

Meeting Minutes

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

Location: IEEE Interim, Atlanta.

Date: Mar 13, 2023

Opening

13:00 PM (GMT-4) 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/2303/8023dk_2303_Task_Force_agenda.pdf
- M: Vince Ferretti S: Peter Stassar
- Motion result: Approved by voice without opposition

Motion 2

- Move to approve the minutes from February 2023, located at:
- https://grouper.ieee.org/groups/802/3/dk/public/2302/2302_8023dk_unapproved_minutes.pdf
- M: Ray Nering S: John Johnson
- 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.

13:18 The task force acting chair made a call for patents; no response was made.

13:25 The study group chair reviewed the IEEE Participation guidelines and the IEEE SA Copyright policy.

All the usual IEEE policies and procedures were reviewed.

Goals for the March meeting were to discuss contributions and identify baseline candidates, concentrating on the wavelength plans, speed per wavelength, and loss budget.

Contributions

[Update to Modern SMF Parameters for Calculating PMD Penalties](#) Chris Cole Coherent/II-VI

This reviewed the dispersion specification of G.652 fiber, and that it seems that the zero dispersion wavelength is more constrained than in the standard. To properly use this information, we need to gather data on the actual fibers. Some data showed the gaussian distributions of the ZDW. By mixing this with market share data, a network wide ZDW distribution can be produced. The 0.1% to 99.9% range is 1306 to 1322 nm. The use of statistical link design can also be important.

There was a lengthy debate on the validity of using statistical methods. The presenter was reminded to maintain meeting decorum.

There is a history that about 6 years ago a similar effort was made in Q5/15 to refine the ZDW. After a lot of work, there was no result for a variety of reasons. Nevertheless, we should try to gather data and analyze this once more. Even in this meeting, there is a lot of discussion on the possibilities of moving forward on this.

[Update on Dispersion Limits for 100 Gb/s PAM4](#) Frank Effenberger Futurewei

This considered the impact of the tighter zero dispersion wavelength range and dispersion tolerance on the 100 Gb/s per wavelength transmission. With the new values, 100G/wavelength can be made to work over 40km. This needs more analysis to better understand the penalty.

[Considerations for 100Gb/s BiDi 10 & 20km Reach Objectives](#) Kenneth Jackson Sumitomo Electric

This supported the use of 100 Gb/s per wavelength for the 10 and 20 km 100G bidi links. The 40 km version might not be possible, forcing us to turn to 2x50G/wave, or even a coherent solution. The 200G bidi links are progressively harder.

[ITU-T G.9806AM3 Update](#)

Jun Shan Wey	Verizon
Hirofumi Nakamura	NTT
Derek Nasset	Huawei
John Johnson	Broadcom
Takuya Kanai	NTT
Fabrice Bourgart	Orange

This presents the latest strawman proposal from the G.9806 work in Q2/15. The big change is to split class S (0 to 15 dB loss) into and Slow (0 to 10 dB) and Supper (5 to 15 dB). The main difference is that the Slow Tx is 5 dB lower power than the Supper Tx.

[Baseline Proposals of 100G Bidi PMDs for 10/20km](#) Guangcan Mi Huawei
Jianhong Duan

This focused on the 100G per wavelength solution for 10 and 20 km. It is desirable to stay with the SFP package compatibility for the fronthaul application. The current proposed wavelengths of 1305 and 1309 nm are OK, but that wavelength spacing might be better optimized. The use of CWDM solution becomes interesting for the 10 km optic. The use of uncooled optics would be nice; however, the industrial temperature range is needed, and the normal CWDM grid doesn't quite work there.

Discussions, straw-polls, other motions

Straw poll #1: I support specification of 100 Gb/s PAM4 modulation using wavelengths 1304.6 and 1309.1 for 10 km and 20 km objectives. (18 attendees)

Y: 7 N: 3 Need more info: 4

Future meeting plan

The plan for our next meetings were discussed.

April 4 (wavelength plan) and May 2 (all other topics) interim telephone meetings, 9:00 to 11:00 EDT. The May meeting in San Antonio is tentatively scheduled for Monday (5/15). We will try to coordinate with .3df/j to have the logic topics done at those times, so reduce the time conflict with our project. The July meeting will be in Berlin

Motion 3

- Move to adjourn the meeting.
- Procedural (>50%)
- M: Peter Stassar S: John Johnson
- Results Y: N: A:
- Motion passes by voice without opposition

16:30 (GMT-4) Meeting adjourned

Attendees (18)

<u>Name</u>	<u>Affiliation</u>	<u>3/13/2023</u>
Abbas Alwishah	Molex	<u>X</u>
Andy Shen	Futurewei	<u>X</u>
Chan Chih Chen	Independent	<u>X</u>
Chris Cole	Coherent	<u>X</u>
Eric Maniloff	Ciena	<u>X</u>
Frank Effenberger	Futurewei	<u>X</u>
Guangcan Mi	Huawei	<u>X</u>
Hideki Isono	Fujitsu	<u>X</u>
Kenneth Jackson	Sumitomo	<u>X</u>
John Johnson	Broadcom	<u>X</u>
Jun Shan Wey	Verizon	<u>X</u>
Limin Geng	Huawei	<u>X</u>
Peter Stassar	Huawei	<u>X</u>
Ray Nering	Cisco	<u>X</u>
Tomoo Takahara	Fujitsu	<u>X</u>
Vince Ferretti	Corning	<u>X</u>
Yuanqiu Luo	Futurewei	<u>X</u>
Yuefeng Cai	Huawei	<u>X</u>