

IEEE 802.3 Ethernet Working Group
DRAFT Liaison Communication

Source: IEEE 802.3 Working Group ¹

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From: David Law Chair, IEEE 802.3 Ethernet Working Group
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Subject: Liaison reply to TR-42 on the use of test method TIA-455-54 (FOTP 54)

Approval: **Agreed to at IEEE 802.3 Closing Plenary meeting, July 22, 2021**

Dear Mr. Sandels,

Thank you for your liaison letter dated June 17, 2021, informing us that the following document is being considered for retirement by TIA TR-42:

- TIA-455-54 Mode Scrambler Requirements for Overfilled Launching Conditions to Multimode Fibers

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

Based on your liaison request, we reviewed the following IEEE 802.3 standard for references to TIA-455-54 (FOTP 54):

- IEEE Std 802.3cr™-2021, Amendment 10: Maintenance #14: Isolation

No references to TIA-455-54 (FOTP 54) were found.

Additionally, we reviewed the following IEEE 802.3 standards that have Multimode Optical Fiber link specifications for references to TIA-455-54 (FOTP 54):

- IEEE Std 802.3™-2018, IEEE Standard for Ethernet
- IEEE Std 802.3cd™-2018, Amendment 3: Media Access Control Parameters for 50 Gb/s and Physical Layers and Management Parameters for 50 Gb/s, 100 Gb/s, and 200 Gb/s Operation
- IEEE Std 802.3cm™-2020, Amendment 7: Physical Layer and Management Parameters for 400 Gb/s over Multimode Fiber

There are two references to “TIA 455-54A-1990 (FOTP 54)”, both referenced in IEEE Std 802.3™-2018, IEEE Standard for Ethernet, Section One:

- 1) 1.4 Definitions, page 98:
 - 1.4.369 overfilled launch: The overfilled launch condition that excites both radial and azimuthal modes defined in ANSI/EIA/TIA 455-54A-1990 [B7].
- 2) Annex A (Informative), Bibliography, page 572:
 - “[B7] ANSI/EIA/TIA 455-54A-1990 (FOTP-54), Mode Scrambler Requirements for Overfilled Launching Conditions to Multimode Fibers.”

The first of the above references is normative; the second is informative. We could consider replacing the TIA 455-54A-1990 reference with another TIA 455 reference which subsumed the requisite language on mode scrambling from TIA 455-54-1990, such as TIA-455-204, FOTP-204 Measurement of Bandwidth on Multimode Fiber, or other appropriate TIA reference. We would appreciate your response in suggesting an appropriate TIA reference to replace the TIA-455-54 references above. Alternatively, TIA could furnish IEEE 802.3 with copies of FOTP-54 and FOTP-204 (or another suggested FOTP you recommend) so that we can evaluate the appropriateness of using that reference instead. It is expected that comments will be submitted against the current revision of IEEE Std 802.3™-2018, IEEE Standard for Ethernet, once alternate TIA or other standard that can be referenced, proposing update to the above references.

Regarding other possible references in IEEE-SA standards to TIA-455-54 (FOTP 54), we have referred this request to Mr. Patrick Gibbons, Senior Solutions Manager at IEEE-SA, for consideration and appropriate follow-up.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group