Cl **120F** *SC* **120F.4.2** *P* **211** *L* **26** # 90

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL(min)=14.5 dB

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **120G** *SC* **120G.3.1** *P* **221** *L* **23** # 118

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL=10.5 dB, see ghiasi_3ck_03_0320

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **120G** *SC* **120G.3.1.3** *P* **222** *L* **33** # 10059

Dudek, Mike — Marvell

Comment Type **E** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 120G.3.1.3 - Pg 215 - ln 25]

This section labelled Host output effective return loss is referenced by the Module output test, the Host input test and the module input test.

SuggestedRemedy

Either add separate sections for the module output ERL test or broaden the title and text of this section to include the other points. I think it may be better to have two sections one for the Host tests (using the HCB) and one for the Module tests (using the MCB).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Create a new ERL subclause for each of the following: host input, module input, and module output using 120G.3.1.3 as a template. Update references appropriately.

Implement with editorial license.

Cl **120G** *SC* **120G.3.1.3** *P* **222** *L* **36** # 10071

Wu, Mau-Lin — MediaTek

Comment Type **T** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 120G.3.1.3 - Pg 215 - ln 28]

In the paragraph of "Host output effective return loss", the sentence of "The value of T_fx is twice the delay associated with the TP1a test fixture being used" is NOT appropriate because the section of 120G.3.1.3 is used not only for Host output ERL, but also Module output ERL, Module input ERL, and Host input ERL. Based on this, the current description is not appropriate.

SuggestedRemedy

The sentence of "The value of T_fx is twice the delay associated with the TP1a test fixture being used" shall be changed as "The value of T_fx is twice the delay associated with the specific test fixture being used."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Resolve using the response to #10057.

Cl **120G** *SC* **120G.3.1.3** *P* **222** *L* **37** # 19

Sun, Junqing — Credo Semiconductor

Comment Type **TR** *Comment Status* **A** *ERL*

Nb is defined in Table 120G-9

SuggestedRemedy

Chang to "in Table 120G-9"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #80.

Cl **120G** *SC* **120G.3.1.3** *P* **222** *L* **37** # 10057

Dudek, Mike — Marvell

Comment Type **T** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 120G.3.1.3 - Pg 215 - ln 29]

The test fixture delay should be clarified so that the connector is not included in the delay that is removed

SuggestedRemedy

Change "associated with the TP1a test fixture" to from the measurement point TP1a to the beginning of the TP1a test fixture MDI connector".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"The value of T_fx is twice the delay from the measurement point TP1a to the beginning of the host connector."

Add similar text for the module input and output.

Implement with editorial license.

Cl **120G** *SC* **120G.3.1.3** *P* **223** *L* **12** # 120

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL=10.5 dB, see ghiasi_3ck_03_0320

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **120G** *SC* **120G.3.2** *P* **224** *L* **53** # 121

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL=11.5 dB, see ghiasi_3ck_03_0320

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **120G** *SC* **120G.3.3** *P* **226** *L* **43** # 122

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL=10.5 dB, see ghiasi_3ck_03_0320

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **120G** *SC* **120G.3.3** *P* **226** *L* **60** # 10060

Dudek, Mike — Marvell

Comment Type **E** *Comment Status* **D** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 120G.3.3 - Pg 219 - ln 43]

The reference to ERL in table 120G-4 is directly to 120G.3.1.3 but there is a separate section 120G.3.3.1 (but it points directly to 120G.3.1.3 see other comment)

SuggestedRemedy

Either delete section 120G.3.3.1 or change the reference in table 120G-4 to 120G.3.3.1

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **120G** SC **120G.3.4** P **229** L **43** # 123

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL=11.5 dB, see ghiasi_3ck_03_0320

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **162** SC **162.9.3** P **146** L **27** # 10003

Mellitz, Richard — Samtec

Comment Type **TR** *Comment Status* **R** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 162.9.3 - Pg 139 - ln 27]

ERL of 11 dB seems to capture most of posted channel data.

SuggestedRemedy

In table 162-8 change ERL(min) to 11 dB as suggested on slide 5 of mellitz_3ck_04_1119.

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **162** SC **162.9.3.4** P **151** L **21** # 10009

Mellitz, Richard — Samtec

Comment Type **TR** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 162.9.3.4 - Pg 144 - ln 26]

The relation between Pmax/Vf and ERL has not been established for this data rate

SuggestedRemedy

Change line 36 to ERL >= 11 dB. Change TBD parameters in table 162-10 beta_x, rho_x, N, and N_bx to 2.4 GHz, 0.3, 1000 UI, and 12 UI respectively as suggested on slide 6 of mellitz_3ck_04_1119.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #80.

Cl **162** SC **162.9.3.4** P **151** L **26** # 128

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **A** *ERL*

Nbx and ERL, TBD, Bx, N, Rho are TBDs

SuggestedRemedy

Nbx=12, ERL =11 dB, Bx=2.3047e9, Bx=0.19, and N=300
See ghiasi_3ck_03_0320

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #80.

Cl **162** SC **162.9.4** P **152** L **14** # 10010

Mellitz, Richard — Samtec

Comment Type **TR** *Comment Status* **R** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 162.9.4 - Pg 145 - ln 15]

ERL of 11 dB seems to capture most of posted channel data as suggested in slide 5 mellitz_3ck_04_1119

SuggestedRemedy

Change ERL min to 11 dB

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **162** SC **162.9.4** P **152** L **15** # 129

Ghiasi, Ali — Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL=11.0 dB, see ghiasi_3ck_03_0320

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **162** SC **162.9.4.5** P **156** L **14** # 10011

Mellitz, Richard Samtec

Comment Type **TR** *Comment Status* **R** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 162.9.4.5 - Pg 148 - ln 48]

ERL of 11 dB seems to capture most of posted channel data as suggested in slide 5 mellitz_3ck_04_1119

SuggestedRemedy

Change to "Receiver ERL at TP3 shall be greater than or equal to 11dB"

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **162** SC **162.9.4.5** P **156** L **15** # 131

Ghiasi, Ali Ghiasi Quantum/Inphi

Comment Type **TR** *Comment Status* **R** *ERL*

ERL is TBD

SuggestedRemedy

ERL=11.0 dB, see ghiasi_3ck_03_0320

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **162** SC **162.11.3** P **157** L **11** # 10013

Mellitz, Richard Samtec

Comment Type **TR** *Comment Status* **R** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 162.11.3 - Pg 150 - ln 8]

ERL of 13.5 dB seems to capture most of posted channel data as suggested in slide 3 mellitz_3ck_04_1119

SuggestedRemedy

Change Minimum cable assembly ERL to 13.5 dB in table 162-13.

Response *Response Status* **C**

REJECT.

See resolution to comment #80.

Cl **162** SC **162.11.3** P **157** L **43** # 10012

Mellitz, Richard Samtec

Comment Type **TR** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 162.11.3 - Pg 150 - ln 39]

ERL of 13.5 dB seems to capture most of posted channel data as suggested in slide 3 mellitz_3ck_04_1119

SuggestedRemedy

Change line 39 to Cable assembly ERL at TP1 and at TP4 shall be greater than or equal to 13.5 dB for cable assemblies that have a COM less than 4 dB. Also change TBD parameters in table 162-14 beta_x, rho_x, N, and N_bx to 2.4 GHz, 0.21, 3000 UI, and 12 UI respectively as suggested on slide 4 of mellitz_3ck_04_1119.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #80.

Cl **163** *SC* **163.9.1.1** *P* **176** *L* **27** # 80

Healey, Adam — Broadcom Inc.

Comment Type **T** *Comment Status* **A** *ERL*

As observed in healey_3ck_01a_0120, effective return loss (ERL), as it is currently defined, does not adequately constrain the re-reflection interference seen by the receiver. This is arguably its primary function and the method/parameters need to be re-evaluated.

SuggestedRemedy

Modify parameters and/or method to achieve better correlation to re-reflection interference and set the limit accordingly. Similar change would apply to Annex 120F.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Based on January strawpoll #3 (see below), there was consensus to revisit the ERL methodology based on the presentation referenced in the comment.

The strawpoll details may be found in the meeting minutes here:
http://www.ieee802.org/3/ck/public/20_01/index.html

The following presentations were reviewed by the task force:
http://www.ieee802.org/3/ck/public/20_03/mellitz_3ck_01b_0320.pdf
http://www.ieee802.org/3/ck/public/20_03/kochuparambil_3ck_01_0320.pdf

No change to the ERL methodology is required. More analysis is required to determine some parameter values and ERL values.

Implement the parameter values summarized on slide 3 of kochuparambil_3ck_01a_0320 with editorial license using slides 4 to 17 as a guide.

The ERL values will remain TBD.

Cl **163** *SC* **163.9.1.1** *P* **176** *L* **27** # 10069

Wu, Mau-Lin — MediaTek

Comment Type **T** *Comment Status* **D** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 163.9.2.1 - Pg 171 - ln 5]

Current ERL calculation doesn't consider DFE "floating-tap". The concern is the ERL is very sensitive across "N_bx" boundary as raised in wu_3ck_02a_1119. We need to enhance ERL calculation methodology.

SuggestedRemedy

Modify ERL as capable of DFE floating tap as proposed in wu_3ck_01_0120. The same methodology shall be applied to CR TX, CR RX, KR TX, & KR RX ERL calculations in the following subclauses.
162.9.3.4 Transmitter effective return loss (ERL) 162.9.4.5 Receiver ERL
163.9.2.1 Transmitter ERL
163.9.3 Receiver characteristics

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **163** *SC* **163.9.1.1** *P* **176** *L* **30** # 10020

Mellitz, Richard — Samtec

Comment Type **TR** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 163.9.2.1 - Pg 171 - ln 5]

Nbx=Nb has been shown not correlate well to COM in mellitz_3ck_adhoc_02_100219.
Nbx=24 seems to be a better choice

SuggestedRemedy

Change "Nbx is set to the value of Nb in Table 163-10" to "Nbx is set to 24 UI"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #80.

Cl **163** *SC* **163.9.1.1** *P* **176** *L* **34** # 10021

Mellitz, Richard Samtec

Comment Type **TR** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 163.9.2.1 - Pg 171 - ln 10]

Table 163-3 was developed for a different data rate and reference package assumption.
Recommendation were proposed in mellitz_3ck_01_1119 slide 7.

SuggestedRemedy

In Table 163-3 set: beta_x=2.4 GHz , rho_x=.3

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This should be for Table 163-6 instead of Table 163-3.

See resolution to comment #80.

Cl **163** *SC* **163.9.2.1** *P* **178** *L* **52** # 10022

Mellitz, Richard Samtec

Comment Type **TR** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 163.9.3.1 - Pg 171 - ln 44]

Nbx=Nb has been shown not correlate well to COM in mellitz_3ck_adhoc_02_100219.
Nbx=24 seems to be a better choice

SuggestedRemedy

Change "Nbx is set to the value of Nb in Table 163-10" to "Nbx is set to 24 UI"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #80.

Cl **163** *SC* **163.10.2** *P* **184** *L* **24** # 10024

Mellitz, Richard Samtec

Comment Type **TR** *Comment Status* **A** *ERL*

[Comment resubmitted from Draft 1.0. Subcl. 163.10.2 - Pg 177 - ln 13]

Table 163-11 was developed for a different data rate and reference package assumption.
Recommendation were proposed in mellitz_3ck_01_1119 slide 5.

SuggestedRemedy

In Table 163-11 set: beta_x=2.4 GHz , rho_x=.19

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #80.