Minutes
Multi-Gigabit Optical Automotive Ethernet (OMEGA)
Plenary Task Force meeting (Bangkok)
14-15 November 2022

Attendance list as recorded in Webex participant list

Last Name	First Name	Employer	Affiliations	November 14th	November 15th
Abbott	John	Corning	Corning	X	X
Abbas	Almishan	Molex	Molex	X	X
Amamiya	Yasushi	MegaChips	MegaChips		
Andrae	Stefan	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH		
Aono	Michikazu	Yazaki	Yazaki		
Akin	Sami	VW AG	VW AG	X	
Araki	Nobuyasu	Yazaki	Yazaki	X	X
Beaudoin	Denis	TI	TI		
Bergner	Bert	TE Connectivity	TE Connectivity		
Boyer	Rich	APTIV	APTIV		
Barbero	Fernando	KDPOF	KDPOF		
Ben Artsi	Liav	Marvell	Marvell		
Bordogna	Mark	Intel	Intel		
Borda	Jamila	BMW	BMW		
Brillhart	Theodore	Fluke Corp	Fluke Corp	X	
Brooks	Paul	Viavi Solutions	Viavi Solutions		
Brown	Blake	UNH-IOL	UNH-IOL		
Bruckman	Leon	Huawei	Huawei		
Brychta	Michal	Analog Devices	Analog Devices		
Calvin	John	Keysight	Keysight		
Carlson	Steve	HSD, Bosch, Ethernovia			
Carty	Clark	Cisco	Cisco		
Castrillon	Alejandro	Marvell	Marvell		
Castro	Jose	Panduit	Panduit		
Chang	Ayla				
Chang	Jae-yong	Keysight	Keysight		
Cheng	Ling	Huawei			
Choudhury	Mabud	OFS	OFS	X	X
Chuang	Keng Hua	HPE	HPE		
Connaughton	Mike	Leviton	Leviton		
Cuesta	Emilio	TE Connectivity	TE Connectivity		
DAmbrosia	John	Futurewei	Futurewei		
Dawson	Fred	Ch			
Dawe	Piers	Nvidia	Nvidia		
DeAndrea	John	II-VI/Finisar	II-VI/Finisar		
DiBiaso	Eric	TE Connectivity	TE Connectivity		
Diminico	Chris				
Dittmann	Markus	KDPOF	KDPOF		
Donthu	Suresh	Corning	Corning		
Dube	Kae	UNH-IOL	UNH-IOL		
Eek	Magnus	Volvo Cars	Volvo Cars		
Felgenhauer	Alexander	Yazaki	Yazaki		
Fellhauer	Felix	Bosch	Bosch		
Ferretti	Vincent	Corning	Corning	X	
Feyh	German	Broadcom	Broadcom		
Fortusini	David	Corning	Corning		
Fritsche	Matthias	Harting	Harting		
Fukuoka	Takashi	AutoNetworks Technologies Ltd.	AutoNetworks Technologies Ltd.; Sumitomo Electric Industries, Ltd.		
Fukushima	Takahito	Dexerials Corp.	Dexerials Corp.	X	
Gao	Xiangong	Huawei	Huawei		
Gao	Sharon	Huawei	Huawei		

Gharba	Ahmed	Volvo Car Corp.	Volvo Car Corp.		
Giovanne	Laura	Broadcom	Broadcom		
Glanzner	Martin	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH		X
Gomez	Chisato	Nitto Denko Corporation	Nitto Denko Corporation		
Goto	Hideki	Toyota Motor Corporation	Toyota Motor Corporation	X	X
Graba	Jim	Broadcom	Broadcom		
Grow	Robert	Robert M. Grow Consulting	RMG Consulting, KDPOF	X	X
Guangcan	Mi	Huawei	Huawei		
Haasz	Jodi	IEEE-SA	IEEE-SA	X	X
Hagenmüler	Thomas	Bosch	Bosch	X	
Hajduczenia	Marek	Charter Communications	Charter Communications		
Harshbarger	Douglas	Corning Incorporated	Corning Incorporated	X	X
Hartmann	Stephan	Siliconally GmbH	Siliconally GmbH		
Hayashi	Takehiro	HAT Labs	HAT Labs	X	X
He	Long	Intel	Intel		
He	Xiang	Huawei	Huawei		
HIRASE	Hidenari	AGC	AGC		
Horrmeyer	Bernd	Phoenix Contact	Phoenix Contact		
Hozeska	Charles	Cerniting Solutions	Cernitin Solutions		X
Huang	David	Broadcom	Broadcom		
Huang	Shaowu	Marvell	Marvell		
Hyakudai	Toshihisa	Sony	Sony		
Hyakutake	Yasuhiro	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel	X	
Ikeda	Teppei	Denso	Denso		
Ingham	Jonathan	Huawei	Huawei		
Isono	Hideki	FOC	FOC		
Jackson	Ken	Sumitomo	Sumitomo	X	
Jiménez	Andy	WESCO	WESCO		
Jonsson	Ragnar	Marvell	Marvell		
Kadry	Haysam	Ford Motor Company	Molex	X	X
KAGAMI	Manabu	NI Tech	NI Tech	X	X
Kazuhiko	Ishibe	Anritsu	Anritsu		
Kamino	John	OFS	OFS		
Kanno	Atsushi	NiTech	NiTech	X	X
Kawahara	Keisuke	Furukawa Electric	Furukawa Electric	X	X
Kawatsu	Yasuaki	APRESIA Systems	APRESIA Systems		
Kelkkanen	Andre	NVIDIA	NVIDIA		
KIKUTA	Tomohiro	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel	X	X
Kim	Joshua	Hirose USA	Hirose USA		
King	Roger	TRUMPF Photonic Components	TRUMPF Photonic Components		
Kinningham	Alan	I-PEX	I-PEX		
Klein	Cristian	Bosch	Bosch	X	X
Kobayashi	Shigeru	AIO Core	AIO Core		
Koeppendoerfer	Erwin	Leoni	Leoni		
Kondo	Taiji	MegaChips	MegaChips		
Kota	Kishore	Marvell	Marvell		
Kubota	Masaki	AGC	AGC		
Kumadayazaki	Taketo				
Kurashima	Kazuyoshi	AGC	AGC		
Lackner	Hans	QoSCom GmbH	QoSCom GmbH		
Lambert	Angie	Corning	Corning		
Laubach	Mark	Tibit Communications	Tibit Communications		

Law	David	HPE	HPE		
Lewis	David	Lumentum	Lumentum		
LI	Tobey	MediaTek	MediaTek		
Li	Jing	YOFC	YOFC		
Liu	Karen	Lightwave	Lightwave		
Lee	Bernard	Senko	Senko		
Lee	Sylvanus	Leviton	Leviton		
Lingle	Robert	GTRI	GTRI		
Lennartsson	Kent	Kvaser AB	Kvaser AB		
Maguire	Valerie	Siemon	Siemon		
Mahlich	Matthias	Robert Bosch GmbH	Robert Bosch GmbH		
Malicoat	David	Malicoat Networking Solutions	Senko Advanced Components		
Mark	Simon	Wurth	Wurth		
Martino	Kjersti	Inneos	Inneos	X	X
Marris	Arthur	Cadence	Cadence		
Marques	Flavio	Furukawa electric	Furukawa Electric		
Masuda	Takeo	OITDA/PETRA	OITDA/PETRA		
Matheus	Kirsten	BMW	BMW	X	X
Mahlich	Mathias	Bosch	Bosch	X	X
Mandel	Juergen				
Mark	Simon	Würth Elektronik	Würth Elektronik		
McMillan	Larry	Western Digital	Western Digital		
Mueller	Harald	Endress + Hauser	Endress + Hauser		
Mueller	Thomas	Rosenberger	Rosenberger		
Murty	Ramana	Broadcom	Broadcom	X	X
Nakagawa	Hideki	AGC	AGC		
Neulinger	Christian	MD Elektronik	MD Elektronik		
Nering	Ray	Cisco	Cisco		
New	Anthony	Prysmian Group	Prysmian Group		
Nicholl	Gary	Cisco	Cisco		
Nikolich	Paul	802 Chairman	802 Chairman		
Ninomiya	Tiger	Senko	Senko	X	
Niihara	Yoshihiro	Fujikura	Fujikura		
Ogura	Ichiro	Petra	Petra		
Oi	Shigehiro	AGC	AGC	X	
Omori	Kumi	NEC	NEC		
Ortiz	David	KDPOF	KDPOF		
Pandey	Sujan	Huawei	Huawei		
Pankert	Joseph	TRUMPF Photonic Components	TRUMPF Photonic Components		
Pardo	Carlos	KDPOF	KDPOF		x
Parsons	Earl	Commscope	Commscope		
Patel	Harsh	Ampherol	Ampherol		
Peng	Semmy	Huawei	Huawei		
Pérez-Aranda	Rubén	KDPOF	KDPOF	X	X
Peteranderl	Ralf	Rosenberger	Rosenberger		
Peters	Kevin	Inneos	Inneos	X	X
Petrarca	Ryan	TDK	TDK		
Pham	Phong	EastPoint	EastPoint		
Piehler	David	Dell	Dell		
Pimpinella	Rick	Panduit	Panduit		
Pinzón	Plinio	KDPOF	KDPOF		
Pitwon	Richard	Resolute Photonics	Resolute Photonics		
Powell	William	Independent	Independent		
Preis	Roland	MD Elektronik	MD Elektronik		
Pritz	Helmut	MD Elektronik	MD Elektronik		
Regev	Alon	Keysight	Keysight		
Reinhard	Michael	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH	X	X
Ren	Hao	Huawei	Huawei		

Retting	Thomas	Beckhoff Automation	Beckhoff Automation		
Rodes	Roberto	II-VI	II-VI		
Rush	Joshua	UNH-IOL	UNH-IOL		
Sambasivan	Sam	AT&T	AT&T		
Samson	Matt	NIO	NIO	X	X
Sakai	Toshiaki	Socionext	Socionext		
Savi	Olindo	Hubbell Incorporated	Hubbell Incorporated		
Sawano	Hiroshi	OITDA		X	
Sayre	Edward	Samtec	Samtec		
Schwaerzler	Sebastian	ZF	ZF		
Schmalzigaug	Thomas	HUBER+SUHNER	HUBER+SUHNER		
Shukla	Priyank	Synopsys	Synopsys		
Shigematsu	Masayuki	Sumitomo Electric	Sumitomo Electric		
Shiino	Masato	Furukawa Electric	Furukawa Electric	X	X
Shubochkin	Roman	OFS	OFS	X	X
Schreiner	Stephan	Rosemberger	Rosemberger	X	
Shukla	Priyank	Synopsys	Synopsys		
Silvano de Sousa	Jonathan	GG-Group	GG-Group		
Simms	Bill	NVIDIA	NVIDIA		
Sommers	Scott	Molex	Molex		
Su	Charles	Huawei	Huawei		
Sun	Wensheng	Marvell	Marvell		
Sun	Yi	OFS	OFS		
Sugihara	Okihiro	Utsunomiya University	Utsunomiya University		
Suzuki	Yasuo	KDPOF Japan	KDPOF		
Swanson	Steve	Corning Inc.	Corning Inc.		
Takahashi	Ryutaro	Senko	Senko		
Takahashi	Satoshi	POF Promotion	POF Promotion	X	X
Takahashi	Tadashi	Nitto Denko Corporation	Nitto Denko Corporation		X
Takayama	Kazuya	Nitto Denko Corporation	Nitto Denko Corporation		
Tazebay	Mehmet				
Tan	I-Hsing	Broadcom	Broadcom		
Tamada	Tomohiko	JAE	JAE		
Tazebay	Mehmet	Broadcom	Broadcom		
Thakur	Anubhav	NIO	NIO		x
Theuerkom	Thomas	Corning	Corning		
Theodoras	James	HG Genuine	HG Genuine		
Thompson	Geoff	GraCaSi			
Tooyserkani	Pirooz	Cisco	Cisco		
Torres	Luisma	KDPOF	KDPOF	X	X
Tsujita	Yuichi	Nitto Denko Corporation	Nitto Denko Corporation		
Tsuzaki	Nozomi	Independent	Independent		
Ueno	Yuto	Sumitomo	Sumitomo		
Vanderlaan	Paul	UL LLC	UL LLC		
Von Vangerow	Christian	TE	TE		
Voss	Bob	Panduit	Panduit		
Walsh	Thomas	KDPOF	KDPOF		
Wang	Ruxou	Huawei	Huawei		
Wang	Sharon				
Wang	Haojie	CMCC	CMCC		
WATANABE	Yuji	AGC	AGC	X	X
Wendt	Mattias	Signify	Signify		
Wienckowski	Natalie	General Motors	General Motors		
Withey	James	Fluke	Fluke		
Wiesner	Michael	Trumpf	Trumpf		
Wu	Peter	Marvell	Marvell		

Xu	Dayin	Rockwell Automation	Rockwell Automation		
Xu	Xing	Huawei	Huawei		
Yamada	Osamu	Yazaki	Yazaki		
Yang	Zhiping	Waymo	Waymo		
Yang	Yumeng	Huawei	Huawei		
Yasui	Hideshi	AGC	AGC		
Yonemura	Masatoshi	NITech	NITech		
Yonezawa	Kenji	AGC	AGC		
Young	James	Commscope	Commscope		
Yurtin	John	APTIV	APTIV		
Zhang	Sen	Huawei	Huawei		
Zhang	Tingting	Huawei	Huawei		
Zhiwei	Yang	ZTE	ZTE		
Zhong	Qiwen	Huawei	Huawei		
Zhou	Hongyan	YOFC	YOFC		
Zhu	Liang	Marvell	Marvell		
Zhuang	Yan	Huawei	Huawei		

Thursday, 14th November 2022, 13:30 Bangkok time

The meeting was called to order at approximately 13:30 Bangkok time Thursday 14th November 2022
Chaired remotely by Robert Grow, IEEE P802.3cz Task Force Chair, and supported in Bangkok by Mr. Watanabe.

Mr. Grow presented *Agenda and General Information* (https://www.ieee802.org/3/cz/public/nov_2022/Agenda_3cz_01a_1122.pdf).

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

Mr. Grow asked for any corrections to the September and October TF minutes. The minutes were approved by unanimous consent.

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

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 went into detail on the RevCom process, the different stages and possible time schedule.

Mr. Grow summarized the results of the IEEE SA first recirculation ballot, with a 92% approval percentage, 6 disapprove voters, and 68 comments received. Mr. Grow recalled that the objective of this plenary meeting is to discuss and resolve the comments received.

Mr. Grow asked to present *Chief Editor's Report* (https://www.ieee802.org/3/cz/public/oct_2022/editor_3cz_01_1022.pdf) in behalf of Mr. Torres. This presentation summarized the proposed roadmap for resolving the comments received, categorizing them into Topics, and presented statistics on the comments received. The proposed order for resolving the comments was to address all comments within the same Topic as they appear in page and line order.

Mr. Grow, assisted by Mr. Pérez-Aranda, started the comment resolution. Mr. Torres was delayed due to flight problems. Mr. Torres took over the comment resolution.

The following Topics were addressed during comment resolution: Hyperlinks, Document layout, wording improvement, connectors, active clause reference, improvement of shall statements, acronyms, RS-FEC clarification, PCS encoding, Local Fault reference, and numbering.

After additional work on resolutions, and anticipating extensive discussion on the next topic (center wavelength range), Mr. Grow set the time to resume the next day at 09:00 Bangkok time, and recessed the meeting without objection at approximately at 16:50 Bangkok time.

Wednesday, 15th November 2022, 9:00 Bangkok time

The meeting was resumed at approximately 9:01 Bangkok time Wednesday 15th November 2022 Chaired by Robert Grow, IEEE P802.3cz Task Force Chair.

Mr. Grow reviewed briefly *Agenda and General Information* (https://www.ieee802.org/3/cz/public/nov_2022/Agenda_3cz_01a_1122.pdf).

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

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. Torres resumed the comment resolution with comment #R1-67 made by Mr. Law about increasing the wavelength range in transmitter and receiver from 970-990 nm to 840-990 nm. Mr. Torres proposed to reject the comment, recalled that the same issue was discussed during the Montreal plenary meeting last July and during the October initial recirculation ballot comment resolution, and that no consensus to change the draft was reached.

Mr. Law asked Mr. Pérez-de-Aranda and Mr. Murthy to explain the differences between the reliability calculations made in presentations *VCSEL reliability calculations* (https://www.ieee802.org/3/cz/public/oct_2022/murty_3cz_01_1022.pdf) by Mr. Murthy, and *VCELS performance measurements and reliability analysis* (https://www.ieee802.org/3/dh/public/Oct_5_2022_Ad_Hoc/perezaranda_3dh_01a_221005_vcsels.pdf) Mr. Murthy and Mr. Pérez-Aranda provided answers.

Mr. Murthy asked to present *Center Wavelength Specification for Automotive Links* (https://www.ieee802.org/3/cz/public/nov_2022/murty_3cz_01a_1122.pdf) This presentation shows two possible options to increase wavelength range, one with two bands (940-950 nm + 970-990 nm) and other with a single band (840-990 nm). Ms. Matheus and Mr. Kadry among others spoke in favor of the wideband proposal, and Mr. Pérez-de-Aranda and Mr. Pardo spoke against. Proponents of the change argued minimal impact on manufacturing of components and reliability, while opponents disagreed on the same points. Some of the arguments were cost impact on materials and test equipment needed to support a range of wavelength, but, it was also pointed out that the current specifications still have a narrow range for testing.

Mr. Law proposed a straw poll to sense the support to wideband proposal among IEEE 802.3 voters and non-voters. The proposed straw poll was the following:

Straw Poll #1:

I support:

A. 980 nm nominal (single wavelength)

B. 840-990 nm range of wavelengths (wideband)

C. I'm a 802.3 voter and I support 980 nm nominal (single wavelength)

D. I'm a 802.3 voter and I support 840-990 nm range of wavelengths (wideband)

Adding the in-room and remote votes, the results were the following

A: 3 B:5 C:13 D:20

Mr. Pérez-de-Aranda moved the following motion:

Motion#1:

Adopt the proposed response to reject #R1-67

Moved: Rubén Pérez-Aranda

Seconded: David Law

Technical >= 75%

Direct Vote Live was used to collect and count the votes (only IEEE 802.3 voters were allowed to vote). The results were:

Yes: 13, No: 17, Abstain: 8.

The motion failed.

Then, Mr. Law moved the following motion:

Motion #2:

Adopt the following response to #R1-67:

Change "970-990 nm" to "840-990 nm" in Table 166-9, Table 166-10, and make other necessary changes.

Moved: David Law

Seconded: Haysam Kadry

Technical >= 75%

Direct Vote Live was used to collect and count the votes (only IEEE 802.3 voters were allowed to vote). The results were:

Yes: 21, No: 10, Abstain: 7.

The motion failed.

The results of Motions #1 and #2 showed that there was no consensus in the TF to make a change in the draft, and that was recorded in the comment response.

Mr. Torres continued with the resolution of comments about Receiver sensitivity, stressed receiver, units conversion, jitter and delay.

Once finished, Mr. Torres lead the resolution of the comments from the EZ bucket which were asked to be pulled out by Ms. Wienckowski (comments #R1-3, #R1-12, and #R1-14).

Mr. Torres moved the following Motion, seconded by Ms. Wienckowski to resolve the remaining comments:

Motion #3

Move to:

- Accept proposed responses to EZ "bucket" of comments, granting the editor license to adjust terminology and other content in response for consistency with other comment resolutions.

(Technical >=75%)

Mover: Luisma Torres

Seconder: Natalie Wienckowski

The motion was approved by unanimous consent.

Mr. Torres moved the following Motion, seconded by Mr. Pérez-de-Aranda:

Motion #4

Move to:

- Implement the approved responses with editorial license and generate D3.2 for IEEE-SA second recirculation ballot.

(Technical >=75%)

Mover: Luisma Torres

Seconder: Rubén Pérez-de-Aranda

The motion was approved by unanimous consent.

Mr. Grow reviewed the next steps and announced that it is expected to open the new draft recirculation by Monday 5 December, and that the TF will discuss the comments against it during January 802.3 interim meeting.

Mr. Grow also noted the need of a conditional approval for RevCom submission.

Mr. Torres moved the following motion:

Motion #5

Request the IEEE 802.3 Working Group re-affirm the CSD responses in https://mentor.ieee.org/802-ec/dcn/22/ec-22-0084-00-ACSD-p802-3cz.pdf and request conditional approval to submit the IEEE P802.3cz draft to RevCom.

(Technical >=75%)

Mover: Luisma Torres

Seconder: Carlos Pardo

The motion was approved by unanimous consent.

Having exhausted the business to conduct, the meeting was adjourned at approximately 16:13 Bangkok time.

Recording secretary: Luisma Torres.