

Minutes
Multi-Gigabit Optical Automotive Ethernet (OMEGA)
Task Force Ad Hoc
3 August 2021

Attendance list as recorded in Webex participant list

Last Name	First Name	Employer	Affiliations	August 3rd
Abbott	John	Corning	Corning	X
Akin	Sami	Volkswagen AG	Volkswagen AG	
Amamiya	Yasushi	MegaChips	MegaChips	
Andrae	Stefan	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH	
Aono	Michikazu	Yazaki	Yazaki	X
Araki	Nobuyasu	Yazaki	Yazaki	X
Bergner	Bert	TE Connectivity	TE Connectivity	
Boyer	Rich	APTIV	APTIV	
Barbero	Fernando	KDPOF	KDPOF	X
Bordogna	Mark	Intel	Intel	
Borda	Jamila	BMW	BMW	
Brooks	Paul	Viavi Solutions	Viavi Solutions	
Bruckman	Leon	Huawei	Huawei	
Castro	Jose	Panduit	Panduit	
Chang	Jae-yong	Keysight	Keysight	X
Choudhury	Mabud	OFS	OFS	
Chuang	Keng Hua	HPE	HPE	
Cuesta	Emilio	TE Connectivity	TE Connectivity	X
Dittmann	Markus	KDPOF	KDPOF	X
Donthu	Suresh	Corning	Corning	X
Dube	Kae	UNH-IOL	UNH-IOL	
Eek	Magnus	Volvo Cars	Volvo Cars	
Felgenhauer	Alexander	Yazaki	Yazaki	
Ferretti	Vincent	Corning	Corning	
Fortusini	David	Corning	Corning	
Fukuoka	Takashi	AutoNetworks Technologies Ltd.	AutoNetworks Technologies Ltd.; Sumitomo Electric Industries, Ltd.	
Giovanne	Laura	Broadcom	Broadcom	
Glanzner	Martin	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH	
Gomez	Chisato	Nitto Denko Corporation	Nitto Denko Corporation	X
Goto	Hideki	Toyota Motor Corporation	Toyota Motor Corporation	X
Grow	Robert	Robert M. Grow Consulting	RMG Consulting, KDPOF	X
Hajduczenia	Marek	Charter Communications	Charter Communications	
Harshbarger	Douglas	Corning Incorporated	Corning Incorporated	X
Hartmann	Stephan	Siliconally GmbH	Siliconally GmbH	
Hayashi	Takehiro	HAT Labs	HAT Labs	X
HIRASE	Hidenari	AGC	AGC	X
Hormmeyer	Bernd	Phoenix Contact	Phoenix Contact	
Huang	David	Broadcom	Broadcom	
Huang	Shaowu	Marvell	Marvell	
Hyakudai	Toshihisa	Sony	Sony	
Hyakutake	Yasuhiro	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel	X
Isono	Hideki	FOC	FOC	X
Jiménez	Andy	WESCO	WESCO	
Kadry	Haysam	Ford Motor Company	Ford Motor Company	
KAGAMI	Manabu	NI Tech	NI Tech	X
Kazuhiko	Ishibe	Anritsu	Anritsu	
Kamino	John	OFS	OFS	

Kawahara	Keisuke	Furukawa Electric	Furukawa Electric	
KIKUTA	Tomohiro	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel	X
Kim	Joshua	Hirose USA	Hirose USA	
King	Roger	TRUMPF Photonic Components	TRUMPF Photonic Components	X
Kintingham	Alan	I-PEX	I-PEX	
Kobayashi	Shigeru	AIO Core	AIO Core	X
Koependoerfer	Erwin	Leoni	Leoni	
Kondo	Taiji	MegaChips	MegaChips	X
Law	David	HPE	HPE	
Lewis	David	Lumentum	Lumentum	X
Liu	Karen	Lightwave	Lightwave	
Lee	Bernard	Senko	Senko	
Lee	Sylvanus	Leviton	Leviton	
Lingle	Robert	OFS	OFS	
Malicoat	David	Malicoat Networking Solutions	Senko Advanced Components	X
Martino	Kjersti	Inneos	Inneos	X
Marques	Flavio	Furukawa electric	Furukawa Electric	
Masuda	Takeo	OITDA/PETRA	OITDA/PETRA	X
Matheus	Kirsten	BMW	BMW	
McMillan	Larry	Western Digital	Western Digital	
Mueller	Harald	Endress + Hauser	Endress + Hauser	
Mueller	Thomas	Rosenberger	Rosenberger	
Murty	Ramana	Broadcom	Broadcom	
Nakagawa	Hideki	AGC	AGC	
New	Anthony	Prysmian Group	Prysmian Group	X
Nicholl	Gary	Cisco	Cisco	
Nikolich	Paul	802 Chairman	802 Chairman	
Niihara	Yoshihiro	Fujikura	Fujikura	X
Ogura	Ichiro	Petra	Petra	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	
Peng	Semmy	Huawei	Huawei	
Pérez-Aranda	Rubén	KDPOF	KDPOF	X
Peteranderl	Ralf	Rosenberger	Rosenberger	
Pham	Phong	EastPoint	EastPoint	
Piehler	David	Dell	Dell	
Pimpinella	Rick	Panduit	Panduit	
Pinzón	Plinio	KDPOF	KDPOF	
Pitwon	Richard	Resolute Photonics	Resolute Photonics	X
Preis	Roland	MD Elektronik	MD Elektronik	X
Reinhard	Michael	SEI Antech-Europe GmbH	SEI Antech-Europe GmbH	
Retting	Thomas	Beckhoff Automation	Beckhoff Automation	
Sambasivan	Sam	AT&T	AT&T	
Savi	Olindo	Hubbell Incorporated	Hubbell Incorporated	
Sawano	Hiroshi	OITDA		
Sayre	Edward	Samtec	Samtec	
Shukla	Priyank	Synopsys	Synopsys	
Shigematsu	Masayuki	Sumitomo Electric	Sumitomo Electric	
Shiino	Masato	Furukawa Electric	Furukawa Electric	X
Shukla	Priyank	Synopsys	Synopsys	
Silvano de Sousa	Jonathan	GG-Group	GG-Group	
Su	Charles	Huawei	Huawei	
Sun	Wensheng	Marvell	Marvell	X
Sun	Yi	OFS	OFS	

Suzuki	Yasuo	KDPOF Japan	KDPOF	X
Swanson	Steve	Corning Inc.	Corning Inc.	X
Takahashi	Ryutaro	Senko	Senko	X
Takahashi	Satoshi	POF Promotion	POF Promotion	X
Takahashi	Tadashi	Nitto Denko Corporation	Nitto Denko Corporation	X
Takayama	Kazuya	Nitto Denko Corporation	Nitto Denko Corporation	X
Tan	I-Hsing	Broadcom	Broadcom	
Theuerkom	Thomas	Corning	Corning	
Theodoras	James	HG Genuine	HG Genuine	
Torres	Luisma	KDPOF	KDPOF	X
Tsujita	Yuichi	Nitto Denko Corporation	Nitto Denko Corporation	X
Tsuzaki	Nozomi	Independent	Independent	X
Ueno	Yuto	Sumitomo	Sumitomo	X
Vanderlaan	Paul	UL LLC	UL LLC	
Walsh	Thomas	KDPOF	KDPOF	X
WATANABE	Yuji	AGC	AGC	X
Wendt	Mattias	Signify	Signify	
Wienckowski	Natalie	General Motors	General Motors	X
Wiesner	Michael	Trumpf	Trumpf	
Xu	Xing	Huawei	Huawei	
Yamada	Osamu	Yazaki	Yazaki	
Yang	Yumeng	Huawei	Huawei	
Yasui	Hideshi	AGC	AGC	X
Yonemura	Masatoshi	NITech	NITech	
Yonezawa	Kenji	AGC	AGC	
Young	James	Commscope	Commscope	
Yurtin	John	APTIV	APTIV	
Zhiwei	Yang	ZTE	ZTE	
Zhong	Qiwen	Huawei	Huawei	
Zhu	Liang	Marvell	Marvell	

Tuesday, 3rd August 2021, 12:00 (noon) UTC

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

Mr. Grow presented *Agenda and General Information*

(https://www.ieee802.org/3/cz/public/3_aug_2021/Agenda_3cz_01_030821.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 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 explained in detail the voting process to reach a final published standard. The different balloting stages and requirements to vote in each stage were described.

Mr. Pérez-de-Aranda asked to present *Link budget proposal for 50, 25, 10, 5 and 2.5 Gb/s* (https://www.ieee802.org/3/cz/public/3_aug_2021/perezaranda_3cz_01_030821_link_budget_proposal.pdf). This presentation shows the results of the link budget simulation for 50, 25, 10, 5 and 2.5 Gb/s taking into account the Modal Noise generated by the Mode Selective Loss in the connectors, and updated system parameters. These results fulfil the TF objectives for a system using 980nm VCSEL and OM3 fiber for all the speeds. A proposal for allocation of unallocated link margin was also shown. Several questions were made, and Mr. Pérez-de-Aranda provided answers.

Mr. Pérez-de-Aranda asked to present *Straw polls to adopt baseline proposals*

(https://www.ieee802.org/3/cz/public/3_aug_2021/perezaranda_3cz_02_030821_baselines_strapol)

[ls.pdf](#)). This presentation proposes a list of straw polls on the baseline proposals of BER test, Loopback modes, EEE/LPI and 50 Gb/s PCS/PMA. The following straw polls were conducted, with the correspondent result for each one:

Straw Poll #1: I support adoption of Bit Error Ratio (BER) test mode baseline proposal as described in [4] (perezaranda_3cz_02_0721_ber_testmode.pdf)

- Yes
- No
- Abstain: I need more information
- Abstain: lack of expertise
- Abstain: I want to be neutral

Answers	Results	%	
A	Yes	22/49	45
B	No	1/49	2
C	Abstain: I need more information	6/49	12
D	Abstain: lack of expertise	10/49	20
E	Abstain: I want to be neutral	6/49	12
	No Answer	4/49	8

Attendees	A	B	C	D	E
Chisato Gomez - Nitto, Inc.				•	
Emilio Cuesta TE Connectivity					
Steven E Swanson	•				
John S AbbottCorning	•				
Natalie Wienckowski [GM]					
Douglas Harshbarger					
Anthony New Prysmian Group	•				
Rick Pimpinella - Panduit Corp.	•				
John Kamino - OFS				•	
Haysam M. Kadry [Ford]				•	
Ichiro Ogura PETRA			•		
wensheng sun[marvell]				•	
david malicoat -Independent/Senko	•				
David Lewis [Lumentum]	•				
Roland Preis	•				
Carlos Pardo KDPOF	•				
Rubén Pérez-Aranda, KDPOF	•				
Markus Dittmann [KDPOF]	•				
Richard Pitwon Resolute Photonics			•		
Roger King, TRUMPF Photonic Components	•				
Ryu Takahashi, SENKO					•
Fernando Barbero KDPOF	•				
Thomas Walsh	•				
Kjersti Martino [Inneos]	•				
Michikazu Aono - Yazaki					•
Masato Shiino, FURUKAWA			•		

Satoshi Takahashi POF Promotion	•				
Yuji Watanabe, AGC					•
Takeo Masuda [OITDA/PETRA]		•			
Yasuhiro Hyakutake, Adamant Namiki Precision Jewel	•				
Yuichi Tsujita [Nitto Inc.]				•	
Nobuyasu Araki YAZAKI	•				
Hidenari Hirase AGC					•
Yuto Ueno-Sumitomo				•	
Tomohiro Kikuta Adamant Namiki Precision Jewel Co., Ltd.			•		
Kazuya Takayama Nitto Denko Corp.				•	
Manabu Kagami - NITech	•				
Taiji Kondo, MegaChips	•				
Shigeru Kobayashi, AIO Core				•	
Hideshi.Yasui, AGC					•
Nozomi Tsuzaki, Independent			•		
Jae-yong Chang Keysight	•				
Hideki Isono Fujitsu Optical Components			•		
Hideki Goto Toyota					•
Yasuo Suzuki	•				
Takehiro Hayashi HAT Lab - independent	•				
Yoshihiro Niihara - Fujikura Ltd.					
Tadashi TakahashiNitto Denko Corporation				•	
Suresh Donthu					•

Straw Poll #2: I support adoption of loopback modes baseline proposal as described in [5] (perezaranda_3cz_03_0721_loopback_modes.pdf)

- Yes
- No
- Abstain: I need more information
- Abstain: lack of expertise
- Abstain: I want to be neutral

	Answers	Results	%
A	Yes	24/49	49
B	No	0/49	0
C	Abstain: I need more information	6/49	12
D	Abstain: lack of expertise	8/49	16
E	Abstain: I want to be neutral	5/49	10
	No Answer	6/49	12

Attendees	A	B	C	D	E
Chisato Gomez - Nitto, Inc.				•	
Emilio Cuesta TE Connectivity	•				
Steven E Swanson	•				
John S AbbottCorning					
Natalie Wienckowski [GM]					

Douglas Harshbarger	•			
Anthony New Prysmian Group	•			
Rick Pimpinella - Panduit Corp.	•			
John Kamino - OFS				
Haysam M. Kadry [Ford]			•	
Ichiro Ogura PETRA		•		
wensheng sun[marvell]	•			
david malicoat -Independent/Senko	•			
David Lewis [Lumentum]	•			
Roland Preis	•			
Carlos Pardo KDPOF	•			
Rubén Pérez-Aranda, KDPOF	•			
Markus Dittmann [KDPOF]	•			
Richard Pitwon Resolute Photonics		•		
Roger King, TRUMPF Photonic Components	•			
Ryu Takahashi, SENKO				•
Fernando Barbero KDPOF	•			
Thomas Walsh	•			
Kjersti Martino [Inneos]	•			
Michikazu Aono - Yazaki			•	
Masato Shiino, FURUKAWA		•		
Satoshi Takahashi POF Promotion	•			
Yuji Watanabe, AGC				•
Takeo Masuda [OITDA/PETRA]		•		
Yasuhiro Hyakutake, Adamant Namiki Precision Jewel	•			
Yuichi Tsujita [Nitto Inc.]			•	
Nobuyasu Araki YAZAKI	•			
Hidenari Hirase AGC			•	
Yuto Ueno-Sumitomo				
Tomohiro Kikuta Adamant Namiki Precision Jewel Co., Ltd.				•
Kazuya Takayama Nitto Denko Corp.			•	
Manabu Kagami - NITech	•			
Taiji Kondo, MegaChips				
Shigeru Kobayashi, AIO Core		•		
Hideshi.Yasui, AGC				•
Nozomi Tsuzaki, Independent				•
Jae-yong Chang Keysight	•			
Hideki Isono Fujitsu Optical Components		•		
Hideki Goto Toyota			•	
Yasuo Suzuki	•			
Takehiro Hayashi HAT Lab - independent	•			
Yoshihiro Niihara - Fujikura Ltd.				
Tadashi TakahashiNitto Denko Corporation			•	
Suresh Donthu	•			

Straw Poll #3: I support adoption of Energy Efficient Ethernet (EEE) baseline proposal as described in [6] (perezaranda_3cz_04_0721_eee.pdf)

- Yes
- No
- Abstain: I need more information
- Abstain: lack of expertise
- Abstain: I want to be neutral

Answers	Results	%	
A	Yes	29/50	58
B	No	1/50	2
C	Abstain: I need more information	3/50	6
D	Abstain: lack of expertise	5/50	10
E	Abstain: I want to be neutral	5/50	10
	No Answer	7/50	14

Attendees	A	B	C	D	E
Chisato Gomez - Nitto, Inc.					•
Emilio Cuesta TE Connectivity	•				
Steven E Swanson	•				
John S AbbottCorning	•				
Natalie Wienckowski [GM]					
Douglas Harshbarger	•				
Anthony New Prysmian Group	•				
Rick Pimpinella - Panduit Corp.	•				
John Kamino - OFS					
Haysam M. Kadry [Ford]	•				
Ichiro Ogura PETRA		•			
wensheng sun[marvell]	•				
david malicoat -Independent/Senko	•				
David Lewis [Lumentum]	•				
Roland Preis	•				
Carlos Pardo KDPOF	•				
Rubén Pérez-Aranda, KDPOF	•				
Markus Dittmann [KDPOF]	•				
Richard Pitwon Resolute Photonics			•		
Roger King, TRUMPF Photonic Components	•				
Ryu Takahashi, SENKO					•
Fernando Barbero KDPOF	•				
Thomas Walsh	•				
Kjersti Martino [Inneos]	•				
Michikazu Aono - Yazaki				•	
Masato Shiino, FURUKAWA			•		
Satoshi Takahashi POF Promotion	•				
Yuji Watanabe, AGC					•
Takeo Masuda [OITDA/PETRA]			•		

Yasuhiro Hyakutake, Adamant Namiki Precision Jewel	•				
Yuichi Tsujita [Nitto Inc.]				•	
Nobuyasu Araki YAZAKI	•				
Hidenari Hirase AGC				•	
Yuto Ueno-Sumitomo					
Tomohiro Kikuta Adamant Namiki Precision Jewel Co., Ltd.					
Kazuya Takayama Nitto Denko Corp.				•	
Manabu Kagami - NITech	•				
Taiji Kondo, MegaChips	•				
Shigeru Kobayashi, AIO Core					•
Hideshi.Yasui, AGC					•
Nozomi Tsuzaki, Independent					•
Jae-yong Chang Keysight	•				
Hideki Isono Fujitsu Optical Components	•				
Hideki Goto Toyota	•				
Yasuo Suzuki	•				
Takehiro Hayashi HAT Lab - independent	•				
Yoshihiro Niihara - Fujikura Ltd.					
Hideki Nakagawa, AGC					
Tadashi TakahashiNitto Denko Corporation					
Suresh Donthu	•				

Straw Poll #4: I support adoption of the PCS and PMA baselines for 50GBASE-AU operation as described in [2] (perezaranda_3cz_03_110521_50Gbps_pcs_pma.pdf)

- Yes
- No
- Abstain: I need more information
- Abstain: lack of expertise
- Abstain: I want to be neutral

Answers	Results	%	
A	Yes	21/50	42
B	No	3/50	6
C	Abstain: I need more information	10/50	20
D	Abstain: lack of expertise	4/50	8
E	Abstain: I want to be neutral	7/50	14
	No Answer	5/50	10

Attendees	A	B	C	D	E
Chisato Gomez - Nitto, Inc.				•	
Emilio Cuesta TE Connectivity	•				
Steven E Swanson	•				
John S AbbottCorning	•				
Natalie Wienckowski [GM]					
Douglas Harshbarger	•				
Anthony New Prysmian Group	•				
Rick Pimpinella - Panduit Corp.	•				

John Kamino - OFS					
Haysam M. Kadry [Ford]				●	
Ichiro Ogura PETRA					
wensheng sun[marvell]					●
david malicoat -Independent/Senko	●				
David Lewis [Lumentum]	●				
Roland Preis	●				
Carlos Pardo KDPOF	●				
Rubén Pérez-Aranda, KDPOF	●				
Markus Dittmann [KDPOF]	●				
Richard Pitwon Resolute Photonics			●		
Roger King, TRUMPF Photonic Components	●				
Ryu Takahashi, SENKO					●
Fernando Barbero KDPOF	●				
Thomas Walsh	●				
Kjersti Martino [Inneos]	●				
Michikazu Aono - Yazaki			●		
Masato Shiino, FURUKAWA			●		
Satoshi Takahashi POF Promotion	●				
Yuji Watanabe, AGC					●
Takeo Masuda [OITDA/PETRA]		●			
Yasuhiro Hyakutake, Adamant Namiki Precision Jewel			●		
Yuichi Tsujita [Nitto Inc.]					●
Nobuyasu Araki YAZAKI			●		
Hidenari Hirase AGC					●
Yuto Ueno-Sumitomo					
Tomohiro Kikuta Adamant Namiki Precision Jewel Co., Ltd.			●		
Kazuya Takayama Nitto Denko Corp.				●	
Manabu Kagami - NITech			●		
Taiji Kondo, MegaChips			●		
Shigeru Kobayashi, AIO Core		●			
Hideshi.Yasui, AGC					●
Nozomi Tsuzaki, Independent					●
Jae-yong Chang Keysight	●				
Hideki Isono Fujitsu Optical Components			●		
Hideki Goto Toyota		●			
Yasuo Suzuki	●				
Takehiro Hayashi HAT Lab - independent			●		
Yoshihiro Niihara - Fujikura Ltd.					
Hideki Nakagawa, AGC	●				
Tadashi TakahashiNitto Denko Corporation				●	
Suresh Donthu	●				

Mr. Swanson asked to present *Proposed IEEE 802.3cz PMD, MDI and Media Baseline Text* (https://www.ieee802.org/3/cz/public/3_aug_2021/swanson_3cz_02_030821_AUTO_MDI_Baseline.pdf). This presentation shows the baseline proposal for a system based on a 980nm VCSEL and OM3

fiber. The baseline proposal for the link budget and fiber characteristics was presented. Several questions were made, and Mr. Swanson provided answers.

Mr. Swanson asked to present *IEEE 802.3cz - A path forward on PMDs* (https://www.ieee802.org/3/cz/public/3_aug_2021/swanson_3cz_01_030821_A%20path%20forward%20on%20media.pdf). This presentation proposed to adopt as a PMD baseline the one specified in https://www.ieee802.org/3/cz/public/3_aug_2021/swanson_3cz_02_030821_AUTO_MDI_Baseline.pdf. Mr. Swanson proposed to adopt it and allow up to 9 months to GIPOF and SiP PMD proponents to provide more data about their proposals. Several questions were made, and Mr. Swanson provided answers. Mr. Swanson asked to conduct the following Straw Poll:

Straw Poll #5: Develop PMD baseline text for inclusion in the IEEE 802.3cz draft standard based on: swanson_3cz_02c_08_03_AUTO_MDI Baseline Proposal

Address any technical issues in the current project via submitted comments and comment resolution at WG ballot

- Yes
- No
- Abstain

Answers	Results	%	
A	Yes	17/42	40
B	No	16/42	38
C	Abstain	8/42	19
	No Answer	1/42	2

Attendees	A	B	C
Chisato Gomez - Nitto, Inc.		•	
Steven E Swanson	•		
John S AbbottCorning	•		
Douglas Harshbarger	•		
Anthony New Prysmian Group	•		
Rick Pimpinella - Panduit Corp.	•		
Ichiro Ogura PETRA		•	
wensheng sun[marvell]			•
david malicoat -Independent/Senko			•
David Lewis [Lumentum]	•		
Roland Preis	•		
Carlos Pardo KDPOF	•		
Rubén Pérez-Aranda, KDPOF	•		
Markus Dittmann [KDPOF]	•		
Richard Pitwon Resolute Photonics		•	
Roger King, TRUMPF Photonic Components	•		
Ryu Takahashi, SENKO			•
Fernando Barbero KDPOF	•		
Thomas Walsh	•		
Kjersti Martino [Inneos]	•		
Michikazu Aono - Yazaki		•	
Masato Shiino, FURUKAWA			•
Satoshi Takahashi POF Promotion			•

Yuji Watanabe, AGC		•	
Takeo Masuda [OITDA/PETRA]		•	
Yasuhiro Hyakutake, Adamant Namiki Precision Jewel	•		
Yuichi Tsujita [Nitto Inc.]		•	
Nobuyasu Araki YAZAKI		•	
Hidenari Hirase AGC		•	
Yuto Ueno-Sumitomo	•		
Tomohiro Kikuta Adamant Namiki Precision Jewel Co., Ltd.			•
Kazuya Takayama Nitto Denko Corp.		•	
Manabu Kagami - NITech			•
Shigeru Kobayashi, AIO Core			
Hideshi.Yasui, AGC		•	
Nozomi Tsuzaki, Independent		•	
Hideki Isono Fujitsu Optical Components		•	
Hideki Goto Toyota		•	
Yasuo Suzuki	•		
Takehiro Hayashi HAT Lab - independent			•
Hideki Nakagawa, AGC		•	
Tadashi TakahashiNitto Denko Corporation		•	

Having exhausted the scheduled time and even the without objection extended time, the meeting was adjourned at approximately 14:34 UTC.

Recording secretary: Luisma Torres.