

P802.3dm D2.2 Asymmetrical Electrical Automotive Ethernet 2nd Working Group recirculation ballot comr

CI FM SC FM P15 L24 # 43

Simms, William

NVIDIA

Comment Type E Comment Status D EZ

Are both dj and dm Amendment 13? The Introduction describes this document as 'IEEE Std 802.3dm-20xx Amendment 13', but the title page of D2.2 gives 'Amendment 14'. The same paragraph also lists 'IEEE Std 802.3dj-20xx Amendment 13', so two amendments are numbered 13.

SuggestedRemedy

Make the amendment number in the Introduction agree with the title page and with the number assigned to 802.3dj and/or dm

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

3dm is Amendment 14 -
Change P15L36 to be Amendment 14

CI 45 SC 45.2.1.16.aaab P42 L36 # 33

Simms, William

NVIDIA

Comment Type E Comment Status D registers

Typo: In Table 45-19, bit 1.18.10 is described as '1 = PMA/PMD is able to perform MultiG+100M/100M+MultiGBASE-V1 ability' and '0 = PMA/PMD is able to perform MultiG+100M/100M+MultiGBASE-T1'

SuggestedRemedy

Either use ability for either state or remove ability from state 1

Proposed Response Response Status W

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

CI 45 SC 45.2.1.60f.1 P43 L5 # 23

Lo, William

Axonne Inc.

Comment Type E Comment Status D EZ

Font mismatch

SuggestedRemedy

Fix the fonts

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.1.244.1 P47 L8 # 38

Simms, William

NVIDIA

Comment Type T Comment Status D EZ

45.2.1.244.1 and 45.2.1.245.1 cite the interleave Infocfield as 191.5.2.4.5 and 191.5.2.5.4. 191.5.2.4.5 is the HS_PATH PHY capability field, and Table 191-7 shows that it carries only VendorSpecificData, Reserved and OAMen. InterleaverDepth appears only in Table 191-8, the LS_PATH field specified in 191.5.2.5.4, which is also the only subclause cited for PrecodeSel by 45.2.1.244.2 and 45.2.1.244.4. The reference to 191.5.2.4.5 therefore points at a field that does not contain the interleave setting.

SuggestedRemedy

Delete 191.5.2.4.5 from 45.2.1.244.1 and 45.2.1.245.1, leaving 191.5.2.5.4 as the Clause 191 reference.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.1.250a P48 L26 # 35

Simms, William

NVIDIA

Comment Type E Comment Status D EZ

Typo: Missing spaces in the Description column of the table for 7.5Gb/s. 5 Gb/s, and 2.5Gb/s

SuggestedRemedy

Insert a space before 'Gb/s' in the Description column of bits 1.2318.6, 1.2318.5 and 1.2318.4.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 45 SC 45.2.1.250c P51 L1 # 34

Simms, William

NVIDIA

Comment Type E Comment Status D registers

Register 1.2320 is named 'link partner rate negotiation' and Table 45-212ac is captioned to match, but every bit in it is a link partner ability bit and the table is a bit-for-bit mirror of Table 45-212aa, the rate ability register. The negotiation register is 1.2319 and has a different structure. The present name invites a reader to look for negotiation results in 1.2320.

SuggestedRemedy

Rename register 1.2320 and Table 45-212ac to 'MultiGBASE-A PMA link partner rate ability', and update 45.2.1.250c and its subclauses.

Proposed Response Response Status W

PROPOSED ACCEPT.

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CI 45 **SC 45.2.3** **P 53** **L 20** # **3**

Wienckowski, Natalie IVN Solutions LLC; Ethernovia, Bosch

Comment Type **T** **Comment Status** **D** **EZ**

Registers 3.2322, 3.2323, and 2.2325 are not OAM registers.

SuggestedRemedy

Remove footnote "b" from these and replace with footnote "c". Add footnote c to read: This register applies to MultiGBASE-T1, 100M+MultiGBASE (-T1 and -V1), MultiG+100MBASE (-T1 and -V1), MultiGBASE-AT1, and MultiGBASE-AV1 PHYs.

Proposed Response **Response Status** **W**

PROPOSED ACCEPT.

CI 98 **SC 98.2.1.1.4** **P 63** **L 2** # **36**

Simms, William NVIDIA

Comment Type **E** **Comment Status** **D** **EZ**

Typo: missing 'the' in 'shall be within range of 0.5V...

SuggestedRemedy

Change 'within range of' to 'within the range of' in 98.2.1.1.4 and in rows DME10 and DME11 of the Clause 98 PICS.

Proposed Response **Response Status** **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add other missing articles.

Change: transmit signal at MDI shall be within range of 0.5 V ± 30% peak-to-peak.

To: the transmit signal at the MDI shall be within the range of 0.5 V ± 30% peak-to-peak.

CI 191 **SC 191.1.3** **P 72** **L 7** # **4**

Ran, Adeel Cisco Systems

Comment Type **T** **Comment Status** **D** **normal**

"normal operation" is described here as "not in a diagnostic test mode".

Test modes 5 and 7 descriptions include "Normal operation", and test mode 5 is followed by "(normal operation)" in 191.6.2.7 and 191.7.2.7, and the PICS also include "normal operation". These are apparently diagnostic modes (traffic cannot be sent), so there is some contradiction.

SuggestedRemedy

Either add "(other than test modes 5 or 7)" or change the definition in some other way. Alternatively, delete the indications of "normal operation" of the test modes in the indicated places.

Proposed Response **Response Status** **W**

PROPOSED ACCEPT IN PRINCIPLE.

In Tables 191-14 and 191-20: Change descriptions of Test mode 5 and Test mode 7: Test mode 5 becomes "Test mode 5 - PSD mask test mode."

Test mode 7 becomes "Transmit zero data pattern, as encoded by the PCS. This is for BER monitoring."

At 191.6.2.6, 191.6.2.7, and 191.7.2.7 delete "(normal operation)".

Changes to the PICS are unnecessary because term is used correctly, describing test mode operation "as in normal operation", not as "normal operation".

CI 191 **SC 191.1.3** **P 72** **L 11** # **5**

Ran, Adeel Cisco Systems

Comment Type **E** **Comment Status** **D** **EZ**

The new inserted "normal operation" paragraph separates the NOTE from the paragraph it is about (which uses the terms Leader and Follower).

SuggestedRemedy

Move the NOTE above the "normal operation" paragraph.

Proposed Response **Response Status** **W**

PROPOSED ACCEPT.

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CI 191 SC 191.1.3 P73 L 10 # 20

Tan, Yuxuan Motorcomm

Comment Type E Comment Status D block diagram

In Figure 191-35 -- Link Monitor state diagram, the value of pcs_data_mode is used to set the variable link_status. However, in Figure 191-3 -- PHY_S functional block diagram, pcs_data_mode is only passed to HS_TX PCS TRANSMIT, and not to LINK MONITOR.

SuggestedRemedy

Add an arrow to show the transfer of pcs_data_mode from PHY CONTROL to LINK MONITOR.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Make the change in Figure 191-3 and in Figure 191-28.

CI 191 SC 191.1.3 P74 L 10 # 21

Tan, Yuxuan Motorcomm

Comment Type E Comment Status D block diagram

In Figure 191-35 -- Link Monitor state diagram, the value of pcs_data_mode is used to set the variable link_status. However, in Figure 191-4 -- PHY_D functional block diagram, pcs_data_mode is only passed to LS_TX PCS TRANSMIT, and not to LINK MONITOR.

SuggestedRemedy

Add an arrow to show the transfer of pcs_data_mode from PHY CONTROL to LINK MONITOR.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 191 SC 191.1.3.2 P75 L 27 # 45

Wang, Frank Realtek Semiconductor Corp.

Comment Type E Comment Status D terminology

For consistency with other IEEE 802.3 clauses, the symbol size should be omitted from within the parentheses.

SuggestedRemedy

Change "RS-FEC(50,46,6)" to "RS-FEC(50,46)".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 191 SC 191.3.2.2 P89 L 38 # 44

Wang, Frank Realtek Semiconductor Corp.

Comment Type E Comment Status D EZ

Formatting

SuggestedRemedy

Turn off italics for the right bracket of "(5.625 x S)".

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 191 SC 191.4.2.2.15 P 117 L 1 # 6

Ran, Adeo Cisco Systems

Comment Type E Comment Status D CRC

"The CRC-6, shown by Equation (191-7), is the remainder of the division of the payload polynomial by the generator polynomial"

Equation 191-7 shows the polynomial, not the CRC-6.

SuggestedRemedy

Change to

"The CRC-6, is the remainder of the division of the payload polynomial by the generator polynomial g(x) defined by Equation (191-7)".

Proposed Response Response Status W

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

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CI 191 SC 191.4.2.2.15 P 117 L 12 # 7

Ran, Adeo Cisco Systems

Comment Type T Comment Status D CRC

The new figure show that the CRC generator is fed by zeros when the switch is in "CRCOut" position, but it is not clear when it is set to this position and for how long. The switch positions are discussed in 191.5.2.4.7 and in 192.4.2.4.9, but these are different generators.

SuggestedRemedy

Add the rules for setting the switch position, similarly to the text in 191.5.2.4.7 and 192.4.2.4.9.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add the following text on P117L8 after the sentence ending in "zero":

After initialization, the switch is set to CRCgen, as shown in Figure 191–25, and tx_RSmessage<0> through tx_RSmessage<269> are used to compute the CRC6 output. After all 270 bits have been processed, the switch is disconnected (setting CRCOut) and the six values stored in the delay elements are transmitted in the order illustrated, first S5, followed by S4, and so on, until the final value S0.

CI 191 SC 191.5.2.4.4 P 126 L 19 # 37

Simms, William NVIDIA

Comment Type E Comment Status D infoid

The sentence 'When loc_rcvr_status = OK the Infoid variable is set to loc_rcvr_status<5> = 1 and set to 0 otherwise' conflates the state variable with the Infoid bit that carries it, and sets a variable to an assignment. The same sentence appears in 191.5.2.5.3 on page 129 and in 192.4.2.4 on page 256.

SuggestedRemedy

Reword as: 'The Infoid bit loc_rcvr_status<5> shall be set to 1 when loc_rcvr_status = OK, and to 0 otherwise.' Apply the same change in all three places.

Proposed Response Response Status W

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot.

The CRG disagrees with commenter. A shall here would be duplicative of the shall defining loc_rcvr_status in the state diagram on page 132. The bit reflects the value of the loc_rcvr_status parameter.

P126L18 - state diagram on P135
P129L4 - state diagram on P135
P256L49 - state diagram on P266&267

CI 191 SC 191.5.2.6 P 130 L 26 # 8

Ran, Adeo Cisco Systems

Comment Type E Comment Status D EZ

"The follower sets timing_lock_OK to one when it has a stable transmit clock; otherwise, timing_lock_OK is set to zero. The setting of the timing_lock_OK value is implementation specific."

The first sentence defined the setting explicitly, so it can't be implementation specific.

SuggestedRemedy

Change to

"The follower sets timing_lock_OK to one when it has a stable transmit clock; otherwise, timing_lock_OK is set to zero. The definition of a stable transmit clock is implementation specific."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 191 SC 191.5.2.6 P 130 L 40 # 39

Simms, William NVIDIA

Comment Type T Comment Status D startup

In Table 191-9 the PHY_S (Leader) entry for 'Entry to SILENT state until en_follower_tx = 1 is transmitted' is given as an equation '20 - 0.384' in a column headed 'Maximum time (ms)'. Every other cell in the table states a single number. A reader has to evaluate the expression to get the limit, and it is not clear whether the intent is a subtraction or a range. Taking it as 19.616 ms makes the column total 50.000 ms exactly, which suggests subtraction was meant rather than expressing a range of 20 to 0.384

SuggestedRemedy

Replace '20 - 0.384' with the value 19.616, and if the relationship to the 0.384 ms COUNTDOWN interval is worth recording, state it in a note to the table.

Proposed Response Response Status W

PROPOSED REJECT.

The expression is intentional. Writing 20 - 0.384 shows the relationship, which a single value of 19.616 would not.

This was considered as comments #47 and #48 on D2.0 and no change was made.

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CI 191 SC 191.5.2.6.1 P 131 L 20 # 9

Ran, Adeo Cisco Systems

Comment Type E Comment Status D EZ

The font size of the text in this subclause is too small

SuggestedRemedy

Format as normal text.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 191 SC 191.6.2.5 P 149 L 42 # 32

Simms, William NVIDIA

Comment Type E Comment Status D HPF

Annex 191B is normative, but it is invoked here with 'describes an additional High Pass Filter to be applied', which does not require anything. 'High Pass Filter' is also capitalised mid-sentence and is unhyphenated, where the annex itself writes 'high-pass filter'.

SuggestedRemedy

Reword as: 'When the DUT includes a low-frequency high-pass network, for example PoC or PoDL, the high-pass filter specified in Annex 191B shall be applied to the measured data.'

Proposed Response Response Status W

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

CI 191 SC 191.7.2.7 P 157 L 29 # 25

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

Comment Type E Comment Status D EZ

Unit of PSD is "dBm/Hz", but the "Z" should not be capital EQ: 191-15, 191-16

SuggestedRemedy

Change unit to "dBm/Hz"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 191 SC 191.9.1 P 160 L 31 # 24

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

Comment Type E Comment Status D Editorial

Text says: ...insertion loss of each -T1 link...and I think the word "each" doesn't make sense at this position. This wording is also part of 191.9.1.3; 191.9.1.4; 191.9.1.5, 191.10.1.1; 191.10.1.3; 191.10.1.5

SuggestedRemedy

Replace "each" with "a"

Proposed Response Response Status W

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

CI 191 SC 191.9.1.1 P 160 L 43 # 10

Ran, Adeo Cisco Systems

Comment Type E Comment Status D Editorial

Fmax in equation 191-18 has MHz units, but in other places it is used as a number:
In P160 L38: $3 \leq f \leq F_{max}$ (if is "in MHz")
In 191.9.1.6 and 191.10.1.6: "Fmax MHz" (units added after a number)
In Equations 191-23 and 191-24: $400 \leq f \leq F_{max}$
191.15.4.4 LSTC5: "Fmax MHz"

Also in 191.9.1.5 Fmax appears with "MHz" but in the referenced 149.7.1.5 it appears as "Fmax MHz".

See section 15.4 of style manual "Equations shall be dimensionally correct".
Based on the majority of instances, it is suggested to keep Fmax as a number.

SuggestedRemedy

Change Equation 191-18 to define Fmax as a number (without MHz), and in 191.9.1.5 delete "MHz".

Proposed Response Response Status W

PROPOSED ACCEPT.

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CI 191	SC 191.9.1.1	P 160	L 47	# 11
Ran, Adeo		Cisco Systems		
Comment Type	E	Comment Status	D	Editorial
"The Insertion loss is illustrated in Figure 191–52" Figure 191-52 illustrates the limit of the insertion loss, not an actual insertion loss. Also, No Need To Capitalize insertion loss. Similarly for return loss (192.9.1.3), insertion loss (191.10.1.1), return loss (191.10.1.3), screening attenuation (192.10.1.5), PSANEXT (191.10.2.1), PSAACRF (191.10.2.2), MDI return loss (191.11.2.1 and 191.12.2.1) <i>SuggestedRemedy</i> Change to "The insertion loss limit is illustrated in Figure 191–52" and change the caption of Figure 191–52 accordingly. Change similarly in the other indicated places, including capitalization and corresponding figure captions. <i>Proposed Response</i> <i>Response Status</i> W PROPOSED REJECT. This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.				

CI 191	SC 191.14	P 169	L 34	# 12
Ran, Adeo		Cisco Systems		
Comment Type	T	Comment Status	D	delay
As indicated in comment 77 against D2.1, normative delay constraints cannot be stated for the HS_PATH or for the LS_PATH, because they comprise different parts from possibly different vendors as well as the transmission cable. A single vendor cannot claim compliance to an integrated system specification. Delay constraints for the MAC Control PAUSE operation are required to bound the roundtrip delay. The way to limit it for a single device is to specify the maximum sum of the transmit end receive delay. Transmit and receive delays could be limited individually but this is not required for PAUSE. The sum of transmit and receive delay may seem more difficult to measure in an asymmetric PHY, but may be still possible to measure it with specialized test setups. Also, a vendor can claim compliance by design without actual measurement. The limit should be generous to enable multiple implementations. Products can always do better than the limit. The suggested remedy is provided following an email exchange on this topic, based on dividing the roundtrip delay calculated from Table 191-25 by 2 (i.e., divided evenly between PHY_D and PHY_S), and rounding to an integer number of ns. If the task force prefers an uneven allocation (as in Table 192-27), or larger values to enable implementations in flight to comply, I would be fine with that too. Note that the media delay is assumed to be negligible for these PHYs and need not be mentioned. Annex 191A should be kept informative, and not recommend allocation between Tx and Rx delays, which is an implementation choice that does not affect interoperability or the functionality of the PAUSE operation. This is subject of another comment. <i>SuggestedRemedy</i> Replace the text from the second paragraph to the end of 191.14 with the following text (based on 149.10): "The sum of the transmit and receive data delays for an implementation of a PHY_S or PHY_D shall not exceed the limits shown in Table 191–25. Transmit data delay is defined from the input of a given unit of data at the XGMII to the presentation of the same unit of data by the PHY to the MDI. Receive data delay is defined from the input of a given unit of data at the MDI to the presentation of the same unit of data by the PHY to the XGMII. NOTE—the methods by which this requirement is verified are beyond the scope of this standard." Annex 191A provides information about the composition of transmit and receive delays. Change the content of Table 191-25 to the following:				

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HS_PATH data rate | Interleave | Maximum delay (ns)

2.5 Gb/s | 1x | 4608

5 Gb/s | 1x | 3584

5 Gb/s | 2x | 3943

10 Gb/s | 1x | 3072

10 Gb/s | 2x | 3252

10 Gb/s | 4x | 3584

In PICS item DC1, change "Feature" from "Path delays" to "Sum of transmit and receive delays".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

Cl **191** *SC* **191.14** *P* **169** *L* **34** # **13**

Ran, Adeel Cisco Systems

Comment Type **E** *Comment Status* **D** *delay*

The paragraph starts with "in full duplex mode" - but the PHYs defined in this clause only use full duplex - it is not a mode, and there's no need to mention it.

(The text originates from earlier clauses which had both half duplex and full duplex specifications, and the rationale for delays was different for each mode; see 24.6 as an example).

SuggestedRemedy

Change the first paragraph to: "Predictable operation of the MAC Control PAUSE operation (Clause 31, Annex 31B) demands that there be an upper bound on the propagation delays through the network."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

Cl **191** *SC* **191.15.3** *P* **172** *L* **6** # **40**

Simms, William NVIDIA

Comment Type **T** *Comment Status* **D** *PICS*

*2.5G, *5G and *10G are each status O with no group, so an implementation may claim none of them and still be presented as conforming, although it would then support no data rate.

SuggestedRemedy

Give the rate options a status that requires at least one to be claimed, for example O/n on a common group.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

In 191.15.3, for items *2.5G, *5G, and *10G change the value in the Status column from "O" to "O/2".

Cl **191** *SC* **191.15.3** *P* **172** *L* **25** # **41**

Simms, William NVIDIA

Comment Type **E** *Comment Status* **D** *PICS*

The item labels *Lead and *Follow are mixed case, where every other item in the table is upper case (*AN, *INS, *MDIO, *OAM, *PHY_S, *T1, *V1).

SuggestedRemedy

Change *Lead to *LEAD and *Follow to *FOLLOW

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

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Cl 191 SC 191.15.4.1.1 P 174 L 22 # 42

Simms, William

NVIDIA

Comment Type T Comment Status D PICS

PCT16 cites Figure 149-9 for the round-robin interleaving scheme, in a PICS table for Clause 191, and PCT9 likewise cites Table 149-2. If Clause 191 reuses those figures it should say so in the body; if it defines its own, the PICS should cite the Clause 191 figure. I don't see round-robin defined.

SuggestedRemedy

Cite the Clause 191 figure and table, or add an explicit statement in 191.3.2.2 that the Clause 149 figures apply. Define round-robin testing

Proposed Response Response Status W

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

Cl 191A SC 191A P 322 L 9 # 19

Ran, Adeo

Cisco Systems

Comment Type T Comment Status D delay

As noted in another comment, the normative specification of delay constraints should be met by each device separately as a sum of Tx+Rx. There is no need to specify each component separately.

This annex seems to provides details about the composition of the roundtrip delay, which is good for informative annex, but it also includes recommendations, which are not necessary for interoperability or functionality of PAUSE. The recommended allocation is not required for time synchronization support, and the recommendation to "maintain low variance" is beyond the scope of the standard (similar to a recommendation to maintain low power - it is a product choice).

SuggestedRemedy

Change the annex title to "Components of roundtrip delay in asymmetrical PHYs".
Change the first paragraph to "In 191.14, constraints are specified for sum of the transmit and receive data delays for predictable operation of the MAC Control PAUSE operation".
Change "The HS_PATH delay of 191.14" to "The HS_PATH delay" and similarly for the LS_PATH.
Delete the two last paragraphs (from "Besides the MAC Control" to the end).
Change the format of the figure title to make it Figure 191A-1.

Make any other required changes to keep this annex informative.

Proposed Response Response Status W

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

Cl 191B SC 191B.3 P 326 L 13 # 30

Simms, William

NVIDIA

Comment Type E Comment Status D EZ

The annex calls 191.6.2.5 'the transmitter distortion test', but 191.6.2.5 is titled 'Transmitter linearity'.

SuggestedRemedy

Refer to the subclause by its title, as the transmitter linearity test specified in 191.6.2.5.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Make the suggested change.

Also, correct the paragraph numbering in 191B. It is currently "GI" instead of "191B" and starts with ".3" instead of ".1".

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Cl	191B	SC	191B.3	P	326	L	14	#	28
Simms, William				NVIDIA					
Comment Type		T	Comment Status		D	191B			
The annex is scoped to the test in 191.6.2.5, which is the HS_PATH (PHY_S) transmitter. The PHY_D transmitter SNDR test in 191.7.2.6 sits behind the same MDI and the same PoC or PoDL network, and so is subject to the same baseline wander, but is not covered.									
Suggested Remedy									
Extend the applicability of the annex to 191.7.2.6 if as described									
Proposed Response		Response Status		W					
PROPOSED REJECT.									
This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.									

Cl	191B	SC	191B.3	P	326	L	22	#	29
Simms, William				NVIDIA					
Comment Type		E	Comment Status		D	191B			
The SNDR expression that follows this sentence is not a numbered equation, and the quantities in it are not defined at the point of use. The same expression is given as a numbered equation where the test itself is specified.									
SuggestedRemedy									
Number the equation, define each quantity in it, or delete it and cross-reference the numbered equation in the body of the standard.									
Proposed Response		Response Status			W				
PROPOSED REJECT.									
This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.									

Cl	191B	SC	191B.3	P	326	L	29	#	27
Simms, William				NVIDIA					
Comment Type		T	Comment Status		D	191B			
The annex refers the linear-fit pulse-response estimation to 120D.3.1.6, but 191.6.2.5 defines the test by reference to 120D.3.1.2 and 191.7.2.6 defines it by reference to 85.8.3.3.5. Three different base-standard procedures are cited for the measurement this annex modifies, so it is not clear which one the filter is inserted into.									
SuggestedRemedy									
Cite the same subclause the modified test cites, and state explicitly at which point in that procedure the HPF is applied.									
Proposed Response		Response Status		W					
PROPOSED REJECT.									
This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.									

Cl	SC	191B.6	P	327	L	1	#	26
Simms, William			NVIDIA					
Comment Type		T	Comment Status		D	191B		
G1.6 b) requires $N_p = 300$ for the linear-fit estimation. N_p sets the length of pulse response the linear fit can model, so changing it changes the measured SNDR on its own, independently of the high-pass filter this annex is about. 191.6.2.5, the test the annex modifies, states no N_p and inherits it from 120D.3.1.6, while 191.7.2.6 fixes $N_p = 100$. The amendment therefore ends up with two SNDR tests using different fit windows, and the limits of 36 dB, 33 dB and 30 dB in 191.6.2.5 are left unchanged although the measurement that produces the number has been altered. I can find no basis for the value 300 in the public record: the supporting presentation (sakuna_et al_3dm_01a_0526) reports its measurements at $N_p = 100$ and does not derive a replacement, the proposed annex text (Proposed_Annex_191B.pdf in the 0726 folder) states the value without justification, and the July 2026 minutes record no discussion of it.								
SuggestedRemedy								
Delete G1.6 b), or state the basis for $N_p = 300$ and the SNDR limits that go with it, so that the limit and the measurement that produces it are specified together. If a longer fit window is genuinely needed to separate baseline wander from transmitter distortion, it should be applied to the test in 191.6.2.5 for all cases rather than only when a PoC or PoDL network is fitted.								
Proposed Response			Response Status			W		
PROPOSED REJECT.								
This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.								

P802.3dm D2.2 Asymmetrical Electrical Automotive Ethernet 2nd Working Group recirculation ballot comr

Cl 191B **SC 191B.8.2.4** **P 329** **L 10** # **31**

Simms, William NVIDIA

Comment Type E **Comment Status D** **191B**

The heading of Gl.8.2.4 ends 'High-Pass Network', singular, while the annex title and Gl.8 and Gl.8.1 all use 'High-Pass Networks'.

SuggestedRemedy

Make the heading consistent with the annex title. "High-Pass Networks"

Proposed Response **Response Status W**

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

Cl 192 **SC 192.1.1** **P 193** **L 4** # **14**

Ran, Adeo Cisco Systems

Comment Type E **Comment Status D** **EZ**

The notations Nr, Np, Nz appear numerous times in this clause. These names are mentioned in this nomenclature subclause, but the actual values are only listed in 192.3.4.1, and being among the last instances of these names it is very difficult to find them. This makes reading and understanding the specification difficult for the uninformed reader.

SuggestedRemedy

Add "(see 192.3.4.1)" in the descriptions of Nr, Np, and Nz.

Proposed Response **Response Status W**

PROPOSED ACCEPT.

Cl 192 **SC 192.1.3** **P 195** **L 12** # **22**

Tan, Yuxuan Motorcomm

Comment Type E **Comment Status D** **block diagram**

In Figure 192-33 -- Link Monitor state diagram, the value of pcs_data_mode is used to set the variable link_status. However, in Figure 192-2 -- Functional block diagram, pcs_data_mode is only passed to PCS TRANSMIT, and not to LINK MONITOR.

SuggestedRemedy

Add an arrow to show the transfer of pcs_data_mode from PHY CONTROL to LINK MONITOR.

Proposed Response **Response Status W**

PROPOSED ACCEPT IN PRINCIPLE.

Add the arrow as requested in Figure 192-2 and in Figure 192-27.

Cl 192 **SC 192.1.3.2** **P 196** **L 2** # **46**

Wang, Frank Realtek Semiconductor Corp.

Comment Type E **Comment Status D** **EZ**

For consistency with other IEEE 802.3 clauses, the symbol size should be omitted from within the parentheses.

SuggestedRemedy

Change "RS-FEC(130,124,8)" to "RS-FEC(130,124)".

Proposed Response **Response Status W**

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Incorrect page number.)

On P197, L2,
Replace, "RS-FEC(130,124,8)"
with, "RS-FEC(130,124)".

Cl 192 **SC 192.1.4** **P 197** **L 45** # **47**

Wang, Frank Realtek Semiconductor Corp.

Comment Type E **Comment Status D** **EZ**

The "Z symbols" appears for the first time here without reference.

SuggestedRemedy

Change "Z symbols" to "Z symbols (see 192.5.2.4)".

Proposed Response **Response Status W**

PROPOSED ACCEPT.

Cl 192 **SC 192.2.1.8.1** **P 204** **L 38** # **48**

Wang, Frank Realtek Semiconductor Corp.

Comment Type T **Comment Status D** **PCS**

Since the implementation of the XGMII is optional, I would suggest rewriting the text as in 126.2.2.11.1.

SuggestedRemedy

Change lines 40~42:
TRUE PHY is in state PCS_Data (see Figure 192-32).
FALSE PHY is not in state PCS_Data (see Figure 192-32).

Proposed Response **Response Status W**

PROPOSED REJECT.

This comment is out of Scope for the Recirculation ballot. The Commentor is encouraged to submit this comment against SA-ballot.

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CI 192 SC 192.3.2.1 P 206 L 36 # 49
Wang, Frank Realtek Semiconductor Corp.
Comment Type E Comment Status D EZ
Missing period.
SuggestedRemedy
Change "(see 192.3.5.1.2)" to "(see 192.3.5.1.2)."
Proposed Response Response Status W
PROPOSED ACCEPT.

CI 192 SC 192.3.2.2.3 P 211 L 6 # 50
Wang, Frank Realtek Semiconductor Corp.
Comment Type E Comment Status D EZ
The index of character should be subscript.
SuggestedRemedy
Line 6: change D0 and D7 to D₀ and D₇, respectively.
Line 7: change C0, C7, O0, and O4 to C₀, C₇, O₀, and O₄, respectively.
Line 8: change S0 and S4 to S₀ and S₄, respectively.
Line 9: change T0 and T7 to T₀ and T₇, respectively.
Proposed Response Response Status W
PROPOSED ACCEPT.

CI 192 SC 192.3.2.2.4 P 211 L 31 # 51
Wang, Frank Realtek Semiconductor Corp.
Comment Type E Comment Status D EZ
To be consistent with Figure 192-7.
SuggestedRemedy
Line 31: change "Input data" to "Input Data".
Line 34: change "input data" to "Input Data".
Line 39: change "Input data field" to "Input Data column".
Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
(Editor's note: "Input data" is the style used in Figure 192-7.)
Page 211, Line 39: change "Input data field" to "Input data column".

CI 192 SC 192.3.2.2.4 P 211 L 38 # 52
Wang, Frank Realtek Semiconductor Corp.
Comment Type E Comment Status D EZ
To be consistent with the previous clauses.
SuggestedRemedy
Change "start" to "Start" and change "terminate" to "Terminate".
Proposed Response Response Status W
PROPOSED REJECT.

See text in clauses 192.3.2.2.7 and 192.3.2.2.8. "start control character (/S/)" and "terminate control character (/T/)" are not capitalized.

CI 192 SC 192.3.2.2.13 P 215 L 46 # 53
Wang, Frank Realtek Semiconductor Corp.
Comment Type E Comment Status D EZ
Missing period.
SuggestedRemedy
Add a period to the end of line 46.
Proposed Response Response Status W
PROPOSED REJECT.

This change would not be aligned with the style of other similar equation references. See P216, L7 for an example.

CI 192 SC 192.3.2.2.16 P 219 L 18 # 54
Wang, Frank Realtek Semiconductor Corp.
Comment Type E Comment Status D training
TF_n is not defined yet.
SuggestedRemedy
Insert a sentence, "TF_n is the training frame bit sequence as defined in 192.3.4.2", before "Bit DS_n[0] is produced using the scrambler defined in 192.3.2.2.18."
Proposed Response Response Status W
PROPOSED ACCEPT.

P802.3dm D2.2 Asymmetrical Electrical Automotive Ethernet 2nd Working Group recirculation ballot comr

CI 192 SC 192.3.2.3 P 225 L 50 # 55

Wang, Frank Realtek Semiconductor Corp.

Comment Type T Comment Status D EZ

The selections to the mux/demux are not complete.

SuggestedRemedy

Change "10 Gb/s * (tx_mode = SEND_N)" to "bit rate * (tx_mode = SEND_N)".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Agree with commenter. The muxes used to be 2-way. Now that they are 3-way, it's harder to show the selector. A change should be made, but not sure if "bit rate" or some other variable is appropriate. Would like input from the Task Force.)

TFTD

CI 192 SC 192.3.2.3.1 P 226 L 32 # 56

Wang, Frank Realtek Semiconductor Corp.

Comment Type E Comment Status D EZ

7.5 Gb/s is for HS PATH only.

SuggestedRemedy

Change "see Figure 192-12 for LS_RX or Figure 192-13 for HS_RX" to "see Figure 192-13 and Figure 192-14"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 192 SC 192.3.4 P 229 L 2 # 57

Wang, Frank Realtek Semiconductor Corp.

Comment Type E Comment Status D EZ

Formatting

SuggestedRemedy

Line 2: turn off italics for the right bracket of (N<sub>z).)

Line 14: turn off italics for the right bracket of (N<sub>z).)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Line 2: turn off italics for the right bracket of (N<sub>z).)

Line 3: add "." to the end of the sentence

Line 14: turn off italics for the right bracket of (N<sub>z).)

CI 192 SC 192.3.4 P 230 L 43 # 58

Wang, Frank Realtek Semiconductor Corp.

Comment Type E Comment Status D EZ

The right-side arrow to the refresh header of LS burst structure may need adjustment.

SuggestedRemedy

As comment.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Move the right-side arrow to the refresh header of LS represented by the hashed box.

CI 192 SC 192.3.4.1 P 231 L 22 # 59

Wang, Frank Realtek Semiconductor Corp.

Comment Type E Comment Status D EZ

Formatting

SuggestedRemedy

Apply italic formatting to N<sub>r, N<sub>p, and N<sub>z.

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 192 SC 192.3.4.3 P 233 L 21 # 60

Wang, Frank Realtek Semiconductor Corp.

Comment Type T Comment Status D PCS

Refine (192-14).

SuggestedRemedy

See attachment for (192-14) updates: equation_192_14.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

On P233, L30 - Change the reference for An from 192.3.2.2.19 to 192.3.2.2.16.

(Editor's note: The remainder of the proposed changes in this comment are out of Scope for the Recirculation ballot. The Commentor is encouraged to refine and submit this comment, specifically as it relates to including Cn in the equation, against SA-ballot.)

P802.3dm D2.2 Asymmetrical Electrical Automotive Ethernet 2nd Working Group recirculation ballot comr

CI 192 SC 192.4.2.4.5 P 259 L 6 # 2

Zimmerman, George CME Consulting/ADI,Cisco,Eliyan,Infineon,OnSemi, S

Comment Type E Comment Status D Editorial

The minimum baseline rates are implemented as duplicate shalls.

SuggestedRemedy

Change ""shall be supported" to "are supported (see Table 192-1)" at P259 L6.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Combination is singular in one location and plural in another.)

Replace, "...the two rate combinations operating at 2.5 Gb/s in one direction and 100 Mb/s in the opposite direction shall be supported as the minimum baseline rate combination..."

with, "...the two rate combinations operating at 2.5 Gb/s in one direction and 100 Mb/s in the opposite direction (see Table 192-1) are the minimum supported baseline rate combinations..."

CI 192 SC 192.9.2.1 P 290 L 19 # 15

Ran, Adeo Cisco Systems

Comment Type E Comment Status D EZ

Fmax in Equations 192-33 and 192-34 has MHz units but should be a number, see similar comment against 191.9.1.1.

SuggestedRemedy

Change Equations 192-33 and 192-34 to define Fmax as a number (without MHz), and in 192.7.1.5 delete "MHz".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: This comment applies to text that is not in scope.)

P290, L19 - Replace "3000 MHz" with "3000"
P290, L20 - Replace "4000 MHz" with "4000"

P291, L35 - Replace "3000 MHz" with "3000"
P291, L36 - Replace "4000 MHz" with "4000"

CI 192 SC 192.12 P 293 L 40 # 16

Ran, Adeo Cisco Systems

Comment Type E Comment Status D Editorial

"In full duplex mode, predictable operation of the MAC Control PAUSE operation (see Clause 31 and Annex 31B) also demands that <...>"

The phrasing of this paragraph seems to be taken from clause 149, but this text originates from earlier clauses - initially 24.6. The "also" refers to full-duplex (vs. half-duplex, which is not defined for this clause), and the other statements in this paragraph (network planners and administrators, concatenation of devices) are irrelevant and obsolete.

The corresponding paragraph in 191.14 is shorter and sufficient. Note that another comment suggests deleting the mention of "full duplex mode".

SuggestedRemedy

Change the first paragraph to: "Predictable operation of the MAC Control PAUSE operation (Clause 31, Annex 31B) demands that there be an upper bound on the propagation delays through the network."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Align style for "(see Clause 31 and Annex 31B)". Clarify that this one sentence replaces the entire paragraph.)

Replace P293, L40-45 with, "Predictable operation of the MAC Control PAUSE operation (see Clause 31 and Annex 31B) demands that there be an upper bound on the propagation delays through the network."

CI 192	SC 192.12	P 294	L 2	# 17
Ran, Adeo		Cisco Systems		
Comment Type	T	Comment Status	D	delay
Following my comment 77 against D2.2 the text was changed from "The sum of" to "The combined", and from "Transmit data delay is measured" to "Transmit data delay is estimated", and similarly for receive data delay. These changes were not requested in the comment and unfortunately create additional issues.				
"sum" is well-defined, but "combined" can be interpreted in several ways (it might be the maximum of the two? the average?) so the new text introduces ambiguity to the requirement				
The standard indeed does not require measurement, but it certainly should not require anyone to estimate anything; estimation is by definition ambiguous. The standard just needs to define what each delay means so that the requirements are unambiguous.				
The transmit data delay and receive data delay are not specifications - only their sum is. So a specific delay need not be measured, estimated, or even stated in a datasheet. Only the sum is required to be below the maximum.				
SuggestedRemedy				
Change "The combined" back to "The sum of".				
Change "Transmit data delay is estimated" to "Transmit data delay is defined" and similarly for receive data delay.				
Change the title of Table 192-27 to "Delay constraints".				
Proposed Response	Response Status W			
PROPOSED ACCEPT.				

CI 192	SC 192.12	P 294	L 5	# 18
Ran, Adeo		Cisco Systems		
Comment Type	T	Comment Status	D	delay
The additional text about the recommendations of 90A.7 is likely for a good purpose but it is unclear. What is the meaning of "maximum intrinsic delay value is allocated to the transmit PHY" and "minimum intrinsic delay is allocated to the receive PHY" in this clause? The table has PHY_S and PHY_D, each of which has both transmit and receive functions, and both are required for the time synchronization; the "allocation" in 90A.7 seems to be about how delays are reported in the context of clause 90, not about the delay constraints specified in this subclause.				
Also, this text is related to clause 90 or annex 90A, and unrelated to PAUSE.				
I don't recall seeing similar text in any amendment, even after publication of 802.3cx, so it's unclear why it is required here.				
SuggestedRemedy				
If this text needs to be retained, break it into a separate paragraph (or a separate subclause), and clarify it. Otherwise, consider deleting it.				
Proposed Response	Response Status W			
PROPOSED ACCEPT IN PRINCIPLE.				
(Editor's note: Clause 90 and annex 90A are about delays between the xMII and the MDI, and here we are providing a delay between the XGMII and the MDI, so it's the same delays. If we don't say anything, it seems ambiguous how the TDD quiet gaps should be split between the PHY_S and PHY_D, which is what was previously making this specification a challenge.				
Splitting into a separate paragraph is OK, but the TDD champions don't have a proposal for clarification and one wasn't suggested by the commenter. It's likely this detail is newly required because of asymmetry. Symmetric PHYs don't have this issue because they are always cancelling each other and adding up to a constant delay.)				
TFTD				

CI 192 SC 192.13.4.5.3 P 304 L 6 # 1

Zimmerman, George CME Consulting/ADI,Cisco,Eliyan,Infineon,OnSemi, S
Comment Type T Comment Status D PICS

PICS RCV1 Feature can't be a receive FEC error rate, because this is a PMA requirement and the FEC decoder is in the PCS. The referenced requirement is on PMA receive signal quality. Rewording this to align with the requirements text in 192.4.2.3 will fix the issue, similar to PMAR1 in clause 191.

SuggestedRemedy

Change PICS RCV1 to read:
Quality of received symbols 192.4.2.3 Allows RFER of less than 2x10-10 after
RS-FEC decoding (by the PCS) M Yes[]

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Suggest to align PICS with Clause 191 PMAR1.)

Change PICS RCV1 to read:
Quality of received symbols
192.4.2.3
RFER of less than 2x10-10 after RS-FEC decoding, over a channel meeting the
requirements of 192.9 for -T1 and 192.10 for -V1
M
Yes[]