

EE P802.3ck D2.0 100/200/400 Gb/s Electrical Interfaces Task Force Initial Working Group ballot comment

Cl 120F SC 120F.3.1.1 P 220 L 22 # 54
 Ghiasi, Ali Ghiasi Quantum/Inphi
Comment Type TR Comment Status D ERL example (bucket3)
 No reference to Annex 163B which provide referene ERL
SuggestedRemedy
 Please provide reference to CL 163B and explain that dERL of -3 dB would mean in case of reference package ERL 9.95 dB
Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 This subclause references the appropriate test methodology in 163A.3.2.2. The test fixture specification in 163.9.2.1, as referenced from 120F.2, points to the example test fixture in Annex 163B.
 However, it might be helpful to refer to the reference parameters examples in Annex 163B from Annex 163A, as well.
 After the first paragraph in 163A.3 and 163A.4, add a new paragraph as follows:
 "An example test fixture and its reference values are provided in 163B.3."
 [Editor's note: CC: 120F, 163]
 [Editor's note (to be removed when closing this comment): See slides 12 and 13 in https://www.ieee802.org/3/ck/public/21_05/sun_3ck_01_0521.pdf]

Cl 120F SC 120F.3.2 P 222 L 38 # 10
 Brown, Matt Huawei
Comment Type TR Comment Status D RX signalling rate (bucket3)
 For the C2C receiver, there is no requirement specified to meet the specifications over the entire signaling rate range. See 162.9.4.1 for a relevant example.
SuggestedRemedy
 Add a new subclause before 120F.3.2.1 with heading "Receiver signaling rate" and content as follows:
 "The receiver shall comply with the requirements of 120F.3.2.3 and 120F.3.2.4 for any signaling rate in the range 53.125 GBd ± 100 ppm."
 Add a new row in Table 120F-4 specifying the signaling rate range and reference the new subclause.
Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Implement the suggested remedy with editorial license.
 Comment #9, #10, #11, and #12 make similar proposals KR, CR, C2C, and C2M.
 [Editor's note: CC: 120F, 120G, 163]

Cl 120F SC 120F.3.2.4 P 225 L 1 # 15
 Brown, Matt Huawei
Comment Type TR Comment Status D jitter tolerance (bucket3)
 In the exception list in 120F.3.2.4, the last exception (item d) is a repeat of an exception (item i) in 120F.3.2.3. Since 120F.3.2.4, is referencing 120F.3.2.3, the exception in item d is not required.
SuggestedRemedy
 In 120F.3.2.4, delete the last exception (item d).
Proposed Response Response Status W
 PROPOSED ACCEPT.
 [Editor's note (to be removed when closing this comment): See slide 6 in https://www.ieee802.org/3/ck/public/21_05/sun_3ck_01_0521.pdf]

Cl 120F SC 120F.4 P 225 L 48 # 153
 Kochuparambil, Beth Cisco
Comment Type E Comment Status D channel summary (bucket3)
 There is no overview paragraph in the channel characteristics
SuggestedRemedy
 Insert a similar paragraph to 163.10 with appropriate modifications. "Channels are recommends to meet... Channels shall meet..."
Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Resolve using the response to comment #16.

Cl 120F SC 120F.4 P 225 L 49 # 16
 Brown, Matt Huawei
Comment Type ER Comment Status D nnel summary (CC) (bucket3)
 It would be beneficial to include a specification summary table for the C2C channel similar to the Tables for C2C TX (Table 120F-1), C2C RX (Table 120G-4), and CR Channel (Table 162-16).
SuggestedRemedy
 Create a new table similar to Table 162-16 to summarize the C2M channel characteristics including related introductory text.
Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Comment #17 proposes similar changes in Clause 163.
 Implement the suggested remedy with editorial license.
 [Editor's note: CC: 163, 120F]
 [Editor's note (to be removed when closing this comment): See slides 9 to 11 in https://www.ieee802.org/3/ck/public/21_05/sun_3ck_01_0521.pdf]

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Cl 120G SC 120G.3.1 P 237 L 17 # 14

Brown, Matt Huawei
 Comment Type ER Comment Status D terminology (bucket3)

The eye height is defined by the measurement method in 120G.3.1.5 and it is not necessary to qualify it as being "differential". If so, the VEC should also be qualified as "differential".

SuggestedRemedy

Change "Eye height, differential (min)" to "Eye height (min)"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Further to the comment...

Most (if not all) waveform parameters are measured on the differential signal. Including the word differential with Eye Height and not all others, could be interpreted to imply something different from other waveform measurements.

Implement the suggested remedy.

[Editor's note (to be removed when closing this comment): See slide 31 in https://www.ieee802.org/3/ck/public/21_05/brown_3ck_02a_0521.pdf]

Cl 120G SC 120G.3.1.5 P 239 L 8 # 20

Brown, Matt Huawei
 Comment Type ER Comment Status D terminology (bucket3)

An acronym for vertical eye closure (VEC) is defined in the first sentence of 120G.3.1.5. However, the acronym is rarely used in 120G and the full name is normally used. Since this acronym was not defined in 120E, where the base methodology is defined, 120G should continue to use the full name only.

SuggestedRemedy

Delete all instance of the acronym VEC in 120G.
 Alternately, where appropriate, replace all instances of "vertical eye closure" with the acronym VEC.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

With editorial license, replace all instances of "vertical eye closure" with "VEC", where appropriate.

Cl 120G SC 120G.3.2.1 P 240 L 27 # 56

Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type T Comment Status D module output modes (bucket3)

Short and long are not very descriptive

SuggestedRemedy

Please replace short and long with "lower loss hosts" and "higher loss hosts"

Proposed Response Response Status W

PROPOSED REJECT.

The interpretation of short and long modes is implicit in the test methodology specified in 120G.3.2.2. The suggested remedy is not generally accurate. Use of a concise label for each mode is helpful.

[Editor's note (to be removed when closing this comment): See slide 31 in https://www.ieee802.org/3/ck/public/21_05/brown_3ck_02a_0521.pdf]

Cl 120G SC 120G.3.2.1 P 240 L 27 # 175

Dawe, Piers Nvidia
 Comment Type T Comment Status D module output modes (bucket3)

The module output doesn't have to "support" two modes (e.g. receive, co-operate, enable, or similar), it has to actually do them. They are abilities of the module.

SuggestedRemedy

Change "The module output shall support two modes: short and long." to "There are two module output modes: short and long."

Proposed Response Response Status W

PROPOSED REJECT.

The proposed changes to wording do not improve the quality of the draft.

[Editor's note (to be removed when closing this comment): See slide 31 in https://www.ieee802.org/3/ck/public/21_05/brown_3ck_02a_0521.pdf]

Cl **120G** SC **120G.3.2.1** P **240** L **37** # **40**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D** reference (bucket3)
 Table 120G-4 defines AUI short and long but with proper reference
SuggestedRemedy
 Please reference table 120G-5
Proposed Response Response Status **W**
 PROPOSED REJECT.
 Short and long modes are defined in the first paragraph of 120G.3.2.1. Table 120G-5 provides parameters for the measurement of EH and VEC at the module output when configured for short or long mode.
 [Editor's note (to be removed when closing this comment): See slide 31 in https://www.ieee802.org/3/ck/public/21_05/brown_3ck_02a_0521.pdf]

Cl **120G** SC **120G.3.2.1** P **240** L **37** # **223**
 Wu, Mau-Lin MediaTek Inc.
 Comment Type **TR** Comment Status **D** module output modes (bucket3)
 In Table 120G-4, Module output mode mapping, there are 100GAUI-1-S C2M, 100GAUI-1-L C2M, and etc. defined for "Host electrical interface". However, no definitions of those "Host electrical interface" were found in the whole specification. Based on that, the information provided by this Table may be confusing for the readers.
SuggestedRemedy
 We shall either add the definitions of 100GAUI-1-S & 100GAUI-1-L C2M or remove Table 120G-4.
Proposed Response Response Status **W**
 PROPOSED REJECT.
 Table 120G-4 map familiar 802.3ck parameters in columns 1 and 2 to a label in column 3 to be used within other standards documents, not within 802.3ck. The label is defined by the contents of columns 1 and 2.
 [Editor's note (to be removed when closing this comment): See slide 31 in https://www.ieee802.org/3/ck/public/21_05/brown_3ck_02a_0521.pdf]

Cl **120G** SC **120G.3.3** P **243** L **25** # **11**
 Brown, Matt Huawei
 Comment Type **TR** Comment Status **D** input signalling rate (bucket3)
 For the C2M host input, there is no clear requirement to meet the specifications over the entire signaling rate range. See 162.9.4.1 for a relevant example.
SuggestedRemedy
 Add a new subclause before 120G.3.3.1 with heading "Host input signaling rate" and content as follows:
 "The host input shall comply with the requirements of 120G.3.3.3 for any signaling rate in the range 53.125 GBd ± 100 ppm."
 In Table 120G-7 add a reference to the new subclause for the signaling rate row.
Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 Implement the suggested remedy with editorial license.
 Comment #9, #10, #11, and #12 make similar proposals KR, CR, C2C, and C2M.
 [Editor's note: CC: 120F, 120G, 163]

Cl **120G** SC **120G.3.4** P **247** L **27** # **12**
 Brown, Matt Huawei
 Comment Type **TR** Comment Status **D** input signalling rate (bucket3)
 For the C2M module input, there is no clear requirement to meet the specifications over the entire signaling rate range. See 162.9.4.1 for a relevant example.
SuggestedRemedy
 Add a new subclause before 120G.3.4.1 with heading "Module input signaling rate" and content as follows:
 "The module input shall comply with the requirements of 120G.3.4.1 for any signaling rate in the range 53.125 GBd ± 100 ppm."
 In Table 120G-10 add a reference to the new subclause in the signaling rate row.
Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 Implement the suggested remedy with editorial license.
 Comment #9, #10, #11, and #12 make similar proposals KR, CR, C2C, and C2M.
 [Editor's note: CC: 120F, 120G, 163]

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Cl 162 SC 162.9.3 P 154 L 7 # 23

Brown, Matt Huawei
 Comment Type T Comment Status D unit interval (bucket3)

In Table 162-10, the nominal unit interval is specified. This seems unnecessary and redundant (since it can easily be derived from the nominal signaling rate). It is not specified for KR, C2C, or C2C. For consistency with sister Clauses/Annexes, this specification should be removed.

SuggestedRemedy

In Table 162-10, remove row specifying the "Unit interval (nominal)".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

In addition to the justifications provided in the comment, Table 162-10 provides normative specifications for the CR transmitter. The unit interval (nominal) specification is informative and thus does not belong in this table.

Implement the suggested remedy.

[Editor's note: Removed from bucket #1. The response was not changed.]

Cl 162 SC 162.11.7.2 P 174 L 1 # 204

Dudek, Mike Marvell
 Comment Type E Comment Status D CA COM XTALK (bucket3)

It is confusing to state the aggressors are in column two through four because there are separate columns for next and fext.

SuggestedRemedy

Change to "the crosstalk paths are from the aggressors listed horizontally to the victims listed vertically.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

With editorial license change text and Table 162-20 the form shown in the upper right portion of slide 5 in the following presentation:
https://www.ieee802.org/3/ck/public/21_05/diminico_3ck_04b_0521.pdf

Cl 162C SC 162C.1 P 277 L 54 # 190

Dudek, Mike Marvell
 Comment Type T Comment Status D MDI interoperability (bucket3)

For interoperability it would be good to specify which signals are assigned in a partially utilized connector.

SuggestedRemedy

Add a sentence. "When a connector is not fully utilized the lower PMD numbers should be used"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add the following sentence:

"When an MDI connector is not fully utilized the lower PMD numbers should be used."

Cl 163 SC 163.9.2.2 P 189 L 38 # 49

Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status D ERL example (bucket3)

No reference to Annex 163B which provide referene ERL

SuggestedRemedy

Please provide reference to CL 163B

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #54.

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

Cl 163 SC 163.9.3 P 190 L 16 # 55

Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status D ERL example (bucket3)

No reference to Annex 163B which provide referene ERL

SuggestedRemedy

Please provide reference to CL 163B

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #54.

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

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Cl 163 SC 163.9.3 P 190 L 24 # 9

Brown, Matt Huawei

Comment Type **TR** Comment Status **D** RX signalling rate (bucket3)

For the KR receiver, there is no requirement specified to meet the specifications over the entire signaling rate range. See 162.9.4.1 for a relevant example.

SuggestedRemedy

Add a new subclause before 163.9.3.1 with heading "Receiver signaling rate" and content as follows:
 "A PHY shall comply with the receiver requirements of 163.9.3.4 and 163.9.3.5 for any signaling rate in the range 53.125 GBd ± 100 ppm."
 Add a new row in Table 163-8 specifying the signaling rate range and reference the new subclause.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.
 Implement the suggested remedy with editorial license.
 Comment #9, #10, #11, and #12 make similar proposals KR, CR, C2C, and C2M.
 [Editor's note: CC: 120F, 120G, 163]

Cl 163 SC 163.10 P 193 L 43 # 152

Kochuparambil, Beth Cisco

Comment Type **E** Comment Status **D** channel summary (bucket3)

Introduction to channel characteristics mention IL and ERL, but not COM.

SuggestedRemedy

Add "and COM 163.10.1" to the end of this paragraph.

Resulting sentence would read: "Channels shall meet the ERL requirements in 162.10.3 and COM requirements in 163.10.1."

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.
 Resolve using the response to comments #16 and #17.

Cl 163 SC 163.10 P 193 L 43 # 17

Brown, Matt Huawei

Comment Type **ER** Comment Status **D** channel summary (CC) (bucket3)

It would be beneficial to include a specification summary table for the KR channel similar to the Tables for KR TX (Table 120F-5), KR RX (Table 163-8), and CR Channel (Table 162-16). The text in 163.10 is not complete and can be replaced with a summary table.

SuggestedRemedy

Delete the current text in 163.10.
 Create a new table similar to Table 162-16 to summarize the KR channel characteristics including related introductory text.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.
 Comment #16 proposes similar changes in Annex 120F.
 Implement the suggested remedy with editorial license.
 [Editor's note: CC: 120F, 163]
 [Editor's note (to be removed when closing this comment): See slides 9 to 11 in https://www.ieee802.org/3/ck/public/21_05/sun_3ck_01_0521.pdf]

Cl 163 SC 163.10.2 P 195 L 49 # 170

Dawe, Piers Nvidia

Comment Type **T** Comment Status **D** channel IL (bucket3)

51.8 dB at 40 GHz, at least 23.3 dB beyond the loss at Nyquist and further filtered by the transmitter and receiver, is unlikely to affect performance and may exclude some acceptable channels which are good to 30 GHz then less good at 40.

SuggestedRemedy

Replace the straight part of the limit with one that curves down (with an f^2 term), with a reduced f_{max} .

Proposed Response Response Status **W**

PROPOSED REJECT.
 The suggest remedy does not provide sufficient detail to implement.

[Editor's note (to be removed when closing this comment): See slide 8 in https://www.ieee802.org/3/ck/public/21_05/sun_3ck_01_0521.pdf]

Cl **163B** SC **163B.1** P **297** L **12** # **22**

Brown, Matt Huawei

Comment Type **E** Comment Status **D** TP0a (bucket3)

The test point name TP0a is now obsolete. References to TP0a in Annex 163B are also references to TP0v, but for a specific example.

SuggestedRemedy

In 163B.1 delete the second sentence.
 In the first paragraph in 163B.2 change TP0a to TP0v.
 In the heading of Table 163B-1, change TP0a to TP0v.

Proposed Response Response Status **W**

PROPOSED ACCEPT.
 [Editor's note: Changed line from 297 to 12.]
 [Editor's note (to be removed when closing this comment): See slide 4 in https://www.ieee802.org/3/ck/public/21_05/sun_3ck_01_0521.pdf]

Cl **163B** SC **163B.2** P **297** L **22** # **53**

Ghiasi, Ali Ghiasi Quantum/Inphi

Comment Type **TR** Comment Status **D** ERL package (bucket3)

We have provided reference ERL for only 31 mm package

SuggestedRemedy

Please also provide ERL data for the 12 mm package as well

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.
 [Editor's note: Change clause/subclause to 163B/163B.2.]
 The methodology in 163A.4.1.1 and parameters from 163/120F require ERL reference to be calculate at two package lengths, however only one package length is provided in this example.
 Add a sentence at the end of the first paragraph as follows:
 "Although clauses using the TP0v methodology may require the ERL reference value to be calculate at more than one package length, only one is shown here."
 [Editor's note (to be removed when closing this comment): See slide 14 in https://www.ieee802.org/3/ck/public/21_05/sun_3ck_01_0521.pdf]