Cl **01** *SC* **1.3** *P* **3** *L* **24** # **121**

Booth, Brad Intel

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

Typo.

Suggested Remedy

Change "augemented" to "augmented".

Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.4** *P* **3** *L* **35** # **122**

Booth, Brad Intel

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

Text not required.

Suggested Remedy

Remove "is used in 10GBASE-T".

Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **1.5** *P* **3** *L* **56** # **123**

Booth, Brad Intel

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

Change "CAT6" to be "Cat 6".

Suggested Remedy

As per comment.

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* *P* **5** *L* **1** # **125**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

This should be a revision to 802.3REVam.

Suggested Remedy

Verify that this is a revision to the existing REVam draft.

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* *P* **5** *L* **1** # **124**

Booth, Brad Intel

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

Remove unedited text.

Suggested Remedy

Remove 28.1, 28.4 and 28.6.

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.2.1.2** *P* **12** *L* **34** # **126**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

In Figure 28-7, the Technology Ability Field arrow includes bit D12 (A7). This bit has been modified to be an indication for extended next pages which is less of a technology ability as it is an auto-negotiation ability.

Suggested Remedy

Change A7 to be XNP. Shift the arrow to only point to A6. Shift 28.2.1.2.3-5 to be 28.2.1.2.4-6. Add new 28.2.1.2.3 as found in 28B.3. Remove A7 and extended next page information from Annex 28B.

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.2.3.4.2** *P* **18** *L* **28** # **75**

Lynskey, Eric UNH-IOL

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

Two periods at end of sentence.

Suggested Remedy

Remove period.

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.2.4.1.1** *P* **21** *L* **34** # **12**

Thompson, Todd SolarFlare Communica

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

The register definition for MII control register 0 is defined in 22.2.4.1.

Suggested Remedy

Change 28.2.4.1 to 22.2.4.1.

Response *Response Status* **C**

ACCEPT.
This is an error also existing in the 2002 edition. Will also check to see if this has been caught in 802.3REVam.

Cl **28** *SC* **28.2.4.1.2** *P* **21** *L* **54** # **13**

Thompson, Todd SolarFlare Communica

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

The MII status register 1 is defined in 22.2.4.2 not 28.2.4.2.

Suggested Remedy

Change 28.2.4.2 to 22.2.4.2.

Response *Response Status* **C**

ACCEPT.

This is an error also existing in the 2002 edition. Will also check to see if this has been caught in 802.3REVam.

Cl **28** *SC* **28.2.4.1.8** *P* **26** *L* **1** # **127**

Booth, Brad Intel

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

In Table 28-8, break the MII/MDIO column into two columns.

Suggested Remedy

Create one column for MII (Clause 22), and another column for MDIO (Clause 45).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **28** *SC* **28.3.1** *P* **30** *L* **31** # **128**

Booth, Brad Intel

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

Remove wasted space.

Suggested Remedy

Fix.

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.3.2** *P* **36** *L* # **14**

Thompson, Todd SolarFlare Communica

Comment Type **T** *Comment Status* **A**

This is on page 36 lines 57-59 and page 37 lines 1-2 and the table 28-9. Regarding the time out values for nlp_test_min_timer, I don't think it's clear if the time out values is tied to whether a PHY supports extended next pages or is currently in the process of exchanging extended next pages. The spec seems to be saying that a phy that has support of extended next pages should always use the 6.75-7.25 timeout value. The base page is to be exchanged using the standard protocol and as such I would have expected the base page exchange to use all the non-extended next page timeout values and counts. However, this part of the spec seems to be saying that the extended next page value is to be used even during base page exchange.

Suggested Remedy

Clarify when the second timeout value of 6.75-7.25 ms is to be used and when the 5-7 ms timeout value is to be used.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add text to clause 55 that clarifies 10GBASE-T will always use the optimized timers.

Cl **28** *SC* **28.3.2** *P* **37** *L* **42** # **129**

Booth, Brad Intel

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

Remove wasted space.

Suggested Remedy

Fix.

Response *Response Status* **C**

ACCEPT.

Cl **28** *SC* **28.5.3** *P* **44** *L* **37** # **130**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

It should be mandatory that AN support non-extended next page exchanges and non-optimized FLP-to-FLP burst timing. Therefore, the only options/capabilities that should be required to be listed are *ENP and *OPT.

Suggested Remedy

Remove *RNP and *RPT from options table and from other PICS entries.

Response *Response Status* **C**

ACCEPT.
If an implementation supports extended next pages and optimized FLP Burst to FLP Burst spacing, it also necessarily supports regular next pages and FLP Burst spacing.

Cl **28** *SC* **28.6** *P* **57** *L* **54** # **76**

Lynskey, Eric UNH-IOL

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

Missing text. I don't remember removing this text.

Suggested Remedy

Insert "Annex 28B" in appropriate location.

Response *Response Status* **C**

ACCEPT.

Cl **28C** *SC* *P* **64** *L* **18** # **131**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

The use of M10 to indicate extended next pages seems to be overkill considering that we have exchanged extended next page capabilities in the base page.

Suggested Remedy

Delete text about M10 and its association with extended next pages.

Response *Response Status* **C**

ACCEPT.

Cl **28C** *SC* *P* **65** *L* **9** # **132**

Booth, Brad Intel

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

In Table 28C-1, the 10GBASE-T Technology Message Code also contains information about 1000BASE-T.

Suggested Remedy

Add 1000BASE-T to the message code description.

Response *Response Status* **C**

ACCEPT.

Cl **28C** *SC* **28C.11** *P* **66** *L* **51** # **133**

Booth, Brad Intel

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

Message code #9 should be able to work even if extended next pages are not used.

Suggested Remedy

Remove "extended" from first sentence. Delete last sentence.

Response *Response Status* **C**

REJECT.

Cl **28C** *SC* **28C.11** *P* **66** *L* **55** # **134**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

Replace TBD.

Suggested Remedy

Cross-reference to 55.6.1.

Response *Response Status* **C**

ACCEPT.

Cl **28D** SC **28D.5** P **69** L **45** # **135**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

The addition of "extended next pages" in this normative annex would imply that Clause 40 now supports extended next pages. While the Task Force is permitting this ability with message code #9, we don't need to call out "extended".

Suggested Remedy

Remove inserted text in item b).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert word "optionally" with appropriate commas in item b.

Cl **44** SC **44** P **89** L **20** # **33**

Lynskey, Eric UNH-IOL

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

The draft includes an Annex 55A that is not listed here.

Suggested Remedy

Change text to read "...and Annex 44A through Annex 55A."

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1** P **101** L **47** # **136**

Booth, Brad Intel

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

Numbering is not in order.

Suggested Remedy

Change 1.132 to 1.131. Change the next row of the table to start at 1.132 instead of 1.133.

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.59.1** P **104** L **35** # **142**

Booth, Brad Intel

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

Sentence does make sense.

Suggested Remedy

Change "... during the startup protocol and invalid." to "... during the startup protocol are invalid."

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.59.1** P **104** L **36** # **143**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

Replace TBD.

Suggested Remedy

Change TBD to read:
PMA link_status = FAIL.

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.61** P **106** L **41** # **144**

Booth, Brad Intel

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

Incorrect register reference.

Suggested Remedy

Change 1.133 to be 1.131.

Response *Response Status* **C**

ACCEPT.

Cl **45** SC **45.2.1.7.4** P **102** L **50** # **137**

Booth, Brad Intel

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

Replace TBD.

Suggested Remedy

Change TBD to 55.4.2.2.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.7.5** *P* **103** *L* **8** # **139**
Booth, Brad Intel

Comment Type **T** *Comment Status* **A**
Replace TBD with reference.

Suggested Remedy
Change TBD to be 55.4.2.3.

Response *Response Status* **C**
ACCEPT.

Cl **45** *SC* **45.2.1.8** *P* **103** *L* **28** # **141**
Booth, Brad Intel

Comment Type **E** *Comment Status* **A**
There is only one 10GBASE-CX4 PMD.

Suggested Remedy
Insert a "the" before 10GBASE-CX4 and change PMDs to PMD.

Response *Response Status* **C**
ACCEPT.

Cl **45** *SC* **45.2.3.1.2** *P* *L* # **83**
McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **R** *Gpcspma*
The Loopback (3.0.14) bit description needs to be updated to include 10GBASE-T.

Suggested Remedy
Add text:
When bit 3.0.14 is set to a one, the 10GBASE-T PCS shall accept data on the transmit path and return it on the receive path. The specific behavior of the 10GBASE-T PCS during loopback is specified in 55.3.

Response *Response Status* **C**
REJECT.

Suggested text was already in the draft.

Cl **45** *SC* **45.2.3.11.1** *P* **113** *L* **36** # **145**
Booth, Brad Intel

Comment Type **E** *Comment Status* **A**
Need a space.

Suggested Remedy
Insert a space between & and 10GBASE-T.

Response *Response Status* **C**
ACCEPT.

Cl **45** *SC* **45.2.7** *P* **115** *L* # **15**
Thompson, Todd SolarFlare Communica

Comment Type **E** *Comment Status* **A**
Table 45-117 and the entire clause 45.2.7 numbering of registers does not match Table 55-4 in Clause 55.6.

The bottom line of Table 45-117 on page 115 is missing.

Suggested Remedy
Make table 55-4 match Table 45-117 or vise versa.

Fix the bottom outline of Table 45-117 on page 115.

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

Comments 23 and 148 will change and consolidate registers to c45. Once concluded editors will coordinate to ensure c55 will match c45.

Cl **45** *SC* **45.2.7** *P* **115** *L* **25** # **23**

Thompson, Todd SolarFlare Communica

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

This comment applies to all of Clause 45.2.7 and also 55.6.

Only when coming upon a reference to bit 6.1 in Table 45-121 and Clause 45.2.7.6.5 did it become clear that it's intended that a mixture of Clause 22/28 registers and Clause 45 registers will be required to manage auto-negotation for a 10GBASE-T PHY.

All other functions for 10GBASE-T PHYs can be accomplished using only Clause 45 registers.

A single-speed 10GBASE-T PHY should be capable of being managed entirely using Clause 45 registers.

Suggested Remedy

Duplicate the functionality of Clause 22/28 Registers needed for auto-negoation in Clause 45 so that a 10GBASE-T PHY may be managed entirely with an auto-negoation MMD.

Make the Clause 22/28 registers optional for 10GBASE-T, so that an implementor who is implementing a multi-speed PHY can manage the auto-negotiation using Clause 22/28 and only needs to turn to Clause 45 registers when needed to support the extended next page functionality offered in Clause 45.

If this approach is not taken, and an approach that splits the functionality between Clause 22/28 and 45 is used, then write a section documenting the bits and their usage for all bits in the Clause 22/28 registers which apply and do not apply to managing the PHY. (For example, there's a reset bit in the clause 22 register 0. Does setting this bit result in resetting all MMD's within the PHY? Just the auto-neg MMD? Etc. There are several other bits in the Clause 22 registers whose usage become vague when these registers get pulled in. (status bits, etc.)

Finally, some of the bits in Clause 22/28 were moved to Clause 45 registers. If the Clause 22/28 registers are left, these should be removed from Clause 45 (for example, 7.0.12 and 7.0.9 are also located in Clause 22 Register 0.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment 148

Cl **45** *SC* **45.2.7** *P* **116** *L* **15** # **18**

Thompson, Todd SolarFlare Communica

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

Lines 15-17, Table 45-117. This comment also applies to Table 55-4 in Clause 55.6 and throughout Clause 45.2.7 in all other places.

The names in these two tables do not match and the names in Table 45-117 are incorrect (and throughout Clause 45.2.7). They are inconsistent with the names in Clause 28 and Clause 22 even though they share the same functionality.

Suggested Remedy

Both tables should have the same register names and register numbering.

Registers 7.19-7.21 in both tables and throughout 45.2.7 should be changed from "AN LD XNP ability register" to "AN XNP Transmit Register" to match the similar name in Clause 28 and to match it's functionality.

Registers 7.22-7.24 in both tables and throughout 45.2.7 should be changed from "AN LP XNP ability register" to either "AN LP Next Page Ability Register" to match Clause 28 or "AN LP Received Next Page" to match Clause 22. At least it should have the words "next page" in the name so as not to confuse it with register 7.16 in that same table (45-117).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Names should match. Ability register will become transmit register only for 7.19 through 7.21

XNP has already been used for "extended next page" thus 7.22-7.24 current name should be ok.

Cl **45** *SC* **45.2.7.1** *P* **116** *L* **36** # **146**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

Table 45-118 for register 7.0 should have a reset bit.

Suggested Remedy

Add reset bit (7.0.15) to the table and the following text as 45.2.7.1.1:
Resetting AN is accomplished by setting bit 7.0.15 to a one. This action shall set all AN registers to their default states. As a consequence, this action may change the internal state of AN and the state of the physical link. This action may also initiate a reset in any other MMDs that are instantiated in the same package. This bit is self-clearing, and AN shall return a value of one in bit 7.0.15 when a reset is in progress and a value of zero otherwise. AN is not required to accept a write transaction to any of its registers until the reset process is completed. The reset process shall be completed within 0.5 s from the setting of bit 7.0.15. During a reset, AN shall respond to reads from register bit 7.0.15. All other register bits should be ignored.

NOTE—This operation may interrupt data communication.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.10** *P* **122** *L* **50** # **150**

Booth, Brad Intel

Comment Type **T** *Comment Status* **A**

The order in Table 45-124 seems a bit strange. Normal transmission is the message next page, then two unformatted code messages. From reading this table, someone might mistake the order of the data.

Suggested Remedy

List register 19, then 20, followed by 21.

Same applies to Table 45-125.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2** *P* **117** *L* **20** # **16**

Thompson, Todd SolarFlare Communica

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

Table 45-122 reference is wrong.

Suggested Remedy

It should be Table 45-119.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2** *P* **117** *L* **34** # **17**

Thompson, Todd SolarFlare Communica

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

Remote fault bit should be SC and LH in addition to RO. See the text regarding the behavior of this bit and also see the similar bit definition in Clause 22.

Suggested Remedy

Add SC and LH to the R/W column for this bit.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Make sure footnote has SC and LH

Cl **45** *SC* **45.2.7.2.1** *P* **117** *L* **47** # **19**

Thompson, Todd SolarFlare Communica

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

Lines 47-53.

The references to 7.16 and 7.19-7.21 are incorrect.

Looking at the similar Clause 28.2.4.1.2, the registers listed are 4,5,6 (in Clause 28) which are the registers "AN Advertisement Register", "LP AN Ability Register", and the "AN Expansion Register".

This confusion seems to have been partially a result of the name being incorrect for Registers 7.19-21 being labelled "ability" when it is in fact a "transmit" register.

Suggested Remedy

7.16 should be listed, but not 7.19-21.

Until the Clause 22/28 issues are resolved, it's not clear which other registers should be listed in addition to 7.16.

If the Clause 22/28 registers are left, then registers 4 and 6 should be added to the list. If the functionality of registers 4 and 6 are moved to equivalent Clause 45 registers, the new registers should be listed.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Should be registers 7.16 and 7.22-7.24 for a link partner

Cl **45** *SC* **45.2.7.2.2** *P* **117** *L* **55** # **147**
Booth, Brad Intel

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

Remote fault bit references PMA/PMD when this bit is only associated with AN.

Suggested Remedy

Change PMA/PMD in the subclause to be AN.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete remote fault bit

Cl **45** *SC* **45.2.7.5** *P* **118** *L* **26** # **148**
Booth, Brad Intel

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

The setup of the registers here are a little jumbled because there is a mix of Clause 22 functionality. Unlike Clause 22, Clause 45 has the ability to separately manage each part of the PHY. AN should be treated as a separate entity.

Suggested Remedy

In Table 45-117, shift registers 7.16 to 7.24 to be 7.19 to 7.27. Add register 7.16 to be AN LD base page ability register. Change register 7.7 to indicate the status of next page transmissions (as in MII register 6), delete all other information. Move registers 7.8 and 7.9 to registers 7.32 and 7.33. Register 7.32 should be renamed "10GBASE-T AN status register". Information for the base pages and next pages should be contained in 55.6.

Response *Response Status* **C**

ACCEPT. PROPOSED ACCEPT
Appropriate bits in clause 22 will be mirrored in clause 45

Cl **45** *SC* **45.2.7.5.1** *P* **119** *L* **4** # **21**
Thompson, Todd SolarFlare Communica

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

Word is missing on line 4.

Suggested Remedy

Add the word "use" between the words "will" and "Auto-negotiation".

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.5.5** *P* **119** *L* **37** # **22**
Thompson, Todd SolarFlare Communica

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

211 should be 2 raised to the 11th power.

Suggested Remedy

Modify 11 to be an exponent of 2.

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.6** *P* **120** *L* **1** # **149**
Booth, Brad Intel

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

Register 7.8 is not about the status of 10GBASE-T, but about the resolution of the local device and link partner.

Suggested Remedy

Change heading and supporting text to reference register as "10GBASE-T auto-negotiation resolution status register".

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.7** *P* **121** *L* **26** # **24**
Thompson, Todd SolarFlare Communica

Comment Type **T** *Comment Status* **A**

Test Mode Register 7.9 does not seem to be auto-negotiation related.

Suggested Remedy

Place the test mode control register into another MMD (PMA or PCS), or explain the connection to auto-negotiation.

Response *Response Status* **C**

ACCEPT.

Coordinate with clause 55.

Cl **45** *SC* **45.2.7.9** *P* **122** *L* **123** # **25**

Thompson, Todd SolarFlare Communica

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

These comments apply to pages 122-123, all sections and tables related to the registers below.

The names are incorrect for registers 7.19-21 and 7.22-24. See previous comment regarding these names.

Suggested Remedy

Change the names as per previous comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment 18.

Cl **55** *SC* *P* **225** *L* **1** # **154**

Booth, Brad Intel

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

Annex 55A doesn't follow the correct format.

Suggested Remedy

Update the format to comply with the IEEE style guide.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.1** *P* **139** *L* **12** # **9**

Eisler, George Solarflare

Comment Type **TR** *Comment Status* **A** *intro-cabling*

Recommendation for testing all cabling systems prior to installation of equipment

Suggested Remedy

Add the following text:

"It is highly recommended that any cabling system, newly or previously installed, be measured/tested before the installation of 10GBASE-T equipmentby following the guidelines in (proposed) ANSI/TIA/EIA TSB 155."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Motion to accept proposed response:
Yes: 25
No: 15

Motion fails

"It is recommended that the guidelines (proposed) in ANSI/TIA TSB 155 and ANSI/TIA 568-B.2-10 be considered before the installation of 10GBASE-T equipment for any cabling system."

Following text is approved by acclamation

"It is recommended that the guidelines (proposed) in ANSI/TIA TSB 155, ANSI/TIA 568-B.2-10 and ISO/IEC 11801 Edition 2.1 be considered before the installation of 10GBASE-T equipment for any cabling system."

Cl **55** *SC* **55.1** *P* **139** *L* **35** # **32**

Powell, Scott Broadcom

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

55m to 100m Class E objective is misleading as to support over the installed base. Alien FEXT measurements indicate that 10Gbps cannot be broadly supported over bundled class E cabling. No data has been presented to indicate what percentage of currently installed bundled class E cabling is capable of supporting 10GBASE-T.

Suggested Remedy

Change "Class E" in objective (f) to "cat 6a" (or the appropriate name for the new cable). Some portion of the installed Class E will meet cat 6a specifications and this portion can carry 10GBASE-T traffic. See presentation for measured AFEXT data.

Response *Response Status* **C**

REJECT.

WITHDRAWN.
See response to comment #31

Cl **55** *SC* **55.12** *P* **219** *L* **1** # **51**
Lynskey, Eric UNH-IOL

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

PICS are incomplete, and in different format than other recent clauses.

Suggested Remedy

Commenter volunteers to help out with this.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
PICs will be taken out of current draft and generated from Shalls in other sections

Cl **55** *SC* **55.2.1.2.1** *P* **146** *L* **31** # **87**
McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **A** *pcspma*

The value link_status = READY is defined but never used.

Suggested Remedy

Remove this value.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add text to clause 55 saying that for 10GBASE-T, link_status does not take the value "READY"

Cl **55** *SC* **55.3.10** *P* **164** *L* **58** # **43**
Lynskey, Eric UNH-IOL

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

The second figure reference does not contain a figure number.

Suggested Remedy

Replace with Figure 55-6.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.10** *P* **164** *L* **59** # **42**
Lynskey, Eric UNH-IOL

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

Missing period at end of sentence.

Suggested Remedy

Add period.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.11** *P* **165** *L* **6** # **44**
Lynskey, Eric UNH-IOL

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

Give full primitive name.

Suggested Remedy

Replace UNIDATA.request with PMA_UNITDATA.request.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.12** *P* **165** *L* **8** # **99**
Tellado, Jose Teranetics

Comment Type **T** *Comment Status* **A** *testpattern*

Current Test pattern generator text was copied directly from Clause 49 as a reference, and values were replaced by TBD. The first test should be covered by the PMA electrical tests. The second test is not useful. The third test is intended to measure the link BER, but as described does not include the LDPC error correcting capability

Suggested Remedy

Eliminate the placeholder reference test 1 and 2 and update the last test to include the LDPC encoder and LDPC decoder. Moreover, to reduce the number of PRBS generators required, use the 58 bit PCS scrambler PRBS to generate pseudo random binary data.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.12** *P* **165** *L* **8** # **78**

McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **D** *pcspma*

This test pattern section was copied from clause 49, but doesn't add any value for 10GBASE-T. 55.5.3 already specifies Transmitter test modes

Suggested Remedy

Remove this section.

Response *Response Status* **Z**

WITHDRAWN.

Cl **55** *SC* **55.3.12** *P* **165** *L* **8** # **111**

Seki, Katsutoshi NEC Electronics

Comment Type **T** *Comment Status* **A** *testpattern*

I propose Pseudo random test pattern for BER monitor.
The proposed pattern is useful to evaluate link including LDPC encoder/decoder, tx and rx AFE and cable.

Test patterns for transmitter and thier control MDIO register are also defined in 55.5.3.
Pseudo random test mode should be marged into MDIO register for transmitter test mode.

Suggested Remedy

See proposal in seki_1_0205.pdf

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.12** *P* **165** *L* **9** # **45**

Lynskey, Eric UNH-IOL

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

Are additional test patterns needed besides the ones defined in 55.5.3? Presently, I am not aware of tests that are being defined that would require these test patterns. Currently, these test patterns are defined to bypass all of the scrambling and coding of the PCS, and connect directly to the PMA. Unless a proposal is brought forward to fully define these patterns, I recommend removing this section.

Suggested Remedy

Remove subclause 55.3.12.

Response *Response Status* **C**

REJECT.

WITHDRAWN.

Modify subclause 55.3.12 once the test patterns are defined

defer till test patterns are defined.

Cl **55** *SC* **55.3.14** *P* **166** *L* **14** # **46**

Lynskey, Eric UNH-IOL

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

The sentence is incomplete. Also, the descrambler being used by the MASTER should be defined.

Suggested Remedy

Finish sentence with "...for the SLAVE, and shall produce the same result as the implementation shown in Figure 55-12 for the MASTER." Also, add figure 55-12 to show the MASTER descrambler.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.16** *P* **167** *L* **22** # **47**

Lynskey, Eric UNH-IOL

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

Wrong word for Auto-Negotiation. Also occurs on line 30 on this same page and subclause.

Suggested Remedy

Replace autoneg with Auto-Negotiation.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.16** *P* **167** *L* **22** # **100**

Tellado, Jose — Teranetics

Comment Type **T** *Comment Status* **A** *infofield*

Repetition period for periodic PMA training sequence mode is TBD. For simplicity it should be a multiple of 256 the repetition period of the pair A sync bit which is aligned with the LDPC codeword boundary

Suggested Remedy

Replace TBDperiodic with 2^16=16384

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.16** *P* **167** *L* **22** # **50**

Lynskey, Eric — UNH-IOL

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

Currently, no bits exist that allow for the resetting of the scrambler state after TBD periods.

Suggested Remedy

Remove this from the Auto-Negotiation process or define these pages.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove this from the auto-negotiation process; this will be hardcoded

Cl **55** *SC* **55.3.16** *P* **167** *L* **29** # **49**

Lynskey, Eric — UNH-IOL

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

Currently, there exists no page defined to transmit these 66 bit scrambler state seed values between link partners during Auto-Negotiation.

Suggested Remedy

Remove this from the Auto-Negotiation process or define these pages.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove this from the auto-negotiation process; the seeds will be hardcoded

Cl **55** *SC* **55.3.16.2** *P* **169** *L* **10** # **101**

Tellado, Jose — Teranetics

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

InfoField bits must be defined to indicate current local tx THP/PBO, future local tx THP/PBO desired remote tx THP/PBO, counters, SNR and loc_rcv_status.

Suggested Remedy

'4' bits for each THP index, '3' bits for each PBO index, 12 bits for each counter to indicate multiples of PMA training periods with a max time interval of 2^14/800e6*(2^12-1) = 335ms), 5 bits for slicer SNR margin in 0.5dB increments from -5dB to 10.5dB. The number of counters should include remaining periods to Master THP/PBO increase, periods to THP update and periods to transition to data PCS mode

Response *Response Status* **C**

REJECT.

WITHDRAWN.

Cl **55** *SC* **55.3.16.2** *P* **169** *L* **8** # **80**

McClellan, Brett — Solarflare

Comment Type **T** *Comment Status* **A** *infofield*

The description of the info field is incomplete.

Suggested Remedy

Fill in complete description, see proposal.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accept proposal in mcclellan_2_205.pdf

Cl **55** *SC* **55.3.16.3** *P* **169** *L* **20** # **79**

McClellan, Brett — Solarflare

Comment Type **T** *Comment Status* **A** *pcspma*

This section is a remnant from clause 40 and should be eliminated.

Suggested Remedy

Remove the section.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.16.3** *P* **169** *L* **21** # **102**

Tellado, Jose Teranetics

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

This section header was copied from clause 40 and is not needed here. This section is currently empty

Suggested Remedy

Remove this header

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.18.2** *P* **173** *L* **39** # **103**

Tellado, Jose Teranetics

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

Error block counter is TBD

Suggested Remedy

Replace with 6 bit counter

Response *Response Status* **C**

REJECT.

WITHDRAWN.

Cl **55** *SC* **55.3.18.2** *P* **173** *L* **39** # **81**

McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **A** *pcspma*

Error blocks counter is defined in 45.2.3.12.4 to be 8 bits.

Suggested Remedy

Change TBD-bit to 8-bit.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.18.2** *P* **174** *L* **14** # **54**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *pcspma*

Relating to Figure 55-13, the 125us_timer is not defined.

Suggested Remedy

Need to add subclause prior to the state diagrams.

55.x.x.x Timers
State diagram timers follow the conventions of 14.2.3.2.

125us_timer
Timer that is triggered every 125us +1%, -25%

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.18.2** *P* **174** *L* **3** # **53**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *testpattern*

As shown in Figure 55-13, the variable r_test_mode is not defined anyplace.

Suggested Remedy

If no PCS test modes are defined, then this variable can be removed from the state diagram. Or, if PCS test modes will be defined, then this variable needs to be defined. Recommend renaming to rx_test_mode and defining as such:

rx_test_mode: Boolean variable controlling receive channel operating mode. When false, the receive channel operates in normal mode. When true, the receive channel operates in test-pattern mode.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

remove reference to r_test_mode from the state diagram

Cl **55** *SC* **55.3.18.2** *P* **174** *L* **4** # **55**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *pcspma*

As shown in Figure 55-13 and Figure 55-15, the device will be stuck in the LFER_MT_INIT or RX_INIT states if !block_lock is true. None of the state diagrams in this clause define how the block_lock variable is set or used. Its definition states that it is set true when the receiver acquires block delineation, but this is never explicitly defined.

Suggested Remedy

Explicitly define the circumstances that set block_lock (and also how it is lost), preferably in a state diagram.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.18.2** *P* **176** *L* **2** # **56**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *pcspma*

In Figure 55-15, there is a reset variable that brings you back to the RX_INIT state. It seems that there is no need to have both a pcs_reset (used in Figures 55-14 and 55-13) and the reset (used in Figure 55-15).

Suggested Remedy

Collapse into a single variable and make consistent throughout diagrams.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.18.3** *P* **174** *L* **52** # **82**

McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **A** *pcspma*

The Loopback mode register bit is located in 3.0.14.

Suggested Remedy

Change TBD to 3.0.14.
Also update 45.2.3.1.2 (see other comment).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change TBD to 3.0.14.

Cl **55** *SC* **55.3.2.1** *P* **154** *L* **16** # **108**

Seki, Katsutoshi NEC Electronics

Comment Type **T** *Comment Status* **A** *pcspma*

PMA_SIGNAL.indicates(SIGNAL_OK)" and "sync_status" are not defined and doesn't macth the rest of Clause55

Suggested Remedy

Chenge "PMA_SIGNAL.indicates(SIGNAL_OK)" to "PMA_RXSTATUS.indicates(OK)"
Chenge "sync_status" to "block_lock"

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.2** *P* **154** *L* **16** # **34**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *pcspma*

The PMA_SIGNAL.indicate primitive used here is not defined anyplace.

Suggested Remedy

Change text to "...PMA_RXSTATUS.indicate(loc_rcvr_status). When loc_rcvr_status indicates OK..."

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.2** *P* **154** *L* **17** # **35**

Lynskey, Eric UNH-IOL

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

The PMA_UNITDATA primitive name is chopped off.

Suggested Remedy

Change to "PMA_UNITDATA.indicate primitive".

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.2.2** *P* **154** *L* **20** # **36**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *pcspma*

The sync_status flag is not defined anywhere.

Suggested Remedy

Define.

Response *Response Status* **C**

ACCEPT.

Cl **55** SC **55.3.4.1** P **155** L **51** # **109**
Seki, Katsutoshi NEC Electronics

Comment Type **T** *Comment Status* **A** *pcspma*

correspondence between DSQ symbols and air A/B/C/D should be defined

Suggested Remedy

Define correspondence as follow
Pair A : DSQ<4*n>
Pair B : DSQ<4*n+1>
Pair C : DSQ<4*n+2>
Pair D : DSQ<4*n+3>

Response *Response Status* **C**

ACCEPT.

Cl **55** SC **55.3.4.6** P **160** L **11** # **110**
Seki, Katsutoshi NEC Electronics

Comment Type **T** *Comment Status* **A** *pcspma*

The payload of invalid PHY frame and first 65B block of next PHY frame should be forced to error block in order to prevent undetected packet error.

Suggested Remedy

Add the following conditions for invalid block.
e) The payload of invalid PHY frame and the first block of next PHY frame

Response *Response Status* **C**

ACCEPT.

Cl **55** SC **55.3.6** P **162** L **53** # **37**
Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *pcspma*

No diagram currently exists for SLAVE scrambler.

Suggested Remedy

Add diagram for SLAVE scrambler.

Response *Response Status* **C**

ACCEPT.

Cl **55** SC **55.3.6** P **163** L **1** # **39**
Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *scrambler*

Since this is a self synchronizing scrambler, is it necessary to define initial values?

Suggested Remedy

Replace the first two sentences on this page with "There is no requirement on the initial value of the scrambler."

Response *Response Status* **C**

ACCEPT.

Cl **55** SC **55.3.6** P **163** L **1** # **98**
Tellado, Jose Teranetics

Comment Type **T** *Comment Status* **A** *scrambler*

Master and Slave have different 58bit self sync scramblers. There is no need make sure the initial condition is different

Suggested Remedy

Make initial seeds implementer's choice

Response *Response Status* **C**

ACCEPT.

Cl **55** SC **55.3.6** P **163** L **1** # **77**
McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **D** *scrambler*

The scrambler initial states are TBD.

Suggested Remedy

Replace with:
"The master and slave scrambler initial values shall be set to ensure sufficient randomness between the remote and local device as well as adjacent devices."

Response *Response Status* **Z**

WITHDRAWN.

Cl **55** SC **55.3.7** P **163** L **27** # **38**
Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *pcspma*

No diagram currently exists for CRC8.

Suggested Remedy

Add diagram.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.8** *P* **163** *L* **32** # **41**
Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *scrambler*

It is not clear, from my reading of the text, which bits are to be coded and which are to be uncoded. Figure 55-8 seems to show that 3 bits are uncoded, skip 4, then the next 3... However, this diagram appears to be informational, and not supporting mandatory text describes how this works. Since I am not exactly clear how the bits are split up, I cannot offer a detailed suggested remedy.

Suggested Remedy

Define how the scrambled bits enter the LDPC encoder.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.8** *P* **163** *L* **42** # **40**
Lynskey, Eric UNH-IOL

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

Wrong word

Suggested Remedy

Change Appendix to Annex.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.3.8.2** *P* **173** *L* **39** # **52**
Lynskey, Eric UNH-IOL

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

Since 8 bits are defined for this counter, maybe it should be an 8-bit counter.

Suggested Remedy

Change TBD to 8.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.4.2.2** *P* **178** *L* **48** # **138**
Booth, Brad Intel

Comment Type **T** *Comment Status* **A** *pcspma*

Insert text for transmit fault.

Suggested Remedy

Insert the following paragraph:
The PMA transmit fault function is optional. The faults detected by this function are implementation specific. If the MDIO interface is implemented, then this function shall be mapped to the transmit fault bit as specified in 45.2.1.7.4.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.4.2.3** *P* **179** *L* **9** # **140**
Booth, Brad Intel

Comment Type **T** *Comment Status* **A** *pcspma*

Interest text for receive fault function.

Suggested Remedy

Insert the following paragraph:
The PMA receive fault function is optional. The PMA receive fault function is the logical OR of link_status = FAIL and any implementation specific fault. If the MDIO interface is implemented, then this function shall contribute to the receive fault bit specified in 45.2.1.7.5.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.4.2.4** *P* **179** *L* **14** # **105**
Tellado, Jose Teranetics

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

PHY control defines the start-up sequence. Draft 1.3 has a baseline start-up that requires more details from THP and Power Backoff settings and timers for each state.

Suggested Remedy

Update PHY control diagram based on tellado_1_0205.pdf

Response *Response Status* **C**

REJECT.
WITHDRAWN.

See response to comment #84

Cl **55** *SC* **55.4.2.4** *P* **179** *L* **27** # **8**

Zimmerman, George Solarflare Communicat

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

Power backoff levels require definition to work with AFEXT and AFEXT scaling.

Suggested Remedy

Define 2 dB steps as in zimmerman_1_0205.pdf, as follows:
Power Backoff Schedule

Length (m)	IL 250 MHz (dB)	Backoff (dB)
0-25	<9.0	14
25-45	9.0-16.2	12
45-55	16.2-19.8	10
55-65	19.8-23.4	8
65-75	23.4-26.9	6
75-85	26.9-30.5	4
85-95	30.5-34.1	2
>95	>34.1	0

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Motion to accept in principle
Yes: 26
No: 6
Abstain: 9

Change the table in the suggested remedy by adding an extra column as the first column titled "received signal power (dBm) on worst pair"

The Received signal power at MDI is computed assuming nominal TX power.

The length and IL columns are for reference.

An Editorial note will be added that says that the length and IL columns have not been voted into the draft and are only for informational purposes to help people in understanding the table, and will be deleted when the column for received signal power is filled in.

Cl **55** *SC* **55.4.3.1** *P* **180** *L* **34** # **106**

Tellado, Jose Teranetics

Comment Type **T** *Comment Status* **A** *thp*

THP details are missing. Specifically FIR and IIR coeficients and number of sets

Suggested Remedy

Update THP details with updated THP proposal in tellado_1_0205.pdf

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Moved by: Jose Tellado
seconded by : Albert Vareljian

Yes: 35
No: 6
Abstain: 13
Motion passes

With the changes listed below to tellado_1_0205.pdf:
item #1 - change 15 to 16
item #4 - Add extra zero (1+betaD) {beta not equal to 1}

Cl **55** *SC* **55.4.3.1** *P* **180** *L* **40** # **48**

Lynskey, Eric UNH-IOL

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

Wrong word for Auto-Negotiation.

Suggested Remedy

Replace with Auto-Negotiation.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.4.4.1** *P* **181** *L* **15** # **59**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **D** *pcspma*

No state diagram is defined for 10GBASE-T Automatic MDI/MDI-X operation.

Suggested Remedy

Define a new state diagram in Clause 55 or reference the diagram from Clause 40.

Response *Response Status* **Z**

WITHDRAWN.

Refer to appropriate diagram in clause 40

Cl **55** *SC* **55.4.4.1** *P* **181** *L* **16** # **112**

Seki, Katsutoshi NEC Electronics

Comment Type **T** *Comment Status* **A** *mdi*

Figure of Automatic MDI/MDI-X state machine are missing

Suggested Remedy

Refer to Figure 40-17 "1000BASE-T Auto Crossover state diagram", or copy it.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to the appropriate section in clause 40 and make appropriate changes to clause 40 to make it applicable to 10GBASE-T

Cl **55** *SC* **55.4.5.1** *P* **182** *L* **16** # **104**

Tellado, Jose Teranetics

Comment Type **T** *Comment Status* **X** *Gpowerbackoff*

Power backoff levels have been specified, but the required algorithm to select the appropriate PBO setting as a function a channel characteristics is missing

Suggested Remedy

Adopt PBO values from joint Power Back Presentation zimmerman_1_0205.pdf

Response *Response Status* **Z**

WITHDRAWN.

See response to comment #8

Task force to discuss & decide

Cl **55** *SC* **55.4.5.2** *P* **182** *L* **35** # **86**

McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **D** *pcspma*

The "A_timer" defines a timer for a state diagram not included in the draft.

Either the Clause 40 Auto Crossover state diagram (Fig 40-17) needs to be added to clause 55 or this timer should be removed.

I propose that this text be removed and have 55.4.4 refer to 40.4.4 rather than repeat the same text in clause 55.

Suggested Remedy

Delete A_timer text.
Remove text in 55.4.4, 55.4.4.1 and 55.4.4.2 and instead place a reference that the PHY shall comply with 40.4.4.

Response *Response Status* **Z**

WITHDRAWN.

Cl **55** *SC* **55.4.5.2** *P* **182** *L* **42** # **57**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **D** *pcspma*

In case vendors want to support both 1000BASE-T and 10GBASE-T, there is no need to have different values for A_TIMER.

Suggested Remedy

This timer shall have a period of 1.3s +/- 25%.

Response *Response Status* **Z**

WITHDRAWN.

Will reference the state diagram in clause 40

Cl **55** *SC* **55.4.5.2** *P* **183** *L* **7** # **58**

Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **D** *pcspma*

In case vendors want to support both 1000BASE-T and 10GBASE-T, there is no need to have different values for sample_timer.

Suggested Remedy

This timer shall have a period of 62 +/- 2ms.

Response *Response Status* **Z**

WITHDRAWN.

Replace by reference to appropriate section of clause 40

Cl **55** *SC* **55.4.6** *P* **185** *L* *#* **11**

Thompson, Todd SolarFlare Communica

Comment Type **T** *Comment Status* **A** *mdi*

The auto-crossover state diagram (figure 40-17 in 802.3-2002) should be duplicated here just after the link monitor state diagram, figure 55-19.

Suggested Remedy

Include the diagram.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changed comment to apply to 55.4.6 and not clause 40

See response to comment # 112

Cl **55** *SC* **55.4.6** *P* **185** *L* **1** *#* **85**

McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **A** *startup*

The Link Monitor state diagram does not match the text on page 182 ln 52 (loc_rcvr_status vs. PCS_status)
Furthermore, this state diagram allows only 558 ms for startup (see page 36: link_fail_inhibit_timer).
I propose a new state diagram that corrects these issues.
See presentation.

Suggested Remedy

Update state diagram per the presentation.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the text for the link_fail_inhibit_timer definition in clause 28 to make the link timer choose a different value for 10GBASE-T

Adopt the diagram in mcclellan_2_0205.pdf (proposal for fig 55-19) page 8 to be consistent with this change.
Change link_status=fail

Cl **55** *SC* **55.4.6.1** *P* **184** *L* **1** *#* **84**

McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **A** *startup*

The PHY Control state diagram has missing transitions, unused timers, missing timer start and endless loops.
Additionally, the maxwait and minwait timers on page 182 are TBD.
See presentation for proposed state diagram and timers.

Suggested Remedy

Update section with proposed state diagram and timers.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Update section with proposed state diagrams and timers in mcclellan_2_0205.pdf

Cl **55** *SC* **55.4.6.2** *P* **185** *L* **31** *#* **107**

Tellado, Jose Teranetics

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

Figure reference to autoneg ref is not confirmed

Suggested Remedy

Eric L. should confirm

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **55** *SC* **55.5.1** *P* **187** *L* **10** *#* **88**

Tellado, Jose Teranetics

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

Review and approve text relating to isolation requirement. This text is similar to clause 40 text with references updated

Suggested Remedy

Review and approve text relating to isolation requirement. This text is similar to clause 40 text with references updated

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.5.10** *P* **195** *L* **34** # **97**

Tellado, Jose — Teranetics

Comment Type **T** *Comment Status* **A** *pmacommon*

Complete and approve 55.5.10

Suggested Remedy

On line 35, replace TBD with '2' and f1 with 80MHz

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.5.2** *P* **187** *L* # **117**

Chris, Pagnanelli — Solarflare Communicat

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

The test channel specified in paragraph 55.5.2 (see Figure 55-20 and Table 55-2) is not required for measuring Master/Slave timing jitter and distortion. Master and Slave timing jitter and distortion can be measured using the simplifed procedures given in recent contributions addressing the subject of timing jitter and distortion. These simplified procedures only require that connections be made to resisitive terminations or Master/Slave terminals using short lengths of UTP cabling.

Suggested Remedy

Delete paragraph 55.5.2.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.5.2** *P* **188** *L* **10** # **93**

Tellado, Jose — Teranetics

Comment Type **T** *Comment Status* **A** *pmajitter*

Test channel for transmitter jitter test is not approved

Suggested Remedy

Remove table

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.5.3** *P* **188** *L* **35** # **64**

Lynskey, Eric — UNH-IOL

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

In Table 55-3, the test mode bits can be defined. This also applies to the TBD in line 28 on this same page.

Suggested Remedy

For line 28: "...shall be enabled by setting bits 7.9.15:13...)

For Table, replace bit 3 with 7.9.13; bit 2 with 7.9.14; and bit one with 7.9.15.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.5.3** *P* **189** *L* # **114**

Chris, Pagnanelli — Solarflare Communicat

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

Need to specify frequencies for single-tone and two-tone tests. Frequencies are currently TBD.

Suggested Remedy

Replace TBDs with test frequencies proposed in contribution titled "Proposal for Transmitter Linearity Specification". Test frequencies below 40 MHz are not required to ensure linearity requirements are met.

Response *Response Status* **C**

ACCEPT.
Task force to decide & discuss;
single tone: 800/1024*{53, 101 & 167}
to be reviewed together with comment # 90

Proposal for two tone frequencies:
800/1024*{ [179,181], [277,281], [397,401]}
matches proposal in comment #91

Cl **55** *SC* **55.5.3** *P* **189** *L* **1** # **89**

Tellado, Jose — Teranetics

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

TBDnumbsym is unspecified. Setting this to 10 corresponds to an output frequency of 40MHz

Suggested Remedy

Replace TBDnumbsym by 10

Response *Response Status* **Z**

WITHDRAWN.

Cl **55** *SC* **55.5.3** *P* **189** *L* **19** # **90**
Tellado, Jose Teranetics

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

Specify frequencies for single tone nonlinearity test

Suggested Remedy

Frequencies shall be 800/1024*[13 23 53 101 167]

Response *Response Status* **C**

REJECT.
Motion to accept the proposed response:

This would add two additional frequencies 800/1024[13, 23] to the set listed below

Motion to accept:
Yes:15
No: 11
Abstains: ~30

Motion fails

Task force to discuss & decide; see comment #114 Which recommends [53, 101, 167]

Cl **55** *SC* **55.5.3** *P* **189** *L* **21** # **91**
Tellado, Jose Teranetics

Comment Type **T** *Comment Status* **A** *pmalinearity*

Frequency pairs for two tone tests are not specified

Suggested Remedy

The following pairs shall be used for the two tone test:
800/1024*{ [179,181], [277,281], [397,401]}

Response *Response Status* **C**

ACCEPT.

Motion to accept the resolution:
Yes: 29
No: 1
Abstaining: ~30

Motion passes

final decision should be input to comment #64

Cl **55** *SC* **55.5.3** *P* **192** *L* # **116**
Chris, Pagnanelli Solarflare Communicat

Comment Type **TR** *Comment Status* **X** *pmajitter*

Test set up (Figure 55-24) for transmitter timing jitter measurement is not suitable and lacks sufficient detail. Figure does not show connection between Master and Slave necessary for loop timing and does not show means of isolating Master and Slave output signals.

Suggested Remedy

Replace Figure 55-24 with figure provided in contribution titled "Proposal for Transmitter Timing Jitter Specification."

Response *Response Status* **Z**

WITHDRAWN.
Task force to review & decide
Review together with comment #92

Cl **55** *SC* **55.5.3** *P* **192** *L* **10** # **92**
Tellado, Jose Teranetics

Comment Type **T** *Comment Status* **X** *pmajitter*

Test setup for tx jitter measurements is not approved

Suggested Remedy

Replace figure 55-24 with figure in presentation tellado_1_0205.pdf

Response *Response Status* **Z**

WITHDRAWN.
Task force to discuss & decide. Review together with comment #116

Cl **55** *SC* **55.5.4** *P* **192** *L* **42** # **6**

Zimmerman, George — Solarflare Communicat

Comment Type **T** *Comment Status* **A** *pmavoltage*

Peak to peak voltage spec is redundant and unnecessary now that transmit power and PSD mask defined. Keeping this redundant spec also comes with the cost of an additional test mode.

Suggested Remedy

Delete peak-to-peak voltage specification.

Response *Response Status* **C**

ACCEPT.

Motion to accept the suggested remedy:
Yes: 31
No: 9
Abstain:

Motion passes

Task force to discuss & decide

Review with comment # 94

Cl **55** *SC* **55.5.4** *P* **192** *L* **42** # **94**

Tellado, Jose — Teranetics

Comment Type **T** *Comment Status* **X** *pmavoltage*

Transmit voltage is provided as a range (2V,2.5V); recommend a specific voltage

Suggested Remedy

2V +- 15%

Response *Response Status* **Z**

WITHDRAWN.

Cl **55** *SC* **55.5.5** *P* **103** *L* **18** # **119**

Halder, Bijit — Plato Networks

Comment Type **T** *Comment Status* **A** *pmalinearity*

The distortion specifications should be calculated so that there is no significant loss of receiver SNR, say no more than a small fraction of a dB.

Suggested Remedy

Given the reduction in average PSANEXT and new PSAFEXT model, we recommend the following values for the 4 TBDs in equation 55-7:
1. X_nonlin =52
2. X_nslope =20
3. f1= 50 MHz
4. f0 = 1MHz

This setting is to be applied for full power operation, that is with 0dB power back off. The specified values results in 0.4dB loss in SNR for 100m Class E cable.

Response *Response Status* **C**

ACCEPT.

Motion to reconsider
Yes: 32
No: 4

Motion to accept the suggested remedy;
Yes: 29
No: 4
Abstain:

Motion passes

Task force to discuss & decide; review together with comment # 113

Straw poll on accepting 52dB SFDR
Yes: 20

Straw poll on 48dB SNDR
Yes: 11

Motion to accept the suggested remedy:
Yes: 20
No: 11
Abstain:
Motion fails

Cl **55** *SC* **55.5.5** *P* **192** *L* **17** # **7**

Zimmerman, George — Solarflare Communicat

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

TX nonlinearity specification is overly complex. Specification requires synchronous maintenance of frequecy breakpoints, slope and floor. Simplify.

Suggested Remedy

Replace equation 55-7 with form as in pagnanelli_4_0105.pdf, slide 1.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Motion to accept the proposed response:
Yes: 23
No: 4
abstain:

Replace equation with equation on slide 4 of pagnanelli_1_0205.pdf with the left side changed to

"SNDR or SFDR"

Cl **55** *SC* **55.5.5** *P* **193** *L* # **113**

Chris, Pagnanelli — Solarflare Communicat

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

Transmitter linearity specification based on SFDR and IMD does not properly address distortion due to jitter and noise, and TBDs make specification incomplete: lower end of range (fo) and breakpoint for frequency roll off (f1) are not specified; distortion upper limit (Xnonlin) and distortion slope (NLslope) are not specified.

Suggested Remedy

Specify transmitter linearity in terms of frequency-dependent signal-to-noise-plus distortion ratio over 5 MHz to 400 MHz band, using single equation with appropriate lower limit and slope. Tabulate specifications for clarity. Replace existing transmitter linearity specification text with new text as proposed in contribution titled "Proposal for Transmitter Linearity Specification."

Response *Response Status* **C**

REJECT.

See response to comment # 119

Motion to accept the suggested remedy
Yes: 20
No: 11
Abstain:

Motion fails:

Task force to discuss & decide; review with comment #119

Cl **55** *SC* **55.5.5** *P* **193** *L* **18** # **95**

Tellado, Jose — Teranetics

Comment Type **T** *Comment Status* **X** *pmalinearity*

Lower end of frequency range for nonlinearity measurement, Fo is not specified.

Suggested Remedy

Replace Fo with 5 MHz

Response *Response Status* **Z**

WITHDRAWN.
Task force to discuss & decide. Review together with comment #113 &119

Cl **55** *SC* **55.5.5** *P* **193** *L* **37** # **96**

Tellado, Jose — Teranetics

Comment Type **T** *Comment Status* **A** *pmalinearity*

The draft calls out recommended nonlinearity specs, which are unspecified

Suggested Remedy

Set recommended values as Xnonlin=60, Xnlslope=0 or eliminate reference to recommended values.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Eliminate reference to recommended values

See response to comment #5

Cl **55** *SC* **55.5.5** *P* **193** *L* **37** # **5**

Zimmerman, George — Solarflare Communicat

Comment Type **T** *Comment Status* **A** *pmalinearity*

"Recommended" linearity specification is TBD. Values are internal to vendors' designs and are not required for interoperability by definition. Debate on simply the required (normative) specifications has highlighted significant differences in vendors' linearity requirements. Hence a general "recommendation" is unlikely to represent common design assumptions.

Suggested Remedy

Delete reference to "recommended" linearity specification. Provide only normative specification required for interoperability.

Response *Response Status* **C**

ACCEPT.
Task force to discuss & decide; review with comment # 96
converted from "E" to "T"

Cl **55** *SC* **55.5.6** *P* **193** *L* # **115**

Chris, Pagnanelli — Solarflare Communicat

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

Transmitter timing jitter specification is incomplete. Text is needed. Specification is needed for maximum jitter introduced by Slave loop timing function.

Suggested Remedy

Adopt specification proposed in contribution titled "Proposal for Transmitter Timing Jitter Specification"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Motion to accept the proposed response

Passes by acclamation

Task force to discuss & decide.

Text as per slide 8 of pagnanelli_2_0205.pdf
figure as per slide 9 of pagnanelli_2_0205.pdf
Jitter specification must apply to master as well as to slave in loop timed mode

Cl **55** *SC* **55.5.7** *P* **194** *L* **17** # **118**

Halder, Bijit — Plato Networks

Comment Type **T** *Comment Status* **D**

The definition of lower PSD mask starts from 5MHz. This allows transformer 3dB high pass cut off to be at least 5 MHz. Transformer with such high 3dB cutoff will produce excessive droop. The range of transformer allowed by the current specifications is too loose and pose significant problem for interoperability.

Suggested Remedy

Reduce the start frequency for lower mask to no larger than 500KHz.

Response *Response Status* **Z**

WITHDRAWN.

No change is necessary in the PSD mask because the specific problem highlighted, which is droop at the transformer output, is covered by the droop test in "55.5.4.2 Maximum output droop" of draft 1.3

Cl **55** *SC* **55.6** *P* **197** *L* **35** # **151**
Booth, Brad Intel

Comment Type **T** *Comment Status* **A** *management*

Table 55-4 references Clause 22 register set.

Suggested Remedy

Delete CLause 22 register references from the table.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Appropriate additional references will be added based on resolution of other comments.

Cl **55** *SC* **55.6** *P* **198** *L* # **20**
Thompson, Todd SolarFlare Communica

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

Table 55-4 is missing several registers defined in 45.2.7.

Suggested Remedy

Add the missing registers into Table 55-4.

For example, 7.2, 7.3, 7.5, 7.6.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Necessary register references will be added. See also comment 27.

Cl **55** *SC* **55.6.1** *P* **197** *L* **21** # **60**
Lynskey, Eric UNH-IOL

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

Another purpose of Auto-Negotiation for 10GBASE-T is to negotiate loop timing.

Suggested Remedy

Add item mentioning loop timing to list.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.1** *P* **197** *L* **24** # **61**
Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *Gmanagement*

With the addition of loop timing negotiation, this statement is not correct.

Suggested Remedy

Recommend removing these 3 sentences.

Response *Response Status* **C**

ACCEPT.

Would like some discussion on this.

Cl **55** *SC* **55.6.1.1** *P* **197** *L* **36** # **26**
Thompson, Todd SolarFlare Communica

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

Table 55-4 Register 0, Type should be R/W.

Suggested Remedy

Control register 0 is a writeable register. Change it to R/W.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
The correction will be made, or this row may be removed pending resolution of comment 151.

Cl **55** *SC* **55.6.1.1** *P* **198** *L* **1** # **27**
Thompson, Todd SolarFlare Communica

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

Table 55-4 is inconsistent with Clause 45.2.7.

Suggested Remedy

Make the register numbering, Names, and descriptions match 45.2.7. There are mistakes in the Description/paragraph numbers, numbering, some AN registers are missing that are defined in 45.2.7, and the name of AN LP XNP NP TX register should be AN LP XNP NP ability register.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See also comment 20.

Cl **55** *SC* **55.6.1.2** *P* **198** *L* **45** # **152**
Booth, Brad Intel

Comment Type **T** *Comment Status* **A** *management*

Table 55-5 is a bit confusing.

Suggested Remedy

Change table headings to be Bit, Name and Description.

Under base page: D15 is next page as per 28.2.1.2.5, D14 is acknowledge as per 28.2.1.2.4, D13 is remote fault as per 28.2.1.2.3, D12 is extended next page as per a new reference based on a Clause 28 comment, D11:D5 is the technology ability field as per 28.2.1.2.2, and D4:D0 is the selector field as per 28.2.1.2.1.

Under extended next page: M10:M0 is the message code as per Annex 28C, T is toggle as per 28.2.3.4.7, Ack2 is acknowledge 2 as per 28.2.3.4.6, MP is message page as per 28.2.3.4.5, Ack is acknowledge as per 28.2.3.4.4 and NP is next page as per 28.2.3.4.3.

The unformatted portion looks okay other than specifying the register, give the subclause reference.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.1.3** *P* **199** *L* **55** # **62**
Lynskey, Eric UNH-IOL

Comment Type **T** *Comment Status* **A** *management*

Referring readers to Annex 40C may not be the best thing to do. This is an informative Annex written to talk about sending normal next pages following a 1000BASE-T page negotiation. Going back to this Annex could lead to reader confusion. I think there are two ways to proceed with this.

Suggested Remedy

Option A: We could write a new informative Annex that shows several examples of auto-negotiation (extended next page negotiating with regular next page; sending extra extended next pages; ...)

Option B: We can simply remove most of this text, as Clause 28 does define how to send additional pages.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove most of this text, as Clause 28 does define how to send additional pages.

Consider writing an informative Annex later.

Cl **55** *SC* **55.6.2** *P* **200** *L* **1** # **28**
Thompson, Todd SolarFlare Communica

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

Comment applies to 55.6.2 in its entirety.

There are a number of TBD's that should now be resolved.

Suggested Remedy

Remove TBD's and replace with appropriate register/bit definitions.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
TBDs that can be replaced, will be replaced.

Cl **55** *SC* **55.6.2** *P* **200** *L* **20** # **63**
Lynskey, Eric UNH-IOL

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

Since only a single page is being sent, it is not correct to refer to "unformatted page 1".

Suggested Remedy

Replace with "10GBASE-T Technology Message Code".

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.2** *P* **200** *L* **5** # **29**

Thompson, Todd SolarFlare Communica

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

There are several TBDs in this section.

On page 201 line 42 there is a reference to 10.15 which should be changed to refer to the new fault bit.

Suggested Remedy

Replace the TBD's below with the text indicated:

Page	Line	New Value
200	5	Table 55-6
200	6	Table 55-5
200	28	Table 55-6
201	42	Is 10.15 should be 7.8.15
201	46	7.7.15
201	47	7.7.14
201	51	7.8.15
201	57	55.4.2.4
202	1	7.7.15
202	9	First occurence 7.8.15 second 7.8.14
202	13	55.2.4
202	16	7.8.15

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Also see comments 65-73.

Cl **55** *SC* **55.6.2** *P* **201** *L* **42** # **65**

Lynskey, Eric UNH-IOL

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

Wrong bit reference.

Suggested Remedy

Change 10.15 to 7.8.15.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.2** *P* **201** *L* **46** # **66**

Lynskey, Eric UNH-IOL

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

Replace TBD.

Suggested Remedy

Replace TBD with 7.7.15.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.2** *P* **201** *L* **47** # **67**

Lynskey, Eric UNH-IOL

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

Replace TBD.

Suggested Remedy

Replace TBD with 55.4.2.4.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.2** *P* **201** *L* **51** # **68**

Lynskey, Eric UNH-IOL

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

Replace TBD.

Suggested Remedy

Replace TBD with 7.8.15.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.2** *P* **201** *L* **57** # **69**

Lynskey, Eric UNH-IOL

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

Replace TBD.

Suggested Remedy

Replace TBD with 7.8.14.

Response *Response Status* **C**

ACCEPT.

Cl **55** *SC* **55.6.2** *P* **202** *L* **1** # **70**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **A** *management*
Replace TBD.

Suggested Remedy
Replace TBD with 7.7.15.

Response *Response Status* **C**
ACCEPT.

Cl **55** *SC* **55.6.2** *P* **202** *L* **10** # **71**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **A** *management*
Replace TBDs.

Suggested Remedy
Replace first TBD on this line with 7.8.15, and replace second TBD with 7.8.14.

Response *Response Status* **C**
ACCEPT.

Cl **55** *SC* **55.6.2** *P* **202** *L* **13** # **72**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **A** *management*
Replace TBD.

Suggested Remedy
Replace TBD with 55.2.4.

Response *Response Status* **C**
ACCEPT.

Cl **55** *SC* **55.6.2** *P* **202** *L* **17** # **73**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **A** *management*
Replace TBD.

Suggested Remedy
Replace TBD with 7.8.15.

Response *Response Status* **C**
ACCEPT.

Cl **55** *SC* **55.6.2** *P* **202** *L* **23** # **74**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **A** *management*
Change note to include 1000BASE-T.

Suggested Remedy
Modify to "...if 10GBASE-T or 1000BASE-T is selected..."

Response *Response Status* **C**
ACCEPT.

Cl **55** *SC* **55.7** *P* **203** *L* **9** # **10**
Eisler, George Solarflare

Comment Type **TR** *Comment Status* **A** *intro-cabling*
Recommendation for testing all cable installations

Suggested Remedy
Add the following paragraph:

"It is highly recommended that any cabling system, newly or previously installed, be measured/tested before the installation of 10GBASE-T equipmentby following the guidelines in (proposed) ANSI/TIA/EIA TSB 155."

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

See response to comment #9

Cl **55** *SC* **55.7.2** *P* **203** *L* **37** # **1**
Alan Flatman LAN Technologies

Comment Type **TR** *Comment Status* **A** *cabling*
We need to reference the ISO/IEC specification for installed cabling.

Suggested Remedy
Insert the following editor's note at the end of this subclause:
"Editor's Note: ISO/IEC TR-24750: Assessment of installed Class E and Class F cabling beyond their maximum specified frequencies, should be available before 802.3an is approved. In which case, it will replace the above reference to TIA/EIA TSB-155."

Response *Response Status* **C**
ACCEPT.
to add applicable ISO references when available. Agree to add proposed editors note with following modification to replace the words "will replace" with "may replace".

"Proposed Editor's Note: ISO/IEC TR-24750: Assessment of installed Class E and Class F cabling beyond their maximum specified frequencies, should be available before 802.3an is approved. In which case, 802.3an will reference both and may replace the above reference to TIA/EIA TSB-155."

Cl **55** *SC* **55.7.3.1.2** *P* **208** *L* **56** # **153**

Booth, Brad — Intel

Comment Type **T** *Comment Status* **A** *cabling*

Note c is not applicable as Class F IL does not need to be extrapolated to 500 MHz.

Suggested Remedy

Remove note c.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Provide reference to Class F in note c.
"The PS ANEXT for a Class F channel assumes the maximum insertion loss of a Class F channel specified in ISO/IEC 11801."

Cl **55** *SC* **55.7.3.1.2** *P* **209** *L* **4** # **2**

Alan Flatman — LAN Technologies

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

We need to reference the ISO/IEC specification for installed cabling.

Suggested Remedy

Insert the following editor's note at the end of this subclause:
"Editor's Note: ISO/IEC TR-24750: Assessment of installed Class E and Class F cabling beyond their maximum specified frequencies, should be available before 802.3an is approved. In which case, it will replace the above reference to TIA/EIA TSB-155."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
to add applicable ISO references when available. A single instance of the editor's note (resolution to comment #1 Alan Flatman) is sufficient

See response to comment #1 on wording

Cl **55** *SC* **55.7.3.2.2** *P* **210** *L* **45** # **31**

Powell, Scott — Broadcom

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

The PS AELFEXT constant for 55m Category 6 cabling is substantially better than measured data previously reported to the task force (vanderlaan_1_0303.pdf).

Suggested Remedy

See presentation for independent confirmation of measured data. Suggest operation over Cat 6 be optional, rather than required, for 10GBASE-T compliance. Cat 6 specifications could be included as informative.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Modify bullet f in objectives section of Draft 1.3 to read:

Define a single 10Gb/s PHY that would support links of at least 55 m to 100 m on four pair balanced copper cabling as specified in 55.7

Cl **55** *SC* **55.7.3.2.2** *P* **210** *L* **53** # **3**

Alan Flatman — LAN Technologies

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

We need to reference the ISO/IEC specification for installed cabling.

Suggested Remedy

Insert the following editor's note at the end of this subclause:
"Editor's Note: ISO/IEC TR-24750: Assessment of installed Class E and Class F cabling beyond their maximum specified frequencies, should be available before 802.3an is approved. In which case, it will replace the above reference to TIA/EIA TSB-155."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
to add applicable ISO references when available. A single instance of the editor's note (resolution to comment#1 Alan Flatman) is sufficient.

See response to comment #1

Cl **55** *SC* **55.7.3.2.2** *P* **211** *L* **1** # **30**

Powell, Scott — Broadcom

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

Comment implies (to me, anyway) that the currently envisioned system with identical AFEXT on each wire pair will perform the same as the same system with unequal AFEXT on each wire pair - as long as the "identical" AFEXT is equal to the average of the "unequal" AFEXT. No presentation has been made to support the accuracy of this implied claim.

Suggested Remedy

Remove this claim. A more accurate statement is that simulations should assume one worst case wire pair with AFEXT that is 4dB higher than the average AFEXT over all 4 pairs. See presentation with simulations comparing performance under unequal SNR/pair situation to equal SNR/pair situation.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
based on response to comment #120

Remove the note based on the averages being added to the column in table 55-8

Cl **55** *SC* **55.7.3.2.2** *P* **211** *L* **2** # **120**

Halder, Bijit

Plato Networks

Comment Type **T** *Comment Status* **A** *cablingafext*

The Note states for calculating the system margin we must use an average improvement of 4dB over the limit line for PSAFEXT. Since the cable are certified based on the limit line and system are designed with the 4dB margin, it is not clear how the standard guarantees the 4dB average improvement. In other words, in the event the 4dB gain due to averaging is not seen in practice, how does the standard guarantees operation of 10G system given the slim system margin even with the 4dB improvement.

Similar comment applies to 3.5 dB improvement for PSANEXT number in Section 55.7.3.1.2, page 209, line 11.

Suggested Remedy

Either change the limit line to match the improvement, or require the cable to qualify a test for average PSAFEXT lines in addition to the worst case limit line.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In table 55-8, add a column for the average value which willl be 4 dB higher (based on averaging over pairs)

In table 55-7, add a column for the average value which will be 1dB higher based on averaging over pairs.

In regard to cabling specifications, we need to broaden the investigation of the alien crosstalk assumptions by requesting the assistance of the TR42 and ISO cabling groups and on the basis of their response determine the best course of action for the level of detail we need for 10GBASE-T.

Cl **55** *SC* **55.8.3.1** *P* **214** *L* **37** # **4**

Cobb, Terry

Systimax

Comment Type **T** *Comment Status* **A** *mdi*

Return loss requirements and measurements do not use a reference that has a tolerance.

Suggested Remedy

Remove the +/- TBD % and replace "an impedance" with "a nominal differential characteristic impedance"

Response *Response Status* **C**

ACCEPT.