Interpretation Number: 1-03/03 (VECP)
Topic: VECP
Relevant Clause: 52.9.10.2
Classification: Ambiguous

Interpretation Request

I would like the TF to interpret this statement:

The test signal includes vertical eye closure and high probability jitter components. For his test, these two components are defined by peak values that include all but 0.1% for VECP and all but 1% for jitter of their histograms.

I believe that the statement 'include all but x%' can be understood in several ways, at least three of them perfectly logical, and leading to different results. To wit:

Reading(1): exclude the x% (of the samples in the histogram) from the histogram of the eye, removing in such a way that you maximize the PkPk value

Reading(2): as in (1) but also keep the count of samples removed from the proximal* trace equal to the count of samples removed from the distal* trace

Reading(3): exclude x% (of the samples in the histogram) from the histogram of the proximal* trace, symmetrically (equal nr from high and from low extreme); then do likewise for the distal* trace, then measure the opening.

(*distal, proximal are generalized terms for the left and right in horizontal sense or bottom and top in vertical sense.)

The difference is important, for example if only the high level has significant spurious noise (laser oscillation, whatever) Reading(1) will lead to an possibly much better (depends on distribution) VECP result.

Reading(3) is the same as Reading(2) if the proximal and distal traces have the same nr of hits, if they don't Reading(2) is mathematically shaky.(e.g. crashes for extreme inequality, e.g. if one trace is sparse).

I don't particularly care which reading is selected; perhaps I would recommend Reading(3) as most prudent, it also is easy to implement with two histograms.

I do care, however, that we picks one ; this doesn't limit the design freedom, which would not be desirable, it only limits the specmanship freedom, which is why we have the standard.

Interpretation for IEEE std 802.3ae-2002

This represents an ambiguity within the standard. A change request will be generated to address this issue which will be made available at the URL:

http://www.ieee802.org/3/maint/requests/all.html