*Cl* **166** *SC* **166.6.4.8.6** *P* **14** *L* **30** # 6

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*Comment Type* **TR** *Comment Status* **A**

This draft proposes changing the value of TDFOM_0 by 0.2 dB or less in about 3 or 4 dB. Torres_3dr_01_280725 provides technical background, with an intention that "TDFOM0 is defined to obtain TDFOM = 0 dB when measuring a transmitter generating a perfect squared signal (“perfect transmitter”)".
The PAR, 5.5, Need for the Project, says:
"The normalization factors in Table 166–16 are intended to yield Transmitter Distortion Figure of Merit (TDFOM) equal to 0 dB in Equation (166–16) for an ideal transmitter. However, the current values of the normalization factors in Table 166–16 do not achieve this result and need to be corrected." We assume that "the normalization factors" means the values of TDFOM_0.

However, the standard in force does not say what the intention for TDFOM_0 is, nor does it give any explanation of it, nor does it need to. These are just numbers in a table that the implementer must follow. They are not obviously unreasonable values. Other similar metrics such as TWDP and TDECQ have similar "zero offsets": those metrics of a a perfect squared signal are not exactly zero either. This can be annoying but it is not a technical error - not even if the offset is different for different PHY types. It does not "need" to be corrected.

It is not apparent to me that the procedural cost to implementers and users of such small but technical changes are justified by better cost, yield, power or some such (maybe such a case was made and I missed it) but that is not the focus of this comment.

The standard is in force and stable. It was voted forward with these numbers. I voted approve myself.

The IEEE SA SB ops manual says that a corrigendum is:
"A document that only corrects editorial errors, technical errors, or ambiguities in an existing IEEE standard."
These numbers are not technical errors in the existing standard. Any errors were in the preparation of the numbers that went into it, and the result is that the standard in force does not represent the intention of some participants; but it is complete and clear, and similar to TWDP and TDECQ. As the standard is not in error, the proposed changes are not appropriate to a corrigendum.

*SuggestedRemedy*

Withdraw this project. If it is thought worthwhile, propose the same changes as an amendment, or part of another amendment project.

*Response* *Response Status* **W**

ACCEPT IN PRINCIPLE.

The comment says 'The standard is in force and stable. It was voted forward with these numbers.'.

Approval of a standard does not mean that the entire contents are correct, otherwise there would be no need for a corrigendum process. The IEEE 802.3 Working Group approved submittal of a draft PAR to the IEEE 802 LMSC with a need statement of 'The normalization factors in Table 166-16 are intended to yield Transmitter Distortion Figure of Merit (TDFOM) equal to 0 dB in Equation (166-16) for an ideal transmitter. However, the current values of the normalization factors in Table 166-16 do not achieve this result and need to be corrected.'. This shows that the Working Group believed that an error needed to be corrected and the CRG agrees.

However, the comment has pointed out an ambiguity regarding the definition of TDFOM_0 which is proposed to be addressed making the following change:

Add after

"166.6.4.8.6 TDFOM calculation

TDFOM is calculated as specified in Equation (166–16), where M, Q 0, and TDFOM 0 depend on the BASE-AU under test as specified in Table 166–16."

the sentence:

"TDFOM_0 is chosen so that an ideal signal with very high bandwidth, without emphasis, and with no noise or other impairments, has a TDFOM of 0 dB."

This clarification note corrects the ambiguity regarding TDFOM_0, it is within the scope of IEEE 802.3dr, and within the possible objectives of a Corrigendum as specified by IEEE SA SB ops manual.