

IEEE P802.3ck D1.1 100/200/400 Gb/s Electrical Interfaces Task Force 2nd Task Force review comments

Cl 162 SC 162.7 P137 L 6 # 7

Marris, Arthur Cadence Design Systems

Comment Type T Comment Status D

Many of the control and status variables in Tables 162-5 and 162-6 are not described or referenced in Clause 162.

SuggestedRemedy
Remove rows from Table 162-5 and 162-6 that refer to variables that are not mentioned in Clause 162

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.

Resolve per comment #25.

Cl 163 SC 163.9.2.4 P180 L 47 # 33

Ben Artsi, Liav Marvell

Comment Type T Comment Status D jitter tolerance

Receiver jitter tolerance test is specified at specific frequency points with no specified extrapolation between frequency points. More specifically, 5UI at 40kHz, 0.15UI at 1.33MHz 0.05UI at 4-40MHz. Tx is measured when applying high pass filter on the jitter filtering out much of the low frequency jitter of a transmitter. A transmitter may still comply with the TX specifications and have much more than 0.15UI of jitter at frequencies which reside around a few hundreds of Hz. Since there is no Rx jitter tolerance requirement at these frequencies: A transmitter may have relatively high jitter at low frequencies and still be compliant. The Rx may not be able to tolerate this jitter while being compliant as well. The interoperability between these specified Tx and Rx is questionable.

SuggestedRemedy
Add a sentence that the receiver is expected to meet any frequency point between the specified in table 163-9 while jitter tolerance requirement is linearly extrapolated between any consecutive specified frequency points.

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.

Add the following new text and equation:
"Although the jitter tolerance test is specified at discrete frequencies, a compliant receiver tolerates jitter at any frequency between 40 kHz and 40 MHz with peak-to-peak amplitude according to equation 163-new.

Equation 163-new:

$$\text{jitter}(f) = (0.05 \cdot 4 \text{ MHz} / f) \text{ for } 40 \text{ kHz} < f < 4 \text{ MHz}$$

$$\text{jitter}(f) = 0.05 \text{ for } 4 \text{ MHz} < f < 40 \text{ MHz}$$

Cl 120F SC 120F.1 P201 L 49 # 34

Ben Artsi, Liav Marvell

Comment Type T Comment Status D

C2C applications dictate external DC blocking cap even in cases when the Rx is capable of directly connecting to the Tx side

SuggestedRemedy
Add a sentence similar to the 802.3bj: Should the capacitor be implemented outside TP0 and TP5, it is the responsibility of implementors to consider any necessary modifications to common-mode and channel specifications required for interoperability as well as any impact on the verification of transmitter and receiver compliance.

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.

The suggested remedy refers to the following sentences from IEEE 802.3-2018 93.9.4:

"Should the capacitor be implemented outside TP0 and TP5, the common-mode specifications in Table 93-4 may not be appropriate."

"Should the capacitor be implemented outside TP0 and TP5, it is the responsibility of implementors to consider any necessary modifications to common-mode and channel specifications required for interoperability as well as any impact on the verification of transmitter and receiver compliance."

Clause 163 refers back to 93.9.4 and thus by reference includes the above statements.

It is therefore reasonable to include the same or similar statements in 120F.

Implement the following.

In 120F.4 "Channel Characteristics", create new subclause 120F.4.4 "AC-Coupling" with the following content:

"Each lane shall include AC-coupling between TP0 and TP5. The low-frequency 3 dB cutoff of the AC-coupling should be less than 100 kHz.

Should the capacitor be implemented outside TP0 and TP5, the common-mode specifications in Table 120F-1 may not be appropriate. It is the responsibility of implementors to consider any necessary modifications to common-mode and channel specifications required for interoperability as well as any impact on the verification of transmitter and receiver compliance."

Delete three instances of the following sentence in 120.1:

"The low-frequency 3 dB cutoff of the AC-coupling should be less than 100 kHz."

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Cl 120F SC 120F.3.2.4 P 207 L 22 # 36

Ben Artsi, Liav

Marvell

Comment Type T Comment Status D jitter tolerance [CC]

Receiver jitter tolerance test is specified at specific frequency points with no specified extrapolation between frequency points. More specifically, 5UI at 40KHz, 0.15UI at 1.33MHz 0.05UI at 4-40MHz. Tx is measured when applying high pass filter on the jitter filtering out much of the low frequency jitter of a transmitter. A transmitter may still comply with the TX specifications and have much more than 0.15UI of jitter at frequencies which reside around a few hundreds of Hz. Since there is no Rx jitter tolerance requirement at these frequencies: A transmitter may have relatively high jitter at low frequencies and still be compliant. The Rx may not be able to tolerate this jitter while being compliant as well. The interoperability between these specified Tx and Rx is questionable.

SuggestedRemedy

Add a sentence that the receiver is expected to meet any frequency point between the specified in table 163-9 while jitter tolerance requirement is linearly extrapolated between any consecutive specified frequency points.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See comment #33.

Cl 162 SC 162.9.4.3 P 152 L 38 # 37

Ben Artsi, Liav

Marvell

Comment Type T Comment Status D CM noise tolerance (IR)

Receiver characteristics lacks the definition of capability to tolerate common mode noise at the receiver input

SuggestedRemedy

Add the required capability of Rx common mode broadband noise tolerance and set it at TBD at least for now

Proposed Response Response Status W

PROPOSED REJECT.

[The proposed change in the comment does not contain sufficient detail to understand the specific changes that satisfy the commenter.]

The comment does not provide a justification for the proposed new parameter.

The suggested remedy does not provide a complete solution with test method and values.

For task force discussion.

Cl 163 SC 163.9.2 P 178 L 45 # 38

Ben Artsi, Liav

Marvell

Comment Type T Comment Status D CM noise tolerance (IR)

Receiver characteristics lacks the definition of capability to tolerate common mode noise at the receiver input

SuggestedRemedy

Add the required capability of Rx common mode broadband noise tolerance and set it at TBD at least for now

Proposed Response Response Status W

PROPOSED REJECT.

[The proposed change in the comment does not contain sufficient detail to understand the specific changes that satisfy the commenter.]

The comment does not provide a justification for the proposed new parameter.

The suggested remedy does not provide a complete solution with test method and values.

For task force discussion.

See comment #37.

Cl 163 SC 163.10 P 181 L 26 # 39

Ben Artsi, Liav

Marvell

Comment Type T Comment Status D

Differential to common mode conversion loss is not defined for a TP0 to TP5 interconnect channel characteristics

SuggestedRemedy

Specify that the differential to common mode conversion loss of TP0 to TP5 shall be [TBD] and correlated to the capability defined in 162.11.5 when measured with an MCB

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

For task force discussion.

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CI 120F SC 120F.1 P 202 L 31 # 59

Ran, Adeel Intel
 Comment Type T Comment Status D

"If implemented, the transmitter equalization feedback mechanism described in 120D.3.2.3 may be used to identify an appropriate setting"

As presented in ran_3ck_adhoc_02_021920, that mechanism supports the equalizer that was specified in the original CAUI-4 C2M (Annex 83D), which has only 3 taps with 5% coefficient resolution. The PAM4 AUIs defined in 802.3.bs (120D.3.1.5) and re-used in 802.3cd have kept this structure. However, we now have a 5-tap equalizer with a finer resolution. Even if pre-cursor tap c(-3) is removed as suggested in 120F.3.1.4 it would not be identical to the FFE in Annex 83D.

Therefore, re-using this method for 100GAUI-1 is impossible and new method should be defined. Possible solutions include a training protocol as in the PMD control function, new management variables and registers, or combinations of the two approaches.

SuggestedRemedy

A presentation with possible solutions is planned.

Proposed Response Response Status W

PROPOSED REJECT.

The suggested remedy does not provide sufficient detail to implement. However, a presentation relating to this comment is anticipated for the March meeting.

For task force discussion.

See comment #82.

CI 120G SC 120G.3.2 P 224 L 37 # 60

Ran, Adeel Intel
 Comment Type T Comment Status D

Signal swing and Tx equalization are important in PAM4 since the receiver has a limited linear range. A large swing at the host input may prevent linear operation and detection of PAM4. Attenuation has been used in past Rx designs, but it is becoming harder to implement with the large bandwidth requirements for 100G.

The current module output specifications have limited information about output swing and ISI (only implicitly through far-end eye height and far-end precursor ISI ratio, which are defined with a single channel), and do not mention any control of the Tx setting. With the large range of C2M host channels, it is unlikely that a fixed Tx setting will be usable for all hosts.

Actual modules even in 50G have some control of equalization and swing. There are indications that this control is required for actual operation.

If we ignore this capability in the specifications, some hosts may not be able to operate with the settings used for module output compliance; this means the module compliance specs are useless and measuring them is a waste of time.

The standard should at least mention the module's Tx control capabilities (with reference to external documents) and preferably define requirements for them, with management variables and control registers. It will be beneficial if the Tx specifications include these capabilities.

SuggestedRemedy

A presentation is planned with further details.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

A presentation relating to this comment is expected at the March meeting.

CI 120F SC 120F.3.1 P 203 L 30 # 70

Mellitz, Richard Samtec
 Comment Type TR Comment Status D TX vfmIn

C2C, KR, and CR devices may be the same ports on chips. Align Av, Afe, and Ane with Vf in table 163-5

SuggestedRemedy

Replace with Vfmin=0.413

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

For task force discussion.

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Cl 120F SC 120F.3.2.3 P 206 L 48 # 78
 Healey, Adam Broadcom Inc.
 Comment Type T Comment Status D
 I believe the intent is for the return loss of the test setup to have "test fixture" grade performance.
 SuggestedRemedy
 In item b), change "Equation (TBD)" to "Equation (163-2)" (Test fixture reference return loss limit).
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 For task force discussion.

Cl 45 SC 45.2.1.129 P 50 L 50 # 82
 Healey, Adam Broadcom Inc.
 Comment Type T Comment Status D
 Chip-to-chip transmitter equalization register definitions have been are written as being general for 100/200/400GAUI-n but 100GAUI-1, 200GAUI-2, and 400GAUI-4 appear to be on a trajectory to have different tap counts and coefficient step sizes.
 SuggestedRemedy
 The correct amendment to 45.2.1.129 through 45.2.1.132 seems to be to indicate these registers are specific to 100GAUI-n (n > 1), 200GAUI-n (n > 2) and 400GAUI-n (n > 4) until the Annex 120F taps counts, coefficient step sizes, and control scheme are finalized. At this point it seems likely a different set of registers would be needed for Annex 120F controls.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 If the details of C2C transmitter equalizer specifications are not determined at this meeting then add the following editors note with editorial licence saying:
 "The details of AUI chip-to-chip transmit equalization have not yet been finalized. The actual amendment to 45.2.1.129 through 45.2.1.132 is likely to be to indicate these registers are specific to 100GAUI-n (n > 1), 200GAUI-n (n > 2) and 400GAUI-n (n > 4). When the Annex 120F taps counts, coefficient step sizes, and control scheme are finalized it is likely a different set of registers will be needed for Annex 120F controls."
 If they are then, if necessary, add appropriate registers in Clause 45.
 See also comment 59

Cl 120G SC 120G.3.2 P 224 L 44 # 97
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status D
 Near end ESMW is TBD
 SuggestedRemedy
 Replace TBD with 0.175 UI see ghiasi_3ck_01_0320
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is expected at the March meeting.
 For task force discussion.

Cl 120G SC 120G.3.2 P 224 L 46 # 98
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status D
 Near-end eye height is TBD
 SuggestedRemedy
 Replae TBD with 50 mV see ghiasi_3ck_01_0320
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is expected at the March meeting.
 For task force discussion.

Cl 120G SC 120G.3.2 P 224 L 47 # 99
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type TR Comment Status D
 Far end ESMW is TBD
 SuggestedRemedy
 Replace TBD with 0.175 UI see ghiasi_3ck_01_0320
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is expected at the March meeting.
 For task force discussion.

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Cl **120G** SC **120G.3.2** P **224** L **44** # **100**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 Far-end eye height is TBD
SuggestedRemedy
 Replace TBD with 20 mV see ghiasi_3ck_01_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is expected at the March meeting.
 For task force discussion.

Cl **120G** SC **120G.3.3.2** P **227** L **19** # **103**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 Far-end eye height is TBD
SuggestedRemedy
 Replace TBD with 20 mV see ghiasi_3ck_01_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is expected at the March meeting.
 For task force discussion.

Cl **120G** SC **120G.3.3.2** P **227** L **15** # **101**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **X**
 Farend ESMW is TBD
SuggestedRemedy
 Replace TBD with 0.175 UI see ghiasi_3ck_01_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is anticipated at the March meeting.
 For task force review.

Cl **120G** SC **120G.3.4.1** P **229** L **40** # **104**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 ESMW is TBD
SuggestedRemedy
 Replace TBD with 0.12 UI see ghiasi_3ck_01_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is anticipated at the March meeting.
 For task force review.

Cl **120G** SC **120G.3.3.2** P **227** L **16** # **102**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **X**
 Farend EW is TBD
SuggestedRemedy
 Replace TBD with 0.175 UI see ghiasi_3ck_01_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is anticipated at the March meeting.
 For task force review.

Cl **120G** SC **120G.3.4.1** P **229** L **46** # **105**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 Eye height is TBD
SuggestedRemedy
 Replae TBD with 15 mV see ghiasi_3ck_01_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is anticipated at the March meeting.
 For task force review.

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Cl **120G** SC **120G.3.4.1** P **229** L **47** # **106**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 Eye width is TBD
SuggestedRemedy
 Replace TBD with 0.12 UI see ghiasi_3ck_01_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 A presentation related to this comment is anticipated at the March meeting.
 For task force review.

Cl **120G** SC **120G.4.2** P **232** L **9** # **116**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 TP4 need its own reference receiver table
SuggestedRemedy
 Create a new table that references table of gDC/gDC2 for TP4. In the new table
 DFE normalized coefficient $b1_{max}=0.15$, $b[2-4]_{max}=0.05$ and $n0=8.37e-9$
 Proposed Response Response Status **W**
 PROPOSED REJECT.
 A new table is only required if there is more than minor differences from Table 120G-9.

Cl **120G** SC **120G.4.2** P **232** L **9** # **117**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 TP5 need its own reference receiver table
SuggestedRemedy
 Create a new table that references table of gDC/gDC2 for TP4. In the new table
 DFE normalized coefficient $b1_{max}=0.3$, $b[2-4]_{max}=0.08$ and $n0=8.37e-9$
 Proposed Response Response Status **W**
 PROPOSED REJECT.
 TP5 is not specified for C2M in Annex 120G.

Cl **120G** SC **120G.3.1.2** P **222** L **2** # **119**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **TR** Comment Status **D**
 RLCD return loss can be improved
SuggestedRemedy
 RLCD=30-30*f/25.78 dB, from 10 MHz to 12.89 GHz
 RLCD=15 dB 12.89 to 53 GHz
 See ghiasi_3ck_03_0320
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 [Editor's note: The subclause was changed from 120G.3.4.1 to 120G.3.1.2.]

The comment relates to common-mode to differential return loss" (RLCD) for the host output as specified in Table 120G-1 and 120G.3.1.2.

The comment does not provide a justification for improving the RLCD.

A presentation related to this comment is anticipated at the March meeting.

For task force discussion of the proposed changes.

The reference in Table 120G-1 for RLDC is incorrect. Change "120G.3.1.3" to "120G.3.1.2".

Also, for consistency throughout 802.3ck...

In Table 120G-1 and beneath Equation (120G-2)
 Change: "Common to differential mode return loss"
 To: "Common-mode to differential return loss"

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Cl 120G SC 120G.3.4 P 229 L 15 # 124

Ghiasi, Ali Ghiasi Quantum/Inphi

Comment Type TR Comment Status D

RLCD return loss can be improved

SuggestedRemedy

RLCD=30-30*f/25.78 dB, from 10 MHz to 12.89 GHz
 RLCD=15 dB 12.89 to 53 GHz
 See ghiasi_3ck_03_0320

Proposed Response Response Status W

PROPOSED REJECT.

The comment relates to common-mode to differential return loss" (RLCD) for the module input as specified in Table 120G-7 by reference Equation (120G-2).

The comment does not provide a justification for improving the RLCD.

A presentation related to this comment is anticipated at the March meeting.

The same change is being proposed by comment #119 for Equation (120G-2).

For task force discussion of the proposed changes.

However, reference in Table 120G-7 for RLDC is incorrect. Change "120G.3.1.3" to "120G.3.1.2".

Also, for consistency throughout 802.3ck...

In Table 120G-8...

Change: "Common to differential mode conversion return loss"
 To: "Common-mode to differential return loss"

Cl 120G SC 120G.3.2 P 224 L 52 # 125

Ghiasi, Ali Ghiasi Quantum/Inphi

Comment Type TR Comment Status D

RLCD return loss can be improved

SuggestedRemedy

RLCD=30-30*f/25.78 dB, from 10 MHz to 12.89 GHz
 RLCD=15 dB 12.89 to 53 GHz
 See ghiasi_3ck_03_0320

Proposed Response Response Status W

PROPOSED REJECT.

The comment relates to common-mode to differential return loss" (RLCD) for the module output as specified in Table 120G-3 by reference to Equation (120G-2).

The comment does not provide a justification for improving the RLCD.

A presentation related to this comment is anticipated at the March meeting.

For task force discussion of the proposed changes.

The same change is being proposed by comment #119 for Equation (120G-2).

The reference in Table 120G-3 for RLDC is incorrect. Change "120G.3.1.3" to "120G.3.1.2".

Also, for consistency throughout 802.3ck...

In Table 120G-1...

Change: "Common-mode to differential mode return loss"
 To: "Common-mode to differential return loss"

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Cl 120G SC 120G.4.2 P 232 L 39 # 142

Dawe, Piers Mellanox

Comment Type TR Comment Status D (IR)

Should account for scope noise as TDECQ does.

SuggestedRemedy

Allow RSSing out the scope noise (as done in TDECQ) if it's significant.

Proposed Response Response Status W

PROPOSED REJECT.

[The proposed change in the comment does not contain sufficient detail to understand the specific changes that satisfy the commenter.]

The TDECQ method inferred in the suggested remedy may be found in IEEE 802.3-2018 Section 8 121.8.5.3. The scope noise term sigma_s is discussed at the top of pages 133 and 136. It is not clear how this would be incorporated into the eye opening measurement in 102G.4.2.

The suggested remedy does not provide sufficient detail to implement.

For task force discussion.

Cl 120F SC 120F.3.1 P 203 L 32 # 144

Dawe, Piers Mellanox

Comment Type TR Comment Status D TX FIR c(-3)

The third precursor has only minor value for "28 dB" channels, so I don't expect it will be worthwhile for "20 dB" channels, yet it adds complexity to the silicon and the tuning. This is not KR or CR, it should be done with simpler silicon, like C2M.

SuggestedRemedy

Remove the third precursor.

Proposed Response Response Status W

PROPOSED REJECT.

The following presentation shows an improvement due to c(-3) of 0.1 to 0.8 dB in COM for channels with COM near 3 dB for various channels.
http://www.ieee802.org/3/ck/public/adhoc/mar04_20/sun_3ck_adhoc_01_030420.pdf

Removing the c(-3) would result in marginal channels failing or putting more burden on the receiver.

Cl 120F SC 120F.3.1 P 203 L 38 # 151

Dudek, Mike Marvell

Comment Type T Comment Status D

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.3.2.3 P 207 L 5 # 156

Li, Mike Intel

Comment Type TR Comment Status D

Np TBD

SuggestedRemedy

Change it to 18 (length of TX pre-taps + RX DFE taps+main tap)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

For task force discussion.

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Cl 162 SC 162.11.7 P 160 L 27 # 161

Palkert, Tom

Molex

Comment Type T Comment Status D LATE

One sided noise spectral density for passive copper cables was changed from 8.2x10-9 to 1x10-8. This went too far causing adverse impacts on COM results.

SuggestedRemedy

Change One-sided noise spectral density from to 1x10-8 to 1x10-9. (Supporting presentation)

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the task force review was closed.

The comment does not provide sufficient evidence to support the proposed changes.

For task force discussion.

Cl 162 SC 162.11.7 P 160 L 6 # 162

Palkert, Tom

Molex

Comment Type T Comment Status D LATE

Need value for SNRtx

SuggestedRemedy

Make SNRtx = 33dB (See supporting presentation)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

This comment was received after the task force review was closed.

For task force discussion.

Cl 162 SC 162.9.4.5 P 156 L 14 # 163

Palkert, Tom

Molex

Comment Type T Comment Status D LATE

ERL measurement should not be required for high values of COM

SuggestedRemedy

Add sentence 'If COM is greater than 4 dB the ERL limit does not apply

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the task force review was closed.

The comment does not provide sufficient evidence to support the proposed changes.

For task force discussion.

Cl 162 SC 162.5 P 135 L 18 # 164

Palkert, Tom

Molex

Comment Type T Comment Status D LATE

One way delay thru medium of 14ns is insufficient for DAC delay times.

SuggestedRemedy

Change value back to 20 ns

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the task force review was closed.

The comment does not provide sufficient evidence to support the proposed changes.

For task force discussion.