

Minutes
Multi-Gigabit Automotive Optical PHY Study Group (OMEGA)
9 September 2019

Attendees

Name	Employer	Affiliations
Shaziah A	General Motors	General Motors
John Abbott	Corning	Corning
Nobuyasu Araki	Yazaki	Yazaki
Steve Carlson	HSD	Marvell, Bosche
Mabud Choudhury	OFS	OFS
Piers Dawe	Mellanox	Mellanox
Mike Gardner	Molex, LLC	Molex, LLC
James Gilb	GA-ASI, USD	GA-ASI, USD
Steve Groshe	Microchip	Microchip
Robert Grow	RMG Consulting	RMG Consulting, KDPOF
Rita Horner	Synopsys	Synopsys
Yasuhiro Hyakutake	Adamant Namiki Precision Jewel	Adamant Namiki Precision Jewel
Taiji Kondo	Megachips	Megachips
Hiroaki Kukria	Yamaichi	Yamaichi
David Law	HPE	HPE
Larry McMillan	Western Digital	Western Digital
Treg McSorley	Amphenol	Amphenol
Arthur Morris	Cadence	Cadence
Carlos Pardo	KDPOF	KDPOF
Rubén Pérez-Aranda	KDPOF	KDPOF
Hamid Salehi	Marvell	Marvell
Masayuki Shigematsu	Sumitomo Electric	Sumitomo Electric
Matsato Shiino	Furukawa Electric	Furukawa Electric
Steve Swanson	Corning Inc.	Corning Inc.
Satushi Takahashi	POF Promotion	POF Promotion
Tadashi Takahashi	Nitto Denko Corp.	Nitto Denko Corp.
Kazuya Takayama	Nitto Denko Corp.	Nitto Denko Corp.
Paul Vanderlaan	UL LLC	UL LLC
Natalie Wienckowski	General Motors	General Motors
Man-Lim Wu	Media Tek	Media Tek
Xingxin Zang	Huawei	Huawei
Chunhui Zhu	Futurewei	Futurewei

Monday, 9 September 2019, 08:00

Mr. David Law, Chair IEEE 802.3 WG called the meeting to order and explained the first order of business was to organize the Study Group. No one responded to the request to act as Recording Secretary for the meeting, so Mr. Grow recorded these minutes (with notes for the confirmation portion from Mr. Law). Mr. Law reminded attendees that he had indicated his intent in July to appoint Mr. Robert Grow as the SG Chair, and per 802.3 procedures was asking for confirmation of Mr. Grow as the SG Chair at this initial SG meeting. Mr. Law invited Mr. Grow to comment on his appointment, and Mr. Grow briefly indicated his experience in IEEE standards work, and his willingness to serve in the position if confirmed. Mr. Grow then left the room to allow free discussion by SG attendees of Mr. Law's appointment. At the conclusion of discussion, Mr. Law asked for a motion to confirm Mr. Grow as SG Chair.

Motion 1

Confirm Bob Grow as the IEEE 802.3 Multi Gigabit Automotive Optical PHY Study Group Chair.

Move: Steve Carlson

Second: Carlos Pardo

Y: 18, N: 0, A: 0

Mr. Grow returned to the room, was informed of the confirming vote, and he thanked Mr. Law, and thanked the SG for their vote of confidence. Mr. Grow then assumed the chair for the remainder of the SG meeting.

Mr. Grow presented the agenda.

Motion 2

Approve the agenda:

M: Mr. Steve Swanson

S: Mr. Carlos Pardo

Procedural. Approved by voice without objection.

Mr. Grow then reviewed the general tasks to be performed in a Study Group and expectations of participants ("Agenda and General Information" presentation). This presentation included review of the slides Guidelines for IEEE-SA meetings, and Participation in IEEE 802 Meetings. The list of presentations was updated. Discussion on the SG targeting the January 2020 interim for approval of PAR, CSD and Objectives for submission to the March 2020 LMSC plenary meeting was generally supported.

Mr. Grow then presented additional information on "PAR, CSD and Objectives", with some additional SG discussion on schedule and process requirements occurring.

Mr. Yasuhiro Hyakutake presented "Require for Automotive Optical Components". Discussion and questions followed, including discussion about asymmetric transmit and receive maximum data rates. This discussion included the best way to describe an asymmetric PHY for the broader WG, and reinforcement that the Beyond 10G Electrical Automotive PHY Study Group was also planning to include asymmetric operation in its draft PAR.

Mr. Carlos Pardo – "Optical Multi Gigabit Ethernet for Automotive–Market Size Estimation". Discussion included agreement that the included data supports Broad Market Potential for a Multi-Gigabit Optical Automotive PHYs project.

Mr. Xingxin Zhang – "Use Case Requirements for Camera and Backbone". The presentation stimulated discussion on asymmetric operation (different maximum transmit and receive data rates), and the data rate objectives a project should include.

Rubén Pérez-Aranda – "Technical and Economic Feasibility Requirements and Methodology for Assessment". Study Group participant were encouraged to review the recommendations in the presentation and use them to generate further support for the feasibility of a multi-gigabit optical project addressing a range of data rates.

Rubén Pérez-Aranda – "Open Discussion on Objectives". This presentation served as the framework for discussion of possible objectives. The discussion consumed the majority of SG meeting time. Discussion on asymmetric operation (different maximum data rates in transmit and receive directions) and hybrid links (optical in one direction and electrical in the opposite direction) was a major and recurring topic. Discussion included comments that if using PoDL for power, the inductors get larger as data rate decreases, perhaps reducing the value of the asymmetric operation. This and other factors had some participants advocating for hybrid links and others advocating that all asymmetric links be optical in both directions.

Some possible objectives discussed were argued to be things that should be TF decisions, rather than something we decide in SG because they too much were moving the SG into making technical selections.

The group agreed that thinking about the objectives overnight was probably a good idea.

Morning, afternoon, and lunch breaks were taken during the day. The SG recessed for the day at approximately 17:40.

Tuesday, 10 September 2019, 09:00

Mr. Grow called the meeting to order. Additional discussion continued on possible objectives, and the possible need to update the SG scope. There is broad (perhaps universal) support for links with asymmetric maximum data rates (e.g., multi-gigabit in one direction and perhaps 100 Mb/s in the other direction). The desire to specify operation on hybrid media was also again discussed. Participants indicated investigating market support for such a hybrid link should continue. It was observed, that if we are to work on hybrid media links, we should inform 802.3 of that work by doing a new call for interest for the expanded scope of the SG. Advocates of hybrid links indicated they would consider in the next few weeks if a call for interest would be made for November on the subject.

Mr. Grow thanked the participants; and having reached the end of the agenda invited a motion to adjourn.

Motion 3

Move to adjourn.

M: Mr. Carlos Pardo

S: Ms. Rita Horner

Procedural. Approved by voice without objection.

The meeting was adjourned at approximately 10:05.