair reminded participants of the meeting details for the next week (see: https://www.ieee802.org/3/ck/public/21_01/index.html for details).

Chair also reviewed the candidate topics for the next meeting week and encouraged further offline discussion on the MTF FOMILD, C2M EH/VEC, and C2M Xtalk topics.

Meeting ended at ~10:00 a.m.

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – February 9, 2021

Prepared by Kent Lusted and Beth Kochuparambil

Proposed Agenda:

- Approval of the Agenda
- IEEE Patent Policy reminder
- IEEE Copyright reminder
- IEEE Participation Requirements reminder
- Reminder of Ground Rules and Operations
- Comment Resolution (see
  https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_05_0121_brown.pdf)
  - MTF FOMILD
  - C2M EH/VEC value
  - C2M XTALK
  - C2M SIT/ERL
  - Backplane/C2C

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:00 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair.
(Note: all times are Pacific time zone unless otherwise indicated)

Meeting began with the agenda presentation
https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_05_0121.pdf

Chair reminded participants that Task Force attendance would be taken from the webex logs.

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Presented the proposed agenda and noted that the agenda would cover the meetings on 9 and 10 February.

Chair asked if there was objection to the shown agenda. There was a request to address bucket2 on the agenda; chair indicated this would be at the top of comment resolution period in agenda. There were no further requests for modification. Chair asked if there was objection to the modified agenda. No one responded.

Chair reviewed the slide with the Participation requirements.

Chair asked if anyone participating had not read the copyright slide set – no one responded. Chair showed the IEEE-SA copyright slides.

Chair asked if anyone participating had not read the patent slide set – no one responded. Chair showed the patent policy slides and did the call for Potentially Essential Patents – no one responded.

Chair reviewed the ground rules.

Reviewed the Draft 1.4 Telephonic interim meeting series details.   Meetings 1-8 are for resolving all 154 comments. Meetings 9-10 were reserved to address any open technical issues identified by the editors gating the transition to working group balloting.

Chair noted that meetings #7 and #8 (16-17 February) would be necessary to complete comment resolution.

Vice Chair reminded participants to focus on technical completeness of the draft. Chair noted that the intention was to create Draft 1.5 as the document for consideration in the Working Group vote.

Chair called for members of the press. No one responded.

Chair noted that bucket2 contained responses to comments deemed resolved as a consequence of comments closed on 2-3 February. (see: https://www.ieee802.org/3/ck/comments/draft1p4/8023ck_D1p4_comments_proposed_bucket2.pdf)

Motion #5:

Move to adopt the proposed responses in 8023ck_D1p4_comments_proposed_bucket2.pdf
M: Jim Weaver
S: Adee Ran
Technical (>= 75%)
Motion passed by unanimous consent.

Chair noted that the leadership would be enforcing a 90 second response in the question/answer queue to ensure all participants have a chance to speak.

Common Resolution Agenda - Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/comagenda_3ck_05_0121.pdf
- The comment agenda 05 was updated as a result of the progress to date.
- It was noted that the comment resolution agenda was subject to change.

Chief Editor noted that there was a new editorial consensus discussion presentation on the test fixture FOMILD topic. Chair allowed the presentation.

Consensus Discussion Slides - Chris Diminico

See: https://www.ieee802.org/3/ck/public/21_01/diminico_3ck_05_0121.pdf
See slides 1-5

Chair reminded participants that the leadership would be enforcing a 90 second response in the question/answer queue to ensure all participants have a chance to speak.

Straw Poll #12

I support the following proposal to address MTF FOMILD: (chicago rules)
A: FOMILD (max) = 0.18 dB, T_t = 8.5 ps
B: FOMILD (max) = 0.13 dB, T_t = 8.5 ps
C: FOMILD (max) = 0.18 dB, T_t = 7.5 ps
Results: A: 15, B: 21, C: 21
(see comment #111)

Straw Poll #13:

I support the following proposal to address MTF FOMILD: (pick one)
A: FOMILD (max) = 0.18 dB, T_t = 8.5 ps
B: FOMILD (max) = 0.13 dB, T_t = 8.5 ps
C: FOMILD (max) = 0.18 dB, T_t = 7.5 ps
Results: A: 7, B: 17, C: 11
(see comment #111)

Break at ~8:50 a.m. Resumed at ~8:55 a.m.

Consensus Discussion Slides - Matt Brown

See:
https://www.ieee802.org/3/ck/public/adhoc/jan20_21/brown_3ck_adhoc_02a_012021.pdf
Slide 6-7

Straw Poll #14:

For TP1a, I support using the following basis for crosstalk calibration:
A: transition time (per Annex 120E)
B: slew time (time between specified voltage thresholds)
Results: A: 28 , B: 2
(see comment #14)

Consensus Discussion Slides - Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/brown_3ck_04_0121.pdf
Slide 6

It was noted that discussion of comment #67 would be deferred to the 16-17 February meeting series.

Chair noted that the comment resolution would resume on 10 February with the topics as shown in the comment agenda.

Meeting ended at ~9:50 a.m.

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – February 10, 2021

Prepared by Kent Lusted and Beth Kochuparambil

Continue approved agenda from 9 February

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:00 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair. (Note: all times are Pacific time zone unless otherwise indicated)

Beth welcomed attendees.

Meeting began with the agenda presentation: https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_05_0121.pdf

Chair reminded participants that Task Force attendance would be taken from the webex logs.

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Chair reviewed the slide with the Participation requirements.

Chair asked if anyone participating had not read the copyright slide set – no one responded. Chair showed the IEEE-SA copyright slides.

Chair asked if anyone participating had not read the patent slide set – no one responded. Chair showed the patent policy slides and did the call for Potentially Essential Patents – no one responded.

Vice Chair reminded participants to focus on the technical completeness of the draft. Chair noted that the intention was to create Draft 1.5 as the document for consideration in the Working Group vote.

Common Resolution Agenda - Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/comagenda_3ck_05_0121.pdf

- The comment agenda 05 was updated as a result of the progress to date.
- It was noted that the comment resolution agenda was subject to change.

Comment resolution began.

Consensus Discussion Slides - Phil Sun

See: https://www.ieee802.org/3/ck/public/21_01/sun_3ck_01_0121.pdf
Topics: Clause 163 and Annex 163B

Presentation #9:

"Parametric Test Fixture and Results for Annex 163B ", Adee Ran
See: https://www.ieee802.org/3/ck/public/21_01/ran_3ck_01_0121.pdf
- On slide 8, the 31mm package was used in the plot.
- Reviewed the details on slide 5.

Presentation #10:

"TP0v Reference Channel ", Ali Ghiasi
See: https://www.ieee802.org/3/ck/public/21_01/ghiasi_3ck_02_0121.pdf
- Reviewed the reference channel details on slide 3
- The rise time of 10 psec in the simulation was 10%-90%, which was equivalent to 6-6.5 psec for 20%-80%.

Break at ~8:20 a.m. Resumed at ~8:25 a.m.

Presentation #11:

"162C MDI Comment #43", Chris Diminico
See: https://www.ieee802.org/3/ck/public/21_01/diminico_3ck_03_0121.pdf

Chair thanked participants for the progress made over the week.

Chair noted that bucket3 will contain responses to comments deemed resolved as a consequence of comments closed on 9-10 February. Bucket3 would be posted to the Task Force website and announced over the Task Force email reflector. The deadline to request a comment pull from bucket3 would be 14 February 2021, AOE.

Chair noted that the announced Task Force meetings on 16-17 February may be schedule adjusted due to the remaining comment load.

Chair noted that there were 2 topics tabled from today's agenda: TP4a Stressed Input test (comment 67) & TP4 (module output) modes.

Chair noted that there were 14 comments that the editorial team recommended deferring to the Working Group ballot. The approach would be discussed next week.

Meeting ended at ~10:05 a.m.

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – February 16, 2021

Prepared by Kent Lusted and Beth Kochuparambil

Proposed Agenda:

- Approval of the Agenda
- IEEE Patent Policy reminder
- IEEE Copyright reminder
- IEEE Participation Requirements reminder
- Reminder of Ground Rules and Operations
- Task Force Status
- Comment Resolution (see
  https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_07_0121_brown.pdf)
  - Bucket3
  - TP4a SIT
  - TP4 (module output) modes
  - Recommended for deferral to WG Ballot
- Closing business
- Tabled presentations

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:05 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair.
(Note: all times are Pacific time zone unless otherwise indicated)

Meeting began with the agenda presentation
https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_07_0121.pdf

Chair reminded participants that Task Force attendance would be taken from the webex logs.

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Presented the proposed agenda and noted that the agenda would cover the meetings on 16 and 17 February.

Chair asked if there was objection to the shown agenda. No one responded.

Chair reviewed the slide with the Participation requirements.

Chair asked if anyone participating had not read the copyright slide set – no one responded. Chair showed the IEEE-SA copyright slides.

Chair asked if anyone participating had not read the patent slide set – no one responded. Chair showed the patent policy slides and did the call for Potentially Essential Patents – no one responded.

Chair reviewed the ground rules.

Chair called for members of the press. No one responded.

Chair noted that there were 14 comments that the editorial team recommended deferring to the Working Group ballot. She reminded participants to focus on technical completeness of the draft. Chair noted that the intention was to create Draft 1.5 as the document for consideration in the Working Group vote.

Chair reviewed the impact to the schedule if comment resolution did not complete as scheduled.

Chair proposed an approach to address the comments that the editorial team recommended deferring to the Working Group ballot. No one responded.

Chair noted that bucket3 contained responses to comments deemed resolved as a consequence of comments closed on 9-10 February. (see: https://www.ieee802.org/3/ck/comments/draft1p4/8023ck_D1p4_comments_proposed_bucket3.pdf)

Motion #6:

Move to adopt the proposed responses in 8023ck_D1p4_comments_proposed_bucket3.pdf
M: Mike Dudek
S: Adee Ran

Technical (>= 75%)
Motion passed by unanimous consent.

Common Resolution Agenda - Matt Brown

See: https://www.ieee802.org/3/ck/public/21_01/comagenda_3ck_07_0121.pdf

- The comment agenda 07 was updated as a result of the progress to date.
- It was noted that the comment resolution agenda was subject to change.

Comment resolution began.

Adam Healey withdrew comment #67.

Break at ~8:15 a.m. Resumed at ~8:25 a.m.

Chair noted that the leadership would be enforcing a 90 second response in the question/answer queue to ensure all participants have a chance to speak.

Chair noted that the meeting end time for 16 February would depend on the progress through the comments for deferral consideration.

Comment resolution continued.

Rich Mellitz withdrew comment #51.

At ~ 8:30am Chair announced that she would be leaving the meeting due to a meeting conflict and passed the chair responsibilities to the Vice-Chair, Kent Lusted.

Vice Chair noted that participants with presentations on the deferral list were encouraged to bring their contribution to a future Task Force ad hoc meeting.

Vice Chair thanked the editorial team and the participants for the hard work to close all of the Draft 1.4 comments and progress the specification forward.

Vice Chair reminded participants of the goal to get approval to progress to the Working Group ballot at the 18 March closing plenary.

Vice Chair asked if Mau-Lin Wu and Karl Bois would be willing to defer their presentations to a future Task Force ad hoc meeting. There was agreement from the authors.

Motion #7:

Move to:
- Generate Draft 1.5 from Draft 1.4 and closed comments
- Authorize the chair to pre-submit D1.5 for consideration of moving to working group ballot

M: Matt Brown

S: Howard Heck

Technical >=75%

Passed by unanimous consent

Vice Chair noted that the Task Force comment resolution meeting on 17 February was cancelled as a result of motion #7 and the deferral of the two presentations by Mau-Lin Wu and Karl Bois.

Vice Chair noted that the next scheduled Task Force meeting was 3 March, as listed on the website. (see: https://www.ieee802.org/3/ck/public/21_01/index.html)

Vice Chair noted that the agenda was complete and the meeting would adjourn.

Meeting ended at ~9:50 a.m.

IEEE P802.3ck 100 Gb/s Electrical Lane Task Force – March 3, 2021

Prepared by Kent Lusted and Beth Kochuparambil

Proposed Agenda:

- Approval of the Agenda
- IEEE Patent Policy reminder
- IEEE Copyright reminder
- IEEE Participation Requirements reminder
- Reminder of Ground Rules and Operations
- Task Force Status
- Next Steps
- KR Channel COM
- Liaisons

Presentations posted at: https://www.ieee802.org/3/ck/public/21_01/index.html

Meeting began at ~7:00 a.m. Pacific by Beth Kochuparambil, IEEE 802.3ck Task Force Chair. (Note: all times are Pacific time zone unless otherwise indicated)

Meeting began with the agenda presentation
https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_09a_0121.pdf

Chair reminded participants that Task Force attendance would be taken from the webex logs.

The chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Chair asked if there was objection to the shown agenda. No one responded.

Chair reviewed the slide with the Participation requirements.

Chair asked if anyone participating had not read the copyright slide set – no one responded. Chair showed the IEEE-SA copyright slides.

Chair asked if anyone participating had not read the patent slide set – no one responded. Chair showed the patent policy slides and did the call for Potentially Essential Patents – no one responded.

Chair reviewed the ground rules.

Chair called for members of the press. No one responded.

Chair reviewed the Task Force status and next steps (see slide 14-18 of https://www.ieee802.org/3/ck/public/21_01/agenda_3ck_09a_0121.pdf).   Chair noted that a series of ad hoc meetings would be announced over the Task Force email reflector.

Presentation #12:

"P802.3ck D1.5 Technical Gap", Matt Brown
See: https://www.ieee802.org/3/ck/public/21_01/brown_3ck_05_0121.pdf

Motion #8:

Move to incorporate brown_3ck_05_0121 into Draft 1.5.
M: Phil Sun
S: Rich Mellitz
Technical (>= 75%)
Passed by unanimous consent.

Chief Editor noted that draft 1.5 should be available by the end of the week.

Chair noted that there were four liaisons to OIF, Gen-Z, T11-2, and COBO for consideration by the Task Force. The OIF liaison is a deferred response to a liaison that came in January. Initial responses were prepared by Tom Palkert and Kent Lusted. (see: https://www.ieee802.org/3/ck/public/21_01/IEEE_802d3_to_OIF_CEI_0321_draft1.pdf , https://www.ieee802.org/3/ck/public/21_01/IEEE_802d3_to_T11-2_0321_draft1.pdf , https://www.ieee802.org/3/ck/public/21_01/IEEE_802d3_to_COBO_0321_draft1.pdf , https://www.ieee802.org/3/ck/public/21_01/IEEE_802d3_to_Gen-Z_0321_draft1.pdf)

Motion #9:

Move that the IEEE P802.3ck Task Force approve the following liaisons with editorial license granted to the WG Chair (or his appointed agent) as liaison communications from the IEEE 802.3 WG to OIF, Gen-Z, T11-2, and COBO.
- IEEE_802d3_to_OIF_CEI_0321_draft1.pdf
- IEEE_802d3_to_Gen-Z_0321_draft1.pdf
- IEEE_802d3_to_T11-2_0321_draft1.pdf
- IEEE_802d3_to_COBO_0321_draft1.pdf

M: Tom Palkert
S: Mike Dudek
Technical (>=75%)
Passed by unanimous consent.

Chair noted that Draft 1.5 would be posted and announced over the email reflector. Also that the IEEE 802 plenary week begins next week.

Chair noted that she intends to seek a motion at the next Task Force meeting on 10 March to request a Working Group ballot.

Chair noted that the 10 March ad hoc would discuss the Cp topic.

Meeting adjourned at ~7:40 a.m.

Attendees

Name	Affiliation	Employed by	1/26	1/27	2/2	2/3	2/9	2/10	2/16	3/3
Adam Healey	Broadcom	Broadcom	x	x	x	x	x	x	x	x
Adee Ran	Intel	Intel	x	x	x	x	x	x	x	
Adee Ran	Cisco	Cisco								x
Alan Kinningham	I-PEX	I-PEX	x	x	x	x	x	x		x
Alex Haser	Molex	Molex	x	x	x	x	x	x	x	x
Ali Ghiasi	Ghiasi Quantum/Inphi	Ghiasi Quantum/Inphi	x	x	x	x	x	x	x	
Arthur Marris	Cadence	Cadence	x	x			x			x
Ashley Moran	IEEE SA	IEEE SA				x				
Ayal Shoval	Synopsys	Synopsys	x	x	x	x	x	x	x	x
Ayla Chang	Huawei	Huawei	x	x						
Beth Kochuparambil	Cisco	Cisco	x	x	x	x	x	x	x	x
Bill Kirkland	Semtech	Semtech	x	x						
Bo Zhang	Inphi	Inphi	x	x	x					
Brandon Gore	Samtec	Samtec	x	x	x	x	x	x	x	x
Bruce Champion	TE Connectivity	TE Connectivity	x	x	x	x	x	x	x	x
Burrell Best	Samtec	Samtec								x
Champion (Chien Ping) Kao	Cornelis Networks	Cornelis Networks	x	x	x	x	x	x	x	x
Chan Chih	Applied	Applied	x	x	x	x	x	x	x	

Name	Affiliation 1	Affiliation 2								
(David) Chen	Optoelectronics	Optoelectronics								
Charlie Staley	I-PEX	I-PEX	x	x						
Chris DiMinico	PHY-SI	PHY-SI	x	x	x	x	x	x	x	
Christian Orlando	IEEE-SA	IEEE-SA			x			x	x	x
Clint Walker	Alphawave IP	Alphawave IP	x	x	x	x			x	
Dave Estes	Spirent	Spirent	x	x						
Dave Hess	Cord Data	Cord Data	x	x	x	x	x	x	x	
Dave Lewis	Lumentum	Lumentum	x	x						
David Malicoat	Senko	Independent	x	x	x	x	x	x	x	x
David Ofelt	Juniper	Juniper	x			x	x			x
David Piehler	Dell EMC	Dell EMC	x	x						
Dawei Fan	Huawei	Huawei	x							
Ed Frlan	Semtech	Semtech	x	x	x	x	x			
Ed sayre	Samtech	NESA	x	x	x	x		x		
Ed Ulrichs	Intel	Intel	x	x	x		x			
Edward Nakamoto	Spirent	Spirent	x	x						
Enis Akbaba	Maxim Integrated	Maxim Integrated	x							
Frank Chang	Source Photonics	Source Photonics	x	x	x	x	x	x	x	x
Gary Nicholl	Cisco	Cisco	x	x			x			
Geoff Zhang	Xilinx	Xilinx	x		x	x	x	x	x	x
German Feyh	Broadcom	Broadcom		x						
Greg LeCheminant	Keysight	Keysight	x	x	x	x	x	x	x	x

Guangcan Mi	Huawei	Huawei	x	x						
Hadrien Louchet	Keysight	Keysight		x						
Haifei Wang	Huawei	Huawei		x						
Hansel Dsilva	Achronix	Achronix	x	x						x
Hao Ren	Huawei	Huawei	x	x						
Hessam Mohajeri	Cadence	Cadence			x	x	x	x	x	
Hiroshi Sawano	OITDA	OITDA		x						
Hock Yam	Volex	Volex	x							
Hormoz Djahanshahi	Microchip	Microchip	x	x		x		x		
Howard Heck	Intel	Intel	x	x	x	x	x	x	x	x
Ichiro Ogura	Petra JP	Petra JP		x						
Inho Kim	Max Linear	Max Linear			x		x			
Istvan BakroNagy	EFFECT Photonics	EFFECT Photonics	x					x		
James Weaver	Arista	Arista	x	x	x	x	x	x	x	x
James Young	Commscope	Commscope	x	x	x	x				
Jane Lim	Cisco	Cisco	x	x	x	x	x	x		
Jeff Hutchins	Ranovus	Ranovus	x							
Jeff Slavick	Broadcom	Broadcom	x	x	x	x	x	x	x	x
Jeffery Maki	Juniper	Juniper	x	x	x	x	x	x	x	x
Jim Theodoras	HG Genuine	HG Genuine		x						
Jinhua Chen	Luxshare ICT	Luxshare ICT	x		x		x			x
Jodi Haasz	IEEE SA	IEEE SA	x	x			x			

John Abbott	Corning	Corning		x						
John Calvin	Keysight	Keysight	x	x	x	x	x	x	x	x
John D'Ambrosia	Futurewei (US Subsidiary of Huawei)	Futurewei	x	x						
John Ewen	Marvell	Marvell	x	x	x	x	x	x	x	x
John Kamino	OFS Optics	OFS Optics		x						
John Yurtin	Aptiv	Aptiv	x	x	x				x	x
Joshua Kim	Hirose	Hirose	x	x	x	x	x	x	x	
Juan Martinez	IBM	IBM			x					
Kae Dube	UNH-IOL	UNH-IOL		x						
Karl Bois	TE Connectivity	TE Connectivity	x	x	x	x			x	
Kenneth Schneider	Telebyte	Telebyte		x						
Kent Lusted	Intel	Intel	x	x	x	x	x	x	x	x
Kumaran Krishnasamy	Broadcom	Broadcom	x	x	x	x	x	x	x	x
Larry McMillan	Western Digital	Western Digital		x						
Lemon Geng	Huawei	Huawei		x						
Liav Ben-Artsi	Marvell	Marvell	x	x			x	x		x
Mabud Choudhury	OFS	OFS		x						
Majid Shayegh	Wilder Tech	Wilder Tech			x	x	x	x		
Mark Kimber	Semtech	Semtech	x	x		x	x			
Mark Laubach	Independent	Independent		x						
Mark Nowell	Cisco	Cisco	x	x						x

Masato Shiino	Furukawa Electric	Furukawa Electric		x						
Massimo Sorbara	Globalfoundries	Globalfoundries	x							
Matt Brown	Huawei	Huawei	x	x	x	x	x	x	x	x
Matthias Wendt	Signify	Signify (Philips Lighting)	x							
Mau-Lin Wu	Mediatek	Mediatek	x	x	x	x	x	x	x	x
Mike Dudek	Marvell	Marvell	x	x	x	x	x	x	x	x
Mike Klempa	Amphenol	Amphenol	x	x		x				x
Mike Li	Intel	Intel	x	x	x	x	x	x	x	
Nathan Tracy	TE Connectivity	TE Connectivity	x	x	x	x	x	x	x	x
Patrick Casher	Foxconn Interconnect	Foxconn Interconnect		x	x		x	x	x	x
Paul Brooks	Viavi	Viavi	x	x						
Pavel Zivny	Tektronix	Tektronix	x		x	x				
Peter Jones	Cisco	Cisco		x						
Peter Wu	Marvell	Marvell		x						
Phil Sun	Credo	Credo	x	x	x	x	x	x	x	x
Piers Dawe	NVIDIA	NVIDIA	x	x	x	x	x	x	x	x
Pirooz Tooyserkani	Cisco	Cisco	x	x	x	x	x		x	x
Pranav Devalla	Arista	Arista	x							
Priyank Shukla	Synopsys	Synopsys					x	x		
Qing Xu	Ranovus	Ranovus	x							
Rajmohan Hegde	Broadcom	Broadcom	x	x	x	x	x	x	x	x

Ramana Murty	Broadcom	Broadcom		x						
Ramesh Sivakolundu	Cisco	Cisco	x	x	x					
Ray Schmelzer	Wilder Tech	Wilder Tech		x	x	x		x	x	
Rich Mellitz	Samtec	Samtec	x	x	x	x	x	x	x	x
Rick Pimpinella	Panduit	Panduit		x						
Rick Rabinovich	Keysight	Keysight	x	x	x	x	x	x	x	x
Robert Lingle	OFS	OFS	x	x						
Ruoxu Wang	Huawei	Huawei	x							
Sam Kocsis	Amphenol	Amphenol	x	x	x	x	x	x	x	x
Scott Sommers	Molex	Molex	x	x	x	x	x	x	x	x
Scott Walley	Max Linear	Max Linear	x	x		x	x	x	x	
Sebastian Konewko	Rockwell	Rockwell		x						
Shawn Nicholl	Xilinx	Xilinx		x						
Shimon Muller	Axalume	Axalume	x	x						
SJ Yu	Foxconn Interconnect	Foxconn Interconnect		x	x	x	x	x		x
Sridhar Ramesh	Maxlinear	Maxlinear	x	x						
Stephen Didde	Keysight	Keysight	x	x	x	x		x	x	
Steve Gorshe	Microchip	Microchip	x							
Steve Trowbridge	Nokia	Nokia	x	x	x	x	x	x	x	x
Takeshi Nishimura	Yamaichi, USA	Yamaichi, USA						x		
Ted Sprague	Infinera	Infinera	x							

Name	Affiliation	Affiliation								
Terry Little	Foxconn Interconnect	Foxconn Interconnect		x	x	x		x		x
Thomas Mueller	Rosenberger	Rosenberger			x					
Tom Huber	Nokia	Nokia	x	x						
Tom Issenhuth	Huawei	Issenhuth Consulting	x	x						
Tom Palkert	Macom/Samtec	Macom/Samtec	x	x	x	x	x	x	x	x
Tomoo Takahara	Fujitsu	Fujitsu	x							
Tong Jiang	Huawei	Huawei	x	x						
Toshiaki Sakai	Socionext	Socionext	x	x	x	x	x	x	x	x
Upen Kareti	Cisco	Cisco	x		x			x		
Varun Garg	Keysight	Keysight						x		
Viet Tran	Keysight	Keysight	x	x						
Xiang He	Huawei	Huawei	x	x						
Yang Zhiwei	ZTE	ZTE	x	x						x
Yasuo Hidaka	Credo	Credo	x	x	x	x	x	x	x	x
Zhiwei Yang	ZTE	ZTE	x	x						x
Zvi Rechtman	Mellanox	Mellanox	x	x						