Unconfirmed Meeting Minutes: IEEE 802.3 Ethernet for Automotive Imaging Sensors (ISAAC) Study Group
December 13, 2023
802.3 ISAAC Study Group Interim (telephonic)

Prepared by George Zimmerman

IEEE 802.3 Ethernet for Automotive Imaging Sensors (ISAAC) Study Group meeting convened at 6:00 AM (PST (Pacific Standard Time, UTC-3), Wednesday, December 13, 2023, by Jon Lewis, IEEE 802.3 Ethernet for Automotive Imaging Sensors (ISAAC) Study Group Chair.

Attendance is listed in Appendix A

ADMINISTRATIVE MATTERS
Presentation: agenda_ISAAC_1_121323.pdf
Presenter: Jon Lewis, Chair.

The Chair reviewed the agenda. Mr. Lewis turned to presentation agenda_ISAAC_1_121323.pdf.

The chair announced that he had received a late question on the minutes from the prior meeting, and therefore confirmation would be deferred until that question was resolved.

Approval of Agenda:
The chair asked if there were objections, additions, or corrections to the agenda displayed. There were none. The chair announced that the agenda was considered approved.

The Chair then resumed the review of presentation agenda_ISAAC_1_121323.pdf:

- Mr. Lewis noted that there should be no recording or photography without permission.

Mr. Lewis asked if anyone was attending from the press including those who would run a public blog on this meeting – none responded.

Mr. Lewis then continued review of the presentation, Big Ticket items for this meeting, to develop PAR, 5 Criteria, and Objectives for ISAAC.

Mr. Lewis reviewed the goals for the meeting, access to the reflector and website, and ground rules.

Mr. Lewis then gave instructions on how study group votes on motions would be taken for electronic meetings (slide 9) and reserved the right to take informative straw polls by working group voters. He asked for questions or comments.

Mr. Lewis moved on reviewing the links to the rules.

IEEE Patent Policy, Mr. Lewis asked if anyone in the meeting needed review of the pre-PAR patent policy in detail. None responded, therefore, he showed and briefly reviewed the patent policy slides for patent policy for study groups from agenda_ISAAC_1_121323.pdf. (06:06 PST)

Mr. Lewis asked if anyone wished a full reading of the copyright slides. None responded. He therefore showed and briefly reviewed the IEEE SA copyright slides from agenda_ISAAC_1_121323.pdf

Mr. Lewis then read and reviewed the IEEE ethics and code of conduct slides from agenda_ISAAC_1_121323.pdf.

He then read and showed the slides on "Participant behavior" from agenda_ISAAC_1_121323.pdf.

Mr. Lewis showed and read the "individual process" slide ("Participants … shall act independently…"). Mr. Lewis asked if anyone objected to the individual process and if so to leave the meeting. There were no participants that left the meeting.

Mr. Lewis advised the group of the IEEE SA (anti) dominance policy, showed, and read the slide "…activities shall allow the fair & equitable consideration" slide. There were no questions.

Attendance, Mr. Lewis advised the group of the IEEE meeting attendance tool and procedures.

Mr. Lewis reviewed the standards development process for IEEE and where this study group is in the process.

Mr. Lewis noted that there would be an "01a" version of the agenda deck, with the change that the footer of the slides would be corrected to read that

LIAISONS
The Chair noted there were no liaisons for the group at this meeting.

Mr. Lewis reviewed the procedure and time constraints for presentations for this meeting. He allotted and announced 45 minutes for each presentation.

PRESENTATIONS
The Chair then moved to the presentations for the meeting. (6:13AM)

Title: Required number of inline connectors
URL:https://www.ieee802.org/3/ISAAC/public/121323/matheus_ISAAC_01_13122023.pdf

Presenter: Kirsten Matheus, BMW

Discussion: The presenter provided some feedback from individuals working for automobile manufacturers on the number of inline connectors needed. Questions were sent to 28 individuals with 14 different affiliations, and received 13 responses, giving an impression of the need. The results confirmed a desire by most in 4 or fewer connectors, significant (but not universal) willingness (77%) to investigate solutions specified for fewer connectors, and mixed results on the correlation between long links and a need for a larger number of inline connectors. The presenter summarized that the results appeared to confirm that 4 inline connectors was a good choice.

In discussion, a participant thanked the presenter for bringing the data, and stated it resolved some questions on the decisions from the prior meeting. Others asked about the individual who had responded a need for 5 connectors, and the presenter clarified that the individual who had responded 5 indicated they would still be willing to investigate a solution supporting 4.

(6:29 AM)

Title: On EEE and Auto-negotiation for ISAAC
URL:https://www.ieee802.org/3/ISAAC/public/121323/razavi_12112023_ISAAC_On%20EEE%20and%20Auto-negotiation%20for%20ISAAC.pdf

Presenter: Alireza Razavi, Marvell

Discussion: The presenter discussed two optional and not-yet-adopted objectives for the study group – optional support for energy efficient Ethernet (EEE), and optional support for auto-negotiation.

In discussion, there were differing opinions on the need for these objectives, particularly on the power savings that might be achieved with EEE and whether EEE, as understood in 802.3, was really what was meant for cameras, which the presenter and commenters clarified was an activity cycling tied to the camera's framing activity (in the high speed direction). Similarly, there was discussion that suggested that the need for exchange of parameters may not be what is traditionally meant by auto-negotiation. However, some expressed the need for traditional optional auto-negotiation.

Discussion concluded at 7:27AM PST.
.

Future Meetings
The chair reviewed future meetings, announcing a telephonic interim January 9, 2024: 08h00-09h50 CDT, and reminding the group that the study group would meet during the 802.3 interim meeting series January 22-25, 2024 in St. Petersburg, FL, USA (in-person with remote access). The January meeting times are1/22 from 1300-1800 EST, and 1/23 from 0800-1200 EST. Registration is required for the January 22-25 2024.

A contingent interim was announced for February 7, 2024: 08h00-10h50 CDT, noting that the February 7 meeting was the last day to make changes to pre-circulate the PAR & CSDs for March plenary. The March plenary would be held March 11-14, 2024: Denver, CO, USA, and the chair noted that a registration fee is required for both in-person and remote attendance at the plenary.

ADJOURNMENT
Having exhausted the agenda, Mr. Lewis adjourned the meeting at 7:34 AM PST.

Appendix A: Attendees at the IEEE 802.3 Ethernet for Automotive Imaging Sensors (ISAAC) Study Group Meeting, December 13, 2023 (xx)

Name	Employer	Affiliation	IMAT	Zoom
Ahuja, Ramanjit		ON Semiconductor	X	X
Akin, Sami	Volkswagen AG	Volkswagen Ag	X	X
Alwishah, Abbas		Molex		X
Amrani, Yarden		Nvidia		X
Arndt, Christoph		Continental Automotive Technologies GmbH	X	X
Bar-Niv, Amir	Aquantia Corp	Marvell	X	X
Boyer, Rich	Aptiv - Signal and Power Solutions	Aptiv Signal and Power Solutions	X	X
Chen, Li-chung		Mediatek		X
Chini, Ahmad	Broadcom Corporation	Broadcom Corporation	X	X
Cliber, David		TE Connectivity	X	X
Dalmia, Kamal	Aviva Links Inc	Aviva Links Inc	X	X
Deore, Shruti		FIT		X
Estrakh, Daniel	Valens Semiconductor	Valens Semiconductor	X	X
Fellhauer, Felix	Robert Bosch GmbH	Robert Bosch GmbH	X	X
Fuller, Paul		Marvell	X	X
Gauthier, Claude	NXP Semiconductors	NXP Semiconductors	X	X
Gerl, Markus		MD Elektronik		X
Goel, Sachin	Aviva Links Inc	Aviva Links Inc	X	X
Gorshe, Steven Scott	Microchip Technology, Inc.	Microchip Technology, Inc.	X	X
Graba, James	Broadcom Corporation	Broadcom Corporation	X	X
Haasz, Jodi	IEEE SA	IEEE SA		X
Han, Rubio		CMCC		X
Hogenmueller, Thomas	Robert Bosch GmbH	Robert Bosch GmbH	X	X
Hopf, Daniel	Continental Automotive Technologies GmbH	Continental Automotive Technologies GmbH	X	X
Hoshino, Masayuki		Continental Automotive	X	X
HYAKUTAKE, YASUHIRO	Orbray Co., Ltd.	Orbray Co., Ltd.	X	X
Jones, Chad	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X
Jonsson, Ragnar	Marvell Semiconductor, Inc.	Marvell	X	X
Kamiyama, Naoto	ROHM Co., Ltd.	ROHM Co., Ltd.	X	X
Kikuta, Tomohiro	Orbray Co., Ltd.	Orbray Co., Ltd.	X	X
Koeppendoerfer, Erwin	LEONI Kabel GmbH	LEONI	X	X
Lambert, Angela	Corning Incorporated	Corning Incorporated	X	X
Lasry, Ariel	Qualcomm Technologies, Inc	Qualcomm Technologies, Inc	X	X
Law, David	HPE	HPE		X

Name	Employer	Affiliation	IMAT	Zoom
Lefkin, Peter		MIPI Alliance		X
Lewis, Jon	Dell Technologies	Dell Technologies	X	X
Liebl, Christian		Continental Automotive Systems AG	X	X
Lin, Chia-Chang		Mediatek		X
Lo, William	Marvell Semiconductor, Inc.	Axonne Inc.	X	X
Lou, Wei		Broadcom Corporation	X	X
Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components	X	X
Martino, Kjersti	Inneos	Inneos	X	X
mash, chris	Nupero Ltd	Ethernovia Inc	X	X
Matheus, Kirsten	BMW Group	BMW Group	X	X
Mcclellan, Brett	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X
Ng, Hiok Tiaq	Aviva Links Inc.	Aviva Links Inc	X	X
NIIHARA, YOSHIHIRO	Fujikura Ltd.	Fujikura Ltd.	X	X
Pardo, Carlos	Knowledge Development for POF SL	KDPOF	X	X
Pischl, Neven	Broadcom Corporation	Broadcom Corporation	X	X
Razavi, Alireza	Marvell	Marvell	X	X
Ringel, Haim	General Motors Company	General Motors Company	X	X
Sedarat, Hossein	Ethernovia	Ethernovia	X	X
Sharma, Rohit		Molex		X
Spiessens, Peter		Omnivision	X	X
Strohmeier, Heiko	Robert Bosch GmbH	Robert Bosch GmbH	X	X
Sun, jingcong		Motorcomm Electronic Technology Co	X	X
TAKEUCHI, JUNICHI	JAE Electronics, Inc	JAE Electronics, Inc.	X	X
Thompson, Geoffrey	GraCaSI S.A.	INDEPENDENT	X	X
Tofanicchio, Giuseppe		STMicroelectronics	X	X
Torres, Luisma	Knowledge Development for Plastic Optical Fiber	Knowledge Development for Plastic Optical Fiber	X	X
Tu, Mike	Broadcom Corporation	Broadcom Corporation	X	X
Turner, Max	Ethernovia	Ethernovia	X	X
Wang, Shun-Sheng	Realtek Semiconductor Corp.	Realtek Semiconductor Corp.	X	X
Wienckowski, Natalie	None - Self-funded	IEEE member / Self Employed; Independent Consultant	X	X
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X
Zerna, Conrad	Fraunhofer IIS	Avivalinks Inc.	X	X
Zimmerman, George	CME Consulting, Inc.	CME Consulting/ADI, APL Group, Cisco, Marvell,	X	X

Name	Employer	Affiliation	IMAT	Zoom
		OnSemi, SenTekSe LLC, Sony		