

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl **FM** SC **FM** P **1** L **8** # **260**

Dawe, Piers Nvidia
 Comment Type **E** Comment Status **A** (bucket1)

Draft Standard for Ethernet Amendment:
 Standard for Ethernet Amendment: repetition?

SuggestedRemedy

Draft standard for Ethernet Amendment:
 or
 Standard for Ethernet Draft amendment:
 Also on page 29.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change:
 "Draft Standard for Ethernet Amendment:
 Standard for Ethernet Amendment:"
 To:
 "Draft Standard for Ethernet Amendment:"

Cl **FM** SC **FM** P **10** L **1** # **261**

Dawe, Piers Nvidia
 Comment Type **E** Comment Status **A** (bucket1)

XX Month 201X

SuggestedRemedy

XX Month 202X

Response Response Status **C**

ACCEPT IN PRINCIPLE.

To be consistent with formatting elsewhere...
 Change "201X" to "20XX".

Cl **FM** SC **FM** P **21** L **16** # **262**

Dawe, Piers Nvidia
 Comment Type **E** Comment Status **A** (bucket1)

Italics

SuggestedRemedy

Should be upright as usual?

Response Response Status **C**

ACCEPT IN PRINCIPLE.

[Editor's note: Page number updated from 20.]
 The font in several lines in the TOC are italic rather than normal.
 Fix the fonts in the TOC.

Cl **1** SC **1.1.3.2** P **30** L **21** # **263**

Dawe, Piers Nvidia
 Comment Type **TR** Comment Status **A** AUI definition (bucket1)

These paragraphs about 100GAUI-n, 200GAUI-n and 400GAUI-n are written as if each is a single interface, as in "conformance with implementation of **this interface** ... is recommended, since it allows maximum flexibility" when there are multiple variants, which are not interoperable. Some of these errors should be fixed in maintenance but this project should not be adding new ones.

SuggestedRemedy

Change "and a one-lane version (100GAUI-1)" to "and two one-lane versions (100GAUI-1)",
 Change "and a two-lane version (200GAUI-2)" to "and two two-lane versions (200GAUI-2)",
 Change "and a four-lane version (400GAUI-4)" to "and two four-lane versions (400GAUI-4)",

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Make it clear that C2C and C2M interfaces are uniquely specified. With appropriate editorial mark-ups implement the following...
 Change: "Four widths of CAUI-n/100GAUI-n are defined"
 To: "For each of chip-to-chip and chip-to-module interfaces, four widths of CAUI-n/100GAUI-n are defined"
 Change: "Three widths of 200GAUI-n are defined"
 To: "For each of chip-to-chip and chip-to-module interfaces, three widths of 200GAUI-n are defined"
 Change: "Three widths of 400GAUI-n are defined"
 To: "For each of chip-to-chip and chip-to-module interfaces, three widths of 400GAUI-n are defined"

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Cl 1 SC 1.3 P31 L14 # 264
 Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)
 The base document subclause 1.3 already has an entry for SFF-8665, Rev 1.9, June 29, 2015
 SuggestedRemedy
 Delete this duplicate
 Response Response Status C
 ACCEPT.

Cl 1 SC 1.4.36 P32 L1 # 265
 Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)
 1.4.36 isn't inserted by 802.3cd, it's in the base document
 SuggestedRemedy
 Change "as inserted" to "as modified"
 Response Response Status C
 ACCEPT IN PRINCIPLE.

The comment correctly points out that the text was not inserted by 802.3cd. The correct term is "changed" rather than "modified".
 Change "as inserted by" to "as changed by".

Cl 1 SC 1.4.36 P32 L6 # 266
 Dawe, Piers Nvidia
 Comment Type TR Comment Status A AUI definition (bucket1)
 This says that there is one version of 100GAUI-1 when in fact there are two incompatible ones.

SuggestedRemedy
 Change "and a single-lane version (100GAUI-1)" to "and two single-lane versions (100GAUI-1)".
 Change "Clause 135, Annex 120F, and Annex 120G for 100GAUI-1." to "Clause 135 and Annex 120F or Annex 120G for 100GAUI-1".
 The (See this for this, that for that...) section is becoming unwieldy: it could be better as separate sentences: For 100GAUI-1, see Clause 135 and Annex 120F or Annex 120G.

Response Response Status C
 ACCEPT IN PRINCIPLE.
 Make it clear that C2C and C2M interfaces are uniquely specified. With appropriate editorial mark-ups implement the following...
 Change: "Four widths are defined"
 To: "For each of chip-to-module and chip-to-chip interconnections, four widths are defined"
 The portion listing the related clauses is sufficiently clear as written. However, an editorial mark-up is missing.

Cl 1 SC 1.4.36 P32 L8 # 267
 Dawe, Piers Nvidia
 Comment Type E Comment Status R AUI definition (bucket1)
 Why is PMA clause 135 listed but not 83 or 120 in similar text?

SuggestedRemedy
 ?
 Response Response Status C
 REJECT.
 This comment is written as a question and provides no actionable remedy.
 Clause 135 is included for 100GAUI-4, 100GAUI-2, and 100GAUI-1 since some aspect of usage are specified in Clause 135.
 Addressing references for CAUI-4 and CAUI-10 are outside the scope of this task force.
 No changes to the draft are required.

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CI 1 SC 1.4.87 P32 L 33 # 212

Dawe, Piers Nvidia
 Comment Type **TR** Comment Status **A** AUI definition (bucket1)

This says that there is one version of 200GAUI-2 when in fact there are two incompatible ones. Notice that 116.1 and 120.5.1 say "Annex 120F *or* Annex 120G".

SuggestedRemedy

Change "and a two-lane version (200GAUI-2)" to "and two two-lane versions (200GAUI-2)".
 Change ", or Annex 120F and Annex 120G for 200GAUI-2." to ", or Annex 120F or Annex 120G for 200GAUI-2."

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Make it clear that C2C and C2M interfaces are uniquely specified. With appropriate editorial mark-ups implement the following...

Change: "Three widths of 200GAUI-n are defined"

To: "For each of chip-to-module and chip-to-chip interconnections, three widths of 200GAUI-n are defined"

The portion listing the related clauses is sufficiently clear as written. However, an editorial mark-up is missing.

Add strike-through to "or " before "Annex 120D".

CI 1 SC 1.4.111 P33 L 6 # 213

Dawe, Piers Nvidia
 Comment Type **TR** Comment Status **A** AUI definition (bucket1)

This says that there is one version of 400GAUI-4 when in fact there are two incompatible ones. Notice that 116.1 and 120.5.1 say "Annex 120D, Annex 120E, Annex 120F, *or* Annex 120G".

SuggestedRemedy

Change "and a four-lane version (400GAUI-4)" to "and two four-lane versions (400GAUI-4)".

Change ", or Annex 120F and Annex 120G for 400GAUI-4." to ", or Annex 120F or Annex 120G for 400GAUI-4."

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Make it clear that C2C and C2M interfaces are uniquely specified. With appropriate editorial mark-ups implement the following...

Change: "Three widths of 400GAUI-n are defined"

To: "For each of chip-to-module and chip-to-chip interconnections, three widths of 400GAUI-n are defined"

The portion listing the related clauses does not improve the accuracy or clarity of the specification.

CI 45 SC 45.2.1.135a P54 L 11 # 43

Slavick, Jeff Broadcom
 Comment Type **TR** Comment Status **A** (bucket1)

We've added a footnote stating that the new PRESETs are PHY dependent support, so is C(-3).

SuggestedRemedy

Add a footnote to Tables 45-103a, 45-103b, 45-103c and 45-104d attached to the Coefficient Select and Coefficient Select Echo text stating "Support for a given coefficient is PHY dependent."

Response Response Status **C**

ACCEPT.

CI 73 SC 73.6 P66 L 15 # 214

Dawe, Piers Nvidia
 Comment Type **E** Comment Status **A** (bucket1)

It's hard to tell what's going on here.

SuggestedRemedy

Please show or tell the reviewers and the staff editor how this figure differs from the existing figure.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change editing instruction to "Replace Figure 73-6 with the following figure to make D43 indicate F4 rather than A22."

Underneath Figure 73-6 insert new editing instruction

"Change the last two sentences of the final paragraph of 73.6 as follows:"

Include text to show modification of last two sentences of 73.6 so that it will read as follows:

"D[42:21] contains the Technology Ability Field. D[47:43] contains FEC capability (see 73.6.5)."

Implement with editorial license.

CI 93A SC 93A.1 P195 L 24 # 28

Healey, Adam Broadcom Inc.
 Comment Type **E** Comment Status **A** (bucket1)

93A.1.2 exists in this document.

SuggestedRemedy

Add a cross-reference link.

Response Response Status **C**

ACCEPT.

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Cl 93A SC 93A.1.2.2 P 198 L 14 # 235
 Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)
 Network
 SuggestedRemedy
 network (as in the published base document). Also in 93A.1.2.3
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change "Network" to "network".

Cl 93A SC 93A.1.2.3 P 199 L 14 # 53
 Ran, Adeo Intel
 Comment Type T Comment Status A equation (bucket1)
 Equation 93A-12A has a typo - denominator should be a sum (as in equation 93A-12).
 SuggestedRemedy
 Change "-" to "+" in the denominator.
 Response Response Status C
 ACCEPT.

Cl 93A SC 93A.5 P 202 L 26 # 236
 Dawe, Piers Nvidia
 Comment Type E Comment Status A ERL tukey (bucket1)
 New ERL parameters
 SuggestedRemedy
 Add rows for Tfx and Tukey window flag in Table 93A-4, ERL parameters
 Response Response Status C
 ACCEPT.

Cl 93A SC 93A.5.1 P 202 L 45 # 76
 Brown, Matt Huawei
 Comment Type T Comment Status A ERL tukey (bucket1)
 The variable f_r used in equation 93A-58b is not included in the associated variable list.
 SuggestedRemedy
 Add fr and its definition to the variable list below Equation 93A-58b.
 Response Response Status C
 ACCEPT.

Cl 120F SC 120F.3.1 P 208 L 14 # 54
 Ran, Adeo Intel
 Comment Type E Comment Status A ERL reference (bucket1)
 Reference to dERL in the table should be the subclause that specifies parameters and points to the annex.
 SuggestedRemedy
 Change reference for dERL in table 120F-1 from 163A.3.2.2 to 120F.3.1.1.
 Response Response Status C
 ACCEPT.

Cl 120F SC 120F.3.1.1 P 209 L 4 # 56
 Ran, Adeo Intel
 Comment Type E Comment Status A (bucket1)
 Subclause heading "Transmitter effective return loss" should be consistent with "Transmitter ERL" in 163.9.2.3.
 SuggestedRemedy
 Change heading to "Transmitter ERL".
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 The use of "effective return loss" vs "ERL" is inconsistent throughout 120F, 120G, and 163. In 120F, 120G, and 163, use "effective return loss (ERL)" for the first use then use "ERL" thereafter as appropriate.
 [Editor's note: CC: 120F, 120G, 163]

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Cl 120F SC 120F.3.1.1 P 209 L 6 # 33
 Healey, Adam Broadcom Inc.
 Comment Type E Comment Status A (bucket1)
 The parameter is defined to be "dERL" and not "[DELTA]ERL".
 SuggestedRemedy
 Update the name to be consistent.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #80.

Cl 120F SC 120F.3.1.1 P 209 L 6 # 80
 Brown, Matt Huawei
 Comment Type E Comment Status A (bucket1)
 delta_ERL should be dERL.
 SuggestedRemedy
 Replace all instances of delta_ERL with dERL.
 Response Response Status C
 ACCEPT.

Cl 120F SC 120F.3.1.1 P 209 L 6 # 55
 Ran, Adeo Intel
 Comment Type E Comment Status A (bucket1)
 Delta sign appears here (Δ ERL) but the difference term is called dERL.
 Also on line 26.
 SuggestedRemedy
 Change Delta to d in both cases.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #80.

Cl 120F SC 120F.3.1.1 P 209 L 6 # 195
 Wu, Mau-Lin MediaTek
 Comment Type E Comment Status A (bucket1)
 The symbol "dERL (min)" here doesn't consist with "dERL (min)" in Table 120F-1.
 SuggestedRemedy
 Align with "dERL (min)" in Table 120F-1.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #80.

Cl 120F SC 120F.3.1.1 P 209 L 26 # 169
 Dudek, Mike Marvell.
 Comment Type E Comment Status A (bucket1)
 using the symbol for delta is a pain for normal typing and general report writing etc. d is used in table 120F-1 but the delta symbol is used in other places.
 SuggestedRemedy
 Replace the symbol delta with d throughout Ammex 120F. Additional places I noticed were
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #80.

Cl 120F SC 120F.3.1.1 P 209 L 26 # 196
 Wu, Mau-Lin MediaTek
 Comment Type E Comment Status A (bucket1)
 The symbol "dERL (min)" here doesn't consist with "dERL (min)" in Table 120F-1.
 SuggestedRemedy
 Align with "dERL (min)" in Table 120F-1.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #80.

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Cl **120F** SC **120F.3.2.3** P **212** L **42** # **170**
 Dudek, Mike Marvell.
 Comment Type **T** Comment Status **A** (bucket1)
 There isn't a return loss spec in 163.9.2.1
SuggestedRemedy
 Change "return loss" to "effective return loss"
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Change "return loss" to "ERL".

Cl **120G** SC **120G.2** P **225** L **29** # **239**
 Dawe, Piers Nvidia
 Comment Type **T** Comment Status **R** terminology
 Terminology should align better with that agreed after debate in P802.3ba or bs, and with the text.
SuggestedRemedy
 In Figure 120G-4, Module compliance points, change "Receiver" to "Electrical input", and change "Transmitter" to "Electrical output".
 Response Response Status **C**
 REJECT.
 This comment was WITHDRAWN by the commenter.

Cl **120G** SC **120G.3.1** P **226** L **26** # **91**
 Brown, Matt Huawei
 Comment Type **T** Comment Status **A** transition time
 The host output minimum transition time value is TBD. Since the transition time is measured after considerable loss and parasitics between the host device and the measurement point it seems unnecessary to specify this parameter.
 Alternately, use the transition time used in the the various COM simulations (7.5 ps).
SuggestedRemedy
 Delete the host output transition time.
 Alternately replace TBD with 7.5 ps.
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 [Editor's note: Addresses incomplete specification.]
 Replace TBD with 7.5 ps.

Cl **120G** SC **120G.3.1.1** P **226** L **41** # **241**
 Dawe, Piers Nvidia
 Comment Type **E** Comment Status **A** (bucket1)
 Font size of 53.125
SuggestedRemedy
 Fix
 Response Response Status **C**
 ACCEPT.

Cl **120G** SC **120G.3.1.6** P **228** L **24** # **92**
 Brown, Matt Huawei
 Comment Type **T** Comment Status **R** eye opening crosstalk
 The parameter values for the host output eye opening crosstalk source are TBD as follows: "The crosstalk generator is calibrated at TP4 (without the use of a reference receiver) with target differential peak-to-peak amplitude of TBD mV and slew time of TBD ps between -TBD V and +TBD V." Use the maximum peak to peak value from Table 120G-1, range of 20% to 80%, and minimum transition time from Table 120G-1 (value proposed in another comment).
SuggestedRemedy
 Replace with the following:
 The crosstalk generator is calibrated at TP4 (without the use of a reference receiver) with target differential peak-to-peak amplitude of 870 mV and slew time of 7.5 ps between -261 V and +261 V.
 Response Response Status **C**
 REJECT.
 [Editor's note: Addresses incomplete specification.]
 There is no consensus to make any changes at this time.

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Cl 120G SC 120G.3.2 P 229 L 32 # 97

Brown, Matt

Huawei

Comment Type T Comment Status A transition time

The module output minimum transition time value is TBD. Since the transition time is measured after considerable loss and parasitics between the host device and the measurement point it seems unnecessary to specify this parameter.

Alternately, use the transition time used in the various COM simulations (7.5 ps).

SuggestedRemedy

Delete the host output transition time.

Alternately replace TBD with 7.5 ps.

Response Response Status C

ACCEPT IN PRINCIPLE.

[Editor's note: Addresses incomplete specification.]

Replace TBD with 7.5 ps.

Cl 120G SC 120G.3.2 P 229 L 19 # 244

Dawe, Piers

Nvidia

Comment Type TR Comment Status R TP4 NE EH

For a reasonably clean module (or test equipment in a host stressed eye test), the driver swing has to be aggressively reduced to deliver only 24 mV. If the module is set to the "near" setting, and the host receiver isn't that near, the eye it is offered is smaller than 24 mV because of loss, and out of tune as well. 120E has 70 mV.

SuggestedRemedy

Change the NEEH from 24 mV to 50 mV.

Response Response Status C

REJECT.

The comment does not provide evidence that 24 mV specification is not appropriate.

It only points out that for loss greater than the HCB the host device might see something lower.

Some support was expressed during comment resolution however there is not consensus to implement the proposed change. Further justification is required.

Cl 120G SC 120G.3.2.1 P 229 L 46 # 247

Dawe, Piers

Nvidia

Comment Type TR Comment Status R TP4 settings

As already discussed, the 2-settings method with only two compliance losses doesn't work. If the module is set to the short setting, and the host receiver isn't that near, the eye it is offered is smaller than 24 mV because of loss, and out of tune as well. If the module is set to the long setting and the host isn't that long, the eye is also out of tune. There's no guarantee that either setting is usable.

SuggestedRemedy

We need four compliance losses forming two overlapping ranges, or go back to the one-setting method which is much preferable for avoiding complexity, firmware and interop issues.

Response Response Status C

REJECT.

The comment does not provide sufficient evidence that further changes are required.

The first option proposed in the suggested remedy is not sufficiently complete to implement.

The second option would revert to a single-setting.

There is some support for the first option however a complete proposal is required.

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Cl 120G SC 120G.3.2.1 P 229 L 48 # 144

Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status R TP4 settings

It is stated that module has two setting one setting for short and one setting for long, not clear what short and long are nor clear if the link must work between short and long!

SuggestedRemedy

Define short channel as following: Any host channel with loss up to 11 dB.
 Define long channel as following: Any host channel with loss >11 dB.

Response Response Status C

REJECT.

This interface specification is written with the assumption that the maximum host insertion loss is around 11.9 dB. So providing a setting for going beyond 11 dB is not helpful.

The intent of having two settings, generically labelled short and long, is to provide appropriate amplitude and emphasis based on the host capabilities. The setting is potentially chosen by a combination of the host device and the channel characteristics, and not solely based on the host channel insertion loss. Near-end and far-end tests are specified for the module and it must meet both specifications with the appropriate setting of tx_eq_state, see 120G.3.3.2.1.

However, the setting of module tx_eq_state is not clearly specified for the host input specifications. A proposal for how the module equalization is set for operation would be helpful.

There is no consensus to implement the proposal.

Cl 120G SC 120G.3.2.2 P 230 L 14 # 98

Brown, Matt Huawei
 Comment Type T Comment Status R crosstalk

The parameter values for the module output eye opening crosstalk source are TBD as follows:

"The crosstalk generator is calibrated at TP1a (without the use of a reference receiver) with target differential peak-to-peak amplitude of TBD mV and target transition time of TBD ps." Use the maximum peak to peak value and minimum transition time value (proposed in another comment) from Table 120G-1.

SuggestedRemedy

Replace with the following:
 "The crosstalk generator is calibrated at TP1a (without the use of a reference receiver) with target differential peak-to-peak amplitude of 900 mV and target transition time of 7.5 ps."

Response Response Status C

REJECT.

[Editor's note: Addresses incomplete specification.]

The proposed transition time is much smaller than would be expected. Further analysis and proposal is required.

There is no consensus make any changes at this time.

Cl 120G SC 120G.3.2.2.1 P 230 L 47 # 248

Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)

-9.6dB

SuggestedRemedy

approximately 9.6 space dB

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace "-9.6dB" with "approximately 9.6 dB".

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CI 120G SC 120G.3.2.2.1 P 230 L 49 # 249
 Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)
 with an exception to use zp = 244.7 mm, and C0 and C1 are both 0 nF
 SuggestedRemedy
 with the exceptions that zp is 244.7 mm, and C0 and C1 are both 0 nF
 Response Response Status C
 ACCEPT.

CI 120G SC 120G.3.3.2 P 232 L 17 # 250
 Dawe, Piers Nvidia
 Comment Type TR Comment Status A TP1 EH
 The module NE and FE minimum EH should not be the same (see another comment). If we stay with the 2-settings module specification, even if corrected with a 4-loss specification method, this should be reflected in this table, which should include near-end parameters anyway.
 SuggestedRemedy
 Add the rows for the near-end parameters.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Some comments are proposing to remove EW as a parameter.
 Add rows for NE EH, EW (if EW is not removed as a result of other comments), and VEC to Table 120G-6 with values the same as for NE EH, EW, and VEC, respectively, as specified at TP4 (module output).

CI 120G SC 120G.3.3.2 P 232 L 23 # 191
 Calvin, John Keysight Technologies
 Comment Type T Comment Status R TP1 VEC
 Based on Hadrien/Garg/Calvin presentation
https://www.ieee802.org/3/ck/public/adhoc/sept23_20/louchet_3ck_adhoc_01a_092320.pdf
 it is illustrated that the Host stressed Far-end vertical eye closure of 7.5dB, cannot be realized with contemporary instrumentation. The current choice of MTF channel losses and sinusoidal impairments records a VEC on the order of 9.5dB.
 SuggestedRemedy
 Update the target Far-end vertical eye closure VEC in Table 120G-6 from 7.5dB to 9.5dB. Alternately asserting this 7.5dB VEC target without typical margining (SJ) impairments is allowable to reach a VEC of 7.5dB.
 Response Response Status C
 REJECT.
 The following presentation was reviewed by the task force:
https://www.ieee802.org/3/ck/public/20_10/calvin_3ck_02a_1020.pdf
 The suggested remedy proposes to address a limitation in the test equipment or method by increasing the specified value. This would result in tightening receiver specifications and loosening transmitter specifications.
 More justification for the proposed changes is required.

CI 120G SC 120G.3.3.2.1 P 232 L 33 # 251
 Dawe, Piers Nvidia
 Comment Type T Comment Status A RJT (bucket1)
 This sentence refers to the SJ table but doesn't tell the reader what to do. Other clauses and annexes with similar tables say that the entries are used one at a time (you don't apply all the SJ tones at once).
 SuggestedRemedy
 Please make this explicit.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Implement the suggested remedy with editorial license using wording similar to that used in 162.9.4.4.2.

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CI 120G SC 120G.3.3.2.1 P 233 L 32 # 103

Brown, Matt

Huawei

Comment Type T Comment Status R crosstalk

For the host stressed input the crosstalk source transition parameters are TBD as follows: "The counter propagating crosstalk signals during calibration of the stressed signal are asynchronous with target amplitude of TBD mV peak-to-peak differential and 20% to 80% target transition time of TBD ps as measured at TP1a (without the use of a reference receiver)." Set amplitude to the host output maximum value and set the transition time to the host output minimum value.

SuggestedRemedy

Change the sentence to the following:

"The counter propagating crosstalk signals during calibration of the stressed signal are asynchronous with target amplitude of 870 mV peak-to-peak differential and 20% to 80% target transition time of 7.5 ps as measured at TP1a (without the use of a reference receiver)."

Response Response Status C

REJECT.

[Editor's note: Addresses incomplete specification.]

The proposed transition time is much smaller than would be expected. Further analysis and proposal is required.

There is no consensus to make any changes at this time.

CI 120G SC 120G.3.3.2.1 P 233 L 43 # 252

Dawe, Piers

Nvidia

Comment Type T Comment Status A TP4 settings

"Meeting the BER requirements at only one of the methods is sufficient": not quite. The host needs to choose right as well.

SuggestedRemedy

If the 2-settings method is kept, say that meeting the BER requirements at the one of the two methods that the host selects is sufficient.

Response Response Status C

ACCEPT IN PRINCIPLE.

With editorial license, include text to indicate that for the host input stressed eye the host selects the TX eq state and the calibration is done appropriately, specifically for long state use FE stress and for short state use NE stress.

CI 120G SC 120G.3.3.2.1 P 233 L 49 # 253

Dawe, Piers

Nvidia

Comment Type T Comment Status A (bucket1)

120E.3.2.1.2

SuggestedRemedy

120G.5.3, if it remains - or delete the sentence. I believe the other specs mean that the following sentence "Pre-emphasis capability is likely to be required in the pattern generator to meet this requirement." would still apply.

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace the reference to 120E.3.2.1.2 with a reference to 120G.5.3.

CI 120G SC 120G.3.4.1 P 235 L 40 # 192

Calvin, John

Keysight Technologies

Comment Type T Comment Status R TP4a VEC

Based on Hadrien/Garg/Calvin presentation

https://www.ieee802.org/3/ck/public/adhoc/sept23_20/louchet_3ck_adhoc_01a_092320.pdf

it is illustrated that the Module stressed input test VEC (max) value of 9.5dB, cannot be realized with contemporary instrumentation. The current choice of MTF channel losses and sinusoidal impairments records a VEC on the order of 13dB.

SuggestedRemedy

Update the target VEC max in Table 120G-9 from 9.5dB to 13dB. Alternately asserting this 9.5dB target VEC should be attainable with either a lower loss C2M test channel, or without typical margining (SJ) impairments is allowable to reach a VEC of 9.5dB.

Response Response Status C

REJECT.

Resolve using the response to comment #191.

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Cl **120G** SC **120G.3.4.1.1** P **236** L **15** # **107**

Brown, Matt Huawei
 Comment Type **T** Comment Status **A** TP4a transition time

For the module input stressed eye, the pattern generator transition time value is TBD as follows:
 "The target pattern generator 20% to 80% transition time at the input to the test channel in the module stressed input test is TBD ps."

SuggestedRemedy

Replace TBD with 7.5 ps.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

[Editor's note: Addresses incomplete specification.]

Change TBD to 9 ps.

Cl **120G** SC **120G.3.4.1.1** P **236** L **47** # **108**

Brown, Matt Huawei
 Comment Type **T** Comment Status **R** TP4a crosstalk

The parameter values for the module input eye opening crosstalk source are TBD as follows:
 "The counter propagating crosstalk signals during calibration of the stressed signal are asynchronous with target amplitude of TBD mV peak-to-peak differential and target slew time between -TBD mV and TBD mV of TBD ps as measured at TP4 (without the use of a reference equalizer)."
 Use the maximum peak to peak value from Table 120G-3, range of 20% to 80%, and minimum transition time from Table 120G-3 (value proposed in another comment).

SuggestedRemedy

Replace with the following:
 The crosstalk generator is calibrated at TP4 (without the use of a reference receiver) with target differential peak-to-peak amplitude of 900 mV and slew time of 7.5 ps between -270 V and +270 V.

Response Response Status **C**

REJECT.

[Editor's note: Addresses incomplete specification.]

The proposed transition time is smaller than would be expected. Further analysis and proposal is required.

There is no consensus to make any changes at this time.

Cl **120G** SC **120G.5.1** P **238** L **51** # **207**

Ran, Adeo Intel
 Comment Type **E** Comment Status **A** (bucket1)

Cross reference to 120E.3.1 is inaccurate

SuggestedRemedy

Change to 120E.3.1.2

Response Response Status **C**

ACCEPT.

Cl **120G** SC **120G.5.2** P **240** L **10** # **256**

Dawe, Piers Nvidia
 Comment Type **T** Comment Status **R** RR parameters

By allowing stronger gDC with stronger gDC2, we can have up to 12 dB of peaking for gCD2 = -1 but up to 16 dB for gDC2 = -3 - yet we don't expect the maximum channel loss to vary like that.

SuggestedRemedy

I think we should be allowing stronger gDC with weaker gDC2, for TP1a and for TP4 far end.

Response Response Status **C**

REJECT.

The comment does not provide sufficient evidence to make the proposed changes and the suggested remedy does not provide sufficient detail to to implement.

Some support was expressed during comment resolution however a detailed proposal is required.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl **120G** SC **120G.5.2** P **241** L **10** # **206**

Ran, Adeel Intel
 Comment Type **T** Comment Status **R** EO method

In item c the linear fit is performed "with parameter M the same as for step a)" - but in step a there is no mention of M.

If M corresponds to "a minimum of 3 samples per symbol" then this is too low for calculation of a linear fit and especially for obtaining t_s.

In the PMD clauses, for linear fit, M is required to be at least 32, and interpolation can be used. The third paragraph of 162.9.3.1.1 (which is referenced here) states this clearly, so no explicit statement is required.

SuggestedRemedy

Delete "with parameter M the same as for step a)".

Response Response Status **C**

REJECT.

Item a) previously referenced the capture method in 162.9.3.1.1 which specified M to be at least 32. This capture method was replaced with the method in 120E.4.2, which specifies a minimum of 3 samples per symbol. The intent of keeping M the same in both the capture and the linear fit is to ensure a correspondence of the sample time derived from the linear fit.

A detailed proposal to address this comment is required.

There is no consensus to implement the proposed remedy at this time.

Cl **120G** SC **120G.5.3** P **241** L **31** # **150**

Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **A** precursor ISI ratio

Pre-cursor ISI was added in 802.3bs when we did not have VEC, several people have questioned if pre-cursor ISI is needed. No has shown why we need to keep pre-cursor ISI, just it might be usefull.

SuggestedRemedy

Given than no one has shown pre-cursor ISI needed then we should remove

Response Response Status **C**

ACCEPT IN PRINCIPLE.

[Editor's note: Addresses incomplete specification.]

Since no value has been proposed or even discussed, it seems that this parameter is of low importance.
 With editorial license, remove pre-cursor ISI specifications.

Cl **135** SC **135.5.1** P **106** L **45** # **215**

Dawe, Piers Nvidia
 Comment Type **TR** Comment Status **A** (bucket1)

These AUI specifications are alternatives

SuggestedRemedy

Change "and" to "or". Also in the next paragraph.

Response Response Status **C**

ACCEPT.

Cl **162** SC **162.1** P **133** L **17** # **46**

Ran, Adeel Intel
 Comment Type **E** Comment Status **A** (bucket1)

Incorrect cross reference "Figure 162-3"

SuggestedRemedy

Change to "Table 162-3"

Response Response Status **C**

ACCEPT.

Cl **162** SC **162.7** P **138** L **41** # **216**

Dawe, Piers Nvidia
 Comment Type **E** Comment Status **A** (bucket1)

Blank line(s)

SuggestedRemedy

Remove. Also before tables 162-6 and 7.

Response Response Status **C**

ACCEPT.

Cl **162** SC **162.9.3.1.5** P **150** L **20** # **51**

Ran, Adeel Intel
 Comment Type **E** Comment Status **A** (bucket1)

(0) is set in italics

SuggestedRemedy

set to upright

Response Response Status **C**

ACCEPT.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 162 SC 162.9.3.1.5 P 150 L 20 # 44
 Slavick, Jeff Broadcom
 Comment Type TR Comment Status A TX coefficients (bucket1)
 When testing how small you can make the signal there is no constraint on the other tap settings.
 SuggestedRemedy
 Add the following to the start of the sentence "With c(-3), c(-2), c(-1) and c(1) set to zero and c(0)"
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.9.3.1.5 P 150 L 20 # 45
 Slavick, Jeff Broadcom
 Comment Type E Comment Status A TX coefficients (bucket1)
 The order of the ranges tests was +1, -1, -2, -3 prior to add 0, but we placed 0 at the end instead of in it's position in the descending list.
 SuggestedRemedy
 Move the requirement for testing c(0) range to be the third paragph (between +1 and -1)
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.9.4.3.5 P 154 L 38 # 219
 Dawe, Piers Nvidia
 Comment Type E Comment Status A RITT (bucket1)
 The FEC symbol error ratio requirement assumes errors are
 SuggestedRemedy
 The FEC symbol error ratio requirement assumes that errors are
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.9.4.4.2 P 155 L 6 # 220
 Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)
 Table 120D-7
 SuggestedRemedy
 Table 162-15
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.9.4.5 P 155 L 37 # 158
 Dudek, Mike Marvell.
 Comment Type E Comment Status A (bucket1)
 Erroneous "be"
 SuggestedRemedy
 Change "shall be meet the" to "shall meet the" Also on page 157 line 43.
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.11.3 P 157 L 43 # 132
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type ER Comment Status A (bucket1)
 ..shall be meet ..
 SuggestedRemedy
 should be ...shall meet....
 Response Response Status C
 ACCEPT.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 162 SC 162.11.3 P 157 L 44 # 133
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status A CA IL (bucket1)
 Given that for low loss cable the loss is controlled to 1 dB, we should do the same for high loss cable
 SuggestedRemedy
 The intention of this statement is not clear! Does it mean that if COM >=4 dB then no need to meet ERL?
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #132.

Cl 162 SC 162.11.7.1 P 160 L 52 # 223
 Dawe, Piers Nvidia
 Comment Type E Comment Status A CA XTALK (bucket1)
 93A.1.2.1 is in this draft now.
 SuggestedRemedy
 Reference to 93A.1.2.1 should be a hotlink to this draft.
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.11.7.1.1 P 161 L 19 # 160
 Dudek, Mike Marvell.
 Comment Type T Comment Status A CA XTALK (bucket1)
 The wrong name is used and the equation reference is wrong.
 SuggestedRemedy
 Change "HOSTxP" to "HOSPT" Change Equation 162-12 on line 21 to Equation 162-10
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.11.7.1.1 P 161 L 20 # 125
 Hidaka, Yasuo Credo Semiconductor
 Comment Type E Comment Status A CA XTALK (bucket1)
 The transmitter PCB signal path is denoted as S^(HOSPT).
 SuggestedRemedy
 Change "S^(HOSTxP)" to "S^(HOSPT)".
 Response Response Status C
 ACCEPT.

Cl 162 SC 162.11.7.1.1 P 161 L 23 # 224
 Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)
 =110.3
 SuggestedRemedy
 = 110.3 (insert space) as in 162.11.7.1.2, or use a word: "of" or "equals"?
 Response Response Status C
 ACCEPT.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 162 SC 162.11.7.1.2 P 161 L 50 # 126

Hidaka, Yasuo Credo Semiconductor
 Comment Type E Comment Status A CA XTALK (bucket1)

The comment #127 for D1.2 was not correctly implemented.

The aggressor transmitter host PCB path was denoted as S^(HOTxSP) in clause 136.11.7.1.2, not S^(HOSTxP).

As wirtten in editor's note, the comment #128 for D1.2 had a conflict in the variable name in Equation (162-13) due to this implementation error.

I recommend to implement #127 and #128 for D1.2 and denote the aggressor transmitter host PCB path as S^(HOTxSP) for consistency with clause 136.11.7.1.2.

SuggestedRemedy

Change "S^(HOSTxP)" to "S^(HOTxSP)" in the following locations:

- P161, line 50
- P162, line 5, Equation (162-13)
- P162, line 11
- P162, line 16, Equation (162-14)
- P162, line 22

Remove Editor's note.

Response Response Status C
 ACCEPT.

Cl 162 SC 162.11.7.2 P 163 L 6 # 134

Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status R MDI (bucket1)

Some explanation is necessary for table 162-20

SuggestedRemedy

"A description would be helpful such as ""cable assemblies are constructed with identical MDI at each end of cable or could be constructed with different MDI for cable A vs B ends, see table ..""
 In the table add A end and B end"

Response Response Status C
 REJECT.

Description of the contents of Table 162-20 is given on line 1 of page 163.

Cl 162B SC 162B.1.3.6 P 260 L 28 # 179

Haser, Alex Molex
 Comment Type ER Comment Status A MTF XTALK (bucket1)

Section 110B.1.3.7 does not exist

SuggestedRemedy

Change reference to 110B.1.3.6

Response Response Status C
 ACCEPT.

Cl 162B SC 162B.1.3.6 P 260 L 28 # 116

Kocsis, Sam Amphenol
 Comment Type ER Comment Status A MTF XTALK (bucket1)

Is the reference to "110B.1.3.7" valid? 802.3-2018

SuggestedRemedy

Change to "110B.1.3.6"

Response Response Status C
 ACCEPT.

Cl 162C SC 162C.1 P 264 L 52 # 270

Dawe, Piers Nvidia
 Comment Type E Comment Status A terminology (bucket1)

I could not easily find what DL and SL mean

SuggestedRemedy

Add cross-reference to 162.8.1

Response Response Status C
 ACCEPT IN PRINCIPLE.

Add reference 162.8.1 for signal names

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Cl 162C SC 162C.3.3 P 275 L 22 # 273

Dawe, Piers Nvidia
 Comment Type E Comment Status A MDI (bucket1)

Order of this table doesn't match the clause

SuggestedRemedy

Please re-order the entries in this table to align with the clause, renumbering the items. Also, there is no MDI3 so some of them should be renumbered anyway. Similarly for the table in 162C.3.4.1 Contact Mapping.

Response Response Status C

ACCEPT IN PRINCIPLE.

Re-order the entries in this table to align with the clause, renumbering the items. Similarly for 162C.3.4.1. Implement with editorial license.

Cl 162D SC 162D.1 P 277 L 14 # 274

Dawe, Piers Nvidia
 Comment Type E Comment Status A MDI (bucket1)

"Hosts have six specified MDI connectors "receptacles": I read this as describing a 6-port host.

SuggestedRemedy

Suggest "There are six types of MDI connectors "receptacles" specified for hosts"

Response Response Status C

ACCEPT.

Cl 162D SC 162D.1 P 277 L 32 # 275

Dawe, Piers Nvidia
 Comment Type T Comment Status A MDI (bucket1)

This is the only time "host interface type" is used, and one would expect the phrase to mean PMD or PHY type on a host. We can wordsmith round this because six things were mentioned just above.

SuggestedRemedy

Change "This creates six host interface types and multiple cable..." to "Therefore, there are multiple cable..."

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "interface" to "receptacle"

Cl 163 SC 163.1 P 171 L 1 # 225

Dawe, Piers Nvidia
 Comment Type E Comment Status R (bucket1)

Layout

SuggestedRemedy

Remove blank lines at 1 and 25, make the first three tables wider so the notes take 2 lines not 3

Response Response Status C

REJECT.

The extra lines are a result of forcing the proper order and position of the tables. This can be fixed, but might result in other formatting issues when preceding text is changed in future drafts.

These tables are consistently the same width throughout 802.3ck and in other projects. Potential changes to the footnote in future drafts may change the length of the footnote. There is no need to change the width of the table to fix a hanging word at this time.

Minor issues relating to extra space and line lengths can be addressed toward the end of the project or during the publication editing when the document is more stable.

Cl 163 SC 163.9.2.1.3 P 178 L 26 # 228

Dawe, Piers Nvidia
 Comment Type T Comment Status A example TF

It doesn't make sense to have an RL spec for the test fixture only to 26.56 GHz, while the spec for the item under test extends to 40 GHz (see 162.9.3.5, referenced from Table 163-5: is that the right cross-reference?)

SuggestedRemedy

Provide a CM RL spec for the test fixture up to the same frequency as the product spec.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change reference in Table 163-5 from 162.9.3.5 to 163.9.2.1.3.

Change the text in 163.9.2.1.3 to "The common-mode to common-mode return loss shall be greater than or equal to 2 dB at all frequencies between 0.2 GHz and 40 GHz."

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 163 SC 163.9.2 P 176 L 35 # 42

Healey, Adam Broadcom Inc.

Comment Type T Comment Status A clock tolerance

The signaling rate range can be reduced to +/-50 ppm with minimal impact to the overall cost of the system. A lower signaling rate range can be leveraged by implementations to improve performance margin. However, interoperability with implementations that use 50 Gb/s/lane (and lower) AUIs must be preserved. The proposed changes encourage migration to higher-precision frequency references while maintaining compability with prior implementations with up +/-100 ppm tolerance.

SuggestedRemedy

This proposed change leverages terms from Clause 45 that describe how MDIO manageable devices are organized in the Physical Layer stack. The first is the idea that sublayers may be in the same "package" or in different packages (see IEEE Std 802.3-2018 45.1.1). The definition of a "package" is vendor specific (could be a chip, module, or other entity). The second is that a PMA that is not in the same package as the PMD is designated as a "separated PMA" (see IEEE Std 802.3-2018, 45.2.1). The third concept that is important to the proposed definition is that a PMA, by itself, has no control over the signaling rate tolerance. The frequency offset at the PMA output is inherited from the PMA input. Since the PMA has no control over this, It does not make sense to impose a specification on the PMA signaling rate range except for specific circumstances. Similar arguments can be made for PMD outputs as they inherit the frequency precision from the PMA.

In Table 162-9, Table 163-5, Table 120F-1, and Table 120G-1, change "signaling rate" (or "signaling rate per lane (range)") to 53.125 +/- 50 ppm and add a footnote to indicate 1) that the +/-50 ppm tolerance applies to PMA (and PMD) that are in the same package as the PCS and 2) that in other cases, the signaling rate is related to the signaling rate from the higher (separated PMA) sublayer.

In Table 120G-3, change "signaling rate per lane (range)" to "signaling rate per lane" with a value of 53.125. In 120G.3.1.1 (and/or a footnote to Table 120G-3), state the signaling rate tolerance at the module output is inherited from the PMD receiver input.

Also change 120G.3.1.1 to agree with changes Table 120G-1 and Table 120G-3.

No change to the input signaling rate range requirements in Table 162-12, Table 120G-4, and Table 120G-7 is needed because they continue to represent the largest extent of the signaling rate range for all allowed configurations of the Physical Layer stack.

Add a recommendation (to either Annex 120A or Annex 135A) that the signaling rate tolerance of the output of a "legacy" PCS/PMA (interface is not 100GAUI-1, 200GAUI-2, or 400GAUI-4) be constrained to +/-50 ppm when used with a separated PMA that has a 100GAUI-1, 200GAUI-2, or 400GAUI-4 interface.

Response Response Status C

ACCEPT IN PRINCIPLE.

[Editor's note: CC: 162, 163, 120F, 120G]

The following presentation was review by the task force:
https://www.ieee802.org/3/ck/public/20_10/healey_3ck_03_1020.pdf

Implement with editorial license the suggested remedy and proposal in the referenced presentation.

Straw poll #10 (decision)

I would support implementing the proposal in the suggested remedy of comment #42 and healey_3ck_03_1020.

Y: 30

N: 5

Cl 163 SC 163.9.2 P 176 L 44 # 60

Ran, Adee Intel

Comment Type E Comment Status A ERL reference (bucket1)

Reference to dERL in the table should be the subclause that specifies parameters and points to the annex.

SuggestedRemedy

Change reference for dERL in Table 163-5 from 163A.3.2.2 to 163.9.2.3.

Response Response Status C

ACCEPT.

Cl 163 SC 163.9.2 P 177 L 5 # 63

Ran, Adee Intel

Comment Type E Comment Status A TX FIR (bucket1)

abs step size " for c(-3), c(-2), c(-1), c(0), and c(1)"

This list includes all possible values, so it is redundant. Clause 162 has "for all taps" instead.

SuggestedRemedy

Change the quoted words to "for all taps", both for min and for ax.

Response Response Status C

ACCEPT.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 163 SC 163.9.2 P 177 L 12 # 226
 Dawe, Piers Nvidia
 Comment Type E Comment Status A SNDR
 It's surprising that the only definition of SNDR is table footnote c. The reader could miss the deviation from 120D.3.1.6.
 SuggestedRemedy
 At least put 162.9.3.1.1 in the Reference column with 120D.3.1.6
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Add new subclause in 162.9.3 Transmitter Characteristics to specify SNDR based on 120D.3.1.6 and 162.9.3.1.1 and change reference in table to the new subclause.
 Use this same subclause for TX SNDR specification in 162, 163, and 120F.
 Implement with editorial license.

Cl 163 SC 163.9.2.2 P 178 L 28 # 73
 Brown, Matt Huawei
 Comment Type T Comment Status A example TF
 The example test fixture using TP0a is no longer required. See the following ad hoc presentation;
https://www.ieee802.org/3/ck/public/adhoc/sept16_20/brown_3ck_adhoc_01a_091620.pdf
 SuggestedRemedy
 Remove 163.9.2.2 and reference TP0v instead of TP0a for all transmitter specifications for KR (Clause 163) and C2C (Annex 120F).
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Keep the informative test fixture, but move it to new informative Annex 163B.
 [Editor's note: CC: 120F, 163]

Cl 163 SC 163.9.2.2 P 178 L 29 # 6
 Mellitz, Richard Samtec
 Comment Type TR Comment Status A example TF
 TP0a is moot and replaced by TP0v
 SuggestedRemedy
 remove references to TP0a.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #73.

Cl 163 SC 163.9.2.2 P 178 L 33 # 229
 Dawe, Piers Nvidia
 Comment Type T Comment Status A example TF
 An example with a range is more complicated than it need be.
 SuggestedRemedy
 Pick a single example IL, e.g. 3.5 or 4 dB. Make this and the IL equation 163-3 consistent. Give the reference ERL, steady-state voltage and so on for the example.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Set the informative test fixture insertion loss at Nyquist to 2.8 dB.
 Set the IL curve to the one on slide 5 of the following presentation:
https://www.ieee802.org/3/ck/public/20_10/ghiasi_3ck_01a_1020.pdf
 Implement with editorial license.

Cl 163 SC 163.9.2.3 P 179 L 43 # 66
 Ran, Adeo Intel
 Comment Type E Comment Status A ERL wording (bucket1)
 "The reference for obtaining the reference"
 SuggestedRemedy
 Change to "The method for obtaining the reference"
 Response Response Status C
 ACCEPT.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 163 SC 163.9.2.3 P 179 L 44 # 74
 Brown, Matt Huawei
 Comment Type E Comment Status A ERL wording (bucket1)
 Wording
 SuggestedRemedy
 Change "The reference for obtaining" to "The method for obtaining".
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #66.

Cl 163 SC 163.9.2.3 P 179 L 44 # 32
 Healey, Adam Broadcom Inc.
 Comment Type E Comment Status A ERL wording (bucket1)
 "The reference for obtaining the reference ERL is defined in 163A.3.1." is an awkward sentence.
 SuggestedRemedy
 120F.3.1.1 has somewhat different wording and 163.9.2.3 could be changed to match. At a minimum, change the sentence to: "The reference transmitter ERL is defined in 163A.3.1."
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #66.

Cl 163 SC 163.9.3.1 P 180 L 34 # 164
 Dudek, Mike Marvell.
 Comment Type E Comment Status A (bucket1)
 It is strange to have the ERL section that needs the Rx Test fixture ahead of the description of the test fixture.
 SuggestedRemedy
 Reverse the order of the Rx ERL and Receiver test fixture sections to match the Tx order.
 Response Response Status C
 ACCEPT.

Cl 163 SC 163.9.3.1 P 180 L 37 # 163
 Dudek, Mike Marvell.
 Comment Type TR Comment Status A ERL value (bucket3)
 The use of the trace replica in 93A.2 already enables the use of a variable loss Rx test fixture for the interference tolerance test fixture. It would be better to enable this for the ERL test as well as has been done for the Transmitter.
 SuggestedRemedy
 Change the specification in Table 163-9 and section 163.9.3.1 from ERL to dERL using the methodology of Annex 163A with suitable exceptions
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #40.

Cl 163 SC 163.9.3.2 P 181 L 1 # 75
 Brown, Matt Huawei
 Comment Type E Comment Status A (bucket1)
 The test fixture should be defined before defining test specifications and methods. As was done for the TX test fixture subclause, move the RX TF subclause to before the ERL subclause.
 SuggestedRemedy
 Move 163.9.3.2 ahead of 163.9.3.1.
 Response Response Status C
 ACCEPT.

Cl 163 SC 163.9.3.2 P 181 L 3 # 69
 Ran, Adeo Intel
 Comment Type E Comment Status A (bucket1)
 The receiver test fixture characteristics should be defined before the measurements performed with it, as in the transmitter. Currently Receiver ERL appears first.
 SuggestedRemedy
 Move subclause 163.9.3.2 before 163.9.3.1.
 Response Response Status C
 ACCEPT.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 163 SC 163.9.3.3 P 181 L 50 # 168

Dudek, Mike Marvell.
 Comment Type TR Comment Status A RITT

The relationship between Tr of the transmitter and the Trm measurement will be a function of the loss between TP0 and TP0v and the Nyquist frequency. The equation used was only valide for the loss of the test fixture of 1.4dB with a Nyquist frequency of approx 12.5GHz.

SuggestedRemedy

Replace the equation with TBD.

Response Response Status C

ACCEPT IN PRINCIPLE.

Add an editor's note stating that this equation should be revisited.

Cl 163 SC 163.9.3.3 P 181 L 51 # 167

Dudek, Mike Marvell.
 Comment Type TR Comment Status A TP0v (bucket3)

TP0v is not used in Annex 93C which describes this test method.

SuggestedRemedy

Either add a bullet at the beginning of the considerations. "In this clause TP0v replaces TP0a in annex 93C". Or Replace "TP0v" with "TP0a". Do the same in section 163.9.3.4

Response Response Status C

ACCEPT IN PRINCIPLE.

Resolve using the response to comment #40.

Cl 163 SC 163.9.3.3 P 182 L 5 # 72

Ran, Adeo Intel
 Comment Type E Comment Status A RITT (bucket1)

In item e), the phrase "where Q3 is 3.2905" should be moved below the equations, with and explanation of what Q3 stands for (as in 136.9.4.2.3).

Alternatively, the equations can be replaced by cross reference to equations 136-8 and 136-9.

SuggestedRemedy

per comment.

Response Response Status C

ACCEPT IN PRINCIPLE.

move "where Q3 is 3.2905" below the equations.
 Copy notes from 136.9.4.2.3 to explain what Q3 stands for.

Cl 163A SC 163A.1 P 280 L 28 # 276

Dawe, Piers Nvidia
 Comment Type E Comment Status A (bucket1)

for are

SuggestedRemedy

Delete for?

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "for are" to "are".

Cl 163A SC 163A.1 P 280 L 28 # 198

Wu, Mau-Lin MediaTek
 Comment Type E Comment Status A (bucket1)

It seems that the term "for" in the following sentence is redundant.
 "c) The difference between measured and reference values for are computed using the methods defined in 163A.3.2."

SuggestedRemedy

Change the sentence of c) into "c) The difference between measured and reference values are computed using the methods defined in 163A.3.2."

Response Response Status C

ACCEPT.

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl 163A SC 163A.3.1.1 P 282 L 5 # 57

Ran, Adeel Intel

Comment Type E Comment Status A (bucket1)

In "Tr" r should be in subscript.

SuggestedRemedy

per comment.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change the "r" in "Tr" to subscript.

Cl 163A SC 163A.3.1.1 P 282 L 18 # 38

Healey, Adam Broadcom Inc.

Comment Type E Comment Status A (bucket1)

In Equation (163A-3), the upper limit of the summation (N_v) should have a capital "N". In addition, the unit interval symbol (T_b) should have a capital "T".

SuggestedRemedy

Fix the typos.

Response Response Status C

ACCEPT.

Cl 163A SC 163A.3.1.1 P 282 L 19 # 199

Wu, Mau-Lin MediaTek

Comment Type T Comment Status A (bucket1)

The parameter of "N_v" in the equation (163A-3) had been mistakenly set as "n_v".

SuggestedRemedy

Correct "n_v" as "N_v" in the equation (163A-3)

Response Response Status C

ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license.