Cl **120G**   *SC* **120G.3.1**   *P* **231**   *L* **33**   # 32

Brown, Matt   Huawei

Comment Type **T**   *Comment Status* **A**   CM noise, PP voltage, RLCC

The editor's note written in D1.0 indicates that the specified values for host output AC CM noise, PP output voltage, and RLCC require confirmation. No proposals to change the specified values have been submitted.

SuggestedRemedy

Remove the editor's note.

Response   *Response Status* **C**

ACCEPT.

Cl **120G**   *SC* **120G.3.2**   *P* **234**   *L* **30**   # 126

Ran, Adee   Intel

Comment Type **ER**   *Comment Status* **A**   TP4 AC CM noise

(Addressing editor's note requiring confirmation)
Editor's note indicates that AC common-mode specification needs confirmation. It has not been confirmed that the existing limit of 17.5 mV RMS is obtainable, but there is no consensus on another value.

Work is planned to refine the measurement method to allow separation of different sources of common mode signal and fine-tuned specification, but it will likely continue into later phases of P802.3ck.

This should not preclude progressing to WGB with the current method and limit.

SuggestedRemedy

Delete the editor's note.

Response   *Response Status* **C**

ACCEPT.

Cl **120G**   *SC* **120G.3.2**   *P* **234**   *L* **32**   # 35

Brown, Matt   Huawei

Comment Type **T**   *Comment Status* **A**   TP4 AC CM noise

The editor's note indicates that the value specified for the module output AC CM noise requires confirmation. No proposals to change the specified values have been accepted. However, it should be noted that there is ongoing discussion on this topic.

SuggestedRemedy

Remove the editor's note.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Resolve using the response to comment #126.

Cl **120G**   *SC* **120G.3.3**   *P* **237**   *L* **37**   # 138

Ran, Adee   Intel

Comment Type **T**   *Comment Status* **A**   TP4a/TPRLCD (bucket1)

For module output (120G.3.2, table 120G-3), host input (120G.3.3, table 120G-6), and module input (120G.3.4, table 120G-9), the reference subclause for "Common-mode to differential return loss (min)" is incorrect - 120G.3.1.2 discusses ERL.

There is one subclause that discusses RLCD, 120G.3.1.1, but it is currently specific to host output.

SuggestedRemedy

Change reference from 120G.3.1.2 to 120G.3.1.1 in the 3 tables.

Rephrase the text in 120G.3.1.1 to refer to both host and module, output and input.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
The reference to 120G.3.1.2 is incorrect and should be 120G.3.1.1.
By convention, it is common to refer to specifications for different test points without changing the text in the referenced subclause.
However the specification for module input and host input should be differential to common-mode (RLCD).
Also, the variable in 120G.3.1.1 should be RLDC, not RLCD).

For common-mode to differential return loss in Table 120G-3, change the reference to 120G.3.1.1.

In 120G.3.1.1, change RLCD to RLDC.

For Host Input and Module input change the parameter to differential to common-mode return loss and specify based on 120G.3.1.1.

Implement with editorial license.

Cl **162**   *SC* **162.9.3**   *P* **152**   *L* **30**   # 23

Brown, Matt   Huawei

Comment Type **T**   *Comment Status* **A**   TX RLCD

In Table 162-10, the specified value for transmitter common-mode to differential mode return loss is TBD.

SuggestedRemedy

Provide a value or equation and update PICS.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Resolve using the response to comment #118.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **162**
SC **162.9.3**

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Cl **162**	*SC* **162.9.3**	*P* **152**	*L* **30**	# 118

Ran, Adee — Intel

Comment Type **TR**　*Comment Status* **A**　　*TX RLCD*

(addressing TBD)
Tx CM to differential return loss refers to 92.8.3.3 with equation TBD.

In clause 92 the RLCD of Tx and Rx have the same specifications - eq (92–2) in 92.8.3.3 and eq (92–21) in 92.8.4.3, respectively, which are identical; and there is no RLCD for cable assembly.

The conversion loss specifications may need more work, but for the purpose of technical completeness, it is suggested to use the same equation used for the cable assembly, since in both cases the measurement involves mated connectors and results should be comparable.

SuggestedRemedy

Add a subclause for Tx differential to common mode return loss, with equation identical to equation (162–9), or point to (162–9).

Response　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a subclause for Tx common-mode to differential return loss, with equation identical to equation (162–9).

Implement with editorial license.

Cl **162**	*SC* **162.9.4**	*P* **158**	*L* **16**	# 24

Brown, Matt — Huawei

Comment Type **T**　*Comment Status* **A**　　*RX RLCD*

In Table 162-13, the specified value for receiver differential to common-mode return loss is TBD

SuggestedRemedy

Provide a value or equation and update PICS.

Response　　*Response Status* **C**

ACCEPT IN PRINCIPLE.
Resolve using the response to comment #119.

Cl **162**	*SC* **162.9.4**	*P* **158**	*L* **16**	# 119

Ran, Adee — Intel

Comment Type **TR**　*Comment Status* **A**　　*RX RLCD*

(addressing TBD)
Rx differential to common-mode (conversion) input return loss refers to 92.8.4.3 with value TBD.

In clause 92 the RLCD of Tx and Rx have the same specifications - eq (92–2) in 92.8.3.3 and eq (92–21) in 92.8.4.3, respectively, which are identical; and there is no RLCD for cable assembly.

The conversion loss specifications may need more work, but for the purpose of technical completeness, it is suggested to use the same equation used for the cable assembly, since in both cases the measurement involves mated connectors and results should be comparable.

As an alternative consider removing this specification (the Rx owns its performance).

SuggestedRemedy

Add a subclause for Rx differential to common mode return loss, with equation identical to equation (162–9), or point to (162–9).

Response　　*Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement the suggested remedy with editorial license.
Also, add "(min)" to the end of the parameter name.

Cl **162**	*SC* **162.11**	*P* **162**	*L* **36**	# 91

Haser, Alex — Molex

Comment Type **E**　*Comment Status* **D**　　*withdrawn*

"Cable assembly supports… achievable cable length of at least 2 m"; spec is written around a 1.75 m cable

SuggestedRemedy

Change text to "…achievable cable length of at least 1.75 m"

Proposed Response　　*Response Status* **Z**

PROPOSED REJECT.
This comment was WITHDRAWN by the commenter.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **162**
SC **162.11**

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Cl **162**   *SC* **162.11**   *P* **162**   *L* **38**   # 92

Haser, Alex   Molex

Comment Type **E**   *Comment Status* **D**   *withdrawn*

"Cable assembly supports… achievable cable length of at least 2 m"; spec is written around a 1.75 m cable

SuggestedRemedy

Change text to "…achievable cable length of at least 1.75 m"

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.
This comment was WITHDRAWN by the commenter.

Cl **162**   *SC* **162.11**   *P* **162**   *L* **40**   # 93

Haser, Alex   Molex

Comment Type **E**   *Comment Status* **D**   *withdrawn*

"Cable assembly supports… achievable cable length of at least 2 m"; spec is written around a 1.75 m cable

SuggestedRemedy

Change text to "…achievable cable length of at least 1.75 m"

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.
This comment was WITHDRAWN by the commenter.

Cl **162**   *SC* **162.11.4**   *P* **165**   *L* **8**   # 101

Champion, Bruce   TE Connectivity

Comment Type **T**   *Comment Status* **R**   *CA RLCD*

Cable Assembly Diff-to-Common Mode Return loss is too tight for high volume production testing at the higher frequencies. Failures are occuring because of testing artifacts and not because of poor cable assemblies. A slight relaxation of the limit is requested to account for this.

SuggestedRemedy

It is recommended to use the following equation for this limit:

Return Loss(f) ≥ 22-10(f/26.56) for 0.05 ≤ f < 26.56
Return Loss(f) ≥ 19 - 7(f/26.56) for 26.56≤ f ≤ 40 GHz
See presentation

Response   *Response Status* **C**

REJECT.

This comment proposes a technical change to the draft that does not address technical completeness.

The following presentation was reviewed by the task force:
https://www.ieee802.org/3/ck/public/21_01/champion_3ck_02a_0121.pdf

There was no consensus on a single remedy. The commenter is encouraged to provide further evidence how system performance is impacted.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **162**
SC **162.11.4**

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Cl **162**   *SC* **162.11.6**   *P* **166**   *L* **37**   # 102

Champion, Bruce   TE Connectivity

Comment Type **T**   *Comment Status* **A**   *CA RLCC*

There is a disrepancy between what is specifed for the MTF CM-to-CM RL and the cable assembly CM-to-CM RL.

The MTF CM-to-CM RL limit is set to -3 dB. When MTFs designed close to this limit are used in cable assembly Tp1-Tp4 channels, the Tp1-Tp4 CM-to-CM RL will fail the -2 dB limit.

SuggestedRemedy

It is recommended to use the following equation to take into account the worst case MTF design.

Return Loss(f) ≥ 1.8 for 0.05 ≤ f ≤ 40

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

The following presentation was reviewed by the task force:
https://www.ieee802.org/3/ck/public/21_01/champion_3ck_01a_0121.pdf

Implement suggested remedy.

Cl **162D**   *SC* **162D.1.1**   *P* **283**   *L* **50**   # 10

Dudek, Mike   Marvell

Comment Type **E**   *Comment Status* **D**   *withdrawn*

There is an unfortunate page break in the middle of Table 162D-3

SuggestedRemedy

Adjust formatting so that this table is all on one page

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **163**   *SC* **163.9.2**   *P* **185**   *L* **28**   # 133

Ran, Adee   Intel

Comment Type **E**   *Comment Status* **D**   *withdrawn*

The editor's note states that "In Table 163–5, common-mode to common-mode return loss reference is not appropriate". But it is appropriate; comment #228 against D1.3 was referring to the frequency range of the test fixture's specification and did not request any change to this reference (the problem is in the response).

SuggestedRemedy

Delete the editor's note, without any change to the table.

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.
This comment was WITHDRAWN by the commenter.

Cl **163**   *SC* **163.9.3**   *P* **187**   *L* **41**   # 121

Ran, Adee   Intel

Comment Type **TR**   *Comment Status* **A**   *RX RLCD*

(addressing TBD)
Rx Differential to common-mode (conversion) input return loss refers to 93.8.1.4 with value TBD. This subclause uses equation (93-5) to define the limit.

The conversion loss specifications may need more work, but for the purpose of technical completeness, it is suggested to use a piecewise-linear equation similar to (93-5). Boundary lines are suggested to match the ones used in OIF CEI-112G-LR for the 53.125 GHz signaling frequency.

As an alternative consider removing this specification (the Rx owns its performance).

SuggestedRemedy

Add a new subclause for Rx differential to common mode return loss with the equation:

$RLdc(f) \geq 25-20*(f/fb)$ for $0.05 \leq f \leq fb/2$
$RLdc(f) \geq 15$ for $fb/2 < f \leq 40$
where f is the frequency in GHz and fb=53.125.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add a new subclause for RLCD
$RLcd(f) = 25-20*(f/fb)$ for $0.05 <= f <= fb/2$
$RLcd(f) = 15$ for $fb/2 < f <= 40$
where f is the frequency in GHz and fb=53.125.
Update PICS
Implement with editorial license.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **163**   Page 4 of 5
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed Z/withdrawn   *SC* **163.9.3**   2021-01-28 9:46:50 AM
SORT ORDER: Clause, Subclause, page, line

Cl **163**　　　*SC* **163.9.3**　　　　　*P* **187**　　　*L* **41**　　　　# 26

Brown, Matt　　　　　　　　　　Huawei

Comment Type　**T**　　　*Comment Status*　**A**　　　　　　*RX RLCD*

In Table 163-8, the specified value for receiver differential to common-mode return loss is TBD

SuggestedRemedy

Provide a value or equation and update PICS.

Response　　　　　*Response Status*　**C**

ACCEPT IN PRINCIPLE.
Resolve using response to comment #121

Cl **163**　　　*SC* **163.10**　　　　　*P* **190**　　　*L* **28**　　　　# 139

Ran, Adee　　　　　　　　　　Intel

Comment Type　**T**　　　*Comment Status*　**A**　　　　　*channel RLCD (CC)*

There is no specification for RLDC for the KR channel.

Without such specification, a channel can cause a strong common mode reflection signal that will be fed into the Tx - and since Tx RLCD/RLCC are not defined either, a differential or common mode signal can be reflected back without control.

The conversion loss specifications may need more work, but for the purpose of technical completeness, the channel RLDC from 162.11.4 can be used.

Also in missing 120F.

SuggestedRemedy

Add a new subclause for channel differential to common mode return loss, based on 162.11.4 with the same limits, with editorial license.

Apply similarly in 120F.

Response　　　　　*Response Status*　**C**

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

Cl **163**　　　*SC* **163.10.4**　　　　　*P* **192**　　　*L* **44**　　　　# 27

Brown, Matt　　　　　　　　　　Huawei

Comment Type　**T**　　　*Comment Status*　**A**　　　　　*channel ILDC*

The specified value for channel differential to common-mode conversion loss is TBD.

SuggestedRemedy

Provide a value or equation and update PICS.

Response　　　　　*Response Status*　**C**

ACCEPT IN PRINCIPLE.
Resolve using the response to comment #122

Cl **163**　　　*SC* **163.10.4**　　　　　*P* **192**　　　*L* **44**　　　　# 122

Ran, Adee　　　　　　　　　　Intel

Comment Type　**TR**　　　*Comment Status*　**A**　　　　　*channel ILDC*

(addressing TBD)
For the KR PHY, the channel "differential to common-mode conversion loss of TP0 and TP5" is TBD.

For the CR PHY this parameter is specified in 162.11.5 as "The difference between the cable assembly differential to common-mode conversion loss and the cable assembly insertion loss" with equation (162-10).

For the purpose of technical completeness, a similar equation can be used for KR.

SuggestedRemedy

Rewrite this subclause based on 162.11.5, substituting "TP0 to TP5 channel" for "cable assembly" with editorial license.

Response　　　　　*Response Status*　**C**

ACCEPT IN PRINCIPLE.

Specify both ILDC and ILCD based on 162.11.5, substituting "TP0 to TP5 channel" for "cable assembly". Implement with editorial license.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **163**
SC **163.10.4**

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