# IEEE 802.3 Ethernet Working Group
# DRAFT Liaison Communication

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| Source: | IEEE 802.3 Working Group[1] | |
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| CC: | Konstantinos Karachalios | Secretary, IEEE-SA Standards Board<br>Secretary, IEEE-SA Board of Governors [redacted] |
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| From: | David Law | Chair, IEEE 802.3 Ethernet Working Group [redacted] |
| Subject: | Liaison reply to ISO/IEC JTC 1/SC 25/WG 3 on PON requirements | |
| Approval: | Agreed to at IEEE 802.3 plenary meeting, Oahu, Hawaii, USA, XX November 2023 | |

Dear Mr Oehler and members of ISO/IEC JTC 1/SC 25/WG 3,

Thank you for letting us know about your decision to add IEEE 802.3 Ethernet PON (EPON) applications to the lists of supported applications in the ISO/IEC series of standards for generic structured cabling for customer premises.

Following on your request for specifications for the PON cabling when used withing the scope of ISO/IEC 11801 series documents, the IEEE Std 802.3-2022 provides PON cabling requirements for individual EPON generations, as follows

- 1G-EPON, IEEE Std 802.3, Clause 60, and specifically
  - Table 60–1 lists the minimum and maximum insertion loss and minimum range for individual 1G-EPON PHY types;
  - Subclause 60.11 and Table 60–16 provide characteristics of fiber optic cabling and the optic cabling model for 1G-EPON PHYs.

[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.

- 10G-EPON, IEEE Std 802.3, Clause 75, and specifically
  - Table 75–1 lists the minimum and maximum insertion loss and minimum range for individual 10G-EPON PHY types;
  - Subclause 75.9 and Table 75–14 provide characteristics of fiber optic cabling and the optic cabling model for 10G-EPON PHYs.
- Nx25G-EPON, IEEE Std 802.3, Clause 141, and specifically
  - Table 141–1, Table 141–2, Table 141–3, Table 141–4, and Table 141–5 list the minimum and maximum insertion loss and minimum range for Nx25G-EPON PHY types supporting various downstream and upstream data rate combinations;
  - Subclause 141.9 and Table 141–23 provide characteristics of fiber optic cabling and the optic cabling model for Nx25G-EPON PHYs. Please do note that the optic cabling model for Nx25G-EPON PHYs is different from 10G-EPON and 1G-EPON PHY models.

Individual locations indicated above provide references to fiber types meeting specific PHY dispersion requirements, while not focusing on any specific cabling requirements for customer premise versus outdoor installation.

IEEE Std 802.3-2022 can be accessed at no cost through the IEEE Get 802® program at https://ieeexplore.ieee.org/document/9844436.

We wish to thank the leadership and members of ISO/IEC JTC 1/SC 25/WG 3 for the opportunity to coordinate the cabling references and we look forward to such continuing cooperation with ISO/IEC JTC 1/SC 25/WG 3 in the future.

Sincerely,
David J. Law
Chair, IEEE 802.3 Ethernet Working Group