

IEC TC86 (Fiber, Cable and Connectors) Liaison to IEEE 802.3

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Corning

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Potential Topics of interest to IEEE 802.3

- IEC SC86A WG1 (Fiber)
 - Update on link design method for Chromatic dispersion
 - Update on A4j fiber (POF) standardization for automotive applications
- IEC SC86A WG3 (Cable)
 - New work Item underway for automotive cable
 - Joint meeting held with ISO TC22 SC32 WG10 to harmonize approach
- IEC SC86B WG6 (Connectors)
 - New work item underway for connector/assembly performance requirements in transportation environments (automotive is first)

SM Fiber Link Design Methodology

- During ITU-T Q5/15 April 2023 meeting, a contribution was proposed by F. Effenberger to start a study topic to better understand the optical parameters (CD and PMD) of real manufactured and deployed fibre cables to support cost effective design of intensity modulation direct detection (IM-DD) transmission systems mainly for short distance and high-volume applications like optical access and data centers
- In May, IEC SC86A fiber manufacturers agreed to apply link design methodology to analyze the chromatic dispersion performances of G.652 and G.657 A1 & A2 products
- Presentations were made to IEEE 802.3dj and ITU-T SG 15 joint Q2/Q5/Q6 experts, and it was agreed to proceed with link design method analysis within ITU-T SG15
- ITU-T Q5/15 took the lead, compiled the data in October 2023, and shared the results over email with Q2 and Q6
 - Plans are to discuss the results at the November ITU-T SG15 meeting and share with IEEE 802.3 after the meeting
 - The results are not as favorable for all applications (802.3dj & .dk), and more analysis may be needed

Update on A4j fiber (POF) for automotive

IEC SC86A WG1 has no update on progress towards standardizing an A4j (POF) multimode fiber for automotive applications

The history:

- The request to add this new fiber to the IEC 60793-2-40 (POF) standard was made at the IEC SC86A WG1 April Interim meeting in 2022.
- No correspondence occurred between April 2022 and October 2022
- Potential additions to the baseline for this new fiber were proposed at the IEC SC86A WG1 October 2022 Plenary
 - Concerns were raised about the number of vendors, availability of the fiber and round robin testing
 - Concerns and questions were raised on methodology as well as specification of bandwidth (IEEE 802.3 automotive applications need higher bandwidth (up to 25Gbps) than previous automotive standards)
- No correspondence was conducted between the October 2022 Plenary and the May 2023 interim
- The project lead could not attend the IEC SC86A May 2023 interim and requested to delay A4 discussions until the November plenary meeting.
 - Further definition and explanation with how to characterize the high bandwidth of this fibre was requested
- No further correspondence has occurred between May 2023 and November 2023.