Cl **00** *SC* **00** *P* *L* *#* 60

van Doorn, Schelto

Comment Type **E** *Comment Status* **A** *real eye*

Reformat Tables to IEEE style

SuggestedRemedy

Reformat Tables to IEEE style

Proposed Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **00** *P* *L* *#* 93

Healey, Adam

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

The IEEE P802.3ap/Draft 2.0 definition of "differential Manchester encoding" is not consistent with the textbook definition or the definition used in Token Ring (IEEE Std 802.5-1998). Specificially, the P802.3ap definition calls for a guaranteed transition at the beginning of the symbol, and a data-dependent transition at the middle of the symbol. In the "textbook" definition, the guaranteed transition is at the middle of the symbol and the data-dependent transition is at the beginning of the symbol.

The definition of the IEEE P802.3ap encoding scheme should be made consistent with the academic/industry definition.

SuggestedRemedy

1. Modify definition to reflect the text in IEEE Std 802.5-1998 and alter the encoding rules in clauses 72 and 72 to match...

-or-

2. Rename the encoding scheme used by P802.3ap and modify the definition and terminology in the document accordingly.

Proposed Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **00** *SC* **00** *P* *L* *#* 569

Grow, Robert Intel

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

The draft does not use the same names for service primitives as REVam. IEEE Std 802.3-2002 included some primitives as ""indicate"" and others as ""indication"". REVam correct this inconsistency by changing all occurances of ""indicate"" to ""indication"".

SuggestedRemedy

Search Clauses 70, 71 and 72 on .indicate and replace with ""indication"" (18 occurances in the .pdf search).

Proposed Response *Response Status* **W**

ACCEPT.

Cl **00** *SC* **00** *P* *L* *#* 561

Grow, Robert Intel

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

Ohms should be replaced with the greek symbol from the Symbol font set.

SuggestedRemedy

Search and replace as appropriate. (23 search hits in the pdf. covering multiple clauses.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **00** *P* *L* *#* 193

Grow, Robert Intel

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

When published IEEE Std 802.3-2005 will have Helvetica converted to Arial and Times to Times New Roman.

SuggestedRemedy

Change fonts as required to be consistent with the target base document for this amendment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **00** *SC* **00** *P* *L* *#* 614

Ganga, Ilango — Intel

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

Include Forward Error Correction (FEC) for the 10GBASE-KR PHY to increase the link budget and to meet or exceed BER performance of 10-12 on a broader set of backplane channels(defined in clause 69).

SuggestedRemedy

Request TF to include Forward Error Correction (FEC) for 10GBASE-KR PHY as proposed in supporting documents ganga_01_0905 and supporting presentation ganga_02_0905.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Straw Poll #2 (Healey)
Option #1 - Adopt FEC for 10GBASE-KR using Ganga_01_0905 as a basis
Option #2 - Do not adopt Ganga proposal.

Option #1- 12
Option #2- 8

Straw Poll (11/15/05)
Adopt ganga_01_1105 with provisions that Tx / Rx testing is done with FEC off, and that the channel model (Clause 69.3) will not be altered to account for the use of FEC.

Yes - 22
No - 0
Abstain - 12

See Motion #1 11/15/05

Cl **00** *SC* **00** *P* **1** *L* **01** *#* 413

Barrass, Hugh — Cisco Systems

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

Given that 1000BASE-KX is a 1Gbps PHY, the management interface of choice should be Clause 22. This would allow a 1G MAC device to operate with multiple 1Gbps PHYs using the same MDIO interface. Additional Clause 45 registers may be accessed using the ""Clause 22 access to Clause 45 registers"" mechanism defined originally in 802.3ah.

Similarly, a 10G MAC device should be expected to operate with 10GBASE-K or other 10G PHYs and if it is capable of dual speeds then it may need to interface with 1000BASE-KX or other 1G PHYs.

SuggestedRemedy

The management register access structure needs to be thought through in the context of multiply capable devices. The structure of registers and access methods should work similarly for similar speed devices.

Multiple comments have been submitted (by this commenter) for this, but thought must be given to the problem as a whole in order to assess the merit of these and other solutions.

Proposed Response *Response Status* **C**

REJECT.

Refer to comment #431

Cl **00** *SC* **00** *P* **11** *L* **03** *#* 762

David V James — JGG

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

DVJ-2
Wrong title

SuggestedRemedy

Table of Figures
==>
List of figures

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

This list has been removed.

Cl **00** *SC* **00** *P* **12** *L* **03** # 763

David V James JGG

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

DVJ-3
Wrong title

SuggestedRemedy

Table of Tables
==>
List of tables

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

However the list of figures and list of tables will be removed from the document because they are not a part of the main document

Cl **00** *SC* **00** *P* **3** *L* **03** # 761

David V James JGG

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

DVJ-1
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Table of Contents
==>
Table of contents

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

However the list of figures and list of tables will be removed from the document because they are not a part of the main document

Cl **00** *SC* **00** *P* **7** *L* **32** # 123

John, D'Ambrosia

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

formatting errors - indent of 2nd line and page number

SuggestedRemedy

coorect

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The "Table of content", "List of figures" and "List of tables" are not part of this document. The editor has added the templates for informational purposes only.

Cl **00** *SC* **00** *P* **8** *L* **54** # 124

John, D'Ambrosia

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

formatting errors - indent of 2nd line and page number

SuggestedRemedy

correct

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The "Table of content", "List of figures" and "List of tables" are not part of this document. The editor has added the templates for informational purposes only.

Cl **00** *SC* **69.3.3.2** *P* **54** *L* **44** # 214

Grow, Robert Intel

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

This is an occurance of incorrect/inconsistent usage of italics. We may as well get this as close to right as we can before SCC 14 comments on it at sponsor ballot, especially with the number of equations in this draft. I made this as a 00 rather than creating the dozens of possible comments.

SuggestedRemedy

All math variables are to be in italics whether in equations or in text. Constants are to be in upright text.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **01** *SC* **01** *P* **13** *L* **10** *#* 196

Grow, Robert Intel

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

The editing instructions note will be included in the front matter supplied by the WG Chair, hopefully as currently specified, and should be included in the published standard.

SuggestedRemedy

The note should agree in format and content with 21.1 of the 2005 Style Manual.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **01** *SC* **01.1** *P* **13** *L* **18** *#* 455

Dawe, Piers Agilent

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

Last sentence of editors' note has nothing to do with the rest of the editors' note. Not clear whether 'editorial notes' are the same as editors' notes. If so, can we tighten up our terminology? I suspect they aren't, and they are the items in bold italic.

SuggestedRemedy

Turn most of this into editorial notes (not removed at publication). Insert a paragraph break before last sentence. Create new editors' note detailing the basis document (P802.3REVam and maybe an, aq) - see them for examples.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **01.4** *P* **13** *L* **36** *#* 456

Dawe, Piers Agilent

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

Unnecessary capitals. In the definitions and abbreviations sections, an entry can start in lower case.

SuggestedRemedy

Change to 'differential Manchester encoding' here and in 1.5. Scrub 1.5: backplane, local device, link partner (see clause 37 for precedent for those two), extended Next Page (maybe). Search and replace 'Differential Manchester Encoding', 'Local Device' and 'Link Partner' throughout the document.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **01** *SC* **01.4** *P* **13** *L* **37** *#* 764

David V James JGG

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

DVJ-4
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Differential Manchester Encoding
==>
differential Manchester encoding

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **01** *SC* **01.5** *P* **13** *L* **36** *#* 458

Dawe, Piers Agilent

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

encoded or encoding? 1.4 and 1.5 differ.

SuggestedRemedy

Change to 'encoding'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **01** *SC* **01.5** *P* **13** *L* **49** *#* 4

Daines, Kevin

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

I find it a bit awkward that a definition and abbreviation use slightly different wording. For instance, DME is defined as ""Differential Manchester Encoded"" in 1.5 while in 1.4 the term used is ""Differential Manchestere Encoding"". I realize that grammatically, both ""Encoded"" and ""Encoding"" are probably used.

SuggestedRemedy

Consider harmonizing the definition and abbreviation.

Proposed Response *Response Status* **C**

ACCEPT.
Will change encoded to encoding

Cl **01** *SC* **01.5** *P* **13** *L* **49** *#* 765

David V James JGG

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

DVJ-5
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Backplane
==>
backplane

Proposed Response *Response Status* **W**

ACCEPT.

Cl **01** *SC* **01.5** *P* **13** *L* **50** *#* 27

Marris, Arthur

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

Insert more abbreviations

SuggestedRemedy

Insert these abbreviations:

EIT Extrapolated Interference Tolerance
BREIT Baseline Receive Extrapolated Interference Tolerance
TP Test Point

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add EIT to 1.5.

Cl **01** *SC* **01.5** *P* **13** *L* **50** *#* 766

David V James JGG

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

DVJ-6
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Differential Manchester Encoded
==>
differential Manchester encoded

Proposed Response *Response Status* **W**

ACCEPT.

Cl **01** *SC* **01.5** *P* **13** *L* **51** *#* 767

David V James JGG

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

DVJ-7
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Local Device
==>
local device

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **01** *SC* **01.5** *P* **13** *L* **52** *#* 768

David V James JGG

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

DVJ-8
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Link Partner
==>
link partner

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **01** *SC* **01.5** *P* **13** *L* **53** *#* 457

Dawe, Piers Agilent

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

I couldn't find XNP or Extended Next Page in this draft.

SuggestedRemedy

Remove the entry from the abbreviations list.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

We are working with 802.3an to resolve the naming conventions.

Cl **01** *SC* **01.5** *P* **13** *L* **53** # 769

David V James JGG

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

DVJ-9
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Next Page
==>
next page

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **01** *SC* **01.5** *P* **13** *L* **54** # 770

David V James JGG

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

DVJ-10
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Extended Next Page
==>
extended next page

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **28A** *SC* **28A** *P* **138** *L* **38** # 716

David V James JGG

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

DVJ-143
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Encoding
==>
encoding

Proposed Response *Response Status* **W**

ACCEPT.

Cl **28A** *SC* **28A** *P* **138** *L* **41** # 715

David V James JGG

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

DVJ-142
Nonstandard table line widths

SuggestedRemedy

==>
very thin in center
thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **28A** *SC* **28A** *P* **14** *L* **01** # 197

Grow, Robert Intel

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

Correct the order of clauses and annexes.

SuggestedRemedy

Publication order is changes to clauses, then changes to annexes, new clauses then new annexes.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **28A** *SC* **28A** *P* **14** *L* **09** # 200
Grow, Robert Intel

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

Overly complex yet incomplete editing instruction.

SuggestedRemedy

Change table as follows, (moving footnote anchor to the next row).

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28A** *SC* **28A** *P* **14** *L* **19** # 201
Grow, Robert Intel

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

Incorrect underline.

SuggestedRemedy

Only underline ""Clause 28"".

Proposed Response *Response Status* **W**

ACCEPT.

Cl **28A** *SC* **28A** *P* **14** *L* **19** # 459
Dawe, Piers Agilent

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

Please show what you are doing to the base document

SuggestedRemedy

Include the material you propose deleting, in black strikeout.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **28A** *SC* **28A** *P* **14** *L* **25** # 202
Grow, Robert Intel

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

If this is to be a Change instruction, then the strikethrough text should be shown.

SuggestedRemedy

Put the text currently in REVam for the value description as strikethrough.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **28A** *SC* **28A** *P* **14** *L* **26** # 439
Kim, Yong Broadcom

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

Sorry for a bit ignorant question -- why is Clause 73 need a selector field value, when it is NOT intended NOR allowed to be on RJ45?

SuggestedRemedy

Please provide justification or delete this selector field revision. If the justification also applies to the Clause 37, it ought to be rolled into 73 (I believe CX-4 was rolled in to this draft).

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Original selector field applies to both 28 and 37. Since Clause 55 uses Clause 28 algorithms and signaling, and the new auto-negotiation register set (Clause 45 MDIO, MMD 7), it was deemed to be valuable to indicate the managing entity, what type of device is utilizing the auto-negotiation register set.

Ammend selector field description to read "IEEE 802.3, Clauses 28 and 37"

Unclear what is intended by the reference to 10GBASE-CX4

Cl **30** *SC* **30** *P* **16** *L* **47** # 460

Dawe, Piers — Agilent

Comment Type **T** *Comment Status* **A** *revisit; e*

Does the phrase 'If Clause 28 or Clause 37 Auto-Negotiation is operational' have to be extended to include clause 73?

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Yes basically "A SET operation to one of the possible enumerationsindicated by aMAUTypeList will force the MAU into the new operating mode (which includes 10GBASE-KX, KX4 or KR)".

Hence the phrase should be corrected in subclause to include clause 73 as follows,

If Clause 28, or Clause 37 or Clause 73, Auto-Negotiation is operational, then this will change the advertised ability to the single enumeration specified in the SET operation, and cause an
immediate link renegotiation. A change in the MAU type will also be reflected in aPHYType.

In addition to the above the following phrase should also be changed for subclause 30.3.2.1.3 aPhyTypeList

A read-only list of the possible types that the PHY could be, identifying the ability of the PHY. If
Clause 28, or Clause 37 or Clause 73, Auto-Negotiation, is present, then this attribute will map to the local technology ability or advertised ability of the local device.

Cl **30** *SC* **30.5.1.1.2** *P* **15** *L* **42** # 595

Booth, Brad — Intel

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

Change the editing instructions to be short and specific. Show only the inserted text and use the editing instruction to indicate insertion point.

This also applies to Annex 30B

SuggestedRemedy

Remove current editing instruction. Remove text in 30.5.1.1.2 except text to be inserted. Add an editing instruction before 1000BASE-KX to read: Insert 1000BASE-KX after 1000BASE-CXFD. Add an editing instruction before 10GBASE-KX4 to read: Insert 10GBASE-KX4 after 10GBASE-CX4. Add an editing instruction before 10GBASE-KR to read: Insert 10GBASE-KR before 10GBASE-W. (This last instruction is an insert before because LRM will be inserted somewhere in the R set, so inserting before W will place KR at the end of the R set.)

The same edits would be required to Annex 30B (specifically, 30B.2).

Proposed Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.5.1.1.2** *P* **16** *L* **38** # 203

Grow, Robert — Intel

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

Text included that is inconsistent with the editing instruction.

SuggestedRemedy

Delete the BEHAVIOUR part of the attribute declaration.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **34** *SC* **34.1** *P* **19** *L* # 609

Diab, Wael — Cisco

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

Clause 34 modifications should really appear on a page of their own

SuggestedRemedy

seperate into a new page

Proposed Response *Response Status* **C**

ACCEPT.

Cl **34** *SC* **34.1** *P* **19** *L* **21** # 198
Grow, Robert Intel

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

Add isn't one of the defined instructions

SuggestedRemedy

Change instruction to read: Insert the following after the second paragraph of 34.1.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **34** *SC* **34.1** *P* **19** *L* **21** # 582
Booth, Brad Intel

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

Incorrect editing instruction.

SuggestedRemedy

Change ""Add"" to be ""Insert"". Inserted text does not to be underlined.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **34** *SC* **34.1** *P* **19** *L* **23** # 204
Grow, Robert Intel

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

Including the word ""entity"" is redundant. If you look at clause 1 PHY includes entity in its expansion effectively giving you ""entity entity"".

SuggestedRemedy

Delete entity, and entities in line 36.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1** *P* **19** *L* **29** # 610
Diab, Wael Cisco

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

C44 mods should really appear on a new page of their own

SuggestedRemedy

Seperate into a new page

Proposed Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.1** *P* **19** *L* **23** # 440
Kim, Yong Broadcom

Comment Type **TR** *Comment Status* **A** *half-duplex*

Not in the prior style (editorial) and need to add full-duplex only requirement (Technical Required) of 802.3ap.

SuggestedRemedy

Second paragraph in 34.1 to read ""Gigabit Ethernet uses the extended ISO/IEC 8802-3 MAC layer interface, connected through a Gigabit Media Independent Interface layer to Physical Layer entities (PHY sublayers) such as 1000BASE-LX, 1000BASE-SX, and 1000BASE-CX, 1000BASE-T, and 1000BASE-KX"" Similar change to line 35 (10G) makes sense also, if this comment is accepted.

Third Paragraph in 34.1 to read ""Gigabit Ethernet extends...in bandwidth. In full duplex mode, the ... 100BASE-T full duplex mode. [new sentence] Gigabit Ethernet connected through PHY type 1000BASE-KX shall operate only in full-duplex mode"".

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

See Comment #30, which removed half-duplex operation.

The text that exists today is a pointer to Clause 69, which defines Backplane Ethernet operation, and further elaboration in Clauses 34 and 44 is not required.

Cl **44** *SC* **44.1.1** *P* **19** *L* **35** # 583
Booth, Brad Intel

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

Missing period at end of sentence and inserted text does not need to be underlined.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.1** *P* **19** *L* **36** *#* 5

Daines, Kevin

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

I prefer the wording used in Clause 34.

SuggestedRemedy

Change ""see Clause 69"" to ""For additional information on Backplane Ethernet, refer to Clause 69""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **44** *SC* **44.1.1** *P* **19** *L* **37** *#* 771

David V James JGG

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

DVJ-11
Missing period

SuggestedRemedy

Clause 69
==>
Clause 69.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **44** *SC* **44.1.3 - 44.4** *P* **19** *L* **37** *#* 293

Zimmerman, George Solarflare Communica

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

Information on objectives, iso references, reconciliation sublayer, physical layer signalling, and delay constraints for all other 10Gb/s PHYs are included in Clause 44, but are absent for the proposed amendment. They appear to be relevant, and the information is contained (at least in part, possibly all) in the proposed clause 69. For consistency and ease of use of 802.3, it should also be in Clause 44.

SuggestedRemedy

Update Clause 44 to forms similar to those used by 802.3ae, 802.3ak, 802.3an and 802.3aq for 802.3ap.

Proposed Response *Response Status* **W**

REJECT.

Much of the content of clause 69 could be folded into clause 44. However, an independent introductory clause was created for Backplane Ethernet because of the new application space it represents and so that it would be bundled with the Backplane Ethernet PMD clauses in the multi-volume document.

Pointers have been included from Clauses 34 (Gigabit Ethernet) and 44 (10 Gigabit Ethernet) to clause 69. Duplicating the information in 69 is not necessary.

Cl **45** *SC* **45.** *P* **21** *L* *#* 62

van Doorn, Schelto

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

When .3an is ""stable"" synchronize text with .3an and rewrite clause 45 as an amendment to .3an.

SuggestedRemedy

Edit before sponsor ballot

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.** *P* **21** *L* **02** *#* 772

David V James JGG

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

DVJ-12
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Data Input/Output (MDIO) Interface
==>
data input/output (MDIO) interface

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **45** *SC* **45.** *P* **22** *L* **05** *#* 773

David V James JGG

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

DVJ-13
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Manageable Device
==>
manageable device

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **45** *SC* **45.** *P* **23** *L* **09** *#* 774

David V James JGG

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

DVJ-14
Values are normally listed starting from zero.

SuggestedRemedy

List the 0 value on top.

Proposed Response *Response Status* **W**

REJECT.

This is in line with the .3am document

Cl **45** *SC* **45.1** *P* **21** *L* **20** *#* 410

Barrass, Hugh Cisco Systems

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

This paragraph adequately covers the application of Clause 45 MDIO access to Backplane Ethernet in the original version, therefore the changes are entirely unnecessary.

SuggestedRemedy

Delete all changes to 45.1

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.1** *P* **21** *L* **21** *#* 461

Dawe, Piers Agilent

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

Base document doesn't say 'Ethernet' before 'the following'

SuggestedRemedy

Remove the struck-out 'Ethernet'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.1** *P* **21** *L* **21** *#* 126

John, D'Ambrosia

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

Verbiage clarification
""is applicable to the following""

SuggestedRemedy

change to
""is applicable to any of the following""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Text will stay the same as in #461 and #410

Cl **45** *SC* **45.1** *P* **21** *L* **23** *#* 441

Kim, Yong Broadcom

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

deleting ""Ethernet"" from line 21 and adding ""Ethernet"" to line 23, seems to demote b) 10PASS-TS and 2BASE-TL and c) 10, 100 or 1000 as non-Ethernet -- does not look like intended change nor 802.3ap specific change.

SuggestedRemedy

Please provide rationale for this change, or fix the text to address my concern, or undo the revision,

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

The D802.3am has already removed the word "Ethernet" from this line. Since 802.3ap is providing editing instructions to 802.3am, this line need not be changed by 802.3ap.

Also 802.3am paragraph 3 adequately covers the application of Clause 45 MDIO access to Backplane Ethernet, therefore the changes are not necessary. Delete editing instructions to 45.1 paragraph 3.

Related #410

Cl **45** *SC* **45.2** *P* **21** *L* **36** *#* 199

Grow, Robert Intel

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

Aren't both tables 1 and 2 redundant.

SuggestedRemedy

Correct editors note.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Will change:"This table is completely redundant with P802.3an and should only be included in
the first amendment published."
to:
"This table is the same as P802.3an and does not need to be changed if amendment P802.3an is published first."

Cl **45** *SC* **45.2** *P* **22** *L* **24** *#* 462

Dawe, Piers Agilent

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

What's the purple for? Font size.

SuggestedRemedy

In editor's or editorial note as appropriate, at the beginning of the document, explain. Here, and next page, change to 9 point.

Proposed Response *Response Status* **C**

ACCEPT.

The "Dark Blue" text indicates cross-references outside of this document and need to be replaced with real cross-references by the .3am editor.

Font was schanged to 9 point

Cl **45** *SC* **45.2** *P* **23** *L* **20** *#* 177

Spagna, Fulvio INTEL

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

Remove underlining

SuggestedRemedy

Proposed Response *Response Status* **C**

REJECT.

This is new text and needs to be underlined as per the editors instructions.

Cl **45** *SC* **45.2** *P* **26** *L* **18** # 178

Spagna, Fulvio INTEL

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

Inconsistent format.

SuggestedRemedy

Remove underlining in description field of Bit 1.1.3

Proposed Response *Response Status* **C**

REJECT.

Changed text needs to be underlined.

Cl **45** *SC* **45.2** *P* **27** *L* **11** # 179

Spagna, Fulvio INTEL

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

Inconsistent format.

SuggestedRemedy

Remove underlining for fields associated with Bit 1.4.3

Proposed Response *Response Status* **C**

REJECT.

Changed text needs to be underlined.

Cl **45** *SC* **45.2.1** *P* **24** *L* **09** # 418

Barrass, Hugh Cisco Systems

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

Assuming that the references to 1000BASE-KX as a speed are removed, then there is a need to add a new register for 1G PMA/PMD type. It would be useful for this to indicate either 1000BASE-KX or 1000BASE-T (for the benefit of 10G/1G UTP implementations).

SuggestedRemedy

Add another register:

Register 1.20 ""1G PMA/PMD control 2""

The definition of this register is very similar to register 1.7

1.20.15:1 always 0, writes ignored

1.20.15.0 = 0 1000BASE-T PMA/PMD type
= 1 1000BASE-KX PMA/PMD type

Then a following description in the same manner as 45.2.1.6.1

Proposed Response *Response Status* **C**

REJECT.

Based on resolution of comment 415, this comment is no longer relevant.

Refer to comment #415.

Cl **45** *SC* **45.2.1** *P* **24** *L* **18** # 463

Dawe, Piers Agilent

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

Please show all the strikeouts to the base document.

SuggestedRemedy

Include '1.32 768', in black strikeout.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.1** *P* **25** *L* **09** # 776

David V James JGG

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

DVJ-16
R/W has to meanings in the same table.

SuggestedRemedy

Entries in the table should be RW.
Do so, here and elsewhere.

Proposed Response *Response Status* **W**

REJECT.

Accepting the change would be inconsistent with 802.3REVam.

Cl **45** *SC* **45.2.1.1** *P* **25** *L* **10** # 775

David V James JGG

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

DVJ-15
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.1** *P* **25** *L* **12** # 777

David V James JGG

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

DVJ-17
IEEE styles are to center small columns.

SuggestedRemedy

Do so, here and elsewhere.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will consult with the publication editor.

Cl **45** *SC* **45.2.1.1** *P* **25** *L* **29** # 464

Dawe, Piers Agilent

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

Please show what you are doing to the base document

SuggestedRemedy

For 1.0.5:2 Speed selection, de-underline some material, include stricken material.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.1** *P* **25** *L* **31** # 415

Barrass, Hugh — Cisco Systems

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

Table 45-2, Speed selection

The format of these bits is not currently specific to individual PHYs, it is generic to speeds. Therefore the inserted line should not be "1000BASE-KX" it should be "1Gbps."

This will also help the poor souls of 802.3an who have forgotten about the need for this line in their draft (for compatibility with 10G/1G negotiation).

SuggestedRemedy

For 45.2.1.1 (P.25, line 31) and for 45.2.1.1.3 (P.25, line 45):

change "1000BASE-KX" to "1Gbps."

Proposed Response *Response Status* **C**

REJECT.

This field is only used by one PHY (1G) type.

Straw Poll #1
Option A - accept in principle "1000 Mb/s"
Option B - reject and maintain status quo

Option A - 4
Option B - 11

Motion #1
Type - Technical, 75% required.
Description - Move to reject comment 415 with proposed response above.
Moved by - Schelto van Doorn
Seconded by - Andre Szczepanek

All: Yes- 19, No- 3, Abstain - 5
802.3: Yes-17, No- 3, Abstain - 3
Motion Passes

Cl **45** *SC* **45.2.1.1.4** *P* **25** *L* **51** # 465

Dawe, Piers — Agilent

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

ports type

SuggestedRemedy

port types

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.1.4** *P* **25** *L* **51** # 26

Muller, Shimon Muller — Sun Microsystems, Inc

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

See below

SuggestedRemedy

Replace "ports type" with "port types".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.10** *P* **29** *L* **10** # 632

David V James — JGG

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

DVJ-21
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.10** *P* **29** *L* **22** *#* 276

McClellan, Brett — Solarflare

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

Missing text description of 1.11.3 and 1.11.4.

For completeness and consistency in style add a text description for 1.11.4 and 1.11.3. See P802.3an D2.2 for reference.

SuggestedRemedy

add text as indicated

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.2** *P* **26** *L* **13** *#* 778

David V James — JGG

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

DVJ-18
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.2** *P* **26** *L* **19** *#* 416

Barrass, Hugh — Cisco Systems

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

A register bit to indicate the presence of a mandatory function is, by definition, redundant. If the PMA/PMD type field denotes a Backplane Ethernet PHY then the Backplane Ethernet extension registers must be present.

SuggestedRemedy

Delete all changes to Table 45-5 and subclause 45.2.1.2.2 (and associated PICS entry - if it exists!)

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.2.2** *P* **25** *L* **36** *#* 466

Dawe, Piers — Agilent

Comment Type **E** *Comment Status* **A** *Not in new Cl45*

1.159

SuggestedRemedy

1.155, apparently. Also PICS item MM20a

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.1.2.2** *P* **26** *L* **36** *#* 623

Ganga, Ilango — Intel

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

Incorrect reference to register numbers. The correct reference should be ""registers 1.150 through 1.155 shall be used for configuration""

SuggestedRemedy

Change line 36 to read as, ""registers 1.150 through 1.155 shall be used for configuration and status of Backplane Ethernet port types""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
Reference comment #416.

Cl **45** *SC* **45.2.1.4** *P* **27** *L* **10** *#* 630

David V James — JGG

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

DVJ-19
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.4** *P* **27** *L* **12** *#* 417

Barrass, Hugh — Cisco Systems

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

1000BASE-KX is not a speed, it is a PHY. Since this is a speed ability register, the codpoint should be a speed.

SuggestedRemedy

Change Table 45-6 ""1000BASE-KX"" to ""1G capable"" and ""...as 1000BASE-KX"" to ""at 1Gb/s""

Also, change subclause 45.2.1.4.1 title to ""1G capable (1.4.3)"" and body to:

""When read as a one, bit 1.4.3 indicates that the PMA/PMD is able to operate at a data rate of 1 Gb/s. When read as a zero, bit 1.4.3 indicates that the PMA/PMD is not able to operate at a data rate of 1 Gb/s.""

Proposed Response *Response Status* **C**

REJECT.

There is only one 1G PHY type that can be controlled through Clause 45. This is consistent with the def. of 1.4.2:1.

Cl **45** *SC* **45.2.1.6.1** *P* **27** *L* **31** *#* 467

Dawe, Piers — Agilent

Comment Type **E** *Comment Status* **A** *Not in new Cl45*

Contradiction: is it 'Insert the following subclause before subclause 45.2.1.6.1. Renumber appropriately' or 'Change the first paragraph in subclause 45.2.1.6.1 to read as follows:'?

SuggestedRemedy

Sort out. Is there something missing?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.1.6.1** *P* **28** *L* **08** *#* 631

David V James — JGG

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

DVJ-20
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.6.1** *P* **28** *L* **12** *#* 284

McClellan, Brett — Solarflare

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

10GBASE-T specifies a PMA but not a PMD

SuggestedRemedy

change"" ""1 0 0 1 = 10GBASE-T PMA/PMD type""
to: ""1 0 0 1 = 10GBASE-T PMA type""

Proposed Response *Response Status* **W**

REJECT.

Given the response to Comment 434, this comment is no longer relevant.

Cl **45** *SC* **45.2.1.6.1** *P* **28** *L* **12** *#* 584

Booth, Brad — Intel

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

In Table 45-7, entry for 10GBASE-T states PMA/PMD type, but there is only a PMA type.

SuggestedRemedy

Change entry to read: 1 0 0 1 = 10GBASE-T PMA type

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.6.1** *P* **28** *L* **13** # 48

Claseman, George — Micrel Semiconductor

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

In table 45-7, PMA / PMD type selection 1001 should be reserved (not yet approved, and not in 802.3am).

SuggestedRemedy

See above.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Because the .3an amendment will be published before .3ap, this document will be written as an amendment to .3an.

Cl **45** *SC* **45.2.1.6.1** *P* **28** *L* **14** # 49

Claseman, George — Micrel Semiconductor

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

In table 45-7, PMA / PMD type selection 1000 should be reserved (not yet approved, and not in 802.3am).

SuggestedRemedy

See above.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Because the .3an amendment will be published before .3ap, this document will be written as an amendment to .3an.

Cl **45** *SC* **45.2.1.7.4** *P* **28** *L* **28** # 275

McClellan, Brett — Solarflare

Comment Type **E** *Comment Status* **A** *Not in new Cl45*

""Change the last 4 sentences of the first paragraph of subclause 45.2.1.7.4 to read as follows:""
This change applies to P802.3REVam prior to ammendments by P802.3an.
P802.3an adds a sentence to this text.

This comment also applies to 45.2.1.7.5.

SuggestedRemedy

change editor's note to prevent replacement of text added by P802.3an

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.1.7.4** *P* **28** *L* **30** # 468

Dawe, Piers — Agilent

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

Much of the text in this and the next subclause is not changed.

SuggestedRemedy

Use plain text and strikeout as well as underlining.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.7.4** *P* **28** *L* **32** # 625

Ganga, Ilango — Intel

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

Reference to Transmit Fault function for 1000BASE-KX is missing from the section 45.2.1.7.4 Transmit fault. Insert the following sentence before the description for KX4 PMD. The description of the transmit fault function for the 1000BASE-KX is given in 70.5.8

SuggestedRemedy

Insert the following sentence before the description for KX4 PMD. The description of the transmit fault function for the 1000BASE-KX is given in 70.5.8

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.7.5** *P* **28** *L* **43** # 624

Ganga, Ilango Intel

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

Reference to Receive Fault function for 1000BASE-KX is missing from secition 45.2.1.7.5. Insert the following sentence before the description for KX4 PMD.

SuggestedRemedy

Insert the following sentence before the description for KX4 PMD. The description of the receive fault function for the 1000BASE-KX is given in 70.5.9

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.75** *P* **29** *L* **36** # 633

David V James JGG

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

DVJ-22
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.75** *P* **29** *L* **47** # 626

Ganga, Ilango Intel

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

Cross references variables in section 72.5.10.3.x has links missing in pdf file
This is true for all the cross references to clause 72 from pages 29 through 34 in clause 45.2.1.75.x

SuggestedRemedy

Fix the cross reference links in pdf file. All references to clause 72 in pages 29 thorugh 34 in clause 45.2.1.75.x

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.76** *P* **30** *L* **10** # 634

David V James JGG

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

DVJ-23
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.76** *P* **30** *L* **12** # 469

Dawe, Piers Agilent

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

in-progress

SuggestedRemedy

in progress

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.76** *P* **30** *L* **19** # 180

Spagna, Fulvio INTEL

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

SC is not used in this table.

SuggestedRemedy

Remove SC text.

Proposed Response *Response Status* **C**

ACCEPT.

Text replaced with: "RO = Read Only"

Cl **45** *SC* **45.2.1.76** *P* **30** *L* **37** # 470

Dawe, Piers — Agilent

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

These two sentences are hard to decode, partly because they are very similar yet neither relates clearly to the title of the subclause:
'The 10GBASE-KR coefficient update registers reflect the contents of the first 16-bit word of the training frame control channel. The LP coefficient update register mirrors the contents of the most recently received training frame.'

SuggestedRemedy

Change to:
'The 10GBASE-KR LP coefficient update register reflects the contents of the first 16-bit word of the most recently received training frame.' [or, ...the training frame most recently received from the control channel.] Similarly in following subclauses.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.77.3** *P* **31** *L* **05** # 277

McClellan, Brett — Solarflare

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

Missing text description of bits in register 1.152.

For completeness and consistency in style add a text description for the bits in register 1.152.

SuggestedRemedy

add text as indicated

Proposed Response *Response Status* **C**

ACCEPT.

Need text

Cl **45** *SC* **45.2.1.77.3** *P* **31** *L* **10** # 585

Booth, Brad — Intel

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

In Table 45-55, the bit numbering in the Description column should be underlined.

SuggestedRemedy

Underline 15 and 14 in the first row, 5 and 4 in the 4th row, 3 and 2 in the 5th row, and 1 and 0 in the last row.

Same type of edit applies to Tables 45-56, 45-57, and 45-58.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.77.3** *P* **31** *L* **10** # 635

David V James — JGG

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

DVJ-24
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.77.3** *P* **31** *L* **33** # 181

Spagna, Fulvio — INTEL

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

SC bits are not used in this table

SuggestedRemedy

Remove SC related text.

Proposed Response *Response Status* **C**

ACCEPT.

Text replaced with: "RO = Read Only"

Cl **45** *SC* **45.2.1.77.3** *P* **32** *L* **29** # 182

Spagna, Fulvio INTEL

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

SC registers are not used in this table.

SuggestedRemedy

Remove SC related text.

Proposed Response *Response Status* **C**

ACCEPT.

Text replaced with: "RO = Read Only"

Cl **45** *SC* **45.2.1.78** *P* **32** *L* **08** # 636

David V James JGG

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

DVJ-25
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.79** *P* **32** *L* **47** # 183

Spagna, Fulvio INTEL

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

Add reference to control channel definition.

SuggestedRemedy

Change first sentence to read: ""The 10GBASE-KR coefficient update registers reflect the content of the first 16-bit word of the training frame control channel as defined in 75.5.10.2""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Do not have text for 75.5.10.2

Cl **45** *SC* **45.2.1.79.3** *P* **33** *L* **22** # 637

David V James JGG

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

DVJ-26
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.79.3** *P* **33** *L* **41** # 184

Spagna, Fulvio INTEL

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

SC type registers are not used in this table.

SuggestedRemedy

Remove SC related text.

Proposed Response *Response Status* **C**

ACCEPT.

Text replaced with: "RO = Read Only"

Cl **45** *SC* **45.2.1.80** *P* **33** *L* **46** # 185

Spagna, Fulvio INTEL

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

Add reference to control channel definition.

SuggestedRemedy

Change first sentence to read: ""The 10GBASE-KR status report registers reflect the content of the second 16-bit word of the training frame control channel as defined in 75.5.10.2""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Do not have text for 75.5.10.2

Cl **45** *SC* **45.2.1.80** *P* **33** *L* **48** *#* 471

Dawe, Piers — Agilent

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

the contents of the current outgoing training frame, as training state machine defined in Figure 72-4.

SuggestedRemedy

means?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to: "the contents of the current outgoing training frame, as defined in the training state machine in Figure 72-4."

Cl **45** *SC* **45.2.1.80** *P* **34** *L* **09** *#* 638

David V James — JGG

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

DVJ-27
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.1.80** *P* **34** *L* **29** *#* 186

Spagna, Fulvio — INTEL

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

SC type registers are not used in this table.

SuggestedRemedy

Remove SC related text.

Proposed Response *Response Status* **C**

ACCEPT.

Text replaced with: "RO = Read Only"

Cl **45** *SC* **45.2.7** *P* **34** *L* **47** *#* 281

McClellan, Brett — Solarflare

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

Both P802.3an and P802.3ap are adding this new AN Registers subclause into Clause 45, however they are out of sync, use different text descriptions, and both intend to use the same registers for different purposes.
Most notably see registers 7.16, 7.19.

SuggestedRemedy

Synchronize with P802.3an and use common naming and text descriptions. Either use different registers for bits already defined, or explain the dual use of register bits in 7.16 and 7.19.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

This document will be rewritten after .3an is stable, and before sponsor ballot, as an amendment to .3an.

Cl **45** *SC* **45.2.7** *P* **34** *L* **51** *#* 587

Booth, Brad — Intel

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

Missing period at end of sentence.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7** *P* **34** *L* **51** *#* 472

Dawe, Piers — Agilent

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

for AN MMD are ... 117

SuggestedRemedy

for the AN MMD is ... 117.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7** *P* **35** *L* **08** # 639

David V James JGG

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

DVJ-28
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7** *P* **35** *L* **19** # 434

Barrass, Hugh Cisco Systems

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

There appears to be a significant disconnect between the 802.3an and 802.3ap usage of registers 7.16 through 7.27

The advertisement and next page transfer functions are defined locally for BP operation so these registers need to be defined as BP specific registers.

SuggestedRemedy

Move all of 802.3ap registers 7.16 through 7.27 to 7.36 through 7.47. Change the names to reflect the BP specific nature of these registers.

Make associated changes throughout the Clause.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Re-write clause 45 as change instructions based on Draft 2.3 of P802.3an (and 802.3REVam 2.2 or 802.3-2005 as applicable).

This will make the registers mentioned by the commenter consistent.

802.3ap used to have separate registers for AN Advertisement. Since the AN advertisement functions are similar and use the 48-bit page format they were merged as per agreement from both TFs. The definitions of technology functions are interpreted as per other controlbits.

Cl **45** *SC* **45.2.7** *P* **35** *L* **22** # 474

Dawe, Piers Agilent

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

AN LD NP: alphabet soup. Using 'NP' as an abbreviation here is not a good idea: you have spelled out 'base page' just above (and you can't change that to BP)

SuggestedRemedy

Change 'NP' to 'next page' for these register names

Proposed Response *Response Status* **W**

REJECT.

All abbreviations are defined in 1.5 as amended by 802.3an. This was done to keep the register names managable.

Cl **45** *SC* **45.2.7** *P* **35** *L* **28** # 473

Dawe, Piers Agilent

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

Reserved for 802.3ap? This is 802.3ap!

SuggestedRemedy

At least by sponsor ballot, decide what to do with these registers

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Registers are now marked as reserved.

Cl **45** *SC* **45.2.7.1** *P* **36** *L* **02** # 476

Dawe, Piers Agilent

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

Incomplete description. What if AN completes successfully?

SuggestedRemedy

(I think) 0 = AN in progress, completed, disabled or not supported

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.1** *P* **36** *L* **12** # 475

Dawe, Piers — Agilent

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

Confusion with bit 1.0.15, reset.

SuggestedRemedy

Change bit 7.0.15's name to 'AN reset'. Also in title of 45.2.7.1.1.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.1** *P* **36** *L* **12** # 640

David V James — JGG

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

DVJ-29
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.1** *P* **36** *L* **15** # 641

David V James — JGG

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

DVJ-30
Wrong table lines.

SuggestedRemedy

Very thin between rows, thin around the boundary, here and througout.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.1.1** *P* **36** *L* **36** # 419

Barrass, Hugh — Cisco Systems

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

This function is identical to Clause 22, register 0, bit 15.

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is echoed in Clause 22, register 0, bit 15 (see 22.2.4). Any read or write to this register or to Clause 22, register 0 has identical effects and all changes are reflected identically in both locations.""

Proposed Response *Response Status* **C**

REJECT.

The register function is not the same as Clause 22 register

Cl **45** *SC* **45.2.7.1.2** *P* **36** *L* **47** # 420

Barrass, Hugh — Cisco Systems

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

This function is identical to Clause 22, register 0, bit 12.

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is echoed in Clause 22, register 0, bit 12 (see 22.2.4). Any read or write to this register or to Clause 22, register 0 has identical effects and all changes are reflected identically in both locations.""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.1.2** *P* **36** *L* **49** # 188

Spagna, Fulvio — INTEL

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

Incorrect reference to AN ability bit.

SuggestedRemedy

Change 7.48.3 into 7.48.0

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See also #421

Cl **45** *SC* **45.2.7.1.2** *P* **36** *L* **49** # 494

Dawe, Piers — Agilent

Comment Type **T** *Comment Status* **A** *Not in new Cl45*

'Wrong bit in 'via bit 7.48.3 that it lacks the ability to perform Backplane Ethernet AN'?

SuggestedRemedy

7.48.0 ? Search for more occurrences.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.7.1.2** *P* **36** *L* **49** # 477

Dawe, Piers — Agilent

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

If a PMA/PMD reports that it lacks an ability, saying that bit 7.0.12
'should always be written as zero' (but it won't work) seems inappropriate.

SuggestedRemedy

Change to 'If ..., the PMA/PMD shall return a value of zero in bit 7.0.12, and any attempt ...'

Proposed Response *Response Status* **C**

ACCEPT.

See also #421

Cl **45** *SC* **45.2.7.1.2** *P* **36** *L* **49** # 421

Barrass, Hugh — Cisco Systems

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

This statement is not true!

A 10GBASE-T PHY might lack the ability to support Backplane Ethernet and yet it will set this bit to 1. Both the second and third paragraph of this subclause are wrong and the information in them would be redundant even if it were corrected.

SuggestedRemedy

Remove the second and third paragraph of the subclause.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changed text to:
"If a PMA/PMD lacks the ability to perform AN, the PMA/PMD shall return a value of zero in bit 7.0.12, any attempt to write a one to bit 7.0.12 shall be ignored.
The default value of bit 7.0.12 is one, unless the PHY reports that it lacks the ability to perform AN, in which case the default value is zero."

See also #190, 477, 494, 188, 189

Cl **45** *SC* **45.2.7.1.2** *P* **36** *L* **52** # 189

Spagna, Fulvio — INTEL

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

Incorrect reference to AN ability bit.

SuggestedRemedy

Change 7.48.3 into 7.48.0

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Ref. deleted

See #421

Cl **45** *SC* **45.2.7.1.3** *P* **36** *L* **49** *#* 190

Spagna, Fulvio INTEL

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

Incorrect reference to AN ability bit.

SuggestedRemedy

On lines #3 and #4, change 7.48.3 into 7.48.0

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #421

Cl **45** *SC* **45.2.7.1.3** *P* **37** *L* **04** *#* 422

Barrass, Hugh Cisco Systems

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

This sentence says that all writes shall be ignored, then recommends that it should be written as zero. This is clearly redundant.

The 802.3an wording for the whole subclause appears to be better.

SuggestedRemedy

Replace the entire subclause with:

""If the PMA/PMD reports via bit 7.1.3 that it lacks the ability to perform auto-negotiation, or if auto-negotiation is disabled, the PMA/PMD shall return a value of zero in bit 7.0.9 and any attempt to write a one to bit 7.0.9 will be ignored.

Otherwise, the auto-negotiation process shall be restarted by setting bit 7.0.9 to a logic one. This bit is selfclearing, and a PMA/PMD shall return a value of one in bit 7.0.9 until the auto-negotiation process has been initiated. If a PMA/PMD reports via bit 7.1.3 that it lacks the ability to perform auto-negotiation, then this bit will have no meaning, and should be written as zero. If auto-negotiation was completed prior to this bit being set, the process shall be reinitiated. The auto-negotiation process shall not be affected by clearing this bit to logic zero. This bit is echoed in Clause 22, register 0, bit 9 (see 22.2.4). Any read or write to this register or to Clause 22, register 0 has identical effects and all changes are reflected identically in both locations.""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See 478

Cl **45** *SC* **45.2.7.1.3** *P* **37** *L* **04** *#* 478

Dawe, Piers Agilent

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

Shorten, leave out the bad 'should be written'. Does it matter whether we say 'PMA/PMD' or 'PHY' here?

SuggestedRemedy

Change to 'If a PMA/PMD reports via bit 7.1.3 or 7.48.3 that it lacks the ability to perform AN, or if AN is disabled, the PMA/PMD shall return a value of zero in bit 7.0.9, and any attempt to write a one to bit 7.0.9 shall be ignored.'

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Changed text to:
"If a PMA/PMD reports via bit 7.1.3 or 7.48."0" that it lacks the ability to perform AN, or if AN is disabled, the PMA/PMD shall return a value of zero in bit 7.0.9, and any attempt to write a one to bit 7.0.9 shall be ignored."

Related 422

Cl **45** *SC* **45.2.7.1.3** *P* **37** *L* **08** *#* 479

Dawe, Piers Agilent

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

self-cleaning

SuggestedRemedy

self-clearing

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.1.3** *P* **37** *L* **08** *#* 482

Dawe, Piers Agilent

Comment Type **E** *Comment Status* **A** *Not in new Cl45*

In clause 45, we don't say 'logic one', 'logic zero', just 'one', 'zero'.

SuggestedRemedy

Delete 'logic' or 'a logic'. Scrub the clause.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.7.1.3** *P* **37** *L* **08** *#* 779
Beck, Michael Alcatel Bell n.v.

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

typo: self-cleaning

SuggestedRemedy

change to: self-clearing

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.100** *P* **43** *L* **06** *#* 598
Booth, Brad Intel

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

In table 45-200, the heading for the right-hand column should be ""R/W"" not ""RO"".

SuggestedRemedy

Change ""RO"" to be ""R/W"".

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.100** *P* **43** *L* **08** *#* 648
David V James JGG

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

DVJ-37
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.100** *P* **43** *L* **11** *#* 442
Kim, Yong Broadcom

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

""This bit is an exact copy of bit 1.11.2"" (referring to 7.48.3 10GBASE-KT). Looking at 1.11.2:1 (45.2.1.10, pg 29), it is Reserved.

SuggestedRemedy

Please delete the line, or correct so that all are consistent

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will remove the text
see also #492

Cl **45** *SC* **45.2.7.100** *P* **43** *L* **11** *#* 492
Dawe, Piers Agilent

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

'This bit is an exact copy of bit 1.11.2': not. And it shouldn't be exact copy of bit 1.11.4.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will remove the text
see also #442

Cl **45** *SC* **45.2.7.100** *P* **43** *L* **18** *#* 429
Barrass, Hugh Cisco Systems

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

The AN ability bit is already defined in 7.1.3, there is no need for another location.

SuggestedRemedy

Delete the definition for 7.48.0

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Inset the sentence: "If the PHY type is implemented, this bit will be set to 1."
see also #436

Cl **45** *SC* **45.2.7.100** *P* **43** *L* **24** # 436

Kim, Yong — Broadcom

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

It would be friendly to define the relationship between 7.48.0 and 7.48.1~3 in default value context. What is the meaning of bits 1~3, if 7.48.0 value is 0?

SuggestedRemedy

Add text in 45.2.7.100.1 to say that if 7.48.0 value is 0, then bits 1~3 defaults to 0 and ignored upon read by mgmt.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #429

Cl **45** *SC* **45.2.7.100.1** *P* **43** *L* **23** # 495

Dawe, Piers — Agilent

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

Capitals, order of words

SuggestedRemedy

Port type negotiated. Or better, Negotiated port type.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **45** *SC* **45.2.7.100.1** *P* **43** *L* **25** # 496

Dawe, Piers — Agilent

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

Grammar, spell out small integers

SuggestedRemedy

When the AN process ... Only one of the three is ...

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.12** *P* **36** *L* **42** # 187

Spagna, Fulvio — INTEL

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

Add references to PMA/PMD control registers.

SuggestedRemedy

Change second sentence in paragraph to read: ""If bit 7.0.12 is set to a one, then speed selection bits 1.0.13, 1.0.6, and 1.0.5:2 in PMA/PMD control 1 register (Table 45-7) and PMA/PMD type selection bits 1.7.3:0 in PMA/PMD control 2 register (Table 45-4) shall have no effect on the link configuration, and station operation other than that specified by the AN protocol.""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2** *P* **37** *L* **16** # 480

Dawe, Piers — Agilent

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

Capitals

SuggestedRemedy

AN status, next page able, new page, Parallel detection fault, the parallel detection, Page received, Link status

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **45** *SC* **45.2.7.2** *P* **37** *L* **22** # 596

Booth, Brad — Intel

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

In table 45-119, the heading for the right-hand column should be ""R/W"" not ""RO"".

SuggestedRemedy

Change ""RO"" to be ""R/W"". Add the following text to footnote 1: LH = Latching High, SC = Self-Clearing, LL = Latching Low

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.2** *P* **37** *L* **24** *#* 642

David V James JGG

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

DVJ-31
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.2** *P* **37** *L* **26** *#* 481

Dawe, Piers Agilent

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

Names for ability bits (like AN ability)

SuggestedRemedy

LD next page ability, LP next page ability, LP AN ability. May be associated changes in clause 73.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **45** *SC* **45.2.7.2** *P* **37** *L* **35** *#* 150

Spagna, Fulvio INTEL

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

Correct formatting in register type column.

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2** *P* **37** *L* **53** *#* 149

Spagna, Fulvio INTEL

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

Definitions for SC, LH and LL register types are missing.

SuggestedRemedy

Add:
SC = Self Clearing
LH = Latched High
LL = Latched Low

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.2.1** *P* **38** *L* **05** *#* 423

Barrass, Hugh Cisco Systems

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

This register is a copy of Clause 28, register 6.2

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is a copy of Clause 28, register 6, bit 2 (see 28.2.4.1.5).""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2.2** *P* **38** *L* **11** *#* 424

Barrass, Hugh Cisco Systems

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

This register is a copy of Clause 28, register 6.3

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is a copy of Clause 28, register 6, bit 3 (see 28.2.4.1.5).""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This funtion is mandatory therefore the abillity indication is redundant.

Delete 45.2.7.2.1 and 45.2.7.2.2 and all associated references and change state diagrams.

Cl **45** *SC* **45.2.7.2.4** *P* **38** *L* **24** *#* 425
Barrass, Hugh — Cisco Systems

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

This register is a copy of Clause 28, register 6.1

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is a copy of Clause 28, register 6, bit 1 (see 28.2.4.1.5).""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2.5** *P* **38** *L* **26** *#* 151
Spagna, Fulvio — INTEL

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

Paragraph titling is not consistent with other paragraph related to Register 7.1

SuggestedRemedy

Change title from ""Auto-Negotiation complete"" to ""AN complete""

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.2.5** *P* **38** *L* **33** *#* 426
Barrass, Hugh — Cisco Systems

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

This register is a copy of Clause 22, register 1.5

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is a copy of Clause 22, register 1, bit 5 (see 22.2.4.2.10).""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2.6** *P* **38** *L* **35** *#* 483
Dawe, Piers — Agilent

Comment Type **T** *Comment Status* **A** *Not in new Cl45*

If bit 7.1.4 really is the one and only remote fault, then does it map into aMediaAvailable? (if it isn't, change its name to 'AN remote fault') Does .3ap need to modify aAutoNegLocalTechnologyAbility?

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.7.2.6** *P* **38** *L* **40** *#* 484
Dawe, Piers — Agilent

Comment Type **T** *Comment Status* **A** *Not in new Cl45*

When do you want to clear this RF bit? Draft says 'Bit 7.1.4 shall be cleared each time register 7.1 is read via the management interface, and shall also be cleared by a AN reset.' This isn't the way a non-AN link can start up - first RF on, then clears itself. Would this clearing be better a little later in the AN process when the PHY has established that it can hear another PHY? Also, would you want an AN restart (as opposed to AN reset) to be able to release the RF?

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.7.2.6** *P* **38** *L* **41** *#* 427
Barrass, Hugh — Cisco Systems

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

This register is a copy of Clause 22, register 1.4

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is a copy of Clause 22, register 1, bit 4 (see 22.2.4.2.11).""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2.7** *P* **38** *L* **43** *#* 152

Spagna, Fulvio INTEL

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

Paragraph titling is not consistent with other paragraph related to Register 7.1

SuggestedRemedy

Change title from ""Auto-Negotiation ability"" to ""AN ability""

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.2.7** *P* **38** *L* **45** *#* 493

Dawe, Piers Agilent

Comment Type **T** *Comment Status* **A** *Not in new Cl45*

Bit 7.48.0 seems to duplicate 7.1.3.

SuggestedRemedy

If 7.1.3 could apply to other types of AN, spell it out: 'clause 28, clause 37 or clause 73 auto-negotiation', or whatever the case is. If they are duplicates, get rid of 7.48.0 or justify the duplication.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.7.2.7** *P* **38** *L* **47** *#* 428

Barrass, Hugh Cisco Systems

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

This register is a copy of Clause 22, register 1.3

SuggestedRemedy

Add the following at the end of the paragraph:

""This bit is a copy of Clause 22, register 1, bit 3 (see 22.2.4.2.12).""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.2.8** *P* **38** *L* **52** *#* 485

Dawe, Piers Agilent

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

'Bit 7.1.2 will be set to one when...' Are you observing, predicting, recommending, requiring?

SuggestedRemedy

Remove the 'will be' language from clause 45. I guess this sentence should be 'Bit 7.1.2 shall be set to one when the variable link_status = OK or link_status = READY and be cleared to zero otherwise.'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.3** *P* **38** *L* **26** *#* 153

Spagna, Fulvio INTEL

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

Notation consistency problems in Table 45-120

SuggestedRemedy

Change following from:

7.16.12	C2	See 73.6	R/W
7.16.11:10	Pause	C1:C0 See 73.6.5	R/W
7.16.9:5	E4:E0	See 73.6.2	R/W

to:

7.16.12	Reserved	C[2]See 73.6	R/W
7.16.11:10	Pause	C[1:0] See 73.6.5	R/W
7.16.9:5	Echoed Nonce Field	E[4:0] See 73.6.2	R/W

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.3** *P* **39** *L* **10** # 486

Dawe, Piers — Agilent

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

Capitals

SuggestedRemedy

AN advertisement registers. Also acknowledge, line 48, advertised ability on next page. Further on, Unformatted code field, next page link code word...

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **45** *SC* **45.2.7.3** *P* **39** *L* **12** # 28

Marris, Arthur

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

What does ""register(s)"" mean?

SuggestedRemedy

Consider changing ""registers(s)"" to ""registers"" on lines 12 and 36 and also on lines 9, 22 and 50 on page 40.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.3** *P* **39** *L* **17** # 643

David V James — JGG

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

DVJ-32
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.3** *P* **39** *L* **19** # 644

David V James — JGG

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

DVJ-33
All names should be one word, possibly run-together. Otherwise, they are abused when used in code or equations and hard to parse within sentences.

SuggestedRemedy

NoRemedySupplied

Proposed Response *Response Status* **W**

REJECT.

The naming of these bits is consistent with existing practice for bits in the Clause 45 registers. In addition some of these particular bits are named in the same way as the equivalent bits found in Clause 28 - see
Auto-Negotiation advertisement register (Register 4) for example.

Since this project is developing an amendment to the base standard, and as such it is not within the scope of this project to perform global changes to the base standard. Instead consistency with the base standard will be
maintained.

Cl **45** *SC* **45.2.7.3** *P* **39** *L* **35** # 487

Dawe, Piers — Agilent

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

Which bit? And, might be better not to say 'BP' if we intend to use this AN elsewhere in future.

SuggestedRemedy

'If an AN ability bit', 'If any AN ability bit', 'If a BP AN ability bit' or 'If any BP AN ability bit'. Similarly in fallowing subclauses.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The text will be: 'If the BP AN ability bit' in
45.2.7.3; 45.2.7.4; 45.2.7.5; 45.2.7.6

Cl **45** *SC* **45.2.7.3** *P* **39** *L* **40** # 154

Spagna, Fulvio INTEL

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

Sentence need to be rephrased as it is not clear.

SuggestedRemedy

I wish I knew. I do not understand what is being said.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove lines 40-41 from Page 39.

Add text to 45.2.7.4:
"When registers 7.20 and/or 7.21 are used, the value of the registers7.20 and 7.21 is latched when (and only when) register 7.19 is read and reads of registers 7.20 and 7.21 return the latched value rather than the current value."

and

add text to 45.2.7.6:
"When registers 7.26 and/or 7.27 are used, the value of the registers 7.26 and 7.27 is latched when (and only when) register 7.25 is read and reads of registers 7.26 and 7.27 return the latched value rather than the current value."

Cl **45** *SC* **45.2.7.4** *P* **40** *L* **12** # 488

Dawe, Piers Agilent

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

Could 'contain the LP base page ability of the BP Ethernet PHY' be made easier to understand?

SuggestedRemedy

Is this better: 'contain the advertised base page ability of the PHY's link partner'

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert text: "The definition of this register depends on the PHY type."

Cl **45** *SC* **45.2.7.4** *P* **40** *L* **14** # 156

Spagna, Fulvio INTEL

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

Text indicates that all AN LP bits are read only. Table 45-121 indicates that bits 7.20.4:0 are R/W.

SuggestedRemedy

Enforce consistency.

Note: If 7.20.4:0 is of type R/W the table needs to be amended to show what R/W means.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.4** *P* **40** *L* **19** # 489

Dawe, Piers Agilent

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

Last sentence is nothing to do with this subclause.

SuggestedRemedy

Move it to 45.2.7.2.5. May be able to shorten or combine it. Move/change PICS AM34 in step.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This text no longer exists in the new .3ap Cl45

Cl **45** *SC* **45.2.7.4** *P* **40** *L* **24** # 597

Booth, Brad Intel

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

In table 45-121, the heading for the right-hand column should be ""R/W"" not ""RO"".

SuggestedRemedy

Change ""RO"" to be ""R/W"". Add the following text to footnote 1: R/W = Read/Write

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.4** *P* **40** *L* **26** # 645
David V James JGG

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

DVJ-34
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.4** *P* **40** *L* **28** # 285
McClellan, Brett Solarflare

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

""7.20.15:5 Technology Ability Field A[0:10] See 73.6.4""
The bits A[10:0] are listed in reverse order.

SuggestedRemedy

change text to:
""7.20.15:5 Technology Ability Field A[10:0] See 73.6.4""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.4** *P* **40** *L* **35** # 155
Spagna, Fulvio INTEL

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

Notation consistency problems in Table 45-121

SuggestedRemedy

Change following from:

7.19.12	C2	See 73.6	R/W
7.19.11:10	Pause	C1:C0 See 73.6.5	R/W
7.19.9:5	E4:E0	See 73.6.2	R/W

to:

7.19.12	Reserved	C[2]See 73.6	R/W
7.19.11:10	Pause	C[1:0] See 73.6.5	R/W
7.19.9:5	Echoed Nonce Field	E[4:0] See 73.6.2	R/W

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.5** *P* **40** *L* **46** # 157
Spagna, Fulvio INTEL

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

Incorrect reference to BP AN Ability bit.

SuggestedRemedy

Change 7.48 into 7.48.0

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The text will read: "If the BP AN ability bit (7.48.0) in the BP Ethernet status register is set to one then "

Cl **45** *SC* **45.2.7.5** *P* **40** *L* **47** # 490
Dawe, Piers Agilent

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

Consistency with 802.3an. Compare P802.3an/D2.2 45.2.7.8. This references 73.7.7.1, that references 28.2.3.4. Other differences.

SuggestedRemedy

Coordinate with .3an, compare the two Cl.45 AN sections. Use phrases like 'of the BP Ethernet PHY' sparingly; just say 'of the PHY' or 'of the local device'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.5** *P* **41** *L* **09** # 646
David V James JGG

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

DVJ-35
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.5** *P* **41** *L* **10** *#* 286

McClellan, Brett — Solarflare

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

""7.23.15:0 Unformatted Code Field U[0:15] or U[26:11] See 73.7.7.1""
The bits U[0:15] are listed in reverse order.

SuggestedRemedy

change text to:
""7.23.15:0 Unformatted Code Field U[15:0] or U[26:11] See 73.7.7.1""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.5** *P* **41** *L* **21** *#* 158

Spagna, Fulvio — INTEL

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

All bits in the table are defined as R/W.

SuggestedRemedy

Remove RO definition.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.6** *P* **41** *L* **26** *#* 159

Spagna, Fulvio — INTEL

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

Incorrect reference to BP AN Ability bit.

SuggestedRemedy

Change 7.48 into 7.48.0

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The text will read: "If the BP AN ability bit (7.48.0) in the BP Ethernet status register is set to one then "

Cl **45** *SC* **45.2.7.6** *P* **42** *L* **09** *#* 491

Dawe, Piers — Agilent

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

R/W?

SuggestedRemedy

RO, I think

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.6** *P* **42** *L* **09** *#* 647

David V James — JGG

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

DVJ-36
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.2.7.6** *P* **42** *L* **10** *#* 287

McClellan, Brett — Solarflare

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

""7.26.15:0 Unformatted Code Field U[0:15] or U[26:11] See 73.7.7.1x""
The bits U[15:0] are listed in reverse order.

SuggestedRemedy

change text to:
""7.26.15:0 Unformatted Code Field U[15:0] or U[26:11] See 73.7.7.1x""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.7.6** *P* **42** *L* **21** # 160

Spagna, Fulvio INTEL

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

All bits in the table are defined as R/W.

SuggestedRemedy

Remove RO definition.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5** *P* **43** *L* **37** # 599

Booth, Brad Intel

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

PICS should start at the top of a new page.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **45** *SC* **45.5** *P* **43** *L* **37** # 497

Dawe, Piers Agilent

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

PICS always start a new page, need copyright release footnote.

SuggestedRemedy

Per comment, for three or four clauses.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.3** *P* **45** *L* **32** # 621

Ganga, Ilango Intel

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

Only registers 1.150 through 1.155 are defined for BP. Change line to read as ""Extensions for Backplane Ethernet at 1.150 through 1.155""

SuggestedRemedy

Change line to read as ""Extensions for Backplane Ethernet at 1.150 through 1.155""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.5.3.5** *P* **46** *L* **01** # 282

McClellan, Brett Solarflare

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

The PICS are inconsistent with P802.3an.

SuggestedRemedy

Synchronize with P802.3an and use consistent PIC numbering and naming.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

This document will be rewritten after .3an is stable, and before sponsor ballot, as an amendment to .3an.

Cl **45** *SC* **45.5.3.5** *P* **46** *L* **54** # 649

David V James JGG

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

DVJ-38
Bad break at bottom of page, leading to a blank line between table rows.

SuggestedRemedy

Use debugged templates, at:
http://grouper.ieee.org/groups/msc/WordProcessors.html

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will correct the table as per IEEE style guidelines.

Cl **45** *SC* **45.7.2.1** *P* **36** *L* **05** *#* 414

Barrass, Hugh — Cisco Systems

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

This register has clearly been defined to be (largely) compatible with Clause 22, register 0. Also, a dual speed (10G/1G) device might be implementing both Clause 22 and Clause 45 registers in order to operate at both speeds. A single speed 1G device might be operating using only the Clause 22 interface, with the extended access for Clause 45 registers to support 1000BASE-KX.

There needs to be a note to tie the bits of this register and Clause 22 register 0 together.

SuggestedRemedy

Add the following at the end of the paragraph:

""A device that supports multiple port types may implement both Clause 22 control register operation and Clause 45 control register operation. Some control functions have been duplicated in both definitions. The register bits to control these functions are simply echoed in both locations, any reads or writes to these bits behave identically whether made through the Clause 22 location or the Clause 45 location.""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **Table 45-11** *P* **29** *L* **16** *#* 312

Baumer, Howard — Broadcom

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

Missing 1000BASE-KX PMD/PMA

SuggestedRemedy

Add 1000BASE-KX PMD/PMA type

Proposed Response *Response Status* **C**

REJECT.

This reg. is only for 10G PMA/PMD's

Cl **45** *SC* **Table 45-11** *P* **29** *L* **16** *#* 291

Zimmerman, George — Solarflare Communica

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

1.11.2 is reserved here and 10GBASE-T ability in 802.3an

SuggestedRemedy

align drafts - be consistent - in many other places the concurrent draft changes are called out. Add an editor's note so that these bits don't get re-mapped to reserved should this amendment follow the 802.3an amendment (I suspect similar treatment is deserved 802.3aq).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
To avoid conflict with other TFs removed the last two rows in table and changed the editors note.

Cl **45** *SC* **Table 45-12** *P* **29** *L* **16** *#* 313

Baumer, Howard — Broadcom

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

Why are bits 1 & 2 reserved? These sohould be continuously filled.

SuggestedRemedy

Move .4 & .3 down to start at .1 & .2 unless taken by another TF. If taken by another task force then so state

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See #291

Cl **45** *SC* **Table 45-5** *P* **26** *L* **08** *#* 290

Zimmerman, George — Solarflare Communica

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

Table is incorrectly labeled as 45-1. (yeah, I know it's small)

SuggestedRemedy

Correct labeling of table to whatever is correct in rev am I think it should be 45-5.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **Table 45-55** *P* **31** *L* **17** # 314

Baumer, Howard Broadcom

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

Vendor specific register bits should be in IEEE standard register bit space. There are 32k+ vendor specific registers for these bits.

SuggestedRemedy

Remove these vendor specific bits from this register and relabel these as reserved.

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 451.

Cl **45** *SC* **Table 45-56** *P* **32** *L* **14** # 315

Baumer, Howard Broadcom

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

Vendor specific register bits should be in IEEE standard register bit space. There are 32k+ vendor specific registers for these bits.

SuggestedRemedy

Remove these vendor specific bits from this register and relabel these as reserved.

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 451.

Cl **45** *SC* **Table 45-57** *P* **33** *L* **25** # 316

Baumer, Howard Broadcom

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

Vendor specific register bits should be in IEEE standard register bit space. There are 32k+ vendor specific registers for these bits.

SuggestedRemedy

Remove these vendor specific bits from this register and relabel these as reserved.

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 451.

Cl **45** *SC* **Table 45-58** *P* **34** *L* **14** # 317

Baumer, Howard Broadcom

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

Vendor specific register bits should be in IEEE standard register bit space. There are 32k+ vendor specific registers for these bits.

SuggestedRemedy

Remove these vendor specific bits from this register and relabel these as reserved.

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 451.

Cl **45** *SC* **Table 45-7** *P* **28** *L* **13** # 292

Zimmerman, George Solarflare Communica

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

10GBASE-T only has a PMA type

SuggestedRemedy

Change 10GBASE-T PMA/PMD type to 10GBASE-T PMA type, per 802.3an D2.2

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.** *P* **49** *L* **01** *#* 318

Baumer, Howard — Broadcom

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

Draft is technically incomplete. The minimum that is required for a technically complete standard is to specify the transmitter, the channel / media (Cu cable, optical fiber, backplane, etc.) and the receiver. The transmitter and receiver for each PMD type are specified in Clause 70, 71, & 72. The channel is defined as informative in Clause 69 where there are ZERO "shall" statements. This makes it such that any channel can be used.

SuggestedRemedy

Change this clause to a normative clause adding in all the appropriate "shall" statements and setting all the limits to the appropriate values as determined by the task force.

Proposed Response *Response Status* **U**

REJECT.

IEEE 802.3 chip-to-chip interfaces (including Clause 47 XAUI) do not specify the channel. The only time channels are specified in IEEE 802.3 specifications are for box-to-box interconnects where the user may acquire the DTEs and media from independent entities.

In addition, the test points used to verify silicon compliance may not be available in a backplane environment.

Motion #5
Type - Technical (75%)
Description - Move to reject comment for reasons described above.
M: Charles Moore
S: Fulvio Spagna

All Y-20 N-1 Abstain- 1
Motion Passes

Related comment 294

Cl **69** *SC* **69.1.1** *P* **49** *L* **10** *#* 498

Dawe, Piers — Agilent

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

Does either the chassis or the backplane need to be modular to for backplane Ethernet?

SuggestedRemedy

Delete 'modular'?

Proposed Response *Response Status* **C**

REJECT.

The channel model includes two connectors because the chassis is modular. Similar language is used in the PAR.

Cl **69** *SC* **69.1.1** *P* **49** *L* **16** *#* 29

Marris, Arthur

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

Change ""included"" to ""include""

SuggestedRemedy

Change ""included"" to ""include""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.1.1** *P* **49** *L* **20** *#* 30

Marris, Arthur

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

Why have the paragraph ""Backplane Ethernet supports point-to-point topologies in the full-duplex mode of operation. Since there are no modifications to the IEEE 802.3 MAC or 1000BASE-X PCS, and the network radius is limited to the modular chassis backplane, the half-duplex mode of operation may also be supported at 1000 Mb/s.""?

This paragraph is not helpful, irrelevant in a PHY spec, and potentially confusing.

SuggestedRemedy

Consider deleting the above paragraph.

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comments #430 and #443

Cl **69** *SC* **69.1.1** *P* **49** *L* **23** *#* 430

Barrass, Hugh — Cisco Systems

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

This statement says that half-duplex is supported but there does not appear to be any mechanism to select, negotiate or control this mode.

Most sentient beings accept that half-duplex modes are a historical aberration and should be discouraged wherever possible.

SuggestedRemedy

Remove mention of half-duplex mode.

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comments #30 and #443

Cl **69** *SC* **69.1.1** *P* **49** *L* **23** *#* 499

Dawe, Piers — Agilent

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

supported?

SuggestedRemedy

used

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Text removed.

Cl **69** *SC* **69.1.2** *P* **49** *L* **29** *#* 443

Kim, Yong — Broadcom

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

""a) Support the CSMA/CD MAC"" - Confusing, since 802.3ap is full-duplex only, and there is no carrier sense nor collision detecction in full-duplex.

SuggestedRemedy

Change the text to read"" a) Support the 802.3 MAC""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Change the text to
"a) Support full duplex operation only."

Refer to comments #30 and #430

Cl **69** *SC* **69.1.2** *P* **49** *L* **31** *#* 444

Kim, Yong — Broadcom

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

""c) Meet or exceed CISPR/FCC Class A"" is a fine goal for product but not has been the objective of IEEE 802.3 specification. Instead, spec requires that you meet regional applicable reguratory requirements.

SuggestedRemedy

Delete and re-number. See other PHY sections under Environmental Requirements.
BTW, you probably do not want to use the word ""exceed"" in any case :-)

Proposed Response *Response Status* **W**

REJECT.

This is a project objective of 802.3ap.
Reference Comment #14 for new wording.

Cl **69** *SC* **69.1.2** *P* **49** *L* **31** *#* 14

Flatman, Alan — LAN Technologies

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

Item c) should also refer to noise immunity, in line with 70.8.4, 71.8.4 and 72.8.4.

SuggestedRemedy

add "rf emission and noise immunity" to end of text in item c)

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to
"c) Not preclude compliance to CISPR/FCC Class A for RF emission and noise immunity."

Cl **69** *SC* **69.1.2** *P* **49** *L* **33** *#* 308

Seemann, Brian — Xilinx

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

This sentence uses the words ""meeting the requirements of 69.3"", but 69.3 is informative.

d) Support operation over links consistent with differential, controlled impedance traces on a printed
circuit board with 2 connectors and total length up to at least 1m meeting the requirements of 69.3.

SuggestedRemedy

""...and total length up to at least 1m consistent with the guidelines of 69.3.""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use suggested remedy text but update reference to Annex 69B, where the contents of 69.3 now reside in response to comment #209

See also: 161

Cl **69** *SC* **69.1.2** *P* **49** *L* **33** *#* 500

Dawe, Piers — Agilent

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

1m. In 71.1, 50cm (not SI) and 1m. Later, 1Gb/s

SuggestedRemedy

1 space m, 0.5 space m , and so on.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.1.2** *P* **49** *L* **37** *#* 611

Diab, Wael — Cisco

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

The objective states that the BER should be 10e-12 or better. Are the BER for the various interfaces all the same? Could a better BER be reached for the higher speed interfaces?

SuggestedRemedy

Please state the BER requirements for each interface seperately

Proposed Response *Response Status* **W**

REJECT.

The objectives states a BER of better or equal to 10e-12 over all backplanes.

Cl **69** *SC* **69.1.2** *P* **50** *L* **11** *#* 650

David V James — JGG

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

DVJ-39
Don't intermix all caps; its against the style manual, confusing, and obfuscates the meaning of capitalized special words.

SuggestedRemedy

Remove ALL CAPS notation within figures, here and througout.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

To be consistent with the style of Clause 44

Replaces references to clauses in PCS blocks-
"8B/10B" to 1000BASE-KX and 10GBASE-KX4
"64B/66B" to 10GBASE-KR

Delete clauses references in PMA blocks

Cl **69** *SC* **69.1.3** *P* **41** *L* **18** *#* 501

Dawe, Piers — Agilent

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

PCS is part of PHY

SuggestedRemedy

Extend the PHY bracket to top of upper PCSs.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.1.3** *P* **50** *L* **17** *#* 605

Booth, Brad — Intel

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

In Figure 69-1, information on the interfaces is incorrect and the figure is a bit misleading about the medium.

SuggestedRemedy

This figure should provide an overview of the architectural positioning. The specific information should be contained in each port type clause; therefore, duplicate the figure in each port type clause and delete irrelevant information.

For this figure, remove the TBI and XSBI. While AN is applied to all port types, this implies that AN should support all port types via one MDI to one MEDIUM. This is not accurate. Break AN into 3 parts and change the name from AN to AN*. Put a MEDIUM under each port type.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Adopt suggested remedy with the following exception: Auto-negotiation is a mandatory feature and therefore AN will be used in place of AN*.

Cl **69** *SC* **69.1.3** *P* **50** *L* **18** *#* 411

Barrass, Hugh — Cisco Systems

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

The BP Clause numbers are not shown in the diagram. Thus the diagram fails to show the architectural position of BPE"" as promised.

SuggestedRemedy

Add the Clause numbers to the reflect BP Clauses.

Proposed Response *Response Status* **C**

REJECT.

Figure modified to reflect the style of Clause 44. Refer to comment #605.

Cl **69** *SC* **69.1.3** *P* **50** *L* **19** *#* 588

Booth, Brad — Intel

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

In Figure 69-1, the PHY bracket on the right should also encompass the PCS blocks.

SuggestedRemedy

Increase the size of the bracket.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.1.3** *P* **50** *L* **44** *#* 431

Barrass, Hugh — Cisco Systems

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

A 1Gbps MAC device (interfacing using GMII) would most likely prefer to use a Clause 22 MDIO interface.

SuggestedRemedy

Change ""Clause 45"" to ""Clause 45 or Clause 22 (for 1Gbps devices)""

Proposed Response *Response Status* **W**

REJECT.

If the reader follows Clause 45 text, then provisions for Clause 22 compatibility are provided there.

Cl **69** *SC* **69.1.3** *P* **51** *L* **10** *#* 502

Dawe, Piers — Agilent

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

This statement 'The MDIO/MDC management interface (Clause 45) provides ...' contradicts 45.1 'The MDIO electrical interface is optional.'

SuggestedRemedy

Change to 'can provide', 'may provide', 'may conveniently provide', or 'is intended to provide'.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change text to read:

"The MDIO/MDC management interface (Clause 45) is intended to provide an interconnection between MDIO Manageable Devices (MMD) and Station Management (STA) entities."

Cl **69** *SC* **69.2** *P* **49** *L* **33** *#* 161

Spagna, Fulvio — INTEL

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

Text indicates that link is meeting requirements of 69.3 which is informative.

SuggestedRemedy

Remove ""meeting the requirements of 69.3""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Refer to comment #308

Cl **69** *SC* **69.2.2** *P* **51** *L* **11** *#* 432

Barrass, Hugh — Cisco Systems

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

A 1Gbps MAC device (interfacing using GMII) would most likely prefer to use a Clause 22 MDIO interface.

SuggestedRemedy

Add a sentence:

""Systems that do not implement 10Gbps interfaces may use the Clause 22 definition for the MDIO/MDC management interface.""

Proposed Response *Response Status* **C**

REJECT.

Refer to comment #431

Cl **69** *SC* **69.2.3** *P* **51** *L* **16** *#* 6

Daines, Kevin

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

""1Gb/s"" should be ""1 Gb/s"" to be consistent with the base standard.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **C**

ACCEPT. 123

Cl **69** *SC* **69.2.3** *P* **51** *L* **18** *#* 503

Dawe, Piers — Agilent

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

Missing a key fact, especially when below you say 'This embodiment is based on XAUI with 10GBASE-CX4 extensions'

SuggestedRemedy

Add extra sentence 'The 1000BASE-KX PMD is defined in Clause 70.' Similarly for 10GBASE-KX4 and 10GBASE-KR.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.2.3** *P* **51** *L* **21** *#* 7

Daines, Kevin

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

""10Gb/s"" should be ""10 Gb/s""

also on line 26 in next paragraph

SuggestedRemedy

See comment

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.2.3** *P* **51** *L* **30** *#* 31

Marris, Arthur

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

I think this is the first time the word ""nomenclature"" has been used in the 802.3 spec. Conforming to a nomenclature does not sound right. Consider changing the word ""nomenclature"" to ""PHY type"".

SuggestedRemedy

Change the word ""nomenclature"" to ""PHY type"" throughout subclause 69.2.3 (lines 30,31 and 34).

Proposed Response *Response Status* **C**

REJECT.

"Nomenclature" is used in clause 44 which served as the template for this clause.

Cl **69** *SC* **69.2.3** *P* **51** *L* **38** *#* 278

McClellan, Brett Solarflare

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

Clause 70 specifies the 1000BASE-KX PMD, not PMD/PCS/PMA.

SuggestedRemedy

Change table entry from ""1000BASE-KX PMD/PCS/PMA""
to: ""1000BASE-KX PMD""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.2.3** *P* **51** *L* **47** *#* 255

Tom Palkert Xilinx

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

Typo: '1000ASE-KX' should be '1000BASE-KX' in first entry in Nomenclature column

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.2.3** *P* **51** *L* **48** *#* 651

David V James JGG

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

DVJ-40
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.2.4** *P* **52** *L* **08** *#* 207

Grow, Robert Intel

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

The second sentence is a lame rationalization for why AN is the way it is in Backplane. Reuse of silicon design modules is easily as important as what you interconnect depending on who the user of the standard is.

SuggestedRemedy

Delete the introductory phrase ""Since connection of ... ,"".

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete only first half of sentance: "Since the connection of twisted-pair and backplane physical layer signaling systems is not expected,"

Cl **69** *SC* **69.2.5** *P* **52** *L* **19** # 208

Grow, Robert Intel

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

SCC 14 will comment about this looking like an equation.

SuggestedRemedy

10 Mb/s, 100 Mb/s, 1000 Mb/s and 10 Gb/s...

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3** *P* **52** *L* **22** # 209

Grow, Robert Intel

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

Though previous clauses have included informative subclauses, the practice is now deprecated and such inclusion requires publication editor approval (2005 Style Manual, 10.1, 1).

SuggestedRemedy

I see three options:
1. Move this informative information to an informative annex.
2. Get IEEE publication editor approval for leaving it as is.
3. Rewrite it as tutorial background for the normative text that includes the ""shall""s.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Move content of 69.3 to an informative annex (Annex 69B).

Cl **69** *SC* **69.3** *P* **52** *L* **23** # 446

Thaler, Pat Agilent Technologies

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

I don't find any parameters for return loss even though that is a parameter which can exert a significant impact on the received signal and which can be heavily influenced by implementation choices. Given the potential for impedence mismatches with minimal attenuation between them (e.g. a reflection between the transmitter and first mated connector in Figure 69-2), guidence on this parameter should be given.

SuggestedRemedy

Add a specification for channel return loss.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Add to Section 69.3.1.1 the following verbiage after the sentence on lines 39-40.

"Any specific implementation is beyond the scope of this specification. The informative techniques and parameters, defined by 69.3.3.3 through 69.3.3.5, may be employed on the specific implementation of the full interconnect (inclusive of the transmitter, TP1 to TP4, and receiver), and would allow further assessment of the complete interaction of these elements."

See dambrosia_01_0905

No relationship between explicit limits and / or constraints solely on return loss on the results observed from analysis performed by the Task Force has been found.

Therefore, return loss can be accounted for by constraining the overall system interconnect using the informative model methodology.

Refer to comment 129

Cl **69** *SC* **69.3.1** *P* **52** *L* **26** *#* 580

Ghiasi, Ali — Broadcom

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

Backplane ethernet links are primarily intended as point-point interfaces of up to 1 m using differential

SuggestedRemedy

Backplane Ethernet link operates in point to point fashions over 1 m of improved FR4 with two connectors.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

It is not clear what the actual intent of the change is, but agree that the current text could benefit from some editing.

Change 69.3.1 to read:

"Backplane Ethernet is primarily intended to operate on differential, controlled impedance traces up to 1 m, including two connectors, on printed circuit boards residing in a backplane environment."

Cl **69** *SC* **69.3.1** *P* **52** *L* **27** *#* 437

Kim, Yong — Broadcom

Comment Type **E** *Comment Status* **A** *need text*

It is not clear whether the objective is 1 m over low-cost PCB, or whether any PCB traces (media) length that conforms to TX and RX spec meets 802.3ap requirements. The text could be read either way (my interpretation is the latter). Also the last sentence ""The performance... specific implementation"" does not add substance to the clause.

SuggestedRemedy

Please clarify what requirement needs to be met for conformance.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This section is informative and provides information on the characteristics of channels that will interoperate with Backplane Ethernet PHYs.

There are no normative requirements for the channel (similar to clause 47 XAUI).

Refer to comment #580.

Cl **69** *SC* **69.3.1** *P* **52** *L* **28** *#* 504

Dawe, Piers — Agilent

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

I doubt that a backplane for a big switch would be 'low-cost'. They are pretty high technology.

SuggestedRemedy

Delete 'low-cost'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.1.1** *P* **52** *L* **33** *#* 210

Grow, Robert — Intel

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

The term ""this section"" is ambiguous. Does it mean 69.3 or only 69.3.1.1 or what.

SuggestedRemedy

Clarify.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Change:

"For purposes of this section, the backplane interconnect is defined between test points TP1 and TP4 as shown in Figure 69-2."

To:

"The backplane interconnect is defined between test points TP1 and TP4 as shown in Figure 69-2."

Cl **69** *SC* **69.3.1.1** *P* **53** *L* **01** *#* 135

John, D'Ambrosia

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

Fig 69-2 inconsistent with Fig 70-1

SuggestedRemedy

replace 69-2 with 70-1

Proposed Response *Response Status* **C**

REJECT.

Figure 70-1 is specific to 1000BASE-KX. The intent of this reference model is to generalize the models used in clauses 70, 71, and 72. Use of the Figure 70-1 model in this section would create a disconnect with the model used in clause 71, for example.

Cl **69** *SC* **69.3.1.1** *P* **53** *L* **08** *#* 61

van Doorn, Schelto

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

Redraw Figures in native Frame:
P53 fig69-3
P70 fig70-1
P87 fig71-1
P107 fig 72-1

SuggestedRemedy

As mentioned above

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.1.1** *P* **53** *L* **12** *#* 652

David V James JGG

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

DVJ-41
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Mated Connecto
==>
Mated connecto

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.1.1** *P* **53** *L* **15** *#* 653

David V James JGG

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

DVJ-42
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Backplane Channel
==>
Backplane channel

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.2** *P* **53** *L* **21** *#* 212

Grow, Robert Intel

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

Use the correct symbol

SuggestedRemedy

Replace with the Symbol font single character for +/-.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.2** *P* **53** *L* **23** # 505

Dawe, Piers — Agilent

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

I doubt that a common skew spec from 1G to 10G is correct.

SuggestedRemedy

Qualify the statement.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Text for Option B
"The total differential skew from TP1 to TP4 is recommended to be no more than 0.2UI."

Straw Poll
Option A - Reject comment
Option B - Accept proposed resolution described above.
Option C - "The total differential skew from TP1 to TP4 is recommended to be less than the minimum transition time for the respective port type."

Option A - 4
Opttion B - 3
Option C - 17

Change
"The total differential skew from TP1 to TP4 is recommended to be no more than 20ps."

to

"The total differential skew from TP1 to TP4 is recommended to be less than the minimum transition time for the respective port type."

Cl **69** *SC* **69.3.2** *P* **53** *L* **23** # 213

Grow, Robert — Intel

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

Recommended or assumed?

SuggestedRemedy

I think the clause assumes the specified maximum skew.

Proposed Response *Response Status* **C**

REJECT.

Maximum skew is an informative recommendation.

Cl **69** *SC* **69.3.3** *P* **53** *L* **25** # 294

Zimmerman, George — Solarflare Communica

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

There appear to be no requirements on the channel, only a bunch of loose recommendations. This seems insufficient to allow a designer either of PHYs or of backplanes to allow interoperable devices, without concurrent engineering.

SuggestedRemedy

Agree on requirements that would allow interoperable devices and media or explain why backplane ethernet is different.

Proposed Response *Response Status* **W**

REJECT.

Refer to comment #318

Cl **69** *SC* **69.3.3** *P* **53** *L* **26** # 129

John, D'Ambrosia

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

Channel return loss is not factored into informative channel model

SuggestedRemedy

see september contribution from dambrosia

Proposed Response *Response Status* **C**

ACCEPT.

Refer comment 446

Cl **69** *SC* **69.3.3.1** *P* **53** *L* **27** # 112

Brown, Kevin

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

An informative specification for channel parameters cannot be used to determine interoperability, which is the primary purpose of communications standards.

SuggestedRemedy

Specify required channel characteristics.

Proposed Response *Response Status* **W**

REJECT.

Refer to 318, 294

Cl **69** *SC* **69.3.3.1** *P* **54** *L* **06** # 506
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **A**
Table wastes space

SuggestedRemedy
Redo the 'shrink to fit'.

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

Cl **69** *SC* **69.3.3.1** *P* **54** *L* **06** # 507
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **A**
Variables and coefficients should be in italics, not just in equations.

SuggestedRemedy
Put them in italics: fmin b1 ILmax A(f), more

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

Cl **69** *SC* **69.3.3.1** *P* **54** *L* **20** # 66
Alping, Arne

Comment Type **E** *Comment Status* **A**
Unit dB is miising for all insertion loss parameters in Table 69-2

SuggestedRemedy
Insert dB in the units column (from line 20 and down)

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

Cl **69** *SC* **69.3.3.2** *P* **54** *L* **44** # 319
Baumer, Howard Broadcom

Comment Type **E** *Comment Status* **A**
Missing "the"

SuggestedRemedy
Change "à is defined to be least mean ..." to "à is defined to be the least mean ..."

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

Cl **69** *SC* **69.3.3.2** *P* **54** *L* **44** # 509
Dawe, Piers Agilent

Comment Type **TR** *Comment Status* **A**
Attenuation is a well known word with an established meaning. You cannot change its meaning. You'll have to change the name of your quantity A(f).

SuggestedRemedy
Change to 'attenuation trend line' or 'linear fitted attenuation' (or 'insertion loss trend line' if you prefer).

Proposed Response *Response Status* **W**
ACCEPT IN PRINCIPLE.

Change "Attenuation, A(f)" to "Fitted Attenuation, A(f)."

Note to editor - change all occurances referring to the variable "Attenuation, A(f)"

Cl **69** *SC* **69.3.3.2** *P* **54** *L* **45** # 508
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **A** *need text*
To make the algorithm give a unique answer, need to say how the measurement frequencies ore disposed.

SuggestedRemedy
Evenly in frequency, logarithmically, what?

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

Change text to read: "Assuming the transmission magnitude response is measured at N uniformly-spaced frequencies fn spanning the frequency range f1 to f2..."

Cl **69** *SC* **69.3.3.2** *P* **55** *L* **12** # 240
Dudek, Mike Picolight

Comment Type **T** *Comment Status* **A**
Words say greater than. Symbol in equation 69-6 is less than. I think the words should be less than

SuggestedRemedy
Change greater than to less than

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

Change verbiage from "greater than" to "less than or equal to"

Cl **69** *SC* **69.3.3.2** *P* **55** *L* **13** *#* 510

Dawe, Piers Agilent

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

greater than?

SuggestedRemedy

less than?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #240.

Cl **69** *SC* **69.3.3.2** *P* **55** *L* **13** *#* 295

Abler, Joe IBM

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

the use of ""greater than"" is in context with the real value of loss considering the attenuation will be a negative value. This will be confusing to some if the usage isn't consistent throughout the document. The first inconsistency is with the the IL figures (69-3, 69-4, and 69-5), which show absolute values for loss, which is going to cause confusion in reference to the ""greater than"" statement.

SuggestedRemedy

Indicate IL dB values on Figures 69-3, 69-4, and 69-5 as negative numbers. An alternative could be to change line 13 phrasing of ""be greater than"" to ""not exceed"". A similar change would be needed for line 29.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #240.

Cl **69** *SC* **69.3.3.2** *P* **55** *L* **13** *#* 101

Moore, Charles

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

text says: ""it is recommended that attenuation of the channel be greater than the worst-case attenuation limit described by the equation:""

While the equation has a less than or equal sign. The intent was less than.

SuggestedRemedy

change test to read:

""it is recommended that attenuation of the channel be less than the worst-case attenuation limit described by the equation:""

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment #240.

Cl **69** *SC* **69.3.3.2** *P* **55** *L* **13** *#* 67

Alping, Arne

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

Now using Attenuation with a positive sign ""greater"" has to be changed to ""smaller""

SuggestedRemedy

Change ""... attenuation of the channel be greater than ..."" to ""... attenuation of the channel be smaller than ..""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Refer to comment #240.

Cl **69** *SC* **69.3.3.2** *P* **55** *L* **13** *#* 96

Healey, Adam

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

Text does not agree with equations.

SuggestedRemedy

Change ""It is recommended that the insertion loss magnitude, IL(f), be greater than the lower limit..."" to ""It is recommended that the insertion loss magnitude, IL(f), be no greater than the lower limit..""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Noted comment by line number calls out A(f), See #240.

For suggested remedy, it is interpretted to mean line number 29, page 55.

See #96.

Cl **69** *SC* **69.3.3.2** *P* **55** *L* **21** *#* 320

Baumer, Howard Broadcom

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

Missing "in"

SuggestedRemedy

Change "à limit defined 69.3.3.4, ..." to "à limit defined in 69.3.3.4, ..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.3.2.** *P* **54** *L* **08** *#* 654

David V James JGG

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

DVJ-43
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.3.3** *P* **55** *L* **28** *#* 102

Moore, Charles

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

Test reads: The insertion loss is defined as the magnitude, expresssed in decibels, of the differential response measured from TP1 to TP4. It is recommended that the insertion loss magnitude, IL(f), be greater than the lower limit defined by Equation (69-7) and Equation (69-8).

While the equations show less than or equal signs. The intent was less than.

SuggestedRemedy

Change text to read:
The insertion loss is defined as the magnitude, expresssed in decibels, of the differential response measured from TP1 to TP4. It is recommended that the insertion loss magnitude, IL(f), be less than the lower limit defined by Equation (69-7) and Equation (69-8).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to "...less than or equal to...".

Cl **69** *SC* **69.3.3.3** *P* **55** *L* **29** *#* 309

Seemann, Brian Xilinx

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

Says: ""...the insertion loss magnitude, IL(f), be greater than the lower limit defined by Equation (69-7) and Equation (69-8).""

But Eq. 69-7 and 69-8 indicate less than.

SuggestedRemedy

""...the insertion loss magnitude, IL(f), be less than the lower limit defined by Equation (69-7) and Equation (69-8).""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #102

Cl **69** *SC* **69.3.3.3** *P* **55** *L* **29** # 68

Alping, Arne

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

The Insertion loss should be smaller, not greater, than the limit specified in Eq (69-7) and Eq (69-8)

SuggestedRemedy

Change ""... be greater than the lower limit defined by ..."" to ""... be smaller than the limit defined by ...""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Refer to comment #102

Cl **69** *SC* **69.3.3.3** *P* **55** *L* **29** # 241

Dudek, Mike Picolight

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

Words say greater than. Symbols in equation 69-7 and 69-8 are less than.

SuggestedRemedy

change ""greater than the lower limit to ""less than the higher limit""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #102

Cl **69** *SC* **69.3.3.3** *P* **55** *L* **29** # 97

Healey, Adam

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

Text does not agree with equations.

SuggestedRemedy

Change ""It is recommended that the insertion loss magnitude, IL(f), be greater than..."" to ""It is recommended that the insertion loss magnitude, IL(f), be no greater than...""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #102

Cl **69** *SC* **69.3.3.3** *P* **55** *L* **41** # 69

Alping, Arne

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

Wrong word: ""are"" should be ""and""

SuggestedRemedy

Change ""... f2, are fmax are ..."" to ""... f2, and fmax are ...""

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.3.3** *P* **55** *L* **53** # 127

John, D'Ambrosia

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

Add the following verbiage

SuggestedRemedy

The values of f1 and f2 are dependent on port type and are given in Table 69-2.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.3.3** *P* **56** *L* **01** # 321

Baumer, Howard Broadcom

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

Missing "in"

SuggestedRemedy

Change "à limit defined 69.3.3.4, ..." to "à limit defined in 69.3.3.4, ..."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.3.3** *P* **56** *L* **03** # 310

Seemann, Brian Xilinx

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

"The insertion loss limit is illustrated in Figures 69-3, 69-4 and 69-5."

We should use the same channel model between 1000BASE-KX, 10GBASE-KX4, and 10GBASEKR.

This project's value was to make a 10Gb single lane PHY that can also operate at other speeds. The 1G and 10G 4-lane PHYs should be included for compatibility, not as stand-alone applications. Inclusion of other insertion loss limits perpetuates bad channels.

SuggestedRemedy

"The insertion loss limit is illustrated in Figure 69-5."

Eliminate figures 69-3 and 69-4

Proposed Response *Response Status* **C**

REJECT.

Insertion loss limit is based on the same model using frequency range as defined by f1 and f2 appropriate to port type.

Cl **69** *SC* **69.3.3.5** *P* **58** *L* **24** # 130

John, D'Ambrosia

Comment Type **ER** *Comment Status* **A** *Need text*

Development of the ICR in the Task Force considered conditions where victim and aggressor are like PHYs with similar equalization needs, but this is not stated.

SuggestedRemedy

Add the following verbiage -
""The following equations and informative model assume that the aggresssors and victim are being driven by similar PHYs.""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

"The following equations and informative model assume that aggressors and victim are driven by PHYs of the same type."

Cl **69** *SC* **69.3.3.5** *P* **58** *L* **27** # 92

Healey, Adam

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

First sentence reads, ""In order to limit the crosstalk at the receiver..."". This is potentially ambiguous and really should be ""at TP4"" to be consistent with reference model defined earlier.

SuggestedRemedy

Change occurrence of ""at the receiver"" in 69.3.3.5 to ""at TP4"". Note occurences in 69.3.3.5.1, 69.3.3.5.2, 69.3.3.5.3, and 69.3.3.5.4.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.3.5.1** *P* **58** *L* **30** # 91

Healey, Adam

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

The equations for TNEXT(f) and TFEXT(f) are identical to the power-sum NEXT (PSNEXT) and power-sum FEXT (PSFEXT) parameters defined in other clauses. IEEE P802.3ap has invented a new term to define a commonly used parameter and there is no obvious advantage to this new nomenclature.

SuggestedRemedy

Change TNEXT(f) to PSNEXT(f) and TFEXT(f) to PSFEXT(f). Note occurences in 69.3.3.5.1, 69.2.2.5.2, and 69.2.2.5.3.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.3.5.1** *P* **58** *L* **31** # 655

David V James JGG

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

DVJ-44
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Differential Near-End Crosstalk
==>
differential near-end crosstalk

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.3.5.1** *P* **58** *L* **36** *#* 511

Dawe, Piers — Agilent

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

Equation missing 10^(x/10) portion

SuggestedRemedy

Correct two equations

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.3.5.2** *P* **58** *L* **40** *#* 656

David V James — JGG

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

DVJ-45
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Differential Far-End Crosstalk
==>
differential far-end crosstalk

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.3.5.3** *P* **59** *L* **02** *#* 657

David V James — JGG

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

DVJ-46
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Total Differential Crosstalk
==>
Total differential crosstalk

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.3.5.4** *P* **59** *L* **12** *#* 658

David V James — JGG

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

DVJ-47
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Insertion Loss to Crosstalk Ratio (ICR)
==>
Insertion loss to crosstalk ratio (ICR)

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69** *SC* **69.3.3.5.4** *P* **59** *L* **13** *#* 512

Dawe, Piers — Agilent

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

Don't you want the product of IL and crosstalk (not the ratio) to be less than a limit?

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insertion loss to crosstalk ratio is related to the signal-to-noise ratio of the channel. Therefore, larger number are preferred.

Also, since IL(f) and PSXT(f) are expressed in dB, the difference of the two values yields the ratio, expressed in dB, of the linear equivalents.

It is the intent to edit the crosstalk specifications to have crosstalk expressed in terms of crosstalk loss (to be consistent with insertion loss).

Affected sections included
69.3.3.5
69.3.3.5.1
69.3.3.5.2
69.3.3.5.3
69.3.3.5.4

Cl **69** *SC* **69.3.3.5.4** *P* **59** *L* **13** *#* 70

Alping, Arne

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

A comma is missing

SuggestedRemedy

Change ""... from TP1 to TP2 to the total ..."" to ""... from TP1 to TP2, to the total ...""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.3.3.5.4** *P* **59** *L* **18** *#* 128

John, D'Ambrosia

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

use of calculated ICR increases ambiguity of informative channel model results. See dambrosia_01_005 for reference.

SuggestedRemedy

Use log fit of calculated ICR to compare against equation 69-20
See dambrosia_01_0705 for reference.
See dambrosia contribution for September Interim

Proposed Response *Response Status* **C**

ACCEPT.

The ICRLOG is defined to be the least mean square fit of the ICR with frequency plotted on a log scale, and is defined by Equations (69-20) through (69-24). The sums in these equations are to be performed over the range of values such that fn is in the range of frequencies for which IRC is specified.

Equation 69-20
Equation 69-21
Equation 69-22
Equation 69-23
Equation 69-24

The ICRLOG(f) at the receiver is recommended to be at least:
Equation 69-25

The equations can not be entered into the database, but are described in Page 8 of moore_c1_1005.pdf

Cl **69** *SC* **69.3.3.5.4** *P* **59** *L* **23** *#* 300

Abler, Joe IBM

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

ICR for KX and KX4 is specified to 2x the fundamental frequency, whereas the spec for KR doesn't even extend to 1x it's fundamental. This doesn't make much sense given the impact of crosstalk at higher operating ranges.

SuggestedRemedy

Extend the range for KR ICR to 6000MHz. This would have all 3 specs consistently set relative to their IL f2 parameter. Alternatively, set all 3 specs to their relative fundamental frequency (625MHz for KX, 1.5625GHz for KX4, 5.15625GHz for KR).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The upper frequency for the measurement will
be set to the Nyquist frequency of 5.15625 GHz for -KR

Cl **69** *SC* **69.4** *P* **60** *L* **08** *#* 445

Kim, Yong Broadcom

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

Delay constraints from MAC Pause versus propagation delay of 1 m PCB traces + any PHY electronics are orders of magnitude apart. This clause, while friendly, seems not relevent. If the intent is to allow re-timing, re-clocking devices, it may be approproate to add it in form of informative annex. If this is not the intent, I would prefer to see just link latency max per segment type.

SuggestedRemedy

Either 1) add informative annex, or 2) specify link max latency including PHY, or provide justification why this clause is needed.

Proposed Response *Response Status* **W**

REJECT.

Subclause 69.4 follows the spirit and style of subclause 44.3. It is needed as much for Backplane Ethernet as it was for 10-Gigabit Ethernet.

Cl **69** *SC* **69.4** *P* **60** *L* **23** # 513

Dawe, Piers Agilent

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

Need to mention 44.3, which is the normative source of this information.

SuggestedRemedy

per comment

Proposed Response *Response Status* **C**

REJECT.

Subclause 44.3 is not normative. Normative delay constraints for each sublayer are listed as part of the appropriate sublayer clause. This table, as it was in 44.3, is a summary provided for convenience.

Cl **69** *SC* **69.4** *P* **60** *L* **23** # 514

Dawe, Piers Agilent

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

Table 69-4 does little but duplicate table 44-2. Other projects are adding rows to that, and you have to edit clause 44 anyway. Marking these tables as 'informative' is misleading.

SuggestedRemedy

Refer to and modify table 44-2, remove table 69-4. Similarly for table 69-3 if practical. If you do keep them, change 'Delay Constraints' to 'delay constraints'

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Much of the content of clause 69 could be folded into clause 44. However, an independent introductory clause was created for Backplane Ethernet because of the new application space it represents and so that it would be bundled with the Backplane Ethernet PMD clauses in the multi-volume document.

In addition, Table 69-4 is not an exact duplicate of Table 44-2 since it includes the -KX, -KX4, and -KR specific PMD delay allocations. Labeling of the table as informative is consisent with the labelling of clause 44. There are no normative requirements in clause 69 as it is an introductory clause. The normative delay constraints are contained in the respective subclauses and map to PICS items.

However, the recommended case changes for the table captions will be implemented.

Cl **69** *SC* **69.5** *P* **60** *L* **47** # 218

Grow, Robert Intel

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

I think we are attempting to deprecate the term state machine (at least that was the concensus when I had to remove its use in 802.3z and 802.3ae).

SuggestedRemedy

Change to state diagram. Search on state machine and replace in all 16 occurances with appropriate gramatical correction of surrounding text.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.6** *P* **61** *L* **03** # 219

Grow, Robert Intel

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

The correct reference when refering to the standard is IEEE Std 802.3.

SuggestedRemedy

Change IEEE 802.3 to IEEE Std 802.3.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **69.6** *P* **61** *L* **10** # 515

Dawe, Piers Agilent

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

Off topic: it's not interesting (in this clause) that 100BASE-T used our current PICS notation.

SuggestedRemedy

Shorten to '... conforms to the notation and conventions of 21.6.'

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #220

Cl **69** *SC* **69.6** *P* **61** *L* **10** *#* 220
Grow, Robert Intel

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

I don't think the statement is correct. PICS conventions changed a bit, in particular the column order and the virtual elimination of free form entry. the instructions in 21.6.3 are not completely accurate for the PICS format used as columns are identified in that section by number rather than by title.

SuggestedRemedy

Either rewrite or correct 21.6 to cover both formats. Possibly

Each of the Backplane Ethernet PICS uses the notation and conventions specified in 21.6.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use text: "Each of the Backplane Ethernet PICS uses the notation and conventions specified in 21.6."

Cl **69** *SC* **Figure 69-7** *P* **59** *L* **29** *#* 215
Grow, Robert Intel

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

This regions and port type labels are very difficult to read.

SuggestedRemedy

Underlay the lables with white boxes to hide the log graph lines.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **Figure 69-1** *P* **50** *L* **28** *#* 12
Daines, Kevin

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

Defining ""GMII"" as ""1 Gigabit Media Independent Interface"" is a little awkward though not technically incorrect. I'd prefer dropping the ""1"" so the figure matches the others in the base standard.

SuggestedRemedy

See comment

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **Figure 69-2** *P* **53** *L* **07** *#* 211
Grow, Robert Intel

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

The terms <p> nad <n> are undefined.

SuggestedRemedy

Define them.

Proposed Response *Response Status* **C**

ACCEPT.

Add note Figure 69-2 that "<p> and <n> represent the positive and negative traces of the differential pair".

Cl **69** *SC* **Table 69-1** *P* **51** *L* **39** *#* 206
Grow, Robert Intel

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

Table line width between clause 51 and 70 looks too broad.

SuggestedRemedy

Check and correct.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **Table 69-1** *P* **51** *L* **46** *#* 205
Grow, Robert Intel

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

Typo 10GASE-KX.

SuggestedRemedy

Correct to 10GBASE-KX.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69** *SC* **Table 69-3** *P* **60** *L* **12** # 216

Grow, Robert Intel

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

Another problem with intermingled informative tables, also a problem for Table 69-4.

SuggestedRemedy

Move to informative annex, get publication editor approval or rewrite.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Will seek publication editor approval to keep these tables in Clause 69 so that the information content is consistent with Clause 44.

Cl **69** *SC* **Table 69-3** *P* **60** *L* **15** # 217

Grow, Robert Intel

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

As delay constraints are specified for pause operation, why isn't there a pause quanta column?

SuggestedRemedy

Add a pause_quanta collumn. Add a row for total delay and enter total bit times and the corresponding 2 for pause quanta.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Add row for total delay with a footnote (a) which reads:

"The 1000BASE-KX PMD delay includes delays associated with the backplane media. Per 31B.3.7, a station incorporating the 1000BASE-KX PHY will not begin to transmit a new frame more than two pause_quanta after the reception of a valid PAUSE frame that contains a non-zero value of pause_time, as measured at the MDI."

Cl **69A** *SC* **69A.** *P* **63** *L* # 438

Kim, Yong Broadcom

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

Please indicate whether this is Normative or Informative. If this is Normative, there are some missing specifications such as group delay, test interface to be used for conformance test set-up, etc.

SuggestedRemedy

Please indicate.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

The test procedure is normative.

Refer to comment #349

Cl **69A** *SC* **69A.** *P* **63** *L* **41** *#* 225

Grow, Robert — Intel

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

There are a lot of unexpanded, and undefined acronyms in this Annex, or the expansion/definition of the acronym follows its intial usage in text. The expansions and definitions are also scattered and difficult to find without a PDF search.

SuggestedRemedy

Add acronyms used outside this Annes to 1.5. Provide concise listing for terms only used within this annex. Provide Annex 69A first usage expansion and definition of:

DUT, self-defining if expanded. Consider changing to IUT for consistency with other clauses.

mBER, self-defining if expanded.

standard BER, improve definition by changeing sentence at p. 65 42 to read ""It is recommended that the standard BER be lower than ...".

minISIloss, not sufficiently self descriptive.

EIT, expand at first usage.

Proposed Response *Response Status* **W**

ACCEPT.

Table added defining the following terms, used exclusively in this clause:

DUT, BER_E, BER_M, BER_S, EIT, EO

Other terms and abbreviations are defined in 1.4 and 1.5 respectively.

Cl **69A** *SC* **69A.1** *P* **63** *L* *#* 627

Kundu, Aniruddha — Intel

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

Figure 69A-1: The test configuration diagram needs correction. The separate return path for optimization is not implementable. The reason is that in actual implementation, the DUT receiver, and the TX will not have a separate pins to send and receive the feedback back for optimization.

SuggestedRemedy

Direct connection back from Data (line) from input of DUT to the output data line of TX.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The connection from the receiver back to the transmitter may be implemented multiple ways. The protocol may run as intended, using the start-up protocol defined in Clause 72, or out-of-band using the registers defined in clause 45.

In the diagram, the connection from the receiver to the transmitter is logical and no specific implementation should be implied. The diagram will be updated to reflect this.

Refer to comment 259. Use of the feedback has been made optional.

Cl **69A** *SC* **69A.1** *P* **63** *L* **04** *#* 262

Brink, Robert — Agere Systems

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

This testing should be done at the maximum ppm offset excursions required by the standard (+/-100ppm)

SuggestedRemedy

Specify that the testing be done at the maximum ppm offset excursions required by the standard (+/-100ppm).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add text that states -
The transmitter reference clock shall be at least 200ppm offset from the reference clock of the device under test.

Cl **69A** *SC* **69A.1** *P* **63** *L* **06** *#* 221

Grow, Robert — Intel

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

Inappropriate tense.

SuggestedRemedy

Change ""will be"" to ""is"".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69A** *SC* **69A.1** *P* **63** *L* **16** *#* 131

John, D'Ambrosia

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

The following text is partially incorrect - "... just a form of inter-symbol interference (ISI) beyond the time range a reasonable equalizer can handle." Reflections can occur in the time range of an equalizer that may challenge the ability of an equalizer to compensate.

SuggestedRemedy

Change to the following
""... just a form of inter-symbol interference (ISI), beyond which a reasonable equalizer can handle.""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to:

"This is a form of inter-symbol interference (ISI) that is beyond what a reasonable equalizer can compensate."

Cl **69A** *SC* **69A.1** *P* **63** *L* **16** *#* 615

Beaudoin, Denis — Texas Instruments

Comment Type **T** *Comment Status* **A** *crc8*

Expected implementations of 10GBASE-KR receivers will use a Decision Feedback Equalizer (DFEs). DFEs can cause significant error propagation. The presentation szczepanek_01_0705 demonstrates the error propagation of DFEs and the 10GBASE-R PCS self-synchronous scrambler which may have a severe impact on the false packet acceptance criteria.

SuggestedRemedy

Initially identified in 10GBASE-T and later in EFM an addition of a CRC8 to the PCS layer was used to improve the protection to frames.

Follow this precedent set by 10GBASE-T and EFM and add the CRC8 protection to frames.

This will require creation of a modified 10GBASE-R PCS (new clause) for use with 10GBASE-KR.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Reference szczepanek_01_1105.pdf
It is believed that the MTTFPA is acceptable and that the optional FEC layer adopted allows for improvement in applications sensitive to this performance parameter.

Cl **69A** *SC* **69A.1** *P* **63** *L* **18** *#* 15

King, Iain

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

Talks about 'Foregn Interference'; isn't the usual
802.3 language 'Alien Crosstalk/Interference'? Not a big deal - it's meaning is still clear - just a question of consistency.

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Change text for "c" to read:
"Alien crosstalk, interference from unrelated sources such as clocks, other kinds of data, power supply noise etc.

See also: 603, 412, 132

Cl **69A** *SC* **69A.1** *P* **63** *L* **18** *#* 603

Booth, Brad Intel

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

Different uses of terminology. This draft seems to use the term "foreign" whereas "alien" is more commonly used.

SuggestedRemedy

Recommend changing the draft to use the term "alien".

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #15.

Cl **69A** *SC* **69A.1** *P* **63** *L* **19** *#* 412

Barrass, Hugh Cisco Systems

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

The second sentence appears contradictory. If a foreign noise source is using very high speed signaling then the interference could be significant. There seems to be an assumption that BPE will be the highest speed of signaling in the environment. This should be stated more clearly.

SuggestedRemedy

Change

""If the channel of interest is a very high speed channel...""

to

""If the foreign interferers use signaling at lower frequencies than Backplane Ethernet...""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove text after the first sentence.

Refer to comment #15.

Cl **69A** *SC* **69A.1** *P* **63** *L* **21** *#* 132

John, D'Ambrosia

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

""FI is likely to be of secondary importance."" This is a statement regarding impelmentation

SuggestedRemedy

Delete verbiage.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove text following the first sentence.

Refer to comment #15.

Cl **69A** *SC* **69A.1** *P* **63** *L* **35** *#* 661

David V James JGG

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

DVJ-50
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Data
==>
data

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69A** *SC* **69A.1** *P* **63** *L* **36** *#* 660

David V James JGG

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

DVJ-49
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Data
==>
data

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69A** *SC* **69A.1** *P* **63** *L* **39** *#* 256

Healey, Adam — Agere Systems

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

Additional annotations to this figure would make several concepts more clear while also creating a better relationship between this figure and supporting text.

1. Draw a box around the Frequency-Dependent Attenuator, Interference Injection Block, and Interference Generator and label this the ""compliance channel"".
2. Label the interface between the compliant transmitter block and the compliance channel as TP1, so the properties of signals output from the compliant transmitter can be specified (tied into a separate comment).
3. In addition, it would be useful to label the interface between the compliant channel and the DUT as TP4, so that signal properties at that point may be defined if necessary. It is also makes clear the relationship between this test and the IEEE P802.3ap reference model.

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69A** *SC* **69A.1** *P* **63** *L* **40** *#* 578

Ghiasi, Ali — Broadcom

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

Interference tolerance test does not stress the CDR to frequency sensitivity.

SuggestedRemedy

propose to add Sinusoidal Jitter (SJ) through the BERT to the channel with the following mask parameters
40 KHz - 5 UI
400 KHz - 0.5 UI
4 MHz - 0.1 UI

Proposed Response *Response Status* **U**

REJECT.

See Comment #259.

Sinusoidal jitter was added as an additional stress. Swept frequency sinusoidal jitter is seen as probing the CDR corner frequency, and is not seen as critical component to interoperability.

Cl **69A** *SC* **69A.1** *P* **63** *L* **41** *#* 581

Ghiasi, Ali — Broadcom

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

The channel is defined by an ideal frequency dependent attenuator.

SuggestedRemedy

The channel must be defined based on realistic impulse response. The channel sterssor can be created using an FIR filter adequately defining the channel. Current channel stressor does not resemble real hardware with discontinuity and reflections

Proposed Response *Response Status* **C**

REJECT.

The compliance channel represents the maximum loss case. Measurements of actual hardware representing this case show little passband ripple and no significant discontinuities. The commenter appears to be requesting additional stress test cases based on lower loss channels with reflections. However, the commenter does not provide enough information justifying which specific cases are "interesting" or any data that indicates if and how such a test set-up would be implemented.

Additionally, simple FIR structures can not accurately replicate the behaviour of actual backplane interconnects with or without significant reflections. The actual backplane impulse response is longer than what can be modeled with an FIR structure.

Cl **69A** *SC* **69A.1** *P* **63** *L* **42** *#* 664

David V James — JGG

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

DVJ-53
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Compliant Transmitter
==>
Compliant transmitter

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Text removed.

Cl **69A** *SC* **69A.1** *P* **63** *L* **43** # 663

David V James JGG

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

DVJ-52
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Frequency Attenuator Dependant
==>
Frequency attenuator dependant

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69A** *SC* **69A.1** *P* **63** *L* **43** # 662

David V James JGG

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

DVJ-51
Capitalization within figure callouts should be
limited to the first word, as per IEEE Style Guide.
This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Interference Injection
==>
Interference injection

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69A** *SC* **69A.1** *P* **63** *L* **52** # 665

David V James JGG

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

DVJ-54
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Interference Generator
==>
Interference generator

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69A** *SC* **69A.1** *P* **64** *L* **03** # 518

Dawe, Piers Agilent

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

It's worth pointing out which port types are required to have such BIST.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **C**

REJECT.

BIST is not required for any port type. BIST may be used in leiu of test equipment as shown in the Figure 69A-1 and as explained in the first paragraph of page 63.

Note, reference to BIST removed as part of the resolution of comment #259.

Cl **69A** *SC* **69A.1** *P* **64** *L* **05** # 299

Abler, Joe IBM

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

""The compliant transmitter can be any transmitter which is fully compliant..."" This statement can easily be interpreted to mean that the test must pass with any and all transmitters meeting the spec, which implies the user must make a determination on what the worst case transmitter setup would be. That's not the intent of the test, and in fact it's expected that a vendor would select a best case transmitter setup for the test.

SuggestedRemedy

Add additional sentences along the lines of: Only a single compliant transmitter configuration must be tested, demonstration to all possible transmitter configurations defined by the specification is not required. It is expected that vendors will generally select a transmitter performing at the ""upper end"" of the specification range (higher performing) for use in the test.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See Comment #259.

Cl **69A** *SC* **69A.1** *P* **64** *L* **05** # 259

Healey, Adam — Agere Systems

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

I am not sure that the term "compliant transmitter" is precise. What the test is looking for, I assume, is a "worst-case" compliant transmitter that pushes the boundaries of the all of the specifications that we have specified and can control.

1. The transmitter output amplitude should be constrained to 800 mVp-p, as higher output voltages may yield optimistic results
2. The transmit jitter should be pushed to the worst-case values (or a reasonable approximation thereof, such as an "equivalent" amount of sinusoidal jitter). A "clean" jitter transmitter may yield optimistic results.
3. The range and resolution of the transmit equalizer should be a close to the worst-case values allowed by the standard as possible.

Unless the transmitter is specified in this way, it is possible for a supplier to claim compliance to the specification after meeting the requirements with a "best-case" transmitter yet interoperability is not guaranteed when that device is connected to a "worst-case" transmitter.

SuggestedRemedy

Define a complete set of specification for the compliant transmitter. This will naturally be a function of the port type being tested.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See moore_03_1105

Motion #3
Accept the proposed response to Comment #259
Technical
Moved by Charles Moore
Seconded by Raj Savara

All
Yes - 9
No - 0
Abstain - 13
Motion Passes

Cl **69A** *SC* **69A.2** *P* **64** *L* **10** # 84

Weiner, Nick

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

This subclause defines the "Compliance Channel", which appears to be the block in Figure 69A-1 labeled "Frequency dependant attenuator". Assuming that I have understood this correctly .

SuggestedRemedy

Please use consistent name for the block.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The "Compliance Channel" is the combination of the frequency-dependent attenuator and the interference injection block. The figure will be re-drawn, and the supporting text modified to make this more clear.

Refer to comment 259 and 71.

Cl **69A** *SC* **69A.2** *P* **64** *L* **10** # 71

Alping, Arne

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

To be clearer define the Compliance channel in 69A.2 and add an extra subclause that defines the frequency-dependent attenuator

SuggestedRemedy

(a) Move line 8 ""The compliance channel consists of ..."" to subclause 69A.2
(b) Add an extra subclause 69A.2.1 called ""Frequency-dependent attenuator"" after 69A.2, where all text in 69A.2 describing the frequency-dependent attenuator is moved to
(c) Change name of subclause 69A.3 to 69A.2.2

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment 259
Changes in structure will be implemented and the section numbers will be made consistent with the rest of the text.

Cl **69A** *SC* **69A.2** *P* **64** *L* **11** *#* 322

Baumer, Howard — Broadcom

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

There is no return loss definition for the compliance channel. Without this how are the compliant transmitter return loss to compliance channel return loss interactions taken into account and controlled?

SuggestedRemedy

Define return loss for the compliance channel

Proposed Response *Response Status* **C**

REJECT.

Any deficiency in the return loss of the compliance channel will yield pessimistic results. It is expected that the implementer will strive for the best return loss possible to yield the good results (in the same manner that "instrument grade" loads are used to measure transmitter parametrics).

Cl **69A** *SC* **69A.2** *P* **64** *L* **13** *#* 162

Spagna, Fulvio — INTEL

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

It is not clear what the second sentence tries to say.

If the intention is to clarify that the compliance interconnect limits have been chosen to reflect the fact that a cerefully designed channel will be substantially free of ISI I propose the following rewording: ""The compliance interconnect limits have been chosen to allow a realistic approximation of the loss and ISI which a normal data link will experience under the assumption that careful design of the channel will make it substantially free of SI.""

SuggestedRemedy

Replace existing wording with proposed text.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Text removed.

Cl **69A** *SC* **69A.2** *P* **64** *L* **16** *#* 222

Grow, Robert — Intel

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

Typo?

SuggestedRemedy

Change SI to ISI.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Text removed.

Cl **69A** *SC* **69A.2** *P* **64** *L* **17** *#* 163

Spagna, Fulvio — INTEL

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

Change text from:

""The compliance channel is defined with the same Equation (69A-1) for 1000BASE-KX, 10GBASE-KX4, and 10GASE-KR but the range of applicability and the minISIloss is defined separately for each case.""

to:

""The compliance channel is defined with the same Equation (69A-1) for three port types but the range of applicability and limits are defined separately for each case (Table 70-8 for 1000 BASE-KX, Table 71-8 for 10GBASE-KX4, Table 72-8 for 10GBASE-KX).""

SuggestedRemedy

Adopt proposed text.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events (text removed). Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **17** *#* 133

John, D'Ambrosia

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

Equation 69A-1 is the same as 69-6 with same variables.
Also f1 and f2 are not defined in Annex69A, but is believed to refer back to f1 and f2 discussed in Clause 69. Use of minISIloss and ISIloss are not adequately defined. Figure 69A-2 does not agree with the statement ""The insertion loss

SuggestedRemedy

Change lines 17 to 54 sentence -
The insertion loss should be greater than or equal to Amax(f), the worst-case insertion loss limit, as described by Equation 69-6. The frequency range of interest differs for 1000BASE-KX, 10GBASE-KX4, and 10GBASE-KR, and is bounded by f1 and f2, which is defined in Table 69-2. MinISIloss is defined as the difference in magnitdue between Amax(f1) and Amax(f2). ISIloss is defined as the difference in magnitude of the the compliancy channel at f1 and f2. The ISIloss of the compliance channel shall be greater than MinISIloss.

It is possible to construct a single compliance channel that will meet the requirements for all three PHY. The insertion loss of the compliance channel above f2 shall be less than Amax(f2). The magnitude response and ISI loss limits are illustrated in Figure 69A-2.

Updated Figure 69A-2 to be provided by D'Ambrosia

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **18** *#* 136

John, D'Ambrosia

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

use of fbaud is not called out in Clauses 70 - 72

SuggestedRemedy

In table 70-7, 71-7, and 72-7, add "", fbaud"" to ""Signaling Speed"" Parameter

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change references to fbaud in Annex 69A to "signaling speed".

Refer to comment #521.

Cl **69A** *SC* **69A.2** *P* **64** *L* **19** *#* 517

Dawe, Piers Agilent

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

Need to say what you mean by minISIloss

SuggestedRemedy

Might copy back something from later in the document.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **21** *#* 103

Moore, Charles

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

Similarly with defining the main channel, small amounts of ripple may put the Compliance channel out of spec even though it is basically what we want. It will be as stressful (or more stressful because of the ripple) as the speced channel. I would like to specify a smoothed version of the compliance channel insertion loss be below the worst-case insertion loss.

SuggestedRemedy

change lines 21-23 and equation (69A-1) to:

The insertion loss of the compliance interconnect shall be generally greater than the worst-case insertion loss. This is assured by subtracting the worst-case insertion loss from the compliance interconnect insertion loss. A linear fit to the difference from F1 to F2 shall be greater than 0 from F1 to F2.

diff= IL(f)-ILmin = IL(f)-20log(e)*(b1*sqrt(f)+b2*f+b3*f^2+b4*f^3)

The general method for performing a linear fit is described in 69.3.3.2.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use moore_04_1105.doc as basis for new text.

Cl **69A** *SC* **69A.2** *P* **64** *L* **22** *#* 296

Abler, Joe IBM

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

The term "greater than" is considering absolute value of loss, which is inconsistent with the usage in section 69.3.3.2

SuggestedRemedy

Change to ""less than"". Also on line 36.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **22** *#* 311

Seemann, Brian Xilinx

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

""The insertion loss should be greater than or equal to the worst-case insertion loss limit as described by the inequality: ...""

Our normative test should be within the required operating range. This is specifying a test beyond the worst-case insertion loss limit. This is essentially an Insertion Loss to Crosstalk Ratio test. And the ICR concept presumes a trade-off between crosstalk and loss. So it is inappropriate to perform the test beyond the absolute limit of loss.

SuggestedRemedy

""The insertion loss should be no more than x dB better than, and not worse than the worst-case insertion loss limit as described by the inequality: ...""

OR

""The insertion loss should be within x dB better or worse than the worst-case insertion loss limit as described by the inequality: ...""

Proposed Response *Response Status* **C**

REJECT.

See Comment #103.
The suggested remedy is contrary to the intent of the test and it will be difficult to implement a channel that fits within reasonable tolerance bounds. Interference Tolerance Test Channel is based on qualification criteria of the LMS fit to Amax.

Cl **69A** *SC* **69A.2** *P* **64** *L* **25** *#* 86

Weiner, Nick

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

Equation 69A-1 specifies an amplitude response bound for the of the ""compliance channel"". No phase response is specified. Is a phase response spec needed?

SuggestedRemedy

Add note to the effect that the phase response is not important.
Or else include spec for phase response.

Proposed Response *Response Status* **U**

REJECT.

The phase response is important. However, the phase response for a casual channel is directly related to the magnitude response. A channel approximating Ilmax(f) in magnitude response will yield a valid phase response. Significant deviations in the magnitude response will yield corresponding deviations in the phase response. However, it is expected that the implementer will attempt to use a compliance channel with response as close to Ilmax(f) as possible to yield the best result.

Cl **69A** *SC* **69A.2** *P* **64** *L* **25** *#* 164

Spagna, Fulvio INTEL

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

The inserion loss, IL(f), needs to be compared against the template which is represented by Amin(f) and not Ilmin(f).

SuggestedRemedy

In Equation 69A-1 replace ILmin(f) with Amin(f).

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events.
See comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **25** *#* 516

Dawe, Piers — Agilent

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

IL_min has already been named: it's A_max. There is no A_min.

SuggestedRemedy

If min and max are confusing, change all three names to A_limit.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
See comment #103.

See also: 116, 323, and 87

Cl **69A** *SC* **69A.2** *P* **64** *L* **27** *#* 165

Spagna, Fulvio — INTEL

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

Reference Table 69-2 instead of redefining b1 ... b4.

SuggestedRemedy

Change text from:

""where:
IL(f) is the insertion loss at frequency f (f in Hz)
b1 = 2.25E-05
b2 = 1.20E-10
b3 = 3.50E-20
b4 = -1.25E-30""

to:

""where IL(f) is the insertion loss at frequency f (f in Hz) and b1 ... b4 are defined in Table 69-2.""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **31** *#* 519

Dawe, Piers — Agilent

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

Don't redefine b1...b4

SuggestedRemedy

Remove these four equations, refer to table 69-2.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
See comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **36** *#* 134

John, D'Ambrosia

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

reference to insertion loss being greater than or less than specification-
The insertion loss of the compliance channel above f2 should be greater than Amin(f2).

SuggestedRemedy

Change verbiage to the following -
The insertion loss of the compliance channel above f2 should be less than Amax(f2).

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **37** *#* 323

Baumer, Howard — Broadcom

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

Amin is not defined.

SuggestedRemedy

Define Amin

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
See comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **37** # 116

Andre, Szczepanek

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

Amin(f2) is referenced here but is not defined in Clauses 69 or 69a.
Should this be a reference to ILmin(f2) ?.

Amin(f) also appears in Figure 69A-2.

SuggestedRemedy

Define Amin(f2), or reference ILmin(f2) if that is what was intended.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **37** # 87

Weiner, Nick

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

""The insertion loss of the compliance channel above f2 should be greater than Amin(f2).""
However Amin() has not been defined.

SuggestedRemedy

Define Amin().

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
See comment #103.

Cl **69A** *SC* **69A.2** *P* **64** *L* **39** # 257

Healey, Adam Agere Systems

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

""is greater than minISILoss"" would read better as ""should be greater than minISILoss"".

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **65** *L* **01** # 166

Spagna, Fulvio INTEL

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

It would be helpful to show minISIloss on this graph.

SuggestedRemedy

Modify graph to show minISIlosss.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events (figure removed). Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **65** *L* **13** # 666

David V James JGG

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

DVJ-55
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Insertion Loss
==>
Insertion loss

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events (figure removed). Refer to comment #103.

Cl **69A** *SC* **69A.2** *P* **65** *L* **20** # 521

Dawe, Piers Agilent

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

'fbaud' needs defining or avoiding.

SuggestedRemedy

Suggest change to 'signaling frequency'.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"Signaling speed" is the actual parameter cited in the PMD subclauses and is the terminology that will be adopted.

Note, this figure was removed.

Cl **69A** *SC* **69A.2** *P* **65** *L* **22** *#* 520

Dawe, Piers Agilent

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

Figure caption could be misleading: need to say it's the test channel not a service channel.

SuggestedRemedy

Change to e.g. 'Response and limits of example compliance channel'

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
Refer to Comment #103. Figure will need to be updated to be consistent with new text.

Any example data in new figures will be labeled as "example" in the respective figure.

Note, the figure was removed as the text definition was felt to be sufficiently clear.

Cl **69A** *SC* **69A.2** *P* **69** *L* **22** *#* 118

Andre, Szczepanek

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

The use of Interference Tolerance testing is now manadatory, but the wording in the clause predominantly uses ""should"" and ""can"".

Eg. Line 69: ""The insertion loss should be greater than or equal to the worst-case insertion loss limit...""
So its OK to measure the mandatory interference tolerance test parameters without meeting this then ?

Also on line 5: ""The compliant transmitter can be any transmitter which is fully compliant to the specifications for the respective port type"".

Line 36: ""The insertion loss of the compliance channel above f2 should be greater than ...""

SuggestedRemedy

""The insertion loss shall be greater than or equal to the worst-case insertion loss limit...""

""The compliant transmitter shall be a transmitter which is fully compliant to the specifications for the respective port type"".

""The insertion loss of the compliance channel above f2 shall be greater than ...""

Check all ""should""s in clause 69A to see it they need to be shalls.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #349

Cl **69A** *SC* **69A.3** *P* **65** *L* **27** *#* 324

Baumer, Howard Broadcom

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

Missing "of"

SuggestedRemedy

Change " be a pair directional " to " be a pair of directional "

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69A** *SC* **69A.3** *P* **65** *L* **27** # 167

Spagna, Fulvio INTEL

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

Since the requirement for the compliance channel is that IL(f) >= Amin(f) this does not pose any practical constraint on how small the insertion loss of the Interference Injection Block.

SuggestedRemedy

Change text from:

""This block may be a pair directional couplers, a pair of pick-off tees, or any other component, as long as it passes data with sufficiently small loss so that the combination of the interference injection block and the frequency-dependent attenuator satisfies the requirements of the compliance channel. It should also be capable of injecting differential interference large enough to cause a BER of at least 10E-4.""

to:

""This block may be a pair directional couplers, a pair of pick-off tees, or any other component, as long as it allows injecting differential interference large enough to cause a BER of at least 10E-4.""

Proposed Response *Response Status* **W**

REJECT.

As stated in 69A.1, "The compliance channel consists of a frequency-dependent attenuator and an interference injection block." The insertion loss limits apply to the compliance channel, and not the frequency-dependent attenuation alone.

Cl **69A** *SC* **69A.3** *P* **66** *L* **06** # 168

Spagna, Fulvio INTEL

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

Reword sentence.

SuggestedRemedy

Change text from:

""With the interference generator amplitude still zero or very low, establish that the BER measured by either the BERT or the DUT BIST (mBER) is very low.""

to:

""With the interference generator amplitude still zero or very low, establish that the measured BER, mBER, as reported by the BERT or the DUT BIST is very low.""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This part of the procedure is simply a "sanity check" and not a critical element of the methodology. It will be assumed that the implementer will include their own "sanity checks".

Delete the paragraph starting at page 66, line 7.

Cl **69A** *SC* **69A.3** *P* **66** *L* **21** # 169

Spagna, Fulvio INTEL

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

Log(mBER) is a negative number so taking the square root of Log(mBER) is not appropriate.

SuggestedRemedy

Will be presented in a separate ppt at the September meeting.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events.
Refer to comment 106.

Cl **69A** *SC* **69A.3** *P* **67** *L* **21** *#* 227

Grow, Robert Intel

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

Not sure if we got peak-to-peak units accepted in the Sponsor balloting of REVam.

SuggestedRemedy

Check if mVp-p is in REVam and change if inconsistent.

Proposed Response *Response Status* **C**

ACCEPT.

Correct form is mVpk-pk.

Cl **69A** *SC* **69A.3.3.5** *P* **59** *L* **11** *#* 105

Moore, Charles

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

ICR spec is largely guesswork. We should tie the spec to the Receiver Interference Tolerance test. I will present on this at the September meeting.

SuggestedRemedy

Will provide text ind diagrams if needed as part of presentaiton.

Proposed Response *Response Status* **U**

REJECT.

Straw Poll -
Option A - Increase EIT specification by 3 dB
Option B - 3 dB offset to ICR (replace in 12.5 in ICR equation to 15.5)
Option C - Reduce attenuation of Amax by 2dB at Nyquist (scale all coefficients of Amax equation by 24/26), increase EIT by 3dB
Option D - No change at this time

Option A - 0
Option B - 6
Option C - 2
Option D - 15

The Task Force invites the commenter to submit specific changes and additional justification for the changes.

Cl **69A** *SC* **69A.4** *P* **65** *L* **34** *#* 100

Gao, Xiao Ming Intel

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

Line 34-37
The interference generation using sweep sine waves is not an accurate simulation of real-world crosstalk interferences.

SuggestedRemedy

New interference generation methods need to be investigated. The methods must be accurate and practical to implement in testing.

Proposed Response *Response Status* **C**

REJECT.

The test in not intended to be a precise simulation of real world interference. Rather, it is a method to verify that the receiver has sufficient margin to tolerate real world interference in the actual application. A sine wave was chosen as it is practical to implement in testing and readily calibrated.

No suggested remedy is provided by the commenter.

Cl **69A** *SC* **69A.4** *P* **65** *L* **35** *#* 302

Abler, Joe IBM

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

Since measurements are taken at fbaud, the phase of the interference relative to the data will have a difference on results. There is no specification on the phase relationship

SuggestedRemedy

Add an additional statement: The path of the interfering signal to the DUT should be calibrated at fbaud such that the interfering signal is in phase with the Data.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

It is not desirable to have a synchronous relationship between the sinusoidal interferer and the victim.

Replace first sentence in the paragraph beginning on page 66, line 27 with:

"The frequency of the inteference generator is then stepped from f1 to the signaling speed of the port type under test. The step size shall be selected so that no samples fall at integer submultiples of the signaling speed."

Cl **69A** *SC* **69A.4** *P* **65** *L* **36** *#* 628

Kundu, Aniruddha Intel

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

Iterference generator needs to add a phase shift to the variable amplitude as well to create random noise environment.

SuggestedRemedy

Add the following text: ... "from f1 to fbaud with adjustable amplitude from with adjustable amplitude" to "from f1 to fbaud with adjustable amplitude from with adjustable amplitude and phase shift"

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

To test the receiver with interference at all phase positions, the interference will be asynchronous.

Refer to comment #302

Cl **69A** *SC* **69A.4** *P* **65** *L* **36** *#* 325

Baumer, Howard Broadcom

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

What is meant by accurately? 10%, 25%, 0.00001%?

SuggestedRemedy

Define accurately

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change second sentence of 69A.4 to read:

"The path of the interfering signal to the DUT should be calibrated so that the amplitude of interference at the DUT will be known to an
accuracy of at least 0.5 dB."

Cl **69A** *SC* **69A.4** *P* **65** *L* **36** *#* 326

Baumer, Howard Broadcom

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

There is no defined method on how to combine the interference signal and the attenuated data signal

SuggestedRemedy

Define a method

Proposed Response *Response Status* **C**

REJECT.

69A.3 implies a couple of methods for combining signal and interference. In addition, the exact method of combining the two signals is irrelevant so long as the requirements of this annex are met. To define a specific method is an unnecessary implementation constraint.

Cl **69A** *SC* **69A.5** *P* **64** *L* **21** *#* 104

Moore, Charles

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

If a large number of data points are measured in the iterference tolerance plot the minimum of the plot represent a BER significantly lower than the standard BER. To compensate for this, extrapolate to a target BER greater than 1e-12.

SuggestedRemedy

add text:

Define a target BER based on the system target spec of 1e-12. This target will be higher than 1e-12 by the number of sample points within each region of the frequency range of the test. The number of regions is taken to be 10.

target BER = 1e-12 * N/10

where N is the total number of equally spaced frequencies where interference tolerance is measured.

(also change any reference to BER of 1e-12 in the description of the extrapolation to ""target BER"")

Proposed Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **69A** *SC* **69A.5** *P* **65** *L* **42** # 327

Baumer, Howard Broadcom

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

Inconsistant wording: using "error rates" for "standard BER"

SuggestedRemedy

Replace "error rates" with "standard BER"

Proposed Response *Response Status* **C**

REJECT.

Error rate is how many errors there are in an amount of time.

BER is Bit Error Ratio, the ratio of error rate to signaling speed (refer to 1.4.47 in 802.3-2002)

The existing text uses the terms correctly.

Cl **69A** *SC* **69A.5** *P* **65** *L* **47** # 261

Brink, Robert Agere Systems

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

Need to precisely specify that the interference generator be off rather than ""off or a very low value""

Also applies to page 66 line 7

SuggestedRemedy

Specify interference generator OFF

eliminate ""or a very low value""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Define the interference generator to be "off" and define what "off" means.

Change text to:

"To measure interference tolerance, first turn interference generator off (interference is less than 5 mVp-p) and allow the compliant transmitter and the DUT to complete auto-negotiation (if enabled) and, for 10GBASE-KR, training (if enabled)."

Cl **69A** *SC* **69A.5** *P* **66** *L* **01** # 328

Baumer, Howard Broadcom

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

Un-needed and confusing wording

SuggestedRemedy

Replace "So the compliant transmitter accepts data" with "data accepted"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

References to BERT and BIST removed per the response to comment #259.

Cl **69A** *SC* **69A.5** *P* **66** *L* **04** # 330

Baumer, Howard Broadcom

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

Un-needed and confusing wording

SuggestedRemedy

Change "So the Compliant Transmitter transmits a ..." to "A .."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

References to BERT and BIST removed per the response to comment #259.

Cl **69A** *SC* **69A.5** *P* **66** *L* **04** # 329

Baumer, Howard Broadcom

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

Missing "or"

SuggestedRemedy

Add the line "or" above line 4, option b).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

References to BERT and BIST removed per the response to comment #259.

Cl **69A** *SC* **69A.5** *P* **66** *L* **08** # 331

Baumer, Howard Broadcom

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

What is meant by "very low"? 10^-10, 10^-11, 10^-15, 10^-378.56? and how many seconds are "several seconds"?

SuggestedRemedy

Define "very low" and "several seconds"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Paragraph deleted. Refer to comment #168.

Cl **69A** *SC* **69A.5** *P* **66** *L* **16** # 226

Grow, Robert Intel

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

Unnecessary abreviation.

SuggestedRemedy

Change p-p to peak-to-peak here and in following line.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69A** *SC* **69A.5** *P* **66** *L* **21** # 332

Baumer, Howard Broadcom

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

This equation does not match Figure 69A-3. Equation says sqrt(log(mBER)) whereas the figure shows BER

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The vertical axis is BER on a logarithmic scale. However, the equation is in error and the figure will be updated to reflect the corrected equation as necessary.

Refer to 106.

Cl **69A** *SC* **69A.5** *P* **66** *L* **21** # 81

Altmann, Michael Intel

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

The formula for plotting is sqrt(log(mBER)). For normal operational BE rates, this yields an imaginary number

SuggestedRemedy

SuggestedRemedy: Change formula to log(mBER)

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
Refer to comment 106.

Cl **69A** *SC* **69A.5** *P* **66** *L* **21** *#* 106

Moore, Charles

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

Method described to extrapolate from standard BER to 1e-12 is

1. likely to difficult to impliment by some
2. not the only valid way, or even necessarily the best
3. as written, mathematically nonsense since it involves taking the square root of a negative number.

SuggestedRemedy

Require extrapolation to BER=1e-12 but only suggest a method, not prescribe one.

Try:

Extrapolate the interference-BER data to a BER of 1e-12. The difference between the interference at standard BER and the extrapolated value at 1e-12 is the extrapolation off-set. The extrapolation can be done several ways. Fitting the tail of the interference-BER data using a quadratic in interference to match the log of BER is one. This is illustrated in figure (69A-3)

(i will provide point pairs for the plot)

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace paragraph starting at Line 21 on Page 66 with the following

Extrapolate the interference-BER data to a BER of 10-12. The difference between the interference at standard BER and the extrapolated value at 10-12 is the extrapolation off-set (EO). It is recommended that the extrapolation be accomplished by a linear LMS fit of the logbase10 of the data from a BER of 3*standard BER to a BER of 10-6.

Note - the editor will put log in correct form to communicate logbase10.

Correct Fig 69A-3 to match the modified text.

See also: 81, 332, 333, 335

Cl **69A** *SC* **69A.5** *P* **66** *L* **23** *#* 335

Baumer, Howard Broadcom

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

Extrapolation method isn"t defined.

SuggestedRemedy

Define the extrpolation method

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #106

Cl **69A** *SC* **69A.5** *P* **66** *L* **23** *#* 334

Baumer, Howard Broadcom

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

Repeated word "data"

SuggestedRemedy

Delete on of the "data"s

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69A** *SC* **69A.5** *P* **66** *L* **23** *#* 333

Baumer, Howard Broadcom

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

Linear part of the data isn"t defined.

SuggestedRemedy

Define which points are the liniear part of the data

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #106.

Cl **69A** *SC* **69A.5** *P* **66** *L* **23** *#* 228
Grow, Robert Intel

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

SuggestedRemedy
Change ""data data"" to ""data"".

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

Cl **69A** *SC* **69A.5** *P* **66** *L* **23** *#* 232
Dudek, Mike Picolight

Comment Type **E** *Comment Status* **A**
duplicate word ""data""

SuggestedRemedy
Remove one data.

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

Cl **69A** *SC* **69A.5** *P* **66** *L* **27** *#* 301
Abler, Joe IBM

Comment Type **T** *Comment Status* **R**
There's no definition of how many samples should be taken

SuggestedRemedy
Define a minimum of 20 samples equally spaced between f1 and fbaud

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

This test is analogous to a jitter tolerance test in which continuous limit is specified for a test that is only measured at discrete points.

It is the responsibililty of the implementer to select those frequencies which, for a given design, guarantee coverage of the whole space.

Cl **69A** *SC* **69A.5** *P* **66** *L* **28** *#* 336
Baumer, Howard Broadcom

Comment Type **E** *Comment Status* **A**
Missing "an"

SuggestedRemedy
Change "give mBER = standard BER." to "give an mBER = the standard BER."

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

Cl **69A** *SC* **69A.5** *P* **66** *L* **28** *#* 337
Baumer, Howard Broadcom

Comment Type **E** *Comment Status* **A**
Missing "the"

SuggestedRemedy
Change "At each frequency extrapolated" to "At each frequency the extrapolated"

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

Cl **69A** *SC* **69A.5** *P* **66** *L* **29** *#* 338
Baumer, Howard Broadcom

Comment Type **E** *Comment Status* **A**
Wrong tense

SuggestedRemedy
Change "give" to "gave"

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

Cl **69A** *SC* **69A.5** *P* **66** *L* **34** *#* 339

Baumer, Howard — Broadcom

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

Overlaping frequency ranges

SuggestedRemedy

Change "f1<=f<fbaud" to "f1<=f<0.6fbaud"

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 303.

Cl **69A** *SC* **69A.5** *P* **66** *L* **34** *#* 108

Liu, Cathy

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

Should ""EIT Baseline EITbase, for f1 = .f<fbaud"" be ""EIT Baseline EITbase, for f1 = .f< 0.6*fbaud""?

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 303.

Cl **69A** *SC* **69A.5** *P* **66** *L* **34** *#* 88

Weiner, Nick

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

First of the two equations defining EIT baseline does so over a range that overlaps with that of the second.

SuggestedRemedy

I believe the top end of range was intended to be 0.6fbaud.

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 303.

Cl **69A** *SC* **69A.5** *P* **66** *L* **34** *#* 340

Baumer, Howard — Broadcom

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

Improper IEEE formatting

SuggestedRemedy

Label the equations on line 34 and 36 with the standard IEEE equation format

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69A** *SC* **69A.5** *P* **66** *L* **34** *#* 229

Grow, Robert — Intel

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

These should be formatted as equations.

SuggestedRemedy

Per comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **69A** *SC* **69A.5** *P* **66** *L* **34** *#* 231

Dudek, Mike — Picolight

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

EIT baseleine equation condition seems wrong (conflicting numbers for f>0.6fbaud)

SuggestedRemedy

Change to EIT Baseleine = EITbase, for f1<=f<=0.6fbaud

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment 303.

Cl **69A** *SC* **69A.5** *P* **66** *L* **34** *#* 303

Abler, Joe IBM

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

freq range is wrong

SuggestedRemedy

change range from f1 to 0.6fbaud

Proposed Response *Response Status* **C**

ACCEPT.

See also: 339, 108, 231, 88

Cl **69A** *SC* **69A.5** *P* **66** *L* **36** *#* 230

Grow, Robert Intel

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

Inconsistent capitalization

SuggestedRemedy

Be consistent EIT Baseline or EIT baseline.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use "EITbaseline" here and throughout.

Cl **69A** *SC* **69A.5** *P* **66** *L* **40** *#* 85

Weiner, Nick

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

I found the sentence..
""The difference between the EIT baseline and EIT for lowest EIT relative to the EIT baseline is the baseline relative EIT (BREIT).""
rather difficult to read.

SuggestedRemedy

If I have grasped it correctly, how about something along the lines of ...
""The smallest difference between the EIT and the EIT baseline is the baseline relative EIT (BREIT).""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use of the "smallest difference" is not appropriate since BREIT can be negative.

Replace:
"The difference between the EIT baseline and EIT for lowest EIT relative to the EIT baseline is the baseline relative EIT (BREIT). BREIT is reported as the result for the interference
tolerance test."

With:
"At each sample EIT shall be greater than EIT baseline."

In addition, eliminate BREIT from table 70-8, 71-8, 72-10.

Cl **69A** *SC* **69A.5** *P* **67** *L* **08** *#* 667

David V James JGG

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

DVJ-56
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Extrapolation Offset
==>
Extrapolation offset

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69A** *SC* **69A.5** *P* **67** *L* **43** *#* 668

David V James JGG

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

DVJ-57
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Interference Amplitude
==>
Interference amplitude

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Text no longer in new version of figure

Cl **69A** *SC* **69A.5** *P* **67** *L* **51** *#* 669

David V James JGG

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

DVJ-58
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Extrapolated Interference Tolerance
==>
Extrapolated interference tolerance

Proposed Response *Response Status* **W**

ACCEPT.

Cl **69A** *SC* **69A.5** *P* **69** *L* **02** *#* 670

David V James JGG

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

DVJ-59
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Physical Medium Dependent Sublayer and Baseband Medium,
==>
Physical medium dependent sublayer and baseband medium,

Proposed Response *Response Status* **W**

REJECT.

See comment #742

Cl **69A** *SC* **Figure 69A-2** *P* **65** *L* **15** *#* 223

Grow, Robert Intel

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

Busy and difficult to understand chart. It isn't clear from the figure or did I find it clear in the text where the acceptance region is. Is it bounded by the box (IL(f2), f1, f2), the Amin line, or the plotted line?

SuggestedRemedy

Clarify at a minimum with text or better by perhaps shading the aceptance region. Label the measurment line.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events (figure removed). Refer to comment #103.

Cl **69A** *SC* **Figure 69A-2** *P* **65** *L* **22** *#* 224

Grow, Robert Intel

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

It should be clearer what is example content in the figures. I find similar ambiguity in Figures 69A-3 and 69A-4.

SuggestedRemedy

Add example to the Figure title and/or label the plot lines that are examples of a test measurement as as being such.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events (figure removed). Refer to comment #103.

Cl **70** *SC* **70.1** *P* **69** *L* **07** *#* 32

Marris, Arthur

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

Grammar, replace ""PMA, PMD is"" with ""PMA and PMD are"", also consider deleting "",or equivalent"".

SuggestedRemedy

Change ""In order to form a complete PHY (physical layer device), a PCS, PMA, PMD is combined with the management functions which are optionally accessible through the management interface defined in Clause 45, or equivalent."" to ""In order to form a complete PHY (physical layer device), a PCS, PMA and PMD are combined with the management functions which are optionally accessible through the management interface defined in Clause 45.""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.1** *P* **69** *L* **09** *#* 433

Barrass, Hugh Cisco Systems

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

A 1Gbps MAC device (interfacing using GMII) would most likely prefer to use a Clause 22 MDIO interface.

SuggestedRemedy

Change ""Clause 45,"" to ""Clause 45, Clause 22,""

Proposed Response *Response Status* **C**

REJECT.

Refer to comment #431.

Cl **70** *SC* **70.1** *P* **69** *L* **12** *#* 525

Dawe, Piers Agilent

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

Table does not list (the complete set of) physical layer clauses associated with the 1000BASE-KX PMD. Note text at line 8.

SuggestedRemedy

Change to 'PHY (physical layer device) clauses associated ...' Similarly in clauses 71, 72.

Proposed Response *Response Status* **W**

REJECT.

The RS and XGMII, PCS, PMA, and PMD do constitute a complete PHY.

The title of the Table states that the contents are the clauses associated with the 1000BASE-KX PMD. Addtion of the word "device" does not appear to add any clarity or value.

Cl **70** *SC* **70.2** *P* **69** *L* **26** *#* 671

David V James JGG

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

DVJ-60
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Physical Medium Dependent (PMD) Service Interface
==>
Physical medium dependent (PMD) service interface

Proposed Response *Response Status* **W**

REJECT.

See comment #742

Cl **70** *SC* **70.2** *P* **69** *L* **27** *#* 545

Grow, Robert Intel

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

Delete the summary of the service interface.

SuggestedRemedy

Per comment, also need to update p. 70 l. 27. Make corresponding changes in Clauses 71 and 72.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.3** *P* **69** *L* **36** # 672

David V James JGG

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

DVJ-61
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Delay Constraints
==>
Delay constraints

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.3** *P* **69** *L* **43** # 522

Dawe, Piers Agilent

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

PMD implementer can't know how much the 'media delay' is, he doesn't control the size of his customer's backplane!.

SuggestedRemedy

Either; leave out the delay of the medium, like CX4; or (perhaps not very accurate) leave in a defined length of medium, like the optical PMDs. Similarly in clauses 71, 72.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Assume a medium delay of 80 BT at 10GBASE-KR. Scale this delay for the 1000BASE-KX (8) and 10GBASE-KX4 (20) speeds.

In each subclause change requirement to read,"the sum of transmit and receive delays contributed by the XXX PMD shall be no more than YYY bit times. It is assumed that the delay through the medium is ZZZ bit times."

XXX = 1000BASE-KX, YYY = 24, ZZZ = 8
XXX = 10GBASE-KX4, YYY = 492, ZZZ = 20
XXX = 10GBASE-KR, YYY = 432, ZZZ = 80

Correct Table 69-3 to indicate "1000BASE-KX PMD and medium"

Correct Table 69-4 to indicate "10GBASE-KX4 PMD and medium" and "10GBASE-KR PMD and medium"

Cl **70** *SC* **70.4** *P* **69** *L* **49** # 546

Grow, Robert Intel

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

Grammar.

SuggestedRemedy

If the MDIO is implemented...
Make corresponding changes in Clauses 71 and 72.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.4** *P* **70** *L* **05** *#* 98

Healey, Adam

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

The MDIO/PMD status and control variable mappings for 1000BASE-KX are broken. Registers 1.8, 1.9, and 1.10 are currently 10G specific and text associated with these registers provides no guidance on how to support 1000BASE-KX operation.

SuggestedRemedy

1. Modify the definition of 1.8, 1.9, and 1.10 to be more generic so that 1000BASE-KX behavior is included.

-or-

2. Define a new set of register(s) that mirrors the functions of the bits in 1.8, 1.9, and 1.10, but for the 1000BASE-KX port type (or perhaps 1G port types in general) and redefine the mapping accordingly.

For both solutions, modifications to both clause 45 and clause 70 are required.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add two new registers to clause 45 and reference the relevant bits in clause 70.

1.160 1000BASE-KX control
1.161 1000BASE-KX status

Bit definitions
1.160.0 PMD transmit disable 1 = Disable transmitter output, 0 = Enable transmitter output

1.161.13 Transmit fault ability 1 = PMA/PMD has the ability to detect a fault condition on the transmit path

1.161.12 Receive fault ability 1 = PMA/PMD has the ability to detect a fault condition on the receive path

1.161.11 Transmit fault 1 = Fault condition on transmit path, 0 = No fault condition on transmit path

1.161.10 Receive fault 1 = Fault condition on receive path, 0 = No fault condition on receive path

1.161.8 PMD transmit disable ability 1 = PMD has the ability to disable the transmit path, 0 = PMD does not have the ability to disable the transmit path

1.161.0 Signal detect signal from PMD 1 = PMD has asserted signal detect

Cl **70** *SC* **70.5** *P* **70** *L* **25** *#* 673

David V James JGG

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

DVJ-62
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Functional Specifications
==>
PMD functional specifications

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.5** *P* **70** *L* **27** *#* 547

Grow, Robert Intel

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

The service interface definitions aren't in 70.2, at most, only a summary.

SuggestedRemedy

The 1000BASE-KX PMD performs three functions, Transmit, Receive, and Signal Detect in support of the matching service interface primitives of 38.1.1.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.5** *P* **70** *L* **37** *#* 21

Abbott, John

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

Section 70.5.1 p. 70 lines 37-38 states a recommendation that "it is therefore recommended that this path be carefully designed to achieve an accurate measurement." Some thought should be given to the possibility of an informative annex or other reference explaining how to determine if the measurement is accurate or whether there are general design principles which can be used as an example. This same wording also occurs on p.106 in 72.5.1

SuggestedRemedy

Include a reference or example showing the need for careful design and a possible approach (at a minimum a previous standard where the same wording is used)

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #523

Cl **70** *SC* **70.5** *P* **70** *L* **54** *#* 674

David V James JGG

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

DVJ-63
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Link Block Diagram
==>
Link block diagram

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.5.1** *P* **70** *L* **37** *#* 523

Dawe, Piers Agilent

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

Agree with issue, disagree with reason. Anything behind TP1 or TP4 is part of the PMD under test, so the measurement is accurate. But performance might be bad.

SuggestedRemedy

Change to 'The electrical path from the transmitter block to TP1, and from TP4 to the receiver block, will affect link performance and the measured values of electrical parameters used to verify conformance to this specification. It is therefore recommended that this path be carefully designed.' Similarly in clauses 71, 72.

Proposed Response *Response Status* **C**

ACCEPT.

Related comments: #21, 523

Cl **70** *SC* **70.5.1** *P* **70** *L* **40** *#* 233

Dudek, Mike Picolight

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

TP1 and TP4 position isn't specified exactly. This also applies to 71.5.1 and 72.5.1

SuggestedRemedy

Add an extra paragraph. TP1 and TP4 are after a separateable connector (ie the Tx includes the effect of this separable connector, whereas the receiver does not).

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.5.1** *P* **70** *L* **40** *#* 72

Alping, Arne

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

Figure 70-1 looks fuzzy, probably due to jpg coded picture; change to gif format

SuggestedRemedy

Use gif format for Figure 70-1

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The fig has been redrawn in Frame.

Cl **70** *SC* **70.5.1** *P* **70** *L* **41** *#* 524

Dawe, Piers Agilent

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

Something wrong with figure 70-1: poor quality, can't select text. Seems to be a kind of bitmap not a vector/text figure.

SuggestedRemedy

Translate the figure a different way or start again from figure 69-2. Similarly in clauses 71, 72.

Proposed Response *Response Status* **C**

ACCEPT.

Figures have been redrawn in Frame.

Cl **70** *SC* **70.5.2** *P* **71** *L* **04** *#* 548

Grow, Robert Intel

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

Grammar

SuggestedRemedy

""according to the electrical specifications"", or as it is in Clause 72 according to the specifications""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.5.4** *P* **71** *L* **23** # 549

Grow, Robert Intel

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

Appears to be a white line on DETECT.

SuggestedRemedy

Check FrameMaker source to verify if this is a pdf problem or something in the source.

Proposed Response *Response Status* **C**

ACCEPT.

Artifact has disappeared . Could not find anything in the frame file.

Cl **70** *SC* **70.5.4** *P* **71** *L* **24** # 141

John, D'Ambrosia

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

use of 1000BASE-X

SuggestedRemedy

replace with 1000BASE-KX

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.5.4** *P* **71** *L* **24** # 341

Baumer, Howard Broadcom

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

Conflict between text wording and Table 70-4 wording. Text says SIGNAL_DETECT doesn"t have to check for a compliant 1000BASE-X signal, however, the table does.

SuggestedRemedy

Pick one and make the text and table match

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #94.

Related comments: #94, 341, 342, 343, 568, 570, 170.

Cl **70** *SC* **70.5.4** *P* **71** *L* **32** # 170

Spagna, Fulvio INTEL

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

Text (line 24, page 71) indicates that ""The PMD receiver is not required to verify whether a compliant 1000BASE-X signal is being received."" Table 70-4 indicates that this is a requirement. Also, Table 70-4 references a parameter, Minimum Differential sensitivity which is nowhere defined.

SuggestedRemedy

Remove ""AND compliant 1000BASE-X input signa al"" from the first row in Table 70-4.

Add ""Minimum Differential Sensitivity"" parameter to Table 70-7

- OR -

Replace ""Minimum Differential Sensitivity"" in Table 70-4 with a hard limit.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Signal detect was removed. See #94

Cl **70** *SC* **70.5.4** *P* **71** *L* **33** *#* 94

Healey, Adam

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

SIGNAL_DETECT is defined to be set to OK when the input voltage exceeds the minimum differential sensitivity. However the minimum differential sensitivity is not defined.

Also, the signal detect definition for 10GBASE-KX4 is much more clearly defind than the 1000BASE-KX version, for no obvious reason.

SuggestedRemedy

While signal detect is an optional feature, it needs to be defined completely, or removed from the specification entirely.

To solidify the definition, it would seem appropriate to leverage the 10GBASE-KX4 SIGNAL_DETECT definition, and define 1000BASE-KX specific values for "SIGNAL_DETECT = OK" level and "SIGNAL_DETECT = FAIL" level.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete existing definition.
The signal detect function will not be defined for 1000BASE-KX, 10GBASE-KX4, and 10GBASE-KR.

The value of signal detect, "SIGNAL_DETECT" will be set to "OK" for purposes of management and signaling of the primitive.

Related comments: #94, 341, 342, 343, 568, 570, 170.

Cl **70** *SC* **70.5.4** *P* **71** *L* **33** *#* 342

Baumer, Howard Broadcom

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

Vinput is not defined anywhere

SuggestedRemedy

Define Vinput

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #94.

Related comments: #94, 341, 342, 343, 568, 570, and 170.

Cl **70** *SC* **70.5.4** *P* **71** *L* **34** *#* 570

Grow, Robert Intel

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

""compliant 1000BASE-X signal input"" is not defined, especially since 1000BASE-X is an aggregation of port types using the same PCS.

SuggestedRemedy

Define what it is either in supporting text or by reference.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #94.

Related comments: #94, 341, 342, 343, 568, 570, and 170.

Cl **70** *SC* **70.5.4** *P* **71** *L* **38** *#* 343

Baumer, Howard Broadcom

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

Note claims SIGNAL_DETECT may not activate with an "1010à" pattern, however, there is no specific threshold defined for SIGNAL_DETECT therefore claim can"t be made.

SuggestedRemedy

Delete note

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #94.

Related comments: #94, 341, 342, 343, 568, 570, and 170.

Cl **70** *SC* **70.5.5** *P* **71** *L* **46** *#* 675

David V James JGG

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

DVJ-64
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Transmit Disable Function
==>
PMD transmit disable function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.5.5** *P* **71** *L* **50** # 247

Dudek, Mike — Picolight

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

The Transmit disable requires the signal to be turned off such that the output does not exceed the max signal in Table 70-5. The only max signal in table 70-5 is 1600mV which is obviously wrong. The same problem applies to table 71-5 and table 72-7

SuggestedRemedy

Add extra linea to tablea 70-5,71-5, and 72-7 for Tx disable max output.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace text with -
"When a Global_PMD_transmit_disable variable is set to ONE, this function shall turn off the transmitter such that the transmitter drives a constant level (i.e. no transitions)."

It is assumed that 76.1.5 will cover the relevant requirements for transmitter output amplitude.

Related comments: #247, 344

Cl **70** *SC* **70.5.5** *P* **71** *L* **52** # 344

Baumer, Howard — Broadcom

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

Reference is made to Table 70-3, however, sub-clause 70.6.1.4 is what sets the PICS compliance with its "shall". The reference should be to the sub-clause.

SuggestedRemedy

Change "voltage in Table 70-5." to "voltage in section 70.6.1.4."

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to Comment #247.

Related comments: #247, 344

Cl **70** *SC* **70.5.6** *P* **72** *L* **02** # 676

David V James — JGG

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

DVJ-65
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Loopback Mode
==>
Loopback mode

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.5.6** *P* **72** *L* **03** # 435

Kim, Yong — Broadcom

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

Multiple problems in this clause.
1. Loopback SHALL be implimented, but method of implementing loopback mode is not defined by this standard -- SHALL is a keyword for PICS, and if the feature can be tested via conformance test point, it will.
2. "Transimitter shall not be disabled when loopback is enabled". "Asserting the transmit disable bit shall deactivate the transmitter output" contradicts each other, and they both use SHALL. Which is it?

SuggestedRemedy

1. Need to remove SHALL or specify HOW loopback is implimented.
2. Fix the contradiction by removing one of the shall, e.g. Transmitter should not be disabled... transmit disable bit shall deactivate the transmitter output.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

1. The requirement for PMD loopback is that the transmit requests be shunted directly to the receiver, overriding any signal at the receiver input. The precise loopback path cannot be specified as there is no way to verify it based on externally available signals.

The real issue is that the PMA service interface is the closest exposed interface and this leaves ambiguity as to where the loopback is actually occuring (it could be in the PMA).

Loopback mode will remain normative.
Change "Loopback mode shall be provided for the 1000BASE-KX PMA / PMD."
Note- The exact loopback path is not specified.

2. The intention of this text is to decouple the operation of loopback and transmit disable. The behavior of transmit disable is independent of the state of loopback (i.e. the transmitter will not be disabled by the act of activating loopback). If transmit disable is not asserted, then the transmitter will transmit even when in loopback. This text could be improved to communicate this concept better.

Change Text -
The transmitter shall not be disabled when loopback mode is enabled. Asserting the transmit disable bit shall deactivate the transmitter output.

To

"Transmitter operation shall be independent of loopback mode."

Review relevant PICS.

Related comments: #344, #435

Cl **70** *SC* **70.5.6** *P* **72** *L* **13** # 571

Grow, Robert — Intel

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

The use of transmitter and receiver in specifying the loopback is inappropriate. Loopback occurs from the transmitter block and the receiver block, presumably, the transmitter and receiver only being subsets thereof.

SuggestedRemedy

Add block when describing the loopback function. Clarify in line 6 that it is the transitions of SL<p> and SL<n> that are not disabled in loopback mode. Clarify that disable affects the block and the SL signal transitions.
Make consistent changes in 71.5.8 and 72.5.6.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add the word "block" to transmit and receive references. Other two items addressed by comment #344.

Related comments: #344, #435

Cl **70** *SC* **70.6** *P* **72** *L* **37** # 677

David V James — JGG

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

DVJ-66
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

1000BASE-KX Electrical Characteristics
==>
1000BASE-KX electrical characteristics

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6** *P* **75** *L* **52** # 20

Abbott, John

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

In 70.6.1.6 lines 52-53 there is a reference to output impedance and reference impedance. Can a reference to where these are defined in the standard be included here?

SuggestedRemedy

Either define output impedance and reference impedance or give a reference to where they are defined.

Proposed Response *Response Status* **C**

REJECT.

Output impedance is generally understood to be a property of the transmitter and is used throughout the draft.

Cl **70** *SC* **70.6.1** *P* **72** *L* **39** # 678

David V James JGG

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

DVJ-67
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmitter Characteristics
==>
Transmitter characteristics

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1** *P* **73** *L* **04** # 345

Baumer, Howard Broadcom

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

There is a potential conflict between text and table wording.

SuggestedRemedy

Do one of the following: Add text stateing which prevails if there is a conflict (text or table wording) or have the text reference the table or label the table as informative.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

If the text and table are in conflict, then the conflict should be resolved.

There is currently no reference that implies the table is normative. The "shall" statements associated with each requirement are in the text.

Cl **70** *SC* **70.6.1** *P* **73** *L* **15** # 171

Spagna, Fulvio INTEL

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

Make minimum KX transition time consistent with KR.

For consistency with KX4 and KR, add RJ entry to Output Jitter specification.

SuggestedRemedy

(1) Change Transition Time (min) from 60 pS to 24 pS in Table 70-5.

(2) Change transition Time limits in 70.6.1.7 (lines 38 and 40, page 76)

Proposed Response *Response Status* **C**

REJECT.

While consistency is desirable, the impact on the crosstalk environment must be carefully studied before such a change can be made.

Cl **70** *SC* **70.6.1** *P* **73** *L* **18** # 173

Spagna, Fulvio INTEL

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

For consistency with KX4 and KR, add RJ entry to Output Jitter specification.

SuggestedRemedy

Add new entry in Output Jitter Box:

Random Jitter 0.15 UIpp

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1.1** *P* **74** *L* **07** # 683

David V James JGG

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

DVJ-72
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Fixture
==>
fixture

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Text has been removed

Cl **70** *SC* **70.6.1.1** *P* **74** *L* **14** # 684

David V James JGG

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

DVJ-73
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Under Test
==>
under test

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1.1** *P* **74** *L* **18** # 681

David V James JGG

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

DVJ-70
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Oscilloscope
==>
oscilloscope

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1.1** *P* **74** *L* **19** # 682

David V James JGG

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

DVJ-71
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Processing
==>
processing

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1.1** *P* **74** *L* **20** # 680

David V James JGG

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

DVJ-69
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Data Acquisition Module
==>
data acquisition module

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1.1** *P* **74** *L* **32** *#* 679

David V James JGG

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

DVJ-68
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmit Test Fixture for 1000BASE-KX
==>
Transmit test fixture for 1000BASE-KX

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1.4** *P* **74** *L* **43** *#* 346

Baumer, Howard Broadcom

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

There is no differential output template referenced here. The references are to the transmit eye diagram mask.

SuggestedRemedy

Relabel section "Differential Output Eye Mask" and change wording to say eye mask instead of template. Change inflection points to mask points.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **70** *SC* **70.6.1.4** *P* **75** *L* **46** *#* 551

Grow, Robert Intel

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

Blue font on some cross references but not all. (Also p.71, l.38; p.75, l.31; p.76, l.39 and 41; p.77, l. 29; p.82, l.34; p.83, 10; p.85, l.43; p.91, l.42; p.93, l.25; p.95, l.5, 7, 20, 22; p.96, l.5; p. 102, l.23; p.103, l.10; p.105, l.32; etc.)

SuggestedRemedy

Some definition problem for internal versus external references or is this individual font characteristics?

Proposed Response *Response Status* **C**

ACCEPT.

All references outside this document should be blue.

Cl **70** *SC* **70.6.1.5** *P* **75** *L* **35** *#* 552

Grow, Robert Intel

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

Vcom should be com in subscript.

SuggestedRemedy

Fix here and in Figure 70-2, as well as similar occurances in Clauses 71 and 72 (a search will turn all six occurances).

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.6.1.7** *P* **76** *L* **36** *#* 347

Baumer, Howard Broadcom

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

There is no max transition time, therefore allowing extremely slow edges from the transmitter. These slow edges can cause undue ISI thereby causing system interoperability problems.

SuggestedRemedy

Specify a maximum transition time with limits as determined by the Task Force.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The rise time of a sinusoid of period 2 baud is 0.4097 baud. This would imply a rise time upper limit of 327 ps. Propose an upper limit of 320 ps.

Related comments: #267, 347

Cl **70** *SC* **70.6.1.7** *P* **76** *L* **37** *#* 685

David V James JGG

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

DVJ-74
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transition Time
==>
Transition time

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.6.1.7** *P* **76** *L* **38** # 267

Powell, Scott — Broadcom

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

There is no max transition time specified. Extremely slow edges from the transmitter are therefore permitted. These slow edges can cause undue ISI thereby causing system interoperability problems

SuggestedRemedy

Add a maximum transition time spec.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

See comment #347.

Related comments: #267, 347

Cl **70** *SC* **70.6.1.8** *P* **76** *L* **46** # 73

Alping, Arne

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

Too many periods

SuggestedRemedy

Remove one of the periods after ""... 0.10 UI peak-to-peak.. ..."".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.6.2** *P* **77** *L* **09** # 348

Baumer, Howard — Broadcom

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

There is a potential conflict between text and table wording.

SuggestedRemedy

Do one of the following: Add text stateing which prevails if there is a conflict (text or table wording) or have the text reference the table or label the table as informative.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #345

Cl **70** *SC* **70.6.2** *P* **77** *L* **22** # 242

Dudek, Mike — Picolight

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

I don't see a minimum input amplitude for the Rx in Table 70-7 and am not sure that the interference test has a normative minimum input. Same issue for Table 71-7

SuggestedRemedy

If there is a problem here, fix it.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Minimum interference tolerance serves the same purpose as the minimum input amplitude to the Rx.

The minimum rx input is a function of the normative minimum output and the compliance channel defined by the interference tolerance test procedure in Annex 69A

Cl **70** *SC* **70.6.2.1** *P* **77** *L* **25** # 349

Baumer, Howard — Broadcom

Comment Type **TR** *Comment Status* **A** *69A*

This section is incomplete as it references Annex 69A that has ZERO "shall" statements in it making it an "Informative" Annex.

SuggestedRemedy

Add appropriate "shall" statements to Annex 69A and label it as Normative.

Proposed Response *Response Status* **C**

ACCEPT.

In addition, it is also necessary to investigate the impact on the PICS.

Changes to be made and sent to Howard for review.

Cl **70** *SC* **70.6.2.1** *P* **77** *L* **42** # 143

John, D'Ambrosia

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

In Table 70-8, minISIloss is based on the values of Amax(f) at f1, f2

values for f1 and f2 do not reflect values listed in Table 69-2. It is believed that it is the intent for the values listed in Table 70-8 to match Table 69-2.

SuggestedRemedy

In Table 70-8
replace reference to note 1 with value for minISIloss 6.3463 dB
delete note 1
Change f1 to 0.125 GBz
change f2 to 1.250 GHz

Proposed Response *Response Status* **W**

REJECT.

minISILoss has been removed as part of the response to comment #103.

f1 and f2 do not necessarily need to correspond to the values listed in Table 69-2. Changing these values would constitute a technical change to draft and requires corresponding justification.

Cl **70** *SC* **70.6.2.6** *P* **78** *L* **27** # 350

Baumer, Howard Broadcom

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

A common mode return loss specifications forces designs to use single ended terminations. This eliminates a purely differentially terminated implementation. Common mode interference is already limited by EMI specifications making this section redundant.

SuggestedRemedy

Delete section 70.6.2.6

Proposed Response *Response Status* **C**

ACCEPT.
Also, delete common-mode return loss in Table 70-7.

Cl **70** *SC* **70.7** *P* **78** *L* **34** # 723

David V James JGG

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

DVJ-76
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Interconnect Characteristics
==>
Interconnect characteristics

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.8** *P* **78** *L* **39** # 686

David V James JGG

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

DVJ-75
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Environmental Specifications
==>
Environmental specifications

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **70.8.5** *P* **79** *L* **15** # 724

David V James JGG

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

DVJ-77
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Protocol Implementation Conformance Statement
==>
Protocol implementation conformance statement

Proposed Response *Response Status* **W**

REJECT.

See comment #742

Cl **70** *SC* **70.9** *P* **79** *L* **14** *#* 589

Booth, Brad — Intel

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

PICS should start at the top of a new page.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **70.9.1** *P* **79** *L* **23** *#* 142

John, D'Ambrosia

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

use of 10GBASE-KX4

SuggestedRemedy

replace with 1000BASE-KX

Proposed Response *Response Status* **W**

ACCEPT.

Cl **70** *SC* **Figure 70-1** *P* **70** *L* **40** *#* 553

Grow, Robert — Intel

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

Something doesn't render right with this figure that is also repeated in Clauses 71 and 72.

SuggestedRemedy

If scanned, redraw in FrameMaker, else figure out why it is tinted with red and fuzzy. Fix in all three clauses.

Proposed Response *Response Status* **C**

ACCEPT.

Done

Cl **70** *SC* **Figure 70-1** *P* **70** *L* **51** *#* 563

Grow, Robert — Intel

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

What is labled as the backplane is more than the backplane.

SuggestedRemedy

Either change to Backplane Channel as in Figure 69-2, or add additional arrows to define what is backplane and what is blade. Make corresponding changes in Clauses 71 and 72.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Renamed "Backplane" to "Backplane channel"

Cl **70** *SC* **Figure 70-2** *P* **74** *L* **25** *#* 550

Grow, Robert — Intel

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

The outer partial box and ""Test Fixture"" label doesn't seem to add anything to the figure, nor does the ""or Equivalent"" and associated arrows.

SuggestedRemedy

Remove. Make consistent changes in Figures 72-6 and 71-2.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **70** *SC* **Table 70-4** *P* **71** *L* **33** *#* 568

Grow, Robert — Intel

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

This is difficult to read (the comma) and even more difficult to understand what the Receive Condition is.

SuggestedRemedy

Write as either a consistent logical or math expression, not the current hybrid.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment #94.

Related comments: #94, 341, 342, 343, 568, 570, and 170.

Cl **71** *SC* **71.** *P* **85** *L* **02** *#* 725

David V James JGG

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

DVJ-78
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Physical Medium Dependent Sublayer and Baseband Medium,
==>
Physical medium dependent sublayer and baseband medium,

Proposed Response *Response Status* **W**

REJECT.

See comment #742

Cl **71** *SC* **71.2** *P* **85** *L* **33** *#* 726

David V James JGG

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

DVJ-79
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Physical Medium Dependent (PMD) Service Interface
==>
Physical medium dependent (PMD) service interface

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Changed to: "Physical Medium Dependent (PMD) service interface"

Cl **71** *SC* **71.3** *P* **85** *L* **42** *#* 727

David V James JGG

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

DVJ-80
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Delay Constraints
==>
Delay constraints

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.3** *P* **85** *L* **50** *#* 22

Muller, Shimon Muller Sun Microsystems, Inc

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

See below

SuggestedRemedy

Replace "pause_quantum" with "pause_quanta".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **71** *SC* **71.5** *P* **86** *L* **36** *#* 728

David V James JGG

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

DVJ-81
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Functional Specifications
==>
PMD functional specifications

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.1** *P* **86** *L* **42** *#* 729
David V James JGG

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

DVJ-82
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Link Block Diagram
==>
Link block diagram

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.1** *P* **87** *L* **01** *#* 74
Alping, Arne

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

Figure 71-1 looks fuzzy, probably due to use of jpg format rather than gif

SuggestedRemedy

Use gif format for Figure 71-1

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The fig has been redrawn in Frame.

Cl **71** *SC* **71.5.1** *P* **87** *L* **17** *#* 733
David V James JGG

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

DVJ-86
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Block Diagram
==>
block diagram

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.2** *P* **87** *L* **19** *#* 730
David V James JGG

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

DVJ-83
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Transmit Function
==>
PMD transmit function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.2** *P* **87** *L* **28** *#* 564
Grow, Robert Intel

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

Not really an equation so it shouldn't use =.

SuggestedRemedy

Change to read: where SL0<p>/<n> corresponds to tx_bit<0>, SL1<p>/<n> to tx_bit<1>, SL2<p>/<n> to tx_bit<2>, and SL3<p>/<n>) = tx_bit<3>.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.3** *P* **87** *L* **31** *#* 731
David V James JGG

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

DVJ-84
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Receive Function
==>
PMD receive function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.4** *P* **87** *L* **43** *#* 732

David V James JGG

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

DVJ-85
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Global PMD Signal Detect Function
==>
Global PMD signal detect function

Proposed Response *Response Status* **W**

ACCEPT.

Changed to: "Global PMD Signal Detect function"

Cl **71** *SC* **71.5.4** *P* **87** *L* **45** *#* 565

Grow, Robert Intel

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

Case error.

SuggestedRemedy

Change PMD_signal.indicate to PMD_SIGNAL.indication.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.4** *P* **87** *L* **51** *#* 526

Dawe, Piers Agilent

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

This sounds too biased to 'OK' if taken literally: 'within 100 us after the absolute differential peak-to-peak input voltage on each of the four lanes at the MDI has exceeded 175 mV for at least 7 UI in any 20 UI interval (unit
interval). So if in 100 us (>10^5 UI) we have just 7 in a row that exceed the threshold, we should set SD=OK? If there's bad electrical noise then SD will chatter, which I suspect is the opposite of what we want.

SuggestedRemedy

Make the SD criterion less hair-trigger.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Signal Detect functional description removed from the document. Refer to #94.

Cl **71** *SC* **71.5.4** *P* **87** *L* **52** *#* 351

Baumer, Howard Broadcom

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

at least 7UI" is not clearly defined. Does it mean continuous UI or any 7 continuous or discontinuous UI

SuggestedRemedy

State whether 7 UI means 7 continuous UI or any 7 continuous or discontinuous UI

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Signal Detect functional description removed from the document. Refer to #94.

Cl **71** *SC* **71.5.4** *P* **87** *L* **52** *#* 566

Grow, Robert Intel

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

Redundancy or bad placement of parenthetical.

SuggestedRemedy

... in any 20 UI window. Same change next page line 2.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.5.4** *P* **88** *L* **01** *#* 352

Baumer, Howard Broadcom

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

at least 7UI" is not clearly defined. Does it mean continuous UI or any 7 continuous or discontinuous UI

SuggestedRemedy

State whether 7 UI means 7 continuous UI or any 7 continuous or discontinuous UI

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Signal Detect functional description removed from the document. Refer to #94.

Cl **71** *SC* **71.5.4** *P* **88** *L* **15** *#* 95

Healey, Adam

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

In Table 71-4, the "SIGNAL_DETECT = OK" and "SIGNAL_DETECT = FAIL" levels seem to be copied from 10GBASE-CX4. Are these values also appropriate for backplane environments?

SuggestedRemedy

The Task Force needs to confirm that the signal detect parameters are applicable to the backplane environment (for example, the "FAIL" level is above the level of ambient noise and crosstalk, "OK" is below the signal level at the output of a maximum attenation channel).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Signal Detect functional description removed from the document. Refer to #94.

Cl **71** *SC* **71.5.5** *P* **88** *L* **35** *#* 355

Baumer, Howard Broadcom

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

There is no need to not allow lane by lane signal detect just because there is no global signal detect.

SuggestedRemedy

Make this optional if global is not present.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Signal Detect functional description removed from the document. Refer to #94.

Cl **71** *SC* **71.6.1** *P* **90** *L* **08** *#* 356

Baumer, Howard Broadcom

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

There is a potential conflict between text and table wording.

SuggestedRemedy

Do one of the following: Add text stateing which prevails if there is a conflict (text or table wording) or have the text reference the table or label the table as informative.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

If the text and table are in conflict, then the conflict should be resolved.

There is currently no reference that implies the table is normative. The "shall" statements associated with each requirement are in the text.

Cl **71** *SC* **71.6.1** *P* **90** *L* **08** *#* 542

Dawe, Piers Agilent

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

This table shows up in the pdf bookmarks as if it were a subclause heading

SuggestedRemedy

fix

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

I have added all figures and tables to show as 4th level indents in the PDF

Cl **71** *SC* **71.6.1** *P* **90** *L* **14** *#* 75

Alping, Arne

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

To be compliant with Table 70-5 I sggest including foot note: ""See Figure 71-3 for an illustration of the definition of differential peak-to-peak output voltage""

SuggestedRemedy

Include foot note: ""See Figure 71-3 for an illustration of the definition of differential peak-to-peak output voltage""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **71** *SC* **71.6.1** *P* **90** *L* **24** # 77

Alping, Arne

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

The unit for jitter parameters should be UIp-p (not just UI)

SuggestedRemedy

Change unit for jitter parameters to UIp-p

Proposed Response *Response Status* **C**

REJECT.

Peak to peak is mentioned in the Parameter collumn.

Cl **71** *SC* **71.6.1** *P* **90** *L* **25** # 172

Spagna, Fulvio INTEL

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

In KR, TJ = RJ + DJ. Use same approach in this case.

SuggestedRemedy

Change Random Jitter limit from 0.27 UIpp to 0.28 UIpp.

Proposed Response *Response Status* **C**

REJECT.

It was noted that commenter intended to change random jitter limit from 0.27UIpp to 0.18UIpp.

Note - Correct reference in Table 71-5 to 71.6.1.8.

Cl **71** *SC* **71.6.1** *P* **90** *L* **26** # 76

Alping, Arne

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

To be compliant with Table 70-5 I suggest including foot note for Total jitter in Table 71-5: ""At BER 10-12""

SuggestedRemedy

Include foot note for Total jitter in Table 71-5: ""At BER 10-12""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **71** *SC* **71.6.1.1** *P* **90** *L* **08** # 543

Dawe, Piers Agilent

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

Too many capitals in figure 71-2. Can use proper omega symbol.

SuggestedRemedy

per comment

Proposed Response *Response Status* **C**

ACCEPT.

Can not find the Ohm symbol in the symbol font.

Cl **71** *SC* **71.6.1.1** *P* **91** *L* **07** # 738

David V James JGG

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

DVJ-91
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Fixture
==>
fixture

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Text was removed

Cl **71** *SC* **71.6.1.1** *P* **91** *L* **14** # 737

David V James JGG

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

DVJ-90
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Under Test
==>
under test

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.6.1.1** *P* **91** *L* **17** # 735
David V James JGG

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

DVJ-88
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Oscilloscope
==>
oscilloscope

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.6.1.1** *P* **91** *L* **19** # 736
David V James JGG

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

DVJ-89
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Processing
==>
processing

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.6.1.1** *P* **91** *L* **20** # 734
David V James JGG

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

DVJ-87
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

or Data Acquisition Module
==>
or data acquisition module

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.6.1.3** *P* **91** *L* **37** # 554
Grow, Robert Intel

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

Bad symbology.

SuggestedRemedy

Replace +- with the symbol font single character +/-. also replace +/- on p. 96, l. 25.

Proposed Response *Response Status* **C**

ACCEPT.

Where is +/-?

Cl **71** *SC* **71.6.1.3** *P* **91** *L* **38** # 78
Alping, Arne

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

Change +- to the (+-) sign

SuggestedRemedy

Change +- to the (+-) sign

Proposed Response *Response Status* **C**

ACCEPT.

Where is +/-?

Cl **71** *SC* **71.6.1.6** *P* **94** *L* **35** # 740
David V James JGG

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

DVJ-93
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Limit
==>
limit

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.6.1.6** *P* **94** *L* **35** # 739

David V James JGG

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

DVJ-92
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Limit
==>
limit

Proposed Response *Response Status* **W**

ACCEPT.

Cl **71** *SC* **71.6.1.9** *P* **95** *L* **19** # 235

Dudek, Mike Picolight

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

Incorrect reference.

SuggestedRemedy

Change Figure 71-4 to Figure 71-5

Proposed Response *Response Status* **C**

ACCEPT.

Cl **71** *SC* **71.6.2** *P* **95** *L* **31** # 358

Baumer, Howard Broadcom

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

There is a potential conflict between text and table wording.

SuggestedRemedy

Do one of the following: Add text stateing which prevails if there is a conflict (text or table wording) or have the text reference the table or label the table as informative.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

If the text and table are in conflict, then the conflict should be resolved.

There is currently no reference that implies the table is normative. The "shall" statements associated with each requirement are in the text.

Cl **71** *SC* **71.6.2.1** *P* **96** *L* **01** # 359

Baumer, Howard Broadcom

Comment Type **TR** *Comment Status* **A** *69A*

This section is incomplete as it references Annex 69A that has ZERO "shall" statements in it making it an "Informative" Annex.

SuggestedRemedy

Add appropriate "shall" statements to Annex 69A and label it as Normative.

Proposed Response *Response Status* **C**

ACCEPT.

In addition, the impact the on the PICS must be evaluated.

Changes will be reviewed with commenter upon completion.

Cl **71** *SC* **71.6.2.1** *P* **96** *L* **08** # 144

John, D'Ambrosia

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

In Table 71-8, minISIloss is based on the values of Amax(f) at f1, f2

value for f1 does not reflect value listed in Table 69-2. It is believed that it is the intent for the values listed in Table 71-8 to match Table 69-2.

SuggestedRemedy

In Table 71-8
replace reference to note 1 with value for minISIloss 13.0132 dB
delete note 1
Change f1 to 0.312 GBz

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by #103

(more 041105)

Cl **71** *SC* **71.6.2.1** *P* **96** *L* **12** # 612

Diab, Wael Cisco

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

Was the BER here set to match the 1G or can we do better than 10e-12 on the 10GBASE-KX4 interface?

SuggestedRemedy

Raise the BER requirements to 10e-15 or better

Proposed Response *Response Status* **W**

REJECT.

BER target based on the Task Force's expectation of what could be measured with confidence and in a timely manner. Actual implementations may exceed this objective.

Cl **71** *SC* **71.6.2.6** *P* **97** *L* **01** # 360

Baumer, Howard Broadcom

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

A common mode return loss specifications forces designs to use single ended terminations. This eliminates a purely differentially terminated implementation. Common mode interference is already limited by EMI specifications making this section redundant.

SuggestedRemedy

Delete section 71.6.2.6

Proposed Response *Response Status* **C**

ACCEPT.

Also, delete common mode input return loss in Table 71-7.

Cl **71** *SC* **71.8.5** *P* **97** *L* **43** # 741

David V James JGG

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

DVJ-94
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Protocol Implementation Conformance Statement
==>
Protocol implementation conformance statement

Proposed Response *Response Status* **W**

REJECT.

See comment #742

Cl **71** *SC* **71.9** *P* **97** *L* **42** # 590

Booth, Brad Intel

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

PICS should start at the top of a new page.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **71** *SC* **Table 71-4** *P* **88** *L* **16** # 353

Baumer, Howard Broadcom

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

Conflict between table and text. Text says 7UI table says 1UI

SuggestedRemedy

Pick one and make both the same.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. See Comment #94.

Cl **71** *SC* **Table 71-4** *P* **88** *L* **20** # 354

Baumer, Howard Broadcom

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

Conflict between table and text. Text says 50, table says 75

SuggestedRemedy

Pick one and make both the same.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.

Refer to comment #94

Cl **71** *SC* **Table 71-5** *P* **90** *L* **18** *#* 357

Baumer, Howard — Broadcom

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

This is output return loss not input return loss

SuggestedRemedy

Change to output

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72** *P* **105** *L* **01** *#* 120

Andre, Szczepanek

Comment Type **TR** *Comment Status* **R** *crc8*

There is a general expectation that 10GBASE-KR receivers will use Decision Feedback Equalizers (DFEs). DFEs have an implicit capability to cause error propagation. As explained in szczepanek_01_0705 the error propagation capabilities of DFEs and the 10GBASE-R PCS self-synchronous scrambler have a negative impact on the Ethernet MTTFPA (Mean Time To False Packet Acceptance) criteria.
Similar problems in 10GBASE-T and EFM were addressed by adding additional CRC8 protection to frames.

SuggestedRemedy

Follow the precedent set by 10GBASE-T and EFM and add an additional CRC8 protection to frames.
This will require creation of a modified 10GBASE-R PCS (new clause) for use with 10GBASE-KR.
I have included a document (10GbaseKR-changes.pdf) with this ballot that indicates the changes I think necessary to clause 49 to create the new clause.

Proposed Response *Response Status* **C**

REJECT.

Per szczepanek_01_1105, the MTTFPA is acceptable and no additional error protection was deemed necessary.

Cl **72** *SC* **72.** *P* **105** *L* **02** *#* 742

David V James — JGG

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

DVJ-95
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Physical Medium Dependent Sublayer and Baseband Medium,
==>
Physical medium dependent sublayer and baseband medium,

Proposed Response *Response Status* **W**

REJECT.

As stated in the Clause 1 'Overview' of the IEEE-SA Style Manual it contains a 'preferred style for the preparation of proposed IEEE standards' and that 'it is strongly recommended that working groups consult with IEEE Standards project editors before deviating from this style.' The draft will therefore go through an editorial review prior to Sponsor Ballot and we will work with IEEE-SA Editorial Staff on any issues they bring to our attention in respect to the IEEE-SA Style Manual or any other issue.

It however has to be understood that this project is developing an amendment to the base standard, and as such it is not within the scope of this project to perform global changes to the base standard. Instead consistency with the base standard will be maintained.

Cl **72** *SC* **72.10.2.3.3** *P* **111** *L* **11** *#* 34

Marris, Arthur

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

Change ""An new"" to ""A new"".

SuggestedRemedy

Change ""An new"" to ""A new"".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.2** *P* **105** *L* **31** *#* 743

David V James JGG

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

DVJ-96
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Physical Medium Dependent (PMD) Service Interface
==>
Physical medium dependent (PMD) service interface

Proposed Response *Response Status* **W**

REJECT.

See comment #742

Cl **72** *SC* **72.3** *P* **105** *L* **41** *#* 744

David V James JGG

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

DVJ-97
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Delay Constraints
==>
Delay constraints

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.3** *P* **105** *L* **49** *#* 23

Muller, Shimon Muller Sun Microsystems, Inc

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

See below

SuggestedRemedy

Replace "pause_quantum" with "pause_quanta".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5** *P* **106** *L* **32** *#* 448

Thaler, Pat Agilent Technologies

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

This PMD should have a table describing the conditions that control or are controlled by various MDIO bits like table 71-2

SuggestedRemedy

Add a table so that MDIO information is consistent.

Proposed Response *Response Status* **U**

ACCEPT.

Table 72-2 and 72-3 (refer to Draft 2.0, page 106) contain the requested information.

Cl **72** *SC* **72.5** *P* **106** *L* **33** *#* 745

David V James JGG

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

DVJ-98
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Functional Specifications
==>
PMD functional specifications

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.1** *P* **106** *L* **35** *#* 746

David V James JGG

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

DVJ-99
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Link Block Diagram
==>
Link block diagram

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.1** *P* **107** *L* **01** *#* 79

Alping, Arne

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

Figure 72-1 looks fuzzy, probably due to the use of jpg formatted picture rather than gif

SuggestedRemedy

Use gif format for Figure 72-1

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The fig has been redrawn in Frame.

Cl **72** *SC* **72.5.10** *P* **108** *L* **48** *#* 754

David V James JGG

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

DVJ-107
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Control Function
==>
PMD control function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **07** *#* 755

David V James JGG

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

DVJ-108
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Training Frame Structure
==>
Training frame structure

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **09** *#* 260

Brink, Robert Agere Systems

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

New training pattern should be 548 Octets in length.
4 - Frame Delimiter
32 - Control Channel
512 - Training Pattern

SuggestedRemedy

Change text to reflect the new training pattern length

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment #306.

Related comments: #263, 306

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **11** *#* 113

Andre, Szczepanek

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

Typo:
""The control channel signaled using ...""

SuggestedRemedy

change to :
""The control channel is signaled using ...""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **11** *#* 33

Marris, Arthur

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

Missing word ""is"".

SuggestedRemedy

Change ""channel signaled"" to ""channel is signaled"".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **12** *#* 528

Dawe, Piers — Agilent

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

Don't think this 'two baud' is correct usage.

SuggestedRemedy

Suggest 'Since each DME symbol is made of two parts, one control channel bit is transmitted every 8 10GBASE-KR UI.'

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to #362.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **12** *#* 362

Baumer, Howard — Broadcom

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

These numbers don"t add up. What is meant by DME signaling rate? Is it the rate which the transition positions occur or the rate at which information occurs?

SuggestedRemedy

Change "Since each DME symbol is two baud, one control channel bit is transmitted every 8 10GBASE-KR baud" to "Since each DME symbol contains 2 DME transition positions and ezch transition positions is 4 10GBASE-KR bauds 1 control channel bit is transmitted every 8 10GBASE-KR bauds.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"Since each DME symbol contains 2 DME transition positions and each transition position is 4 10GBASE-KR UI, 1 control channel bit is transmitted every 8 10GBASE-KR UI."

Related comments: #362, 528

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **22** *#* 263

Brink, Robert — Agere Systems

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

Training pattern lenght is incorrect. Should be 512 Octets.

SuggestedRemedy

Change Figure 72-2 to have Training pattern length of 512 Octets

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment #306.

Related comments: #263, 306

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **25** *#* 759

David V James — JGG

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

DVJ-112
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Marker
==>
marker

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **28** *#* 758

David V James — JGG

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

DVJ-111
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Control Channel
==>
control channel

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **31** *#* 306

Abler, Joe IBM

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

Training pattern is too short to efficiently gather sufficient statistics to calculate coeff update.

SuggestedRemedy

Change training pattern length in Fig 72-2 to 512 octects. Change line 9 to indicate a total length of 548 octets

Proposed Response *Response Status* **C**

ACCEPT.

Related comments: #263, 306

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **31** *#* 760

David V James JGG

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

DVJ-113
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Pattern
==>
pattern

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **35** *#* 756

David V James JGG

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

DVJ-109
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Training Frame Structure
==>
Training frame structure

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **39** *#* 529

Dawe, Piers Agilent

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

This 0xFFFF0000 is the only use of 0x in the whole of 802.3ap, apart from a table you copied and shouldn't. You shouldn't burden the reader with having to know unnecessary notations that, unlike actual words, cannot be looked up in a dictionary. Misleading: I read this as zero, don't care, 1111,1111 and so on. Just say what you mean in English. Editorials at end of sentence.

SuggestedRemedy

Change to 'pattern, hexadecimal FFFF0000 as expressed in 10.3125 Gbd symbols.'

Proposed Response *Response Status* **U**

ACCEPT.

Cl **72** *SC* **72.5.10.2** *P* **109** *L* **40** *#* 530

Dawe, Piers Agilent

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

When transmitting this FFFF0000, which end goes first, the 111s or the 000s?

SuggestedRemedy

Please specify.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In 72.5.10.2.1 specify that the ones are transmitted first
In 72.5.10.2.3 specify that cell 15 is transmitted first.
In 72.5.10.2.4 specify that cell 15 is transmitted first.
The encoding rules for each cell are in 72.5.10.2.2

Cl **72** *SC* **72.5.10.2.1** *P* **109** *L* **37** *#* 363

Baumer, Howard Broadcom

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

The text through out clause 72 uses the term "Frame Marker" whereas the label for this section is "Frame Delimiter"

SuggestedRemedy

Change section label to "Frame Marker"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.2.1** *P* **109** *L* **38** *#* 757

David V James JGG

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

DVJ-110
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Frame Delimiter
==>
Frame delimiter

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Changed to "Frame marker".

Cl **72** *SC* **72.5.10.2.3** *P* **110** *L* **11** *#* 600

Booth, Brad Intel

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

Using the sames tables (72-4 and 72-5) that are in Clause 45 is a way to create errors and discrepancies.

SuggestedRemedy

Eliminate the tables in Clause 72 and reference the Clause 45 tables.

Proposed Response *Response Status* **W**

REJECT.

These tables are not duplicates of tables in Clause 45 but rather are essential to the definition of the training frame structure. While care will need to be taken to keep these fields consistent with their clause 45 counterparts, simply referencing the clause 45 tables does not adequately define the training frame structure.

Cl **72** *SC* **72.5.10.2.3.1** *P* **110** *L* **48** *#* 364

Baumer, Howard Broadcom

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

Explanation lacking. How does one know they can use these bits?

SuggestedRemedy

Some wording that the meaning of these bits shall be communicated during auto-neg via MP5 or MP6.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment 451.

Cl **72** *SC* **72.5.10.2.3.2** *P* **110** *L* **50** *#* 451

Thaler, Pat Agilent Technologies

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

Safe, interoperable use of a vendor specific field requires either a way to identify the vendor uniquely in the frame or a way to identify that the vendor before the fields are used.

SuggestedRemedy

Either delete the vendor specific field and make the bits reserved or put in a mechanism to exchange a unique id to ensure both sides support the same feature. The simplest way to do this would be to put in a statement that the vendor specific field should only be used if it is negotiated during auto-negotiation. 802.3an has an example of this for using vendor specific information in their training.

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Remove the vendor specific fields. Bits will be reserved.

Cl **72** *SC* **72.5.10.2.3.2** *P* **110** *L* **52** *#* 556

Grow, Robert Intel

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

If I understand this right, ""k"" is a variable.

SuggestedRemedy

Put k in italics in all usages.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.2.3.3** *P* **110** *L* **52** # 557

Grow, Robert — Intel

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

Grammar.

SuggestedRemedy

A new increment ...

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.2.3.3** *P* **111** *L* **07** # 365

Baumer, Howard — Broadcom

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

Unclear on how the coefficient update is done when an inc or dec command is transmitted. The wording of the 4th sentence implies that multiple training frames can be exchanged with a coefficient update command of inc or dec but nothing is said on how the receiving end is to interpret or respond to these multiple frames. It could be interpreted that only one update is to happen.

SuggestedRemedy

Explicitly state how the receiving end is to respond to the inc and dec commands. For example: The transmitter shall only update its coefficients once when receiving an inc or dec command and not to another update until it has received a hold command prior to the next update.

Proposed Response *Response Status* **C**

REJECT.

The receiver's behavior in response to coefficient update commands is explained in 72.5.10.2.5. Adding similar text to this subclause would be redundant.

Cl **72** *SC* **72.5.10.2.3.3** *P* **111** *L* **11** # 234

Dudek, Mike — Picolight

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

typo

SuggestedRemedy

Change An to A

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.2.4** *P* **112** *L* **04** # 366

Baumer, Howard — Broadcom

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

Explanation lacking. How does one know they can use these bits?

SuggestedRemedy

Some wording that the meaning of these bits shall be communicated during auto-neg via MP5 or MP6.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Vendor specific bits will be designated as "reserved."

Delete subclause 72.5.10.2.4.2

See related comment #364.

Cl **72** *SC* **72.5.10.2.5** *P* **112** *L* **26** # 174

Spagna, Fulvio INTEL

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

The existing coefficient update process does not contemplate the case where the new coefficent set, if updated, violates the requirements of 72.6.1.11 namely the limit on the minimum value of Vss.

This information can be transferred to the LP in two ways:

(1) augmenting each coefficient status field by 1 bit to provide allow encoding of the new state

(2) use the existing status bits and return {minimum, minimum, minimum} when such a condition is encountered

SuggestedRemedy

Add to exisitng text:

""The default state for a given tap is not_updated. Upon implementation of a received increment or decrement request, the status is reported as updated, maximum, or minimum. Maximum is reported if a received increment
request causes the tap value to reach its maximum limit, or if it is already at that limit. Minimum is reported if a received decrement request causes the tap value to reach its minimum limit, or if it is already at that limit.""

the following:

""The condition by which a change request causes the coefficient values to violate the minimum steady-state voltage requirements defined in 72.6.1 will be reported by setting the status field for all the coefficeints to minimum.

The algorithm employed by the receiver adaptation process to deal with these occurrences is beyond the scope of this standard>""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. See Comment 258

Cl **72** *SC* **72.5.10.2.5** *P* **112** *L* **26** # 449

Thaler, Pat Agilent Technologies

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

The text "upon implementation of a received increment or decrement request" mean? Usually when we talk about implementation we are talking about something done when we design and make a part.

Also, something should be inserted to make it clear that successive updates will only be acted upon if they are received when the state is not_updated.

SuggestedRemedy

You could say ""Upon execution of a received increment or decrement request"".

Before that sentance, insert ""An increment or decrement request will only be acted upon when the state of the tap is not_updated.""

Proposed Response *Response Status* **U**

ACCEPT.

Cl **72** *SC* **72.5.10.2.6** *P* **113** *L* **02** # 687

David V James JGG

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

DVJ-114
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Training Pattern
==>
Training pattern

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.2.6** *P* **113** *L* **03** # 307

Abler, Joe IBM

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

Training pattern content does not contain sufficient random content to gather statistics and is too short.

SuggestedRemedy

Change length to 512 octets. Change pattern to a PRBS11 pattern. The pattern would start with an all ones seed at the beginning of each pattern cycle. There would be 2 iterations of the pattern. Following the completion of the second iteration, the final 2 bits of the 512 octet field would be set to '00' to provide DC balance.

Proposed Response *Response Status* **C**

ACCEPT.

Related comments: #264, 307

Cl **72** *SC* **72.5.10.2.6** *P* **113** *L* **03** # 264

Brink, Robert Agere Systems

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

Training Pattern length is incorrect

SuggestedRemedy

Change training pattern length to 512 Octets

Proposed Response *Response Status* **C**

ACCEPT.

Refer to comment #307

Related comments: #264, 307

Cl **72** *SC* **72.5.10.2.6** *P* **113** *L* **08** # 265

Brink, Robert Agere Systems

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

Training pattern needs to be redefined.

SuggestedRemedy

Update Training pattern to be two PN11 patterns padded with a single trailing 'zero' at the end of each PN11. This results in 512 Octets that are DC balanced. 2047 bits + 0 + 2047 bits + 0 = 512 Octets. Also specify that at the beginning of each training sequence, the PRBS pattern should be reseeded.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment 307.

Cl **72** *SC* **72.5.10.2.6** *P* **113** *L* **09** # 688

David V James JGG

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

DVJ-115
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Training Pattern
==>
Training pattern

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Table removed.

Cl **72** *SC* **72.5.10.3** *P* **113** *L* **28** # 689

David V James JGG

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

DVJ-116
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

State Variables
==>
State variables

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.3.2** *P* **114** *L* **12** # 567

Grow, Robert Intel

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

Why the inconsistency in defining some variables are Booleans and others not doing so?

SuggestedRemedy

Be consistent. I believe the convention for booleans is to define specifically the TRUE and FALSE values.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.3.2** *P* **114** *L* **24** # 367

Baumer, Howard Broadcom

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

Circular reference, see 72.5.10.3.2 is a reference to its own subclause

SuggestedRemedy

remove reference

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.4** *P* **115** *L* **42** # 690

David V James JGG

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

DVJ-117
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

State Diagrams
==>
State diagrams

Proposed Response *Response Status* **W**

ACCEPT.

See comment #742

Cl **72** *SC* **72.5.10.4** *P* **116** *L* **12** # 606

Booth, Brad Intel

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

Variable reset is used in state diagrams in Figures 72-3 and 72-4, but it is undefined.

SuggestedRemedy

Define reset variable as below:
reset
Boolean variable that controls the resetting of the PMA/PMD. It is true whenever a reset is necessary including when reset is initiated from the MDIO, during power on, and when the MDIO has put the PMA/PMD into low-power mode.

Proposed Response *Response Status* **C**

ACCEPT.

In addition

In Figure 72-5 add "reset+mr_restart_training" entry condition to NOT_UPDATED state.

In Figure 72-4 rename entry condition to mr_reset_training to mr_restart_training.

Cl **72** *SC* **72.5.10.4.1** *P* **115** *L* **44** # 691

David V James JGG

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

DVJ-118
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Frame Lock
==>
Frame lock

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.4.1** *P* **116** *L* **22** # 24

Muller, Shimon Muller Sun Microsystems, Inc

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

See below

SuggestedRemedy

Replace "good_markers <= 0" with "bad_markers <= 0".

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.10.4.1** *P* **116** *L* **29** # 447

Thaler, Pat Agilent Technologies

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

The operation of new_marker isn't clear from the state machine plus variable definitions. Is it intended to operate by looking at a specific time (which the use of SLIP to test alternate locations implies) or does the circuit look for something that matches the marker pattern. The state machine appears to be designed for testing a certain time positition (similar to the 64/66 frame sync), but that could take significantly longer to get sync than something looking only for the pattern. That type of operation made sense for 64/66 because the sync bits were only distinct when looked at over multiple blocks and blocks were very short so testing multiple postions could be done quickly. It doesn't make sense where the marker is a pattern that doesn't occur outside the marker positon and where the frame size is much larger.

SuggestedRemedy

Suggest going to a state machine with a marker detect that triggers when a valid marker occurs. When the initial marker is detected, then a frame timer is started (a timer that measures the duration of the frame). If a marker detect detects another valid marker as the timer expires, then one has frame lock. (If one wants to be extra careful, one could test for that a couple of times before declaring frame lock.) When looking for frame lock and in frame lock, look for marker detect outside the proper time and detect that as loss of sync and restart the process. Also, failure to detect markers in the proper time should cause a restart of the process of looking for sync.

Proposed Response *Response Status* **W**

REJECT.

Frame lock state diagram is modeled after the 64/ 66 block lock state machine, including usage of the SLIP function.

Suggested remedy may improve acquisitiion time, but existing diagram is still functional. More information on suggested remedy is required.

Commenter is invited to provide a detailed state machine diagram or changes to the existing state machine diagram.

Cl **72** *SC* **72.5.10.4.2** *P* **115** *L* **53** # 266

Brink, Robert — Agere Systems

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

Transmit Equalization presets are needed to assist in the initial part of the training startup and to guarantee training convergence.

SuggestedRemedy

Define Transmit Equalization taps [c-1 c0 c+1] to be [-2 27 -11] resulting in~9.1dB gain. See supporting presentation.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Define Rpre and Rpst initial values per brink_01_0905, Slide #11. These requirements will be normative.

These are the values the transmitter shall have when the training state diagram enters the "INITIALIZE" state.

Cl **72** *SC* **72.5.10.4.2** *P* **117** *L* **05** # 25

Muller, Shimon Muller — Sun Microsystems, Inc

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

See below

SuggestedRemedy

Replace "mr_reset_training" with "mr_restart_training".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.10.4.3** *P* **116** *L* **03** # 450

Thaler, Pat — Agilent Technologies

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

This makes it sound like there is only one Coefficient Update state machine, but the state machine is operating per tap according to 72.5.10.2.5.

SuggestedRemedy

"For each tap, the 10GBASE-KR PMD shall implement an instance of the Coefficient Update state machine...."

Proposed Response *Response Status* **U**

ACCEPT.

Cl **72** *SC* **72.5.10.4.3** *P* **118** *L* # 82

Altmann, Michael — Intel

Comment Type **ER** *Comment Status* **A** *need text*

State machine for tap update only flags max/amd min tap values for status warnings. Many other combinations could be faulty, including combinations of tap values that a priori close the Tx data eye (1-0-1), or all-zero values. There should be additional status warnings for other combinations.

SuggestedRemedy

Add (at least one more) status value for illegal tap value combinations.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **72** *SC* **72.5.2** *P* **107** *L* **18** # 747

David V James — JGG

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

DVJ-100
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Transmit Function
==>
PMD transmit function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.3** *P* **107** *L* **24** # 748

David V James — JGG

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

DVJ-101
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Receive Function
==>
PMD receive function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.4** *P* **107** *L* **30** # 749

David V James JGG

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

DVJ-102
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Signal Detect Function
==>
PMD signal detect function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.4** *P* **107** *L* **37** # 297

Abler, Joe IBM

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

diagram in 72-4

SuggestedRemedy

call out Figure 72-4

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.4** *P* **107** *L* **40** # 361

Baumer, Howard Broadcom

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

The definition of SIGNAL_DETECT as the state of the training state machine will be confusing to implementors. This definition does not indicate whether there is a signal present or not. If the intent is to show that a signal is present then define SIGNAL_DETECT in a similar fashion to clause 70 or 71. If the intent is to show that training between two phys has completed then relabel with another name to avoid the confusion.

SuggestedRemedy

Redifine to detect the presence of a signal or relabel to indicate the tie to the training state machine.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the following text
PMD_SIGNAL.indication
is intended to be an indicator of the presence of a valid electrical signal at the receiver input.

To

PMD_SIGNAL.indication, while normally intended to be an indicator of signal presence, is used by 10GBASE-KR to indicate the successful completion of the start-up protocol.

Cl **72** *SC* **72.5.5** *P* **107** *L* **45** # 750

David V James JGG

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

DVJ-103
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Transmit Disable Function
==>
PMD transmit disable function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.5** *P* **107** *L* **50** # 616

Ganga, Ilango Intel

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

Change line ""turn off the transmitter such it drives a constant level"" to read as ""turn off the transmitter such that it drives a constant level""

SuggestedRemedy

Change line 50 to read as ""turn off the transmitter such that it drives a constant level""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.5.6** *P* **106** *L* **09** # 527

Dawe, Piers Agilent

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

If I were using loopback, it would be because I was suspicious about the PHY in hand. I would like to be able to check it out before it transmits to another station that might be connected. The requirement 'The transmitter shall not be disabled when loopback mode is enabled.' makes this difficult. This way of doing things may be too established to change now, but it just seems like bad practice.

SuggestedRemedy

Can it be reduced to e.g. 'The transmitter is not necessarily disabled when loopback mode is enabled.'? Or, give me a reason for the current way.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace "The transmitter shall not be disabled when loopback mode is enabled."

with

"Note, this bit does not affect the state of the transmitter."

In other words, whether or not the transmitter is disabled is independent of the state of the loopback bit.

Cl **72** *SC* **72.5.6** *P* **108** *L* **05** # 751

David V James JGG

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

DVJ-104
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Loopback Mode
==>
Loopback mode

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.8** *P* **108** *L* **29** # 752

David V James JGG

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

DVJ-105
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Transmit Fault Function
==>
PMD transmit fault function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.5.9** *P* **108** *L* **40** # 753

David V James JGG

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

DVJ-106
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

PMD Receive Fault Function
==>
PMD receive fault function

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6** *P* **118** *L* **27** *#* 692

David V James JGG

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

DVJ-119
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

10GBASE-KR Electrical Characteristics
==>
10GBASE-KR electrical characteristics

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6** *P* **119** *L* **38** *#* 19

Abbott, John

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

In 72.6.1.2 p. 119 lines 37-39, equations 72-1 and 72-2, the notation should be consistent. 72-1 has a ""dB"" in the equation, while 72-2 does not. See the notation for equations 70-1 and 70-2.

SuggestedRemedy

Make notation in equations like 70-1, 70-2, 72-1, 72-2, etc. as consistent as possible for clarity.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1** *P* **118** *L* **29** *#* 693

David V James JGG

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

DVJ-120
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmitter Characteristics
==>
Transmitter characteristics

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1** *P* **118** *L* **33** *#* 370

Baumer, Howard Broadcom

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

There is a potential conflict between text and table wording.

SuggestedRemedy

Do one of the following: Add text stateing which prevails if there is a conflict (text or table wording) or have the text reference the table or label the table as informative.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

If the text and table are in conflict, then the conflicts should be resolved.

There is currently no reference that implies the table is normative. The "shall" statements associated with each requirement are in the text.

Cl **72** *SC* **72.6.1** *P* **118** *L* **39** *#* 80

Alping, Arne

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

To be compliant with Table 70-5 a foonot refering to Figure 72-2 should be included

SuggestedRemedy

Include foot note: ""See Figure 72-7 for an illustration of the definition of differential peak-to-peak output voltage""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1** *P* **118** *L* **48** *#* 64

Alping, Arne

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

The unit for jitter is UIp-p (not just UI)

SuggestedRemedy

Use the unit UIp-p for the jitter parameters

Proposed Response *Response Status* **W**

REJECT.

Peak to peak is spelled out in the first line

Cl **72** *SC* **72.6.1** *P* **118** *L* **50** # 63

Alping, Arne

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

Include foot note for total jitter on BER

SuggestedRemedy

Include foot note: ""At BER 10-12""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1.1** *P* **119** *L* **01** # 604

Booth, Brad Intel

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

The test fixture appears to be very similar for Clauses 70, 71 and 72 with the exception of the number of lanes. These seems to be overkill.

SuggestedRemedy

Place test fixture in a normative annex (recommend Annex 69B) that all three clauses can reference. Add information that permits the reader to understand that 1000BASE-KX and 10GBASE-KR are one lane and 10GBASE-KX4 is four lanes.

Proposed Response *Response Status* **C**

REJECT.

Test fixture performance requirements are a function of port type and should be handled accordingly.

Future changes to test fixturing could cause further divergence and may make a centralized annex more difficult to manage.

Cl **72** *SC* **72.6.1.1** *P* **119** *L* **15** # 695

David V James JGG

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

DVJ-122
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Transmitter Under Test
==>
Transmitter under test

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.1** *P* **119** *L* **18** # 697

David V James JGG

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

DVJ-124
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Oscilloscope
==>
oscilloscope

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.1** *P* **119** *L* **19** # 696

David V James JGG

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

DVJ-123
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Processing
==>
processing

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.1** *P* **119** *L* **20** # 698

David V James JGG

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

DVJ-125
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Data Acquisition Module
==>
data acquisition module

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.1** *P* **119** *L* **26** # 699
David V James JGG

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

DVJ-126
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

or Equivalent
==>
or equivalent

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.1** *P* **119** *L* **29** # 694
David V James JGG

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

DVJ-121
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmit Test Fixture for 10GBASE-KR
==>
Transmit test fixture for 10GBASE-KR

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **17** # 700
David V James JGG

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

DVJ-127
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmitter Output Waveform
==>
Transmitter output waveform

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **29** # 703
David V James JGG

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

DVJ-130
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Delay
==>
delay

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **34** # 702
David V James JGG

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

DVJ-129
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Delay
==>
delay

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **40** # 701
David V James JGG

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

DVJ-128
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmit Equalizer Example
==>
Transmit equalizer example

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **42** # 175

Spagna, Fulvio INTEL

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

The requirement that the conditions a - i be met for all posssible configurations of the transmit equalizer seem inconsistent with the requirements in 72.6.1.11 (ref. Line #22, page 124).

The proposal is to group these conditions in two sets:

+ the first set (a,b,c,d,g,h) will be tested under all the possible equalizer configurations such that A= const and within the peak-peak differential output voltage range specified in Table 72-5

+ the second set (e,i) should be verified for all possible configurations of the transmit equalizer.

SuggestedRemedy

Change text as follows:

""For all possible configurations of the transmit equalizer such that the peak differential output voltage A shall be within the peak-peak differential output voltage range specified in Table 72-5:

a) Rpst shall not be less than 3.25 for any c1 decrement request that returns status ôminimumö with pre-cursor equalization disabled (Rpre no greater than 1.38).
b) Rpst shall not be greater than 1.08 for any c1 increment request that returns status ômaximumö with pre-cursor equalization disabled (Rpre no greater than 1.08).
c) Rpre shall not be less than 1.39 for any c-1 decrement request that returns status ôminimumö with post-cursor equalization disabled (Rpst no greater than 1.13).
d) Rpre shall not be greater than 1.08 for any c-1 increment request that returns ômaximumö with post-cursor equalization disabled (Rpst no greater than 1.08 dB).
e) For adjacent post-cursor settings (k) and (k-1) resulting from a single increment or decrement operation on tap c-1, Dpst shall be greater than 0 and less than 0.0263.
f) For adjacent pre-cursor settings (k) and (k-1) resulting from a single increment or decrement operation on tap c1, Dpre shall be greater than 0 and less than 0.0263.
g) Adjacent main tap settings (k) and (k-1) resulting from a single increment or decrement operation on tap c0, Dmain shall be greater than 0 and less than 50 mV.

In addition, for all possible configurations of the transmit equalizer:

h) With both pre- and post-cursor equalization disabled (Rpre no greater than 1.08 and Rpst no greater than 1.08), the value of Vss shall be no greater than 100 mV for any c0 decrement request that returns status ôminimumö.
i) For any tested transmitter state (k), the magnitude of Vss shall not be less than 40 mV.""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **42** # 111

Liu, Cathy

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

Based on the specifications on transmit equalizer taps range and resolution, we can see that it requires at least 14 settings for c1 with the range up to -0.35 and at least 6 settings for c-1 with the range up to -0.14. That makes total of 14*6=84 states. Should we really need to specify in that detailed such as resolution, especially requiring such a large number of states like 84? Using larger stepsize than 0.0263 for c1 may cause performance degradation. However, we do have DFE taps at the receiver which is doing the same job in terms of removing post-cursor ISI. It is a trade of between the DFE resolution and c1 resolution which I think it is an implementation issue, and should be beyond the scope of this standard. Furthermore, for some applications without TX training, it is very difficult for people to set TX euqualizer coefficients due to the large number of states.

SuggestedRemedy

Remove or reduce the requiement on tap resolution.

Proposed Response *Response Status* **C**

REJECT.

Resolution requirements effectively relaxed by corrections adopted in Comment 258.

Commenter is invited to provide data to Task Force to demonstrate benefits of reduced resolution and a more complete assessment of the performance impact.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **44** *#* 258

Healey, Adam — Agere Systems

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

The requirements listed in this subclause are not the correct translation of the systems requirements outlined in healey_01_0505 and adopted as part of brink_04_0505.

1. Dpre and Dpst upper limits are defined to be 0.0263. This was supposed to the be sum of the step size and tolerance, which were defined to be 0.0250 and 0.0125 respectively. Therefore, this number should be 0.0375.
2. Dmain upper limit is listed as 50 mV but this should have the same step size requirements as the pre- and post-cursor taps. The absolute voltage is dependent the peak differential output voltage, which would be 15.0 mV for an 800 mVpp output and 22.5 mVp for a 1200 mVpp output. It is not clear where the 50 mV step size originated.
3. Rpre, Rpst, Dpre, Dpst were specified ratiometrically to eliminate dependence on differential output voltage. The assumption behind these equations is that peak-peak differential output voltage (2A) is kept constant throughout the test. The specification states that this is a measurement requirement but allows a 3% tolerance across test conditions. While this is a realistic provision, the specifications on the ratios should be checked with this 3% tolerance in mind to ensure that specifications are not too strict or too forgiving.

SuggestedRemedy

Check the requirements to ensure consistency with the agreed upon requirements and ensure appropriate margins are included measurement tolerances. At a minimum, the listed items need to be corrected, but a more detailed investigation may reveal other issues.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

see healey_01_0905

Motion 2
Type Technical (75%)
Description - Adopt healey_01_0905 slides 18 and 19, as the basis for resolution of Comment 258.
Moved Charles Moore
Seconded Fulvio Spagna

All Y-19 N-1 Abstain-8
Motion Passes

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **44** *#* 114

Andre, Szczepanek

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

The meaning of ""maximum"" and ""minimum"" wrt coefficients is not intuitively obvious and makes these requirements dificult to understand for the uneducated reader. That a maximum value equates to equalization disabled is confusing without additional explanation.

SuggestedRemedy

Add a paragraph to the end of this clause :
""It should be noted that the valid ranges of C1 and C-1 coefficients have solely negative values, So the maximum value of these coefficients is the value closest to zero, and is therefore the value used to disable the tap.""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **45** *#* 372

Baumer, Howard — Broadcom

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

Missing shall. In order to force the spcified condition a shall is required.

SuggestedRemedy

Change "Rpre no greater" to "Rpre shall be no greater"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **45** *#* 244

Dudek, Mike — Picolight

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

The conditions a,b,c and d appear to be wrong.

SuggestedRemedy

Fix if a problem exists.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **45** # 373

Baumer, Howard Broadcom

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

With a FIR implementation Rpre isn"t affected by Rpst therefore the off deffinition of Rpre s/b the same regardless of testing for Rpst min or max.

SuggestedRemedy

Change 1.38 to 1.08

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **47** # 374

Baumer, Howard Broadcom

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

Missing shall. In order to force the spcified condition a shall is required.

SuggestedRemedy

Change "Rpre no greater" to "Rpre shall be no greater"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **49** # 376

Baumer, Howard Broadcom

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

With a FIR implementation Rpst isn"t affected by Rpret therefore the off deffinition of Rpst s/b the same regardless of testing for Rpre min or max.

SuggestedRemedy

Change 1.13 to 1.08

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **49** # 375

Baumer, Howard Broadcom

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

Missing shall. In order to force the spcified condition a shall is required.

SuggestedRemedy

Change "Rpst no greater" to "Rpst shall be no greater"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **51** # 377

Baumer, Howard Broadcom

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

Missing shall. In order to force the spcified condition a shall is required.

SuggestedRemedy

Change "Rpst no greater" to "Rpst shall be no greater"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **122** *L* **52** # 304

Abler, Joe IBM

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

Shows Rpst expressed as 108 dB. I believe this should be a straight ratio

SuggestedRemedy

delete dB

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **123** *L* **08** # 378
Baumer, Howard Broadcom

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

Vss is dependent on all tap values so a change on C-1 or C1 would affect Dmain

SuggestedRemedy

Specify Dmain is to be measured with C-1 & C1 held constant at any valid value

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **124** *L* **07** # 379
Baumer, Howard Broadcom

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

No hard requirement for the definition of Dpre

SuggestedRemedy

Change "à Dpre is defined to be:" to "à Dpre shall be defined to be:"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **124** *L* **14** # 380
Baumer, Howard Broadcom

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

No hard requirement for the definition of Dpst

SuggestedRemedy

Change "à Dpst is defined to be:" to "à Dpst shall be defined to be:"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.10** *P* **124** *L* **22** # 146
Anderson, Stephen

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

These sections are not clear. Lines 22 and 23 of page 124 imply that the amplitude must always end up in the range of 800 mV to 1200 mV, and that there is no independent control over all 3 equalizer taps. Lines 1-3 of page 123 imply that the amplitude could be set to as low as 100 mV.

SuggestedRemedy

Suggested Remedy is to add a note to section 72.6.1.11:

NOTE: This section defines parts of the test waveform and does not specify the full range of output amplitude of which the transmitter must be capable, as defined in section 72.6.1.10.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.11** *P* **123** *L* **13** # 704
David V James JGG

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

DVJ-131
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmitter Output Waveform Measurement Requirements
==>
Transmitter output waveform measurement requirements

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.11** *P* **123** *L* **37** # 705

David V James JGG

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

DVJ-132
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Transmitter Output Waveform
==>
Transmitter output waveform

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **06** # 269

Telang, Vivek Broadcom

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

c1 (on line 6) and c-1 (on line 15) are interchanged. c-1 should refere to the precursor tap, and c1 should refer to the postcursor tap

SuggestedRemedy

On line 6, replace ""c1"" with ""c-1""
On line 15, repalce ""c-1"" with ""c1""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **23** # 176

Spagna, Fulvio INTEL

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

Wrong reference

SuggestedRemedy

Change ""Table 72-5"" to "" Table 72-7"".

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **23** # 245

Dudek, Mike Picolight

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

It is impossible to achieve exactly the same value of A over all transmitted states, however this is required with a ""shall"" statement.

SuggestedRemedy

Option 1 Add a tolerance ""the c0tap shall be adjusted to yield the same value of A within a tolerance of +/-TBDmv""

Option 2 add the word approximatelyh ""yield approximately the same value of A""

Option 3 Change ""Shall"" to ""Should""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258.

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **24** # 236

Dudek, Mike Picolight

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

Incorrect reference

SuggestedRemedy

Change Table 72-5 to 72-7

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **24** # 270

Telang, Vivek Broadcom

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

Incorrect reference to Table

SuggestedRemedy

Replace ""Table 72-5"" with ""Table 72-7""

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **24** # 298

Abler, Joe IBM

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

72-5 is the wrong table reference

SuggestedRemedy

change to Table 72-7

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **24** # 83

Weiner, Nick

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

Reference to Table 72-5. Not the correct table.

SuggestedRemedy

Table 72-7.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.1.11** *P* **124** *L* **24** # 109

Liu, Cathy

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

The peak-peak differential output voltage range was specified in Table 72-7, not in Table 72-5.

SuggestedRemedy

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. Refer to comment 258

Cl **72** *SC* **72.6.1.11** *P* **125** *L* **45** # 117

Andre, Szczepanek

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

Table 72-10: note#1 references Amin(f1) & Amin(f2) in Equation 69A-1.
Amin(f1/f2) are not defined anywhere in Clauses 69 or 69a.
Should these references be to ILmin(f1/f2) ?

This comment also applies to Tables 70-8, and 71-8

SuggestedRemedy

Fix references

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
Refer to comment #103.

Cl **72** *SC* **72.6.1.2** *P* **119** *L* **37** # 579

Ghiasi, Ali Broadcom

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

Test fixture has inadequate performance .

SuggestedRemedy

Propose Return Loss (f) >15 dB from 10MHz to 5.16 GHz
and Return Loss(f)> 15 - 0.5xf for 5.16GHz<=f<=10.3125 GHz.
A fast rising driver if tested with poor fixture can possibly meet the min rise time.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

ReturnLoss(f) >= 15dB
for (f) 100 MHz to 5000MHz

ReturnLoss(f) >= 15dB-26.57*log10(f/5000MHz) for (f)=5000MHz to 10000MHz

Related comments: #579, 271,604

Cl **72** *SC* **72.6.1.2** *P* **119** *L* **39** # 271

Telang, Vivek — Broadcom

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

The Return Loss of the Test fixture impedance is not specifed for the frequencies greater than 5GHz. This will allow badly designed test fixtures to still claim standards compliance. Test fixtures which have poor high frequency RL may have unintended effects on the measurements. Although 5GHz is the Nyquist frequency, we do care what happens to signals above that frequency.
Suggest that the RL be specified by a limit line (at 11.95dB) beyond 5GHz

SuggestedRemedy

Add this line:
ReturnLoss(f) > 11.95dB, for f > 5GHz

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Refer to comment #579

Related comments: #579, 604

Cl **72** *SC* **72.6.1.4** *P* **119** *L* **48** # 248

Dudek, Mike — Picolight

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

In this section the differential peak to peak output voltage is defined to be between 800mV and 1200mV (and based on the fact that nothing is said about tap weights I would expect that this must be true for all tap weights.). It is also shown in Fig 72-7
In section 72.6.1.11 the value of A = Vpst-Vpre-Vss is called the peak differential output voltage. It appears to me that these values are different (For the Fig 72-10 picture the differential peak to peak output voltage would be 2Vpst). This is at least confusing to have such similar names defined differently. Also with the requirement to keep A constant for all tap weights I suspect that keeping the differential peak to peak output voltage within the required range may not be possible for all combinations of tap weights.

SuggestedRemedy

Fix it. (sorry I'm not close enough to this work to suggest an appropriate change), except possibly stating that section 72.6.1.4 only applies when the pre and post cursor taps are set to zero.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to Comments #258 and 272

Cl **72** *SC* **72.6.1.4** *P* **119** *L* **48** # 272

Telang, Vivek — Broadcom

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

For a given transmitter transmitting a square wave, there will be a unique value of differential peak-to-peak output voltage. It is not clear what the qualifiers "maximum" and "minimum" mean in this context.
If it is intended that the transmitter differential peak-to-peak output voltage be in the range 800mV-1200mV, then the text should simply state that.

SuggestedRemedy

Replace lines 48 and 49 with

""The transmitter differential peak-to-peak output voltage shall be in the range 800mV to 1200mV""

This seems like a very large transmit amplitude range, so I'm not sure that the intent has been captured correctly.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

The differential output voltage requirements are redundant with the transmitter waveform requirements as adopted in Comment #258.

Update Table 72-7
Cross reference differential output voltage to 72.6.1.10 (transmitter waveform requirements).
For values- cross reference the tables in 72.6.1.10 (Editor's note - Table numbers are yet to be determined).

In 72.6.1.4 remove differential output requirements and add cross-reference to 72.6.1.10.

Related comment #258

Cl **72** *SC* **72.6.1.4** *P* **119** *L* **48** # 90

Weiner, Nick

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

Measurement of transmitted peak-to-peak voltage:
I believe that the largest output voltage occurs for isolated ONE and ZERO bits. This does not occur during a square wave pattern and so the test specified does not measure the mission mode peak-to-peak transmit voltage.

From page 124, line 23: ""... 2A shall be within the peak-peak differential output voltage range specified in Table 72û5....."
From the definition of A, this implies that the measured peak-to-peak voltage is intended to account for the isolated ONE and ZERO bit voltages.

SuggestedRemedy

Use a PRBS pattern to measure the peak-to-peak transmitted voltage, and adjust Figure 72-7 to show the occurrence of the peak voltages for the isolated ONE and ZERO bits. (Alternatively, change the transmit equalizer to a two tap, by removing the C-1 tap. Then Vpst would become the peak value, Figure 72-7 would not require adjustment, but a few other changes would be needed).

Proposed Response *Response Status* **C**

REJECT.

The largest output voltage occurs for a 1010 transmitted pattern. This voltage is taken into account in the test methodology in 72.6.1.10.

Cl **72** *SC* **72.6.1.5** *P* **120** *L* **01** # 110

Liu, Cathy

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

Based on Figure 72-8, the transmit differential output return loss, we can see that at 5GHz the return loss is about -4dB, which seems huge. I doubt that it will work.

SuggestedRemedy

Is there any simulation or analysis to prove the system work under that bad reflection?

Proposed Response *Response Status* **C**

REJECT.

Refer to comment #573.

Related comments: #110, 274, 573

Cl **72** *SC* **72.6.1.5** *P* **120** *L* **26** # 268

Telang, Vivek Broadcom

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

Format for Return Loss equations is inconsistent with other equation formats

SuggestedRemedy

Change format to be consistent with, e.g., 72-1 and 72-2

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.5** *P* **120** *L* **32** # 273

Telang, Vivek Broadcom

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

The base of the logarithm is not specified.

SuggestedRemedy

Replace ""log"" with ""log10""

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.6.1.5** *P* **120** *L* **33** # 573

Ghiasi, Ali Broadcom

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

The return loss defined for 10GBASE-KR only provides about 4 dB of return loss at half the baudrate this equates to 63% reflection! The combination of the loose return loss and stressor that does not incorporates reflections will cause significant interoperability issues and failures

SuggestedRemedy

Propose the following return loss mask
from 10 MHz to 2000 MHz RL<=9 dB
RL = 9 - 16.67xLOG10(f/5.16 GHz), 2 GHz<= f<=10.3125 GHz

Proposed Response *Response Status* **C**

REJECT.
The task force requires more information - feasibility of construction and system performance benefits.

Related comments: #110, 274, 573

Cl **72** *SC* **72.6.1.5** *P* **120** *L* **36** # 274

Telang, Vivek — Broadcom

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

The Return Loss of the Transmitter is not specifed for the frequencies greater than 7.5GHz. This will allow badly designed transmitters to still claim standards compliance. Transmitters which have poor high frequency RL may have unintended effects on the receiver.

SuggestedRemedy

Add this line after line 36:

returnLoss(f) >= 2dB for f > 7500MHz

Proposed Response *Response Status* **W**

REJECT.

Return loss limits were set based on feasilibility of construction. Performance benefits to be gained not demonstrated.

Related comments: #110, 274, 573

Cl **72** *SC* **72.6.1.6** *P* **121** *L* **30** # 574

Ghiasi, Ali — Broadcom

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

The transmitter common mode return loss has been specified tighter than differential for some frequencies. Generally speaking the common mode return loss is little worse.

SuggestedRemedy

Propose the following return loss mask for common mode return loss
from 10 MHz to 2000 MHz RL<=6 dB
RL = 6 - 16.67xLOG10(f/5.16 GHz), 2 GHz<= f<=10.3125 GHz

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

From 10 MHz to 2000 MHz RL<=6 dB
RL = 6 - 16.67xLOG10(f/5.16 GHz), 2 GHz<= f<=7.5 GHz

insert figure and table entry.

Cl **72** *SC* **72.6.1.7** *P* **121** *L* **32** # 371

Baumer, Howard — Broadcom

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

There is no max transition time, therefore allowing extremely slow edges from the transmitter. These slow edges can cause undue ISI thereby causing system interoperability problems.

SuggestedRemedy

Specify a maximum transition time with limits as determined by the Task Force.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The rise time of a sinusoid of period 2 baud is 0.4097 baud. This would imply a rise time upper limit of 40 ps. Propose an upper limit of 40 ps.

Add to Table 72-7 and Section 72.6.1.7.

Cl **72** *SC* **72.6.1.9** *P* **121** *L* **49** # 243

Dudek, Mike — Picolight

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

The value of the tap weights is not specified for the Transmitter jitter test

SuggestedRemedy

Define what the tap weights should be for the test in 72.6.1.9

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Equalization should be "off": c(-1) at maximum, c(1) at maximum.

Add statement that equalization shall be "off" to 72.6.1.9.

Cl **72** *SC* **72.6.1.9** *P* **122** *L* **01** # 531

Dawe, Piers — Agilent

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

Redundant table.

SuggestedRemedy

Change 'Table 72-8' to 'Table 52-20' here and in 72.6.2.1, and delete table 72-8.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Cl **72** *SC* **72.6.2** *P* **125** *L* **03** # 381

Baumer, Howard — Broadcom

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

There is a potential conflict between text and table wording.

SuggestedRemedy

Do one of the following: Add text stateing which prevails if there is a conflict (text or table wording) or have the text reference the table or label the table as informative.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

If the text and table are in conflict, then the conflict should be resolved.

There is currently no reference that implies the table is normative. The "shall" statements associated with each requirement are in the text.

Cl **72** *SC* **72.6.2** *P* **125** *L* **12** # 576

Ghiasi, Ali — Broadcom

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

The receiver is missing maximum non equalizable jitter

SuggestedRemedy

Propose total non equalizable jitter to be 0.6 UI which include PJ, RJ, and DCD. In addition propose to put a maximum 0.15 UI limit on the DCD.

Proposed Response *Response Status* **U**

REJECT.

The concept of the non-equalizable jitter requires (1) a definition for non-equalizable jitter, (2) a procedure that may be used to measure non-equalizable jitter, (3) some justification regarding why 0.6 UI is the correct value.

A limit on DCD may be useful, but one would hope that it is considerably less than 0.15 UI (most simulations presented to date have assumed 0 to 0.05 UI DCD).

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **25** # 137

John, D'Ambrosia

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

Receiver Inference Tolerance Testing per Annex 69A for 10GBASE-KR with a real world device implementation has not been demonstrated.

SuggestedRemedy

Need real world device implementation tested per Annex 69A.

Proposed Response *Response Status* **U**

REJECT.

Some preliminary testing has been shown to the Task Force, more test data is anticipated. No specific actions for change to the draft has been requested.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **25** # 237

Dudek, Mike — Picolight

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

wrong spelling

SuggestedRemedy

Change inference to interference.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **25** # 382

Baumer, Howard — Broadcom

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

This section is incomplete as it references Annex 69A that has ZERO "shall" statements in it making it an "Informative" Annex.

SuggestedRemedy

Add appropriate "shall" statements to Annex 69A and label it as Normative.

Proposed Response *Response Status* **C**

ACCEPT.

Need to also evaluate the impact on the PICS.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **25** # 35

Marris, Arthur

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

Change ""inference"" to ""Interference"".

SuggestedRemedy

Change ""inference"" to ""Interference"".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **27** # 107

Moore, Charles

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

Test pattern is specified as the PRBS test pattern from 49.2.8, periodically re-seeded. This pattern is less than 34000 bits long. Interference sensitivity increases with pattern length up to severall million and beyond. We need a longer pattern. Most existing tranceivers impliment PRBS31, we should use it.

SuggestedRemedy

change text from:

The test pattern for this measurement shall be the pseudo-random test pattern of 49.2.8 with the seed values shown in Table 72.8.

The test pattern for this measurement shall be a 31 bit pseudo-random bit pattern with a generating polynomial X^31+X^28+1.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the test pattern to PRBS23.
Approved without objection.

Refer to comment #305

Straw Poll 3
Option A - Keep pattern as specified
Option B - Change test pattern to PRBS31

Option A - 7
Option B - 6
Abstain - 1

Straw Poll 1 (11/14/05 Interim)
Option A - Keep pattern as specified
Option B - Change test pattern to PRBS31
Option C - Change test pattern to PRBS23

Option A - 8
Option B - 6
Option C - 10

Straw Poll 2 (11/14/05 Interim)
Option A - Keep pattern as specified

Yes - 5
No - 4

Abstain - 11

Straw Poll 3 (11/14/05 Interim)
Option C - Change the pattern to PRBS23

Yes - 11
No - 0
Abstain - 6

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **29** # 65

Alping, Arne

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

Use of multiple periods

SuggestedRemedy

Remove one of the periods after ""... shown in Table 72-8.."".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **29** # 305

Abler, Joe IBM

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

Use of pseudo-random test pattern of 49.2.8 is specified. However, the Itol test procedure is intended to allow use of a compliant transmit, but most transmitters don't have this test pattern capability built in. Clause 49.2.8 also calls out an optional PRBS31 pattern. This pattern is more commonly built into transceivers, so it's usage should also be allowed.

SuggestedRemedy

Add a statement that optionally allows the use of PRBS31.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment 107.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **30** # 121

Andre, Szczepanek

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

Annex 69A allows receiver interference tolerance to be tested against any compliant transmitter, rather than a worst case one. This would allow a receiver to be compliant based solely on testing with an extremely good transmitter. This is not really what we are trying to achieve here. What we want is that a receiver should be able to pass the interference tolerance test with all transmitters that are compliant not just a hand-picked golden units.

I am not sure whether this is editorial or technical hence the TR

SuggestedRemedy

Add the following paragraph to 72.6.2.1, 70.6.2.1, & 71.6.2.1.

""A receiver shall not be compliant if it fails to meet the interference tolerance test parameters when tested against any compliant transmitter.""

I believe this closes the loop-hole.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to Comment #259

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **32** # 145

John, D'Ambrosia

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

In Table 72-10, minISIloss is based on the values of Amax(f) at f1, f2

SuggestedRemedy

In Table 72-10
replace reference to note 1 with value for minISIloss 22.4754 dB
delete note 1

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events.
See comment #103.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **36** *#* 613

Diab, Wael Cisco

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

Was the BER here set to match the 1G or can we do better than 10e-12 on the 10GBASE-KR interface?

SuggestedRemedy

Raise the BER requirements to 10e-15 or better

Proposed Response *Response Status* **W**

REJECT.

BER target based on the Task Force's expectation of what could be measured with confidence and in a timely manner. Actual implementations may exceed this objective.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **38** *#* 629

Kundu, Aniruddha Intel

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

Iterference generator needs to add a phase EITbase Value of 15mV p-p is too restrictive for system vendors to ensure for proper receiver operation. Unclear how this data was derived. Need background data for justification.

SuggestedRemedy

Gathering data from different platform vendors as well as Silicon vendors to verify this value or specify a better EITbase value is on going. Should be reviewed at the plenary meeting.

Proposed Response *Response Status* **W**

REJECT.

The Task Force invites the commenter to submit a new value for the EIT value and justification of that value.

Cl **72** *SC* **72.6.2.1** *P* **125** *L* **45** *#* 89

Weiner, Nick

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

Footnote to Table 72-10 specifies minISIloss with respect to Amin() values as per Equation 69A-1. Amin() is not defined by Equation 69A-1.

SuggestedRemedy

Define Amin() in annex 69A.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

A_min() should be IL_min(). Same mistake exists in clauses 70 and 71 and should be corrected there also.

Note, this correction was overtaken by the response to comment #103.

Cl **72** *SC* **72.6.2.2** *P* **125** *L* **51** *#* 560

Grow, Robert Intel

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

Bad symbology.

SuggestedRemedy

Replace =/- with symbol font single character.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.6.2.3** *P* **126** *L* **01** # 147

Anderson, Stephen

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

It is not sufficiently clear what is meant by AC-coupled. There are no receiver specifications that would distinguish between a device that is AC-coupled versus one that is direct-coupled. Most of the existing specifications begin at 100 MHz.

If AC-coupled means that there must be capacitors between TP4 and the termination resistors, this may not work. In 72.6.2.1 it is stated that the receiver test pattern is defined in 49.2.8. This seems to be a PRBS-31 pattern, which would require either DC coupling or a very long time constant. Coupling capacitors would have to be on the order of 0.1 ufd (see presentation). This forces the capacitors off-chip; resulting in signal integrity problems, added assembly, more vias, higher cost.

SuggestedRemedy

Provide specifications that define AC coupling.

Proposed receiver text:

The resistance from either RXP or RXN to ground shall be greater than 10 kohm, when measured with a common-mode input voltage of between 0.5 volt and 1.5 volt.

Proposed transmitter text:

1. The transmitter common-mode output voltage shall be within the range of 0.5 volt to 1.5 volt when loaded (differentially) by any resistance greater than 80 ohm. NOTE: 80 ohm is chosen because this is probably the low end of the tolerance limit for on-chip resistors.

2. The transmitter output amplitude requirements shall apply when the transmitter is loaded (differentially) by any resistance greater than 80 ohm.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Change Tx common mode range to (0 to 1.9V) and change the recommended cap value in 72.6.2.3 from 4.7nF to 100nF

Motion #3
Type - Technical (75%)
Description - For Clause 72, change the recommended AC coupling capacitor from 4.70nF to 100nF.
M: Tom Palkert
S: Shannon Sawyer

All Y- 10 N- 3 Abstain- 6
Motion Passes

Motion #4
Type - Technical (75%)
Description - Change the Tx common mode specification from (-0.4 to 1.9V) to (0.0 to 1.9V).
M:Tom Palkert
S: Shannon Sawyer

All Y- 14 N-1 Abstain-9
Motion Passes

Cl **72** *SC* **72.6.2.4** *P* **126** *L* **11** # 148

Anderson, Stephen

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

Because KR relies heavily on equalization, the linearity of the received signal is important. If the Rx input amplitude becomes excessive, there is little or no head room to amplify or otherwise process the signal. It is likely that the signal will be clipped, leading to a loss of linearity. The problem is particularly acute in devices operating from a 1.0 volt rail and future devices operating from a 0.8 volt rail. To preserve linearity we believe that the input amplitude (72.6.2.4) must not be allowed to go above 600 mV ppd when equalization is being used.

SuggestedRemedy

Proposed Text for 72.6.2.4

10GBASE-KR receivers shall accept differential input signal peak-to-peak amplitudes produced by compliant transmitters connected without attenuation to the receiver, and still meet the BER requirement specified in 72.6.2.1; with the exception that a compliant transmitter may be directed to operate in such a way that the received signal does not exceed 600 mV ppd when equalization (either transmit equalization or receive equalization or both) is used; and 1200 mV ppd when no equalization (neither transmit equalization nor receive equalization) is used. Since the Channel is AC-coupled, the absolute voltage levels with respect to the receiver ground are dependent on the receiver implementation.

NOTE 1: Section 72.6.1.10 provides a means for the receiver to control the transmitter amplitude as part of, or in addition to, transmitter equalization.

Proposed Response *Response Status* **C**

REJECT.

The test condition is specified to be a direct connection without attenuation, so linearity is not a primary concern.

Cl **72** *SC* **72.6.2.5** *P* **126** *L* **23** *#* 383

Baumer, Howard — Broadcom

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

Equations 72-3 & 72-4 do not cover the range specified here of 100M - 15G they go from 100MHz to 7500MHz

SuggestedRemedy

Change 15G to 7500MHz or get rid of "For frequencies from 100 MHz to 15 GHz,"

Proposed Response *Response Status* **C**

ACCEPT.

Related comments #246, 383

Cl **72** *SC* **72.6.2.5** *P* **126** *L* **23** *#* 246

Dudek, Mike — Picolight

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

In this section the differential input return loss is defined to 15GHz by equations 72-3 and 72-4. However these equations are conditioned to only 7.5GHz.

SuggestedRemedy

Option 1 repeat the equations with the appropriate conditions in this section, Option 2 point out that equation 72-4 should be used with a change to the upper frequency,
Option 3 change 15GHz tp 7.5GHz on line 24.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Refer to comment #383

Related comments #246, 383

Cl **72** *SC* **72.6.2.6** *P* **125** *L* **18** *#* 575

Ghiasi, Ali — Broadcom

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

Input return loss defined for 10GBASE-KR only provides about 4 dB of return loss at half the baudrate this equates to 63% reflection! The combination of the loose return loss and stressor that does not incorporates reflections will cause significant interoperability issues and failures.

SuggestedRemedy

Propose the following return loss mask
from 10 MHz to 2000 MHz RL<=9 dB
RL = 9 - 16.67xLOG10(f/5.16 GHz), 2 GHz<= f<=10.3125 GHz

Proposed Response *Response Status* **U**

REJECT.

The task force requires more information - feasibility of construction and system performance benefits.

Related comments: #110, 274, 573

Cl **72** *SC* **72.6.2.6** *P* **126** *L* **28** *#* 384

Baumer, Howard — Broadcom

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

A common mode return loss specifications forces designs to use single ended terminations. This eliminates a purely differentially terminated implementation. Common mode interference is already limited by EMI specifications making this section redundant.

SuggestedRemedy

Delete section 71.6.2.6

Proposed Response *Response Status* **C**

ACCEPT.

Also, delete common-mode return loss in Table 72-9.

Related comments: #384, 577

Cl **72** *SC* **72.6.2.6** *P* **126** *L* **30** *#* 577

Ghiasi, Ali — Broadcom

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

The receiver common mode return loss has been specified tighter than differential for some frequencies. Generally speaking the common mode return loss is little worse.

SuggestedRemedy

Propose the following return loss mask for common mode return loss
from 10 MHz to 2000 MHz RL<=6 dB
RL = 6 - 16.67xLOG10(f/5.16 GHz), 2 GHz<= f<=10.3125 GHz

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Overtaken by events. See comment #384.

Related comments: #384, 577

Cl **72** *SC* **72.8.4** *P* **127** *L* **08** *#* 139

John, D'Ambrosia

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

calls out 1000BASE-KR

SuggestedRemedy

replace with 10GBASE-KR

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.8.5** *P* **127** *L* **13** *#* 138

John, D'Ambrosia

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

calls out 1000BASE-KR

SuggestedRemedy

replace with 10GBASE-KR.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.8.5** *P* **127** *L* **20** *#* 706

David V James — JGG

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

DVJ-133
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Protocol Implementation Conformance Statement
==>
Protocol implementation conformance statement

Proposed Response *Response Status* **W**

REJECT.

Will consult the publication editor and implement prior to sponsor ballot.

Cl **72** *SC* **72.9** *P* **127** *L* **19** *#* 592

Booth, Brad — Intel

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

PICS needs to start at the top of a new page.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.9.1** *P* **127** *L* **28** *#* 140

John, D'Ambrosia

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

calls out 10GBASE-KX4

SuggestedRemedy

replace with 10GBASE-KR

Proposed Response *Response Status* **W**

ACCEPT.

Cl **72** *SC* **72.9.4.3** *P* **130** *L* **14** *#* 119

Andre, Szczepanek

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

PICS item CF4 :
Value/Comment Field in the PICS for ""update gain encoding"" says:
""Changed if all corresponding updates fields set to zero""
This is not a true summary of the referenced text.

SuggestedRemedy

Should say :
""Only Changed if all corresponding updates fields set to zero""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **72.9.4.4** *P* **131** *L* **43** *#* 115

Andre, Szczepanek

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

Typo in PICS item TC16:
""falue""

SuggestedRemedy

""value""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **Figure 72-3** *P* **116** *L* **21** *#* 368

Baumer, Howard Broadcom

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

Repeated good_markers<=0

SuggestedRemedy

Delete one

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
One should be bad_markers<=0

Cl **72** *SC* **Figure 72-4** *P* **117** *L* **29** *#* 558

Grow, Robert Intel

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

As I recall, separate exit transition lines are to be used when exit conditions differ.

SuggestedRemedy

Split transitions into two lines, also Figure 72-3 at bottom of state diagram.

Proposed Response *Response Status* **C**

REJECT.

State transitions are clear and similar liberties were taken in other clauses of IEEE Std. 802.3 and published amendments (reference, for example Figure 49-12, 49-13, and 49-14).

Cl **72** *SC* **Figure 72-5** *P* **118** *L* **11** *#* 369

Baumer, Howard Broadcom

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

Confusing logic tests due to lack of parentheses

SuggestedRemedy

replace "new_coeff >= MAX_LIMIT" with "(new_coeff >= MAX_LIMIT)"; "new_coeff > MIN_LIMIT with "(new_coeff > MIN_LIMIT)"; "new_coeff < MAX_LIMIT with "(new_coeff < MAX_LIMIT)"; and "new_coeff =< MIN_LIMIT with "(new_coeff =< MIN_LIMIT)"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **Figure 72-9** *P* **117** *L* **29** *#* 559

Grow, Robert Intel

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

It looks like a capital C is used in Figure but lower case c in definitions.

SuggestedRemedy

Make consistent.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **Table 72-4** *P* **110** *L* **17** # 555

Grow, Robert Intel

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

Bit identification is usually underlined.

SuggestedRemedy

underline the ""15"" and ""14"". Similar for following rows and other tables.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **72** *SC* **Table 72-5** *P* **111** *L* **31** # 572

Grow, Robert Intel

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

I don't find any value in the Bit(s) column, and since a cell is always 8 bits, it is an easy conversion for the implementer if you care to counting bits. Including it though in the standard only creates an unnecessary probability of error as in the 14:10 and 9:6 rows, where the bound is off by 10 bits (not even a cell boundary).

SuggestedRemedy

Delete the bits column is this and in Table 72-4.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.1** *P* **133** *L* **05** # 707

David V James JGG

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

DVJ-134
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Introduction
==>
introduction

Proposed Response *Response Status* **W**

REJECT.

Identifying a special term rather than standard English usage is a valid reason to captialize. However, introduction is used in the normal English sense and should not be capitalized.

Cl **73** *SC* **73.1** *P* **133** *L* **06** # 13

Daines, Kevin

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

I don't think referencing this project is appropriate in the opening line of 73.1. I believe the specific PHYs, or the family of PHYs, or the Clauses in which the PHYs are specified should be referenced. ""802.3ap"" is a convenient shorthand but over time will fade while the PHY types and Clause numbers will remain.

SuggestedRemedy

Reword per comment above.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

See 562

Cl **73** *SC* **73.1** *P* **133** *L* **06** # 562

Grow, Robert Intel

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

The project identification is transitory and goes away when the amendment is merged into the base document.

SuggestedRemedy

Replace 802.3ap with backplane Ethernet.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.1** *P* **133** *L* **06** *#* 16

King, Iain

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

I had to re-read the first para a few times before I realised it wasn't contradicting itself (I thought the first sentence says AN is mandatory, the second says it is optional!). I realised the key word is 'use' in the second sentence as opposed to 'implemented' in the first. I wonder if there is a better way of phrasing this para to minimise the potential for confusion.

SuggestedRemedy

Perhaps change the second sentence to read ""The use of the PHY's AN capabilities is optional, however. Parallel detection shall be provided for legacy devices that do not support AN.""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"The use of the PHY's AN capabilities is optional. Parallel detection shall be provided for legacy devices that do not support AN."

Cl **73** *SC* **73.1** *P* **133** *L* **07** *#* 385

Baumer, Howard Broadcom

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

Having a mandatory function who"s use is optional doesn"t make sense. Providing parallel detection for legacy devices that don"t support AN implies an 802.3ap phy without AN, a contradictory statement. Further more there is nothing in the any of the PMA/PMD type definitions that require auto-negotiation.

SuggestedRemedy

Make AN implementation optional for all PMA/PMD types

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Delete 1st sentence of Clause 73.

Add text to Clauses 70, 71, and 72 that states the implementation of Auto-Negotiation, as specified by Clause 73, is mandatory.

By virtue of the control bits, it is implied that auto-negotiation is optional to use.

Approved without objection.

Cl **73** *SC* **73.1** *P* **133** *L* **18** *#* 9

Daines, Kevin

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

Suggest replacing ""Differential Manchester encoding"" with DME.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Since this is the first usage in the Clause, it should be spelled out, but the spelled out term will be harmonized with the acronym defined in 1.4 (see comment 8).

Cl **73** *SC* **73.1** *P* **133** *L* **18** *#* 8

Daines, Kevin

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

It is a nit, but DME was previously defined as ""Differential Manchester Encoding"" in 1.4. This text adds a ""-"" and uses ""Encoded"". This should be harmonized.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **C**

ACCEPT.

Use Differential Manchester Encoding

Cl **73** *SC* **73.1** *P* **133** *L* **25** *#* 532

Dawe, Piers Agilent

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

A piece of silicon doesn't understand

SuggestedRemedy

Change 'understand' to 'discover'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.1** *P* **133** *L* **29** *#* 386
Baumer, Howard Broadcom

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

Grammar changes

SuggestedRemedy

Change "à in an ordered fashion, permits" to "à in an orderly fashion, it permits"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
"in an orderly fashion, permits"

Cl **73** *SC* **73.1** *P* **133** *L* **30** *#* 387
Baumer, Howard Broadcom

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

Missing "it"

SuggestedRemedy

Change "à and allows à" to "à and it allows à"

Proposed Response *Response Status* **C**

REJECT.

There is no missing "it". This is a valid sentence with parallel structure:

"The Auto-Negotiation function allows . . ., permits . . ., and allows . . . ."

Inserting the suggested it would make the sentence structure incorrect.

Cl **73** *SC* **73.1** *P* **133** *L* **32** *#* 533
Dawe, Piers Agilent

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

Long sentence doesn't all make sense; not sure quite what was intended.

SuggestedRemedy

... disabled, and legacy devices that can interoperate with 1000BASE-KX and 10GBASE-KX4 devices, to be ...

Proposed Response *Response Status* **C**

ACCEPT.

The Auto-Negotiation function also provides a parallel detection function to allow backplane Ethernet devices to connect to backplane Ethernet devices that have Auto-Negotiation disabled and to interoperate with legacy devices that do not support Clause 73 Auto-Negotiation.

Cl **73** *SC* **73.1** *P* **133** *L* **36** *#* 388
Baumer, Howard Broadcom

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

There is no conflict between Clause 73 auto-negotiation and Clause 37 auto-negotiation. If a Clause 73 enabled device is connected to a Clause 37 enabled device that wishes to transfer information through auto-negotiation the Clause 37 device will not be able to as it is prohibitied from enabling its Clause 37 auto-negotiation.

SuggestedRemedy

Delete this sentence.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace with -
"It is highly recommended that a device that has negotiated 1000BASE-KX operation through this clause not perform Clause 37 auto-negotiation. If Clause 37 auto-negotiation is performed after this clause's auto-negotiation, then it is highly recommended that the advertised abilities used in Clause 37 match those advertised abilities used in this clause."

Cl **73** *SC* **73.1** *P* **133** *L* **36** *#* 1
Daines, Kevin

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

clause should be ""Clause"" in two places on this line.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.10.4.2** *P* **162** *L* **12** *#* 46
Claseman, George Micrel Semiconductor

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

""wiht""

SuggestedRemedy

""with""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.10.4.2** *P* **162** *L* **12** *#* 47

Claseman, George — Micrel Semiconductor

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

""suppported""

SuggestedRemedy

""supported""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.10.4.2** *P* **162** *L* **28** *#* 250

Joergensen, Thomas — Vitesse Semiconducto

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

The reference in DT8, column ""Value/Comment"" is incorrect. 42.2.4.2 has to be replaced with 48.2.4.2.

SuggestedRemedy

Replace 42.2.4.2 with 48.2.4.2.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.10.4.3** *P* **163** *L* **15** *#* 39

Claseman, George — Micrel Semiconductor

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

""Vaues""

SuggestedRemedy

""Values""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.10.4.4** *P* **164** *L* **14** *#* 251

Joergensen, Thomas — Vitesse Semiconducto

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

The reference in RF4, column ""Value/Comment"" should be Figure 73-9 instead of 73-10

SuggestedRemedy

Replace 73-10 with 73-9

Proposed Response *Response Status* **C**

ACCEPT.

Also need to correct fugure number in 73.7.3

Cl **73** *SC* **73.10.4.6** *P* **165** *L* **40** *#* 254

Joergensen, Thomas — Vitesse Semiconducto

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

The use of Clause 45 electrical interface should be optional, see other comment from me.

SuggestedRemedy

Replace ""Interface used for logical and electrical access"" with ""Interface used to access the device registers""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See 253

Cl **73** *SC* **73.2** *P* **133** *L* **40** *#* 601

Booth, Brad — Intel

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

Incorrect heading. The relationship is not to ISO/IEC 8802-3, it is to the ISO OSI reference model.

SuggestedRemedy

Change to read: Relationship to the ISO OSI reference model

Proposed Response *Response Status* **W**

ACCEPT.

Cl **73** *SC* **73.2** *P* **134** *L* **01** # 607

Booth, Brad — Intel

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

Incorrect figure. The figure is meant to show the placement of AN relative to the other sublayers and the OSI reference model.

SuggestedRemedy

Delete TBI and XSBI. Ensure PHY bracket on the right completely encompasses from the bottom of AN to the top of the PCS. Unshade the PMDs. Divide AN into three blocks and label each block AN*. Unshade MDI, and place a MDI and MEDIUM under each of the three PHYs.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use only one stack, showing *GMII, PCS, PMA, MDI, AN, and then medium.

See Fig 28-2 for style of resolution.

Cl **73** *SC* **73.3** *P* **134** *L* **44** # 389

Baumer, Howard — Broadcom

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

If the phy types aren"t limited to these then what others are allowed? Any PMA/PMD types added in the future will modify this sentence to include them, therefore "but not limitied to" is not needed.

SuggestedRemedy

Remove ", but are not limited to,"

Proposed Response *Response Status* **C**

ACCEPT.

In theory, at some point we could add vendor dependant next pages and a vendor could use them to support a proprietary PHY, but the statement that "Technology-dependant PHYs include . . . ." is not exclusive and an explicit statement "but are not limited to" is unnecessary.

Cl **73** *SC* **73.4** *P* **135** *L* **01** # 534

Dawe, Piers — Agilent

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

Confusing choice of word if one cares about fiber optics.

SuggestedRemedy

Change 'multimode' to multi-ability'. Consider changing 'mode' to 'ability' or 'port type'. Similarly in 73.7.6

Proposed Response *Response Status* **C**

ACCEPT.

multi-ability

Cl **73** *SC* **73.4** *P* **135** *L* **01** # 535

Dawe, Piers — Agilent

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

highest common local ability?

SuggestedRemedy

Delete 'local'.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.5** *P* **135** *L* **05** # 708

David V James — JGG

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

DVJ-135
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Transmission
==>
transmission

Proposed Response *Response Status* **W**

ACCEPT.

Disagree with the principle suggested by the commentor, but in this case, the word appears to be used in its common English meaning and shouldn't be capitalized.

Cl **73** *SC* **73.5** *P* **135** *L* **08** *#* 536
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **R**
Need more info (in particular, the signaling rate).

SuggestedRemedy
Cross-reference to 72.5.10.2.2.

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

The rate used in Clause 72 for DME during link training is not the rate used for AN. 73.5.3 defines the timing for AN DME signaling and there is no need to cross reference a part of 73.5 for one of the many characteristics of DME transmission that are covered within 73.5.

Cl **73** *SC* **73.5.1.1** *P* **135** *L* **35** *#* 50
Claseman, George Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""specfied""

SuggestedRemedy
""specified""

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

Cl **73** *SC* **73.5.2** *P* **135** *L* **38** *#* 709
David V James JGG

Comment Type **ER** *Comment Status* **A** *caps*
DVJ-136
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy
Encoding
==>
encoding

Proposed Response *Response Status* **W**
ACCEPT.

Disagree with the principle suggested by the commentor, but in this case, the word appears to be used in its common English meaning and shouldn't be capitalized.

Cl **73** *SC* **73.5.2** *P* **135** *L* **47** *#* 40
Claseman, George Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""sychronization""

SuggestedRemedy
""synchronization""

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

Cl **73** *SC* **73.5.2** *P* **136** *L* **01** *#* 288
McClellan, Brett Solarflare

Comment Type **T** *Comment Status* **A**
It is not clear exactly what is being referenced in 48.2.4.2.
Can the pseudo-random source be explicitly defined in clause 73?

SuggestedRemedy
Specify the pseudo-random source in this clause.

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

Change ".. As defined in 48.2.4.2",
to "as defined in Fig 73-XX"

Add Fig 73-XX
This is a shift register diagram illustrating equation "x^7+x^6+1"

see also comment 390

Cl **73** *SC* **73.5.2** *P* **136** *L* **01** *#* 390
Baumer, Howard Broadcom

Comment Type **E** *Comment Status* **A**
Reference not specific enough

SuggestedRemedy
Change "à defined in 48.2.4.2." to "à defined in Figure 48-5 in 48.2.4.2."

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

See comment 288

Cl **73** *SC* **73.5.2** *P* **136** *L* **14** # 710

David V James JGG

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

DVJ-137
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

Clock Transitions
==>
Clock transitions

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

The IEEE Style guide does not specify that. Its requirements on captialization in figures are:
Letter symbols not normally capitalized shall always be lowercase (see Figure 4).
Only the initial letter of the first word and proper nouns shall be capitalized in figure titles.

The text in question is a figure caption and not a figure title.
However, the capitalization of "transition" and of "bit on wire" seems unnecessary so make lower case.

Cl **73** *SC* **73.5.2** *P* **136** *L* **20** # 711

David V James JGG

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

DVJ-138
Capitalization within figure callouts should be limited to the first word, as per IEEE Style Guide. This rule always applies, regardless of whether the callout is split into multiple lines.

SuggestedRemedy

First Bit on Wire
==>
First bit on wire

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

See 710

Cl **73** *SC* **73.5.3** *P* **136** *L* **30** # 712

David V James JGG

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

DVJ-139
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Timing
==>
timing

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Disagree with the principle suggested by the commentor, but in this case, the word appears to be used in its common English meaning and shouldn't be capitalized.

Cl **73** *SC* **73.5.3** *P* **137** *L* **06** # 714

David V James JGG

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

DVJ-141
Nonstandard table line widths

SuggestedRemedy

==>
very thin in center
thin on edges of header and body

Proposed Response *Response Status* **W**

REJECT.

This is an Adobe PDF display quirk and not a source problem. The lines are all the same on the printed page. If you change the PDF magnification on the screen, you will also see the "real" line widths are uniform.

Cl **73** *SC* **73.5.3** *P* **137** *L* **07** # 289

McClellan, Brett — Solarflare

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

In Table 73-2, it appears that the timing spec for T1 conflicts with T2 and T3. I assume that T1 is supposed to be the average period while T2 and T3 allow for instantaneous jitter, but this is not explicity stated.

SuggestedRemedy

Clarify the difference between T1 and T2/T3 timing specs.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

T1 is intended to be the transmit clock rate for DME transitions. The other timing parameters allow for rise and fall time variation of a transition from the clock position. Text will be added to clarify that and T1 will be removed from Figure 73-3.

Editorial note - fix the spacing on the max value for T1.

Cl **73** *SC* **73.5.3** *P* **137** *L* **09** # 391

Baumer, Howard — Broadcom

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

T2 will always be met if T1 is met so why not make T2 = 6.4 +/- 0.02%?

SuggestedRemedy

Make T2 = 6.4 +/- 0.02%

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Motion was originally ACCEPT.
Motion #2 (Nov, 2005 Plenary) - Motion to reconsider the response to the comment.

Moved by - Andre Szczepank
Second by - John D'Ambrosia

Approved by voice vote without objection
Comment #391 re-opened

Updated Response - Refer to Comment #289

Cl **73** *SC* **73.5.3** *P* **137** *L* **11** # 392

Baumer, Howard — Broadcom

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

Why is T3 looser than T1? Per T1 T3 will always be met.

SuggestedRemedy

Make T3 = T1

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See 289

Cl **73** *SC* **73.5.3** *P* **137** *L* **15** # 393

Baumer, Howard — Broadcom

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

T5 will always be met if T1 is met so just make T5 = 339.2 +/- 1.06%

SuggestedRemedy

Make T5 = 339.2 +/- 1.06%

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

see 289

Cl **73** *SC* **73.5.3** *P* **137** *L* **17** # 394

Baumer, Howard — Broadcom

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

T6 will always be met if T1 is met so just make T6 = 12.8 +/- 0.04%

SuggestedRemedy

Make T6 = 12.8 +/- 0.04%

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

see 289

Cl **73** *SC* **73.5.3.1** *P* **137** *L* **40** *#* 617
Ganga, Ilango Intel

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

In figure 73-4 missing bit cell edges are indicate by solid lines. Change this to dotted lines

SuggestedRemedy

In figure 73-4 Change missing bit cell edges to dotted lines instead of solid lines.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

They are dotted lines - check the print out or up the magnification on the screen display. Editor will see if there is a smaller dot size for lines that shows up better on the screen.

Cl **73** *SC* **73.6** *P* **137** *L* **47** *#* 713
David V James JGG

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

DVJ-140
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Encoding
==>
encoding

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Disagree with the principle suggested by the commentor, but in this case, the words appear to be used in their common English meaning and shouldn't be capitalized.

Cl **73** *SC* **73.6** *P* **138** *L* **22** *#* 618
Ganga, Ilango Intel

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

change line 22 ""The remaining capability bits are reserved."" to read as ""The remaining capability bit C[2] is reserved.""

SuggestedRemedy

Change line 22 ""The remaining capability bits are reserved."" to read as ""The remaining capability bit C[2] is reserved.""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6** *P* **138** *L* **25** *#* 279
McClellan, Brett Solarflare

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

""Pause capability resolution is referenced in 28B.3""
Use ""defined"" instead of ""referenced.

SuggestedRemedy

change text to:""Pause capability resolution is defined in 28B.3""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the line instead per 620 as the material is covered in 73.6.5.

Cl **73** *SC* **73.6** *P* **138** *L* **26** *#* 620
Ganga, Ilango Intel

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

Delete line 26 ""Pause capability resolution is referenced in 28B.3"". This information not relevant here it is already specified in section 73.6.5 Pause

SuggestedRemedy

Delete line 26 ""Pause capability resolution is referenced in 28B.3"".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.1** *P* **138** *L* **34** *#* 780
Beck, Michael Alcatel Bell n.v.

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

Current text reads:
""The selector field for 802.3 Backplane Ethernet is the following:""

This is not a good idea, as tables may float away from their original position in the text when final lay-out is done.

SuggestedRemedy

Replace quoted text with:
""The selector field for 802.3 Backplane Ethernet is shown in Table 73-3.""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.2** *P* **138** *L* **45** *#* 18

King, Iain

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

In the UK there is an alternative meaning to the word 'nonce' that may raise a few eyebrows when this standard is read (see http://www.missingimages.com/thesweeney/dictionary.html). It is unlikely, though, that there will be much chance of confusion, given the target audience.

On a more serious note, this term is not defined in section 1.

SuggestedRemedy

Consider an alternative term, and/or add a definition to section 1

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a definition to 1.4

Cl **73** *SC* **73.6.3** *P* **139** *L* **04** *#* 238

Dudek, Mike Picolight

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

spelling

SuggestedRemedy

Change enrty to entry

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.3** *P* **139** *L* **04** *#* 280

McClellan, Brett Solarflare

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

typo

SuggestedRemedy

change ""enrty"" to ""entry""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.4** *P* **139** *L* **17** *#* 718

David V James JGG

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

DVJ-145
English words should not be capitalized simply because their meaning is different from normal English usage.

SuggestedRemedy

Encoding
==>
encoding

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Encoding is used in its normal English sense and should not be captialized per style guide on figure titles.

Cl **73** *SC* **73.6.4** *P* **139** *L* **20** *#* 717

David V James JGG

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

DVJ-144
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

REJECT.

Acrobat display problem. If you print the page or change the maginification you will see that the line widths of the source are uniform.

Cl **73** *SC* **73.6.4** *P* **139** *L* **30** *#* 395

Baumer, Howard Broadcom

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

Resolve TBD

SuggestedRemedy

Remove "/TBD could be used either"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See 283

Cl **73** *SC* **73.6.4** *P* **139** *L* **31** # 283

McClellan, Brett Solarflare

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

""The fields A[26:3] are Reserved/TBD could be used either for future expansion of new technologies for 802.3 Backplane Ethernet or additional parameters to be negotiated for 802.3ap Backplane Ethernet.""

The TBD should have been removed going into draft 2.0.
The field can't be both Reserved and TBD and used for additional parameters.

SuggestedRemedy

Change text to: ""The fields A[26:3] are Reserved.""

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

"reserved for future use"
Also add the usual statement that reserved means they "shall be sent as zero and ignored on receive"?

For consistancy in the table entry say "reserved".

Cl **73** *SC* **73.6.4** *P* **139** *L* **36** # 396

Baumer, Howard Broadcom

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

Case correction

SuggestedRemedy

Change "à (C0:C1) is encoded in bit D11:D10 à" to "à (C0:C1) are encoded in bits D11:D10 à"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.5** *P* **139** *L* **39** # 2

Daines, Kevin

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

""Clause 28B"" should be ""Annex 28B""

SuggestedRemedy

see comment

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.5** *P* **139** *L* **42** # 3

Daines, Kevin

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

""Clause 28B.2"" should be ""Annex 28B.2""

SuggestedRemedy

see comment

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.7** *P* **140** *L* **09** # 397

Baumer, Howard Broadcom

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

Redundant word

SuggestedRemedy

Change "à encoded in bit D14 of Link Code Word encoding." to "à encoded in bit D14 of the Link Code Word."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.6.8** *P* **140** *L* **23** # 398

Baumer, Howard Broadcom

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

Redundant word

SuggestedRemedy

Change "à encoded in bit D15 of Link Code Word encoding." to "à encoded in bit D15 of the Link Code Word."

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.7.1** *P* **141** *L* **01** *#* 399

Baumer, Howard — Broadcom

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

Is this a recommendation or should this be a "shall"?

SuggestedRemedy

If this is a requirement then change "should" to "shall"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete lines 1 and 3 and insert reference to 73.5.1.1 where the requirement is stated.

Cl **73** *SC* **73.7.1** *P* **141** *L* **03** *#* 400

Baumer, Howard — Broadcom

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

Is this a recommendation or should this be a "shall"?

SuggestedRemedy

If this is a requirement then change "should" to "shall"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See 399

Cl **73** *SC* **73.7.4** *P* **141** *L* **23** *#* 36

Marris, Arthur

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

Change ""discribed"" to ""described"".

SuggestedRemedy

Change ""discribed"" to ""described"".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.7.4.1** *P* **141** *L* **34** *#* 619

Ganga, Ilango — Intel

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

delete duplicate information on line 34

SuggestedRemedy

Delete the following construct from lines 34-35, ""to allow 1000BASE-KX, 10GBASE-KX, 10GBASE-KX4 and 10GBASE-KR devices that have Auto-Negotiation disabled""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.7.4.1** *P* **141** *L* **34** *#* 249

Joergensen, Thomas — Vitesse Semiconducto

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

Duplicate text

SuggestedRemedy

Remove the following text starting on line 34: ""to allow 1000BASE-KX, 10GBASE-KX4 and 10GBASE-KR devices that have Auto-Negotiation disabled""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.7.4.1** *P* **142** *L* **02** *#* 622

Ganga, Ilango — Intel

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

incorrect register description on line 2. The line 2 should read as follows, ""bit (45.2.7.2.3) in the AN Status register""

SuggestedRemedy

Correct page 142, line 2 to read as follows, ""bit (45.2.7.2.3) in the AN Status register""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.7.6** *P* **135** *L* **47** # 538

Dawe, Piers — Agilent

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

Can't parse 'Clause 73 Auto-Neg(management function shall use MMD7) function.' Should spell out 'negotiation'

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Spell out Negotiation, delete the item in the parenthesis which is unnecessary to the note.

Cl **73** *SC* **73.7.6** *P* **135** *L* **47** # 537

Dawe, Piers — Agilent

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

You can't put a 'shall' in one of these NOTEs, they are informative.

SuggestedRemedy

If you mean it, make it into regular text.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The "shall"s here unnecessary. Delete the first shall and the parenthetical item with the shall.

Cl **73** *SC* **73.7.6** *P* **142** *L* **24** # 781

Beck, Michael — Alcatel Bell n.v.

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

The current text contains the phrase ""the highest priority as defined below"".

This is not a good idea, as tables may float away from their original position in the text when final lay-out is done.

SuggestedRemedy

Replace quoted text with:
""the highest priority as defined in Table 73-5""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.7.6** *P* **142** *L* **29** # 720

David V James — JGG

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

DVJ-147
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Priority Resolution
==>
Priority resolution

Proposed Response *Response Status* **W**

REJECT.

Priority Resolution is the function name and both words will be capitalized as is common in our function names.

Cl **73** *SC* **73.7.6** *P* **142** *L* **32** # 719

David V James — JGG

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

DVJ-146
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

REJECT.

This is an Adobe PDF display quirk and not a source problem. The lines are all the same on the printed page. If you change the PDF magnification on the screen, you will also see the "real" line widths are uniform.

Cl **73** *SC* **73.7.7** *P* **143** *L* **23** # 401

Baumer, Howard — Broadcom

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

Missing "be"

SuggestedRemedy

Change "à Codes can transmitted à" to "à Codes can be transmitted à"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.7.7** *P* **143** *L* **24** # 239
Dudek, Mike Picolight

Comment Type **E** *Comment Status* **A**
incorrect grammar

SuggestedRemedy
Change ""Can transmitted"" to ""Can be transmitted""

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

Cl **73** *SC* **73.7.7.** *P* **143** *L* **24** # 51
Claseman, George Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""can transmitted""

SuggestedRemedy
""can be transmitted""

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

Cl **73** *SC* **73.8** *P* **145** *L* **04** # 539
Dawe, Piers Agilent

Comment Type **TR** *Comment Status* **A**
You can't say 'The clause 45 Management Data Input/Output (MDIO) interface shall be used ...' because per 45.1, 'The MDIO electrical interface is optional.'.

SuggestedRemedy
Change to 'may be used', 'may conveniently be used', 'is recommended' or similar.

Proposed Response *Response Status* **W**
ACCEPT IN PRINCIPLE.

See 253

Cl **73** *SC* **73.8** *P* **145** *L* **04** # 253
Joergensen, Thomas Vitesse Semiconducto

Comment Type **T** *Comment Status* **A**
The electrical part of the Clause 45 MDIO management interface should be optional. As it is written here it requires the electrical interface to be present (there is a ""shall"").

SuggestedRemedy
Change the sentence to read: ""The clause 45 Management Data Input/Output (MDIO) interface shall be used to access the device registers for Auto-Negotiation and other Management purposes.""
and add: ""The MDIO electrical interface is optional. Where no physical embodiment of the MDIO exists, provision of an equivalent mechanism to access the registers is recommended.""

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

The commentor's suggestion is consistant with Clause 45. Use the suggested remedy text.

In the PICS, split MR1 into two items - a mandatory one for the management functionality and an optional one for the management electrical interface.
Also delete 73.8.1. 73.8 says the logical management interface is mandatory so we don't need 73.8.1.

Cl **73** *SC* **73.8** *P* **145** *L* **08** # 540
Dawe, Piers Agilent

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

SuggestedRemedy
management

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

Cl **73** *SC* **73.8** *P* **145** *L* **46** *#* 541

Dawe, Piers — Agilent

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

Variable name, last row of table 73-6, seems wrong.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

There is no variable name.

Put "set to one" in this box. Auto-negotiation support is mandatory for backplane Ethernet so this bit will be 1 for the devices in this clause.

Cl **73** *SC* **73.8.1** *P* **145** *L* **10** *#* 782

Beck, Michael — Alcatel Bell n.v.

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

Table 73-6 is not cited in the text. Although this is no longer mandatory (a novelty in the 2005 edition of the Style Guide), it is still a good idea to do so, especially considering the fact that tables can float away from their original position in the text when the page lay-out is altered.

SuggestedRemedy

Cite Table 73-6 in the text.

Proposed Response *Response Status* **C**

ACCEPT.

In 73.8 add
Table 73-6 provides the mapping of state diagram variables to management registers.

Cl **73** *SC* **73.8.1** *P* **145** *L* **18** *#* 402

Baumer, Howard — Broadcom

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

Wrong register reference

SuggestedRemedy

Change "6.16.15:0" to "7.16.15:0"

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.8.1** *P* **145** *L* **18** *#* 721

David V James — JGG

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

DVJ-148
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

ACCEPT.

This is an Adobe PDF display quirk and not a source problem. The lines are all the same on the printed page. If you change the PDF magnification on the screen, you will also see the "real" line widths are uniform.

Cl **73** *SC* **73.8.1** *P* **145** *L* **19** *#* 37

Marris, Arthur

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

The MMD should be 7 rather than 6.

SuggestedRemedy

Change 6.16.15:0 to 7.16.15:0

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.9.1** *P* **148** *L* **38** *#* 17

King, Iain

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

Typo 'Mancehster'

SuggestedRemedy

Change to 'Manchester'

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.9.1** *P* **148** *L* **38** # 52
Claseman, George — Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""Mancehster""

SuggestedRemedy
""Manchester""

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

Cl **73** *SC* **73.9.1** *P* **150** *L* **19** # 41
Claseman, George — Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""Auto-Negotiaion""

SuggestedRemedy
""Auto-Negotiation""

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

Cl **73** *SC* **73.9.1** *P* **150** *L* **38** # 403
Baumer, Howard — Broadcom

Comment Type **T** *Comment Status* **R**
The transmitted nonce from the link partner is highly unlikely to match the transmitted nonce of the local device. Section 73.6.2 discusses an echoed nonce field that is intended to match the transmitted nonce field.

SuggestedRemedy
Change "à the transmitted nonce received à" to "à the echoed nonce received à"

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

This is the test that checks whether the received signal is possibly crosstalk from ones own transmitter. If the received transmitted nonce field matches the sent transmitted nonce field, one goes from ABILITY DETECT to TRANSMIT DISABLE to restart the auto-negotiation. Either the received signal was ones own transmitter or both partners used the same nonce. In the latter case, the next nonce chosen should be different and the negotiation should succeed the next time. ack_nonce_match checks for the match between the transmitted nonce value and the echoed value.

Cl **73** *SC* **73.9.1** *P* **151** *L* **19** # 53
Claseman, George — Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""an DME page""

SuggestedRemedy
""a DME page""

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

Cl **73** *SC* **73.9.2** *P* **152** *L* **53** # 42
Claseman, George — Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""or or""

SuggestedRemedy
""or""

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

Cl **73** *SC* **73.9.2** *P* **152** *L* **54** # 43
Claseman, George — Micrel Semiconductor

Comment Type **E** *Comment Status* **A**
""or or""

SuggestedRemedy
""or""

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

Cl **73** *SC* **73.9.2** *P* **153** *L* **15** *#* 404

Baumer, Howard — Broadcom

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

The data_det_min_timer has a range of 1.4ns but the data_detect_max_timer only has a range of 0.8ns. Making these ranges the same, 1.4ns, allows for implementations using the KX baud time.

SuggestedRemedy

Make the data_detect_max_timer range 3.4-4.8ns as in table 73-7.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.9.2** *P* **153** *L* **45** *#* 54

Claseman, George — Micrel Semiconductor

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

""withthe""

SuggestedRemedy

""with the""

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.9.2** *P* **154** *L* **08** *#* 722

David V James — JGG

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

DVJ-149
Nonstandard table line widths

SuggestedRemedy

==> very thin in center
==> thin on edges of header and body

Proposed Response *Response Status* **W**

REJECT.

This is an Adobe PDF display quirk and not a source problem. The lines are all the same on the printed page. If you change the PDF magnification on the screen, you will also see the "real" line widths are uniform.

Cl **73** *SC* **73.9.2** *P* **154** *L* **43** *#* 59

Claseman, George — Micrel Semiconductor

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

Value = 0 is not stated. This would seem to be included in the not_done condition.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change range to "0 to 48 inclusive"

Cl **73** *SC* **73.9.4** *P* **155** *L* **01** *#* 602

Booth, Brad — Intel

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

The TDI is located in the wrong place. It is in the middle of the state machine variables and diagrams.

SuggestedRemedy

Move TDI from 73.9.4 to be 73.9. Move the State diagrams and variable definitions to be 73.10.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **73** *SC* **73.9.4.1** *P* **155** *L* **08** # 99

Healey, Adam

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

The technology dependent interface defines PMA_LINK.indication and PMA_LINK.request primitives. Unfortunately, these primitives are not defined in the clause 36 (1000BASE-X), clause 48 (10GBASE-X), or clause 51 (10GBASE-R/W) PMAs. This interface definition is broken and the auto-negotation function is rendered unusable since it has no means to check the status of, or enable/disable the different port types.

SuggestedRemedy

1. The technology dependent interface needs to be re-defined in terms of existing services primitives (PCS, PMA, or PMD)...

-or-

2. The PMA_LINK.indication or PMA_LINK.request primitives need to be added to the clause 36, 48, and 51 PMAs, and the behavior of these PMAs with respect to those primitives must be defined.

Option #1 is preferred if it proves to be feasible. Otherwise, major work will have to be done to amend (or perhaps create backplane specific versions of) the PMA sublayers.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The primitives should be renamed as AN primitives. The primitives should be referenced from 70, 71, and 72.

Pat Thaler to provide verbiage to editors for clauses 70, 71, and 72.

Cl **73** *SC* **73.9.4.1.1** *P* **155** *L* **20** # 405

Baumer, Howard Broadcom

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

PMA_CARRIER.indication and PMA_UNITDATA.indication are undefinded

SuggestedRemedy

Either define these or delete "READY, the PMA_CARRIER.indication and PMA_UNITDATA.indication primitives are undefined"

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This sentence is unnecessary and will be deleted.

Cl **73** *SC* **73.9.4.2.1** *P* **155** *L* **42** # 406

Baumer, Howard Broadcom

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

SCAN_FOR_CARRIER mode is undefined

SuggestedRemedy

Either define SCAN_FOR_CARRIER mode of delte this value and its description

Proposed Response *Response Status* **C**

REJECT.

We need the SCAN FOR CARRIER to do parallel detect. It is defined in the primitive which will be an AN primitive and will be referenced from Clauses 70, 71 and 72. The PMD shall's will be moved to Clauses 70, 71 and 72.

Cl **73** *SC* **73.9.4.2.3** *P* **156** *L* **13** # 407

Baumer, Howard Broadcom

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

link integrity test function is not defined for any of the PMAs KX, KX4, KR.

SuggestedRemedy

Define the link integrity test function

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Put in boiler plate statement that says the effect of this primitive is specified in the PMD.
Put in actions in 70, 71, 72

Cl **73** *SC* **73.9.5** *P* **157** *L* **05** # 544

Dawe, Piers Agilent

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

There's room to make the font in figure 73-8 more readable.

SuggestedRemedy

Please make the font in figure 73-8 bigger.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will try

Cl **73** *SC* **73.9.5** *P* **157** *L* **40** *#* 55

Claseman, George — Micrel Semiconductor

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

There is no definition of interval_timer_done. Perhaps this should be interval_timer=done.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

REJECT.

Timer_x_done is defined in the timer conventions14.2.3.2 which are referenced in the timer definition clause.

Cl **73** *SC* **73.9.5** *P* **158** *L* *#* 58

Claseman, George — Micrel Semiconductor

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

Multipel lines: There is no definition of clock_detect_max_timer_done / _not_done. Perhaps this should be clock_detect_max_timer=done / !done.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

REJECT.

It is defined in the timer conventions. See 14.2.3.2.

Cl **73** *SC* **73.9.5** *P* **158** *L* *#* 57

Claseman, George — Micrel Semiconductor

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

Multipel lines: There is no definition of clock_detect_min_timer_done / _not_done. Perhaps this should be clock_detect_min_timer=done / !done.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

REJECT.

It is defined in the timer conventions. See 14.2.3.2.

Cl **73** *SC* **73.9.5** *P* **158** *L* *#* 56

Claseman, George — Micrel Semiconductor

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

Multipel lines: There is no definition of page_test_max_timer_done / _not_done. Perhaps this should be page_test_max_timer=done / !done.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

REJECT.
It is defined in the timer conventions. See 14.2.3.2.

Cl **73** *SC* **73.9.5** *P* **158** *L* *#* 44

Claseman, George — Micrel Semiconductor

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

multipel lines: Some text is covered by connecting arrows.

SuggestedRemedy

Reposition as needed.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **73.9.5** *P* **158** *L* *#* 45

Claseman, George — Micrel Semiconductor

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

Multipel lines: ""start_clock_detect_min_timer"" , ""start_clock_detect_max_timer""

SuggestedRemedy

""Start clock_detect_min_timer"" , ""Start clock_detect_max_timer""

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Capitalize start and remove the underscore after it.

Cl **73** *SC* **73.9.5** *P* **158** *L* *#* 38

Claseman, George — Micrel Semiconductor

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

Multipel lines: There is no definition of page_test_min_timer_done / _not_done. Perhaps this should be page_test_min_timer=done / !done.

SuggestedRemedy

?

Proposed Response *Response Status* **C**

REJECT.

It is defined in the timer conventions. See 14.2.3.2.

Cl **73** *SC* **Figure** *P* **159** *L* **01** *#* 11

Daines, Kevin

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

Entries to states should be from the top rather than the bottom or side.
Exits from states should be from the bottom rather than the top or side.

SuggestedRemedy

Per comment

Consider aliases to help with space constraints.

Proposed Response *Response Status* **W**

REJECT.

This style was also used in Clause 28. Figure 73-10 would require massive change and wouldn't fit on one page with the requested change. Therefore leave these figures as is.

Cl **73** *SC* **Figure 73-10** *P* **159** *L* **38** *#* 252

Joergensen, Thomas — Vitesse Semiconducto

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

Signal an_good is not defined, has to be replaced by an_link_good.

SuggestedRemedy

Replace an_good with an_link_good.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73** *SC* **Figure 73-10** *P* **159** *L* **44** *#* 408

Baumer, Howard — Broadcom

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

ability_match_wordability_match is not defined nor is it used anywhere.

SuggestedRemedy

Either define ability_match_wordability_match or delete it or if it is actually ability_match then replace it with ability_match

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

It should be ability_match but the whole note seems unnecessary. The variable is defined in the variable definition and there are other cases of variables set according to their definitions where we don't have a note.

Delete the note.

Cl **73** *SC* **Figure 73-8** *P* **157** *L* **21** *#* 10

Daines, Kevin

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

Entries to states should be from the top rather than the bottom or side.
Exits from states should be from the bottom rather than the top or side.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

REJECT.

See 11.

Cl **73A** *SC* **73A** *P* **169** *L* **01** # 608
Booth, Brad Intel

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

Incorrect format for annex heading as information is missing about the normative nature of the annex.

SuggestedRemedy

Heading format should be as follows:
Annex 73A

(normative)

Next page message code field definitions

Proposed Response *Response Status* **C**

ACCEPT.

Cl **73A** *SC* **73A** *P* **169** *L* **02** # 409
Baumer, Howard Broadcom

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

An equivalent table toTable 28C-1 needs to be created here since Clause 28 message codes are 16 bits where Clause 73 message codes are 48 bits.

SuggestedRemedy

Add in equivalent table to Table 28C-1 and update all succeeding descritptions

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will add a table.

Cl **99** *SC* **30** *P* **14** *L* **35** # 594
Booth, Brad Intel

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

Place each clause and annex heading at the start of a new page to improve readability.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Will do for Clause 45 and up. For clauses 1 to 44 the editor was told to remove the empty white spaces.

Cl **99** *SC* **31B** *P* **60** *L* **13** # 659
David V James JGG

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

DVJ-48
Capitalization within a clause or subclause title should be limited to the first word, as per the IEEE Style Guide.

SuggestedRemedy

Round-Trip Delay Constraints
==>
Round-trip delay constraints

Proposed Response *Response Status* **W**

ACCEPT.

Cl **99** *SC* **99** *P* *L* # 591
Booth, Brad Intel

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

Clause and subclause naming should use lowercase after the first word, except for acronyms.

SuggestedRemedy

Check capitalization and fix.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* *L* # 586
Booth, Brad Intel

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

Editing instructions seem to be indented or centered.

SuggestedRemedy

Editing instructions should be left justified with no indent.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* **1** *L* **02** # 593

Booth, Brad Intel

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

IEEE Std. 802.3-20xx can be named 2005.

SuggestedRemedy

Change 20xx to be 2005 through document.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* **1** *L* **10** # 192

Grow, Robert Intel

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

This is not a revision.

SuggestedRemedy

Change ""Revision"" to ""Amendment"", or simply make the line read ""Draft"".

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* **1** *L* **30** # 191

Grow, Robert Intel

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

Title page needs to be updated.

SuggestedRemedy

1. Update per new IEEE editor approved format (available from WG Chair)
2. Add keywords
3. Style guide mandates slightly different copyright statement.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* **1** *L* **31** # 452

Dawe, Piers Agilent

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

Should be based on P802.3REV3am/D2.2.

SuggestedRemedy

Change the 'P802.3REVam/D2.1' to 'P802.3REVam/D2.2' here on p1, but also check that the draft really is based on P802.3REVam/D2.2.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* **11** *L* # 195

Grow, Robert Intel

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

Table of Figures and Table of Tables are not generally included in IEEE documents and are not included in Std 802.3.

SuggestedRemedy

Verify with IEEE publication editor if this will continue to be the case for IEEE Std 802.3-2005 and make this document consistent.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Table of Figures and Table of Tables will be removed in harmony with .3am.

Cl **99** *SC* **99** *P* **12** *L* **50** # 125

John, D'Ambrosia

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

formatting errors - looks like return was added after word ""to""

SuggestedRemedy

correct

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* **2** *L* *#* 194

Grow, Robert Intel

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

Add front matter prior to Sponsor ballot.

SuggestedRemedy

To be provided by WG Chair.

Proposed Response *Response Status* **W**

ACCEPT.

Cl **99** *SC* **99** *P* **2** *L* **01** *#* 453

Dawe, Piers Agilent

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

The table of symbols is still useful - platform and font issues are not quite things of the past. You have a (D1.0) blank page doing nothing useful here anyway!

SuggestedRemedy

Insert the table of symbols - make sure you get the most up-to-date one. Compare .3an and .3aq.

Proposed Response *Response Status* **C**

ACCEPT.

Cl **99** *SC* **99** *P* **3** *L* **01** *#* 454

Dawe, Piers Agilent

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

Capitals to search out and cut down to size

SuggestedRemedy

Table of contents
Table of figures
Table of tables

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Table of figures and Table of tables will be removed.

Cl **99** *SC* **99** *P* **6** *L* **29** *#* 122

John, D'Ambrosia

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

formatting errors - indent of 2nd line and page number

SuggestedRemedy

correct

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The "Table of content", "List of figures" and "List of tables" are not part of this document. The editor has added the templates for informational purposes only.