Meeting Minutes

Group: *IEEE Greater than 50G bidirectional optical access PHYs task force meeting*

Location: *St. Petersburg, FL*

Date: *Jan 22, 2024*

Opening

08:03 (GMT-5) The meeting was called to order by Yuanqiu Luo, chair. Frank Effenberger volunteered to be the Recording Secretary.

The task force chair gave her opening introduction on decorum, and an attendance list will be passed around.

Motion 1

- Move to approve the agenda, located at:
- https://grouper.ieee.org/groups/802/3/dk/public/2401/8023dk_2401_Task_Force_agenda.pdf
- M: Ken Jackson S: John Johnson
- Motion result: Approved by voice without opposition.

Motion 2

- Move to approve the minutes from Dec 2023, located at:
- https://grouper.ieee.org/groups/802/3/dk/public/2401/2312_8023dk_unapproved_minutes.pdf
- M: Frank Effenberger S: Sisi Tan
- Motion result: Approved by voice without opposition.

The study group chair gave her opening introduction on goals, big ticket items, ground rules, process, attendance tool, and patent policy.

08:52 The task force chair made a call for patents; no response was made.

08:55 The task force chair reviewed the IEEE Participation guidelines and the IEEE SA Copyright policy.

All the usual IEEE policies and procedures were reviewed.

Goals for the January meeting were to consider the continuing draft of the 100G clause and discuss contributions on various technical issues, and editor's suggestions for completing the sub-clauses.

The draft 0.2 was reviewed briefly, highlighting the recently agreed additions.
It can be found at: https://www.ieee802.org/3/dk/private/index.html (password protected)

Presentations	Contributor	Affiliation
PMD parameters of 40km specification (BR40) Part2	Tomoo Takahara	Fujitsu
	Takuya Kanai	NTT Innovative Devices
	Hirotaka Nakamura	NTT Innovative Devices

This contribution was a slight revision of their previous proposal for the BR40 budget. The wavelength description was refined to match the standard 802.3 wavelengths. The average launch power min and max are given, which are based on the 100G MSA values. The min power proposed is quite low (being 3 dB lower than the OMA, which corresponds to an infinite ER!). It was agreed that this can be worked more. The max power is getting close to the eye safety value, but it is still below. The eye safety requirement is also called out in a separate sub-clause. There was a comment that the power budget might be shifted a bit lower (lower OMA, better sensitivity) - perhaps 1 dB lower. TDECQ-TECQ might be slightly adjusted, and the BER given is before FEC.

50G based wavelength plan for BR40	Han Hyub Lee Hwan Seok Chung	Electronics and Telecommunications Research Institute

This proposed using 50 Gb/s per channel as the basis for the BR40 link. The reason is that the dispersion penalty is much less, and the receiver sensitivity is much better. Given the lower dispersion, the wavelength plan could be spaced wider, which could make optical filter design easier. There is an essential choice here between one channel or two channels, where we want to optimize the ultimate total cost and power consumption. Of course, there are a range of estimates on these issues, and so there is not a clear indication to change from the 100G per channel.

BR20 power budget	Frank Effenberger	Futurewei

This proposed two major design choices for the BR20 link. The first is to use 0 to 10 dB as the link loss range. This is the same as the G.9806 Slower budget. The second is to reuse the BR40 receiver specifications (which assume an APD), so that a 5 to 15 dB budget is also feasible. The alternative to reuse the BR10 receiver (which assumes a PIN) would also work for 0 to 10 dB, but it would have trouble doing 5 to 15 dB. [It was clarified that the 5 to 15 dB budget is NOT a .3dk objective; however, it is found in G.9806, and it will cover the backward compatibility issue of reusing the prior 0 to 15 dB loss fibers.]

A straw poll was taken: Define the BR20 loss range to be 0 to 10 dB.

Y: 5 N: 0 Need more information: 2

Proposed subclause 999.1 for 100G BiDi	Sisi Tan	Huawei
Proposed Subclause 999.2 for 100G BiDi	Sisi Tan	Huawei
Proposed Subclause 999.3 for 100G BiDi	Sisi Tan	Huawei
Proposed Subclause 999.4 for 100G BiDi	Sisi Tan	Huawei

All of these contributions proposed the source clauses for sub-clauses 1 through 4. There were no comments on these, as they are all very straightforward and quite logical.

Motion #3: Move to adopt proposals in the four above contributions, and incorporate them into the draft.

Moved: Sisi Tan, Seconded: Guangcan Mi.

Passed by voice without opposition.

ITU-T SG15 regarding G.652 fiber link property SG15 ITU-T

This gave the initial outputs of the study of accumulated chromatic dispersion for a range of link types. The group is invited to consider the attachments to this liaison, and to use these results to evaluate the optical performance of our links. In addition, a response to this liaison will be developed in 802.3dj, and interested parties are directed to participate in that work. The response is anticipated to be generated out of the March meeting.

ITU-T SG15 regarding G.9806 100G BiDi SG15 ITU-T

This gave the re-consented version of G.9806 Amd.3. This fixed all the omissions in the previous version and included some new features as well. It is hoped that the 802.3dk work can align with this recommendation. We expect to send a response to this out of the March meeting also.

Discussions, straw-polls, other motions

Future meeting plan
The plans for our next meetings were discussed.
A proposed telecon is February 20 (9 to 10 am EST).
The March 11-14 plenary will be in Denver, Colorado. Our group will meet Monday afternoon and Tuesday morning.

That brought us to the end of the agenda. The chair thanked all our participants.

Motion 4
Move to adjourn the meeting.
M: Han Hyub Lee S: Tomoo Takahara
Motion passes by voice without opposition.

11:44 (GMT-5) Meeting adjourned

Attendees (16)

Name	Affiliation	1/22/2024
ZhengZhong Du	ZTE	X
Frank Effenberger	Futurewei	X
Guangcan Mi	Huawei	X
Hanhyub Lee	ETRI	X
John Johnson	Broadcom	X

Kenneth Jackson	Sumitomo	X
Rohit Sharma	Molex	X
Limin Geng	Huawei	X
Qirui Fan	Huawei	X
Ray Nering	Cisco	X
Sisi Tan	Huawei	X
Tomoo Takahara	Fujitsu	X
Xiang Liu	Huawei	X
Yuanqiu Luo	Futurewei	X
Yuefeng Cai	Huawei	X
Alireza Razavi	Marvell	X