Cl **120F** *SC* **120F.3.1** *P* **205** *L* **10** # 36

Ben Artsi, Liav — Marvell Technology

Comment Type **T** *Comment Status* **D** *bucket2*

TP0a has been shown to be extremely difficult to be used as a point to measure Specified Tx compliance parameters.

SuggestedRemedy

Follow the same remedy as for 163.9.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

!!! 2020/7/6 New response. !!!

Resolve using the response to comment #33.

Cl **120F** *SC* **120F.3.1** *P* **205** *L* **20** # 59

Mellitz, Richard — Samtec

Comment Type **TR** *Comment Status* **D** *bucket2*

Vf(min) should align with Av in COM table 120F-6 since Nv=200

SuggestedRemedy

Replace TBD for Vf(min) with V(fmin)=0.413

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

!!! 2020/7/7 New response. !!!

Resolve using the response to comment #33.

The Vf (min.) is defined on slide 9 of heck_3ck_01a_0720.

Cl **120F** *SC* **120F.3.1** *P* **205** *L* **21** # 12

Wu, Mau-Lin — Mediatek

Comment Type **T** *Comment Status* **D** *bucket2*

Linear fit pulse peak (min) is 'TBD x v_f'

SuggestedRemedy

Change Linear fit pulse peak (min) from 'TBD x v_f' to '0.55 x v_f'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

!!! 2020/7/6 New response. !!!

Resolve using the response to comment #33.

The linear fit pulse peak (min.) specification is defined on slide 9 of heck_3ck_01a_0720.

Cl **120F** *SC* **120F.3.2.3** *P* **208** *L* **53** # 170

Ran, Adee — Intel

Comment Type **T** *Comment Status* **D** *bucket2*

Addressing TBD in test setup requirements.

"The return loss of the test setup in Figure 93C–4 measured at TP5 replica towards TPt meets the
requirements of Equation (TBD)."

The test fixture can be considered as a channel that the transmitter is connected to. As such, it should meet the ERL requirements of the channel. There are no return loss requirements for a channel.

SuggestedRemedy

Change the quoted sentence to

"The effective return loss of the test setup in Figure 93C–4 measured at TP5 replica towards TPt meets the
requirements of 120F.4.3."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #11078.

Cl **120G** *SC* **120G.3.1** *P* **221** *L* **17** # 173

Ran, Adee Intel

Comment Type **T** *Comment Status* **D** *bucket2*

Addressing EMSW which is TBD.

EMSW is not a meaningful measure for a receiver with DFE, since the eye's shape depends on the delay and the transfer function of DFE's feedback path. A DFE mathematical model can have arbitrary delay and transfer function so the value of EMSW (or any eye width parameter) is not well defined.

Furthermore, the DFE typically optimizes the eye height, but not necessarily the eye width (whihc requires equalizing the transitions). Trying to optimize for both EW and EH with a single DFE has been done in early versions of PCI express, it can be a futile exercise, and it is not what a real receiver will do anyway.

As the experience with COM has shown, for lossy channels and DFE receivers the equalized EH is a good enough figure of merit. Real receivers do not care about asymmetry caused by the DFE.

It is suggested to remove EMSW, at least until evidence of the need for it and a robust measurement method is presented.

SuggestedRemedy

Remove the EMSW specification in this subclause, and also in 120G.3.2 and Table 120G–5 and Table 120G–8.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #231.

Cl **163** *SC* **163.9.1** *P* **177** *L* **42** # 58

Mellitz, Richard Samtec

Comment Type **TR** *Comment Status* **D** *bucket2*

Vf(min) should align with Av in COM table 163-10 since Nv=200

SuggestedRemedy

Replace 0.4 with 0.413

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

[Editor's note: Change page from 148.]

!!! 2020/7/7 New response. !!!

Resolve using the response to comment #33.

The Vf (min.) is defined on slide 9 of heck_3ck_01a_0720.

Cl **163** *SC* **163.9.1** *P* **177** *L* **45** # 30

Wu, Mau-Lin Mediatek

Comment Type **T** *Comment Status* **D** *bucket2*

The "Linear fit pulse peak (min.)" in Table 163-5 is still 'TBD x v_f'.

SuggestedRemedy

Propose to change 'TBD x v_f' to '0.65 x v_f'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

!!! 2020/7/6 New response. !!!

Resolve using the response to comment #33.

The linear fit pulse peak (min.) specification is defined on slide 9 of heck_3ck_01a_0720.

Cl **163** *SC* **163.9.1.2** *P* **178** *L* **52** # 153

Ran, Adee Intel

Comment Type **T** *Comment Status* **D** *bucket2*

(Cross-clause)
The test feature normative insertion loss requirements are not realistic for real devices, especially with multiple lanes.

Also, as presented in http://www.ieee802.org/3/ck/public/20_01/mellitz_3ck_01a_0120.pdf, the variations allowed within the recommendations create significant variations in results of compliance parameters. This is obvisouly not a viable methodology anymore.

It is suggested to replace the test fixture requirements with an explicit equation describing s-parameters of a transmission line with 4 dB IL (using equation 93A–14 with appropriate parameters) such that TP0a is well-defined, and create informative specifications at this TP0a. Alternatively, informative specifications can be given at TP0.

Normaitve requirements should use a new methodology based on measued or extracted test fixture s-parameters.

Also applies to Annex 120F.

SuggestedRemedy

A presentation with more details will be provided.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

!!! 2020/7/7 New response. !!!

This comment applies to both 163 and 120F.

The commenter is referring to the following presentation:
http://www.ieee802.org/3/ck/public/20_07/benartsi_3ck_01_0720.pdf

The new test point TP0v and related test fixture are adopted per the response to comment #33.

It is not necessary to retain the TP0a test fixture specification as an example or informative specification. Replace the specification of TP0a and the TP0-TP0a test fixture with TP0v and the TP0-TP0v test fixture.

Cl **163** *SC* **163.9.1.2** *P* **178** *L* **52** # 31

Wu, Mau-Lin Mediatek

Comment Type **T** *Comment Status* **D** *bucket2*

The insertion loss of TP0a test fixture is still keep as between 1.2 dB and 1.6 dB at 26.56 GHz. It may be critial for the state-of-art PCB technology to achieve this small IL value.

SuggestedRemedy

Propose to change '1.2 dB and 1.6 dB at 26.56 GHz' to '2.4 dB and 3.2 dB at 26.56 GHz'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

!!! 2020/7/6 New response !!!

Resolve using the response to comments #33 and #153, which replace TP0a with TP0v.