

302.3ck D2.2 100/200/400 Gb/s Electrical Interfaces Task Force 2nd Working Group recirculation ballot co

CI 120F SC 120F.3.1 P 242 L 13 # 63

Mellitz, Richardd Samtec

Comment Type TR Comment Status D C CM voltage (CC) (bucket2)

Common mode measurements are not well enough defined to precisely specify CM voltage at TP0v. In addition, all aspects of a common mode voltage may not be detrimental as illustrated in mellitz_3ck_adhoc_01_090821.

SuggestedRemedy

Remove item "AC common-mode RMS output voltage (max)"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The resolution to closed comment #50 provides an alternate parameter to constrain AC common-mode for KR and C2C TX.

Resolve using the response to comment #59.

CI 120G SC 120G.3.1 P 261 L 13 # 60

Mellitz, Richardd Samtec

Comment Type TR Comment Status D C CM voltage (CC) (bucket2)

Common mode measurements are not well enough defined to precisely specify CM voltage at TP1a. In addition, all aspects of a common mode voltage may not be detrimental as illustrated in mellitz_3ck_adhoc_01_090821.

SuggestedRemedy

Replace item "AC common-mode RMS output voltage (max)" with "Unrelated AC common mode SNR (min),
With "Peak fitted AC common mode (max) Pmax_ccm" using a value of 50 mV

Proposed Response Response Status W

PROPOSED REJECT.

The resolution to closed comment #59 indicates there was no consensus to make the proposed changes to C2M host output or module output.

Resolve using the response to comment #59.

[Editor's note: Changed page from 161 to 261.]

CI 120G SC 120G.3.2.1 P 264 L 6 # 61

Mellitz, Richardd Samtec

Comment Type TR Comment Status D C CM voltage (CC) (bucket2)

Common mode measurements are not well enough defined to precisely specify CM voltage at TP4. In addition, all aspects of a common mode voltage may not be detrimental as illustrated in mellitz_3ck_adhoc_01_090821.

SuggestedRemedy

Replace item "AC common-mode RMS output voltage (max)"
With "Peak fitted AC common mode (max) Pmax_ccm" using a value of 50 mV

Proposed Response Response Status W

PROPOSED REJECT.

The resolution to closed comment #59 indicates there was no consensus to make the proposed changes to C2M host output or module output.

Resolve using the response to comment #59.

CI 162 SC 162.9.3 P 170 L 24 # 62

Mellitz, Richardd Samtec

Comment Type TR Comment Status D C CM voltage (CC) (bucket2)

Common mode measurements are not well enough defined to precisely specify CM voltage at TP2. In addition, all aspects of a common mode voltage may not be detrimental as illustrated in mellitz_3ck_adhoc_01_090821.

SuggestedRemedy

Replace item "AC common-mode RMS output voltage (max)"
With "Peak fitted AC common mode (max) Pmax_ccm" using a value of 50 mV

Proposed Response Response Status W

PROPOSED REJECT.

The resolution to closed comment #59 indicates there was no consensus to make the proposed changes to CR TX.

Resolve using the response to comment #59.

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Cl 162 SC 162.9.3.1.1 P 172 L 8 # 23

Wu, Mau-Lin MediaTek Inc.

Comment Type TR Comment Status D TX Np (bucket2)

For the linear-fit procedure adopted for TX SNDR calculation, $N_p = 200$ shall be adopted, instead of $N_p = 29$. $N_p = 29$ was used for SNR_TX calibration in RITT test instead. Related rationale had been disclosed in previous contribution, wu_3ck_adhoc_01b_071421.pdf.

SuggestedRemedy

Change 'N_p = 29' to 'N_p = 200'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
The resolution to comment #50 changes N_p to 200.
Resolve using the response to comment #50.

Cl 162 SC 162.9.3.1.1 P 172 L 8 # 55

Hidaka, Yasuo Credo Semiconductor

Comment Type ER Comment Status D TX Np (bucket2)

N_p for TX SNDR in clause 162.9.3.1.1 was changed from 200 in D2.0 to 29 in D2.1. However, I cannot find any comment on D2.0 to change N_p for TX SNDR from 200 to 29. It seems that this was an editorial error to implement the resolution of comment #197 on D2.0 which was closed to change N_p for RX ITT from 15 to 29 in clause 162.9.4.3.3. I cannot find a record of consensus to change N_p for TX SNDR from 200 to 29 in clause 162.9.3.1.1.
So, I think N_p for TX SNDR in clause 162.9.3.1.1 should remain 200.

SuggestedRemedy

Change N_p for TX SNDR from 29 back to 200 on line 8 in page 172, clause 162.9.3.1.1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
The resolution to comment #50 changes the value of N_p to 200.
Resolve using the response to comment #50.

Cl 162 SC 162.9.3.1.2 P 173 L 3 # 25

Ran, Adeo Cisco

Comment Type TR Comment Status D TX Vf (bucket2)

The definition of the steady-state voltage is currently a pointer to 136.9.3.1.2 with essentially three exceptions: the fitted pulse is calculated by another procedure (162.9.3.1.2), and N_p and N_v are different. 136.9.3.1.2 itself is a simple definition of a sum of N_v values; there is no need for a reference to this definition, when all other things are exceptions.

What the reader is not told is that the required specification is with equalization turned off; this is written in 136.9.3.1.2 but as part of a normative requirement for the limits, which does not hold here (the values are different). One could interpret it as if it is required for all equalization settings (as implied by the text in 162.9.3.1.2), which is clearly not what we intend.

SuggestedRemedy

Change the first paragraph of 162.9.3.1.2 to the following:

The steady-state voltage v_f is defined as the sum of the linear fit pulse $p(1)$ through $p(M \times N_v)$ divided by M , measured with transmit equalizer set to preset 1 (no equalization). N_v is set equal to N_p . The linear fit procedure for obtaining p and the values of M and N_p are defined in 162.9.3.1.1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
The resolution to closed comment #50 provides updated text that resolves this comment.
Resolve using the response to comment #50.

Cl 162 SC 162.9.3.1.2 P 173 L 4 # 69

Healey, Adam Broadcom Inc.

Comment Type T Comment Status D TX Vf (bucket2)

Steady state voltage is measured at the output of a lossy host channel without equalization and its value will be larger for larger N_v (at least up to a point). Setting N_v to 200 may overestimate the amplitude that the receiver will actually see since that amplitude will only be realized when N_v consecutive identical symbols are transmitted. The number of consecutive identical symbols transmitted during normal operation is likely to be much lower. This suggests that the value of N_v should be lower so that the measured steady state voltage is closer to the amplitude the receiver might see in practice.

SuggestedRemedy

Change N_v for the Clause 162 steady-state voltage calculation to 29.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
The resolution to closed comment #50 retains the value of N_v to 200. Straw poll #3 indicated preference to use a value of 200 for N_v .
Resolve using the response to comment #50.

Cl 163 SC 163.9.2 P 207 L 43 # 64

Mellitz, Richardd

Samtec

Comment Type TR Comment Status D C CM voltage (CC) (bucket2)

Common mode measurements are not well enough defined to precisely specify CM voltage at TP0v. In addition, all aspects of a common mode voltage may not be detrimental as illustrated in mellitz_3ck_adhoc_01_090821.

SuggestedRemedy

Remove item "AC common-mode RMS output voltage (max)"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The resolution to closed comment #59 provides an alternate parameter to constrain AC common-mode for KR and C2C TX.

Resolve using the response to comment #59.

Cl 163 SC 163.9.2 P 208 L 12 # 68

Healey, Adam

Broadcom Inc.

Comment Type TR Comment Status D TX SNDR (CC) (bucket2)

The reference for the SNDR specification is 162.9.3.3 which specifies Np to be 29. Reflections from the test fixture can easily have a round-trip delay exceeding 25 (29-1-Dp) UI which will degrade the SNDR measurement. However, such reflections have no relationship to the quality of the transmitter under test. Also, the introduction of the ISI_RES specification in Draft 2.2 limits intersymbol interference and makes it unnecessary to consider it again in the SNDR measurement. The purpose of SNDR, as the name suggests, is to limit noise and distortion. Prior specifications have used and Np value of 200 to avoid including intersymbol interference in the result.

SuggestedRemedy

Change Np for the Clause 163 SNDR specification to 200.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The resolution to comment #50 changes the value of N_p to 200 in 162.9.3.3, which is referenced from the SNDR specification in Table 163-5.

[Editor's note: Changed page from 207 to 208.]