IEEE 802.3 Ethernet Working Group
Draft 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:	Agreed to at IEEE 802.3 interim teleconference meeting, xxth May 2022	

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. Based on our review of the latest version of the ITU-T K.147, this doesn't appear to be agreeable to ITU-T. The communication SG5-LS235 had several items that are part of an ongoing extended exchange between the two groups. We will respond to those items and then provide commentary on the new ITU-T K.147 document.

Response to item 2:

[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.

IEEE Std 802.3 is an interoperability standard and sets requirements at the point of connection to the media. There is nothing in IEEE Std 802.3 that suggests testing of 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 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. As a result, the isolation requirement is on the port as specified in the Ethernet standard and this should not be confused with a specific requirement on a component, such as on a transformer.
Following this logic, if one is writing a standard about resistibility of Ethernet ports, the requirements should be on the port and not the components.
Protection is beyond the scope of IEEE Std 802.3. The standard recommends use of nonelectrically conducting segments (e.g. fiber optic cabling) 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 IEEE 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 definitions found in 802.3 that have been in use for over 20 years.

Response to item 4:
This is addressed in the feedback on the new document, below.

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.

Next topic, review of the latest version of ITU-T K.147:

The scope of ITU-T K.147 was reviewed, which is stated as: "This Recommendation provides the rational [sic] for the networked information technology equipment port testing found in [ITU-T K.20], [ITU-T K.21], [ITU-T K.44], [ITU-T K.45] and [ITU-T K.117]." As this is the top-level scope, everything in K.147 should tie to those documents. The group then reviewed the scope of the five documents, noting that the first four are about telecommunications ports. The last one (ITU-T K.117) is about Ethernet ports and predates any of the Single Pair Ethernet (SPE) specifications. As such, there should be no mention of SPE in this document – it is out of scope. Our submitted comments insist these sections are deleted.

Offering assistance to address item 3, we note that ITU-T K.147 has invented a new term

NPD that differentiates the ITU definition from the IEEE definition. We suggest this concept is also extended to the PSE, suggesting that NPSE is used throughout. We further observe that as the scope of the referenced documents includes many things that are not Ethernet, that this definition (NPSE) also cover those; for example: NTUs or DSL equipment with remote power feeding.

The WG will provide a markup of the ITU-T K.147 document as the majority of the comments build off these two concepts. We will also provide a completed comment form.

We understand the document has entered back into the publication process even though the concerns of the WG have not been addressed. This is highly disappointing. If SG5 does not want to adequately address the concerns of the 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 be in direct conflict with specific requirements in IEEE Std 802.3.

The IEEE 802.3 WG looks forward to working with ITU-T SG5 as needed to progress the attached IEEE 802.3 WG contributions.

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

[list attachments]