

IEEE 802.3 NGMMF Study Group Teleconference

Robert Lingle Jr, Chair

IEEE 802.3 Next-gen 200G & 400G PHYs over fewer MMF Pairs Study Group

Employer & Affiliation: OFS

April 26, 2018

WebEx & Call-in Information

Join meeting in my WebEx Personal Room

https://themeetingson.webex.com/join/webex_2220505 | 717 453 872

Join by phone

1-8007682983 Conference dial-in number

access code: 798 501 5

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Agenda

- Please record attendance with employer & affiliation to Mabud Choudhury at mchoudhury@ofsoptics.com
- IEEE 802 Participation, review pre-PAR patent slides
- Approve agenda
- NGMMF Study Group schedule at Pittsburgh Interim
 - <http://ieee802.org/3/interims/may18/index.html>
 - <http://ieee802.org/3/interims/may18/ieee-802.3.html>
 - We meet Monday & half-day Tuesday; register now!
- Topics needing contributions in Pittsburgh
- Any walk-on items?

Participation in IEEE 802 Meetings

Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis

- **Participants in the IEEE standards development individual process shall act based on their qualifications and experience. (https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1)**
- **IEEE 802 Working Group membership is by individual; “Working Group members shall participate in the consensus process in a manner consistent with their professional expert opinion as individuals, and not as organizational representatives”. (subclause 4.2.1 “Establishment”, of the IEEE 802 LMSC Working Group Policies and Procedures)**
- **Participants have an obligation to act and vote as an individual and not under the direction of any other individual or group. A Participant’s obligation to act and vote as an individual applies in all cases, regardless of any external commitments, agreements, contracts, or orders.**
- **Participants shall not direct the actions or votes of any other member of an IEEE 802 Working Group or retaliate against any other member for their actions or votes within IEEE 802 Working Group meetings, see https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf section 5.2.1.3 and the IEEE 802 LMSC Working Group Policies and Procedures, subclause 3.4.1 “Chair”, list item x.**

By participating in IEEE 802 meetings, you accept these requirements. If you do not agree to these policies then you shall not participate.

(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: <http://www.ieee802.org/devdocs.shtml>)

Guidelines for IEEE-SA Meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
- **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
- **Don't discuss specific license rates, terms, or conditions.**
 - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
 - Technical considerations remain primary focus
- **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**
- **Don't discuss the status or substance of ongoing or threatened litigation.**
- **Don't be silent if inappropriate topics are discussed... do formally object.**

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit <http://standards.ieee.org/about/sasb/patcom/index.html>

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy” for more details.

This slide set is available
at <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>

PAR under review and approved objectives

http://ieee802.org/3/NGMMF/Draft_P802_3cm_PAR_100318.pdf

- If PAR is approved, we would become the P802.3cm “400 Gb/s over MMF Task Force”
- Full title: Standard for Ethernet Amendment Physical Layer and Management Parameters for 400 Gb/s over Multimode Fiber

http://ieee802.org/3/NGMMF/public/Adopted_Objectives_NGMMF_01_23jan18.pdf

Specific objectives approved by WG

- Define a physical layer specification that supports 400 Gb/s operation over 8 pairs of MMF with lengths up to at least 100m
- Define a physical layer specification that supports 400 Gb/s operation over 4 pairs of MMF with lengths up to at least 100m

Partial list of issues needing contributions in May 21st and 22nd

- Baseline proposals for 400GBASE-SR4.2 and 400GBASE-SR8
- Wavelength plan for 400GBASE-SR4.2 and 400GBASE-SR8
- Mux/Demux architecture for 400GBASE-SR4.2 – BiDi vs. CoDi
- How to guarantee compatibility of SR8 with 50G-SR, 100G-SR2, & 200G-SR4?
- MDI for SR8 (2x12f MPO vs. 16f MPO)
- What MDI/multi-port MDI parameters need to be specified to facilitate breakout applications? Is it even possible to specify breakout parameters in an Ethernet standard? Is it problematic?
- Present details about concerns over MPI raised in
 - http://www.ieee802.org/3/NGMMF/public/Jan18/shen_NGMMF_01_jan18.pdf
- Eye safety considerations for 2-wavelength PMDs; is this impacted by the choice of MDI?
- Link modeling