Use of word channel in clause 33 – rev03

Info: not part of baseline text

IEEE802.3bn and IEEE802.3by introduced a substantial improvement of the definition of channel with respect to IEEE Std 802.3 – 2015, copied here for reference:

1.4.134 channel: In 10BROAD36, a band of frequencies dedicated to a certain service transmitted on the broadband medium. (See IEEE Std 802.3, Clause 11.)

The new definition is:

1.4.134 channel: In 10BROAD36 and 10GPASS-XR, a band of frequencies dedicated to a certain service transmitted on the broadband medium. Otherwise, a defined path along which data in the form of an electrical or optical signal passes. (For 10BROAD36, see IEEE Std 802.3, Clause 11, for 10GPASS-XR see Clause 100, Clause 101, and Clause 102.)

Based on the discussion had on the reflector, three options are possible:

1: To add a new definition in 1.4, i.e. "Power channel" to be used in place of "channel" in clause 33, keeping some continuity with the legacy text.

2: Replace the word “channel” with “link section” all over Clause 33, since they have the same meaning.

3: To keep using the word “channel” in clause 33 since the new definition in 1.4.134 covers the meaning of channel as used in Clause 33. Moreover in 33.1.3.2 already specifies that within Clause 33 and its annexes, “channel” refers to the electrical path on which the power is transferred, i.e. the link section.

A fourth option is to split the definition of channel in 1.4.134 in two: “frequency channel” for 10BROAD36 and 10GPASS-XR and “data channel” or just “channel” for the data & power channel. This is a bigger change, which would require a maintenance request, so I’m not considering this one.

OPTION1:

Insert 1.4.336a after 1.4.336 “power budget” as follows:

1.4.336a Power channel: Within Clause 33 and its annexes, "power channel" or simply “channel” refers to the electrical path on which the power is transferred, i.e. the link section.

Modify 33.1.3.2 as follows:

33.1.3.2 Power channel ~~Channel~~ requirements

Within Clause 33 and its annexes, “power channel” or simply “channel”, as defined in 1.4.336a~~1.4.134~~, refers to the electrical path on which the power is transferred, i.e., the link section.

~~Link sections~~Power channels for all Types shall comply with the resistance unbalance requirements for twisted-pair cabling as specified in ISO/IEC 11801:2002 and ANSI/TIA-568-C.2. Refer to Annex 33A for more information including 4-pair operation channel requirements for pair-to-pair resistance unbalance.

OPTION2:

Replace "channel" with "link section" in every occurrence of Clause 33.

Modify 33.1.3.2 as follows:

33.1.3.2 ~~Channel~~ Link section requirements

~~Within Clause 33 and its annexes, "channel", as defined in 1.4.134, refers to the electrical path on which the power is transferred, i.e., the link section.~~

Link sections for all Types shall comply with the resistance unbalance requirements for twisted-pair cabling as specified in ISO/IEC 11801:2002 and ANSI/TIA-568-C.2. Refer to Annex 33A for more information including 4-pair operation channel requirements for pair-to-pair resistance unbalance.

OPTION3 (recommended):

(no modifications to the text)