

IEEE 802.3 Ethernet Working Group
DRAFT Liaison Communication

Source: IEEE 802.3 Working Group¹

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Laurent Gasca Secretary, IEC SC86A
Antonello Schiaffo Chair, IEC SC86A
Albrecht Oehler Convenor, ISO/IEC JTC1/SC25 WG3
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¹ This document solely represents the views of the IEEE 802.3 Working Group and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

From: David Law Chair, IEEE 802.3 Ethernet Working Group

Subject: Liaison to IEC TC86 and ISO/IEC SC25 regarding new Multimode Fibers (MMFs)

Approval: Agreed to at IEEE 802.3 plenary meeting, Vancouver, BC, Canada, March 12, 2026

Dear Mr. Pondillo, Mr. Gasca, and Prof Oehler,

The IEEE P802.3ds 200 Gb/s per Wavelength MMF PHYs Task Force has adopted reach objectives to address the emerging needs of AI scale up and scale out networks that:

Define a physical layer specification that supports 200/400/800/1600 Gb/s operation:

- over 1/2/4/8 pairs of MMF with lengths up to at least 30 m
- over 1/2/4/8 pairs of MMF with lengths up to at least 50 m

Links are generally under 30 m and reaches up to 50 m are expected to cover a majority of the AI links.

Current analysis ([murty 3ds 02a 2603.pdf](#)) indicates that for wavelengths from 852 nm to 868 nm, standard OM4 MMF will have sufficient EMB to meet the 30 m reach of this new 200 Gb/s per Wavelength MMF PHY, but that a higher EMB fiber will be required to meet the 50 m meter reach at these wavelengths.

The channel specification for this 50 m PHY will require an MMF with the following **agreed to specification**:

EMB > 5200 MHz·km over 852 – 868 nm

- P802.3ds standard is developed using the minimum EMB value of 5200 MHz·km
- Guidance is sought for EMB over the wavelength window of 844 – 868 nm
- EMB should equal or exceed that of OM4 over 844 – 868 nm

IEEE 802.3 requests that IEC SC86A consider adding another grade of 50 µm core multimode fiber, i.e., an addition to OM3/OM4/OM5 to address this new PHY.

Accordingly, IEEE 802.3 requests that, when available from SC86A, ISO/IEC SC25 WG3 consider addition of such new fibers (i.e., an addition to OM3/OM4/OM5) into your generic structured cabling series of standards in support of this new PHY.

The IEEE P802.3ds 200 Gb/s per Wavelength MMF PHYs Task Force is also investigating developing similar 200 Gb/s per Wavelength MMF PHYs at the 1060 nm wavelength to take advantage of lower chromatic dispersion at that wavelength ([castro 3ds 01 2603.pdf](#), [sun 3ds 01b 2603.pdf](#), [lewis 3ds 01 2603.pdf](#), and [rodes 3ds 01 2603.pdf](#)).

The options presented for a MMF optimized for operation at 1060 nm include fibers with 50 µm and ~26 µm core diameters and preliminary analysis predicts a minimum EMB value of 3100 MHz·km at 1060 nm will be required to achieve a 50 m reach. As more specifics are decided on the 1060 nm options, we also request that IEC SC86A consider a new 1060 nm MMF standard.

Accordingly, IEEE 802.3 requests that, when available from SC86A, ISO/IEC SC25 WG3 also consider preparation for addition of such new 1060nm fibers into your generic structured cabling series of standards in support of this new PHY.

IEEE 802.3 appreciates any feedback from IEC and ISO/IEC SC25 on these developments and will continue to provide regular updates to IEC TC86, IEC SC86A, and ISO/IEC SC25 WG3 on our progress.

In addition, please be aware that the IEEE 802.3 Ethernet Working Group is exploring the future of Ethernet operation at signaling rates greater than 200 Gb/s per lane. To that end, the IEEE 802.3 NEA "E4AI" Assessment recently held a virtual workshop on 24 Feb 2026, entitled "Fiber for AI." The proceedings of this workshop may be found at https://www.ieee802.org/3/ad_hoc/E4AI/public/26_0224/index.html. Given the importance of this activity, 802.3 would welcome presentations on this topic, and the participation of your members in any additional future workshops on this topic that may be scheduled.

Thank you for your continued collaboration.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group