

Minutes
Multi-Gigabit Optical Automotive Ethernet (OMEGA)
Task Force Ad hoc
16, 17 March 2021

Attendance list as recorded in Webex participant list

Last Name	First Name	Employer	Affiliations	March 16th	March 17th
Abbot	John	Corning	Corning	X	X
Amamiya	Yasushi	MegaChips	MegaChips	X	X
Andrae	Stefan	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH		X
Aono	Michikazu	Yazaki	Yazaki	X	X
Araki	Nobuyasu	Yazaki	Yazaki	X	X
Bergner	Bert	TE Connectivity	TE Connectivity	X	X
Boyer	Rich	APTIV	APTIV		
Barbero	Fernando	KDPOF	KDPOF	X	X
Bordogna	Mark	Intel	Intel		X
Brooks	Paul	Viavi Solutions	Viavi Solutions		X
Bruckman	Leon	Huawei	Huawei		X
Choudhury	Mabud	OFS	OFS	X	X
Chuang	Keng Hua	HPE	HPE		X
Cuesta	Emilio	TE Connectivity	TE Connectivity	X	
Dittmann	Markus	KDPOF	KDPOF	X	X
Ferretti	Vincent	Corning	Corning	X	X
Fortusini	David	Corning	Corning	X	
Fukuoka	Takashi	AutoNetworks Technologies Ltd.	AutoNetworks Technologies Ltd.; Sumitomo Electric Industries, Ltd.		X
Goto	Hideki	Toyota Motor Corporation	Toyota Motor Corporation	X	X
Grow	Robert	Robert M. Grow Consulting	RMG Consulting, KDPOF	X	X
Harshbarger	Douglas	Corning Incorporated	Corning Incorporated	X	X
Hartmann	Stephan	Siliconally GmbH	Siliconally GmbH	X	
Hayashi	Takehiro	HAT Labs	HAT Labs	X	X
HIRASE	Hidenari	AGC	AGC	X	X
Huang	David	Broadcom	Broadcom	X	
Hyakutake	Yasuhiro	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel	X	X
Isono	Hideki	FOC	FOC	X	X
Kadry	Haysam	Ford Motor Company	Ford Motor Company	X	X
KAGAMI	Manabu	NI Tech	NI Tech	X	X
Kazuhiko	Ishibe	Anritsu	Anritsu	X	
Kamino	John	OFS	OFS	X	X
KIKUTA	Tomohiro	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel	X	X
Kim	Joshua	Hirose USA	Hirose USA		X
King	Roger	TRUMPF Photonic Components	TRUMPF Photonic Components		X
Kobayashi	Shigeru	AIO Core	AIO Core	X	X
Koeppendoerfer	Erwin	Leoni	Leoni	X	X
Kondo	Taiji	MegaChips	MegaChips	X	X
Law	David	HPE	HPE	X	X
Liu	Karen	Lightwave	Lightwave	X	
Lee	Sylvanus	Leviton	Leviton	X	X
Lingle	Robert	OFS	OFS		X
Malicoat	David	Malicoat Networking Solutions	Senko Advanced Components	X	
Martino	Kjersti	Inneos	Inneos	X	X
Marques	Flavio	Furukawa electric	Furukawa Electric		X
Masuda	Takeo	OITDA/PETRA	OITDA/PETRA	X	X
McMillan	Larry	Western Digital	Western Digital		X
Mueller	Harald	Endress + Hauser	Endress + Hauser		X

Nakagawa	Hideki	AGC	AGC	X	
Nicholl	Gary	Cisco	Cisco		X
Nikolich	Paul	802 Chairman	802 Chairman	X	
Niihara	Yoshihiro	Fujikura	Fujikura		X
Ogura	Ichiro	Petra	Petra	X	X
Omori	Kumi	NEC	NEC		
Pandey	Sujan	Huawei	Huawei		X
Pankert	Joseph	TRUMPF Photonic Components	TRUMPF Photonic Components	X	
Pardo	Carlos	KDPOF	KDPOF	X	X
Pérez-Aranda	Rubén	KDPOF	KDPOF	X	X
Pham	Phong	EastPoint	EastPoint	X	X
Piehler	David	Dell	Dell	X	
Pimpinella	Rick	Panduit	Panduit	X	X
Pitwon	Richard	Resolute Photonics	Resolute Photonics	X	X
Preis	Roland	MD Elektronik	MD Elektronik	X	X
Reinhard	Michael	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH	X	
Sambasivan	Sam	AT&T	AT&T	X	X
Savi	Olindo	Hubbell Incorporated	Hubbell Incorporated		
Sawano	Hiroshi	OITDA		X	X
Sayre	Edward	Samtec	Samtec		X
Shukla	Priyank	Synopsys	Synopsys	X	
Shigematsu	Masayuki	Sumitomo Electric	Sumitomo Electric	X	X
Shiino	Matsato	Furukawa Electric	Furukawa Electric	X	X
Sun	Yi	OFS	OFS	X	X
Suzuki	Yasuo	KDPOF Japan	KDPOF	X	X
Swanson	Steve	Corning Inc.	Corning Inc.	X	X
Takahashi	Ryutaro	Senko	Senko	X	X
Takahashi	Satoshi	POF Promotion	POF Promotion	X	X
Takahashi	Tadashi	Nitto Denko Corporation	Nitto Denko Corporation	X	X
Takayama	Kazuya	Nitto Denko Corporation	Nitto Denko Corporation	X	X
Theodoras	James	HG Genuine	HG Genuine	X	X
Torres	Luisma	KDPOF	KDPOF	X	X
Tsuzaki	Nozomi	Independent	Independent	X	X
Ueno	Yuto	Sumitomo	Sumitomo		X
WATANABE	Yuji	AGC	AGC	X	X
Wendt	Mattias	Signify	Signify	X	X
Wienckowski	Natalie	General Motors	General Motors	X	X
Xu	Xing	Huawei	Huawei	X	X
Yamada	Osamu	Yazaki	Yazaki	X	X
Yonezawa	Kenji	AGC	AGC	X	X
Yurtin	John	APTIV	APTIV	X	X
Zhiwei	Yang	ZTE	ZTE		X
Zhu	Liang	Marvell	Marvell		X

Tuesday, 16th March 2021, 12:00 (noon) UTC

The meeting was called to order at approximately 12:01 UTC Tuesday 16th March 2021
 Chaired by Robert Grow, IEEE P802.3cz Task Force Chair.

Mr. Grow presented *Agenda and General Information*

(https://ieee802.org/3/cz/public/mar_2021/Agenda_3cz_01_0321.pdf).

Mr. Grow presented the agenda for the meeting. The agenda was approved by unanimous consent.

Mr. Grow asked the audience if there was anybody from the press. No one responded to the call.

Mr. Grow went through the general rules' presentation.

Mr. Grow issued the call for essential patent claims. No one responded to the call. He also presented the slides on the IEEE Copyright Policy and participation guidelines.

Mr. Grow announced the annual 802 document distribution to March 802 plenary participants and how the access to the download process will be granted.

Mr. Ogura was asked to continue with the answers to questions about his presentation *A proposal of Si-photonics for automobile* (https://iee802.org/3/cz/public/mar_2021/ogura_3cz_01_0321.pdf), that was interrupted because of available time in the last TF meeting. A number of questions were asked about the presentation and Mr. Ogura provided answers.

Mr. Pérez-de-Aranda had requested to present *Steps towards a fair PMD selection* (https://iee802.org/3/cz/public/mar_2021/perezaranda_3cz_01d_0321_pmd_comparison.pdf). The presentation describes the different PMD proposals seen in the TF, and compares their maturity level in a number of aspects: TF objectives fulfilment, industry support, technical characteristics, reliability, and relative cost. Mr. Pérez-de-Aranda proposed to the PMD proponents an action list to reach the same level of maturity and allow a fair PMD selection by the TF. Mr. Pérez-de-Aranda proposed to add the action list to the TF ToDo list to avoid blocking the project. Mr. Ogura opened a discussion about the intended meaning of the sentence "avoid blocking the project". Mr. Pérez-de-Aranda clarified that the aim of proposing the action list is to select a PMD and comply with the project timeline, and that it does not mean that the PMD discussion should be stopped. Mr. Ogura asked the Chair about the existence of a deadline on the PMD selection. Mr. Grow answered that there was no PMD selection deadline, only the adopted project timeline, but that the Chair has a responsibility to facilitate project progress. A number of technical questions about each of the PMD proposals were asked by various participants, and Mr. Pérez-de-Aranda provided answers. An extensive discussion on the advantages and disadvantages of each of the presented PMDs followed with different point of views from TF participants.

Having exhausted the time scheduled for presentations, the rest of scheduled PMD presentations are delayed until the next TF teleconference to be held on March 17th.

The meeting was recessed at approximately 16:02 UTC.

Wednesday, 17th March 2021, 12:00 (noon) UTC

The meeting was called to order at approximately 12:01 UTC Tuesday 17th March 2021
Chaired by Robert Grow, IEEE P802.3cz Task Force Chair.

Mr. Grow presented *Agenda and General Information* (https://iee802.org/3/cz/public/mar_2021/Agenda_3cz_01_0321.pdf).

Mr. Grow presented the agenda for the meeting. The agenda was approved by unanimous consent.

Mr. Grow asked the audience if there was anybody from the press. No one responded to the call.

Mr. Grow went through the general rules' presentation.

Mr. Grow issued the call for essential patent claims. No one responded to the call. He also presented the slides on the IEEE Copyright Policy and participation guidelines.

Mr. Law clarified that in the case that some presentation contains a previously published material, a copyright permission is needed.

Mr. Grow announced that two late contributions have been received from Mr. Hayashi and Mr. Pitwon respectively. Mr. Grow also reminded that a number of straw polls proposed by Mr. Omura, Mr. Swanson and Mr. Pérez-de-Aranda were requested in advance of the plenary. Mr. Grow asked the TF how to proceed in the agenda with the late contributions and the straw polls. After some discussion, the TF agreed to proceed with the scheduled items first (Mr. Pardo's PMD presentation and straw polls) and then hear the late presentations.

Mr. Pardo had requested to present *Going forward 802.3cz* (https://iee802.org/3/cz/public/mar_2021/pardo_3cz_01_0321.pdf). The presentation reviews the

three PMD proposals seen by the TF and proposed to the group the adoption of the VCSEL+OM3 PMD as it covers all objectives in CSD from 2.5 to 25 Gb/s. Mr. Pardo proposed to not stop writing the Draft and to add other PMDs in future Drafts when needed data was provided to the TF. Many participants commented during the discussion on interoperability of different PMDs when using a different lambda, relative cost of the proposed PMDs, adoption by the TF of a single or several PMDs, the different maturity of the reliability data provided for each PMD proposal, the lack of link budget data of some of them, and other aspects of the PMD selection.

After the discussion, four straw polls were presented for voting to the TF. The order of voting was the order of straw poll request to the Chair. The results of each straw poll count the individuals selecting each possible answer.

Straw poll #1 was proposed by Mr. Ogura. Several answers to the question were allowed.

Straw poll #1:

Do I need more information and discussion including completing the discussion points (presented by Ruben) for the PMD option matrix (proposed by Ogura and Kurata)?

- A: I need more discussion based on the PMD matrix and comparison points
- B: I would add additional comparison items to the matrix
- C: I would add additional options to the matrix
- D: I don't need the discussion and I am ready to select the PMD now

Mr. Ogura made a brief description of the question. The number of individuals responding to each option were A: 29, B: 8, C: 9, and D: 16.

Straw poll #2 was proposed also by Mr. Ogura which he briefly introduced. Only one answer to the question was allowed.

Straw poll #2:

Should our discussion include 850nm as one of the PMD options (for MMF and POF) aligning SR-series for full support from VCSEL ecosystem?

- A: Yes, 850nm should be included as one of PMD options to align with SR-series
- B: No, we need to change to 980nm as automobile PMD
- C: We need more information

The number of individuals responding to each option were A: 19, B: 7, and C: 29.

Straw poll #3 was proposed by Mr. Swanson, and he was given the opportunity to briefly introduce the poll. Several answers to the question were allowed.

Straw poll #3:

I will support the following PMD in the IEEE 802.3cz draft standard

- A: a proposal based on 850/980nm VCSELs and 50/125µm multimode glass optical fiber
- B: a proposal based on 850/980nm VCSELs and 55/490µm graded-index plastic fiber
- C: a proposal based on 1310nm silicon photonics and 50/125µm multimode glass optical fiber

The number of individuals responding to each option were A: 38, B: 23, and C: 25.

Straw poll #4 was proposed by Mr. Pérez-de-Aranda, and he was given the opportunity to briefly introduce the poll. Only one answer to the question was allowed.

Straw poll #4:

I support the inclusion of different non-interoperable PMDs with different wavelengths, i.e. definition of multiple PHYs for the same data-rate

- Yes
- No
- Abstain

The number of individuals responding to each option were Yes: 20, No: 23, and Abstain: 13.

After vote counting, Mr. Grow returned briefly to the last slides of *Agenda and General Information* (https://iee802.org/3/cz/public/mar_2021/Agenda_3cz_01_0321.pdf).

Mr. Grow reminded that the TF will go to weekly meetings starting on March 23rd to complete comment resolution and the late PMD contributions as announced in the TF email reflector and agreed in previous meetings.

The meeting was adjourned at approximately 16:04 UTC.

Recording Secretary: Luisma Torres.