IEEE 802.3 Ethernet Working Group
<mark>Draft</mark> Liaison Communication

Source: IEEE 802.3 Working Group[1]

To: Shuguang Qi   Acting Chair, ITU-T SG5
███████████████

CC: Konstantinos Karachalios   Secretary, IEEE-SA Standards Board
Secretary, IEEE-SA Board of Governors
███████████████

Paul Nikolich   Chair, IEEE 802 LMSC
███████████

Fryderyk Lewicki   Chair, IUT-T WP1/5
███████████████

Michael Maytum   Rapporteur, Q2/5
███████████████

Reyna Ubeda   Advisor, ITU
██████████

Adam Healey   Vice-chair, IEEE 802.3 Ethernet Working Group
███████████████

Chad Jones   Chair, IEEE 802.3 Power Delivery Coordinating
Committee (PDCC) Ad Hoc
███████████

David Tremblay   Liaison Officer, IEEE 802.3 to ITU-T SG5
███████████████

From: David Law   Chair, IEEE 802.3 Ethernet Working Group
███████████

Subject: IEEE 802.3 Ethernet Working Group reply to ITU-T SG 5

Approval: <mark>Agreed to at IEEE 802.3 plenary teleconference meeting, 10 or 17th March 2022</mark>

Dear Ms Shuguang,

The IEEE 802.3 Working Group (WG) would like to thank you for your communication Ref.: SG5-LS235, approved 10th December 2021. Our position has always been to request ITU-T K.147 provide the equivalent reference within IEEE Std 802.3, removing any paraphrasing and opinion. This position still stands. <mark>Based on our review of the latest version of the document, this doesn't appear to be agreeable to ITU-T.</mark>

Response to item 2:
There is nothing in IEEE Std 802.3 that suggests testing individual components. Testing is purely directed at a port and the single, point-to-point link. As we are testing a port and its characteristics, it is not known that a transformer exists, and the existence (or not) is not

---

[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.

observable externally.

The basic requirement is that the PORT meet isolation requirements. An implementation can achieve this by using a transformer, but this is not required. Therefore, the isolation requirement is on the port as specified in the Ethernet standard and should not be confused with a specific requirement on a component, such as on a transformer.

Following this logic, if you are writing a standard about resistibility of Ethernet ports, the requirements should be on the port and not the components. 802.3 is an interoperability standard and sets requirements at the point of connection to the media.

Protection is beyond the scope of 802.3. The standard recommends use of nonelectrically conducting segments (e.g. fiber optic) for LAN segments that are partially or fully external to a single building environment. The standard also says: "Equipment shall comply with all applicable local and national codes related to safety" as this is where those specifications lie. IEEE Std 802.3 has requirements for isolation that have served the industry for decades. ITU-T K.147 should describe how to meet these requirements. This liaison exchange started purely to correct inaccurate interpretation of IEEE Std 802.3 and that remains the focus from the 802.3 WG.

Response to item 3:
IEEE 802.3 terms are defined as required for 802.3. Harmonization would require give and take, potentially modifying them beyond use for 802.3. Since ITU-T K.147 is a document that is supposed to align to characteristics of Ethernet, ITU-T K.147 should align with the 802.3 definitions. References are preferred so that reproduced definitions don't end up out of date. Alternately, ITU-T could devise new terms and definitions that don't contradict the 20 year old definitions found in 802.3.

Response to item 4:
IEEE 802.3 will have to review the new draft to close out this comment.

Response to item 5:
See response to item 2.

Response to item 6:
Referencing values is understood and should be labeled as a reference, pointing back to the standard for service to the reader, e.g. "Vpse 42-57V, see IEEE Std 802.3 Clause 33, Table 33-5 and Clause 145, Table 145-16."

The main 802.3 WG comments involved the large tutorial section that included interpretation of IEEE Std 802.3, often with errors as we've pointed out several times. We will await a new draft to review the changes to see how SG5 has chosen to address these concerns.

If SG5 does not want to adequately address the concerns of the 802.3 WG, then we are left with no choice but to take the unprecedented step of advising IEEE Std 802.3 readers that guidance in ITU-T K.147 can render designs non-complaint in IEEE Std 802.3.

The IEEE 802.3 WG looks forward to working with ITU-T SG5 as needed to progress this contribution.

Best regards,
David Law
Chair, IEEE 802.3 Ethernet Working Group