IEEE P802.3ck Ad Hoc meeting –
June 24, 2020

Prepared by Kent Lusted and Beth Kochuparambil

Proposed Agenda:

- Approval of the Agenda
- Approval of the minutes
- Participant reminder
    - http://www.ieee802.org/devdocs.shtml
- IEEE Copyright reminder
    - https://standards.ieee.org/ipr/index.html
- IEEE Patent Policy reminder:
    - http://www.ieee802.org/3/patent.html
- Task Force Status
- Chief Editor's Report
- 3ck Technical Presentations* –
    - QSFP-DD SMT MCB/HCB Performance vs. 802.3ck D1.2 – Alex Haser
    - 802.3ck Frequency Domain Limits for Mated Cables – Alex Haser
    - Common Mode: Part 2, MM plots - Rich Mellitz
    - Common Mode Discussion (Based on July deck) - Ali Ghiasi
- Comment Discussions
    - MDI connector normative references - Chris Diminico
    - CR cable assembly eta0 value - Howard Heck
    - ~~C2M TP4 module TX modes and NE/FE EH/VEC – Matt Brown~~ - *Withdrawn*
    - C2M drop ESMW/EW specifications - Matt Brown

Presentations posted at: http://www.ieee802.org/3/ck/public/adhoc/index.html

Meeting began at ~07:00 a.m. Pacific by Beth Kochuparambil.

Meeting began with the agenda presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun24_20/agenda_062420_3ck_adhoc.pdf

The ad hoc chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Presented the proposed agenda. Matt Brown withdrew the "C2M TP4 module TX modes and NE/FE EH/VEC" item from the agenda. Chair asked if there was opposition to the modified agenda. No one responded. The agenda was approved by the ad hoc.

The chair noted that the June 10, 2020 and June 17, 2020 minutes were posted. She asked if there were any corrections or modifications. No one responded. The June 10, 2020 and June 17, 2020 minutes were approved without opposition.

Chair reminded participants of the IEEE Participation Requirements and showed the slide with the Participation requirements, the IEEE copyright policy (see: https://standards.ieee.org/ipr/index.html), and the IEEE patent policy (see: http://www.ieee802.org/3/patent.html). Chair asked if anyone was unfamiliar with any of these IEEE policies. No one responded. There was no response to a "Call for Patents" on the Ad Hoc.

Agenda Items

P802.3ck Update, Beth Kochuparambil
See: http://www.ieee802.org/3/ck/public/adhoc/jun24_20/agenda_062420_3ck_adhoc.pdf
- Draft 1.2 review closed on June 13, 2020 AOE. Consensus building in advance of the meetings will be necessary.
- Telephonic interims were announced on the reflector. See: http://www.ieee802.org/3/100GEL/email/msg00473.html
- Updated and consensus presentations will be due noon Pacific time the Friday before a targeted topic. The high level comment agenda will be sent to the email reflector.

Chief Editor's Report, Matt Brown
See: http://www.ieee802.org/3/ck/public/adhoc/jun24_20/brown_3ck_adhoc_01_062420.pdf
- Author noted that the report was preliminary and that a formal version would be reviewed in the July meeting series.
- It was noted that slide 8 was a work in progress and would be skipped.

Presentation #1:
"QSFP-DD SMT MCB /HCB Performance vs. 802.3ck D1.2", Alex Haser
See: http://www.ieee802.org/3/ck/public/adhoc/jun17_20/haser_3ck_adhoc_01c_061720.pdf
- Author noted the correction on slide 20 and 21 from the previous ad hoc presentation on June 10, 2020.

Presentation #2:
"802.3ck Frequency Domain Limits for Mated Cables ", Alex Haser
See: http://www.ieee802.org/3/ck/public/adhoc/jun17_20/haser_3ck_adhoc_02_061720.pdf
- On slide 2, the term "mated cable" was meant to be "mated cable assembly".
- Discussed the aspects of manufacturing impact to the differential-to-common mode conversion loss. The data from a shorter cable was not available yet.
- There was a request for information on the long cable.
- There was a request for a plot of the accumulated noise across frequency for the channel.

Presentation #3:
"Common Mode: Fact or Fiction ", Rich Mellitz
See: http://www.ieee802.org/3/ck/public/adhoc/jun24_20/mellitz_3ck_adhoc_01_062420.pdf
   ● Author noted that the presentation addresses a request made at the last ad hoc for more details on multi-mode S-parameter plots.
   ● Discussed the method used to create the data in the presentation.
   ● Discussed various aspects of the common mode.

Presentation #4:
"Common Mode Discussion ", Ali Ghiasi
See: http://www.ieee802.org/3/ck/public/20_07/ghiasi_3ck_03_0720.pdf
   ● It was noted that the presentation was a submission "Return Loss and ERL Limits for C2M and CR" for the July meeting series.
   ● Discussed the industry use and data from a previous generation

Presentation #5:
"MDI Connector Normative References Discussion", Chris Diminico
See: http://www.ieee802.org/3/ck/public/adhoc/jun24_20/diminico_3ck_adhoc_01_062420.pdf
   ● The presenter noted that this was a call to action for normative references
   ● Discussion of available industry specifications
   ● Discussion of what nomenclature that has been used in previous IEEE copper cable clauses

Presentation #6:
"CR cable assembly eta0 value Discussion ", Howard Heck
See: http://www.ieee802.org/3/ck/public/adhoc/jun24_20/heck_3ck_adhoc_01_062420.pdf
   ● Discussed the eta_0 value details on slide 3.

Presentation #7:
C2M drop ESMW/EW specifications Discussion, Matt Brown
See: http://www.ieee802.org/3/ck/public/adhoc/jun24_20/brown_3ck_adhoc_02_062420.pdf
   ● Discussed the EW and ESMW parameter and various paths forward
   ● Presenter noted that the straw poll would be taken to understand how to move the group forward on the associated comments.

Straw Poll #1:
For Annex 120G, I would support the following direction to deal with EW and ESMW (Chicago Rules):
    A. Retain EW and ESMW as currently defined
    B. Retain EW and ESMW and re-specify RR DFE
    C. Remove EW and ESMW, add jitter specification at TP1a and TP4
    D. Other approach not listed above
Results: A: 5   , B: 8 , C: 14 , D: 6

The ad hoc meeting ended at ~9:00 am Pacific.

List of attendees (captured from Webex tool)

Name	Affiliation	Employed by
Adam Healey	Broadcom	Broadcom
Adee Ran	Intel	Intel
AJ Yang	Foxconn Interconnect Technology	Foxconn Interconnect Technology
Alan Kinningham	I-PEX	I-PEX
Alex Haser	Molex	Molex
Ali Ghiasi	Ghiasi Quantum/Inphi	Ghiasi Quantum/Inphi
Arthur Marris	Cadence	Cadence
Beth Kochuparambil	Cisco	Cisco
Bill Kirkland	Semtech	Semtech
Brandon Gore	Samtec	Samtec
Bruce Champion	TE Connectivity	TE Connectivity
Champion (Chien Ping) Kao	Intel	Intel
Chan Chih (David) Chen	Applied Optoelectronics	Applied Optoelectronics
Chris DiMinico	PHY-SI	PHY-SI
Clint Walker	Alphawave IP	Alphawave IP
David Malicoat	Senko	Independent
David Ofelt	Juniper	Juniper
David Piehler	Dell EMC	Dell EMC
Derek Cassidy	BT	BT

Ed Ulrichs	Intel	Intel
Frank Chang	Source Photonics	Source Photonics
Frank Lambrecht	Gigamon	Gigamon
Gary Nicholl	Cisco	Cisco
Geoff Zhang	Xilinx	Xilinx
Greg LeCheminant	Keysight	Keysight Technologies
Greg McSorley	Amphenol	Amphenol
Hansel Dsilva	Achronix	Achronix
Hormoz Djahanshahi	Microchip	Microchip
Howard Heck	Intel	Intel
Inho Kim	Marvell	Marvell
James Weaver	Arista	Arista
Jane Lim	Cisco	Cisco
Jason Chou	Foxconn Interconnect Technology	Foxconn Interconnect Technology
Jeffery Maki	Juniper	Juniper
John Calvin	Keysight	Keysight
John Ewen	Marvell	Marvell
Joshua Kim	Hirose	Hirose
Ken Jackson	SEI-Device	SEI-Device
Kent Lusted	Intel	Intel
Kumaran Krishnasamy	Broadcom	Broadcom
Liav Ben-Artsi	Marvell	Marvell

Mark Kimber	Semtech	Semtech
Masoud Koochakzadeh	Max Linear	Max Linear
Matt Brown	Huawei	Huawei
Mau-Lin Wu	Mediatek	Mediatek
Mike Dudek	Marvell	Marvell
Nathan Tracy	TE Connectivity	TE Connectivity
Patrick Casher	Foxconn Interconnect Technology	Foxconn Interconnect Technology
Phil Sun	Credo	Credo
Piers Dawe	NVIDIA	NVIDIA
Pirooz Tooyserkani	Cisco	Cisco
Qing Xu	Ranovus	Ranovus
Rajmohan Hegde	Broadcom	Broadcom
Rich Mellitz	Samtec	Samtec
Rick Rabinovich	Keysight	Keysight
Robert Summers	Maxim Integrated	Maxim Integrated
Sam Kocsis	Amphenol	Amphenol
Scott Sommers	Molex	Molex
Scott Walley	Max Linear	Max Linear
SJ Yu	Foxconn Interconnect Technology	Foxconn Interconnect Technology
Stephen Didde	Keysight	Keysight
Steve Sekel	Keysight	Keysight
Tao Hu	Marvell	Marvell

Terry Little	Foxconn Interconnect Technology	Foxconn Interconnect Technology
Timothy De Keulenaer	NVIDIA	NVIDIA
Tom Palkert	Macom/Samtec	Macom/Samtec
Toshiaki Sakai	Socionext	Socionext
Xiang He	Huawei	Huawei
Yasuo Hidaka	Credo	Credo