Cl **55** *SC* **55.4.2.5.13** *P* *L* # 1

Robert Grow Intel

Comment Type **E** *Comment Status* **R**

Though outside the scope of the partially approved PAR, another bug in IEEE Std 802.3an seems of equal or greater severity to justify inclusion in a Corrigendum. Figure 55-23 contradicts the text. It is my understanding from experts that the text is correct (oct14 instead of the oct12 in the figure).

The change can be included in this Corrigendum without delay of approval (based on Feb 27 continuous processing PAR approval), or on a slower schedule as an additional corrigendum, or delayed even further to be included in the revision project). I recommend the first alternative.

SuggestedRemedy

Add the correction of Figure 55-23 to the Corrigendum. To do this without delay to the Corrigendum project requires something like the following (only a few days of slop in the schedule):

17 Jan -- Consider this comment at the Maintenance meeting:
a. Maintenance TF approve modified PAR
b. Maintenance TF approve new draft content fixing Figure 55-23
c. WG ballot group to be notified of proposed changes prior to ballot close
9 Feb -- Submit modified PAR to 802.3, EC and NesCom for March consideration
a. Modify PAR scope, purpose and need to include the fix to Figure 55-23.
b. Modify PAR dates to reflect June RevCom submittal
19 Feb -- Ballot close
27 Feb -- original PAR approval
28 Feb -- official BRC meeting
a. Open recirculation
b. Request sponsor ballot invitation (include notification of proposed modified PAR)
2 Mar -- sponsor invitation open
22 Mar -- modified PAR approval
23 Mar -- open Sponsor ballot
22 Apr -- Sponsor ballot close
23 Apr -- BRC meeting if required
27 Apr -- RevCom submittal deadline

Response *Response Status* **C**

REJECT.

This is out of scope of this project. The commenter is requested to resubmit this comment against the IEEE 802.3 Revision project.

Cl **55** *SC* **55.8.2.2** *P***152** *L* # 8

Piers Dawe Avago Technologies

Comment Type **T** *Comment Status* **R**

Figure 55-35 shows 50 ohm common mode termination while the paragraph below shows 75 ohm common-mode impedance, also implied for 1000BASE-T in figs 40-31 and 40-32. It's not reasonable to expect the reader to spontaneously understand that "common mode termination" is not the same as "common-mode impedance", especially as the former term is not defined anywhere in 802.3. The common-mode coupling circuit does not present a common-mode termination to the MDI pair under test: what it presents is the common-mode impedance.

SuggestedRemedy

Now or later, change "a differential termination of 100 ohm and a common-mode termination of 50 ohm" to "a differential impedance of 100 ohm and a common-mode impedance of 75 ohm". Make similar changes (two instances) in Figure 55-35.

Response *Response Status* **C**

REJECT.

This is out of scope of this project. The commenter is requested to resubmit this comment against the IEEE 802.3 Revision project.

Cl **55** *SC* **55.8.2.2** *P***153** *L* # 13

Piers Dawe Avago Technologies

Comment Type **T** *Comment Status* **R**

"when the transmitter is transmitting random or pseudo random data. Test-mode 4 may be used to generate an appropriate transmitter output." But test mode 4 contains several two-tone options for the transmit distortion test, so it's ambiguous.

SuggestedRemedy

Should this be test mode 7?

Response *Response Status* **C**

REJECT.

Test mode 4 is an appropriate test mode. Any of the two tone options can be used during the test.

Cl **55** *SC* **55.8.2.2** *P***153** *L* # 12

Piers Dawe Avago Technologies

Comment Type **T** *Comment Status* **R**

Text says that measurement of Scd11 is equivalent to measuring ~Ecm/Edif. Scd11 means the common-mode power out over the differential-mode power in, while the formula for Z_bal ~ Ecm/Edif is more-or-less the common-mode power in over the differential-mode power out. Apart from a possible sign change (see another comment), I believe this relies on reciprocity: Scd11 being known to be equal to Sdc11.

SuggestedRemedy

If this is so, (now or later), please add a sentence to state it.

Response *Response Status* **C**

REJECT.

This is out of scope of this project. The commenter is requested to resubmit this comment against the IEEE 802.3 Revision project.

Cl **55** *SC* **55.8.2.2** *P***153** *L* # 11

Piers Dawe Avago Technologies

Comment Type **E** *Comment Status* **R**

Text says "During the test the PHY is connected to the MDI as in normal operation, but with the transmitter output disabled. It's not clear if this applies only to the network analyser method or to the Ecm/Edif method also. NOTE 1 above apparently says the opposite: "Triggered averaging can be used to separate the component due to the applied common-mode sine wave from the transmitted data component." Are you sure that disabling the transmitter output gives a valid result, and are you sure it is necessary with a network analyser (which can do averaging also - but it may depend on whether it's a scalar or vector network analyser)?

SuggestedRemedy

Choose whether the transmitter should be on or off and (now or later) make changes to make the choice clear.

Response *Response Status* **C**

REJECT.

This is out of scope of this project. The commenter is requested to resubmit this comment against the IEEE 802.3 Revision project.

Cl **55** *SC* **55.8.2.2** *P***153** *L* # 10

Piers Dawe Avago Technologies

Comment Type **E** *Comment Status* **R**

The small fonts (7, 6, even 4.5 point!) make Figure 55-35 unnecessarily hard to read.

SuggestedRemedy

If modifying this figure at all, make all the text in this figure bigger, e.g. 10 point for the "E"s, 8 point for everything else

Response *Response Status* **C**

REJECT.

Out of scope.

Cl **55** *SC* **55.8.2.2** *P***153** *L* # 9

Piers Dawe Avago Technologies

Comment Type **E** *Comment Status* **R**

Scd11: it would be nicer to use the format S_CD11 (where _ denotes subscript).

SuggestedRemedy

If this sentence is altered, change the format per comment.

Response *Response Status* **C**

REJECT.

This sentence is not being changed.

Cl **55** *SC* **55.8.2.2** *P***153** *L* # 7

Piers Dawe Avago Technologies

Comment Type **T** *Comment Status* **R**

Text says "Impedance balance is the S parameter measurement of Scd11 in dB at the MDI where..." I think this definition has the opposite sign to Z_bal, also called impedance balance, given by equations 55-55 to 55-57.

SuggestedRemedy

Now or later, change to "Impedance balance is the inverse of the S parameter SCD11 [SDC11? see another comment] in dB at the MDI where..."

Response *Response Status* **C**

REJECT.

This paragraph starts with the text 'The impedance balance may also be measured with ..'. Hence the latter text that states 'Impedance balance is the S parameter measurement ..' may be in error. This however is out of scope of this project.

The commenter is requested to resubmit this comment against the IEEE 802.3 Revision project.

Cl **55** *SC* **55.8.2.2** *P***7** *L***16** # 2

Howard Frazier Broadcom Corporation

Comment Type **E** *Comment Status* **A**

The balloted draft did not include the text that appears immediately before and after equation 55-55 in the published document. Importantly, this text includes the words, "...where f is the frequency in MHz...". Without this text, it is difficult to tell whether the correction is accurate.

SuggestedRemedy

In the future, consider whether surrounding text is needed to provide the appropriate context for a correction. I appreciate the delicate balance that must be struck between providing sufficient context, and risking the introduction of additional errors.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

A rules change has been introduced for consistence with new IEEE-SA requirements which will provide full context in working group ballots.

Cl **55** *SC* **55.8.2.2** *P***7** *L***17** # 5

Piers Dawe Avago Technologies

Comment Type **T** *Comment Status* **R**

The equation as corrected has a 1/4 dB glitch at 30 kHz.

SuggestedRemedy

Assuming the committee chose the 48, 44 and 19.2 to give a nice round offset to 1000BASE-T (40.8.3.2), the 30 kHz break point could be changed to 31 kHz.

Response *Response Status* **C**

REJECT.

The equation as submitted to the IEEE P802.3an Task Force included this 1/4 dB step and the only deviation from this when it was balloted in the draft was the omission of the log10. The Task Force reviewed the equation with the log10 and the 1/4 dB step.

Cl **55** *SC* **55.8.2.2** *P***7** *L***17** # 4

Piers Dawe Avago Technologies

Comment Type **T** *Comment Status* **R**

In 55.7, equations are carefully labelled "(dB)" when appropriate. At the moment, without reading the rest of the subclause it looks like this Z_bal could be in ohms: more than 48 seemed sort of plausible! 40.8.3.2 also says "dB".

SuggestedRemedy

Insert "(dB)" into the two lines of this equation. Two sentences after this equation, change "The impedance balance is defined as:" to "The impedance balance expressed in decibels is defined as:". In maintenance, remember to do similar for (55-53), (55-54), (55-56) and (55-57).

Response *Response Status* **C**

REJECT.

This is out with the project purpose stated in the PAR which is to restore the log10. The commenter is requested to resubmit this comment against the IEEE 802.3 Revision project including the change for equation 55-53, 55-54, 55-56 and 55-57.

Cl **55** *SC* **55.8.2.2** *P***7** *L***18** # 6

Piers Dawe Avago Technologies

Comment Type **T** *Comment Status* **R**

This quantity Z_bal is not an impedance so should not be called Z - causes confusion. It's a measure of the balance of the impedance, not the impedance of the balance. (I'm using _ to indicate subscript here.)

SuggestedRemedy

Change its name to something else, e.g. -SCD11 or -S_bal or even Bal_Z (three occurrences, all in 55.8.2.2)

Response *Response Status* **C**

REJECT.

This is out with the project purpose stated in the PAR which is to restore the log10. The commenter is requested to resubmit this comment against the IEEE 802.3 Revision project.

Cl **FM** *SC* *P***FM** *L* # 3

Geoff Thompson Nortel

Comment Type **E** *Comment Status* **R**

Shouldn't the front matter include the text and pointer to the international status?

SuggestedRemedy

Add appropriate boilerplate during preparation for publication

Response *Response Status* **C**

REJECT.

This information has not been included since IEEE Std 802.3-2002. The commenter may wish to submit a comment on the revision to define a low maintenance web page that the standards can point to.