

IEEE P802.3cz D2.0 Multi-Gigabit Optical Automotive Ethernet Initial Working Group ballot comments

CI **FM** SC **FM** P1 L9 # 11
 Hajduczenia, Marek Charter Communications
 Comment Type **E** Comment Status **R** P802.3/D3.2 alignment
 Missing amendment number
 SuggestedRemedy
 It looks like you will be Amendment 9 to 802.3-2022 when published
 Response Response Status **C**
 REJECT.
 Our analysis indicates we are the most likely to be Amendment 7, but an amendment number should not be used until assigned by Mr. Law. Editorial notes indicate which amendments are assumed to precede this one.

CI **FM** SC **FM** P1 L25 # 12
 Hajduczenia, Marek Charter Communications
 Comment Type **E** Comment Status **D** P802.3/D3.2 alignment
 List of amendment incomplete and in wrong order
 SuggestedRemedy
 Change "IEEE Std 802.3dd-20XX, IEEE Std 802.3de-20XX, IEEE Std 802.3cs-20XX, IEEE Std 802.3db-20XX, IEEE Std 802.3ck-20XX, IEEE Std 802.3cw-20XX, and IEEE Std 802.3cx-20XX" to IEEE Std 802.3dd-20XX, IEEE Std 802.3cs-20XX, IEEE Std 802.3db-20XX, IEEE Std 802.3ck-20XX, IEEE Std 802.3cw-20XX, and IEEE Std 802.3cx-20XX" and might want to add .3cw and .3cy for good measure in case they go ahead of you.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 "IEEE Std 802.3db-20XX" is repeated in the proposed list.
 P802.3cz today is the only of the four unnumbered amendments to advance to WG ballot.
 The dated year should be in the form 202X.
 Replace with "IEEE Std 802.3dd-202X, IEEE Std 802.3cs-202X, IEEE Std 802.3db-202X, IEEE Std 802.3ck-202X, IEEE Std 802.3cw-202X, and IEEE Std 802.3de-202X"
 See #43
 Update with the most current amendment order provided by Mr. Law.

CI **FM** SC **FM** P1 L26 # 43
 Grow,Robert RMG Consulting
 Comment Type **E** Comment Status **A** P802.3/D3.2 alignment
 On January 25, 2022, P802.3de was designated amendment 6 (dd, cs, db, ck, cx, de). P802.3cw is unlikely to be assigned a lower amendment number than P802.3cz.
 SuggestedRemedy
 Reorder ammendment list. If no other amendments enter WG ballot in May, it is probably safe to write P802.3cz as following amendment 6. Obviously if Mr. Law provides a different amendment order, we follow that.
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Follow amendment numbers assigned by the WG Chair, with cover page and FM Introduction list reflecting amendments identified as preceding P802.3cz (currently dd, cs, db, ck, cx, de).
 Update with the most current amendment order provided by Mr. Law.

CI **FM** SC **FM** P1 L28 # 13
 Hajduczenia, Marek Charter Communications
 Comment Type **E** Comment Status **D** EZ
 Missing spacing between numeric value and units in "2.5 Gb/s, 5Gb/s, 10Gb/s, 25 Gb/s and 50 Gb/s"
 SuggestedRemedy
 Add missing spaces
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

CI **FM** SC **FM** P1 L29 # 10
 Hajduczenia, Marek Charter Communications
 Comment Type **E** Comment Status **D** EZ
 "Draft D2.0 is prepared for Task Force review"
 SuggestedRemedy
 Likely for initial Working Group review. Next versions should say "working Group ballot recirculation"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

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CI **FM** SC **FM** P1 L43 # 44
 Grow,Robert RMG Consulting
 Comment Type **ER** Comment Status **A** P802.3/D3.2 alignment
 This is not the current copyright statement.
 SuggestedRemedy
 Update to latest IEEE SA editorial templates.
 Response Response Status **C**
 ACCEPT.

CI **FM** SC **FM** P7 L15 # 45
 Grow,Robert RMG Consulting
 Comment Type **E** Comment Status **D** EZ
 WG ballot group is now known.
 SuggestedRemedy
 Remove Editor's Note and include WG ballot list.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

CI **FM** SC **FM** P9 L19 # 46
 Grow,Robert RMG Consulting
 Comment Type **E** Comment Status **D** EZ
 P802.3 has changed capitalization of EtherType to EtherType per current RAC preference.
 SuggestedRemedy
 "EtherType"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

CI **FM** SC **FM** P10 L39 # 47
 Grow,Robert RMG Consulting
 Comment Type **E** Comment Status **D** EZ
 The Section Nine description was modified during P802.3 balloting.
 SuggestedRemedy
 Update for consistency with P802.3/D3.2.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

CI **FM** SC **FM** P10 L44 # 48
 Grow,Robert RMG Consulting
 Comment Type **E** Comment Status **A** P802.3/D3.2 alignment
 On January 25, 2022, P802.3de was designated amendment 6 (dd, cs, db, ck, cx, de).
 P802.3cw is unlikely to be assigned a lower amendment number than P802.3cz.
 SuggestedRemedy
 Consider reordering ammendment list order. If no other amendments enter WG ballot in
 May, it is probably safe to write P802.3cz as following amdnement 6 unless Mr. Law
 provides a different amendment order.
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 See #43.
 Update with the most current amendment order provided by Mr. Law.

CI **FM** SC **FM** P11 L8 # 236
 Marris, Arthur Cadence Design Systems
 Comment Type **E** Comment Status **A** P802.3/D3.2 alignment
 802.3de is expected to be Amendment 6
 SuggestedRemedy
 Renumber 802.3de to Amendment 6 and renumber cs, db, ck and cx appropriately
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 #See 43.
 Update with the most current amendment order provided by Mr. Law.

CI **FM** SC **FM** P19 L51 # 49
 Grow,Robert RMG Consulting
 Comment Type **E** Comment Status **A** P802.3/D3.2 alignment
 P802.3cw now appears to be later than P802.3cz in reaching RevCom.
 SuggestedRemedy
 Evaluate in May if the note should be updated to remove reference to cw.
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 See #43.
 Update with the most current amendment order provided by Mr. Law.

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Cl 00 SC 0 P L # 237

Murty, Ramana Broadcom
 Comment Type T Comment Status R General

The draft describes FEC and optical link characterization methods that are at odds with all recent optical link definitions in IEEE 802.3. I need more time to evaluate the technical and economic implications of this proposal.

SuggestedRemedy

Response Response Status C

REJECT.
 The commenter did not recommend a change to the draft.
 See #266.

Cl 00 SC 0 P0 L0 # 1

Brown, Matt Huawei
 Comment Type E Comment Status A Text improvement

The editor's note inserted in each clause refers to "baseline text", but is likely intending to refer to the "base standard" which includes the most recent 802.3 revision and any amendments preceding 802.3cz. The term "baseline" refers to an adopted proposal for incorporation into an amendment.

SuggestedRemedy

In each clause and annex, in the editor's note starting with "The baseline text used to generate...", change "baseline text" to "base standard".

Response Response Status C

ACCEPT IN PRINCIPLE.

Substitute "baseline text" with "base text".

"Baseline text" may be misleading, but the use of "base standard" implies that we are amending a published standard.

Most probably, we will be amending an approved draft revision of IEEE Std 802.3 referred to as IEEE Std 802.3/D3.2.

Cl 00 SC 0 P0 L0 # 7

Brown, Matt Huawei
 Comment Type E Comment Status A P802.3/D3.2 alignment

Throughout the draft when listing an IEEE standard the year for unapproved standards is inconsistent. The draft template uses 202x whereas inserted text in this draft uses 20XX.

SuggestedRemedy

Replace "20XX" with "202x" throughout this draft. For example, change "IEEE Std 802.3dd-20XX" to "IEEE Std 802.3dd-202x".

Response Response Status C

ACCEPT IN PRINCIPLE.
 Change "20XX" to "202x" where appropriate (editorial license) in the document. Noted exceptions include IEEE SA provided template text (page 2 publication date, page 8 SASB member list, and page header and other places where "IEEE Std 802.3-20XX" (or "20xx") should be replaced with "IEEE Std 802.3-2022"

Cl 00 SC 0 P106 L # 21

Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status A IEEE-SA Style

The order of Figure 166-31, 32 is incorrect.

SuggestedRemedy

correct the position of figures.

Response Response Status C

ACCEPT IN PRINCIPLE.
 The editor will do their best to change the order of the Figures.

Cl 1 SC 1.3 P20 L4 # 15

Hajduczenia, Marek Charter Communications
 Comment Type E Comment Status D EZ

No new normative references

SuggestedRemedy

Remove subclause 1.3

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 1 SC 1.4 P20 L20 # 50

Grow,Robert RMG Consulting

Comment Type E Comment Status A P802.3/D3.2 alignment

Consider update to Note and check base text in preceding amendments. Other comments will point out any base text changes required by the current six numbered amendment drafts and P802.3/D3.2. If accepted, the note repeated on other clauses will also need to be similarly updated.

SuggestedRemedy

The baseline text used to generate the editing instructions is IEEE 802.3 Draft 3.2 (March 2022) as amended by IEEE 802.3dd Draft 3.1 (March 2022), IEEE 802.3cs Draft 3.2 (March 2022), IEEE 802.3db Draft 3.0 (March 2022), IEEE 802.3ck Draft 3.1 (March 2022), IEEE 802.3cx Draft 3.2 (March 2022), and IEEE 802.3de Draft 3.0 (March 2022).

Subclause, Table and Figure numbers (possibly baseline text) may change in response to assigned amendment order.

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace "baseline text" with "base text" and add the suggested list of base text:

"IEEE 802.3 Draft 3.2 (March 2022) as amended by IEEE 802.3dd Draft 3.1 (March 2022), IEEE 802.3cs Draft 3.2 (March 2022), IEEE 802.3db Draft 3.0 (March 2022), IEEE 802.3ck Draft 3.1 (March 2022), IEEE 802.3cx Draft 3.2 (March 2022), and IEEE 802.3de Draft 3.0 (March 2022).

Subclause, Table and Figure numbers (possibly base text) may change in response to assigned amendment order."

Update similar notes repeated on other clauses of the draft.

Update with the most current amendment order provided by Mr. Law.

Cl 1 SC 1.4.62a P20 L30 # 247

Dawe, Piers Nvidia

Comment Type E Comment Status A Definitions

This says "a 10 Gb/s Ethernet full duplex local area network" but doesn't it make point-to-point link(s), unlike a CSMA/CD or PON Physical Layer? "Network" is misleading. "Ethernet" seems to be redundant (compare other definitions). Wordsmithing, adding "multimode" to give the reader a bit more idea what this thing is like.

SuggestedRemedy

Change "for a 2.5 Gb/s Ethernet full duplex local area network over optical fiber for use in automotive applications." to "for 2.5 Gb/s over multimode optical fiber for automotive use." Similarly for the other rates.

Response Response Status C

ACCEPT IN PRINCIPLE.

"for 2.5 Gb/s full duplex over multimode optical fiber for use in automotive applications." Change accordingly in the definition for other rates.

Cl 1 SC 1.4.204a P21 L5 # 51

Grow,Robert RMG Consulting

Comment Type T Comment Status A Definitions

Use of the term being defined within the definition is circular and should be avoided.

SuggestedRemedy

BASE-AU: The set of PHYs that use a BASE-U Physical Coding Sublayer with PMA/PMD specifications for operation over optical fiber in the automotive environment, including 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, and 50GBASE-AU. (See IEEE Std 802.3, Clause 166.)

Response Response Status C

ACCEPT IN PRINCIPLE.

Change definition to read as:

"BASE-AU: The set of PHYs that use a BASE-U PCS and PMA with PMD specifications for operation over optical fiber in the automotive environment, including 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, and 50GBASE-AU. (See IEEE Std 802.3, Clause 166.)"

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Cl 1 SC 1.4.206a P21 L11 # 52
 Grow,Robert RMG Consulting
 Comment Type T Comment Status A Definitions
 Though not as bad as the BASE-AU definition, this one also is a bit circular as written.
 SuggestedRemedy
 BASE-U: IEEE 802.3 PCS and PMA sublayer specifications used by a family of Physical Layer devices. (See IEEE Std 802.3, Clause 166.)
 Response Response Status C
 ACCEPT.

Cl 1 SC 1.4.464 P21 L16 # 53
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A Definitions
 Though existing text, "Side information block" is a bit difficult to understand.
 SuggestedRemedy
 Replace with "An information block".
 Response Response Status C
 ACCEPT.

Cl 1 SC 1.5 P21 L24 # 260
 Ran, Adeo Cisco
 Comment Type E Comment Status A LFSR
 The Ethernet standard has numerous specifications of scramblers that do not use the acronym LFSR at all. It is preferable to avoid adding new acronyms where existing language is established.
 Also, the usage of the term LFSR in the text is not expanded anywhere in this draft (if it is used, it should be expanded at least in the first occurrence in any clause or annex).
 SuggestedRemedy
 Delete the acronym, and use the term "linear feedback shift register" in the few cases where it is required (some existing places should be changed to "polynomial", "scrambler" or "descrambler", subject of other comments).
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.3.2.1.2 P22 L21 # 54
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the end of the 1000BASE items is 1000BASE-X.
 SuggestedRemedy
 ...after the entry for "1000BASE-X" ...
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.3.2.1.2 P22 L31 # 55
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of 10GBASE list is after "10/1GBASE-PRX". P802.3cs is inserting 10/2.5GBASE-SP (though P802.3cs/D3.2 specifies the wrong insert point, a comment has been submitted to fix this).
 SuggestedRemedy
 ...after the entry for "10/2.5GBASE-SP" (inserted by IEEE Std 802.3cs-202x) as follows:
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.3.2.1.2 P22 L36 # 56
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of 25GBASE list is after "25/10GBASE-PQ".
 SuggestedRemedy
 ...after the entry for "25/10GBASE-SP" ...
 Response Response Status C
 ACCEPT.

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Cl 30 SC 30.3.2.1.2 P22 L41 # 57
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of the 50GBASE list is after "50/25GBASE-PQ"
 SuggestedRemedy
 ...after the entry for "50/25GBASE-PQ" ...
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.3.2.1.3 P22 L48 # 58
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the end of the 1000BASE items is 1000BASE-X.
 SuggestedRemedy
 ...after the entry for "1000BASE-X" ...
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.3.2.1.3 P23 L7 # 59
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of 10GBASE list is after "10/1GBASE-PRX". P802.3cs is inserting 10/2.5GBASE-SP (though P802.3cs/D3.2 specifies the wrong insert point, a comment has been submitted to fix this).
 SuggestedRemedy
 ...after the entry for "10/2.5GBASE-SP" (inserted by IEEE Std 802.3cs-202x) as follows:
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.3.2.1.3 P23 L12 # 60
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of 25GBASE list is after "25/10GBASE-PQ".
 SuggestedRemedy
 ...after the entry for "25/10GBASE-SP" ...
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.3.2.1.3 P23 L17 # 61
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of the 50GBASE list is after "50/25GBASE-PQ"
 SuggestedRemedy
 ...after the entry for "50/25GBASE-PQ" ...
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.5.1.1.2 P23 L39 # 62
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the end of the 1000BASE items is 1000BASE-XHD.
 SuggestedRemedy
 ...after the entry for "1000BASE-XHD" ...
 Response Response Status C
 ACCEPT.

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Cl 30 SC 30.5.1.1.2 P23 L48 # 63
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of 10GBASE list is after "10/1GBASE-PRX-U4". P802.3cs is inserting 10/2.5GBASE-SP1-Dx and 10/2.5GBASE-SP1-Uxy (though P802.3cs/D3.2 specifies the wrong insert point, a comment will be submitted to fix this).
 SuggestedRemedy
 ...after the entry for "10/2.5GBASE-SP1-Uxy" (inserted by IEEE Std 802.3cs-202x) as follows:
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.5.1.1.2 P24 L2 # 64
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of 25GBASE list is after "25/10GBASE-PQX-U3".
 SuggestedRemedy
 ...after the entry for "25/10GBASE-PQX-U3" ...
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.5.1.1.2 P24 L6 # 65
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Per P802.3/D3.2, the start of the 50GBASE list is after "50/25GBASE-PQX-U3"
 SuggestedRemedy
 ...after the entry for "50/25GBASE-PQX-U3" ...
 Response Response Status C
 ACCEPT.

Cl 44 SC 44.1.1 P25 L19 # 223
 Lewis, Jon Dell Technologies
 Comment Type E Comment Status A P802.3/D3.2 alignment
 During the edit the text was changed from "Physical Layer entities" to "Physical Layers". I think this should be "Physical Layer entities"
 SuggestedRemedy
 Change end of first sentence to "... one of a number of 10 Gb/s Physical Layer entities."
 Response Response Status C
 ACCEPT.

Cl 44 SC 44.1.1 P25 L19 # 66
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 P802.3 balloting has changed the base text ("entities" replaced with "devices (PHYs)"). Our edits also are incorrect (the XGMII is part of the Physical Layer) so entities/devices should not have been struck through.
 SuggestedRemedy
 10 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer, connected through a 10 Gigabit Media Independent Interface (XGMII) to <start underscore>one of a number of <end underscore>10 Gb/s Physical Layer devices (PHYs) <start strikethrough> such as 10GBASE-SR, 10GBASE-LX4, 10GBASE-CX4, 10GBASE-LRM, 10GBASE-LR, 10GBASE-ER, 10GBASE-SW, 10GBASE-LW, 10GBASE-EW, 10GBASE-T, and 10GBASE-T1<end strikethrough>.
 Response Response Status C
 ACCEPT.

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Cl 44 SC 44.1.1 P25 L19 # 261

Ran, Adeo Cisco
 Comment Type E Comment Status A Definitions

The change in this subclause removes a list of PHYs which has become lengthy. That is arguable - indeed maintaining lists is an editorial burden, but then, this is an introduction clause, and knowing which PHYs it pertains to is valuable information which should be provided as early as possible.

If the list is indeed removed, the resulting text as of this draft becomes:
 "10 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer, connected through a 10 Gigabit Media Independent Interface (XGMII) to one of a number of 10 Gb/s Physical Layers"
 "one of a number" is just too wordy, and does not even indicate that these Physical layers are defined in this standard.

A reference to Table 44-1 would provide the necessary list.

SuggestedRemedy

Change "one of a number of 10 Gb/s Physical Layers" to "one of the 10 Gb/s Physical Layers specified in this standard (see Table 44-1).

Response Response Status C
 ACCEPT.

Cl 44 SC 44.1.2 P25 L27 # 262

Ran, Adeo Cisco
 Comment Type T Comment Status A Text improvement

"Support operation over optical fiber for use in automotive applications" had not been an objective of clause 44 when it was written. Adding it now is arguably changing history, and has no benefit for readers. Since recent clauses do not include "objectives" clauses at all, there is no need to maintain or modify objectives in older clauses.

There are other media that are supported by clause 44 and are not listed here, such as coax (clause 100). Also, other introduction clauses modified by this draft do not include "objectives".

SuggestedRemedy

Delete the editorial instruction and change of 44.1.2.

Response Response Status C
 ACCEPT.

Cl 44 SC 44.1.4.4 P28 L9 # 67

Grow,Robert RMG Consulting
 Comment Type E Comment Status D EZ

Base text error.

SuggestedRemedy

The strikethrough "and" belongs after "Clause 68,".

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 45 SC 45.2.1 P29 L25 # 68

Grow,Robert RMG Consulting
 Comment Type E Comment Status D EZ

Change marking error/inconsistency. Make style of change marking the same on rows 25 and 38.

SuggestedRemedy

Delete the comma and space after "1.72," also "1.73" should be underlined. Make line 38 consistent -- strikethrough 1.901 followed by underline 1.902.

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 45 SC 45.2.1 P29 L25 # 16

Hajduczenia, Marek Charter Communications
 Comment Type ER Comment Status D EZ

Wrong editorial markup in Table 45-3. "1.73" should be underlined, also no need for preceding ","
 Wrong editorial markup in Table 45-3. "902" should be underlined.
 There are two Table 45-3 instances.

SuggestedRemedy

Please fix the editorial issues

Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 45 SC 45.2.1.158a.1 P31 L27 # 137

Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ

Indication of 10GBASE-AU encoding is not consistent with others.

SuggestedRemedy

Change "When these bits are set to 0010, the mode of operation is 10GBASE-AU" with "When these bits are set to 0b0010, the mode of operation is 10GBASE-AU"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.3.87c P35 L35 # 138

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ

Test pattern for stressed receiver sensitivity measurement is not a valid test pattern for a PHY. This test pattern is intended to be generated by an external test equipment calibrated to generate a signal conditioned for receiver stressed sensitivity.

SuggestedRemedy

Remove 1 1 0 assignment of table 45-313c

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.3.87c P37 L32 # 285

Torres, Luisma KDPOF
 Comment Type E Comment Status A OAM capability

The functionality of the register is about the capability of the remote BASE-U OAM, understood as the OAM ability of the remote node AND that such ability is enabled.

SuggestedRemedy

Replace "ability" with "capability" in the "Name" column"

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace "ability" with "advertisement" in the "Name" column", in line with the meaning used in 45.2.1.245.5.

Capability is used in other 802.3 subclauses as a synonym for ability (i.e., bit 7.33.5 and 7.33.4).

Replace in the "Name" column of Table 45-313c (p.35 I.45) "BASE-U OAM enable" with "BASE-U OAM advertisement enable"

Replace in the "Description" column of Table 45-313c (p.35 I.45-46) "Enable BASE-U OAM functionality" with "Enable advertisement of BASE-U OAM ability" and "Disable BASE-U OAM functionality" with "Disable advertisement of BASE-U OAM ability"

Replace (p36 I.20) "BASE-U OAM enable" with "BASE-U OAM advertisement enable"

Add the following clarifying text explaining how OAM capability is enabled in (p.134 I.53): "BASE-U OAM capability shall be enabled when the field PHD.CAP.OAM (see Table 166-2) of both, the transmitted and received PHD, are equal to 1."

Add PICS accordingly.

Replace p.36 I.25 "Changes in a BASE-U OAM enable" with "Changes in a BASE-U OAM advertisement enable"

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Cl 45 **SC 45.2.3.87c** **P37** **L 35** # **286**
 Torres, Luisma KDPOF
Comment Type **E** **Comment Status** **A** *EEE capability*
 The functionality of the register is about the capability of the remote BASE-U EEE, understood as the EEE ability of the remote node AND that such ability is enabled.
SuggestedRemedy
 Replace "ability" by "capability" in the "Name" column"
Response **Response Status** **C**
 ACCEPT IN PRINCIPLE.
 Replace "ability" with "advertisement" in the "Name" column", in line with the meaning used in 45.2.1.245.5.
 Capability is used in other 802.3 subclauses as a synonym for ability (i.e., bit 7.33.5 and 7.33.4).
 Substitute in the "Name" column of Table 45-313c (p.35 I.47) "EEE enable" with "EEE advertisement enable"
 Substitute in the "Description" column of Table 45-313c (p.35 I.47-48) "Enable LPI mode" with "Enable advertisement of EEE ability" and "Disable LPI mode" with "Disable advertisement of EEE ability"
 Replace (p.36 I.30) "Setting bit 3.2348.0 to one shall enable BASE-U PHY EEE capability (see 166.4)." with "Setting bit 3.2348.0 to one shall enable the advertisement of local PHY EEE capability (see 166.4)."
 Replace (p.36 I.28 and I.32) "EEE enable" with "EEE advertisement enable".

Cl 45 **SC 45.2.3.87c.1** **P36** **L 3** # **238**
 Slavick, Jeff Broadcom
Comment Type **T** **Comment Status** **A** *Text improvement*
 Overly wordy description of the field. Updated the sub-clause description to be more succinct
SuggestedRemedy
 Bits 3.2348.15:13 shall have a default value of 0b000, selecting normal BASE-U PCS operation. Selection of the BASE-U PCS test mode patterns described in 166.5 are mapped per Table 45-313c.
Response **Response Status** **C**
 ACCEPT.

Cl 45 **SC 45.2.3.87c.1** **P36** **L 3** # **283**
 Pérez-Aranda, Rubén KDPOF
Comment Type **TR** **Comment Status** **A** *Registers effect*
 It is expected that any realistic implementation of a 802.3cz compliant PHY will require a reset before change of the operation mode configuration takes effect in the HW. This is specified for the case of BER test mode in subclause 166.5.1, however, requirement of reset is not specified for the other operation modes corresponding to the test patterns used in for PMD testing.
SuggestedRemedy
 Add at the end of the subclause (line 12): "Changes in operation mode value shall only take effect after a PMA reset (see 166.3.4.1)". Remove "The operating mode of the transmitter is encoded in the field PHD.TX.NEXT.MODE and selected at PMA reset, and does not change unless a PMA reset takes place. " from 166.5.1 (page 108, lines 22 and 23).
Response **Response Status** **C**
 ACCEPT IN PRINCIPLE.
 Editor to add the corresponding PICS item.

Cl 45 **SC 45.2.3.87c.1** **P36** **L 11** # **139**
 Pérez-Aranda, Rubén KDPOF
Comment Type **TR** **Comment Status** **D** *EZ*
 Test pattern for stressed receiver sensitivity measurement is not a valid test pattern for a PHY. This test pattern is intended to be generated by an external test equipment calibrated to generate a signal conditioned for receiver stressed sensitivity.
SuggestedRemedy
 Remove "A value 0b110 in bits 3.2348.15:13 shall select the test pattern for stressed receiver sensitivity measurement transmission as specified in Table 45-313c with behavior as specified in 166.5.6."

Proposed Response **Response Status** **W**
 PROPOSED ACCEPT.

Cl 45 **SC 45.2.3.87c.2** **P36** **L 16** # **284**
 Pérez-Aranda, Rubén KDPOF
Comment Type **TR** **Comment Status** **A** *Registers effect*
 It is expected that any realistic implementation of a 802.3cz compliant PHY will require a reset before change of the loopback mode configuration takes effect in the HW.
SuggestedRemedy
 Add at the end of the subclause (line 18): "Changes in loopback mode value shall only take effect after a PMA reset (see 166.3.4.1)"
Response **Response Status** **C**
 ACCEPT IN PRINCIPLE.
 Editor to add the corresponding PICS item.

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CI 45 SC 45.2.3.87c.2 P36 L18 # 140
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Value assignation not consistent with number of bits
 SuggestedRemedy
 Change "0b00 is selected in 3.2348.15:13" with "0b000 is selected in 3.2348.15:13"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 45 SC 45.2.3.87c.2 P36 L18 # 239
 Slavick, Jeff Broadcom
 Comment Type T Comment Status D EZ
 Short a 0.
 SuggestedRemedy
 Updated the 0b00 to 0b000 inside the paranthesis of the last sentence.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 45 SC 45.2.3.87c.3 P36 L20 # 242
 Slavick, Jeff Broadcom
 Comment Type TR Comment Status R Registers effect
 There is no reflection of what the current operating mode of OAM. 3.2348.1 only takes affect after a pmd_reset, so how do you tell if the current state of the enable bit represents the operation state?
 SuggestedRemedy
 Add a new BASE-U OAM status field that reflects the current operating state of OAM mode.
 Response Response Status U
 REJECT.
 According to 166.11 (with references to 115.9), BASE-U OAM channel is established when both link partners transmits PHD.CAP.OAM = 1, which indicates both partners have the optional ability of OAM channel and it is enabled. The status of the PHD operation is reported to any attached STA by the PHD lock status bit (3.2349.10) and the local and remote PHD reception status bits (3.2349.11 and 3.2349.12). Once the PHD bidirectional communication is indicated reliable, register BASE-U OAM enable (3.2348.1) and Remote BASE-U OAM ability (3.2349.3) can be used to determine the OAM is operative. If both registers value 1, then bidirectional OAM communication is operative.
 The attached STA may change the register BASE-U OAM enable (3.2348.1) without PMA reset. In such a case, the read values of the register does not longer reflect current status of OAM channel. However, in this case, it is responsibility of the STA to maintain consistency of operations through write operations to the MDIO registers.

CI 45 SC 45.2.3.87c.3 P36 L23 # 240
 Slavick, Jeff Broadcom
 Comment Type T Comment Status D EZ
 The BASE-U OAM ability reference should be to its sub-clause
 SuggestedRemedy
 Change "bit 3.2349.1 = 0, see Table 45-313d" to "see 45.2.3.87d.13"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 45 SC 45.2.3.87c.4 P36 L28 # 243
 Slavick, Jeff Broadcom
 Comment Type TR Comment Status R Registers effect
 There is no reflection of what the current operating mode of EEE. 3.2348.0 only takes affect after a pmd_reset, so how do you tell if the current state of the enable bit represents the operation state?
 SuggestedRemedy
 Add a new BASE-U EEE status field that reflects the current operating state of EEE mode.
 Response Response Status U
 REJECT.
 EEE capability is managed in MDIO with registers parallel to those used to manage BASE-U OAM. See response to comment #242.

CI 45 SC 45.2.3.87c.4 P36 L32 # 241
 Slavick, Jeff Broadcom
 Comment Type T Comment Status D EZ
 The EEE ability reference should be to its sub-clause
 SuggestedRemedy
 Change "bit 3.2349.0 = 0, see Table 45-313d" to "see 45.2.3.87d.14"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 45 SC 45.2.3.87d.11 P38 L 32,34 # 287
 Torres, Luisma KDPOF
 Comment Type E Comment Status A OAM capability
 The functionality of the register is about the capability of the remote BASE-U OAM, understood as the OAM ability of the remote node AND that such ability is enabled.
SuggestedRemedy
 Replace "ability" with "capability". Also in line 34.
Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace "ability" with "advertisement" in line 32 and 34.
 Replace paragraph starting at l.34 with "Bit 3.2349.3 indicates the BASE-U OAM ability of the remote PHY received in the PHD field PHD.CAP.OAM (see Table 166–2). When read as one, bit 3.2349.3 indicates both that the remote PHY has BASE-U OAM ability and that the BASE-U OAM advertisement is enabled. When read as zero, bit 3.2349.3 indicates either that the remote PHY does not have BASE-U OAM ability or that BASE-U OAM advertisement is disabled."

CI 45 SC 45.2.3.87d.12 P38 L 39 # 288
 Torres, Luisma KDPOF
 Comment Type E Comment Status A EEE capability
 The functionality of the register is about the capability of the remote BASE-U EEE, understood as the EEE ability of the remote node AND that such ability is enabled.
SuggestedRemedy
 Replace "ability" by "capability". Also in line 41
Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace "ability" with "advertisement".
 Replace the paragraph beginning at l.41 with "Bit 3.2349.2 indicates the EEE ability of the remote PHY received in the PHD field PHD.CAP.LPI (see Table 166–2). When read as one, bit 3.2349.2 indicates both that the remote PHY has the EEE ability and that the EEE advertisement is enabled. When read as zero, bit 3.2349.2 indicates either that the remote PHY does not have the EEE ability or that the EEE advertisement is disabled."

CI 45 SC 45.2.3.87g P39 L 51 # 141
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status R IEEE-SA Style
 Definition of BER test mode counter bits should be in a sub-section "45.2.3.87g.1 BER test mode counter (3.2352.15:0)"
SuggestedRemedy
 Per comment
Response Response Status C
 REJECT.
 2021 IEEE SA Standards Style Manual (p.24):
 "Clauses and subclauses should be divided into further subclauses only when there is more than one subclause. For example, Clause 1 should not have a 1.1 unless there is also a 1.2."
 Other cases in the draft (45.2.3.87e.1 Local link margin (3.2350.7:0) and 45.2.3.87f.1 Remote link margin (3.2351.7:0)) are the single sub-sections, because there are Reserved bits in the register.

CI 45 SC 45.2.3.87h P40 L 27 # 142
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Definition of RS-FEC codeword error counter bits should be in a sub-section "45.2.3.87h.1 RS-FEC codeword error counter (3.2353.15:0)"
SuggestedRemedy
 Per comment
Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 78 SC 78.1.4 P44 L 16 # 69

Grow,Robert RMG Consulting

Comment Type E Comment Status A P802.3/D3.2 alignment

I think Table 78- 1 is arranged per P802.3/D3.0 comment # I-52. (A resolution I remain unhappy with, because I do not for example know for sure where to insert 25GBASE-AU and 50GBASE-AU.) This resolution requires an adjustment to insert points.

1. Increasing speed.
2. Increasing reach (maximum supported distance over the medium).
3. Decreasing number of lanes

The following supplemental rules address are included to address special cases

4. PHY "family designations, by convention, are assigned a reach of 0
5. "Copper" PHYs precede "Fiber" PHYs (all else being equal)
6. Alphanumeric sort (all else being equal)

SuggestedRemedy

I'm guessing on 25GBASE-AU and 50GBASE-AU but ...Insert a row for 2.5GBASE-AU after 2.5GBASE-T1, insert a row for 5GBASE-AU after 5GBASE-T1, insert a row for 10GBASE-AU after XGXS (XAUI), insert a row for 25GBASE-AU after 25GBASE-KR, and insert a row for 50GBASE-AU after 40GBASE-T in Table 78-1 as follows (unchanged rows not shown):

Response Response Status C

ACCEPT IN PRINCIPLE.

Follow P802.3/D3.0 comment # I-52:

1. Increasing speed.
2. Increasing reach (maximum supported distance over the medium).
3. Decreasing number of lanes

The following supplemental rules address are included to address special cases

4. PHY "family designations, by convention, are assigned a reach of 0
5. "Copper" PHYs precede "Fiber" PHYs (all else being equal)
6. Alphanumeric sort (all else being equal)

Replace with "Insert a row for 2.5GBASE-AU after 2.5GBASE-T1, insert a row for 5GBASE-AU after 5GBASE-T1, insert a row for 10GBASE-AU after 10GBASE-T1, insert a row for 25GBASE-AU after 25GBASE-KR, and insert a row for 50GBASE-AU after 50GBASE-KR in Table 78-1 as follows (unchanged rows not shown):"

Cl 78 SC 78.1.4 P44 L 48 # 70

Grow,Robert RMG Consulting

Comment Type E Comment Status A P802.3/D3.2 alignment

I think Table 78- 5 is also arranged per P802.3/D3.0 comment # I-52.

SuggestedRemedy

I'm guessing on 25GBASE-AU and 50GBASE-AU but ...Insert a row for 2.5GBASE-AU after 2.5GBASE-T1, insert a row for 5GBASE-AU after 5GBASE-T1, insert a row for 10GBASE-AU after XGXS (XAUI), insert a row for 25GBASE-AU after 25GAU, and insert a row for 50GBASE-AU after 50GBASE-KR in Table 78-1 as follows (unchanged rows not shown):

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace with "Insert a row for 2.5GBASE-AU after 2.5GBASE-T1, insert a row for 5GBASE-AU after 5GBASE-T1, insert a row for 10GBASE-AU after 10GBASE-T1, insert a row for 25GBASE-AU after 25GBASE-KR, and insert a row for 50GBASE-AU after 50GBASE-KR in Table 78-1 as follows (unchanged rows not shown):"

Cl 78 SC 78.5 P45 L 9 # 263

Ran, Adee Cisco

Comment Type E Comment Status D EZ

In Table 78-4, the new AU PHY types are intended to support only fast wake LPI, similar to all other PHYs over optical media.

The existing PHYs in table 78-4 which use fast wake are listed as "fast wake": 25GBASE-R fast wake, 40GBASE-R fast wake, 50GBASE-R fast wake, 100GBASE-R fast wake, 200GBASE-R fast wake, and 400GBASE-R fast wake.

SuggestedRemedy

Add "fast wake" in the "PHY or interface type" column of the new PHYs.

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 105 SC 105 P46 L10 # 71
 Grow,Robert RMG Consulting
 Comment Type E Comment Status D EZ
 Unless P802.3cz is assigned an amendment number, it might be helpful to add to the note because of the significant overlap in things edited by P802.3cy and P802.3cz.
SuggestedRemedy
 Add: Please note that P802.3cy also modifies clause 105 in similar locations to those below. This draft assumes P802.3cz will precede P802.3cy in amendment order.
Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 105 SC 105.5 P50 L12 # 76
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 It isn't clear what the sort order is for Table 105-3.
SuggestedRemedy
 No change recommended, editor's guess is as good as mine unless someone else knows the sort order.
Response Response Status C
 ACCEPT.

Cl 105 SC 105.5 P50 L42 # 248
 Nicholl, Shawn AMD
 Comment Type TR Comment Status R RS-FEC
 In Table 105-3 "Sublayer delay constraints", the 25GBASE-AU PHY sublayer has maximum delay of 11 264 bit time. This includes contributions from PCS, FEC, PMA, and PMD. In contrast, the same table lists 24 576 bit time as the sublayer maximum delay for just the 25GBASE-R RS-FEC alone.
SuggestedRemedy
 Propose to update the 25GBASE-AU PHY sublayer delay to a higher value to allow flexibility in the implementation. Propose a value of 32768 bit time (64 pause quanta) based on a sum of the 25GBASE-R PCS (3584 BT), 25GBASE-R RS-FEC (24576 BT), 25GBASE-R PMA (4096 BT), and 25GASE-*R PMD (512 BT).
Response Response Status U
 REJECT.
 Delay is specified 25GMII to 25GMII. It considers sum of delays for TX and RX sides of PCS, PMA and PMD sublayers, without including propagation delay of the fiber medium. 11264 bit times corresponds to 2.2x the time needed to transmit a RS-FEC code-word (544 RS symbols, 5440 bits). This upper bound limit has been specified with >25% margin considering actual implementation in a technology node qualified for automotive application.

Cl 105 SC 105.1.1 P46 L19 # 2
 Brown, Matt Huawei
 Comment Type E Comment Status A Definitions
 Although I support removing the long list of PMD types the wording is a bit odd. Consider sticking with precedence and use the relevant paragraph for 50 Gb/s Ethernet in Clause 131 and 200/400 Gb/s Ethernet in Clause 116.
SuggestedRemedy
 Change the first paragraph to: "25 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer operating at a data rate of 25 Gb/s, coupled with any IEEE 802.3 25GBASE Physical Layer implementation."
Response Response Status C
 ACCEPT.

Cl 105 SC 105.1.1 P46 L19 # 264
 Ran, Adeo Cisco
 Comment Type E Comment Status A Definitions
 The change in this subclause removes a list of PHYs which has become lengthy. That is arguable - indeed maintaining lists is an editorial burden, but then, this is an introduction clause, and knowing which PHYs it pertains to is valuable information which should be provided as early as possible.
 If the list is indeed removed, the resulting text as of this draft becomes:
 "25 Gigabit Ethernet uses the IEEE 802.3 MAC sublayer, connected through a 25 Gigabit Media Independent Interface (25GMII) to one of a number of 25 Gb/s Physical Layers"
 "one of a number" is just too wordy, and does not even indicate that these Physical layers are defined in this standard.
 A reference to Table 105-2 would provide the necessary list.
SuggestedRemedy
 Change "one of a number of 25 Gb/s Physical Layers" to "one of the 25 Gb/s Physical Layers specified in this standard (see Table 105-2)."
Response Response Status C
 ACCEPT.

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Cl 105 SC 105.1.1 P46 L19 # 222
 Lewis, Jon Dell Technologies
 Comment Type E Comment Status A P802.3/D3.2 alignment
 During the edit the text was changed from "Physical Layer entities" to "Physical Layers". I think this should be "Physical Layer entities"
 SuggestedRemedy
 Change end of first sentence to "... one of a number of 25 Gb/s Physical Layer entities."
 Response Response Status C
 ACCEPT.

Cl 105 SC 105.1.3 P48 L8 # 72
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Base text error. Table 105-1 has been resorted in P802.3/D3.2.
 SuggestedRemedy
 Use base text from P802.3/D3.2.
 Response Response Status C
 ACCEPT.

Cl 105 SC 105.1.3 P48 L27 # 73
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Again, using the P802.3 comment resolution for # I-52 sort order the insert point is I think defined by comment # I-52 resolution.
 SuggestedRemedy
 I'm mostly guessing the insert point is after 25GBASE-KR of the P802.3/D3.2 table.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Substitute Table 105-1 with the one in P802.3/D3.2.
 The insert point is after 25GBASE-KR.

Cl 105 SC 105.1.3 P48 L27 # 3
 Brown, Matt Huawei
 Comment Type E Comment Status A P802.3/D3.2 alignment
 The order of PHYs in Table 105-1 is not in line with the base standard. When properly ordered 25GBASE-AU would be just above 25GBASE-SR.
 SuggestedRemedy
 Reorder the PHYs in Table 105-1 in line with the base standard and established convention.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See #73.

Cl 105 SC 105.1.3 P49 L4 # 75
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Again, using the P802.3 comment resolution for # I-52 sort order the insert point is I think defined by comment # I-52 resolution.
 SuggestedRemedy
 I'm mostly guessing the insert point is after 25GBASE-KR of the P802.3/D3.2 table.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Substitute Table 105-2 with the one in P802.3/D3.2.
 The insert point is after 25GBASE-KR.

Cl 105 SC 105.1.3 P105 L8 # 17
 Hajduczenia, Marek Charter Communications
 Comment Type ER Comment Status D EZ
 Table 105-1 shows inserted row but also includes unchanged rows
 Table 105-2 shows inserted columns but also includes unchanged columns
 SuggestedRemedy
 Delete unchanged rows from Table 105-1 and unchanged columns from Table 105-2, and any other tables that contain unchanged rows/columns - they are not needed. Update the editorial instructions accordingly.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 105 SC 105.2 P49 L 5 # 265
 Ran, Adeo Cisco
 Comment Type E Comment Status D EZ
 Table 105-2 looks wider than the usual text boundaries. Its columns can be narrowed to make it fit the boundaries as in all other tables.
 Similarly in Table 125-2 (page 55), and possibly other tables in this draft.
 SuggestedRemedy
 Change column widths in all tables that exceed the boundaries as necessary.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 105 SC 105.2 P49 L 6 # 4
 Brown, Matt Huawei
 Comment Type E Comment Status D EZ
 Table 105-2 extended beyond the text boundaries on left and right.
 SuggestedRemedy
 Reduce the the column widths so that the table falls within the text boundaries (outside of the margins).
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 105 SC 105.2 P49 L 20 # 5
 Brown, Matt Huawei
 Comment Type E Comment Status A P802.3/D3.2 alignment
 The order of PHYs in Table 105-2 is not in line with the base standard. When properly ordered 25GBASE-AU would be just above 25GBASE-SR.
 SuggestedRemedy
 Reorder the PHYs in Table 105-2 in line with the base standard and established convention.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See #75.

Cl 105 SC 105.2 P49 L 4 # 74
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Base text error. Table 105-2 has been resorted in P802.3/D3.2.
 SuggestedRemedy
 Use base text from P802.3/D3.2.
 Response Response Status C
 ACCEPT.

Cl 125 SC 125.3 P56 L 15 # 80
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Again, if using illuminati sort order, I think T1 goes before T because of reach, so I don't understand the order of Table 125-3 in P802.3/D3.2.
 SuggestedRemedy
 No change recommended, unless someone else knows better than I. I think the insert point would still be after T1 because of reach. .
 Response Response Status C
 ACCEPT.

Cl 125 SC 125.3 P56 L 27 # 79
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Base text error. Table 125-3 has been resorted in P802.3/D3.2 (5GBASE-R moved).
 SuggestedRemedy
 Use base text from P802.3/D3.2.
 Response Response Status C
 ACCEPT.

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Cl 125 SC 125.1.4 P54 L5 # 77
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 This table in P802.3/D3.2 appears to me to be in rate then alphanumeric order. I think the illuminati order would put T1 before T because of increasing reach.
 SuggestedRemedy
 No change recommended, unless someone else knows better than I. I think the insert point would still be after T1 because of reach.
 Response Response Status C
 ACCEPT.

Cl 125 SC 125.1.4 P55 L4 # 78
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 This table in P802.3/D3.2 appears to me to be in rate then alphanumeric order. I think the illuminati order would put T1 before T because of increasing reach.
 SuggestedRemedy
 No change recommended, unless someone else knows better than I. I think the insert point would still be after T1 because of reach.
 Response Response Status C
 ACCEPT.

Cl 131 SC 131.1.3 P58 L32 # 131
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 64/65B is not correct encoding (Table 131-1)
 SuggestedRemedy
 Replace "50 Gb/s PHY using 64/65B and Reed-Solomon encoding" with "50 Gb/s PHY using 64B/65B and Reed-Solomon encoding"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 131 SC 131.1.3 P58 L32 # 81
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Using illuminati sort order, our reach puts AU higher in the table.
 SuggestedRemedy
 Not sure of CR reach but our reach would put AU either before or after CR.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Insertion point after 50GBASE-KR and before 50BASE-CR because the reach.

Cl 131 SC 131.2.4 P59 L24 # 82
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Using illuminati sort order, our reach puts AU higher in the table unless the sort order is simply to put the "M"s in a diagonal line (clause order).
 SuggestedRemedy
 Not sure of all reaches in the table, but think we go first.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 The insertion point is before 50GBASE-SR if ordered taking into account reach criteria.

Cl 131 SC 131.4 P60 L24 # 83
 Grow,Robert RMG Consulting
 Comment Type E Comment Status A P802.3/D3.2 alignment
 Using illuminati sort order, our reach puts AU higher in the table.
 SuggestedRemedy
 Not sure of CR reach but our reach would put AU either before or after CR.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 The insertion point is before 50GBASE-CR if ordered taking into account reach criteria.

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Cl 166 SC 166.13 P136 L15 # 202

Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ

Add two rows to Table 166–21 to include mapping of pcs_reset variable.

SuggestedRemedy

Add row, "Reset = 1, PCS control 1, 3.0.15, pcs_reset = TRUE". Add row "Reset = 0, PCS control 1, 3.0.15, pcs_reset = FALSE"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 166 SC 166.15 P138 L42 # 249

Nicholl, Shawn AMD
 Comment Type **TR** Comment Status **R** RS-FEC

Update Table 166-23 "Delay constraints) pending resolution of comment against Table 105-3 "Sublayer delay constraints".

SuggestedRemedy

If 25GBASE-AU delay constraints is updated in Table 105-3, then make corresponding update in Table 166-23 for 25GBASE-AU. In addition, to retain identical delay constraint for all PHY in Table 166-23, then update other PHY rows to match the new 25GBASE-AU delay constraint value.

Response Response Status **U**

REJECT.
 See #248.

Cl 166 SC 166.1 P61 L18 # 266

Ran, Adeo Cisco
 Comment Type **T** Comment Status **R** General

This amendment adds PHYs for optical media for Automotive applications. There are existing PHYs for optical media, which use existing BASE-R sublayers (different per data rate), notably, existing PCSs, FECs, and PMAs. PHYs for a given data rate only differ in their PMD sublayer (because this is the Physical Medium Dependent part).

As an example, the 25 Gb/s PHY specified in clause 112 uses NRZ signaling and a single-lane Reed-Solomon error correction code over optical media, which are practically the same functions as several PHYs in clause 166 (at the same speed or lower). Other FEC codes are defined in the BASE-R family which can be used instead if higher or lower coding gain is required.

It is unclear why the new PHYs, which are indeed for different media, should have completely different sublayer stacks, terminology, phrasing, and methodology, instead of re-using the existing BASE-R sublayers and just defining new PMDs, and why they need to be defined as a new "family". The overhead created in this draft by this choice is significant, and the implications of "re-inventing the wheel" need not be listed. The Ethernet standard is already comprehensive enough and should not include multiple solutions to the same problem. The new PHYs defined in this draft do not look like Ethernet to me.

Other aspects of Ethernet such as delay assessments for timestamping (clause 90, currently amended by P802.3cx) are intricately dependent on PHY sublayers and may need to be addressed by this amendment if new sublayers are used.

If there is a reason for defining a new family of PHYs which are so different from existing ones, it should be stated in the introduction to Clause 166. If there isn't a strong reason, this project should re-use the existing Ethernet sublayer stack for each of the PHYs, or diverge from the Ethernet standard to some other working group.

SuggestedRemedy

Preferably, change all PHYs to use existing sublayer stacks and use Clause 166 to define only the new PMDs. Implement necessary changes across the draft.

If this is not done, create an introduction to clause 166 in 166.1 (making the existing "overview" a level 2 subclause) and explain to the readers how and why this family is different from other optical PHYs.

Response Response Status **C**

REJECT.

This amendment adds PHYs for optical media for automotive applications consistent with the project's objectives. The project was approved with objectives of defining PHYs, but not only PMDs, taking in consideration specific implementation, cost and environmental requirements of the targeted application (e.g. temperature range between -40°C and +125°C, number of inline connections, aging, vibrations, reliability mission profiles, standard pick-and-place and reflow assembly process, OAM channel, etc.). All of these requirements were considered in the link model, link budget analysis, and communications system design,

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resulting in a solution that is suitable and meet all the objectives.
 Specifications of 10GBASE-AU PHYs have to support up to 10 dB insertion loss, 25GBASE-AU PHYs 8 dB, and 50GBASE-AU PHYs 4 dB, under any operation condition, and with margin for the implementers.

The TF selected 980nm wavelength that allows to meet with margin the reliability mission profile and improve the performance in extreme temperatures compared with 850nm. However, even if performance is improved with 980nm, signal integrity distortion produced by optoelectronics operating in extreme temperatures needs to be compensated by the receiver. This task is specially difficult in operation conditions near to the receiver sensitivity point. Therefore, the transmit block, RS-FEC and state diagrams are intentionally designed to allow advance data-aided MMSE symbol synchronization, timing recovery and equalization with short link time.

In addition, the transmit block structure has preallocated time slots where PHY control and status information is transported together the OAM information (special requirement of automotive application).

The test methods specified has been designed and specified taking into consideration (but not limiting) the most suitable implementation of BASE-AU PHYs. A clear example of this is the specification of the reference receiver and TDFOM figure of merit based on MMSE equalization.

All these arguments are extensively covered in a plurality of contributions to the P802.3cz task force.

Regarding to the comment about clause 90, PHYs specified in clause 166 are no more and no less compatible than any other BASE-R based PHY, because they are defined at the same media independent interfaces and BASE-R PCS encoding/decoding state diagrams have been used as baseline (but reducing 1 bit, 64B/65B instead of 64B/66B).

In the subclause 166.1 is stated: "The 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, and 50GBASE-AU PHYs are specified to support operation in automotive applications. The link segment specifications were derived from automotive requirements, but may also be used for non-automotive applications". Additional justifications would be odd with introductory sections along IEEE 802.3.

Cl 166	SC 166.1.4	P 63	L 33	# 244
Dawe, Piers		Nvidia		
Comment Type	E	Comment Status	D	EZ
fiber.The				
SuggestedRemedy				
fiber. The				
Proposed Response		Response Status	W	
PROPOSED ACCEPT.				

Cl 166	SC 166.1.4	P 63	L 34	# 246
Dawe, Piers		Nvidia		
Comment Type	E	Comment Status	A	IEEE-SA Style
TX, RX				
SuggestedRemedy				
For consistency with most of 802.3, probably should be Tx and Rx				
Response		Response Status	C	
ACCEPT.				

Cl 166	SC 166.1.4	P 63	L 34	# 245
Dawe, Piers		Nvidia		
Comment Type	E	Comment Status	A	Text improvement
the link partnercable				
SuggestedRemedy				
the medium OR the fiber optic cabling				
Response		Response Status	C	
ACCEPT IN PRINCIPLE. Replace "the link partnercable" with "the link partner using the fiber optic cabling"				

Cl 166	SC 166.1.4	P 63	L 34	# 271
Huber, Thomas		Nokia		
Comment Type	E	Comment Status	A	Text improvement
Typographical error - partnercable				
SuggestedRemedy				
Split into two words, partner cable.				
Response		Response Status	C	
ACCEPT IN PRINCIPLE. See #245.				

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Cl 166 SC 166.1.4 P63 L 34 # 225
 Martino, Kjersti Inneos
 Comment Type E Comment Status A Text improvement
 Typo - missing space in "partnercable"
 SuggestedRemedy
 "partner cable"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace "the link partnercable" with "the link partner using the fiber optic cabling"

Cl 166 SC 166.1.4 P63 L 34 # 144
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status A Text improvement
 Replace "The local PMD transmitter and PMD receiver are connected to the link partnercable" with "The local PMD transmitter and PMD receiver are connected to the link partner using duplex optical cable"
 SuggestedRemedy
 Per comment. Other remedy may also valid.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See #245.

Cl 166 SC 166.1.4 P64 L 3 # 145
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Incorrect reference.
 SuggestedRemedy
 Replace "(see 166.2.2.9)" with "(see 166.2.2.8)"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.1.4 P64 L 14 # 267
 Ran, Adeo Cisco
 Comment Type T Comment Status A LFSR
 "The scrambler uses an LFSR" - not necessarily; and what is an LFSR anyway? (no reference to the expansion of the acronym)

An LFSR is one implementation of a generator of the scrambler sequence; other implementations that generate the same sequence may be used (e.g. parallel implementations, or a block of memory).

A linear feedback shift register should be described only as a possible implementation, not as a specification.

Also in P67 L2, P74 L17, Annex 166A, and corresponding PICS.

SuggestedRemedy
 Refer to a linear feedback shift register as a possible implementation of the scrambler. Use language similar to other cases where additive scramblers are specified.

The text 40.3.1.3.1 is a possible reference.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Replace "The scrambler uses an LFSR that is initialized" with "The scrambler is initialized"

Cl 166 SC 166.1.4 P64 L 26 # 146
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 I miss reference to subclause where EEE operation of BASE-AU PHY is defined.
 SuggestedRemedy
 Add "BASE-AU EEE operation is specified in 166.4."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 166 SC 166.1.4 P64 L36 # 8
 Lusted, Kent Intel Corporation
 Comment Type ER Comment Status D EZ
 the nominal Baud rates for the 2.5G, 5G, 10G, 25G, and 50G rates are specified in MBd, even though all of the rates are in the multi-gigabit range. It reads odd to me that the text has thousands or tens of thousands MBd when GBd would be a better unit.
 SuggestedRemedy
 Change the Baud rates for 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, and 50GBASE-AU from MBd units to GBd units.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.1.4 P65 L18 # 147
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 Interfaces of PCS with PMA are in form of bits, instead of symbols. Symbol mapping and de-mapping are part of PMA, TX and RX functions, respectively
 SuggestedRemedy
 Replace "transmit symbols" with "transmit bits", and replace "receive symbols" with "receive bits".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.1.4 P65 L25 # 39
 Torres, Luisma KDPOF
 Comment Type TR Comment Status A Hierarchy level
 The hierarchy of the functional blocks in PMA do not correspond with the text in 166.3. Typo in "PHY monitor" should be "PHD monitor"
 SuggestedRemedy
 Substitute "PHY monitor" by "PHD monitor". Add a bigger block named PHY control, that includes PHY TX control, PHD monitor, Link monitor and PHY RX control.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace "PHY monitor" with "PHD monitor" in Figure 166-3. Decrease the hierarchy level of PHY quality monitor one step (inside PHY control). Synchronize Figure 166-3 with this hierarchy.

CI 166 SC 166.1.4 P65 L29 # 148
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status A Hierarchy level
 PHY monitor box is repeated (i.e. PHY quality monitor). It should PHD monitor.
 SuggestedRemedy
 Replace "PHY monitor" with "PHD monitor"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See #39.

CI 166 SC 166.2.1 P66 L42 # 172
 Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ
 Should not be reference to 166.2.2.8 instead of 166.2.2.9?
 SuggestedRemedy
 Replace by the right reference according to comment.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.2.1 P67 L7 # 173
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 65B/64B code is not defined.
 SuggestedRemedy
 Replace "65B/64B decoding" with "64B/65B decoding".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.2.1 P67 L17 # 174
 Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ
 Should not be reference to 166.2.2.8 instead of 166.2.2.9?
 SuggestedRemedy
 Replace by the right reference according to comment.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 166 SC 166.2.2.1.1 P69 L19 # 175
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 There is only one filed PHD.TX.NEXT.*, which is PHD.TX.NEXT.MODE.
 SuggestedRemedy
 Change "PHD.TX.NEXT.*" with "PHD.TX.NEXT.MODE".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.1.2 P70 L2 # 176
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 The use of term parity may result confuse in this context, when cyclic redundancy check is used.
 SuggestedRemedy
 Change "followed by the resulting 16-bit parity check to compose the concatenation of the PHD and the parity bits" with "followed by the resulting 16-bit redundancy check to compose the concatenation of the PHD and the redundancy bits"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.1.2 P70 L5 # 177
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 The use of term parity may result confuse in this context, when cyclic redundancy check is used.
 SuggestedRemedy
 Replace "the PHD and the parity bits" with "the PHD and the redundancy bits"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.2 P71 L9 # 224
 Lewis, Jon Dell Technologies
 Comment Type E Comment Status R IEEE-SA Style
 When I read the text in the paragraph and look at Figure 166-7 I slightly confused by how the numbers are shown. 187 200 bits / Transmit block could be interpreted in a couple of ways and the text above shows the same thing. I think this is 187 x 200 bits, but I could be wrong. For the 2 880 65-bit blocks when I read the paragraph it is clear that it is 2,880 blocks.

SuggestedRemedy
 In Figure 166-7 change "187 200 bits" to "187 x 200 bits"
 Response Response Status C
 REJECT.

The number is "187,200" in US style.

Although the use of a blank space for the thousands (used also in other international standards such as ISO) may be misleading here, this is the format that IEEE SA Standard Style Manual specifies for this case.

Examples can be found in P802.3/D3.2 (see C/91.4, C/108.4, C/116.4 Table 116-6, for example).

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Cl 166 SC 166.2.2.3 P71 L20 # 272

Huber, Thomas

Nokia

Comment Type T Comment Status A Technical fix required

While the end result is the same in both, the text of 16.2.2.1.4 and 16.2.2.3 is not aligned with what is shown in Figure 166-10. The figure shows the PHD being split into 20-bit sub-blocks prior to TRC coding and PCS transmit ordering, whereas the text description indicates that the PHD is first TRC-coded and then split into 20-bit sub-blocks by the PCS transmit ordering before being merged with the payload data into RS-FEC messages.

SuggestedRemedy

Choose one or the other orders of operations to describe the process, and align the text or figure accordingly.

Response Response Status C

ACCEPT IN PRINCIPLE.
In subclause 166.2.2.1.2 insert additional step after step 2 for PHD split.
Edit Figure 166-5 according to the inserted block.
Split 166.2.2.1.4 into two subclauses. First for PHD split, and second for TRC.
TRC encoder will be described operating over 20-bit subblocks and returning 20-bit subblocks.
Remove shall statement in subclause 166.2.2.3 regarding chunk operation:

"The PCS transmit ordering shall follow each sequence of 80 65-bit blocks, called tx_group80x65B, coming from the payload data path, with a 20-bit encoded PHD sub-block. See Figure 166-10 for details on PCS bit ordering."

Cl 166 SC 166.2.2.5 P74 L7 # 178

Pérez-Aranda, Rubén

KDPOF

Comment Type ER Comment Status D EZ

Figure 166-9 may be confuse, because the square boxes representing each bit position of the shift register are depicted continuous from 1 to 22 and number of them is small than 22.

SuggestedRemedy

Remove a square box in the middle of the shift register and replace it with ellipsis, like in Figure 166-33 and Figure 166-34.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.2.5 P74 L27 # 268

Ran, Adeo

Cisco

Comment Type T Comment Status A LFSR

"Annex 166A provides examples of BASE-U LFSR binary scrambler sequences for G equal to 1 and 2."

No, it provides portions of the specific scrambler sequences, not mere examples; and these sequences are not required to be generated by an LFSR (it is only a possible implementation).

SuggestedRemedy

Change to "Annex 166A provides partial listings of the scrambler sequences for G equal to 1 and 2".

Response Response Status C

ACCEPT IN PRINCIPLE.
Replace with "Annex 166A provides partial listings of BASE-U binary scrambler sequences for G equal to 1 and 2".

Cl 166 SC 166.2.2.5 P74 L27 # 179

Pérez-Aranda, Rubén

KDPOF

Comment Type ER Comment Status A LFSR

The sequence to be xor-ed with the RS-FEC encoder output is generated by the LFSR, and the operation of xor composes the data scrambling. The random sequences are BASE-U binary scrambler LFSR sequences, instead BASE-U LFSR binary scrambler sequences.

SuggestedRemedy

In page 74, line 27, change "BASE-U LFSR binary scrambler sequences" with "BASE-U binary scrambler LFSR sequences". Do similar change in Annex 166A title, 166A.2, Table 166A-1, 166A.3, and Table 166-2.

Response Response Status C

ACCEPT IN PRINCIPLE.
LFSR is an implementation of the scrambler.
Remove LFSR term from the sentence according to #257

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Cl 166 SC 166.2.2.6 P74 L29 # 180

Pérez-Aranda, Rubén

KDPOF

Comment Type ER Comment Status D EZ

The shall statements of 166.2.2.6 and 166.2.2.7 can be included in a single sub-clause "PCS transmit bit order". Finding a subclause called "PCS physical header data transmit bit order" after specification of the binary scrambler is confuse because physical header data path was specified before payload data path, RS-FEC and scrambler. Additionally, both, physical header data path and payload data path are related by the time-domain multiplexing of the transmit ordering, so it does not make sense to separate in two different sub-clauses.

SuggestedRemedy

Move text "The PCS transmit function shall conform to the PCS Physical Header Data transmit bit order in Figure 166-10." to beginning of subclause "PCS transmit bit order" (current 166.2.2.7). Remove sub-clause 166.2.2.6.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.2.7 P74 L37, 38 # 181

Pérez-Aranda, Rubén

KDPOF

Comment Type TR Comment Status D EZ

The mapping of XGMII, 25GMII and 50GMII is specified by figures 166-12 and 166-13, regardless the actual exposition of these xMII interfaces in a PHY implementation. Specification is provided in these media independent interfaces, so it cannot be conditional. In other words, if these xMII are not exposed (i.e. used) in a PHY implementation, how the information from the reconciliation layers is mapped?

SuggestedRemedy

Remove "if used" in both lines, 37 and 38.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.2.8.1 P74 L46 # 182

Pérez-Aranda, Rubén

KDPOF

Comment Type TR Comment Status A PCS encoding

The sentences "The control character for ordered set is labeled as O0 or O4 since it is only valid on the first octet of the xMII. The control character for start is labeled as S0 or S4 for the same reason." are technically incorrect for 50GMII, only valid for XGMII and 25GMII.

SuggestedRemedy

Re-write first paragraph of 166.2.2.8.1. Use 802.3-2018 sub-clause 82.2.3.1 as reference to write technically correct notation convention for 50GMII. Use 802.3-2018 sub-clause 49.2.4.1 as reference to write technically correct notation convention for XGMII/25GMII.

Response Response Status C

ACCEPT IN PRINCIPLE.

With editorial license

Cl 166 SC 166.2.2.8.1 P75 L26 # 9

Lusted, Kent

Intel Corporation

Comment Type TR Comment Status A Technical fix required

In Figure 166-10, it is difficult to quickly ascertain if the "20-bit PHD sub-block n" on line 18 is the same as the "20-bit PHD sub-block n" on line 26 and line 35. This is because the blocks before and after the "three-time Repetition Code" have the same name in the Figure. Even with the text "Encoded PHD" on line 25, it wasn't clear to me that the blocks were different until reading sub-Clause 166.1.4, specifically the paragraph on pg 64, line 6. Consider appending an "e" to the "PHD" (to be "ePHD") to improve the differentiation.

SuggestedRemedy

In Figure 166-10, change the blocks named "20-bit PHD sub-block n" at line 26 to be "20-bit ePHD sub-block n". Change the blocks named "20-bit PHD" to "20-bit ePHD".

Make appropriate changes in the other Figures, such as Figure 166-17, and the text where the "20-bit ePHD" is relevant.

Implement with editorial license.

Response Response Status U

ACCEPT IN PRINCIPLE.

The proposed encoding is a simple three-time Repetition Code, and therefore, the incoming 20-bit PHD sub-blocks are the same before and after this particular code.

However, the readability of Figure 166-10 can be improved by adding three arrows with common origin in a single incoming 20-bit PHD sub-block and terminating in each of the three repeats generated by the TRC.

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Cl 166 SC 166.2.2.8.2 P76 L 50 # 183
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Title is confuse, at this level of hierarchy. We are in the specification of PCS 64B/65B encoding. Transmit process is part. PCS transmit process can be understood as PCS transmit function, with already include 64B/65B encoding and much more functionality inside.
 SuggestedRemedy
 Change "PCS transmit process" with "Transmit process" Same for the beginning of the first paragraph of this sub-clause.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.8.2 P77 L 53 # 184
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 "tx_block<0> contains the data/ctrl header and the remainder of the bits contain the 65-bit block payload." is redundant with the next sub-clause.
 SuggestedRemedy
 Remove sentence of page 77 line 53. Start first paragraph page 78 with "The first bit tx_block<0> of a 65-bit block ..." to specify clearly how bits are mapped to tx_block construct.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.8.4 P79 L 46 # 226
 Martino, Kjersti Inneos
 Comment Type E Comment Status D EZ
 Typo in table number for control codes for XGMII, 25GMII, listed as Table 166-5, but should be 166-4
 SuggestedRemedy
 "Table 166-4 for BASE-U connected to XGMII or 25GMII"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.8.4 P79 L 46 # 197
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Incorrect reference.
 SuggestedRemedy
 Change "Table 166-5 for BASE-U PCS connected to XGMII or 25GMII" with "Table 166-4 for BASE-U PCS connected to XGMII or 25GMII"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.8.4 P79 L 46 # 273
 Huber, Thomas Nokia
 Comment Type E Comment Status D EZ
 The control codes from XGMII and 25GMII are table 166-4
 SuggestedRemedy
 Change Table 166-5 to Table 166-4.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.8.4 P79 L 51 # 269
 Ran, Adeo Cisco
 Comment Type T Comment Status A EEE capability
 "If EEE has not been negotiated"
 How is EEE negotiated?
 SuggestedRemedy
 Please add some cross-reference and/or clarifying text.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Substitute "If EEE has not been negotiated" with "If EEE capability is not enabled"
 Add the following clarifying text explaining how EEE capability is enabled in (p.104 I.2):
 "166.4.1 EEE capability enable
 EEE capability shall be enabled when the field PHD.CAP.LPI (see Table 166-2) of both, the transmitted and received PHD, are equal to 1."
 Add PICS accordingly.

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Cl 166 SC 166.2.2.8.4 P80 L20 # 270
 Ran, Adeo Cisco
 Comment Type T Comment Status R Reserved control codes
 Why are there six, and only six, "reserved" control codes in this table? Aren't all control codes other than the ones listed reserved?
 SuggestedRemedy
 Delete these rows and add a note that all control codes other than the ones listed are reserved.
 Response Response Status C
 REJECT.
 These reserved control codes are included in the table consistently with all the 802.3 clauses that use 64B/65B and 64B/66B.

Cl 166 SC 166.2.2.8.4 P80 L20 # 198
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A Reserved control codes
 Column "BASE-U PCS O code" should be used to include the value of the O codes, which are 4-bit, and used to encode the ordered set control codes using in combination with the block type field. Why reserved0 through reserved5 appears in this column? This column only makes sense for sequence ordered sets and signal ordered sets. See 802.3-2018 49.2.4.4.
 SuggestedRemedy
 Remove reserved0 through reserved5 from column "BASE-U PCS O code".
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 With editorial license.

Cl 166 SC 166.2.2.8.4 P80 L31 # 251
 Ran, Adeo Cisco
 Comment Type T Comment Status R Reserved control codes
 Table 166-4 footnote a says "Reserved for INCITS T11 Fibre Channel use."
 Is it expected that Fibre Channel will be used over these PHYs? Was there a request to reserve these specific codes for Fibre Channel?
 Similarly in Table 166-5.
 SuggestedRemedy
 Delete the last row and footnote a.
 Response Response Status C
 REJECT.
 The signal order set reserved control code is included in the table consistently with all the 802.3 clauses that use 64B/65B and 64B/66B.

Cl 166 SC 166.2.2.8.6 P81 L24 # 252
 Ran, Adeo Cisco
 Comment Type E Comment Status D EZ
 Per the style manual (14.2), "In general text, isolated numbers less than 10 should be spelled out".
 There are two such numbers in this line, 4 and 8, and others may exist.
 SuggestedRemedy
 Change "4" to "four" and "8" to "eight".
 Apply in other cases of isolated numbers across the draft as necessary.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.2.8.9 P82 L1 # 199
 Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ
 BASE-U PCS use one kind ...
 SuggestedRemedy
 Replace with "BASE-U PCS uses one kind ..."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 166 SC 166.2.2.8.9 P82 L3 # 227

Martino, Kjersti Inneos
 Comment Type E Comment Status D EZ

Only reference Table 166-5 for 50GMII for mapping, but should also list Table 166-4 to cover XGMII & 25GMII

SuggestedRemedy

"See Tables 166-4 and 166-5 for the mappings."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Replace with "See Table 166-4 and Table 166-5 for the mappings."

Cl 166 SC 166.2.2.8.9 P82 L3 # 200

Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ

Two tables should in the reference.

SuggestedRemedy

Replace "See Table 166-5 for the mappings." with "See Table 166-4 and Table 166-5 for the mappings."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 See #227.

Cl 166 SC 166.2.2.8.9 P82 L13 # 201

Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ

Incorrect reference.

SuggestedRemedy

Replace "166.2.2.8.2" with "166.2.2.9"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.2.9.2 P83 L6 # 203

Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ

Incorrect reference.

SuggestedRemedy

Replace "Variable set by the PHY TX control state diagram to control the 64B/65B encoder operation (see 166.2.2.10)." with "Variable set by the PHY TX control state diagram to control the 64B/65B encoder operation (see 166.3.4.2)."

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.2.9.3 P83 L20 # 204

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A PCS encoding

T_BLOCK_TYPE = {C, S, T, D, E} has to return additionally LI, in case of LPI encoded by 72-bit tx_raw

SuggestedRemedy

Replace "T_BLOCK_TYPE = {C, S, T, D, E}" with "T_BLOCK_TYPE = {C, S, T, D, E, LI)".
 Replace in line 21, "to one of the five types {C, S, T, D, E} depending on its contents." with "to one of the six types {C, S, T, D, E, LI} depending on its contents."

Response Response Status C

ACCEPT.

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Cl 166 SC 166.2.2.9.3 P83 L 24 # 205
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **A** PCS encoding
 Paragraph from line 24 to 38 provide definitions not valid for a transmitter function that uses 72-bit tx_raw vector.
SuggestedRemedy
 Replace full paragraph with (copies from 802.3-2018 C/49.2.13.2.3: "C; The vector contains one of the following:
 a) eight valid control characters other than /O/, /S/, /T/ and /E/; and, if the EEE capability is supported, zero or four of the characters are /L/;
 b) one valid ordered set and four valid control characters other than /O/, /S/ and /T/;
 c) two valid ordered sets.
 L; For EEE capability, this vector contains eight /L/ characters.
 S; The vector contains an /S/ in its first or fifth character, any characters before the S character are valid control characters other than /O/, /S/ and /T/ or form a valid ordered set, and all characters following the /S/ are data characters.
 T; The vector contains a /T/ in one of its characters, all characters before the /T/ are data characters, and all characters following the /T/ are valid control characters other than /O/, /S/ and /T/.
 D; The vector contains eight data characters.
 E; The vector does not meet the criteria for any other value."
Response Response Status **C**
 ACCEPT.

Cl 166 SC 166.2.2.9.3 P83 L 52 # 228
 Martino, Kjersti Inneos
 Comment Type **E** Comment Status **D** EZ
 Only reference Table 166-5 for 50GMII for mapping, but should also list Table 166-4 to cover XGMII & 25GMII
SuggestedRemedy
 "A valid character control is one containing a xMII control code specified in Table 166-4 or 166-5."
Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE. Replace with "When BASE-U PCS is connected to XGMII or 25GMII, a valid character control is one containing a control code specified in Table 166-4. When BASE-U PCS is connected to 50GMII, a valid character control is one containing a control code specified in Table 166-5."

Cl 166 SC 166.2.2.9.3 P83 L 52 # 206
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Additional reference needed.
SuggestedRemedy
 Replace "specified in Table 166-5." with "specified in Table 166-4 and Table 166-5."
Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 See #228.

Cl 166 SC 166.2.2.9.3 P83 L 54 # 207
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **A** PCS encoding
 Additional reference needed.
SuggestedRemedy
 Replace "three characters following the /O/. For BASE-U PCS" with "three characters following the /O/. A valid /O/ is any character with a value for O code in Table 166-4. For BASE-U PCS"
Response Response Status **C**
 ACCEPT.

Cl 166 SC 166.2.2.9.3 P84 L 3 # 208
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Classification in case of LPI not supported is defined, however adding a note can be convenient.
SuggestedRemedy
 Add after line 3, before T_TYPE(tx_raw<71:0>) definition: "Note — A BASE-U PHY that does not support EEE classifies vectors containing one or more /L/ control characters as type E."
Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 Add note: "NOTE — A BASE-U PHY without EEE capability classifies vectors containing one or more /L/ control characters as type E."

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Cl 166 SC 166.2.3 P84 L 15 # 185
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Redundant shall statement.Already in 166.2.3.6.
 SuggestedRemedy
 Remove ", and the PCS receive bit ordering in Figure 166–17."
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3 P84 L 25 # 209
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Error symbols are not defined. How the codewords are marked as erroneous depends on RS-FEC decoder implementation.
 SuggestedRemedy
 Replace "with error symbols" with "as erroneous"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3 P84 L 25 # 210
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 There is a plurality of RS-FEC messages.
 SuggestedRemedy
 Replace "The RS-FEC message obtained" with "Each RS-FEC message obtained"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3 P84 L 32 # 211
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Figure is not providing specification about RXC.
 SuggestedRemedy
 Replace "as specified in Figure 166–18." with "as specified in 166.2.3.7 with mapping of Figure 166-18"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3 P84 L 33 # 214
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 They are transfers (either data or control)
 SuggestedRemedy
 Replace "50GMII data transfers" with "50GMII transfers"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3 P84 L 33 # 212
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 They are transfers (either data or control)
 SuggestedRemedy
 Replace "XGMII or 25GMII data transfers" with "XGMII or 25GMII transfers"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

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Cl 166 SC 166.2.3 P84 L 36 # 213
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 Figure is not providing specification about RXC.
SuggestedRemedy
 Replace "as specified in Figure 166-19." with "as specified in 166.2.3.7 with mapping of Figure 166-19"
Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3.1 P84 L 49 # 253
 Ran, Adee Cisco
 Comment Type T Comment Status A Text improvement
 "The descrambler shall process the 195 840 Transmit Block bits"
 Shouldn't it process the received bits? (yes, they are in a block called "Transmit block", but as written it is confusing).
 Maybe a "Receive block" should also be defined to help readers distinguish the two (they both exist simultaneously in a PHY).
SuggestedRemedy
 Rephrase as necessary.
Response Response Status C
 ACCEPT IN PRINCIPLE.
 "The descrambler shall process the 195 840 bits of a received Transmit Block"

Cl 166 SC 166.2.3.1 P84 L 50 # 254
 Ran, Adee Cisco
 Comment Type T Comment Status A LFSR
 "using the same LFSR with same initialization value specified in 166.2.2.5"
 It can't be physically the same LFSR, since the initialization occurs at different times.
 What is common with the scrambler in 166.2.2.5 are only the polynomial and the periodic initialization value.
 It is also unclear when the initialization occurs. I assume the location is obtained from some initial descrambler lock acquisition, but it would better be stated explicitly.

SuggestedRemedy
 Change to "using the same polynomial and the same initialization value as specified in 166.2.2.5".
 Clarify how the descrambler lock is acquired.
Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change to "using the same polynomial and the same initialization value as specified in 166.2.2.5".
 Scrambler lock does not need to be acquired because it is additive and random binary sequence is initialized at the beginning of each Transmit Block.
 Once the receiver achieves Transmit Block synchronization, it knows the symbol where the scrambler is initialized for each Transmit Block (first symbol). The Transmit Block synchronization can be implemented by cross-correlation because apriori known information is sent by transmitter (LBLOCK_T) before link is established (see https://www.ieee802.org/3/cz/public/mar_2021/perezaranda_3cz_02_0321_scrambler.pdf)

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Cl 166 SC 166.2.3.1 P100 L 51 # 255

Ran, Adee Cisco
 Comment Type T Comment Status A Text improvement

"The assessment of the above defined PHY quality criterion may be based on estimation of the noise variance at the symbol detector decision points <...>, which expressed in base-2 logarithmic units has to be lower than a given threshold T_{LM}"

But T_{LM} is not given anywhere.

T_{LM} seems to be a mean squared error threshold, which depends on implementation, since the quality criterion also depends on the constellation distance (to calculate the SNR).

In addition, the quality criterion may also be dependent on the probability distribution of the error, the possibility of non-stationary bit error statistics at the FEC input, any maybe other factors.

Assuming T_{LM} or corresponding criteria (such as minimum SNR) are not specified, and instead left as an implementation detail, then there may be no need to define T_{LM} and LM (equation 166-6) in such detail; subclause 166.3.5.2 can mostly be replaced by stating that LM is an implementation-specific value representing the SNR margin, expressed in a base-2 logarithmic scale relative to minimum SNR required for meeting the criterion in 166.3.5.2.

SuggestedRemedy

Change "lower than a given threshold T_{LM}" to "lower than an implementation-specific threshold T_{LM}".

Consider rewriting this subclause in the spirit of the last sentence in the comment.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "lower than a given threshold T_{LM}" to "lower than an implementation dependent threshold T_{LM}".

Cl 166 SC 166.2.3.2 P86 L 6 # 215

Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ

I miss a reference

SuggestedRemedy

Replace "by setting the R_BLOCK_TYPE of the affected 65-bit blocks equal to E" with "by setting the R_BLOCK_TYPE of the affected 65-bit blocks equal to E (see 166.2.3.7.3)"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.3.3 P86 L 11 # 216

Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ

Repeated sentence.

SuggestedRemedy

Remove first one "The PCS receiver ordering shall separate from each RS-FEC message the group of 80 65-bit blocks and 20-bit encoded PHD sub-block." Fix PICS accordingly.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.3.3 P86 L 11 # 274

Huber, Thomas Nokia
 Comment Type E Comment Status D EZ

The two sentences in this pagraph are the same, except that the first one doesn't refer to the figure

SuggestedRemedy

Delete the first sentence.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.3.4 P86 L 15 # 275

Huber, Thomas Nokia
 Comment Type T Comment Status D EZ

It seems like a figure analogous to Figure 166-10 for the transmit direction would be helpful to illustrate the receiver processing of the PHD

SuggestedRemedy

Add a figure that is the reverse of Figure 166-10 and a reference to it.

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 166 SC 166.2.3.5 P86 L25 # 217

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ

Incorrect reference. Block types are defined in different sub-clause.

SuggestedRemedy

Replace "The block type field contains a reserved value (see 166.2.2.8.4)." with "The block type field contains a reserved value (see 166.2.2.8.3)."

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.3.5 P86 L26 # 218

Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ

Space before Table 166-14.

SuggestedRemedy

Add space.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.2.3.5 P86 L31 # 276

Huber, Thomas Nokia
 Comment Type T Comment Status A RS-FEC

The penultimate paragraph seems out of place here (it is discussing RS-FEC decoding, and the text of 166.2.3.2 already covers the concept of error marking the contents of FEC codewords with uncorrectable errors), and the final paragraph is already covered in the first line of the clause.

SuggestedRemedy

Delete the last two paragraphs of 166.2.3.5.

Response Response Status C

ACCEPT.

Cl 166 SC 166.2.3.5 P86 L31 # 219

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A RS-FEC

Redundant shall statement. Already in 166.2.3.2.

SuggestedRemedy

Remove "The PCS receive function shall check that the RS-FEC function specified in 166.2.2.3 decoded correctly the 31 received codewords. If the check fails, the RS-FEC codeword is invalid."

Response Response Status C

ACCEPT IN PRINCIPLE.
 See #276.

Cl 166 SC 166.2.3.5 P86 L34 # 220

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A RS-FEC

/E/ is not valid value for R_BLOCK_TYPE, but E.

SuggestedRemedy

Replace "The R_BLOCK_TYPE of an invalid 65-bit block is set to /E/." with "The R_BLOCK_TYPE of an invalid 65-bit block is set to E."

Response Response Status C

ACCEPT IN PRINCIPLE.
 This sentence is removed according #276

Cl 166 SC 166.2.3.6 P86 L39, 41 # 186

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ

The mapping from 65-bit blocks is specified by figures 166-18 and 166-19, regardless the actual exposition of these xMII interfaces in a PHY implementation. Specification is provided in these media independent interfaces, so it cannot be conditional. In other words, if these xMII are not exposed (i.e. used) in a PHY implementation, how the information to the reconciliation layers is mapped?

SuggestedRemedy

Remove "if used" in both lines, 39 and 41. Full stop with new paragraph after first sentence. Just period after second sentence.

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 166 SC 166.2.3.7.2 P89 L14 # 187
 Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ
 Plural ...
SuggestedRemedy
 Replace "The leftmost bit in the figure is" with "The leftmost bit in the figures is"
Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3.7.3 P89 L35 # 188
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Redundant ...
SuggestedRemedy
 Replace "and decodes the 65B RS-FEC bit vector" with "and decodes it"
Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3.7.3 P89 L36 # 189
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 Incorrect reference in the shall statement.
SuggestedRemedy
 Replace "The DECODE function shall decode the rx_block based on specified in 166.2.2.8.4." with "The DECODE function shall decode the rx_block based on specified in 166.2.2.8."
Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3.7.3 P90 L32 # 229
 Martino, Kjersti Inneos
 Comment Type E Comment Status A PCS encoding
 Only reference Table 166-5 for 50GMII, but should also list Table 166-4 to cover XGMII & 25GMII
SuggestedRemedy
 "A valid control character is one containing a BASE-U control code in Table 166-4 or 166-5. A valid O code is one containing a O code specified in Table 166-4 or 166-5."
Response Response Status C

ACCEPT IN PRINCIPLE.
 Insert in page 90 line 15: "A valid control character is one containing a BASE-U control code in Table 166-4. A valid O code is one containing a O code specified in Table 166-4."

Cl 166 SC 166.2.3.7.3 P90 L34 # 191
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A EEE capability
 Classification in case of LPI not supported is defined, however adding a note can be convenient.
SuggestedRemedy

Add after line 33, before R_TYPE(rx_block<64:0>) definition: "Note — A BASE-U PHY that does not support EEE classifies vectors containing one or more /LI/ control characters as type E."
Response Response Status C
 ACCEPT IN PRINCIPLE.
 Add note:
 "NOTE — A BASE-U PHY without EEE capability classifies vectors containing one or more /LI/ control characters as type E."
 Also replace 79 line 51 "that supports EEE" with "with EEE capability" for consistency with comment #269.
 Also replace 80 line 51 "that supports EEE" with "with EEE capability" for consistency with comment #269.

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Cl 166 SC 166.2.3.7.3 P90 L 32,33 # 190
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status A PCS encoding
 Lack of reference to Table 166-4.
SuggestedRemedy
 Replace "A valid control character is one containing a BASE-U control code in Table 166-5. A valid O code is one containing a O code specified in Table 166-5." with "A valid control character is one containing a BASE-U control code in Table 166-4 and Table 166-5. A valid O code is one containing a O code specified in Table 166-4 and Table 166-5."
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See #229.

Cl 166 SC 166.2.3.8 P91 L 10 # 192
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Transition R_TYPE(rx_block) = (E + D + LI + T) is disconnected from state RX_INIT
SuggestedRemedy
 Connect it
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3.8 P91 L 11 # 193
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Transition R_TYPE(rx_block) = C has a vertical line in the middle of the text (at the letter l position).
SuggestedRemedy
 Remove it
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.2.3.8 P91 L 39 # 277
 Opsasnick, Eugene Broadcom
 Comment Type E Comment Status R Technical fix required
 In Fig. 166-20, RX_T state does not show next state transitions when R_TYPE(rx_block) = (T + D + E)
SuggestedRemedy
 Add state transition from RX_T to RX_E when R_TYPE(rx_block) = (T + D + E)
 Response Response Status C
 REJECT.
 All the transitions to RX_T state check that the R_TYPE_NEXT is not T, is not D, and is not E.
 (R_TYPE_NEXT = (S + C + LI))

Cl 166 SC 166.2.3.8 P91 L 41 # 194
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Text of transition "R_TYPE(rx_block) = C" from state RX_T is separated from the transition line.
SuggestedRemedy
 Move transition text closer to line.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.3 P92 L 48 # 41
 Torres, Luisma KDPOF
 Comment Type ER Comment Status D EZ
 "link quality" is not the name of the state machine described in 166.3.5
SuggestedRemedy
 Replace "link quality" by "PHY quality monitor"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 166 SC 166.3 P92 L48 # 40
 Torres, Luisma KDPOF
 Comment Type ER Comment Status A Hierarchy level
 166.3.4 also includes PHD monitor
 SuggestedRemedy
 Replace "PHY control and link monitoring" by "PHY control, link monitoring, and PHD monitoring"
 Response Response Status C
 ACCEPT.

CI 166 SC 166.3.4.3 P98 L18 # 195
 Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ
 State diagram is specified instead of state machine.
 SuggestedRemedy
 Change "machine" with "diagram"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.3.5.2 P100 L53 # 256
 Ran, Adeo Cisco
 Comment Type T Comment Status D EZ
 "If the condition <condition in equation> holds, the variable loc_rcvr_status is assigned the value OK"
 Language can be simplified; and what happens if it does not?
 SuggestedRemedy
 Change to "the variable loc_rcvr_status is assigned the value OK if <condition in equation>. Otherwise, it is assigned the value NOT_OK".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.4.1 P104 L6 # 20
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status D EZ
 "in the sense" may be incorrect.
 SuggestedRemedy
 change to "in the sense that".
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.4.2 P104 L23 # 196
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Cross-reference to PCS physical header transmit bit order is provided. It is more appropriate a cross-reference to sub-clause where physical header data path is specified.
 SuggestedRemedy
 Change "(see 166.2.2.6)." with "(see 166.2.2.1)."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.4.2.4 P105 L41 # 230
 Martino, Kjersti Inneos
 Comment Type E Comment Status D EZ
 Figure 166-31 is shown after figure 166-32. Note the figures are actually on page 106.
 SuggestedRemedy
 Move figure 166-31 directly below figure 166-30
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.4.3 P106 L37 # 221
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Figures 166-32 and 166-31 are in reverse order.
 SuggestedRemedy
 Check anchors of the figures to get in the text Figure 166-31 before Figure 166-32.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 166 SC 166.5.1 P108 L4 # 22
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status R Normative wording
 "BER test is run between..." should be a requirement.
 SuggestedRemedy
 use "shall".
 Response Response Status C
 REJECT.
 This sentence is an introductory description of a setup, not an specification of the PHY.
 Shall statements regarding this BER test mode can be found in the following paragraphs.

CI 166 SC 166.5.1 P108 L5 # 23
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status R Normative wording
 if "can" is the permission, "may"should be used.
 SuggestedRemedy
 change to "may".
 Response Response Status C
 REJECT.
 In this sentence, a capability of the BER test mode is described.
 IEEE SA Standards Style Manual 2021 Clause 9, page 9:
 "The word may is used to indicate a course of action permissible within the limits of the standard (may equals is permitted to).
 The word can is used for statements of possibility and capability, whether material, physical, or causal (can equals is able to)."

CI 166 SC 166.5.1 P108 L9 # 231
 Martino, Kjersti Inneos
 Comment Type E Comment Status D EZ
 Change wording for clarity of the following: "regardless the link status,"
 SuggestedRemedy
 "regardless of the link status,"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.5.1 P108 L15 # 132
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Redundant
 SuggestedRemedy
 Replace "When the link partner receiver is in BER test mode operation mode," with "When the link partner receiver is in BER test mode,"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.5.1 P108 L21 # 133
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Redundant
 SuggestedRemedy
 Replace "The transmitter shall announce to the link partner receiver the BER test mode operation mode" with "The transmitter shall announce to the link partner receiver the BER test mode"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.5.4 P109 L5 # 134
 Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ
 Confuse sentence.
 SuggestedRemedy
 Replace "Bit sequence C is a 5462-bit sequence which generates an output bit sequence encoding" with "Bit sequence C is a 5462-bit sequence generated encoding"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 166 SC 166.5.4 P109 L 32 # 135
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Incorrect shift register.
SuggestedRemedy
 Replace "r[21]" with "r[24]"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.5.5 P110 L 12 # 136
 Pérez-Aranda, Rubén KDPOF
 Comment Type **T** Comment Status **D** EZ
 Generation of bit sequence A is not correct.
SuggestedRemedy
 Replace "Bit sequence A is formed by concatenating bit sequences A1, A2, and A3." with "Bit sequence A is formed by binary inverting the concatenation of bit sequences A1, A2, and A3."
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.6.1 P111 L # 24
 Hayashi,Takehiro HAT Labs
 Comment Type **E** Comment Status **D** EZ
 no contents
SuggestedRemedy
 add contents, otherwise delete the sub-clause
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.6.2.1.2 P111 L 45 # 84
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Here the transmit clock period term is used, instead of transmit symbol period of 166.3.1
SuggestedRemedy
 Unify using transmit symbol period.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.6.3.2 P113 L 41 # 85
 Pérez-Aranda, Rubén KDPOF
 Comment Type **E** Comment Status **D** EZ
 Change transmitter optical specifications to transmitter optical characteristics.
SuggestedRemedy
 Per comment
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.6.3.3 P113 L 52 # 86
 Pérez-Aranda, Rubén KDPOF
 Comment Type **E** Comment Status **D** EZ
 Change receive optical specifications to receiver optical characteristics.
SuggestedRemedy
 Per comment
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.6.3.4 P114 L 7 # 87
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 "The PMD receive function" should be "The PMD signal detect function"
SuggestedRemedy
 Change per comment
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

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Cl 166 SC 166.6.4.1 P114 L26 # 88
 Pérez-Aranda, Rubén KDPOF
 Comment Type E Comment Status D EZ
 The operating range for the 2.5GBASE-AU, 5GBASE-AU, 10GBASE-AU, 25GBASE-AU, and 50GBASE-AU PMDs
 SuggestedRemedy
 Simpler: the operating range for the BASE-AU PMDs
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.6.4.2 P115 L6 # 90
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TXRX Characteristics
 In perezaranda_3cz_02_2205_TXRX_Characteristics.pdf, changes of TX characteristics are proposed with several objectives: Be consistent with new TDFOM proposed in perezaranda_3cz_01_2205_TDFOM_Simpler.pdf, Extend upper limit of TDFOM to allow larger implementation penalties, and reduce max AOP and max OMA to be more consistent with more realistic TX implementation (i.e. reduced current in low temperature) and relax RX implementation (i.e. min trans-impedance)
 SuggestedRemedy
 Change values of Table 166-9, according to perezaranda_3cz_02_2205_TXRX_Characteristics.pdf
 Response Response Status C
 ACCEPT.

Cl 166 SC 166.6.4.2 P115 L31 # 278
 Simms, William NVIDIA
 Comment Type E Comment Status D EZ
 Table entry has type "distorsion"
 SuggestedRemedy
 correct to distortion
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.6.4.2 P115 L48 # 279
 Simms, William NVIDIA
 Comment Type E Comment Status D EZ
 footnote b of table 166-9 has typo "launch power blow this value"
 SuggestedRemedy
 correct 'blow' to below
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.6.4.2 P115 L48 # 25
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status D EZ
 typo "blow"
 SuggestedRemedy
 "below"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.6.4.2 P115 L48 # 26
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status D EZ
 Although main body describes "transmitter shall meet the specifications in Table-9", note b says "a value above this does not ensure the compliance". This is very confusing.
 SuggestedRemedy
 clarify the compliance for what, or delete this sentence.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 This foot note has been mistakenly written in the transmitter characteristics table. Remove footnote.

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CI 166 SC 166.6.4.2 P115 L49 # 27
 Hayashi,Takehiro HAT Labs
 Comment Type T Comment Status R External standards
 The EF template specified in 61300-1-4 is only for 850 nm. Need to confirm if this template can be applicable to 980nm.
 SuggestedRemedy
 add "tetative" in the encircled flux column, until the confirmation by IEC is done.
 Response Response Status C
 REJECT.
 Link budget analysis and TX characteristics are based on the assumption that this EF specification is met.
 This template is also used in 950 nm.
 For example, OM3 fiber EMB extrapolation at 980 nm in previous contributions assume the same EF specification (see https://www.ieee802.org/3/cz/public/27_oct_2020/pimpinella_3cz_01_271020.pdf and https://www.ieee802.org/3/cz/public/may_2021/abbott_3cz_01_0521_Extrapolation_of_IEC_guidance_for_OM3_to_980.pdf)
 Launching conditions of 980 nm VCSELs is similar to 850 nm because active area construction is very similar. In any case, EF specification is going to be met in a real implementation also considering the design of optics between VCSEL and optical fiber.

CI 166 SC 166.6.4.2 P115 L49 # 232
 Martino, Kjersti Inneos
 Comment Type E Comment Status D EZ
 In Table 166-9 note b, there is a typo in "launch power blow this value cannot"
 SuggestedRemedy
 "launch power below this value cannot"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.6.4.2 P115 L49 # 89
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Change "launch power blow this value cannot be compliant; however, a value above this does not ensure compliance.." to "launch power below this value cannot be compliant; however, a value above this does not ensure compliance."
 SuggestedRemedy
 Per comment
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.6.4.3 P116 L3 # 91
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TXRX Characteristics
 In perezaranda_3cz_02_2205_TXRX_Characteristics.pdf, changes of TX characteristics are proposed with several objectives: Be consistent with new TDFOM proposed in perezaranda_3cz_01_2205_TDFOM_Simpler.pdf, Extend upper limit of TDFOM to allow larger implementation penalties, and reduce max AOP and max OMA to be more consistent with more realistic TX implementation (i.e. reduced current in low temperature) and relax RX implementation (i.e. min trans-impedance)
 SuggestedRemedy
 Change values of Table 166-10, according to perezaranda_3cz_02_2205_TXRX_Characteristics.pdf
 Response Response Status C
 ACCEPT.

CI 166 SC 166.6.4.3 P116 L22 # 28
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status D EZ
 typo "thershold"
 SuggestedRemedy
 "threshold"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 166 SC 166.6.4.3 P116 L22 # 280
 Simms, William NVIDIA
 Comment Type E Comment Status D EZ
 table 166-10 entry has typo" Damage thershold (max)"
 SuggestedRemedy
 correct "thershold" to "threshold"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.6.4.3 P116 L48 # 29
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status R TXRX Characteristics
 Although main body describes "receiver shall meet the specifications in Table-10", note b says "a value above this does not ensure the compliance". This is very confusing.
 SuggestedRemedy
 clarify the compliance for what, or delete this sentence.
 Response Response Status C
 REJECT.
 The shall statement is referring to the complete table, including the foot notes. The caveat indicated in foot note b is just for the average power when considered individually.

Cl 166 SC 166.6.4.4 P117 L14 # 30
 Hayashi,Takehiro HAT Labs
 Comment Type T Comment Status R External standards
 Bandwidth at 980nm hasn't been specified in IEC.
 SuggestedRemedy
 add "tentative" until the bandwidth at 980 nm is specified in IEC.
 Response Response Status C
 REJECT.
 Link budget analysis and TX characteristics are based on the assumption that this BW specification is met.
 For example, OM3 fiber EMB extrapolation at 980 nm in previous contributions assume the same BW specification (see https://www.ieee802.org/3/cz/public/27_oct_2020/pimpinella_3cz_01_271020.pdf and https://www.ieee802.org/3/cz/public/may_2021/abbott_3cz_01_0521_Extrapolation_of_IEC_guidance_for_OM3_to_980.pdf)
 Launching conditions of 980 nm VCSELs is similar to 850 nm because active area construction is very similar. In any case, EF specification is going to be met in a real implementation also considering the design of optics between VCSEL and optical fiber.
 Send a liaison with IEC to include 980nm.

Cl 166 SC 166.6.4.4 P117 L20 # 31
 Hayashi,Takehiro HAT Labs
 Comment Type T Comment Status D EZ
 Can't understand the meaning of this row. (minimum channel length?)
 SuggestedRemedy
 please clarify.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Wrong units. Substitute "m" with "dB".

Cl 166 SC 166.6.4.4 P117 L20 # 42
 Torres, Luisma KDPOF
 Comment Type ER Comment Status D EZ
 Table 166-11; wrong units for the Channel insertion loss (min)
 SuggestedRemedy
 Replace "m" by "dB"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 166 SC 166.6.4.4 P118 L3 # 92
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **A** TXRX Characteristics
 Modify Figure 166–36 according to values of perezaranda_3cz_02_2205_TXRX_Characteristics.pdf.
 SuggestedRemedy
 Per comment
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Add to the Figure caption "for 50GBASE-AU"

CI 166 SC 166.7.1.1 P118 L34 # 93
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Replace FSWP with FSQWP, for consistency.
 SuggestedRemedy
 Per comment
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

CI 166 SC 166.7.1.1 P119 L14, 39 # 94
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Wrong reference.
 SuggestedRemedy
 Replace 166.7.8.2.2 with 166.7.5.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

CI 166 SC 166.7.3 P118 L48 # 95
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **A** External standards
 IEC 61280-1-1 title is "Fibre optic communication subsystem basic test procedures - Part 1-1: Test procedures for general communication subsystems - Transmitter output optical power measurement for single-mode optical fibre cable" and 802.3cz is targeted to multi-mode optical fiber cable, specifically OM3 50/125 um. Same reference is used in other multi-mode clauses along 802.3.
 SuggestedRemedy
 Double check the IEC standard 61280-1-1 is valid for optical power measurement in multi-mode fibers, or replace reference with the one appropriate. Other clauses as C/138 should be revised accordingly in case of replacement. Other clauses as C/52 include reference to TIA/EIA-455-95.

Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Reference is made to IEC 61280-1-1 in other IEEE 802.3 clauses specifying a test setup (see 53.9.2) that uses a multimode fiber.
 Replace (p.118 l.46) "per IEC 61280-1-1." with "ANSI/TIA/EIA-455-95-2019 with a multimode fiber patch cord of 1 to 3 meters length consistent with the PHY type under test (see 166.9.1)."
 Replace (p.113 l.7) ", between 1 m and 3 m in length" with "of 1 to 3 meters length consistent with the PHY type under test (see 166.9.1)."
 Replace (p.120 l.9) "Patch cord is 1 to 3 meters long" with "The patch cord is a multimode fiber of 1 to 3 meters length consistent with the PHY type under test (see 166.9.1)."
 Replace (p.122 l.32) "Patch cord is 1 to 3 meters long" with "The patch cord is a multimode fiber of 1 to 3 meters length consistent with the PHY type under test (see 166.9.1)."
 Add (p.129 l.52) "The E/O converter is connected to the optical attenuator by means of a 40 meters long multimode patch cord, consistent with the PHY type under test (see 166.9.1)."

CI 166 SC 166.7.3 P118 L51 # 32
 Hayashi,Takehiro HAT Labs
 Comment Type **E** Comment Status **A** Normative wording
 "may should be used for permission.
 SuggestedRemedy
 "can" -> "may"
 Response Response Status **C**
 ACCEPT.

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Cl 166 SC 166.7.4.1 P 120 L 30 # 96
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 The combination of the O/E converter and the oscilloscope has a 3 dB bandwidth
 SuggestedRemedy
 Sign (-) in front of 3 is needed. Change to be "The combination of the O/E converter and the oscilloscope has a -3 dB bandwidth"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.4.2 P 121 L 1 # 99
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 OMAouter measurement setup —> The setup was already specified in previous subclause.
 This is spec of measurement.
 SuggestedRemedy
 Change to be "OMAouter measurement"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.4.1 P 120 L 31 # 97
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 "fourth-order Bessel-Thomson"
 SuggestedRemedy
 Change to be "fourth-order Bessel-Thomson low-pass filter"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.4.2 P 121 L 9 # 100
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Wrong eq reference
 SuggestedRemedy
 Change: "Equation (166–8) specifies the OMAouter of the PMD under test."
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.4.1 P 120 L 33 # 98
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 BW_N is not defined.
 SuggestedRemedy
 Add "BW_N is the equivalent noise bandwidth of fourth-order Bessel-Thomson filter response"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.4.2 P 121 L 9 # 33
 Hayashi,Takehiro HAT Labs
 Comment Type **E** Comment Status **D** EZ
 Typo the number of equation (166-12)
 SuggestedRemedy
 166-8
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.4.2 P 121 L 12 # 101
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Not valid unitts
 SuggestedRemedy
 Replace "(Watts)" with (W)"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

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Cl 166 SC 166.7.5 P121 L 23 # 34
 Hayashi, Takehiro HAT Labs
 Comment Type E Comment Status D EZ
 Typo the number of equation (166-19)
 SuggestedRemedy
 166-9
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.6 P121 L 37, 40 # 152
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 center 3% interval
 SuggestedRemedy
 Change to be "center 3%"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.5 P121 L 22 # 149
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Wrong reference.
 SuggestedRemedy
 Change to be "Using Pmin and Pmax obtained in 166.7.4.2"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.7 P121 L 53 # 153
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 "test pattern specified for extinction ratio". We are measuring jitter.
 SuggestedRemedy
 Change to be "test pattern specified"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.5 P121 L 29 # 150
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Wrong references.
 SuggestedRemedy
 Change with: "Alternatively, the ER can be measured as defined in 166.7.8..4, Equation (166-21)."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.7 P122 L 8 # 155
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Wrong reference.
 SuggestedRemedy
 Change to be "Pmax and Pmin are measured as specified in 166.7.4.2."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.6 P121 L 34 # 151
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 "test pattern specified for extinction ratio". We are measuring RIN.
 SuggestedRemedy
 Change to be "test pattern specified"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.7 P122 L 2, 6 # 154
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 Incorrect equation "(Pmax-Pmin)/2"
 SuggestedRemedy
 Change to be "(Pmax+Pmin)/2"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 166 SC 166.7.8 P122 L18 # 156
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 "using the method specified 166.7.8.2"
 SuggestedRemedy
 Change to "using the method specified in 166.7.8.2"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8 P122 L21 # 157
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Wrong reference.
 SuggestedRemedy
 Change to "(specified in 166.7.8.2)"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8.1 P123 L1 # 158
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 The combination of the O/E converter and the oscilloscope has a 3 dB bandwidth
 SuggestedRemedy
 Sign (-) in front of 3 is needed and low-pass indication. Change to be "The combination of the O/E converter and the oscilloscope has a -3 dB bandwidth of 16.4 GHz with a fourth-order Bessel-Thomson low-pass response ..."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8.1 P123 L6 # 159
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 "The test pattern (specified in Table 166-13) is transmitted repetitively ..." Lack of reference for G=2.
 SuggestedRemedy
 "The test pattern (specified in Table 166-13 and Table 166-14) is transmitted repetitively ..."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8.2 P123 L12 # 160
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM
 Change method to be consistent with perezaranda_3cz_01_2205_TDFOM_Simpler.pdf
 SuggestedRemedy
 Per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.
 With editorial licence.

Cl 166 SC 166.7.8.2 P123 L14 # 161
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM
 Remove ", denoted as Ov," to be consistent with perezaranda_3cz_01_2205_TDFOM_Simpler.pdf
 SuggestedRemedy
 Per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.

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Cl 166 SC 166.7.8.2 P123 L40 # 162
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM
 Change Figure 166-39 to be consistent with perezaranda_3cz_01_2205_TDFOM_Simpler.pdf
 SuggestedRemedy
 Per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.
 With editorial licence.

Cl 166 SC 166.7.8.2 P123 L49 # 164
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM
 Change sentence according to new Figure 166-39 and perezaranda_3cz_01_2205_TDFOM_Simpler.pdf
 SuggestedRemedy
 Per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.
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Cl 166 SC 166.7.8.2 P123 L46 # 163
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM
 Remove "Then, the noise sequence n is generated by filtering the nin sequence by a noise filter with response H1(f) given by Equation (166–12) with f1 equal to (S × 2.65625 + 0.5) GHz." to be consistent with perezaranda_3cz_01_2205_TDFOM_Simpler.pdf
 SuggestedRemedy
 Per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.

Cl 166 SC 166.7.8.2 P123 L49 # 281
 Simms, William NVIDIA
 Comment Type E Comment Status R Text improvement
 Is this correct wording" The noise sequence n is added to y generating the noisy sequence yn"
 SuggestedRemedy
 change "noisy sequence yn" to "noise sequence yn"
 Response Response Status C
 REJECT.
 The sequence yn is a signal sequence with gaussian noise added.

Cl 166 SC 166.7.8.2 P124 L13,17 # 165
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM
 Remove lines 13 through 17 to be consistent with perezaranda_3cz_01_2205_TDFOM_Simpler.pdf
 SuggestedRemedy
 Per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.

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CI 166 SC 166.7.8.2.2 P126 L41 # 166

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM

"and sigma_n is the standard deviation of the sequence n = sn - s." is not longer valid according to perezaranda_3cz_01_2205_TDFOM_Simpler.pdf

SuggestedRemedy

Replace sentence with "and sigma_n is calculated with Equation (166-XX)." Add Equation (166-XX) as the equation of slide 6 of perezaranda_3cz_01_2205_TDFOM_Simpler.pdf, which calculates sigma_n as a function of sigma_n_in and coefficients of G(z).

Response Response Status C

ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.

CI 166 SC 166.7.8.2.3 P126 L54 # 167

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM

Fifth through eighth steps are not consistent with perezaranda_3cz_01_2205_TDFOM_Simpler.pdf.

SuggestedRemedy

Replace 5th through 8th steps with the following two steps: "⊖ Select CID sequences with length greater or equal to 14. ⊖ Remove first 6 and last 6 samples from the selected CID sequences."

Response Response Status C

ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.

CI 166 SC 166.7.8.2.4 P127 L15 # 168

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM

Equation (166-18) is no consistent with perezaranda_3cz_01_2205_TDFOM_Simpler.pdf

SuggestedRemedy

Remove term sqrt(Ov) to make the Equation consistent

Response Response Status C

ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.

CI 166 SC 166.7.8.2.4 P127 L32 # 169

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status A TDFOM

TDFOM0 values are not longer valid for new TDFOM method of perezaranda_3cz_01_2205_TDFOM_Simpler.pdf

SuggestedRemedy

Replace values with ones of perezaranda_3cz_01_2205_TDFOM_Simpler.pdf

Response Response Status C

ACCEPT IN PRINCIPLE.
 Note that during presentation, perezaranda_3cz_01_2205_TDFOM_Simpler.pdf was modified by fixing a typo in the title of slide 7. Updated one is perezaranda_3cz_01a_2205_TDFOM_Simpler.pdf.

CI 166 SC 166.7.8.3 P127 L45 # 35

Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status D EZ

Typo the number of equation (166-21)

SuggestedRemedy

166-20

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 166 SC 166.7.8.3 P127 L45 # 170
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Not valid reference
 SuggestedRemedy
 Replace with "The OMAouter can be calculated as defined in Equation (166-20)"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8.3 P127 L46 # 102
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Specifications vs descriptions
 SuggestedRemedy
 Replace "as described in 166.7.8.2." with "as specified in 166.7.8.2."
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8.3 P127 L49 # 171
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Not valid unitts
 SuggestedRemedy
 Replace "(dB)" with "(W)"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8.4 P128 L4 # 103
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Specifications vs descriptions
 SuggestedRemedy
 Replace "as described in 166.7.8.2." with "as specified in 166.7.8.2."
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.8.5 P128 L12 # 104
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Specifications vs descriptions
 SuggestedRemedy
 Replace "as described in 166.7.8.2." with "as specified in 166.7.8.2."
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.9 P128 L16 # 106
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **A** TXRX Characteristics
 From line 16 through 34, modify the range of values of STDFOM for which the RX sensitivity has to be met, according to new Table 166-9 of TX characteristics of perezaranda_3cz_02_2205_TXRX_Characteristics.pdf
 SuggestedRemedy
 Per comment
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 With editorial license

Cl 166 SC 166.7.9 P128 L16 # 107
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Stressed receiver is defined.
 SuggestedRemedy
 Replace "For 2.5GBASE-AU, receiver sensitivity" with "For 2.5GBASE-AU, stressed receiver sensitivity". Do similar change for 5, 10, 25 and 50 GBASE-AU, in the following paragraphs.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

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Cl 166 SC 166.7.9 P128 L16 # 105
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **A** TXRX Characteristics
 From line 16 through 34, modify the STDFOM values for which the RX sensitivity is measured according to new Table 166-10 of RX characteristics of perezaranda_3cz_02_2205_TXRX_Characteristics.pdf
 SuggestedRemedy
 Per comment
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 With editorial license

Cl 166 SC 166.7.9 P128 L36 # 108
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Equation is not correct.
 SuggestedRemedy
 Replace "=" with "<="

Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10 P128 L48 # 110
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Incorrect reference.
 SuggestedRemedy
 Replace with "shall be within the limits given in Table 166–10"

Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10 P129 L2 # 109
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **A** TXRX Characteristics
 Update figure 166-43 to be consistent with perezaranda_3cz_02_2205_TXRX_Characteristics.pdf
 SuggestedRemedy
 Per comment
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 With editorial license.

Cl 166 SC 166.7.10 P129 L28 # 112
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Not clear specification.
 SuggestedRemedy
 Replace "The signal being transmitted is asynchronous to the received signal." with "The signal being transmitted by the PHY under test is asynchronous to the received signal."

Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10 P129 L28 # 111
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Receiver sensitivity can only be defined for a complete PHY, but not for a PMD sublayer.
 SuggestedRemedy
 Replace "to the PMD receiver under test" with "to the PHY receiver under test"

Proposed Response Response Status **W**
 PROPOSED ACCEPT.

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Cl 166 SC 166.7.10.1 P129 L42 # 119
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Nominal symbol rate is of pattern generator
 SuggestedRemedy
 Replace "of the receiver under test" with "of the test-pattern generator"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10.1 P129 L46 # 36
 Hayashi,Takehiro HAT Labs
 Comment Type **E** Comment Status **D** EZ
 Typo the number of equation (166-13)
 SuggestedRemedy
 166-23
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10.1 P129 L51 # 113
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Some parameters are defined in Table 166-9.
 SuggestedRemedy
 Replace "specified in Table 166-10" with "specified in Table 166-9 and Table 166-10"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10.1 P130 L47 # 114
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **A** Technical fix required
 The first step should be configuring the right test pattern.
 SuggestedRemedy
 Add as first step: "The test-pattern generator is configured to generate specified pattern for stressed receiver sensitivity in Table 166-13 and Table 166-14."
 Response Response Status **C**
 ACCEPT.

Cl 166 SC 166.7.10.1 P130 L53 # 115
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 incorrect register and reference
 SuggestedRemedy
 Replace with "Local link margin reported in register 3.2350 (see 45.2.3.87e) is lower than 0."
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10.1 P131 L9 # 117
 Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ
 Incorrect units.
 SuggestedRemedy
 Replace "(Watts)" with (W)"
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

Cl 166 SC 166.7.10.1 P131 L11 # 116
 Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ
 Delete "using test setup defined in Figure 166-44.". It does not make sense here. Broken reference to figure.
 SuggestedRemedy
 Per comment
 Proposed Response Response Status **W**
 PROPOSED ACCEPT.

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Cl 166 SC 166.7.10.2 P131 L19 # 118

Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ

Incorrect reference. Primary params are STDFOM, ER and RIN.

SuggestedRemedy

Replace "The primary parameters of the stressed receiver conformance test signals are its stressed TDFOM (STDFOM), and RIN, as specified in 166.7.10.4." with "The primary parameters of the stressed receiver conformance test signals are its stressed TDFOM (STDFOM), ER, and RIN."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 166 SC 166.7.10.2 P131 L39 # 121

Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ

Incorrect references. The ones provided are to measure AOP and OMAouter with different test patterns.

SuggestedRemedy

Replace "Measure OMAouter and AOP as specified in 166.7.4 and 166.7.3 to calculate gamma_tx = OMAouter/AOP." with "Measure OMAouter and AOP as specified in 166.7.8.3 and 166.8.5 to calculate gamma_tx = OMAouter/AOP."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 166 SC 166.7.10.2 P131 L50 # 122

Pérez-Aranda, Rubén KDPOF
 Comment Type **TR** Comment Status **D** EZ

Sinusoidal jitter amplitude has to be adjusted too.

SuggestedRemedy

Replace "Turn on the sinusoidal jitter according to 166.7.10.4," with "Turn on the sinusoidal jitter and adjust its amplitude according to 166.7.10.4,"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 166 SC 166.7.10.2 P131 L27, 43 # 120

Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ

Incorrect reference.

SuggestedRemedy

Replace "Table 166-9" with "Table 166-10".

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 166 SC 166.7.10.3 P132 L15 # 123

Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ

Sentence is confuse.

SuggestedRemedy

Replace "To use an oscilloscope to calibrate the final stressed eye jitter that includes the sinusoidal jitter component" with "To use an oscilloscope to calibrate the final stressed signal that includes the sinusoidal jitter component"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

Cl 166 SC 166.7.10.3 P132 L21 # 124

Pérez-Aranda, Rubén KDPOF
 Comment Type **ER** Comment Status **D** EZ

tolerance test? not defined

SuggestedRemedy

Replace "Running the receiver tolerance test" with "Running the receiver sensitivity test"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

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CI 166 SC 166.7.10.4 P 132 L 35 # 233
 Martino, Kjersti Inneos
 Comment Type E Comment Status D EZ
 Change wording for clarity of the following: "for the equations the table."
 SuggestedRemedy
 "for the equations in the table."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.7.10.4 P 132 L 49 # 125
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Replace KHz with kHz in Table 166-18
 SuggestedRemedy
 Per comment.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.9.1 P 133 L 35 # 37
 Hayashi,Takehiro HAT Labs
 Comment Type E Comment Status A Text improvement
 The optical fiber should meet both of requirements
 SuggestedRemedy
 change "or" to "and"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace "The fiber contained within the BASE-AU fiber optic cabling shall comply with the requirements of IEC 60793-2-10 for optical fiber Type A1a.2 (OM3) or the requirements of Table 166–19 where they differ" with
 "The fiber contained within the BASE-AU fiber optic cabling shall comply with the requirements of IEC 60793-2-10 for optical fiber Type A1a.2 (OM3) and the requirements of Table 166–19. For parameters where they differ, Table 166–19 prevails."

CI 166 SC 166.9.1 P 133 L 47 # 129
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 It should be effective modal bandwidth
 SuggestedRemedy
 Replace "Modal bandwidth" with "Effective modal bandwidth" and add foot note: "When measured with the launch conditions specified in Table 166-9"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.9.1 P 133 L 47 # 127
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 Incorrect units. Replace "MHz.km" with "MHz·km"
 SuggestedRemedy
 Per comment.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.9.1 P 133 L 50 # 128
 Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ
 Replace "Dispersion slop" with "Chromatic dispersion slope"
 SuggestedRemedy
 Per comment.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 166 SC 166.9.1 P 133 L 50 # 126
 Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ
 Incorrect units. Replace "ps/nm^2.km" with "ps/(nm^2.km)
 SuggestedRemedy
 Per comment.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 166 SC 166.9.2.1 P134 L10 # 130

Pérez-Aranda, Rubén KDPOF
 Comment Type TR Comment Status D EZ

The sentence does not make technical sense.

SuggestedRemedy

Replace "The maximum link distances are calculated based on the allocation of total connection insertion loss shown in Table 166-20." with "The maximum number of connections are calculated based on the allocation of total connection insertion loss shown in Table 166-20."

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.9.2.2 P134 L34 # 38

Hayashi,Takehiro HAT Labs
 Comment Type T Comment Status R Text improvement

"return loss" is generally used with a positive value.

SuggestedRemedy

change "reflectance" to "return loss" and delete "-" from "-20"

Response Response Status C

REJECT.
 This subclause is consistent with many others -SR clauses.

Cl 166 SC 166.14.2 P137 L8 # 235

Marris, Arthur Cadence Design Systems
 Comment Type T Comment Status A External standards

This subclause is not referencing Annex J.2 as other PHY clauses do, also saying conforming to ISO 26262 is not specific enough.

SuggestedRemedy

Consider adding text "Equipment subject to this clause shall conform to the general safety requirements in J.2."

Say exactly which part of ISO 26262 needs to be conformed to or delete the reference to ISO 26262 altogether.

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace full paragraph with "Equipment subject to this clause shall conform to the general safety requirements in J.2."

Synchronize wording of Environmental safety and electromagnetic safety subclauses with Clause 149.9.

Cl 166 SC 166.14.5 P138 L14 # 143

Pérez-Aranda, Rubén KDPOF
 Comment Type ER Comment Status D EZ

Replace "about the product explicitly defines requirements" with "about the product, where explicitly defines requirements"

SuggestedRemedy

Per comment

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 166 SC 166.16.5 P144 L27 # 234

Martino, Kjersti Inneos
 Comment Type E Comment Status D EZ

Typo, extra "s" in "LPI is treated ass an error if"

SuggestedRemedy

"LPI is treated as an error if"

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 166A SC 166A P154 L1 # 250
 Nicholl, Shawn AMD
 Comment Type T Comment Status A RS-FEC
 Add an Annex containing RS(544,522) FEC codeword examples.
SuggestedRemedy
 Insert new sub-clause Annex 166A (thus updating existing Annex 166A to Annex 166B).
 The new sub-clause to contain RS(544,522) FEC codeword examples. Model the new
 informative sub-clause after Annex 91A.
 Response Response Status C
 ACCEPT.

Cl 166A SC 166A P154 L1 # 6
 Brown, Matt Huawei
 Comment Type E Comment Status D EZ
 Missing editorial instruction to add annex.
SuggestedRemedy
 Add and editorial note at the top of the page "Insert new Annex 166A as follows."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 166A SC 166A.2 P154 L22 # 257
 Ran, Adee Cisco
 Comment Type T Comment Status A LFSR
 The title includes "LFSR binary scrambler sequence", but the content of Table 166A-1 is not
 necessarily generated by an LFSR, and is not listed as a binary sequence.
 Similarly in Table 166A-2.
SuggestedRemedy
 Change the title to "2.5GBASE-U, 5GBASE-U, 10GBASE-U, and 25GBASE-U scrambler
 sequence".
 Change 166A.3 accordingly.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change the subclause title to "2.5GBASE-U, 5GBASE-U, 10GBASE-U, and 25GBASE-U
 binary scrambler sequence".
 Change 166A.3 accordingly.
 Change the annex title to "BASE-U binary scrambler sequence"
 Revise other occurrences of "LFSR" in the draft accordingly.

Cl 166A SC 166A.2 P154 L26 # 258
 Ran, Adee Cisco
 Comment Type T Comment Status D EZ
 "Table 166A-1 shows the first and last 2048 bits of tx_lfsr<0:195839>"
 The table content is hexadecimal digits, not bits.
 Similarly in Table 166A-2.
SuggestedRemedy
 Change to "Table 166A-1 shows the hexadecimal representation of the first and last 2048
 bits of tx_lfsr<0:195839>"
 Change 166A.3 accordingly.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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CI 166A SC 166A.2 P154 L33 # 18

Hajduczenia, Marek Charter Communications
 Comment Type E Comment Status D EZ

Table 166A-1 uses now standard font for long hex sequence. I suggest to use fixed width font, e.g., Courier New to make the hex code more readable.

SuggestedRemedy

Per comment. The same applies to Table 166A-2

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 166A SC 166A.2 P154 L33 # 19

Hajduczenia, Marek Charter Communications
 Comment Type TR Comment Status A LFSR

Since the LFSR binary scrambler sequences are incomplete (tables show "..."), we need to post complete sequence in binary (machine readable format) and link it

SuggestedRemedy

Per comment

Response Response Status U

ACCEPT IN PRINCIPLE.

Only a few of random sequences specified in 802.3 are provided for download in a machine readable format (e.g. Clause 120 SSPRQ). However, if considered necessary, the same action needs to be implemented for other test pattern in C/166: SSPR-NRZ, SSPR-PAM4 and pattern for stressed receiver sensitivity.

A total of five files are provided:

C166_G1_binary_scrambler_sequence.txt

C166_G2_binary_scrambler_sequence.txt

C166_SSPR-NRZ_pattern.txt

C166_SSPR-PAM4_pattern.txt

C166_Stressed_Receiver_Sensitivity_pattern.txt

CI 166A SC 166A.2 P154 L35 # 259

Ran, Adeo Cisco
 Comment Type E Comment Status D EZ

If the intent of the underscore characters in Table 166A-1 is no improve readability, it is hampered by the inconsistent placement of these characters in different rows.

The content would be easier to follow if fixed-width font is used, resulting in alignment of all underscores.

Similarly in Table 166A-2.

SuggestedRemedy

Format the content of the right column in a fixed-width font (e.g., Courier) or use other means to get a similar effect.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI TOC SC TOC P13 L1 # 14

Hajduczenia, Marek Charter Communications

Comment Type E Comment Status D EZ

Something is wrong with indentation of Level 1 headers in TOC. Are you using the latest version?

SuggestedRemedy

Please fix

Proposed Response Response Status W

PROPOSED ACCEPT.