

20 April 2023 Ad hoc Electronic Teleconference Meeting

Approved Meeting Minutes, Prepared by Kent Lusted

Meeting called to order at ~6:30 am (all times Pacific) by Kent Lusted, who was chairing the meeting.

Chair noted that individuals should fill out IMAT information for attendance.

Presentation #1	Agenda
Presenter	Kent Lusted
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0420/agenda_3dj_01_adhoc_230420.pdf

Questions were asked and answered.

The chair asked if there were any modifications for the agenda (See slide #2) – there were none.

There were no objections to the approval of the agenda, and it was considered approved by unanimous consent.

Ad hoc chair noted that the minutes for the 6 April 2023 electrical ad hoc were posted to the website. (see: https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0406/minutes_3dj_elec_230406_unapproved.pdf) He asked if there were corrections or modifications to the posted minutes. No one responded. He asked if there was objection to approving the posted minutes. No one responded. The minutes from 6 April 2023 were approved by unanimous consent

The chair noted an email had been sent out to the reflector reminding individuals to review the following IEEE SA policies-

- IEEE SA Participation Policy
- IEEE SA Copyright Policy
- IEEE SA Patent Policy

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

Chair presented the third slide (See Slide #26) of the IEEE SA Patent Policy slides. Chair did call for Potentially Essential Patents, and no one came forward.

Chair presented the second slide (See Slide #31) 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 second slide (See Slide #35) 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 reminded participants of the IEEE Code of Ethics and Code of Conduct. (see slide #34)

The chair reviewed meeting decorum. See Slide #5.

The chair reviewed voting. See Slide #9.

Chair reminded participants to sign into the IEEE Meeting and Attendance Tool.

Chair reminded participants to declare their affiliation in the online meeting. Failure to do so would result in expulsion from the meeting.

Presentation #2	BER budget allocation for AUIs
Presenter	Adee Ran
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0420/ran_3dj_elec_01_230420.pdf

Questions were asked and answered.

Chair reminded participants to sign into the IEEE Meeting and Attendance Tool.

Presentation #3	PHY latency and AUI BER recap
Presenter	Matt Brown
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0420/brown_3dj_elec_01_230420.pdf

Questions were asked and answered.

Ad hoc chair reminded participants of the voting rules for the ad hoc meeting. He also noted that Straw Poll #1 and #2 were directional straw polls and that no formal decisions would be taken.

Ad hoc chair noted that the term “BER” in straw poll #1 and #2 should be assumed to be the measured BER.

Straw Poll #1:

At this time, I prefer the 200 Gbps/lane AUI BER target option per brown_3dj_elec_01_230420 slide 18:

- a. Option A: C2M and C2C AUI BER 1E-5
- b. Option B: C2M and C2C AUI BER 2E-5
- c. Option C: C2M and C2C AUI BER 5E-5
- d. Option D: C2M and C2C AUI BER 1E-4
- e. Option E: C2M AUI BER 8E-5 and C2C AUI BER 2E-5

Results (Chicago rules): A: 29 B: 19 C: 25 D: 8 E: 24

Straw Poll #2:

At this time, I prefer the 200 Gbps/lane AUI BER target option per brown_3dj_elec_01_230420 slide 18:

- a. Option A: C2M and C2C AUI BER 1E-5
- b. Option B: C2M and C2C AUI BER 2E-5
- c. Option C: C2M and C2C AUI BER 5E-5
- d. Option D: C2M and C2C AUI BER 1E-4
- e. Option E: C2M AUI BER 8E-5 and C2C AUI BER 2E-5

Results (Choose one): A: 12 B: 4 C: 17 D: 0 E: 12 NMI: 11

Break at 8:48 a.m. Resumed at 8:51 a.m.

Chair reminded participants to sign into the IEEE Meeting and Attendance Tool.

Presentation #4	Food for thought on active copper cables
Presenter	Adee Ran
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0420/ran_3dj_elec_02_230420.pdf

Task Force chair noted a concern with specifying media in the specification. He also reviewed the process for new objectives.

Questions were asked and answered.

Chair noted during the Q&A for presentation #4 that the meeting would conclude past the announced meeting end time.

Task Force Chair John D’Ambrosia noted that he would review the project scope implications of options 1 and 2 in presentation #4 with the Working Group Chair.

Ad hoc chair noted that the contributions from Hossein Shakiba would be rescheduled to a May ad hoc.

Meeting adjourned at ~9:47 a.m. Pacific.

Attendees (per IMAT)

Name	Employer	Affiliation
Akbaba, Enis	Analog Devices Inc.	Self Employed
BakroNagy, Istvan	Cisco Systems, Inc.	Cisco Systems, Inc.
Beauregard, Francois	Belden Canada ULC	Belden
Ben-Artzi, Liav	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Bernier, Eric	Huawei Technologies Canada Co., Ltd.	Huawei Technologies Canada Co., Ltd.
Brown, Matthew	Huawei Technologies Canada	Huawei Technologies Canada
Bruckman, Leon	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Calvin, John	Keysight Technologies	Keysight Technologies
Cassan, Dave	Alphawave	Alphawave
Chan Carusone, Anthony		Alphawave Semi; University of Toronto
Chappell, Neveia	Keysight Technologies	Keysight Technologies

Name	Employer	Affiliation
D'Ambrosia, John	Futurewei Technologies, U.S. Subsidiary of Huawei	Futurewei Technologies, U.S. Subsidiary of Huawei
Dawe, Piers J G	NVIDIA	Nvidia
Del Vecchio, Peter		Broadcom Corporation
Dudek, Michael	Marvell	Marvell
Ewen, John	Marvell	None - Self-funded
Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC; Marvell Semiconductor, Inc.
Gore, Brandon	Samtec, Inc.	Samtec, Inc.
Gu, Tao		Centec
Gui, Tao		Huawei Technologies Co., Ltd
Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
He, Xiang	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Healey, Adam	Broadcom Inc.	Broadcom Inc.

Name	Employer	Affiliation
Heck, Howard	Intel	Intel
Hegde, Rajmohan	Broadcom Corporation	Broadcom Ltd.
Hidaka, Yasuo	Credo Semiconductor	Credo Semiconductor
Huang, Howard		Synopsys, Inc.
Huang, Xuejue		Intel Corporation
Issenhuth, Tom	Issenhuth Consulting, LLC	Huawei Technologies Co., Ltd
Jiang, Chendi	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Jiang, Chenhui		Sicoya GmbH
Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.
Kim, Inho	MaxLinear	MaxLinear
Kim, Kihong/Joshua	Hirose Electric (USA), Inc.	Hirose Electric (USA), Inc.
Klempa, Michael	Alphawave Semi	Alphawave IP
Koch, Lavi		Lavi Koch Nvidia
Kondo, Taiji	MegaChips Corporation	Dexerials Corporation

Name	Employer	Affiliation
Le Cheminant, Greg	Keysight Technologies	Keysight Technologies
Levin, Itamar		Intel Corporation
Li, Mike-Peng	Intel	Intel
Li, Pei-Rong	MediaTek Inc.	MediaTek Inc.
Liu, Cathy	Broadcom Corporation	Broadcom Corporation
Liu, Karen	Nubis Communications	Nubis Communications
Lu, Yuchun	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Lusted, Kent	Intel	Intel
Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.
Mellitz, Richard	Samtec, Inc.	Samtec, Inc.
Mu, Jianwei		Hisense
Muller, Shimon	Enfabrica Corp.	Enfabrica
MURAKAMI, YUKI		Fujitsu Limited
Murty, Ramana	Broadcom Inc.	Broadcom Corporation

Name	Employer	Affiliation
Muth, Karlheinz	Broadcom Corporation	Broadcom Corporation
Nering, Raymond	Cisco Systems, Inc.	Cisco Systems, Inc.
Noujeim, Leesa	Google	Google
Nowell, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
Ofelt, David	Juniper Networks, Inc.	Juniper Networks, Inc.
Opsasnick, Eugene	Broadcom Inc.	Broadcom Inc.
Palkert, Thomas	Macom, Samtec	Samtec-Macom
PARK, CHUL SOO	Juniper Networks Inc.	Juniper Networks, Inc.
Patra, Ienin	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Piehler, David	Dell Technologies	Dell
Rabinovich, Rick	Keysight Technologies	Keysight Technologies
Ran, Adee	Cisco Systems, Inc.	Cisco Systems, Inc.
Rechtman, Zvi	NVIDIA	NVIDIA

Name	Employer	Affiliation
Ren, Hao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Riani, Jamal		Marvell Semiconductor, Inc.
Rodes, Roberto	II-VI	II-VI
Sakai, Toshiaki	Socionext Inc.	socionext
Shanbhag, Megha	Tyco	TE Connectivity
Shoval, Ayal	Synopsys, Inc.	Synopsys, Inc.
Shukla, Priyank	Synopsys, Inc.	Synopsys, Inc.
Sikkink, Mark	Hewlett Packard Enterprise	Hewlett Packard Enterprise
Sinn, Peter		Alphawave IP
Slavick, Jeff	Broadcom Inc	Broadcom Inc
Sommers, Scott	Molex LLC	Molex Incorporated
Son, Yung Sung	Optomind Inc	Optomind Inc
Summers, Robert		Broadcom Corporation

Name	Employer	Affiliation
Sun, Junqing	Credo Semiconductor	Credo Semiconductor
Tracy, Nathan	TE Connectivity	TE Connectivity
Tran, Viet	Keysight Technologies	Keysight Technologies
Weaver, James	Arista Networks	Arista Networks
Whiteman, Cameron	Infinera Corporation	Infinera Corporation
Wingrove, Michael	Ciena Corporation	Ciena Corporation
Wong, Henry		Alphawave Semi
Wu, Mau-Lin	MediaTek Inc.	MediaTek Inc.
Zhiwei, Yang	ZTE Corporation	ZTE Corporation
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Zivny, Pavel	Tektronix, Inc.	Tektronix, Inc.