IEEE 802.3 Beyond 400 Gb/s Ethernet (B400G) Study Group, July 2021 Electronic Interim Series
Unapproved Meeting Minutes, Prepared by Tom Issenhuth, John D'Ambrosia

Session called to order at 10:02 am ET (all times ET), 13 July 2021

Meeting called to order by Tom Issenhuth, who chaired the meeting.

Chair showed IMAT information and asked everyone to sign-in as meeting attendance would be taken from IMAT.

Presentation #1 **Agenda and General Information**
Presenter: Tom Issenhuth
URL: https://www.ieee802.org/3/B400G/public/21_07/agenda_b400g_210713.pdf

Chair asked if there were any objections to the agenda, there were none, and the agenda (Slide #2) was considered approved.

Minutes –

- May 2021 Session - https://www.ieee802.org/3/B400G/public/21_05/minutes_b400g_b_2105_unapproved.pdf
- June 3, 2021 Meeting - https://www.ieee802.org/3/B400G/public/21_06/minutes_b400g_210603_unapproved.pdf

Chair asked if there were any other corrections, there were none. The minutes were considered approved.

Chair noted that the information regarding the procedures had been sent out, and requested that individuals review the following IEEE SA policies prior to the interim meeting –

- IEEE SA Pre-PAR patent policy
- IEEE SA Copyright Policy
- IEEE SA Participation Policy

Chair asked if anyone needed to review the policies at that time – there were no requests to do so.

Chair presented the IEEE SA Pre- PAR patent (See Slide #22).

Chair presented the second slide (See Slide #24) of the IEEE SA Copyright Policy slides. Chair noted – "By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy."

Chair presented the fourth slide (See Slide #27) of the IEEE SA Participation Policy slides. Chair noted – "Participants in the IEEE-SA "individual process" shall act independently of others, including employers. By participating in standards activities using the "individual process", you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation."

Chair reviewed goals for this meeting. See Slide #5.

Chair noted there are two rules regarding Study Groups and showed Slide #3 from https://mentor.ieee.org/802-ec/dcn/21/ec-21-0159-00-00EC-ieee-802-3-ethernet-working-group-agenda-items-friday-9th-july-2021.pdf.

Chair noted that 802.3 had approved requesting the extension of the Study Group on Monday, which had passed the 802 EC via an email ballot. Now the Study Group had to address the rechartering of the Study Group. Mr. D'Ambrosia had asked the chair to do this motion at this meeting, due to the more technical content scheduled for the next meeting, and the need to request this motion at the IEEE 802.3 closing meeting.

Motion #1	**Move that the IEEE 802.3 Working Group request the re-chartering of the IEEE 802.3 Beyond 400 Gb/s Ethernet Study Group.**
M:	Matt Brown
S:	Jim Weaver
Technical (>=75%)	
All (y/n/a)	
Results	Motion passed unopposed by voice vote

Liaisons
Chair noted that two liaisons had been assigned (one from OIF, one from ITU-T) by the IEEE 802.3 WG Chair to the SG for consideration for proposed responses. Proposed responses to both liaisons for the SG to consider have been generated by Mr. D'Ambrosia and Mr. Trowbridge and are on the Study Group July 2021 session website. Study Group members were asked to review and to send any feedback to Mr. D'Ambrosia prior to the 7/20 meeting. The proposed responses will be considered for approval at the 7/20 SG meeting.

Presentation #2 **Project Documentation Revisited**
Presenter: Tom Issenhuth
URL: https://www.ieee802.org/3/B400G/public/21_07/dambrosia_b400g_01_210713.pdf

There was general discussion about the presentation.

Presentation #3 **Case for inclusion of a 200GBASE-DR objective**
Presenter: Rob Stone
URL: https://www.ieee802.org/3/B400G/public/21_07/stone_b400g_01_210713.pdf

There was general discussion about the presentation.

Presentation #4 **Enabling dense 200GbE and 400GbE**
Presenter: Kapil Shrikhande
URL: https://www.ieee802.org/3/B400G/public/21_07/shrikhande_b400g_01c_210713.pdf

An updated 1c version will be uploaded with additional supporters. See above.

A break was called at 11:31.

Meeting reconvened at 11:36.

Straw Poll #1

I would support adopting the following objectives: • Support a MAC data rate of 200 Gb/s • Support optional single-lane 200 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications • Define a physical layer specification that supports 200 Gb/s operation over 1 pair of SMF with lengths up to at least 500 m • Define a physical layer specification that supports 200 Gb/s operation over 1 pair of SMF with lengths up to at least 2 km	Results
a) Yes	98
b) No	3
c) Need more information	5
d) Abstain	10

Motion #2

Motion	Move to adopt the following objectives: • Support a MAC data rate of 200 Gb/s • Support optional single-lane 200 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications • Define a physical layer specification that supports 200 Gb/s operation over 1 pair of SMF with lengths up to at least 500 m • Define a physical layer specification that supports 200 Gb/s operation over 1 pair of SMF with lengths up to at least 2 km
M:	Rob Stone
S:	Brian Welch
Technical (>=75%)	
All (y/n/a)	106 / 4 / 5 (all on call were able to vote)
Results	Motion passes

Straw Poll #2

I would support adopting the following objectives: • Support a MAC data rate of 400 Gb/s • Support optional two-lane 400 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications • Define a physical layer specification that supports 400 Gb/s operation over 2 pairs of SMF with lengths up to at least 500 m	Results
a) Yes	88
b) No	4
c) Need more information	7
d) Abstain	7

Motion #3

Motion	Move to adopt the following objectives: • Support a MAC data rate of 400 Gb/s • Support optional two-lane 400 Gb/s attachment unit interfaces for chip-to-module and chip-to-chip applications • Define a physical layer specification that supports 400 Gb/s operation over 2 pairs of SMF with lengths up to at least 500 m
M:	Kapil Shrikhande
S:	Ali Ghiasi
Technical (>=75%)	
All (y/n/a)	92 / 2 / 8
Results	Motion passes

Chair reminded everyone of next week's meeting.

Session broke @ 12:08 pm

Session reconvened at 10:01 am ET (all times ET), 20 July 2021

Meeting called to order by John D'Ambrosia, SG Chair.

Chair showed IMAT information and asked everyone to sign-in as meeting attendance would be taken from IMAT.

Chaired noted as stated on page 11 of the agenda deck that any person attending a Study Group meeting may participate in SG discussions, make motions and vote on all motions.

Chair noted that the information regarding the procedures had been sent out, and requested that individuals review the following IEEE SA policies prior to the interim meeting –

- IEEE SA Pre-PAR patent policy
- IEEE SA Copyright Policy
- IEEE SA Participation Policy

Chair asked if anyone needed to review the policies at that time – there were no requests to do so.

Chair presented the IEEE SA Pre- PAR patent (See Slide #22).

Chair presented the second slide (See Slide #24) of the IEEE SA Copyright Policy slides. Chair noted – "By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy."

Chair presented the fourth slide (See Slide #27) of the IEEE SA Participation Policy slides. Chair noted – "Participants in the IEEE-SA "individual process" shall act independently of others, including employers. By participating in standards activities using the "individual process", you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation."

Chair reviewed goals for this meeting. See Slide #5.

Presentation #5 **Coherent-Lite for Beyond 400GigE**
Presenter: Cedric Lam
URL: https://www.ieee802.org/3/B400G/public/21_07/lam_b400g_01a_210720.pdf

There was general discussion about the presentation.

Presentation #6 **Considerations on the "10km @ 800Gb/s" objective**
Presenter: Tingting Zhang
URL: https://www.ieee802.org/3/B400G/public/21_07/zhang_b400g_01a_210720.pdf

There was general discussion about the presentation.

Presentation #7 **16-lane 1.6TbE AUI Objective Proposal: A test & measurement perspective**
Presenter: Paul Brooks
URL: https://www.ieee802.org/3/B400G/public/21_07/brooks_b400g_01_210720.pdf

There was general discussion about the presentation.

Straw Poll #3

I would support adopting the following objectives: • Support optional sixteen-lane 1.6 Tb/s attachment unit interfaces for chip-to-module and chip-to-chip applications.	Results
a) Yes	83
b) No	4
c) Need more information	8
d) Abstain	16

Motion #4

Motion	Move to adopt the following objective: • Support optional sixteen-lane 1.6 Tb/s attachment unit interfaces for chip-to-module and chip-to-chip applications.
M:	Paul Brooks
S:	Matt Brown
Technical (>=75%)	
All (y/n/a)	Approved by unanimous consent
Results	Motion passes

Liaison responses to the OIF and ITU-T SG15 were discussed. No comments were received on the draft versions that were posted.

Motion #5

Motion	**Move that the IEEE P802.3cw Task Force approve:** **IEEE_802d3_to_ITU_b400g_0721_draft.pdf** **IEEE_802d3_to_OIF_b400g_0721_draft.pdf** **with editorial license granted to the Chair (or his appointed agent) as a liaison communication** **from the IEEE 802.3 Working Group to ITU-T SG15 and OIF.**
M:	Steve Trowbridge
S:	Tom Issenhuth
Technical (>=75%)	
All (y/n/a)	Approved by unanimous consent
Results	Motion passes

Chair reminded everyone of next week's meeting.

Session broke @ 12:38 pm

Session reconvened at 10:02 am ET (all times ET), 29 July 2021

Meeting called to order by John D'Ambrosia, SG Chair.

Chair showed IMAT information and asked everyone to sign-in as meeting attendance would be taken from IMAT.

Chair reviewed Slide #11, regarding voting at Study Group meetings, and noted that any motions made that did not have unanimous consent would use the Zoom tool to record everyone's vote, which would be listed in the minutes.

Chair noted that the information regarding the procedures had been sent out, and requested that individuals review the following IEEE SA policies prior to the interim meeting –

- IEEE SA Pre-PAR patent policy
- IEEE SA Copyright Policy
- IEEE SA Participation Policy

Chair asked if anyone needed to review the policies at that time – there were no requests to do so.

Chair asked if anyone needed any of these policies reviewed in-depth. There were no requests.

Chair presented the IEEE SA Pre- PAR patent (See Slide #22).

Chair presented the second slide (See Slide #24) of the IEEE SA Copyright Policy slides. Chair noted – "By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy."

Chair presented the fourth slide (See Slide #27) of the IEEE SA Participation Policy slides. Chair noted – "Participants in the IEEE-SA "individual process" shall act independently of others, including employers. By participating in standards activities using the "individual process", you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation."

Chair reviewed goals for this meeting. See Slide #5.
Chair reviewed rules regarding voting in Study Group. See Slide #11.
Chair noted that for any motions where there was not unanimous consent, a role call vote would be taken using the Zoom tool to provide the reports.

Presentation #8 **Categorization of 5 Criteria Responses Update**
Presenter: Chris Cole
URL: https://www.ieee802.org/3/B400G/public/21_07/cole_b400g_01_210729.pdf

There was general discussion about the presentation.

Presentation #9 **Consensus Proposal Supporting 200GEL Copper Cable Objectives**
Presenter: Nathan Tracy
URL: https://www.ieee802.org/3/B400G/public/21_07/tracy_b400g_01a_210729.pdf

There was general discussion about the presentation.

Presentation #10 **Considerations on beyond 100G electrical links**
Presenter: Yuchun Lu
URL: https://www.ieee802.org/3/B400G/public/21_07/lu_b400g_01b_210729.pdf

There was general discussion about the presentation.

Straw Poll #4

I would support adopting an objective for a physical layer specification that defines 800 Gb/s operation:	Results y/n/nmi/a
a) over 8 pairs of copper twin-axial cables in each direction with a reach of up to at least 2 meters • Yes • No • Need more information • Abstain	44/3/13/9
b) over 4 pairs of copper twin-axial cables in each direction with a reach of up to at least 1 meter • Yes • No • Need more information • Abstain	33/7/21/8

Straw Poll #5

I would support adopting an objective for a physical layer specification that defines:	Results y/n/nmi/a
a) 1.6 Tb/s operation over 8 pairs of copper twin-axial cables in each direction with a reach of up to at least 1 meter • Yes • No • Need more information • Abstain	33/10/21/9
b) 200 Gb/s operation over 1 pair of copper twin-axial cables in each direction with a reach of up to at least 1 meter • Yes • No • Need more information • Abstain	33/8/23/9
c) 200 Gb/s operation over 1 pair of copper twin-axial cables in each direction with a reach of up to at least 1 meter • Yes • No • Need more information • Abstain	33/10/21/9

Chair reviewed future meetings.

Session adjourned at ≈ 1:05 pm.

Attendance Per IMAT – 13 July 2021

Name	Employer	Affiliation
Aekins, Rob	Legrand	Legrand
BakroNagy, Istvan	EFFECT Photonics	Effect Photonics
Baldwin, Thananya	Keysight Technologies	Keysight Technologies
Ben-Artsi, Liav	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Bernier, Eric		Huawei Technologies Canada; Huawei Technologies Co., Ltd
Bernstein, Gary	Leviton Manufacturing Co.	The Siemon Company
Bhatt, Vipul	II-VI Incorporated	II-VI Incorporated
Bois, Karl	TE Connectivity	TE Connectivity
Brown, Matthew	Huawei Technologies Canada	Huawei Technologies Canada
Bruckman, Leon	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Calvin, John	Keysight Technologies	Keysight Technologies
Casher, Patrick		Foxconn Interconnect Technologies (FIT)
Cassan, Dave	Alphawave	Alphawave
Castro, Jose	Panduit	Panduit Corp.
Chang, Xin	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Chen, Chan	Applied Optoelectronics, Inc.	Applied Optoelectronics, Inc.
Choudhury, Golam	OFS	OFS
Chuang, Keng Hua	Hewlett Packard Enterprise	Hewlett Packard Enterprise
Dawe, Piers J G	NVIDIA	Nvidia
Deandrea, John	Finisar Corporation	Finisar Corporation
Dudek, Michael	Marvell	Marvell
Effenberger, Frank	Futurewei Technologies	Futurewei Technologies
Estes, David	Spirent Communications	Spirent Communications
Ewen, John	Marvell	Marvell
FAn, DAWEI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Ferretti, Vincent	Corning Incorporated	Corning Incorporated
Fritsche, Matthias	HARTING Technologie Gruppe	HARTING Electronics GmbH
Geng, Limin	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC, Marvel
Goergen, Joel	Cisco Systems, Inc.	Cisco Systems, Inc.
Goodwill, Dominic		Huawei Technologies Canada; Huawei Technologies Co., Ltd
Gore, Brandon	Samtec, Inc.	Samtec, Inc.
Gorshe, Steven Scott	Microchip Technology, Inc.	Microchip Technology, Inc.
Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
He, Xiang	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Healey, Adam	Broadcom Inc.	Broadcom Inc.
Heck, Howard	Intel Corporation	Intel Corporation
Hegde, Rajmohan	Broadcom Corporation	Broadcom Ltd.
Hidaka, Yasuo	Credo Semiconductor	Credo Semiconductor
Huang, Kechao		Huawei Technologies Co., Ltd
HUANG, QINHUI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Huber, Thomas	Nokia	Nokia
Huszak, Gergely	Self	KONE
ISHIBE, KAZUHIKO	Anritsu Company	Anritsu Company

Isono, Hideki	Fujitsu Optical Components Limited	Fujitsu Optical Components Limited
Issenhuth, Tom	Issenhuth Consulting, LLC	Huawei Technologies Co., Ltd
Jackson, Kenneth	Sumitomo Electric Device Innovations, USA	Sumitomo Electric Industries, LTD
Jimenez, Andrew	Anixter Inc.	Anixter Inc.
Johnson, John	Broadcom Corporation	Broadcom Corporation
Kabra, Lokesh	Synopsys, Inc.	Synopsys, Inc.
Kao, Chienping	Intel Corporation	Cornelis Networks
Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.
Kim, Kihong/Joshua	Hirose Electric (USA), Inc.	Hirose Electric (USA), Inc.
Kim, Yongbum	Tenstorrent	Tenstorrent
Kimber, Eric	Semtech Ltd	Semtech Ltd
King, Roger	TRUMPF Photonic Components GmbH	TRUMPF Photonic Components GmbH
Klempa, Michael	University of New Hampshire InterOperability Laboratory (UNH-IOL)	Amphenol Corporation
Koehler, Daniel	MorethanIP	MorethanIP
Kota, Kishore	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Lackner, Hans	QoSCom GmbH	QoSCom - Quality in Communications - GmbH
Lam, Cedric		Google
Lawson, Matthew	Cisco Systems, Inc.	Cisco Systems, Inc.
Le Cheminant, Greg	Keysight Technologies	Keysight Technologies
Levin, Itamar		Intel Corporation
Lewis, David	Lumentum Inc.	Lumentum Inc.
Li, Mike-Peng	Intel Corporation	Intel Corporation
Lim, Jane	Cisco Systems, Inc.	Cisco Systems, Inc.
Lin, Youxi		Huawei Technologies Co., Ltd
Lingle, Robert	OFS	OFS
Liu, Hai-Feng	HG Genuine	HG Genuine
Liu, Karen	Nubis Communications	Nubis Communications
Maguire, Valerie	The Siemon Company	The Siemon Company
Mak, Gary	Inphi Corporation	inphi
Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.
Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components
Maniloff, Eric	Ciena Corporation	Ciena Corporation
Marques, Flavio	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC
Marris, Arthur	Cadence Design Systems, Inc.	Cadence Design Systems, Inc.
MASUDA, TAKEO	OITDA	OITDA
Mazzini, Marco	Cisco Systems, Inc.	Cisco Systems, Inc.
Mellitz, Richard	Samtec, Inc.	Samtec, Inc.
mi, guangcan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Milicevic, Mario	MaxLinear	MaxLinear
Moorwood, Charles	Keysight Technologies	Keysight Technologies
Mueller, Harald	Endress + Hauser	Endress + Hauser
Muller, Shimon	Enfabrica Corp.	Enfabrica Corp.
Murty, Ramana	Broadcom Inc.	Broadcom Corporation
Nering, Raymond	Cisco Systems, Inc.	Cisco Systems, Inc.
Nicholl, Shawn	Xilinx	Xilinx
Noujeim, Leesa	Google	Google

Nowell, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
Ofelt, David	Juniper Networks, Inc.	Juniper Networks, Inc.
Omori, Kumi	NEC Corporation	NEC Corporation
Opsasnick, Eugene	Broadcom Inc.	Broadcom Corporation
Palkert, Thomas	Macom, Samtec	Samtec-Macom
Pankert, Joseph	TRUMPF Photonic Components GmbH	TRUMPF Photonics Components
PARK, CHUL SOO	Juniper Networks Inc.	Juniper Networks, Inc.
Parsons, Earl	CommScope, Inc.	CommScope, Inc.
peng, semmy		Huawei Technologies Co., Ltd
Pepper, Gerald	Keysight Technologies	Keysight Technologies
Piehler, David	Dell Technologies	Dell
Pimpinella, Rick	Panduit Corp.	Panduit Corp.
Powell, William	INDEPENDENT	INDEPENDENT
Quan, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Rabinovich, Rick	Keysight Technologies	Keysight Technologies
Rahn, Jeffrey	Infinera Corporation	Facebook
Ran, Adee	Cisco Systems, Inc.	Cisco systems
Rannow, R K	silverdraft supercomputing	Silverdraft Supercomputing
Rechtman, Zvi	Mellanox Technologies	NVIDIA Corporation
Ren, Hao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Rodes, Roberto	II-VI	II-VI
Sakai, Toshiaki	Socionext Inc.	socionext
Savi, Olindo	Hubbell Incorporated	Hubbell Incorporated
Shah, Anup	Mentor Graphics	Siemens EDA
Shahramian, Shayan		Alphawave
She, Qingya	Fujitsu Network Communications	Fujitsu Network Communications
Shrikhande, Kapil	Innovium Inc.	Innovium
Shukla, Priyank	Synopsys, Inc.	Synopsys, Inc.
Slavick, Jeff	Broadcom Inc	Broadcom Inc
Sommers, Scott	Molex LLC	Molex Incorporated
Son, Yung Sung	Optomind Inc	Optomind Inc
Sone, Yoshiaki	NTT	Nippon Telegraph and Telephone Corporation (NTT)
Sorbara, Massimo	GLOBALFOUNDRIES	GLOBALFOUNDIRES
Sprague, Edward	Infinera Corporation	Infinera Corporation
Stassar, Peter	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
SU, CHANGZHENG		Huawei Technologies Co., Ltd
Sun, Yi		OFS
Tailor, Bharat	Semtech Canada Corporation	Semtech Canada Corporation
TAKAHARA, TOMOO	FUJITSU LABORATORIES LIMITED	FUJITSU LIMITED
Takahashi, Tadashi	Nitto Denko Corporation	Nitto Denko Corporation
Takayama, Kazuya	Nitto Denko Corporation	Nitto Denko Corporation
Tan, Kan	Tektronix, Inc.	Tektronix, Inc.
Tang, Yi	Cisco Systems, Inc.	Cisco Systems, Inc.
Terada, Masaru	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC
Theodoras, James	HG Genuine	HG Genuine
Tooyserkani, Pirooz	Cisco Systems, Inc.	Cisco Systems, Inc.
Tran, Viet	Keysight Technologies	Keysight Technologies

Trowbridge, Stephen	Nokia	Nokia
Tyshchenko, Aleksey		SeriaLink Systems
Vanderlaan, Paul	UL LLC	UL LLC
Wang, Haojie	China Mobile Communications Corporation (CMCC)	China Mobile Communications Corporation (CMCC)
Wang, Ruoxu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Wang, Xinyuan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Wang, Yi	Applied Optoelectronics, Inc.	Applied Optoelectronics, Inc.
Weaver, James	Arista Networks	Arista Networks
Wu, Mau-Lin	MediaTek Inc.	MediaTek Inc.
Xu, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Young, James	CommScope, Inc.	CommScope
Zhang, Bo	Marvell Technology, Inc	Marvell Technology, Inc
Zhong, Qiwen	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Zivny, Pavel	Tektronix, Inc.	Tektronix, Inc.

Attendance per IMAT – 20 July 2021

Name	Employer	Affiliation
Aekins, Rob	Legrand	Legrand
BakroNagy, Istvan	EFFECT Photonics	Effect Photonics
Baldwin, Thananya	Keysight Technologies	Keysight Technologies
Ben-Artsi, Liav	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Bernier, Eric		Huawei Technologies Canada; Huawei Technologies Co., Ltd
Bhatt, Vipul	II-VI Incorporated	II-VI Incorporated
Brooks, Paul	Viavi solutions GmbH	Viavi Solutions
Brown, Matthew	Huawei Technologies Canada	Huawei Technologies Canada
Bruckman, Leon	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Calvin, John	Keysight Technologies	Keysight Technologies
Casher, Patrick		Foxconn Interconnect Technologies (FIT)
Cassan, Dave	Alphawave	Alphawave
Castro, Jose	Panduit	Panduit Corp.
Chang, Xin	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Chang, Yongmao	Inphi Corporation	Source Photonics
Chen, Chan	Applied Optoelectronics, Inc.	Applied Optoelectronics, Inc.
Choudhury, Golam	OFS	OFS
Chuang, Keng Hua	Hewlett Packard Enterprise	Hewlett Packard Enterprise
D'Ambrosia, John	Futurewei Technologies	Futurewei Technologies, U.S. Subsidiary of Huawei
Dawe, Piers J G	NVIDIA	Nvidia
Deandrea, John	Finisar Corporation	Finisar Corporation
Didde, Stephen	Keysight Technologies	Keysight Technologies
Dudek, Michael	Marvell	Marvell
Effenberger, Frank	Futurewei Technologies	Futurewei Technologies
Estes, David	Spirent Communications	Spirent Communications
Ewen, John	Marvell	Marvell
FAn, DAWEI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Geng, Limin	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC, Marvel
Goergen, Joel	Cisco Systems, Inc.	Cisco Systems, Inc.
Goodwill, Dominic		Huawei Technologies Canada; Huawei Technologies Co., Ltd
Gore, Brandon	Samtec, Inc.	Samtec, Inc.
Gorshe, Steven Scott	Microchip Technology, Inc.	Microchip Technology, Inc.
Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
Haser, Alexandra	Molex Incorporated	Molex Incorporated
He, Xiang	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Healey, Adam	Broadcom Inc.	Broadcom Inc.
Heck, Howard	Intel Corporation	Intel Corporation
Hegde, Rajmohan	Broadcom Corporation	Broadcom Ltd.
Hidaka, Yasuo	Credo Semiconductor	Credo Semiconductor
Huang, Kechao		Huawei Technologies Co., Ltd
HUANG, QINHUI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Huber, Thomas	Nokia	Nokia

Hutchins, Jeff	Ranovus	Ranovus
ISHIBE, KAZUHIKO	Anritsu Company	Anritsu Company
Isono, Hideki	Fujitsu Optical Components Limited	Fujitsu Optical Components Limited
Issenhuth, Tom	Issenhuth Consulting, LLC	Huawei Technologies Co., Ltd
Jackson, Kenneth	Sumitomo Electric Device Innovations, USA	Sumitomo Electric Industries, LTD
Jimenez, Andrew	Anixter Inc.	Anixter Inc.
Johnson, John	Broadcom Corporation	Broadcom Corporation
Kabra, Lokesh	Synopsys, Inc.	Synopsys, Inc.
Kamino, John	OFS	OFS
Kao, Chienping	Intel Corporation	Cornelis Networks
Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.
Kim, Inho	MaxLinear	MaxLinear
Kim, Kihong/Joshua	Hirose Electric (USA), Inc.	Hirose Electric (USA), Inc.
Kim, Yongbum	Tenstorrent	Tenstorrent
Kimber, Eric	Semtech Ltd	Semtech Ltd
King, Roger	TRUMPF Photonic Components GmbH	TRUMPF Photonic Components GmbH
Kinningham, Alan	I-PEX CONNECTORS	I-PEX (division of Dai-Ichi Seiko)
Klempa, Michael	University of New Hampshire InterOperability Laboratory (UNH-IOL)	Amphenol Corporation
Kocsis, Sam	Amphenol Corporation	Amphenol Corporation
Kota, Kishore	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Kuschnerov, Maxim	Huawei Technologies Duesseldorf GmbH	Huawei Technologies Duesseldorf GmbH
Lam, Cedric		Google
Law, David	Hewlett Packard Enterprise	Hewlett Packard Enterprise
Le Cheminant, Greg	Keysight Technologies	Keysight Technologies
Lewis, David	Lumentum Inc.	Lumentum Inc.
Li, Mike-Peng	Intel Corporation	Intel Corporation
Lim, Jane	Cisco Systems, Inc.	Cisco Systems, Inc.
Lin, Youxi		Huawei Technologies Co., Ltd
Lingle, Robert	OFS	OFS
Liu, Hai-Feng	HG Genuine	HG Genuine
Liu, Karen	Nubis Communications	Nubis Communications
Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.
Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components
Maniloff, Eric	Ciena Corporation	Ciena Corporation
Marques, Flavio	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC
Marris, Arthur	Cadence Design Systems, Inc.	Cadence Design Systems, Inc.
MASUDA, TAKEO	OITDA	OITDA
Mazzini, Marco	Cisco Systems, Inc.	Cisco Systems, Inc.
Mellitz, Richard	Samtec, Inc.	Samtec, Inc.
mi, guangcan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Milicevic, Mario	MaxLinear	MaxLinear
Moorwood, Charles	Keysight Technologies	Keysight Technologies
Mu, Jianwei		Hisense
Muller, Shimon	Enfabrica Corp.	Enfabrica Corp.
Muth, Karlheinz	Broadcom Corporation	Broadcom Corporation
Nering, Raymond	Cisco Systems, Inc.	Cisco Systems, Inc.

Nicholl, Shawn	Xilinx	Xilinx
Noujeim, Leesa	Google	Google
Nowell, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
Ofelt, David	Juniper Networks, Inc.	Juniper Networks, Inc.
Omori, Kumi	NEC Corporation	NEC Corporation
Opsasnick, Eugene	Broadcom Inc.	Broadcom Corporation
Palkert, Thomas	Macom, Samtec	Samtec-Macom
PARK, CHUL SOO	Juniper Networks Inc.	Juniper Networks, Inc.
Parsons, Earl	CommScope, Inc.	CommScope, Inc.
peng, semmy		Huawei Technologies Co., Ltd
Pepper, Gerald	Keysight Technologies	Keysight Technologies
Piehler, David	Dell Technologies	Dell
Pittala, Fabio	Huawei Technologies Duesseldorf GmbH	Huawei Technologies Duesseldorf GmbH
Powell, William	INDEPENDENT	INDEPENDENT
Quan, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Rabinovich, Rick	Keysight Technologies	Keysight Technologies
Radhamohan, Rajeshmohan	MAXLINEAR INC	Broadcom Corporation
Ran, Adee	Cisco Systems, Inc.	Cisco systems
Ren, Hao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Sakai, Toshiaki	Socionext Inc.	socionext
Sambasivan, Sam	AT&T	AT&T
Savi, Olindo	Hubbell Incorporated	Hubbell Incorporated
Shah, Anup	Mentor Graphics	Siemens EDA
She, Qingya	Fujitsu Network Communications	Fujitsu Network Communications
Shukla, Priyank	Synopsys, Inc.	Synopsys, Inc.
Sommers, Scott	Molex LLC	Molex Incorporated
Son, Yung Sung	Optomind Inc	Optomind Inc
Sone, Yoshiaki	NTT	Nippon Telegraph and Telephone Corporation (NTT)
Sorbara, Massimo	GLOBALFOUNDRIES	GLOBALFOUNDIRES
Sprague, Edward	Infinera Corporation	Infinera Corporation
Stassar, Peter	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
SU, CHANGZHENG		Huawei Technologies Co., Ltd
Sun, Junqing	Credo Semiconductor	Credo Semiconductor
Sun, Yi		OFS
Tailor, Bharat	Semtech Canada Corporation	Semtech Canada Corporation
TAKAHARA, TOMOO	FUJITSU LABORATORIES LIMITED	FUJITSU LIMITED
Takahashi, Tadashi	Nitto Denko Corporation	Nitto Denko Corporation
Takayama, Kazuya	Nitto Denko Corporation	Nitto Denko Corporation
Tan, Kan	Tektronix, Inc.	Tektronix, Inc.
Terada, Masaru	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC
Theodoras, James	HG Genuine	HG Genuine
tomofuji, hiroaki		FUJITSU
Tooyserkani, Pirooz	Cisco Systems, Inc.	Cisco Systems, Inc.
Tran, Viet	Keysight Technologies	Keysight Technologies
Trowbridge, Stephen	Nokia	Nokia
Ulrichs, Ed	Intel Corporation	Intel Corporation
Wang, Ruoxu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd

Wang, Xinyuan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Weaver, James	Arista Networks	Arista Networks
Williams, Tom	Cisco Systems, Inc.	Cisco Systems, Inc.
Withey, James	Fluke Corporation	Fluke Corporation
Wu, Mau-Lin	MediaTek Inc.	MediaTek Inc.
Xu, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Zhang, Bo	Marvell Technology, Inc	Marvell Technology, Inc
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd

Attendance Per IMAT 29 July 2021

Name	Employer	Affiliation
BakroNagy, Istvan	EFFECT Photonics	Effect Photonics
Bernier, Eric		Huawei Technologies Canada; Huawei Technologies Co., Ltd
Bhatt, Vipul	II-VI Incorporated	II-VI Incorporated
Bois, Karl	TE Connectivity	TE Connectivity
Brown, Matthew	Huawei Technologies Canada	Huawei Technologies Canada
Bruckman, Leon	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Cassan, Dave	Alphawave	Alphawave
Chang, Yongmao	Inphi Corporation	Source Photonics
cheng, weiqiang		China Mobile Communications Corporation (CMCC)
D'Ambrosia, John	Futurewei Technologies	Futurewei Technologies, U.S. Subsidiary of Huawei
Dawe, Piers J G	NVIDIA	Nvidia
Dudek, Michael	Marvell	Marvell
Ewen, John	Marvell	Marvell
Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC, Marvel
Goodwill, Dominic		Huawei Technologies Canada; Huawei Technologies Co., Ltd
Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
Harstead, Ed	Nokia	Nokia
Haser, Alexandra	Molex Incorporated	Molex Incorporated
He, Xiang	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Healey, Adam	Broadcom Inc.	Broadcom Inc.
Heck, Howard	Intel Corporation	Intel Corporation
Huang, Kechao		Huawei Technologies Co., Ltd
HUANG, QINHUI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Huber, Thomas	Nokia	Nokia
Hutchins, Jeff	Ranovus	Ranovus
Isono, Hideki	Fujitsu Optical Components Limited	Fujitsu Optical Components Limited
Jackson, Kenneth	Sumitomo Electric Device Innovations, USA	Sumitomo Electric Industries, LTD
Jimenez, Andrew	Anixter Inc.	Anixter Inc.
Johnson, John	Broadcom Corporation	Broadcom Corporation
Kabra, Lokesh	Synopsys, Inc.	Synopsys, Inc.
Kamino, John	OFS	OFS
Kao, Chienping	Intel Corporation	Cornelis Networks
Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.
Kim, Kihong/Joshua	Hirose Electric (USA), Inc.	Hirose Electric (USA), Inc.
Kimber, Eric	Semtech Ltd	Semtech Ltd
Kocsis, Sam	Amphenol Corporation	Amphenol Corporation
Koehler, Daniel	MorethanIP	MorethanIP
Kuschnerov, Maxim	Huawei Technologies Duesseldorf GmbH	Huawei Technologies Duesseldorf GmbH
Lam, Cedric		Google
Lawson, Matthew	Cisco Systems, Inc.	Cisco Systems, Inc.
Levin, Itamar		Intel Corporation

Lewis, David	Lumentum Inc.	Lumentum Inc.
Lin, Youxi		Huawei Technologies Co., Ltd
Liu, Hai-Feng	HG Genuine	HG Genuine
Lu, Yuchun	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Mak, Gary	Inphi Corporation	inphi
Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components
Maniloff, Eric	Ciena Corporation	Ciena Corporation
Mazzini, Marco	Cisco Systems, Inc.	Cisco Systems, Inc.
mi, guangcan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Milicevic, Mario	MaxLinear	MaxLinear
Mu, Jianwei		Hisense
Muller, Shimon	Enfabrica Corp.	Enfabrica Corp.
Muth, Karlheinz	Broadcom Corporation	Broadcom Corporation
Nering, Raymond	Cisco Systems, Inc.	Cisco Systems, Inc.
Nicholl, Shawn	Xilinx	Xilinx
Nowell, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
Ofelt, David	Juniper Networks, Inc.	Juniper Networks, Inc.
Omori, Kumi	NEC Corporation	NEC Corporation
Opsasnick, Eugene	Broadcom Inc.	Broadcom Corporation
Palkert, Thomas	Macom, Samtec	Samtec-Macom
PARK, CHUL SOO	Juniper Networks Inc.	Juniper Networks, Inc.
Parsons, Earl	CommScope, Inc.	CommScope, Inc.
peng, semmy		Huawei Technologies Co., Ltd
Pittala, Fabio	Huawei Technologies Duesseldorf GmbH	Huawei Technologies Duesseldorf GmbH
Pitwon, Richard	Resolute Photonics	AIO Core
Rabinovich, Rick	Keysight Technologies	Keysight Technologies
Rahn, Jeffrey	Infinera Corporation	Facebook
Ran, Adee	Cisco Systems, Inc.	Cisco systems
Rannow, R K	silverdraft supercomputing	Silverdraft Supercomputing
Rechtman, Zvi	Mellanox Technologies	NVIDIA Corporation
Ren, Hao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Rodes, Roberto	II-VI	II-VI
Sakai, Toshiaki	Socionext Inc.	socionext
Savi, Olindo	Hubbell Incorporated	Hubbell Incorporated
Shahramian, Shayan		Alphawave
Shrikhande, Kapil	Innovium Inc.	Innovium
Shukla, Priyank	Synopsys, Inc.	Synopsys, Inc.
Sommers, Scott	Molex LLC	Molex Incorporated
Son, Yung Sung	Optomind Inc	Optomind Inc
Sone, Yoshiaki	NTT	Nippon Telegraph and Telephone Corporation (NTT)
Sorbara, Massimo	GLOBALFOUNDRIES	GLOBALFOUNDIRES
Sprague, Edward	Infinera Corporation	Infinera Corporation
Sun, Junqing	Credo Semiconductor	Credo Semiconductor
Tailor, Bharat	Semtech Canada Corporation	Semtech Canada Corporation
TAKAHARA, TOMOO	FUJITSU LABORATORIES LIMITED	FUJITSU LIMITED
Terada, Masaru	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC

Theodoras, James	HG Genuine	HG Genuine
Tooyserkani, Pirooz	Cisco Systems, Inc.	Cisco Systems, Inc.
Tracy, Nathan	TE Connectivity	TE Connectivity
Tran, Viet	Keysight Technologies	Keysight Technologies
Villares, Gustavo		Lumiphase
Wang, Haojie	China Mobile Communications Corporation (CMCC)	China Mobile Communications Corporation (CMCC)
Wang, Ruoxu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Wang, Xinyuan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Weaver, James	Arista Networks	Arista Networks
Welch, Brian	Cisco Systems, Inc.	Luxtera
Williams, Tom	Cisco Systems, Inc.	Cisco Systems, Inc.
Wu, Mau-Lin	MediaTek Inc.	MediaTek Inc.
Xu, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Young, James	CommScope, Inc.	CommScope
Zebian, Sara		Google
Zhiwei, Yang	ZTE Corporation	ZTE Corporation
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Zivny, Pavel	Tektronix, Inc.	Tektronix, Inc.