Cl **1** *SC* **1.4** *P* **31** *L* **28** # 62

Lusted, Kent — Intel Corporation

Comment Type **TR** *Comment Status* **D** *bucket*

The definition for 200GAUI-n in 802.3-2018 clause 1.4.87 needs to be updated for the two lane version of this interface "200GAUI-2" enabled with the 3ck project.

SuggestedRemedy

Add reference to 200GAUI-2 and the relevant clause as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **1** *SC* **1.4** *P* **31** *L* **28** # 61

Lusted, Kent — Intel Corporation

Comment Type **TR** *Comment Status* **D** *bucket*

The definition for 100GAUI-n in 802.3cd-2018 clause 1.4.3.6 needs to be updated for the single lane version of this interface "100GAUI-1" enabled with the 3ck project.

SuggestedRemedy

Add reference to 100GAUI-1 and the relevant clause as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The referenced subclause is 1.4.36.

Implement the suggested remedy.

Cl **1** *SC* **1.4** *P* **31** *L* **28** # 63

Lusted, Kent — Intel Corporation

Comment Type **TR** *Comment Status* **D** *bucket*

The definition for 400GAUI-n in 802.3-2018 clause 1.4.111 needs to be updated for the four lane version of this interface "400GAUI-4" enabled with the 3ck project.

SuggestedRemedy

Add reference to 400GAUI-4 and the relevant clause as appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **1** *SC* **1.5** *P* **32** *L* **28** # 64

Lusted, Kent — Intel Corporation

Comment Type **TR** *Comment Status* **D** *bucket*

Update the abbreviation of 100GAUI to include the n number of lanes and align consistency with the base standard 802.3-2018 for 200GAUI-n and 400GAUI-n

SuggestedRemedy

Consider changing the abbreviation to be "100GAUI-n 100 Gb/s Attachment Unit Interface over n lanes"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **45** *SC* **45.2.1.126a** *P* **51** *L* **27** # 102

Slavick, Jeff — Broadcom

Comment Type **E** *Comment Status* **D** *bucket*

First paragraph of 45.2.1.126a could use some word-smithing. All registers use same mapping (not similar) and reduce the laundry list text to just be a bunch of "see" references

SuggestedRemedy

Changed "The assignment of bits in the RS-FEC codeword error bin 1 register is shown in Table 45–100a. The assignment of bits in the other RS-FEC codeword error bin registers is done similarly. The RS FEC codeword error bin counter registers apply to the codeword-interleaved RS-FEC defined in Clause 161. See 161.6.23 for a definition of these registers. There are fifteen of these 32-bit registers, which increment depending upon the error signature of a corrected codeword. Their bits are reset to all zeros when the register is read by the management function or upon reset, and held at all ones in the case of overflow."
To "The assignment of bits in the RS-FEC codeword error bin 1 register is shown in Table 45–100a. The assignment of bits for the other RS-FEC codeword error bin registers are identical to that of bin 1. The RS-FEC codeword error bin registers increment depending upon the error signature of a corrected codeword (see 161.6.23). Their bits are reset to all zeros when the register is read by the management function or upon reset, and held at all ones in the case of overflow."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **45** *SC* **45.2.1.186aa** *P* **62** *L* **13** # 98

Slavick, Jeff — Broadcom

Comment Type **E** *Comment Status* **D** *bucket*

Capitalization issue

SuggestedRemedy

Lowercase the E in Enable in the Name column

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Implement suggested remedy.

Also make same change in Table 45-88.

Cl **80** *SC* **80.1.4** *P* **76** *L* **5** # 67

Lusted, Kent — Intel Corporation

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

The nomenclature for "100GBSSE-P" in the base document (IEEE Std. 802.3-2018, Section Six, page 84, line 12ish) does not list the Clause 161 RS-FEC-Int as a valid layer even though the new RS-FEC-Int was added for 100GBASE-P PHY types.

SuggestedRemedy

Change the last sentence of the sixth paragraph in IEEE Std. 802.3-2018 Clause 80.1.4 to be "Some 100GBASE-P Physical Layer devices also use the transcoding and FEC of Clause 91 and some may also use the RS-FEC-Int of Clause 161."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Change the last sentence of the sixth paragraph in IEEE Std. 802.3-2018 Clause 80.1.4 to be "Some 100GBASE-P Physical Layer devices also use the transcoding and FEC of Clause 91 or Clause 161."

Cl **83** *SC* **83.1.1** *P* **85** *L* **16** # 216

Dudek, Mike — Marvell.

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

According to table 80-3a a number of PHYs (e.g. 100GBASE-KR1 can optionally use the Clause 83 PMA. However this revised scope statement does not include that table.

SuggestedRemedy

Add an extra sentence. The 100GBASE-R PMA may also be used with those Phys indicated in Table 10-3a.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Add an extra sentence:
"The 100GBASE-R PMA may also be used with PHYs listed in Table 80-3a."

Cl **91** *SC* **91.6.2f** *P* **88** *L* **7** # 100

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *bucket*

Enable usually means it's active when set to a 1. However the 100G_RS_FEC_enable bit is written have the clause active when the bit is a 1.

SuggestedRemedy

Either: a) Change 100G_RS_FEC_enable to 100G_RS_FEC_bypass in Table 91-2, 91.6.2f (heading and 2 places in text), 45.2.1.110 and in 45.2.110aa
or b) Change zero to one in 3rd sentenece of 91.6.2f and one to a zero in the 4th sentence

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

See response to comment #4.

Cl **91** *SC* **91.6.2f** *P* **88** *L* **7** # 4

Marris, Arthur — Cadence Design Systems

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

100G RS-FEC should be enabled by setting the variable to one (not zero)

SuggestedRemedy

Change text to: "When 100G_RS_FEC_Enable variable is set to one, the RS-FEC sublayer performs the transmit function as specified in 91.5.2 and the receive function as specified in 91.5.3. When the variable is set to zero, the transmit and receive functions are disabled,"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **93A** *SC* **93A.1.2.4** *P* **198** *L* **37** # 159

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

The usage of cascades of "cascade()" in equations in this annex is becoming inconvenient.

The function is defined in 93A.1.2.1, but only for two arguments, which got us to where we are.

SuggestedRemedy

Bring in 93A.1.2.1 and add another shorthand notation: cascade(A, B, C) is equivalent to cascade(cascade(A, B), C).

Use the new notation to simplify the equations here and in clause 162.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Implement the suggested remedy with editorial license.

Cl **93A** *SC* **93A.1.2.4** *P* **199** *L* **4** # 160

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

A graphic representation of the network with annotation of the various S's would be very helpful.

SuggestedRemedy

Add a figure, perhaps based on slide 6 of http://www.ieee802.org/3/ck/public/18_11/benartsi_3ck_01_1118.pdf and/or slide 3 of http://www.ieee802.org/3/ck/public/adhoc/jun12_19/healey_3ck_adhoc_01_061219.pdf .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Implement the suggested remedy with editorial license.

Cl **116** *SC* **116.2** *P* **95** *L* **12** # 65

Lusted, Kent Intel Corporation

Comment Type **TR** *Comment Status* **D** *bucket*

The 200 Gb/s and 400 Gb/s subclause does not have a reference to the Clause 73 Auto-Negotiationfunction that similarly present in Clause 80 Introduction to 40 Gb/s and 100 Gb/s networks

SuggestedRemedy

Insert a new subclause before existing clause 116.2.6 "Management interface (MDIO/MDC)". Renumber existing clauses 116.2.6 and 116.2.7 as appropriate.
The new clause 116.2.6 "Auto-Negotiation" will have the following text:
"Auto-Negotiation provides a linked device with the capability to detect the abilities (modes of operation) supported by the device at the other end of the link, determine common abilities, and configure for joint
operation.
Clause 73 Auto-Negotiation is used by the 200 Gb/s and 400 Gb/s backplane PHYs (200GBASE-KR4, 200GBASE-KR2, and 400GBASE-KR4) and the 200 Gb/s and 400 Gb/s copper PHYs (200GBASE-CR4, 200GBASE-CR2 and 400GBASE-CR4)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Insert a new subclause before existing clause 116.2.6 "Management interface (MDIO/MDC)".

In the new subclause clause 116.2.5a "Auto-Negotiation" include the following text:
"Auto-Negotiation provides a linked device with the capability to detect the abilities (modes of operation) supported by the device at the other end of the link, determine common abilities, and configure for joint operation.
Clause 73 Auto-Negotiation is used by the 200 Gb/s and 400 Gb/s backplane PHYs (200GBASE-KR4, 200GBASE-KR2, and 400GBASE-KR4) and the 200 Gb/s and 400 Gb/s copper PHYs (200GBASE-CR4, 200GBASE-CR2 and 400GBASE-CR4)."

Cl **120A** *SC* **120A.5** *P* **201** *L* **20** # 161

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

duplicated label "MMD8" in the figure.

SuggestedRemedy

delete one copy.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120F** *SC* **120F.3.1** *P* **204** *L* **48** # 134

Hidaka, Yasuo — Credo Semiconductor

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

53GHz bandwidth is unnecessarily high and inconsistent with Annex 120G.3.1, Annex 120G.3.2, Clause 162.9.3 and Clause 163.9.1.

SuggestedRemedy

Change 53 GHz to 40 GHz.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Implement suggested remedy.

See comment #162.

Cl **120F** *SC* **120F.3.1** *P* **204** *L* **48** # 162

Ran, Adee — Intel

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

"53 GHz 3 dB bandwidth" only here. In clauses 162 and 163 it is 40 GHz. I assume this is an oversight.

SuggestedRemedy

Change "53 GHz" to "40 GHz".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Resolve using the response to comment #134.

Cl **120F** *SC* **120F.3.1** *P* **205** *L* **16** # 41

Brown, Matt — Huawei Technologies Canada

Comment Type **E** *Comment Status* **D** *bucket*

Naming of return loss parameters is not consistent.

SuggestedRemedy

In Table 120F-1 (P205, L16) and in 120F.3.1.2 (206/L3) change "Common-mode output return loss" to"Common-mode return loss"
In Table 120F-3 (P207/L46) and 120F.3.2.2 (P208/L9) change "Differential to common mode input return loss" to "Differential to common-mode return loss".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120F** *SC* **120F.3.1** *P* **205** *L* **19** # 163

Ran, Adee — Intel

Comment Type **E** *Comment Status* **D** *bucket*

For consistency with the rest of the document, "Steady state" should be "Steady-state".

SuggestedRemedy

Add hyphens (twice).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120F** *SC* **120F.3.1** *P* **205** *L* **20** # 164

Ran, Adee — Intel

Comment Type **E** *Comment Status* **D** *bucket*

In this table there are occurrences of "min" and "max" both with and without a period.

This should be standardized at least on a per-clause basis, and preferably across the draft.

SuggestedRemedy

Since these are abbreviations, it is suggested to include a period. Preferably change globally in the draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Change occurrences of "min." and "max." (with period) to "min" and "max" (without period), as appropriate, throughout the draft.

Cl **120F** *SC* **120F.3.1** *P* **205** *L* **27** # 11151

Dudek, Mike — Marvell

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

[Comment resubmitted from Draft 1.1. 120F.3.1, P203, L38]

Footnote b to table 163-5 which updates the linear fit procedure for measuring SNDR should be applied to chip to chip as well as backplane.

SuggestedRemedy

Add the same footnote to the SNDR row in Table 120F-1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Add the following footnote to the SNDR parameter in Table 120F-1:
"Measurement uses the method described in 120D.3.1.6 with the exception that the linear fit procedure in 162.9.3.1.1 is used."

Cl **120F** *SC* **120F.3.1.1** *P* **205** *L* **39** # 224

Dudek, Mike — Marvell.

Comment Type **E** *Comment Status* **D** *bucket*

There can be better wording. "For parameters that do not appear in Table 120F–2, take values from Table 120F–6."

SuggestedRemedy

Replace with "Parameters that do not appear in Table 120F–2 take values from Table 120F–6. Also in a similar fashion on page 208 line 3, and page 213 line 28. Note that this wording is what is used in 120G.3.1.3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Implement suggested remedy with editorial license.

Cl **120F** *SC* **120F.3.1.1** *P* **205** *L* **40** # 13

Wu, Mau-Lin — Mediatek

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

The TX ERL (min) value of TP0a is specified both in Table 120F-1 as well as the following sentence here. "Transmitter ERL at TP0a shall be greater than or equal to TBD dB". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Transmitter ERL at TP0a shall be greater than or equal to the value of ERL (min.) specified in Table 120F-1.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:

http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Change the sentence to:"Transmitter ERL at TP0a shall be greater than or equal to ERL (min) specified in Table 120F-1."

Cl **120F** *SC* **120F.3.2.1** *P* **208** *L* **5** # 17

Wu, Mau-Lin — Mediatek

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

The RX ERL (min) value at TP5a is specified both in Table 120F-3 as well as the following sentence here. "Receiver ERL at TP5a shall be greater than or equal to TBD dB". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Receiver ERL at TP5a shall be greater than or equal to the value of ERL (min.) specified in Table 120F-3.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Change the sentence to:"Receiver ERL at TP5a shall be greater than or equal to ERL (min) specified in Table 120F-3."

Cl **120F** *SC* **120F.3.2.2** *P* **208** *L* **10** # 169

Ran, Adee — Intel

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

"The reference impedance for common-mode return loss measurements is 25 Ohm"

Is this statement helpful (or even correct) for D-C conversion? It does not appear in similar places in existing clauses. This clause does not discuss common-mode (to common-mode) return loss.

Practically, the conversion RL is obtained from single-ended s-parameter measurements with a reference of 50 Ohm.

SuggestedRemedy

Delete this sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120G** *SC* **120G.3.1** *P* **221** *L* **19** # 237

Dawe, Piers — Nvidia

Comment Type **TR** *Comment Status* **D** *bucket*

The low-loss C2M analysis should be revisited with the new COM.

SuggestedRemedy

It may be that eye height and VEC for the very short channels are better than we have written down here.

Proposed Response *Response Status* **W**

PROPOSED REJECT

The comment is not valid.The comment does not provide explanation of problem or justification for change.The suggested remedy does not propose an actionable remedy.

Cl **120G** *SC* **120G.3.1** *P* **221** *L* **22** # 42

Brown, Matt — Huawei Technologies Canada

Comment Type **E** *Comment Status* **D** *bucket*

Naming of return loss parameters is not consistent.

SuggestedRemedy

In Table 120G-1 (P221, L22) and 120G.3.1.2 (P222, L6) change "Common to differential mode return loss" to "Common-mode to differential return loss".
In Table 120G-3 (P224, L52) and Table 120G-7 (P230, L9) change "Common-mode to differential mode return loss" to "Common-mode to differential return loss".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120G** *SC* **120G.3.1** *P* **221** *L* **34** # 213

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **D** *bucket*

Editorial note regarding 17.5 mV common mode can be removed as this is reasonable limit and realxing the common mode has implications due to mode conversion.

SuggestedRemedy

Remove the editorial note

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

[Editor's note: Changed line from 13.]

Cl **120G** *SC* **120G.3.1.3** *P* **222** *L* **40** # 20

Wu, Mau-Lin — Mediatek

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

The host output ERL (min) value at TP1a is specified both in Table 120G-1 as well as the following sentence here. "Host output ERL at TP1a shall be greater than TBD". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Host output ERL at TP1a shall be greater than or equal to the value of ERL (min.) specified in Table 120G-1.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

For task force review.

Cl **120G** *SC* **120G.3.2** *P* **224** *L* **41** # 214

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **D** *bucket*

Editorial note regarding 17.5 mV common mode can be removed as this is reasonable limit and realxing the common mode has implications due to mode conversion.

SuggestedRemedy

Remove the editorial note

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120G** *SC* **120G.3.2.2** *P* **226** *L* **31** # 21

Wu, Mau-Lin Mediatek

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

The table to be refered for calculation of module output ERL at TP4 is 'TBD' now. Propose to refer to values in Table 120G-9 as the similar method as Clauses 162, 163, & 120F.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change TBD to 120G-9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Implement suggested remedy.

Cl **120G** *SC* **120G.3.2.2** *P* **226** *L* **34** # 22

Wu, Mau-Lin Mediatek

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

The module output ERL (min) value at TP4 is specified both in Table 120G-3 as well as the following sentence here. "Module output ERL at TP4 shall be greater than TBD". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Module output ERL at TP4 shall be greater than or equal to the value of ERL (min.) specified in Table 120G-3.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Change the sentence to:
Module output ERL at TP4 shall be greater than or equal to ERL (min) specified in Table 120G-3.

Cl **120G** *SC* **120G.3.3.1** *P* **227** *L* **30** # 24

Wu, Mau-Lin Mediatek

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

The table to be refered for calculation of host input ERL at TP4a is 'TBD' now. Propose to refer to values in Table 120G-9 as the similar method as Clauses 162, 163, & 120F.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change TBD to 120G-9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Implement suggested remedy.

Cl **120G** *SC* **120G.3.3.1** *P* **227** *L* **33** # 25

Wu, Mau-Lin Mediatek

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

The host input ERL (min) value TP4a is specified both in Table 120G-4 as well as the following sentence here. "Host input ERL at TP4a shall be greater than TBD". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Host input ERL at TP4a shall be greater than or equal to the value of ERL (min.) specified in Table 120G-4.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:

http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Change the sentence to:
Host input ERL at TP4a shall be greater than or equal to ERL (min) specified in Table 120G-4.

Cl **120G** *SC* **120G.3.3.2.1** *P* **228** *L* **6** # 229

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

"The reference receiver includes a reference receiver as specified in 120G.5.2"

SuggestedRemedy

Change to
"The reference receiver is specified in 120G.5.2"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120G** *SC* **120G.3.3.2.1** *P* **229** *L* **4** # 179

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

The injected jitter in the host stressed input test (C2M) is described as follows:
"Random jitter and bounded uncorrelated jitter are added such that the output of the pattern generator approximates the output jitter profile given by maximum JRMS and maximum J4u, and complies with the even-odd jitter specification, in Table 120F–1"

But Table 120F–1 is in the other annex, for C2C - which seems like an error. But it isn't: In Annex 120D this was written explicitly with reference to the C2C specification:

"Random jitter and bounded uncorrelated jitter are added such that the output of the pattern generator approximates the 200GAUI-4 and 400GAUI-8 C2C output jitter profile given in Table 120D–1".

If this is the intent it should be stated more explicitly, as was done in 120D.

SuggestedRemedy

Change
"approximates the output jitter profile given by maximum JRMS and maximum J4u, and complies with the even-odd jitter specification, in Table 120F–1"
To
"approximates the output jitter profile given by maximum JRMS and maximum J4u, and complies with the even-odd jitter specification, of the corresponding chip-to-chip transmitter in Table 120F–1"

Proposed Response *Response Status* **W**

PROPOSED REJECT

There is only one jitter specification in Table 120F-1 so no further qualificaition is required.

Cl **120G** *SC* **120G.3.4.2** *P* **232** *L* **46** # 26

Wu, Mau-Lin Mediatek

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

The table to be refered for calculation of module input ERL is 'TBD' now. Propose to refer to values in Table 120G-9 as the similar method as Clauses 162, 163, & 120F.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change TBD to 120G-9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Implement suggested remedy.

Cl **120G** *SC* **120G.3.4.2** *P* **232** *L* **49** # 27

Wu, Mau-Lin Mediatek

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

The module input ERL (min) value at TP1 is specified both in Table 120G-7 as well as the following sentence here. "Module input ERL at TP1 shall be greater than TBD". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Module input ERL at TP1 shall be greater than or equal to the value of ERL (min.) specified in Table 120G-7.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Change the sentence to:Module input ERL at TP1 shall be greater than or equal to ERL (min) specified in Table 120G-7.

Cl **120G** *SC* **120G.4.1** *P* **233** *L* **34** # 239

Dawe, Piers Nvidia

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

Is it really necessary that the response should be above -42 dB at 51 GHz?

SuggestedRemedy

Add an f^2 term in the second part of Eq. 120G-2, reduce the other terms so that the gradient is the same at Nyquist.

Proposed Response *Response Status* **W**

PROPOSED REJECT

The comment does not provide any justification for the proposed change nor does the suggested remedy provide a complete solution to implement.

Cl **120G** *SC* **120G.5.2** *P* **234** *L* **6** # 244

Dawe, Piers Nvidia

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

120G.3 says "A test system with a fourth-order Bessel-Thomson low-pass response with 40 GHz 3 dB bandwidth is to be used for all output signal measurements, unless otherwise specified." This adds "a receiver noise filter as defined in 93A.1.4.1". Too much filtering.

SuggestedRemedy

Use only one of them. For example, insert a sentence "The receiver noise filter is used instead of the Bessel-Thomson low-pass response of 120G.3."

Proposed Response *Response Status* **W**

PROPOSED REJECT

The first step of the measurement method clearly defines the filter requirements.

"Capture the PRBS13Q signal y1(k) with the effect of low-pass response equivalent to the specifiedreceiver noise filter with associated parameter fr in Table 120G–9, ..."

No further clarification is required.

Cl **120G** *SC* **120G.5.2** *P* **234** *L* **8** # 245

Dawe, Piers Nvidia

Comment Type **TR** *Comment Status* **D** *bucket*

"The following procedure should be used": no, there is no need to follow the procedure, only to make the product good enough. This is not a standard for testing. I know this is wrong in 120E.4.2 too, but it's easy to fix here.

SuggestedRemedy

Change "The following procedure should be used to obtain the eye height eye width, and vertical eye closure parameters, as illustrated by Figure 120E-13." to "Eye height, eye width, and vertical eye closure parameters, as illustrated by Figure 120E-13, are defined by the following procedure."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **120G** *SC* **120G.5.2** *P* **235** *L* **48** # 226

Dudek, Mike Marvell.

Comment Type **E** *Comment Status* **D** *bucket*

The wording of this paragraph could be improved.

SuggestedRemedy

Change "Capture the PRBS13Q signal y1(k) with the effect of low-pass response equivalent to the specified receiver noise filter with associated parameter fr in Table 120G–9, and using a clock recovery unit with a corner frequency of 4 MHz and slope of 20 dB/decade." to Capture the PRBS13Q signal y1(k) with the effect of low-pass response equivalent to the specified receiver noise filter with associated parameter fr in Table 120G–9, using a clock recovery unit with a corner frequency of 4 MHz and slope of 20 dB/decade."

Proposed Response *Response Status* **W**

PROPOSED REJECT

The LPF and CRU are two distinct processes so use of the word "and" is appropriate.

Cl **135** *SC* **135.1.4** *P* **109** *L* **23** # 2

Marris, Arthur Cadence Design Systems

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

Change 100GMII to CGMII in Figure 135-2

SuggestedRemedy

Change to CGMII in two places

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **152** *SC* **152.5.2a** *P* **115** *L* **31** # 97

Slavick, Jeff — Broadcom

Comment Type **TR** *Comment Status* **D** *bucket*

Enable usually means it's active when set to a 1. However the IFEC_enable bit is written have the clause active when the bit is a 1.

SuggestedRemedy

Either: a) Change IFEC_enable to IFEC_bypass in Table 152-1, 156.6.2a (heading and 2 places in text), and in 45.2.1.186aa
or b) Change zero to one in 3rd sentenece of 152.6.2a and one to a zero in the 4th sentence

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

See response to comment #3.

Cl **152** *SC* **152.6.2a** *P* **115** *L* **32** # 3

Marris, Arthur — Cadence Design Systems

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

IFEC should be enabled by setting the variable to one (not zero)

SuggestedRemedy

Change text to "When the IFEC_Enable variable is set to one, the Inverse RS-FEC sublayer performs the transmit function as specified in 152.5.2 and the receive function as specified in 152.5.3. When the variable is set to a zero, the transmit and receive functions are disabled, and the Inverse RS-FEC sublayer is bypassed,"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **161** *SC* **161.5.22** *P* **131** *L* **31** # 99

Slavick, Jeff — Broadcom

Comment Type **E** *Comment Status* **D** *bucket*

FEC_cw_counter font seems off in the first sentenece

SuggestedRemedy

Check font setting

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **161** *SC* **161.6.23** *P* **131** *L* **36** # 106

Nicholl, Shawn — Xilinx

Comment Type **ER** *Comment Status* **D** *bucket*

Variable "i" is not italicized in two places.

SuggestedRemedy

In the text "where i=1 to 15", propose to italicize the "i".
In the text "exactly i correctable", propose to italicize the "i".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.9.3** *P* **148** *L* **4** # 136

Ran, Adee — Intel

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

The rule here says "all transmitter measurements are made(…) using a test system with a fourth-order Bessel-Thomson low-pass response with 40 GHz 3 dB bandwidth". Some transmitter specifications require measurement of s-parameters, which should not include this filter.

In 163.9.1 and 120F.3.1, the similar rule refers to "all transmitter signal measurements", and in 120G.3.1 it is "output signal measurements". This phrasing would be better.

SuggestedRemedy

Change the text here to align with 163.9.1 and especially refer to signal measurements.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.9.3.1.3** *P* **151** *L* **21** # 256

Dawe, Piers — Nvidia

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

"ic_req" appears without explanation. I can see that it may be mapped to an MDIO register, but those registers follow the hardware, they don't define it. The reader doesn't know it's in Figure 136-9 because you haven't told him, and anyway that's too arcane.

SuggestedRemedy

Explain what it is, with appropriate references to 162.8.11 and 136.8.11.something.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Add a reference to 136.8.11.7.1 with editorial license.

Cl **162** *SC* **162.9.3.1.5** *P* **152** *L* **3** # 258

Dawe, Piers — Nvidia

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

There seem to be rules here to ensure that c(-3), c(-2), c(-1) and c(1) can be moved over defined ranges, but not for c(0).

SuggestedRemedy

What is the intention? What should attempting to adjust c(0) be able to achieve and what is out of bounds?
Write down whatever information is missing in Table 162-9 and here. If it isn't missing, put it in in Table 162-9 and cross-reference it from this section.
Adjust Clause 163 consistent with this.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Resolve using the response to comment #144.

Cl **162** *SC* **162.9.3.1.5** *P* **152** *L* **19** # 144

Ran, Adee — Intel

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

(cross-clause)

There is no requirement in the transmitter characteristics for the range of c(0).

While the maximum is 1 by definition of the measurement method, the minimum is only implied by the minimum value of c(-1) and an assumption that the sum of absolute coefficients is capped at 1 (which may not be true in all implementations).

Even assuming that the sum is not larger than 1, the implied minimum of c(0) is 0.66, while the COM search range assumes 0.54 is possible.

SuggestedRemedy

Add the following paragraph before the NOTE:

Having received sufficient "decrement" requests so that it is at its minimum value, c(0) shall be less than or equal to 0.54.

Add a row in table 162-9: "value at minimum state for c(0) (max.)" with reference to this subclause and value 0.54.

Add similar rows in table 163-5 and table 120F-1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.9.3.2** *P* **152** *L* **24** # 40

Brown, Matt — Huawei Technologies Canada

Comment Type **E** *Comment Status* **D** *bucket*

This subclause specifies a recommended insertion loss for the host. It seems this would be more appropriately located in Annex 162A along with other informative specifications relating to the channel.

SuggestedRemedy

Move the specification in 162.9.3.2 to Annex 162A then add a reference in 162.9.3.2 pointing to Annex 162A.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Implement the suggested remedy with editorial license.

Cl **162** *SC* **162.9.4.3.3** *P* **154** *L* **49** # 220

Dudek, Mike — Marvell.

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

The name has changed S(HOSP) is no longer defined in 162.11.7.1.1

SuggestedRemedy

Change S(HOSP) to S(HOSPR) in two places. Also on page 162 lines 28, 37, 42 and 49. Also on page 163 line 1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.9.4.3.4** *P* **155** *L* **47** # 259

Dawe, Piers — Nvidia

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

"800 mV peak-to-peak differential when measured on an alternating 0-3 pattern": we don't have unnatural test patterns, but there are suitable sequences in the usual mixed-frequency signals such as PRBS13Q.
Notice that 163.9.2.3 has a different definition: "The test transmitter is constrained such that for any transmitter equalizer setting the differential peak-to-peak voltage (see 93.8.1.3) is less than or equal to 800 mV." 93.8.1.3 doesn't define a pattern or sequence and is for PAM2 anyway.

SuggestedRemedy

Change "pattern" to "sequence". Reconcile 163.9.2.3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.11.7** *P* **159** *L* **41** # 151

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

(cross clause)
For a consistent notation of the numeric values of capacitances , change text of Cb to 3e-5 nF. Alternatively use exponent of -6 everywhere and set Cd=120e-6, Cb=30e-6, Cp=87e-6

SuggestedRemedy

Per comment. Apply in 162.11.7, in 163.10, and in 120F.4.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **162** *SC* **162.11.7.1.1** *P* **161** *L* **51** # 219

Dudek, Mike Marvell.

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

S(HOSP) is not correct.

SuggestedRemedy

Change it to S(HOSPR)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.11.7.1.1** *P* **162** *L* **14** # 129

Hidaka, Yasuo Credo Semiconductor

Comment Type **E** *Comment Status* **D** *bucket*

There is meaning less "or".

SuggestedRemedy

Change "transmitter or" to "transmitter".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Resolve using the response to comment #217.

Cl **162** *SC* **162.11.7.1.1** *P* **162** *L* **14** # 217

Dudek, Mike Marvell.

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

S(HOSPT) definition isn't good.

SuggestedRemedy

Change to "is the host transmitter PCB signal path"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **162** *SC* **162.11.7.1.1** *P* **162** *L* **15** # 230

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

"S(HOSPT) is the host transmitter or PCB signal path" and then "S(HOSPR) is the host (transmitter or receiver) PCB signal path"

Text does not make sense.

SuggestedRemedy

Change to
"S(HOSPT) is the transmitter's host PCB signal path"
"S(HOSPR) is the receiver's host PCB signal path"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Resolve using the response to comment #217 and #218.

Cl **162** *SC* **162.11.7.1.1** *P* **162** *L* **16** # 124

Hidaka, Yasuo Credo Semiconductor

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

"(transmitter or receiver)" is confusing and not correct.

SuggestedRemedy

Change "host (transmitter or receiver) PCB signal path" to "host receiver PCB signal path".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

Resolve using the response to comment #218.

Cl **162** *SC* **162.11.7.1.1** *P* **162** *L* **16** # 218

Dudek, Mike Marvell.

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

S(HOSPR) definition isn't related to the transmitter PCB signal path.

SuggestedRemedy

Change to "is the host receiver PCB signal path"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.11.7.1.2** *P* **162** *L* **28** # 125

Hidaka, Yasuo Credo Semiconductor

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

S^(HOSP) is not the host receiver PCB signal path in this clause.

SuggestedRemedy

Change "S^(HOSP)" to "S^(HOSPR)" in Equation (162-13) and on line 28 and line 42.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.11.7.1.2** *P* **162** *L* **29** # 127

Hidaka, Yasuo Credo Semiconductor

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

S^(HOSPT) is defined as the host transmitter PCB signal path in clause 162.11.7.1.1. The aggressor transmitter PCB signal path should use a different symbol. Clause 136.11.7.1 defined the agressor transmitter PCB signal path as S^(HOTxSP).

SuggestedRemedy

Change "S^(HOSPT)" to "S^(HOTxSP)" in Equation (162-13) and on line 29 and line 44.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.11.7.1.2** *P* **162** *L* **49** # 221

Dudek, Mike Marvell.

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

S(HOTxSP) is not defined.

SuggestedRemedy

Change S(HOTxSP) to S(HOSPT)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.11.7.1.2** *P* **163** *L* **1** # 126

Hidaka, Yasuo Credo Semiconductor

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

S^(HOSP) is not the host receiver PCB signal path in this clause.

SuggestedRemedy

Change "S^(HOSP)" to "S^(HOSPR)" in Equation (162-14) in page 162 and on line 1 in page 163.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162** *SC* **162.11.7.1.2** *P* **163** *L* **3** # 128

Hidaka, Yasuo Credo Semiconductor

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

S^(HOSPT) is defined as the host transmitter PCB signal path in clause 162.11.7.1.1. The aggressor transmitter PCB signal path should use a different symbol. Clause 136.11.7.1 defined the agressor transmitter PCB signal path as S^(HOTxSP).

SuggestedRemedy

Change "S^(HOSPT)" to "S^(HOTxSP)" in Equation (162-14) in page 162 and on line 3 in page 163.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162A** *SC* **162A.5** *P* **245** *L* **26** # 260

Dawe, Piers — Nvidia

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

Please help the reader understand the equivalence of some loss items in this figure by aligning the mated test fixtures with TP1 and TP2 Compare Figure 92A-2.

SuggestedRemedy

Please move the mated test fixtures to the left to:
Align TP1 and the end of the MCB.
Align TP2 and the end of the HCB.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **162C** *SC* **162C.1** *P* **259** *L* **11** # 1

Lusted, Kent — Intel Corporation

Comment Type **TR** *Comment Status* **D** *bucket*

The MDI connector contact mapping for the OSFP connector is incorrect. Many of the contact mappings have incorrect polarity and there are several GND mappings that were missed as well

SuggestedRemedy

Update Table 162C-3 with the correct contact mapping. See presentation submitted to Task Force.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

For committee discussion of cited presentation:
http://www.ieee802.org/3/ck/public/20_07/lusted_3ck_01_0720.pdf

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Cl **162D** *SC* **162D.1** *P* **270** *L* **14** # 227

Dudek, Mike — Marvell.

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

The text says five specified connectors but the list in table 162D-1 has six entries.

SuggestedRemedy

Change "five" to "six". Also on line 32.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT

Cl **163** *SC* **163.9.1.1** *P* **178** *L* **29** # 223

Dudek, Mike — Marvell.

Comment Type **E** *Comment Status* **D** *bucket*

Duplicate period at the end of the paragraph

SuggestedRemedy

delete one.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **163** *SC* **163.9.1.1** *P* **178** *L* **45** # 7

Wu, Mau-Lin — Mediatek

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

The TX ERL (min) value is specified both in Table 163-5 as well as the following sentence here. "Transmitter ERL at TP0a shall be greater than or equal to TBD dB". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Transmitter ERL at TP0a shall be greater than or equal to the value of ERL (min.) specified in Table 163-5.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Change the sentence to "Transmitter ERL at TP0a shall be greater than or equal to ERL (min) specified in Table 163-5."

Cl **163** *SC* **163.9.2.1** *P* **181** *L* **7** # 9

Wu, Mau-Lin Mediatek

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

The RX ERL (min) value is specified both in Table 163-7 as well as the following sentence here. "Receiver ERL at TP5a shall be greater than or equal to TBD dB". The value is the duplicated information & could be removed.

Please refer to details in wu_3ck_adhoc_01_061020.pdf

SuggestedRemedy

Change the sentence to
***
Receiver ERL at TP5a shall be greater than or equal to the value of ERL (min.) specified in Table 163-7.
***

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE

The comment refers to the following presentation:
http://www.ieee802.org/3/ck/public/adhoc/jun10_20/wu_3ck_adhoc_01_061020.pdf

Change the sentence to: "Receiver ERL at TP5a shall be greater than or equal to ERL (min) specified in Table 163-7."

Cl **163** *SC* **163.13.4.3** *P* **192** *L* **13** # 158

Ran, Adee Intel

Comment Type **E** *Comment Status* **D** *bucket*

Wrong cross-reference.

SuggestedRemedy

Change 120D.3.1.4 (external reference) to 162.9.3.1.2 (internal reference).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.