

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) Initial Sponsor ballot comments

Cl 01 SC 1.3 P 58 L 23 # i-96
Thompson, Geoffrey GraCaSI S.A.

Comment Type ER Comment Status A

References are missing for 802.5v, 802.9a and 1394 (further details in other GOT comments).

SuggestedRemedy

Add proper references for 802.5v (withdrawn), 802.9a (withdrawn) and IEEE Std 1394.

Response Response Status C

ACCEPT IN PRINCIPLE.

Add IEEE Std 802.5v-2001 (withdrawn), IEEE Std 802.9a-1995 (withdrawn) and IEEE Std 1394-1995 to section 1.3.

Cl 01 SC 1.4 P 71 L 40 # i-124
Dawe, Piers J G IPtronics

Comment Type ER Comment Status R

The Definitions section is 27 pages long. Although it is finely subdivided, the subheadings do not appear in the bookmarks, so it is like a single subclause, 27 pages long, when typically we have at least one bookmark per page. This makes it hard to navigate quickly to a particular definition.

SuggestedRemedy

Please set the Frame properties on just a few paragraphs (e.g. the first 1, the first A, the first F and so on) so that they show up in the pdf bookmarks list like any other third level heading.

Alternatively, introduce bookmarked subheadings e.g. 1 to 9, A to E, F to O, P to Z. The current subheadings can become fourth-level non-bookmarked subheadings.

Response Response Status C

REJECT.

The BRC continues to be unanimous that these changes do not improve the document. The find tool continues to be the easiest way to navigate.

Cl 28 SC 28.2.1.2.3 P 290 L 12 # i-89
Thompson, Geoffrey GraCaSI S.A.

Comment Type ER Comment Status A

There is a reference to "IEEE 802.5" (should it be IEEE Std 802.5?). There are a couple of problems. (1) IEEE Std. 802.5 it is no longer an active standard. It has been withdrawn. ISO/IEC 8802-5:1998 (and perhaps 8802-5 Amd1:1998) have been left behind as the "Stabilized" versions of 802.5 for reference. (2) The proper reference and mention to go here is actually IEEE Std 802.5v-2001 Gigabit Token Ring Operation. There is no mention of Auto-Negotiation in either of the earlier ISO volumes. I don't believe there was any use of Auto-Negotiation in any other 802.5 work than 802.5v. 802.5v was the last amendment approved for 802.5. There was an attempt to do a revision project to merge everything in 2003 (I have a Sponsor Ballot invite) but I don't believe it ever completed.

SuggestedRemedy

Change the text "IEEE 802.5" to "IEEE Std 802.5v-2001 (withdrawn)". Add a matching reference in the references clause.

Response Response Status C

ACCEPT.

Cl 28 SC 28.2.1.2.3 P 290 L 12 # i-90
Thompson, Geoffrey GraCaSI S.A.

Comment Type ER Comment Status A

There is a reference to "IEEE 802.9"(should it be IEEE Std 802.9?). There are a couple of problems. (1) IEEE Std. 802.9 it is no longer an active standard in both IEEE and its ISO version has been as well. It is actually a joint edition: ISO/IEC 8802-9: 1996(E) ANSI/IEEE Std 802.9, 1996 Edition. There is no mention of Auto-Negotiation in either of the earlier ISO volumes. I don't believe there was any use of Auto-Negotiation in any other 802.9 work than 802.9a ISLAN16-T (IEEE Std 802.9a-1995). 802.9a was never integrated into the main standard before everything was withdrawn.

SuggestedRemedy

Change the text "IEEE 802.9" to "IEEE Std 802.9a-1995 (withdrawn)". Add a matching reference in the references clause.

Response Response Status C

ACCEPT.

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Cl **28A** SC **28A** P **725** L **24** # **i-92**
 Thompson, Geoffrey GraCaSI S.A.

Comment Type **ER** Comment Status **A**

Table 28A-1, Row 3 There is a reference to "IEEE Std 802.9 ISLAN-16T". The name of the standard is misquoted and the standard has been withdrawn. Also the referred to standard does not show up in the references.

SuggestedRemedy

Change the text "IEEE Std 802.9 ISLAN-16T" to "IEEE Std 802.9a-1995 ISLAN16-T (withdrawn)". Add a matching reference in the references clause.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change the text "IEEE Std 802.9 ISLAN-16T" to "IEEE Std 802.9a-1995 (withdrawn)". Add a matching reference in the references clause.

Cl **28A** SC **28A** P **725** L **25** # **i-93**
 Thompson, Geoffrey GraCaSI S.A.

Comment Type **ER** Comment Status **A**

Table 28A-1, Row 4 There is a reference to "IEEE Std 802.5". The name of the standard is misreferenced and the standard has been withdrawn. Also the referred to standard does not show up in the references.

SuggestedRemedy

Change the text "IEEE Std 802.5" to "IEEE Std 802.5v-2001 (withdrawn)". Add a matching reference in the references clause.

Response Response Status **C**

ACCEPT.

Cl **28A** SC **28A** P **725** L **26** # **i-94**
 Thompson, Geoffrey GraCaSI S.A.

Comment Type **ER** Comment Status **A**

Table 28A-1, Row 5 There is a reference to "IEEE Std 1394". The referred to standard does not show up in the references.

SuggestedRemedy

Add a matching reference in the references clause.

Response Response Status **C**

ACCEPT.

Cl **33** SC **33.2.7.5** P **643** L **45** # **i-78**
 McCormack, Michael Texas Instruments Inc

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

In IEEE Std 802.3-2008, section 33.2.8.5 which was the equivalent section, there was allowance for 1ms of settling time (item b.) This settling time was removed which makes some previously compliant systems in the installed base no longer compliant. Failing to document this known behavior to PD manufacturers may cause new PDs to not operate with installed base of PSEs compliant with the 2008 edition of the standard.

SuggestedRemedy

- 1) Restore the 1ms allowance by adding an item "d) Measurement to be taken after 1ms to allow startup transients (not preferred behavior for new implementations.)" at line 50.
- 2) Add "NOTE 3-33.2.7.5 allows PSEs to oscillate for up to 1ms during power on startup. Though not required, it is advisable to filter the PD input voltage to ignore this potential PSE oscillation." in section 33.3.3.5, page 654, line 5 following Figure 33-16.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Restore the 1ms allowance by adding an item "d) For Type 1 PSE, measurement of minimum Inrush requirement to be taken after 1ms to allow startup transients. A Type 2 PSEs that uses 1-Event physical layer classification, and requires the 1mS settling time, shall power up a class 4 PD as if it used 2-Event physical layer classification. " at line 50.

[Editor's note: Inrush is I subscript Inrush]

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CI 38 SC 38.11.1 P 148 L 21 # i-126
Dawe, Piers J G IPtronics

Comment Type TR Comment Status A

Don't we want to allow Gigabit Ethernet on new fibre? We have fixed other clauses, why restrict Gigabit Ethernet to old fibre?
As I pointed out before, IEC 60793-2:1992 is way out of date (the version in force is ed6.0 of 2007). The dispersion limits have changed slightly for 50 um MMF and I believe for SMF. IEC 60793-2 is too broad anyway.
I don't believe SMF is called "10/125" any more.

Suggested Remedy

Change "... fibers specified in IEC 60793-2:1992. Types A1a (50/125 um multimode), A1b (62.5/125 um multimode), and B1 (10/125 um single-mode) with the exceptions noted in Table 38-12." to "... fiber types A1a (50/125 um multimode) or A1b (62.5/125 um multimode) specified in IEC 60793-2-10 or B1 (single-mode) or as specified in Table 38-12."
In Table 38-12, delete "10 um".

Response Response Status C

ACCEPT IN PRINCIPLE.

The requirements in Table 38-12 are normative: 38.11 contains:

"The 1000BASE-SX and 1000BASE-LX fiber optic cabling shall meet the specifications defined in Table 38-12."

The text that is the subject of this comment:

"The fiber optic cable requirements are satisfied by the fibers specified in IEC 60793-2:1992. Types A1a (50/125 um multimode), A1b (62.5/125 um multimode), and B1 (10/125 um single-mode) with the exceptions noted in Table 38-12."

is helpful information concerning fibre types that satisfy the requirements in Table 38-12 and it does not itself restrict the use of more recent fibers.

The changes in SMF dispersion slope specification were a tightening of the requirement from 0.093 to 0.092 ps/nm/nm/km, so the newer SMF fibers still comply with Table 38-12.

The recent changes to the 50um MMF specification (OM3 and OM4) have a different combination of zero dispersion wavelength and dispersion slope limits than Table 38-12 which could make some newer fiber with a dispersion zero greater than 1320 nm non-compliant. The newer combination of specifications always results in the same or lower dispersion in the wavelength range of 770 to 860 nm (for 1000BASE-SX), but for the wavelength range of 1270 to 1355 nm (for 1000BASE-LX), a fiber with a zero dispersion wavelength of 1340 nm and a slope of 0.09375 ps/nm/nm/km (as allowed by the recent specification) could have a significantly higher dispersion than the worst value allowed by Table 38-12. The commenter has not demonstrated that this is not an issue.

In Table 38-2, Table 38-6, Table 38-7, Table 38-9, Table 38-11, Table 38-12, and Table 53-13 change "10 um SMF" to "SMF"

In 38-4 change "and 10 um single-mode fiber" to "and single-mode fiber"

In 38.11.1 change "(10/125 um single-mode)" to "(single-mode)"

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Cl 58 SC 58.7.2 P 111 L 35 # i-122
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status A

IEEE Std 802.3 uses a mixture of ANSI/EIA/TIA-455-127-1991, TIA-455-127-A 2006 and IEC 61280-1-3:1998 for its wavelength and spectral width specs. ANSI/EIA/TIA-455-127-1991 and IEC 61280-1-3:1998 are obsolete. They are very dated and assume one will process the spectral measurement by hand (rather than having an instrument that contains a computer). We should change to current valid references. Also, the EIA has split up, and TIA do not call their document "ANSI".

The niggle is: change to which current reference?

TIA-455-127-A 2006 defines center wavelength as the mean of the spectrum, and rms spectral width as the standard deviation of the spectrum.

IEC 61280-1-3 Ed2 defines centre wavelength as the mean of the half-power wavelengths, found by interpolation between the peaks. It defines RMS spectral width by a formula like a standard deviation, but around lambda_c. Is lambda_c the mean of the spectrum or the mean of the half-power wavelengths?

On the one hand, international references are preferred.

On the other hand, the IEC method is sensitive to changes in the third or lesser mode, so I would think would give less reproducible measurement results than the TIA method. For SLM lasers (DFBs), I doubt that there is a significant difference.

IEC say that their RMS spectral width is not applicable to SLM sources.

So I would propose that we replace all references to ANSI/EIA/TIA-455-127-1991, FOTP-127

with TIA-455-127-A: 2006 FOTP-127, Spectral Characterization of Laser Diodes (deleting the obsolete bibliography entry);

And the reference entry in 1.3 for IEC 61280-1-3:1998 with one for IEC 61280-1-3:2010.

Suggested Remedy

Detailed remedy follows:

1.3 ANSI/EIA/TIA-455-127-1991, FOTP-127--Spectral Characterization of Multimode Laser Diodes.

Delete.

TIA-455-127-A:2006 FOTP-127-A Basic Spectral Characterization of Laser Diodes.

No change needed.

IEC 61280-1-3:1998, Fibre optic communication subsystem basic test procedures--Part 1-3: Test procedures for general communication subsystems--Central wavelength and spectral width measurement.

Replace with: IEC 61280-1-3 ed2.0: 2010 Fibre optic communication subsystem test procedures - Part 1-3: General communication subsystems - Central wavelength and spectral width measurement.

1.4.350 RMS spectral width: A measure of the optical wavelength range as defined by TIA 455-127-A (FOTP-127-A).

No change needed.

Annex A

[B10] ANSI/EIA/TIA 455-127-1991 (FOTP-127), Spectral Characterization of Multimode Lasers.

Delete.

38.6.1 Center wavelength and spectral width measurements ... per ANSI/EIA/TIA-455-127-1991 [B10].

Change to TIA-455-127-A, delete "[B10]".

38.12.4.5 Optical measurement requirements

OR2 Center wavelength and spectral width measurement conditions 38.6.1 Using optical spectrum analyzer per ANSI/EIA/TIA-455-127-1991 [B10] M Yes []

Change to TIA-455-127-A, delete "[B10]".

52.9.2 Center wavelength and spectral width measurements

... per TIA/EIA-455-127 under modulated conditions ...

Change to TIA-455-127-A.

52.15.3.9 Optical measurement requirements

OM2 Center wavelength and spectral width measurement 52.9.2 Measured using an optical spectrum analyzer per TIA/EIA-455-127 under modulated conditions M Yes []

Change to TIA-455-127-A.

58.7.2 Wavelength and spectral width measurements

... according to ANSI/EIA/TIA-455-127, ...

Change to TIA-455-127-A.

58.10.3.5 Optical measurement requirements

OM3 Wavelength and spectral width 58.7.2 Per TIA/EIA-455-127 under modulated conditions M Yes []

And equivalents in 59 and 60.

Change to TIA-455-127-A in all three clauses.

75.7.4 Wavelength and spectral width measurement ... according to TIA-455-127-A ...

No change needed.

75.10.4.13 Definitions of optical parameters and measurement methods

OM2 Wavelength and spectral width 75.7.4 Per TIA-455-127-A under modulated conditions. M Yes []

No change needed.

86.8.4.1 Wavelength and spectral width

... method given in TIA-455-127-A.

No change needed.

86.11.4.4 Definitions of parameters and measurement methods

SOM2 Center wavelength 86.8.4.1 Per TIA-455-127-A M Yes []

No change needed.

87.8.3 Wavelength

per TIA/EIA-455-127-A or IEC 61280-1-3.

No change needed.

87.12.4.4 Optical measurement methods

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XLOM2 Center wavelength 87.8.3 Per TIA-455-127-A or IEC 61280-1-3 under modulated conditions M Yes []
 No change needed.
 And equivalents in 88 and 89.

Response Response Status **C**
 ACCEPT IN PRINCIPLE.

Apply changes per comment.
 Additionally in 1.3 change:
 "TIA-455-127-A:2006 FOTP-127-A Basic Spectral Characterization of Laser Diodes" to:
 "TIA-455-127-A-2006 FOTP-127-A Basic Spectral Characterization of Laser Diodes"
 (change the colon to a dash)

CI 64 SC 64 P 0 L 0 # i-97
 Thompson, Geoffrey GraCaSI S.A.

Comment Type **ER** Comment Status **R**

This comment applies to mainly clauses 64, 65, 66, 75, 76 and 77. There is related text in other clauses. The EPON eco-system has developed and expanded to such an extent that I strongly believe it deserves a separate standard within 802.3. I believe that it would serve the LAN community and 802.3 in particular to separate it out and give it a separate (802.3) identity. This should make EPON easier to expand and maintain and make it easier for the market to relate to its "Distinct Identity" This is not breaking new ground as both 802.1 (albeit with a horrible designation system) and 802.15 have separate standards within the custody of their Working Groups. We have broken the way within 802.3 with the separation of our MIBs into 802.3.1. I also believe that this approach will help 802.3 in the future as other variants on Ethernet present compelling arguments for standardization within 802.3.

SuggestedRemedy

Remove all text clauses related to EPON and move them to a new standard which I propose to be designated 802.3.2. Do such additional editorial work required to support such a change within those clauses and in other clauses. Leave the existing clause headers in place with a reference to the appropriate clause in the new standard.

Response Response Status **C**
 REJECT.

- Both PARs for EPON projects (802.3ah and 802.3av) were brought into 802.3 WG as amendments to the base 802.3 standard and not stand-alone documents.
- If such an extraction process was to proceed, a new project for this end would be needed. EPON is a successful part of the Ethernet family and if it were to be removed from the base standard, it would need a concurrent project to do so, preventing a situation in which there would be no approved standard for EPON. Thus, any further action on this would require new action by the WG.

CI 70 SC 70.1 P 427 L 28 # i-115
 Dawe, Piers J G IPtronics

Comment Type **TR** Comment Status **R**

This PMD clause says "The Clause 36 PCS/PMA when used with 1000BASE-KX PMD shall support full duplex operation only." A PMD clause can't tell the PCS/PMA what to do; that's what the PCS/PMA Clause 36 is for. A similar issue came up in 802.3ba and is now fixed; do similar for this.

SuggestedRemedy

Change this to "The Clause 36 PCS/PMA when used with 1000BASE-KX PMD is required to support full duplex operation only (see 36.1.1)."
 At the end of 36.1.1 Scope, add "The 1000BASE-X PCS and PMA when used with the 1000BASE-KX PMD shall support full duplex operation only."
 Move the PICS item FD in 70.10.3 to 36.7.3 Major capabilities/options, and adjust the status of FDX to depend on it.

Response Response Status **C**

REJECT.

The proposed change is outside of scope for Clause 36. Clause 36 is used with half and full duplex. Clause 70 picks a specific subset of Clause 36 functions for use with that PMD.

CI 71 SC 71.3 P 446 L 50 # i-116
 Dawe, Piers J G IPtronics

Comment Type **TR** Comment Status **R**

This PMD clause says "The PCS associated with this PMD shall support the AN service interface primitive AN_LINK.indication defined in 73.9. (See 48.2.7.)" A PMD clause can't tell the PCS/PMA what to do; that's what the PCS/PMA Clause 48 is for, and already "48.2.7 Auto-Negotiation for Backplane Ethernet" says "The following requirements apply to a PCS used with a 10GBASE-KX4 PMD. Support for the Auto-Negotiation process defined in Clause 73 is mandatory. The PCS shall support the primitive AN_LINK.indication(link_status) (see 73.9). ...", with four PICS items in 48.7.4.2. A similar issue came up in 802.3ba and is now fixed; do similar for this.

SuggestedRemedy

Change this to "The PCS associated with this PMD is required to support the AN service interface primitive AN_LINK.indication defined in 73.9. (See 48.2.7.)"
 In 48.2.7, change "see 73.9" to "see 71.3 and 73.9".
 Delete the redundant "71.10.4.1 PCS requirements for AN service interface" including item PR1.

Response Response Status **C**

REJECT.

The PICS in Clause 71 (71.10.4.1 - PR1) describes the service interface primitive. The PICS in Clause 48 (48.7.4.2) describes the PCS function.

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Cl 72 SC 72.3 P 469 L 3 # i-117
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

This PMD clause says "The PCS associated with this PMD shall support the AN service interface primitive AN_LINK.indication defined in 73.9. (See 49.2.16.)" A PMD clause can't tell the PCS what to do; that's what the PCS Clause 49 is for, and already "49.2.16 Auto-Negotiation for Backplane Ethernet" says "The following requirements apply to a PCS used with a 10GBASE-KR PMD. Support for the Auto-Negotiation process defined in Clause 73 is mandatory. The PCS shall support the primitive AN_LINK.indication(link_status) (see 73.9). ...", with four PICS items in 49.3.6.5. A similar issue came up in 802.3ba and is now fixed; do similar for this.

SuggestedRemedy

Change this to "The PCS associated with this PMD is required to support the AN service interface primitive AN_LINK.indication defined in 73.9. (See 49.2.16.)"
 In 49.2.16, change "see 73.9" to "see 72.3 and 73.9".
 Delete the redundant "72.10.4.1 PCS requirements for AN service interface" including item PR1.

Response Response Status C

REJECT.

The PICS in Clause 72 (72.10.4.1 - PR1) describes the service interface primitive. The PICS in Clause 49 (49.7.4.2) describes the PCS function.

Cl 72 SC 72.7.1.8 P 489 L 37 # i-139
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

The definition for Duty Cycle Distortion is ambiguous, because it's not clear what the pattern or sequence is. "The data pattern for jitter measurements shall be test patterns 2 or 3 as defined in 52.9.1.1.", "The duty cycle distortion test pattern shall consist of no fewer than eight symbols of alternating polarity.", "The peak-to-peak duty cycle distortion is defined as the absolute value of the difference in the mean pulse width of a 1 pulse or the mean pulse width of a 0 pulse (as measured at the mean of the high- and low-voltage levels in a clock-like repeating 0101 bit sequence) and the nominal pulse width."

Is there meant to be a difference between pattern and sequence? Is this definition meant to agree with what scopes have built in to them (mean difference between rising and falling edges of an eye)?

SuggestedRemedy

Change wording so that it is clear that Duty Cycle Distortion is equivalent to that built into scopes.

Response Response Status C

REJECT.

There is no specific remedy provided.

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Cl 78 SC 78.1.4 P 26 L 22 # i-106
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status A

"interface type": this terminology does not match the sentence before or the table itself (style manual: use the same name for a thing, every time) and is not correct anyway; there can be multiple interfaces for one PHY, such as MDI, PMD service interface, ...

SuggestedRemedy

Change "interface type" to "PHY type". As XGXS is not a PHY, one could change the text to "for the IEEE 802.3 PHYs and the XGXS listed in Table 78-1. The table also lists the clauses associated with each PHY or sublayer. Normative requirements for the EEE capability for each PHY type, and for XGXS, are in the associated clauses." Or, state that within this clause, XGXS is treated as a PHY.

Response Response Status C

ACCEPT IN PRINCIPLE.

Changing "interface type" to "PHY type" in the title of Table 78-1 would be incorrect as XGXS is not a PHY.

Change the text of 78.1.4 to:

"EEE defines a low power mode of operation for the IEEE 802.3 PHYs and the XGXS listed in Table 78-1. The table also lists the clauses associated with each PHY or sublayer. Normative requirements for the EEE capability for each PHY type and for XGXS are in the associated clauses.

Cl 79 SC 79.3.2.4 P 45 L 45 # i-79
 McCormack, Michael Texas Instruments Inc

Comment Type TR Comment Status R

"power source" Value 1 0 is reserved. I assume that is because the authors assumed that a PD would at least be powered by a PSE and not only locally. However, a PD is a valid PD when it is only requesting power, not just receiving it. Many PDs on the market also support local power supplies, as alluded to by the bits in this field, so it is entirely possible to have a PD that is requesting power, is not actively powered by the PSE and yet is operating the data link. What power source is a locally powered PD to report?

SuggestedRemedy

Change table to read '1 0 = local' or explain.

Response Response Status C

REJECT.

PDs that are not powered by a PSE will not receive LLDP messages that require a response; therefore, a locally powered and PSE unpowered PD will not need to reply to a compliant PSE. The standard addresses only interaction between compliant implementations, therefore the requested change is beyond the scope of IEEE 802.3 WG.

Cl 79 SC 79.3.2.5 P 46 L 40 # i-80
 McCormack, Michael Texas Instruments Inc

Comment Type TR Comment Status R

0' is specifically excluded as a PD requested power value; however, it may be entirely appropriate for a PD to want to have its input power removed.

SuggestedRemedy

- 1) Change the text at to read "... decimal 0 through 255."
- 2) Change the label on the vector in Section 33.2.4.7, Figure 33-9, line 50 to read "tmpdo_timer_done * !short_detected * !ovld_detected * !power_not_available * !option_vport_lim + PD_request_off"
- 3) In section 33.2.4.6, (pick an appropriate page and line) define a function "PD_request_off" This function returns TRUE if the PSE receives a "PD requested power value" of zero and FALSE for all other values received OR this function returns FALSE if the PSE does not support a PD power off request.

Response Response Status C

REJECT.

Without other changes not included in the comment, it is likely that an unstable condition could result. Specifically, it is likely that PDs would indefinitely cycle between powered and unpowered states.

Cl 82 SC 82.1.5 P 102 L 9 # i-147
 Dawe, Piers J G IPtronics

Comment Type ER Comment Status A

Rogue ALL CAPITALS in Figure 82-2 Functional block diagram. This is not a "layer diagram" for which an exemption to the rules was written. There are very few block diagrams like this in 802.3. Figure 83-5 PMA Functional Block Diagram, Figure 85-2, Figure 86-2 and so on use mixed case.

SuggestedRemedy

Please change ENCODE to Encode, SCRAMBLE to Scramble, and so on.

Response Response Status C

ACCEPT.

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Cl **83A** SC **83A.5.2** P **349** L **23** # **i-114**
 Dawe, Piers J G IPtronics

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

"The XLAUI/CAUI jitter tolerance test setup in figure 83A-15 or its functional equivalent". Functional specs are in e.g. 83.5 Functions within the PMA, 85.7 PMD functional specifications, and they are mostly about bits and bytes and topology: just the "digital" function, not the analog detail. Functional is less than electrical. Here in an analog test setup, we need the right analog, electrical behaviour.

SuggestedRemedy

Change "functional" to "electrical".

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change:

"The XLAUI/CAUI jitter tolerance test setup in Figure 83A-15 or its functional equivalent shall." to:

"The XLAUI/CAUI jitter tolerance test setup in Figure 83A-15 or its equivalent shall."

Cl **83B** SC **83B.2.2** P **362** L **22** # **i-125**
 Dawe, Piers J G IPtronics

Comment Type **TR** Comment Status **R**

While checking the common-mode return loss specs I noticed that while the module had such a spec, the host did not. This spec, together with the output AC common-mode voltage, contains the AC common-mode voltage in service. The inputs can have a high common-mode impedance, so if the output is allowed to have a very bad common-mode return loss, the VSWR of the common mode is unbounded at certain frequencies, and so the common mode voltage can be multiplied up. Even a small common-mode loss will keep this under control. A very relaxed spec would be better than no spec (a relaxed spec is needed to allow higher bandwidth connectors).

SuggestedRemedy

Here is a straw man; I expect to bring a refined proposal. Note the corner frequency is much lower, and the high frequency regime follows twice the HCB insertion loss.

Minimum host common-mode output return loss HCB output TP1a See Equation (86A-2) dB

$$\text{Return_loss} \geq (7 - 24.5f \quad 0.01 \leq f \leq 0.25) \text{ dB (86A-2)}$$

$$(0.52 + 0.6\sqrt{f}) + 0.22f \quad 0.25 \leq f \leq 11.1$$

Response Response Status **C**

REJECT.

The Suggested remedy here has no supporting evidence for the values proposed.

Equations in Suggested remedy evaluate to:

6.755 dB at 0.01 GHz

0.875 dB at 0.25 GHz

4.961 dB at 11.1 GHz

Which doesn't seem correct.

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Cl 85 SC 85.8.3 P 184 L 31 # i-105
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

"Transmitter DC amplitude" is misnamed; it is not a DC amplitude. Fibre Channel and InfiniBand call it "steady-state output voltage".

SuggestedRemedy

Rename to "Steady-state Output Voltage"

Response Response Status C

REJECT.

The Transmitter DC amplitude has a very precise definition in note b:
 "The transmitter DC amplitude is the sum of linear fit pulse response p(k) from step 3) divided by M from step 3)"

Re-naming this to be "Steady-state output voltage" as used by other standards for something different would be likely to cause confusion.

Cl 85 SC 85.8.3 P 184 L 44 # i-140
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

Surprisingly, random jitter (or Random Jitter) is not defined. 48B.3, Jitter output test methodologies, has some formulae for Dual Dirac method, but it is informative, written for 8B/10B not scrambled signals, and uses RJ_RMS which I think is not what is meant here.

SuggestedRemedy

I don't have a good remedy right now. Maybe Fibre Channel has a definition somewhere.

Response Response Status C

REJECT.

There is no suggested remedy provided. The commenter is invited to provide a proposed revision of the draft text to address the issue for the BRC to consider.

Cl 85 SC 85.8.3 P 184 L 46 # i-142
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

If $RJ \leq 0.15$, how can TJ-DDJ be as large as 0.25? SJ and PJ should be $\ll 0.1$.

SuggestedRemedy

?

Response Response Status C

REJECT.

There is no suggested remedy provided. The commenter is invited to provide a better definition of the problem and a proposed revision of the draft text to address the issue for the BRC to consider.

Cl 85 SC 85.8.3 P 185 L 1 # i-143
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

I doubt that where the draft says "random jitter" it means it. I expect Random Jitter is meant.

SuggestedRemedy

Decide what is meant, and use capitals for Random Jitter and Total Jitter as appropriate.

Response Response Status C

REJECT.

Since random jitter and total jitter are not formally defined terms, the case shown here is appropriate.

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) Initial Sponsor ballot comments

Cl 85 SC 85.8.3 P 185 L 1 # i-141
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

Surprisingly, total jitter (or Total Jitter) is not defined. This says "Total jitter at a BER of 10-12 measured per 83A.5.1...". 83A.5.1 says "Transmit jitter is defined with respect to a test procedure resulting in a BER bathtub curve such as that described in Annex 48B.3." 48B.3, Jitter output test methodologies, has some formulae for Dual Dirac method, but it is informative and written for 8B/10B not scrambled signals.

SuggestedRemedy

I don't have a good remedy right now. Maybe Fibre Channel has a definition somewhere. Or it might be better to replace the TJ-DDJ spec with a J9-DDJ spec - easier to measure with reasonable accuracy in a reasonable time.

Response Response Status C

REJECT.

There is no suggested remedy provided. The commenter is invited to provide a proposed revision of the draft text to address the issue for the BRC to consider.

Cl 85 SC 85.8.4.2 P 194 L 26 # i-133
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status A

Table 85-8, 10GBASE-CR4 and 10GBASE-CR10 interference tolerance parameters, contains one "target", one "maximum" and four "min". The "Maximum fitted insertion loss coefficients" seems to contradict 85.8.4.2.3's "minimum fitted insertion loss coefficients". By applying an arbitrarily large amount of jitter, this spec can fail anything.

SuggestedRemedy

Change "Target BER" to "maximum BER" (or delete it).
 Change "Maximum fitted insertion loss coefficients" to "Fitted insertion loss coefficients".
 Delete "min", five times in this table.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "Target BER" to "Maximum BER"
 Change "Maximum fitted insertion loss coefficients" to "Fitted insertion loss coefficients"
 Delete "min", five times in this table.

Cl 85 SC 85.8.4.2.4 P 196 L 13 # i-137
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

This isn't a device spec. We specify ports: combination of IC, PCB and connector.

SuggestedRemedy

Change "device" to "receiver".

Response Response Status C

REJECT.

A receiver is an example of a more generic term "device". The proposed change does not improve the draft.

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) Initial Sponsor ballot comments

Cl **86A** SC **86A.4.1** P **380** L **30** # **i-104**
 Dawe, Piers J G IPtronics

Comment Type **TR** Comment Status **R**

We have common-mode generation specs and impedance mismatch specs; therefore we need the compliance boards to support common-mode signals. Abandoning common-mode reflection specs altogether would be a step too far, would leave possible resonances out of control and defeat the specs mentioned. This is true whether or not you believe that common-mode reflection specs are needed to limit EMI."

SuggestedRemedy

Restore all the common-mode specifications of 802.3ba (83B, 85, 86A: inputs, outputs, hosts, modules, cables and compliance boards) but with different (generally more relaxed) limits that take the characteristics of connectors and compliance boards into account better, and with the following additional differences:
 Relax the common-mode input or output return loss spec of mated HCB-MCB looking into MCB;
 Delete the common-mode input or output return loss spec of mated HCB-MCB looking into HCB;
 Add mask for max common-mode insertion loss spec of mated HCB-MCB (looking either way, input or output);
 Add spec for max integrated common-mode insertion loss of mated HCB-MCB (looking either way, input or output), using the integration method for integrated crosstalk noise;
 Add a differential to common-mode return loss spec for the mated compliance boards. These improvements to apply to Clause 85 "test fixtures" the same as to Annex 86A compliance boards.

Response **Response Status C**

REJECT.

This comment seeks to reverse the removal of the common-mode return loss specs due to comments #146 to #150 against D2.0 without establishing that there is indeed a correlation between common-mode return loss and unacceptable performance or providing a proposal for relaxed limits and evidence that the relaxed limit proposed will ensure adequate performance.

Cl **86A** SC **86A.5.1.1.2** P **388** L **33** # **i-129**
 Dawe, Piers J G IPtronics

Comment Type **TR** Comment Status **R**

If we revisit the MCB-HCB crosstalk specs: this says "The limits on integrated crosstalk noise of the mated HCB and MCB are as specified in 85.10.9.4 with the exception that the frequency range is 0.01 GHz to 12 GHz." but there is another difference: the reference receiver bandwidth in this clause is 12 GHz while in 85.10.7 "In addition, fr is the 3 dB reference receiver bandwidth, which is set to 7.5 GHz."

SuggestedRemedy

If we revisit the MCB-HCB crosstalk specs, change "are as specified in 85.10.9.4 with the exception that the frequency range is 0.01 GHz to 12 GHz." to "are as specified by Table 86A-X according to the method of 85.10.9.4 with the exceptions that the 3 dB reference receiver bandwidth of Equation (85-28) and Equation (85-29) is 12 GHz, and the frequency range is 0.01 GHz to 12 GHz.", and insert a new Table 86A-X in the style of Table 85-12 with limits that are consistent with this.

Response **Response Status C**

REJECT.

The ICN Ad Hoc consensus was to leave the 3 dB reference receiver bandwidth (fr) used by Clause 86A in Equation (85-28) and Equation (85-29) unchanged at 7.5 GHz as this is expected to be well correlated with the ICN measured with a 12GHz reference receiver bandwidth.
 See also comment #63

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) 1st Sponsor recirculation ballot comments

Cl 00 SC 0 P L # r01-2
Rannow, R K TE Connectivity

Comment Type GR Comment Status R

Excessive grammatical errors make for a confusing read. Representative example is "instantiation" as optional instantiation is confusing, contrary.

SuggestedRemedy

Replace "instantiation" with "example". Also, if text is referenced in a later or subsequent paragraph, "has" means it already occurred so this is confusing about where something is defined. Many grammatical discrepancies make the document appear confusing.

Response Response Status C

REJECT.

The comment is fairly general and the referenced text has not changed this round or this revision and is consistent with prior revisions.

The use of the word "instantiation" in this context is correct.

Cl 01 SC 1.4.118 P 74 L 22 # r01-16
Dawe, Piers J G IPtronics

Comment Type TR Comment Status A

D3.0 comment i-7: REJECT.
The issue of whether to include TIA references in addition to the IEC ones was discussed during the resolution of comments #12 and #45 against D2.0 and comment #12 against D2.1 with the conclusion that only the international standard would be referenced. The Note at the end of Clause 1.3 says:
NOTE-Local and national standards such as those supported by ANSI, EIA, MIL, NFPA, and UL are not a formal part of this standard except where no international standard equivalent exists. A number of local and national standards are referenced as resource material; these bibliographical references are located in the bibliography in Annex A.

SuggestedRemedy

Remove these gratuitous TIA references.

Response Response Status C

ACCEPT IN PRINCIPLE.

In order to make the definitions consistent with the specifications in the clauses:

In 1.4.118 delete "and category 3 as per ANSI/EIA/TIA-568-A-1995" and "and ANSI/EIA/TIA-568-A-1995"

In 1.4.119 delete "and ANSI/EIA/TIA-568-A-1995" in two places.

Cl 23 SC 23.1.2 P 103 L 32 # r01-19
Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

1. Standard says "Since September 2003, maintenance changes are no longer being considered for this clause." and 2. project objectives are a matter of historical record and not for the maintenance meeting to "tweak".

SuggestedRemedy

Undo the change at bullet d and 23.1.4.1

Response Response Status C

REJECT.

The change done was through a revision and not a maintenance request where the scope of the document is open.

Cl 55 SC 55.4.2.5.14 P 635 L 46 # r01-1
McClellan, Brett Marvell Semiconducto

Comment Type TR Comment Status R

This is a pile-on to comment 66 on D3.0. Note that the same objection was made by a third commenter on D2.0. This technical change to Clause 55 was made without a survey of how it will affect existing devices in the field. There are existing devices in the field that exceed the 100ms max timing specified in this change. Setting this spec to 100ms implies that existing devices are non-compliant and may cause new devices to be non-interoperable by design with existing devices.

SuggestedRemedy

Change the recommended maximum time from 100ms to 200ms.

Response Response Status C

REJECT.

Comment #461 against D2.0 proposed to change the value from Maintenance request 1216 of the Recommended maximum time with timing_lock_OK=0 from 100ms to 200ms. This was rejected with the justification:
"Feedback from those making and testing PHYs was that 100 ms is sufficient for this and that raising the maximum to 200 ms would leave too little time in the 1 state"

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) 1st Sponsor recirculation ballot comments

CI 72 SC 72.3 P 469 L 3 # r01-8
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

Progressing D3.0 comment i-117: this PMD clause says "The PCS associated with this PMD shall support the AN service interface primitive AN_LINK.indication defined in 73.9. (See 49.2.16.)" A PMD clause can't tell the PCS what to do; that's what the PCS Clause 49 is for, and already "49.2.16 Auto-Negotiation for Backplane Ethernet" says "The following requirements apply to a PCS used with a 10GBASE-KR PMD. Support for the Auto-Negotiation process defined in Clause 73 is mandatory. The PCS shall support the primitive AN_LINK.indication(link_status) (see 73.9). ...", with four PICS items in 49.3.6.5. A similar issue came up in 802.3ba and is now fixed; do similar for this.

SuggestedRemedy

Change this to "The PCS associated with this PMD is required to support the AN service interface primitive AN_LINK.indication defined in 73.9. (See 49.2.16.)"
 In 49.2.16, change "see 73.9" to "see 72.3 and 73.9". In 49.3.3, create an option "Supports 10GBASE-KR", reference 49.2.16, status optional. In 49.3.6.5, make AN1 conditionally mandatory on this.
 Delete the redundant "72.10.4.1 PCS requirements for AN service interface" including item PR1.

Response Response Status C

REJECT.

This is a restatement of a prior comment and there is no additional information provided from I-117 to have this comment accepted.

CI 72 SC 72.7.1.8 P 489 L 37 # r01-11
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

D3.0 comment i-139: The definition for Duty Cycle Distortion is ambiguous, because it's not clear what the pattern or sequence is. "The data pattern for jitter measurements shall be test patterns 2 or 3 as defined in 52.9.1.1.", "The duty cycle distortion test pattern shall consist of no fewer than eight symbols of alternating polarity.", "The peak-to-peak duty cycle distortion is defined as the absolute value of the difference in the mean pulse width of a 1 pulse or the mean pulse width of a 0 pulse (as measured at the mean of the high- and low-voltage levels in a clock-like repeating 0101 bit sequence) and the nominal pulse width."

Is there meant to be a difference between pattern and sequence? Is this definition meant to agree with what scopes have built in to them (mean difference between rising and falling edges of an eye)?

SuggestedRemedy

Change wording so that it is clear that Duty Cycle Distortion is equivalent to that built into scopes. Detailed remedy to follow, I hope.

Response Response Status C

REJECT.

This is a restatement of a prior comment and there is no specific remedy provided.

CI 78 SC 78.1.4 P 26 L 22 # r01-36
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

Completing D3.0 comment i-106 (a PHY is not an interface). Nor is it a protocol.

SuggestedRemedy

Change title of Table 78-1 to "Clauses associated with each PHY or sublayer". In the header row, change "PHY type" to "PHY type or sublayer". Change the title of Table 78-2 to "Summary of the key EEE parameters for supported PHY type or sublayer". In the header row, change "protocol" to "PHY type or sublayer". Just above Table 78-2, change "for supported PHYs" to "for supported PHYs and for XGXS".

Response Response Status C

REJECT.

It is not incorrect to describe the items listed in Table 78-1 as "interfaces". Table 78-1 is simply helpful information as to where EEE information can be found and Table 78-2 is a summary of timing parameters across the various EEE related interfaces. There is no danger of mis-interpretation of the standard because of the wording currently used here.

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) 1st Sponsor recirculation ballot comments

Cl 85 SC 85.8.3 P 184 L 28 # r01-23
 Dawe, Piers J G IPtronics

Comment Type ER Comment Status R

Section 6 uses "AC common-mode" 13 times and "Common-mode AC" twice. SFP+ and FC-PI-5 use "AC common mode"

SuggestedRemedy

In Table 85-5 and 85A-1, change "Common-mode AC output voltage" to "AC common-mode output voltage".

Response Response Status C

REJECT.

Draft 3.1 contains:

8 occurrences of "common mode AC" and
 19 occurrences of "AC common mode".

The meaning of the two terms pointed to by the commenter is clear, so no change is required.

Cl 85 SC 85.8.3 P 184 L 31 # r01-5
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

D3.0 comment i-105: "Transmitter DC amplitude" is misnamed; it is not a DC amplitude. Fibre Channel and InfiniBand call it "steady-state output voltage". As the BRC observes, it is defined as "the sum of linear fit pulse response p(k) from step 3) divided by M from step 3)". Which is NOT a DC amplitude (because it's not DC). However, compare FC-PI-5 9.7.1. It's the sum of p(k) divided by M: the same. Not a DC amplitude either. Leaving this erroneous and different name would be likely to cause confusion.

SuggestedRemedy

Rename to "Steady-state Output Voltage" (5 places in this clause).

Response Response Status C

REJECT.

The term "Transmitter DC amplitude" was in the P802.3ba draft from D2.3 onwards including all versions during Sponsor Ballot.

The method for measuring this parameter is given in great detail within the document including an expository footnote to the parameter in Table 85-4. Since the understanding of this parameter does not depend solely upon its name, there is no need to change it at this point to make it the same as used in another standard.

Cl 85 SC 85.8.3 P 184 L 44 # r01-12
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

D3.0 comment i-140 and i-143: surprisingly, random jitter (or Random Jitter) is not defined. 48B.3, Jitter output test methodologies, has some formulae for Dual Dirac method, but it is informative, written for 8B/10B not scrambled signals, and uses RJ_RMS which I think is not what is meant here. This remedy follows recent work in Fibre Channel and OIF and takes into account the difference between 8B/10B and scrambled signals..

SuggestedRemedy

Because it's not necessarily random and to avoid confusion with the different Random Jitter defined in 48B-7, in this table change "Random jitter" to "Gaussian Jitter" (with capitals).

Change footnote d to "At a BER of 10-12. See 1.4.212".

Similarly for Table 85-8 and Table 85A-1. No need to change terminology in 85.8.3.7, 83A, 83B and 86A which really do mean jitter that's random.

In Clause 1, insert 1.4.212 Gaussian Jitter: Gaussian Jitter, often called Random Jitter whether random or not, is the difference between Total Jitter and the dual-Dirac estimate of high probability (or "deterministic") jitter. It is found from a Gaussian fit to the tails of the jitter distribution of a signal. See for example Fibre Channel - Methodologies for Signal Quality Specification - MSQS, Figure 7.3 or OIF-OIF-CEI-03.0 Figure 2-17.

Add MSQS and OIF-CEI-03.0 to the normative references.

Response Response Status C

REJECT.

The term "Gaussian jitter" already appears in 2 places in D3.1 (48B.1.2 and 75C.1). This means that it would have to be established that introducing a new definition for "Gaussian Jitter" does not cause an issue with these clauses. This has not been done.

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) 1st Sponsor recirculation ballot comments

Cl 85 SC 85.8.3 P 184 L 46 # r01-14
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

D3.0 comment i-142: If $RJ \leq 0.15$, how can TJ-DDJ be as large as 0.25? SJ and PJ should be $\ll 0.1$. I believe that RJ is applicable when the eye has neutral emphasis (most favourable for jitter) and TJ-DDJ is applicable in any valid emphasis state.

SuggestedRemedy

Find the people who wrote this, determine what it means, document it. Or, add to table footnotes per comment.

Response Response Status C

REJECT.

The commenter was invited to seek a consensus view of whether there is a problem with this requirement and if so provide a proposed revision of the draft text to address the issue for the BRC to consider. This was not done and the BRC has not received any information to confirm that this specification is inappropriate.

Cl 85 SC 85.8.3 P 184 L 46 # r01-15
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

D3.0 comment i-143: I doubt that where the draft says "random jitter" it means it. I expect Random Jitter is meant. REJECTED: "Since random jitter and total jitter are not formally defined terms, the case shown here is appropriate."

SuggestedRemedy

An amusing but inadequate riposte, leaving the draft broken! Obviously the BRC needs definitions for Random Jitter and Total Jitter.
 Make sure Data Dependent Jitter (which obviously has a formal definition in 85.8.3.8) has capitals there, in Table 85-5, and in 1.5 Abbreviations. See other comments for Random Jitter and Total Jitter.

Response Response Status C

REJECT.

Formal definitions of Random Jitter and Gaussian Jitter have not been introduced (comments r01-13 and r01-12) so no change of case is required for these terms. Data dependent jitter has a measurement definition in 85.8.3.8 but no formal definition in 1.4. This is true of extinction ratio in 87.8.7, but the draft does not capitalise this as Extinction Ratio everywhere.

Cl 85 SC 85.8.3 P 184 L 46 # r01-13
 Dawe, Piers J G IPtronics

Comment Type TR Comment Status R

D3.0 comment i-141: surprisingly, total jitter (or Total Jitter) is not defined. This says "Total jitter at a BER of 10-12 measured per 83A.5.1...". 83A.5.1 says "Transmit jitter is defined with respect to a test procedure resulting in a BER bathtub curve such as that described in Annex 48B.3." 48B.3, Jitter output test methodologies, has some formulae for Dual Dirac method, but it is informative and written for 8B/10B not scrambled signals. This remedy follows recent work in Fibre Channel and OIF and takes into account the difference between 8B/10B and scrambled signals, but the definition works for 8B/10B also.

SuggestedRemedy

Make sure Total Jitter is capitalised (5 changes in 85, 83A, 85A).
 In Clause 1, insert 1.4.38xTotal Jitter: The Total Jitter of a signal is defined as the difference between the sampling time just after the majority of the transitions of a signal at which the error rate after sampling is the specification error rate, and the sampling time just before the majority of the transitions of the signal at which the error rate after sampling is also the specification error rate. It is commonly estimated by "dual-Dirac" curve fitting and extrapolation (see for example Fibre Channel - Methodologies for Signal Quality Specification - MSQS, subclause 7.1).
 In 83A.3.4.6, delete "peak-to-peak" in the first line.
 Consider replacing the TJ-DDJ spec with a J9-DDJ spec - easier to measure with reasonable accuracy in a reasonable time.

Response Response Status C

REJECT.

The term "total jitter" already appears in 89 places in D3.1. This means that it would have to be established that introducing a new definition for "Total Jitter" does not cause an issue with any of the clauses where it is used. This has not been done.

IEEE P802.3 (IEEE 802.3bh) Maintenance #10 (revision) 2nd Sponsor recirculation ballot comments

Cl 01 SC 1.4.118 P 74 L 48 # r02-2
 Rolfe, Benjamin Blind Creek Associate

Comment Type TR Comment Status R

"Each definition should be a brief, self-contained description of the term in question and shall not contain any other information, such as requirements or elaborative text." [2012 IEEE Standards Style Manual]. Please remove "other information" and "requirements" that are stated here as part of the definition, and move that material to appropriate normative clauses.

SuggestedRemedy

See comment. This problem occurs in several other definitions also. Fix them all please. Technical requirements need to be stated in appropriate normative clauses.

Response Response Status C

REJECT.

The change made to this subclause was intended to realign the definition of "category 3 balanced cabling" to match prior revisions of the Standard. The comment implementation did not involve the addition of normative information. The definition in this subclause contains helpful information to aid in distinguishing category 3 from other categories of cabling.

Cl 01 SC 1.4.119 P 74 L 46 # r02-3
 Rolfe, Benjamin Blind Creek Associate

Comment Type TR Comment Status R

Inappropriate details in definition, including what appear to be normative requiremetns.

SuggestedRemedy

Delete everything after "MHz" in the first sentence. None of the rest belongs in clause 3. FIX EVERYWHERE ELSE IN CLAUSE 3 where definitions contain inappropriate text.

Response Response Status C

REJECT.

The comment implementation did not involve the addition of normative information. The definition in this subclause contains helpful information to aid in distinguishing category 4 from other categories of cabling. In addition, the commenter is addressing changes to clause 3 that are unrelated to changes made to subclause 1.4.119.

Cl 55 SC 55.12.8 P 695 L 11 # r02-1
 Mcclellan, Brett Marvell Semiconducto

Comment Type GR Comment Status R

The resolution to comment r01-29 deleted the entry in the Value/Comment field of PICS item MDI4. The effect of this change is that PIC item MDI4 has no meaning. Section 55.8.2 contains two normative (aka "shall") statements that are tied to PIC items MDI5 and MDI6. Without a Value/Comment entry PIC item MDI4 has no normative requirement.

SuggestedRemedy

Restore the original Value/Comment text:
 "Per category 6 requirements specified in ANSI/TIA-568-C.2 and ISO/IEC 11801:2002" and place a normative statement in 55.8.2 that the MDI connector jack plus plug performance shall comply with the requirements in this reference.

Response Response Status C

REJECT.

Comment r01-29 against D3.1 pointed out that there was a discrepancy between 55.8.2 and PICS item MDI4. This comment was resolved by removing the conflicting text from the Value/Notes section of MDI4 rather than introducing a new normative requirement into 55.8.2.