

Approved Minutes
IEEE P802.3cm 400 Gb/s over Multimode Fiber Task Force
During IEEE 802.3 Plenary Meeting Week
November 12-13, 2018
Bangkok, Thailand
Prepared by Mabud Choudhury

Group Name: IEEE P802.3cm 400 Gb/s over Multimode Fiber Task Force
Date/Location: Monday, November 12, 2018 and Tuesday, November 13, 2018. Bangkok, Thailand
Chair: Robert Lingle, Jr.
SR8 & Chief Editor: Jonathan King
SR4.2 clause Editor: Jonathan Ingham
Recording Secretary: Mabud Choudhury
Meeting Participants: Attendance is listed in Appendix A (participants)

Call to order:

IEEE P802.3cm 400 Gb/s over Multimode Fiber (400G over MMF) Task Force (TF) meeting was convened at 1:23 pm Indochina Time/ICT (UTC +7), Monday, November 12, 2018 by Robert Lingle, Jr., 802.3cm Task Force Chair.

Mr. Lingle welcomed attendees to the IEEE P802.3cm 400G over MMF TF meeting.

The Chair then proceeded with the agenda.

Presentation #1:

Title: "IEEE P802.3cm 400G over MMF Task Force Agenda and General Information"

Presenter: Robert Lingle, Jr., Chair

http://www.ieee802.org/3/cm/public/November18/agenda_802.3cm_01_1118.pdf

Chair reviewed Agenda.

Motion #1:

Move to approve the Agenda, Slide 2 of

http://www.ieee802.org/3/cm/public/November18/agenda_802.3cm_01_1118.pdf

- Moved by Mike Dudek
- Seconded by James Young
- Motion approved by voice vote without objection. (Procedural > 50%)

Motion #2:

Move to approve meeting minutes, previously posted, from September 10, 2018 Spokane Interim IEEE P802.3cm Task Force meeting:

http://www.ieee802.org/3/cm/public/September18/unapproved_meeting_minutes_3cm_01_0918.pdf

- Moved by James Young
- Seconded by Steve Swanson
- Motion approved by voice vote without objection. (Procedural > 50%)

Chair read aloud and reviewed IEEE-SA Meeting Guidelines, including patent policy, and IEEE 802 Participation Policy. There were no questions from group based on guidelines and policy review.

Mr. Lingle provided Task Force information, access to the home page and reflector.

Chair noted Task Force Editors: Jonathan King, affiliated with Finisar - SR8 & Chief Editor and Jonathan Ingham, affiliated with FIT – SR4.2 clause, Pete Anslow, affiliated with Ciena and Adam Healey, affiliated with Broadcom – interim editorial assistance . Recording Secretary: Mabud Choudhury, affiliated with OFS.

Chair provided P802.3cm 400G over MMF Task Force Private Area information:

<http://www.ieee802.org/3/cm/private/index.html> Username and Password were provided. Draft version of the standard is posted in the Private Area.

Mr. Lingle reminded everyone to sign-in via IMAT on-line attendance and to sign-in on Attendance Book.

Chair reviewed ground rules, role of the Chair, overall IEEE structure, important bylaws, rules, and associated references links, overall IEEE 802.3 standards process focusing in on Task Force phase.

Mr. Lingle reviewed the timeline goals, of authorizing D1.1 by this meeting, authorizing D3.0 by July 2019 and completing standard by December 2019. Chair reviewed adopted timeline from September Spokane meeting.

Mr. Lingle reviewed approved PAR for the “400G over MMF Task Force” and the key Objectives approved by the 802.3 Working Group.

Mr. Lingle provided Ad Hoc report, summarizing 3 web/teleconference meetings since September Interim.

Chair then covered:

- Goals for meeting:
 - Do the work necessary to authorize editors to generate D1.1
- Big Ticket Items:
 - Draft D1.0
 - Comment resolution, discussion, next steps

Schedules for Monday, November 12 and Tuesday, November 13 were reviewed. Mr. Lingle emphasized the priority would be comment resolution for Draft 1.0 and presentations supporting that comment resolution, and that schedule could be adjusted to meet the primary meeting goal of comment resolution.

Chair also indicated that TF would require time to respond to COBO liaison letter:

http://www.ieee802.org/3/cm/public/November18/COBO_to_IEEE_802d3_Oct_2018.pdf

Chair reminded everyone to check online schedule

<http://schedule.802world.com/schedule/schedule/show#> for latest room assignment for Tuesday’s meeting.

Future meeting dates and locations were reviewed.

Presentation #2:

Title: “Editorial report and comment agenda”

Presenter: Jonathan Ingham

http://www.ieee802.org/3/cm/public/November18/anslow_3cm_01a_1118.pdf

Chair indicated that Chief Editor Jonathan King was not able to be at this Task Force meeting. Mr. Lingle acknowledged and thanked Pete Anslow for providing support and guidance to the editorial team, proposing responses, and generating necessary documents. Chair acknowledged and thanked Paul Kolesar for providing advice to the editorial team. Chair also acknowledged and thanked Adam Healey for agreeing to run the comment resolution process at the TF meeting during this Plenary, assisted by Jonathan Ingham. Then Jonathan Ingham presented key dates associated with Draft 1.0, comments received, D1.0 comments received statistics, meeting goals related to comment resolution, initial list of comments for the bucket motion (25 comments) and comments to be resolved (25 comments) by Task Force during this meeting.

Comment resolution began

Presentation #3:

Title: “MMF TDECQ / SECQ discrepancies”

Presenter: Piers Dawe

http://www.ieee802.org/3/cm/public/November18/dawe_3cm_01_1118.pdf

TDECQ map comparing MMF TDECQ/SECQ with SMF – nominal and actual was presented. Clarifying questions and discussion followed. Discussions on if proposed changes were within scope of this TF, if changes needed to be handled via Maintenance, high threshold to implement changes in Clause 138 of D1.1 and future drafts if changes create fundamental differences with foundation from Clause 138 in P802.3cd, need for measurement data to validate impact of various noise penalties.

Straw Poll #1:

Straw poll to assess consensus during comment resolution. See response to comment #44 in the final responses report.

Straw Poll #2:

Straw poll to assess consensus during comment resolution. See response to comment #43 in the final responses report.

Break at 3:13 pm ICT (UTC +7). Resumed meeting at 3:33 pm ICT.

Comment resolution continued

TF agreed to change order of presentations:

Presentation #4:

Title: “Modal Noise Measurements with 25G VCSELs”

Presenter: Jose Castro

http://www.ieee802.org/3/cm/public/November18/castro_3cm_01_1118.pdf

Presenter showed an experimental method and initial data for estimating the magnitude of noise produced by lateral misalignment of fibers. Author invited discussion and suggestions to improve this experiment. Clarifying questions were asked and answered. Discussion about value of and need for experimental data to estimate modal noise, initial nature of data, need for and request for further work.

Meeting broke for day at 6:15 pm ICT (UTC +7)

Tuesday, November 13, 2018

Meeting reconvened at 8:05 am ICT (UTC +7)

Comment resolution resumed

Presentation #5:

Title: “802.3cm draft 1.0 comment 3 numerical analysis”

Presenter: Mabud Choudhury

http://www.ieee802.org/3/cm/public/November18/kolesar_3cm_01_1118.pdf

Presenter showed calculation of EMB values for OM3, OM4 and OM5 at 910 nm per formulas and graphical representation per guidance provided in draft IEC 60793-2-10.

Discussion on using 910 nm vs. 918 nm instead of 953 nm as representative wavelength for 900-918 nm wavelength range, using 850 nm as central wavelength for 844-863 nm wavelength range, both for illustrative power budget table. Comment was closed with wavelength being 910 nm with associated EMB values.

Comment resolution concluded.

Motion #3:

Move to adopt proposed responses to remaining comments, noted as “bucket” on slide 8 of

http://www.ieee802.org/3/cm/public/November18/anslow_3cm_01a_1118.pdf , and generate Draft

1.1 from Draft 1.0 and closed comments.

- Moved by: Mike Dudek 2nd: James Young
- Technical : > 75%
- Results: Yes: 13 No: 0 Abstain: 0
- Motion Passes!

Final responses to comments were posted after the meeting:

http://www.ieee802.org/3/cm/comments/P802p3cm_D1p0_comments_final_by_clause.pdf

http://www.ieee802.org/3/cm/comments/P802p3cm_D1p0_comments_final_by_ID.pdf

10:12 am ICT (UTC +7) break, 10:46 am return.

Presentation #6:

Title: “RMS Spectral Width”

Presenter: Ramana Murty

http://www.ieee802.org/3/cm/public/November18/murty_3cm_01_1118.pdf

Proposal to change maximum RMS spectral width on the 900 – 918 nm channel from 0.60 to 0.65 nm.

Discussion if proposed change would be via motion or as comment against Draft 1.1. Group concluded that comment against D1.1 was preferred route.

Presentation #7:

Title: “Optical Link Model for PAM-4 Multimode Channels with equalizers”

Presenter: Jose Castro

http://www.ieee802.org/3/cm/public/November18/castro_3cm_02a_1118.pdf

Presenter provided summary of a link model tool to estimate reasonable worst-case channel reaches for multimode fiber links using VCSEL based transceivers and PAM-4 modulation. The latest version is

MATLAB compiled. Presenter sought feedback from TF on value of proposed link model. Due to schedule constraints, there was no time for discussion of this presentation.

Chair announced that WG Chair assigned the IEEE P802.3cm TF to propose a response to a liaison letter from COBO and then pass the baton to P802.3ck to add their input:

http://www.ieee802.org/3/cm/public/November18/COBO_to_IEEE_802d3_Oct_2018.pdf

The TF generated draft response to COBO liaison letter, with plans to update draft response in coordination with P802.3ck Chair:

http://www.ieee802.org/3/cm/public/November18/IEEE_802d3_to_COBO_1118_draftV1.docx

Motion #4:

Move that:

The Task Force approves the text in

http://www.ieee802.org/3/cm/public/November18/IEEE_802d3_to_COBO_1118_draftV1.docx with editorial license granted to the Chair (or his appointed agent) as a liaison to COBO

- Moved by: Mike Dudek 2nd: James Young
- Motion approved by voice vote without objection. (Procedural > 50%)

Straw Poll on Attendance:

- Attend 802.3 interim, January 2019 Long Beach, CA, USA:
– Y: 9 N: 3 M: 1
- Attend 802 plenary, March 2019 Vancouver, BC Canada:
– Y: 9 N: 2 M: 3

Motion #5:

Move to Adjourn:

- Moved by: Mike Dudek
- Seconded by: Mabud Choudhury
- Approved by voice vote without objection. (Procedural > 50%)

The Meeting was adjourned at 12:03 pm, ICT (UTC +7), Tuesday, November 10, 2018.

Next Meeting:

Next in-person IEEE 802.3cm Task Force meeting is scheduled for week of January 14th, 2019 for IEEE 802.3 Interim, Long Beach, CA, USA.

Appendix A: Attendees at the IEEE 802.3 400 Gb/s over Multimode Fiber Task Force, 12-13 November, 2018.

24 individuals signed in on Monday, 12 November.

18 individuals signed in on Tuesday, 13 November.

	Last Name	First Name	Employer	Affiliation	12- Nov- 2018	13 Nov- 2018
1	Amezcuca	Adrian	Prysmian	Prysmian	x	x
2	Balemorthy	Kasyapa	OFS	OFS	x	x
3	Cady	Ed	Luxshare-ICT	Luxshare-ICT		x
4	Castro	Jose	Panduit	Panduit	x	x
5	Chen	David	AOI	AOI	x	
6	Choudhury	Mabud	OFS	OFS	x	x
7	Dawe	Piers	Mellanox	Mellanox	x	x
8	Dudek	Mike	Marvell	Marvell	x	x
9	Farhoodfar	Arash	Inphi	Inphi	x	
10	Ingham	Jonathan	Foxconn Interconnect Technology	Foxconn Interconnect Technology	x	x
11	He	Xiang	Huawei	Huawei	x	
12	Hyakutake	Yasuhiro	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel	x	
13	Healey	Adam	Broadcom	Broadcom	x	x
14	Kagami	Manabu	Toyota CRDL	Toyota CRDL	x	
15	Lingle Jr	Robert	OFS	OFS	x	x
16	Liu	Zhenyu	Credo	Credo	x	
17	Marques	Flavio	Furukawa Electric LatAm	Furukawa Electric LatAm	x	x
18	Masuda	Takeo	OITDA/PETRA	OITDA/PETRA	x	x
19	Murty	Ramana	Broadcom	Broadcom	x	x
20	Pham	Phong	US Conec	US Conec	x	x
21	Shuai	Jialong	Huawei	Huawei		x
22	Swanson	Steve	Corning	Corning	x	x
23	Szczepaner	Andre	HS2 Consulting	HiLight Semi	x	
24	Takahashi	Satoshi	POF Promotion	POF Promotion	x	
25	Takefman	Michael	Inphi	Inphi		
26	Young	Jim	CommScope	CommScope	x	x
27	Zhang	Kevin	IDT	IDT	x	
28	Zivny	Pavel	Tektronix	Tektronix		x