C/ FM SC FM P1 L 31 # 26 C/ 80 SC 80.1.5 P 80 L 45 Ran, Adee Cisco systems Brown, Matt Huawei	# 2 PHY table (bucket)
Comment Type E Comment Status D bucket1 Comment Type T Comment Status D In Table 80-4a, 100GAUI-1 C2C and C2M have been added to s physical layer tables in the corresponding PMD clauses have not SuggestedRemedy Change "IEEE Std 802.3cv-20xx" to "IEEE Std 802.3cv-2021", here and on page 16.	,
802.3cv is published. In Table 80-4a, 100GAUI-1 C2C and C2M have been added to s SuggestedRemedy physical layer tables in the corresponding PMD clauses have not Change "IEEE Std 802.3cv-20xx" to "IEEE Std 802.3cv-2021", here and on page 16. SuggestedRemedy	,
SuggestedRemedy Change "IEEE Std 802.3cv-20xx" to "IEEE Std 802.3cv-2021", here and on page 16. SuggestedRemedy	
Change "IEEE Std 802.3cv-20xx" to "IEEE Std 802.3cv-2021", here and on page 16.	
Amend the 100 Gb/s physical layer tables in clauses 138 and 14	0 to include 100GAUI-1
Proposed Response C2C and C2M sublayers.	
PROPOSED ACCEPT. Proposed Response Response Status W	
C/ 00 SC 0 P 0 L 0 # 5 PROPOSED ACCEPT.	
Brown, Matt Huawei C/ 93A SC 93A.1.6 P 225 L 15	# 118
Comment Type E Comment Status D bucket1 Dawe, Piers Nvidia	
802.3ck will not be incorporated into the next amendment (802.3dc) so it will be amendment to that revision. Comment Type E Comment Status D The equation for b(n) is clumsy and hard to follow	b(n) equatio
SuggestedRemedy	
Convert draft to be an amendment of new revision (802.3dc) rather than an amendment of 802.3-2018. SuggestedRemedy b(n) = min(max(h, bbmin(n)), bbmax(n))	
Proposed Response Response Status W Proposed Response Response Status W	
PROPOSED ACCEPT. PROPOSED REJECT. The suggested remedy does not improve upon the clarity of the operation of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the clarity of the suggested remedy does not improve upon the suggested remedy does not imp	existing equation.
C/00 SC 0 PO LO # 20 C/116 SC 116.1.4 P98 L18	# 3
Brown, Matt Huawei Brown, Matt Huawei	
Comment Type E Comment Status D bucket1 Comment Type T Comment Status D	PHY table (bucket)
According to the style manual subclause 16.4, table notes should be placed as follows: "A table note should be set immediately following the table to which it belongs, enclosed within the boxed table, above the bottom border of the table." In Table 116-3, 200GAUI-2 C2C and C2M have been added to s types, but the physical layer tables in the corresponding PMD clause and the physical layer tables in the corresponding PMD clause and the physical layer tables in the corresponding PMD clause and the physical layer tables in the corresponding PMD clause and the physical layer tables in the corresponding PMD clause and table."	everal 200 Gb/s PHY
to this guidance. SuggestedRemedy	
SuggestedRemedy Amend the 200 Gb/s physical layer tables in clauses 121 and 12	2 to include 200GAUI-2
Fix the table note at the following page/line: 169/24, 179/21, 251/46, 255/25, 283/28 C2C and C2M sublayers.	
Proposed Response Status W Proposed Response Status W	
Proposed Response Response Status W Proposed Response Response Status W	

C/ 116 SC 116.1.4

C/ 116 S	C 116.1.4	P 99)	L 18	# 4	C/ 120F
Brown, Matt		Huaw	ei			Dudek, N
Comment Type	e T	Comment Status	D		PHY table (bucket1)	Comment
types, but updated.	the physical	UI-4 C2C and C2M h layer tables in the co				The v howe residu the sy
SuggestedRen	•					
		hysical layer tables in C and C2M sublayers		122, 123, 124	4, 138, 150, and 151 to	Suggeste Add a
Proposed Res	oonse	Response Status	w			Sigma
PROPOSE	D ACCEPT.					is use Proposed
C/ 120 S	C 120.5.1	P 10)7	L 54	# 16	PROF
Sun, Junging		Credo	Semicor	nductor		It mig addin
Comment Type	TR	Comment Status	D		withdrawn	For ta
SSPRQ us			d to be us	ed as receive	e pattern. A note in the	The fe https:
SuggestedRen	nedy					[Edito
will be "Te	st patterns th	r "square wave" in the nat are intended for tra- prrectly recovered by	ansmitter	testing, such	120.5.1. This paragraph as square wave for	
Proposed Resp	oonse	Response Status	z			
		THDRAWN by the co page/line from 108/4				
C/ 120 S	C 120.5.11.	2.a <i>P</i> 11	0	L 48	# 80	
Dudek, Mike		Marve	ell			
Comment Type 120.5.7 sh	e E ould be a ho	<i>Comment Status</i> t link	D		bucket1	
SuggestedRen fix it	nedy					
Proposed Resp	oonse	Response Status	w			

PROPOSED ACCEPT.

 C/
 120F
 SC
 120F.3.1
 P 232
 L 32
 # 76

 Dudek, Mike
 Marvell

 Comment Type
 TR
 Comment Status
 D
 TX residual ISI

 The value for SNDR is measured using the method in 162.9.3.3 which uses Np=29,

 Newsyne of the sufficiency of the property is partial to the sufficiency of the property is partial.

however chip to chip reference receiver is only a 6 tap DFE. Transmitters with significant residual ISI beyond the length of the DFE will pass this Tx specification and will not work in the system.

SuggestedRemedy

Add an extra Tx specification "Residual ISI (max) value 0.027". Defined as the value of Sigma_e/Vpeak where sigma_e and Vpeak are as defined in 162.9.3.3 except that Np=11 is used instead of Np=29.

Proposed Response Response Status W

PROPOSED REJECT.

It might be reasonable to reduce the value of Np from 29 to 11, but it is not clear that adding the new residual ISI parameter is justified.

For task force discussion.

The following presentation was provided by the commenter for discussion: https://www.ieee802.org/3/ck/public/21_07/dudek_3ck_01_0721.pdf [Editor's note: CC: 163, 120F]

C/ 120G	SC 120G.3.1	P 250	L 12	# 46
Ran, Adee		Cisco systems		
Comment Ty	pe TR	Comment Status D		AC CM noise

"AC common-mode RMS output voltage (max)" specification of 17.5 mV is not feasible for high-volume, multi-port products. The common-mode output may include a component correlated to the differential output, e.g. from mode conversion on the host channel. A module receiver is expected to be quite tolerant to a correlated common-mode signal.

As suggested in ran_3ck_adhoc_20210630, there are two reasonable alternatives: a) increase the allowed RMS voltage to 30 mV (as is allowed for the CR transmitter measured on an HCB - likely the same point - and where the common-mode concern is greater due to conversion in the cable assembly).

b) Keep the 17.5 mV specification but only for the component uncorrelated to the differential signal; use the linear fitted pulse response method (which is already referred to in 120G.5.2) to calculate the linear fitted pulse response characteristics of the common-mode output, and define the AC common-mode noise as the RSS of sigma_n and sigma_v.

Note: This comment is only about the host output; module output is more controlled and modules can be designed to have low mode conversion so the correlated component is expected to be small. Modules should not be allowed to generate 30 mV RMS, so if option a is chosen, the module output specification should not be changed.

SuggestedRemedy

Preferably implement option a in the comment.

Proposed Response Response Status W PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.

Comment 134 proposes to increase the value to 25 mV.

This comment proposes to either:

(a) change the value to 30 mV

(b) change the parameter to relate to only the uncorrelated noise

There is not sufficient evidence that the correlated noise is indeed tolerable by the receiver (e.g., conversion from CM to DM in receiver might be non-linear or CM might have much larger channel transit time than DM)

The comment does not provide sufficient evidence for either approach. For task force discussion.

C/ 120G	SC 120G.3.1	P 250	L 12	# 121
Dawe, Piers		Nvidia		
Comment Ty	pe TR	Comment Status D		AC CM noise

As discussed, AC common-mode output voltage (max) 17.5 mV isn't reasonable at double the signalling rate of 120E with the same connectors and layout skew.

SuggestedRemedy

Increase to 25 mV, both host and module output.

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.

Resolve using the response to comment #46.

C/ 120G	SC	120G.3.1	P 2	50	L 18	# 61
Ghiasi, Ali			Ghia	si Qua	ntum/Inphi	
Comment T	уре	TR	Comment Status	D		HO EH/VE
https://v and Cal https://v	www.ie Ivin pa www.ie	ge 4 ee802.org	/3/ck/public/adhoc/	un30_	_21/calvin_3ck_adh	noc_01a_042121.pdf noc_01_063021.pdf
SuggestedF	Remea	ly				
practice measur	e chan ement	nels should	d have margin to pa	iss no		TP1a, the best in ea that we need more ncreased to 13 dB and
Proposed R	Respon	ise	Response Status	w		
PROPC	DSED	REJECT.				
same ju The pre host me should I The foll https://v Slide 5 margina	ustifica esentat be ado owing www.ie shows al EH (tion as this tion calvin_ the require dressed. presentation eee802.org that for th	comment. 3ck_adhoc_01_06 ments, but rather v on was provided by /3/ck/public/21_07/ e Lim 9" channel si 10 mV specificatio	3021 s vith the the co ghiasi mulati	shows that the prob e ability to test it pro ommenter: _3ck_01_0721.pdf on with COM tool v	

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 120G SC 120G.3.1 Page 3 of 37 2021-07-14 4:46:56 PM

	P 250	L 25	# 58	C/ 120G	SC 120G.3.	1.5	P 252	L 13	# 119
Ghiasi, Ali	Ghiasi Qua	ntum/Inphi		Dawe, Piers			Nvidia		
Comment Type TR	Comment Status D		HO TT	Comment Typ	pe TR	Comme	nt Status D		pattern table
Transition time host re	equesting short mode or long	g mode is for TP4							ould have a table of test
SuggestedRemedy				for definit		ittern number	r, which this draft	lacks, and des	scription, and reference
Please revert to 10 ps	in draft D2.0, please move	this parameter to	TP4 table 120G-3	SuggestedRe					
Proposed Response PROPOSED REJECT				Copy Table 167-10, Test patterns, leaving out the rows that don't apply. Refer to from elsewhere in the annex to reduce clutter end repetition.					
Separate values for ho	to the host output transition ost long and short modes we hat the host input and host o	ere added per D2.	1 comment #188.	Proposed Re PROPOS	sponse SED REJEC ⁻		se Status W		
similar, which is reflect	ted in the transition times cl also be explicitly allowed ar	hosen for the host	input crosstalk				ne substantive ch ve comments fror		n IEEE P802.3ck D2.1 llot.
C/ 120G SC 120G.3.1	I.2 P 251	L 41	# 100				the recirculation		
Dawe, Piers	Nvidia			The refer	rence to Tabl	e 167-10 apr	pears to be an err	or. Presumabl	y a table like Table 124-9
Comment Type TR	Comment Status D		ERL Tfx		2018 is the i) a labio into Tablo 121 o
This fixed time value of	of time-gated propagation de	elay Tfx is unworka	able because the HCB			proposed tab	ble with pattern n	umbers will imp	prove the draft all things
is defined by its less n									
			s with few lanes such as	considere			fan		a and listed for a
SFP+ may be construe	cted from PCB, those for co	onnectors with mar	s with few lanes such as ny lanes such as QSFP-	It can ind	leed reduce		for cases where r		
SFP+ may be construe DD are challenged by	cted from PCB, those for co fanout and may use cabled	onnectors with mar construction with	s with few lanes such as ny lanes such as QSFP- the same loss and	It can ind particular	leed reduce : r test step, b	ut not in case	es where a single	pattern is refer	renced. It is more
SFP+ may be construe DD are challenged by much greater delay that	cted from PCB, those for co	onnectors with mar construction with y at cable-PCB int	s with few lanes such as ny lanes such as QSFP- the same loss and erface which is in the	It can ind particular convenie memorize	leed reduce a r test step, be nt to the read e the relation	ut not in case der to list the iship betweer	es where a single pattern names; t n pattern number	pattern is refer he reader woul s and the patte	renced. It is more Id otherwise have to ern they represent. The
SFP+ may be construct DD are challenged by much greater delay that connector body, sever should be windowed o	cted from PCB, those for cc fanout and may use cabled an a PCB. The discontinuit al inches from the coax con- ut just like the coax connec	onnectors with mar construction with y at cable-PCB int nector and near th tor itself, it's not pa	s with few lanes such as ny lanes such as QSFP- the same loss and erface which is in the ne module connector, art of the DUT. The	It can ind particular convenie memorize	leed reduce a r test step, be nt to the read e the relation	ut not in case der to list the iship betweer	es where a single pattern names; t	pattern is refer he reader woul s and the patte	renced. It is more Id otherwise have to ern they represent. The
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SFP+ may be construe DD are challenged by much greater delay tha connector body, sever should be windowed o HCB transit time is kno that in 163 and 120F, ' there. SuggestedRemedy Change 0.3 ns to twice host-facing connection designer the length of transitions. Make a sii Make similar changes Proposed Response PROPOSED REJECT	cted from PCB, those for co fanout and may use cabled an a PCB. The discontinuit al inches from the coax con- it just like the coax connec own, just as its loss is, so w "The value of Tfx is twice th the delay between the tes minus 0.2 ns, or 85% of the the module PCB less about milar change in 162.9.3.5 (H in 120G.3.2.3 and 162.11.3 <i>Response Status</i> W	nnectors with mar construction with y at cable-PCB int nector and near th tor itself, it's not pa- re can use that in t e delay from TP5v t fixture test conne- te delay. This gives t 30 mm to position ICB for CR).	s with few lanes such as ny lanes such as QSFP- the same loss and erface which is in the ne module connector, art of the DUT. The he windowing. Notice v to TP5", so it's known	It can ind particular convenie memorize test patte <i>CI</i> 120G Brown, Matt <i>Comment Typ</i> Reference <i>SuggestedRe</i> Change Repeat a page 254 page 258	leed reduce s r test step, but to the read e the relation ern names lin SC 120G.3. pe E te to transitio emedy 'transition tin at:	ut not in case der to list the aship betweer ue up better w 1.5 <i>Commen</i> n time metho ne" to "transit	es where a single pattern names; t n pattern number vith the test equip P 252 Huawei <i>nt Status</i> D odology.	pattern is refer he reader woul s and the patter ment controls. <i>L</i> 15	renced. It is more Id otherwise have to ern they represent. The # 8
SFP+ may be construe DD are challenged by much greater delay tha connector body, sever should be windowed o HCB transit time is kno that in 163 and 120F, there. SuggestedRemedy Change 0.3 ns to twice host-facing connection designer the length of transitions. Make a sii Make similar changes Proposed Response PROPOSED REJECT Discussion on this topi	cted from PCB, those for co fanout and may use cabled an a PCB. The discontinuit al inches from the coax con- it just like the coax connec own, just as its loss is, so w "The value of Tfx is twice th the delay between the tes minus 0.2 ns, or 85% of the the module PCB less about milar change in 162.9.3.5 (H in 120G.3.2.3 and 162.11.3 <i>Response Status</i> W	nnectors with mar construction with y at cable-PCB int nector and near th tor itself, it's not pa- re can use that in t e delay from TP5v t fixture test conne- te delay. This gives t 30 mm to position ICB for CR).	s with few lanes such as ny lanes such as QSFP- the same loss and erface which is in the ne module connector, art of the DUT. The he windowing. Notice v to TP5", so it's known	It can ind particular convenie memorize test patte <i>CI</i> 120G Brown, Matt <i>Comment Typ</i> Reference <i>SuggestedRe</i> Change Repeat a page 254 page 258	leed reduce s r test step, but to the relation ern names lin SC 120G.3. pe E te to transitio emedy "transition tin tt: 4, line 13 3, lines 43/44 2, lines 10/11	ut not in case der to list the iship betweer ie up better w 1.5 <i>Commei</i> n time metho ne" to "transit	es where a single pattern names; t n pattern number vith the test equip P 252 Huawei <i>nt Status</i> D odology.	pattern is refer he reader woul s and the patter ment controls. <i>L</i> 15	renced. It is more Id otherwise have to ern they represent. The # 8
SFP+ may be construe DD are challenged by much greater delay tha connector body, sever should be windowed o HCB transit time is kno that in 163 and 120F, ' there. SuggestedRemedy Change 0.3 ns to twice host-facing connection designer the length of transitions. Make a sii Make similar changes Proposed Response PROPOSED REJECT	cted from PCB, those for co fanout and may use cabled an a PCB. The discontinuit al inches from the coax con- nut just like the coax connec own, just as its loss is, so w "The value of Tfx is twice th the delay between the tes n minus 0.2 ns, or 85% of th the module PCB less about milar change in 162.9.3.5 (h in 120G.3.2.3 and 162.11.3 <i>Response Status</i> W to required.	nnectors with mar construction with y at cable-PCB int nector and near th tor itself, it's not pa- re can use that in t e delay from TP5v t fixture test conne- te delay. This gives t 30 mm to position ICB for CR).	s with few lanes such as ny lanes such as QSFP- the same loss and erface which is in the ne module connector, art of the DUT. The he windowing. Notice v to TP5", so it's known	It can ind particular convenie memorize test patter <i>C/</i> 120G Brown, Matt <i>Comment Ty/</i> Reference <i>SuggestedRe</i> Change Repeat a page 254 page 258 page 262 <i>Proposed Re</i>	leed reduce s r test step, but to the read e the relation ern names lin SC 120G.3. pe E te to transitio emedy "transition tim tt: 4, line 13 3, lines 43/44 2, lines 10/11 sponse	ut not in case der to list the iship betweer ie up better w 1.5 <i>Commei</i> n time metho ne" to "transit	es where a single pattern names; t n pattern number vith the test equip P 252 Huawei <i>nt Status</i> D odology. tion time (see 120 se Status W	pattern is refer he reader woul s and the patter ment controls. <i>L</i> 15	renced. It is more Id otherwise have to ern they represent. The # 8

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line C/ 120G SC 120G.3.1.5

C/ 120G SC	C 120G.3.1	5 P 252	L 16	# 120	C/ 120G	SC 1200	G.3.1.5	P 252	L 28	# 69
Dawe, Piers		Nvidia			Ben Artsi, Li	av		Marvell Tech	nology	
comment Type	TR	Comment Status D		test system response	Comment Ty	vpe E		Comment Status D	te	st setup figures (bucket
	which is the	ference receiver" which reference receiver respo				at the con		may be misleading. One r etween the HCB and MC		
00	2	rough the Descel Them	oon roononoo of 10	00.21 in place of the	SuggestedR	emedv				
		rough the Bessel-Thom 20G.5.2" or similar. Sev		0G.3.1 In place of the		-	oser to tl	ne calibration point at the	output of the M	CB, or change the
Proposed Resp	onse	Response Status W			scheme clear	to one clo	oser to w	hat can be found in the C	IF. In figure 120)G–9 on page 258 it is
PROPOSE	D ACCEPT	IN PRINCIPLE.								
					Proposed Re	•		Response Status W		
and D2.0 or Hence it is i	r the unsatis not within th	apply to the substantive fied negative comments e scope of the recirculat	from the initial ball tion ballot.	ot.	Commer figures f	nts 47, 69 or host ou	, 70, 60, Itput, mo	PRINCIPLE. 65, and 67 propose vario dule output, host input, a cense along with the other	nd module input	
		isinterpretation since the e test equipement filter.		r as defined in 120G.5.2	C/ 120G	SC 1200	332	P 253	L1	# 48
should not b			Also, since the resp	ponse is prescriptive, it	Ran, Adee	00 1200	0.0.2	Cisco system		# 1 0
On page 25		TP4 (without the use of a			Comment Ty	vpe E		Comment Status D	15	bucke
than the ref	erence rece arly at page/	ising a test system with iver of 120G.5.2" line: 254/12, 258/43, and		ned in 120G.3.1 rather		er similar t		output characteristics (at lost output in this annex,		
Implement	with editoria	license.			SuggestedR	emedy				
C/ 120G SC	C 120G.3.1.	5 P 252	L 20	# 47	Change	title to "M	odule ou	Itput characteristics at TP	'4"	
Ran, Adee		Cisco sys	stems		Proposed Re	esponse	F	Response Status W		
Comment Type	ER	Comment Status D	te	est setup figures (bucket1)	PROPO	SED ACC	EPT.			
		be edited to correctly sho test, and the locations o		the HCB into either the read of the HCB into either the updated Figure						
Similarly for	r Figure 120	G–7 for plugging into the	e MCB.							
	edy									
SuggestedRem		editorial license.								
00	figures with									
00	0	Response Status W								

C/ 120G SC 120G.3.2

C/ 120G	SC 120G.3.2	P 253	L 11	# 98	C/ 120G	SC 1	20G.3.2	P 25	3 L	12	# 62
Dawe, Piers		Nvidia			Ghiasi, Ali			Ghiasi	Quantum/Inpl	ıi	
Comment Typ	e TR C	Comment Status D		MO VEC/EH	Comment T	уре	TR	Comment Status	D		MO VEC/EH
		same at long near end a nenter is encouraged to o					be lowere Ind host A	d from current 12 dB SIC	to 11 dB to al	ow additional p	enalty for real
		c, while we want module is naturally larger at NE			SuggestedF	Remedy	/				
0		is naturally larger at NE	ior a well set up	ο ομιραί.	Reduce	TP4 V	EC=11 d	3, see ghiasi_3ck_01	_0721		
SuggestedRer		ng mode near end, by 3	dB from 15 mV	to 21 m\/	Proposed R	espons	se	Response Status	w		
					PROPC	SED A	CCEPT I	N PRINCIPLE.			
Proposed Res	ED REJECT.	esponse Status W						o the module output			
		he module output eye he	iaht (min) for lo	na mode near end				on was provided by th /3/ck/public/21_07/gh			
		vide sufficient evidence						h the current g_dc co			ıg mode, near-
For task for	orce discussion.							comment suggests th			
C/ 120G	SC 120G.3.2	P 253	L11	# 97	from -3 (max).	dB to -:	2 dB. Wit	h this change to the g	_DC limit the	e is no need to	change VEC
Dawe, Piers		Nvidia			It may b			20G-11, for gDC and	gDC2, to cha	inge "near-end"	to "short mode"
Comment Typ	e TR C	Comment Status D		MO VEC/EH			o "long m discussio				
		aggressively reduced fro		k to deliver only 15 mV							"
	,	20E has 70 mV, and D1.	,	aduaad) Vata baat	C/ 120G	SC 1	20G.3.2	P 25 :		13	# 59
0 –		2121 shows 35 mV (befo g. different crosstalk or n		,	Ghiasi, Ali			Ghiasi	Quantum/Inpl	ni	
		n-loss ports so it can do			Comment T	ype	TR	Comment Status	D		MO VEC/EH
		signal without overloadin			TP4 lon	g VEO	at max lo	ss drops to 12 mV			
	, ,	s more consistent modu	le setup across	the industry.	SuggestedF	Remedy	/				
SuggestedRer					Reduce	TP4 hi	igh loss V	EO=12 mV, see ghia	si_3ck_01_07	21	
Increase t	he eye height, sh	ort mode near end, by 1	.1 dB from 15 m	NV to 17 mV	Proposed R	espons	se	Response Status	w		
Proposed Res	ponse Re	esponse Status 🛛 🛛 🛛 🛛 🛛 🖤				•		N PRINCIPLE.			
	ED REJECT.							to the module output	eye height (mi	n) for long mod	e, far end.
		he module output eye he						on was provided by th			
	the differential pea	ak to peak voltage was r	eaucea in D1.1,	the short mode EH was				/3/ck/public/21_07/gr (EO) going below the			
		vide sufficient evidence :	that the propose	d change is necessary			(EO) going below the	required 15 ff	v and side 9 p	1000565

The comment does not provide sufficient evidence that the proposed change is necessary. For task force discussion.

and slide 9 proposes reducing the specification to 13 mV.

For task force discussion.

C/ 120G SC 120G.3.2

mean? It is unclear why the mo given that its output is A limits given in this table SuggestedRemedy Clarify what the quoted Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatisf	sentence mean, or delete it. DC common mode voltage s <i>Response Status</i> W N PRINCIPLE. apply to the substantive cha	MO L bund offset volta f DC common-n hout AC couplir	node voltage at all,	refer to SuggestedF change Proposed R PROPC This coi and D2.	nmon-mode v footnote b, no Remedy footnote refere DSED ACCEP mment does n 0 or the unsat	Comment oltage (max)" - t footnote a. ence from a to <i>Response</i> T IN PRINCIPL ot apply to the	b. Status W .E. substantive cha	MO L specification is n	# 50 DC CM voltage tolerance not removed, it should
Comment Type TR footnote b says "Specifi mean? It is unclear why the mo given that its output is A limits given in this table SuggestedRemedy Clarify what the quoted Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatist	Comment Status D cation includes effects of gro dule needs a specification o C coupled (per 120G.1). Wi are not reasonable. sentence mean, or delete it. DC common mode voltage s <i>Response Status</i> W N PRINCIPLE. apply to the substantive cha	MO L bund offset volta f DC common-n hout AC couplir	age." - what does it	Comment T "DC cor refer to SuggestedF change Proposed R PROPC This cor and D2.	nmon-mode v footnote b, no Remedy footnote refere Response DSED ACCEP mment does n 0 or the unsat	oltage (max)" - t footnote a. ence from a to <i>Response</i> Γ IN PRINCIPL ot apply to the	Status D assuming this s b. Status W .E. substantive cha	MO L specification is n	not removed, it should
footnote b says "Specifi mean? It is unclear why the mo given that its output is A limits given in this table SuggestedRemedy Clarify what the quoted Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatisf	cation includes effects of gro dule needs a specification o C coupled (per 120G.1). Wi are not reasonable. sentence mean, or delete it. DC common mode voltage s <i>Response Status</i> W N PRINCIPLE. apply to the substantive cha	und offset volta DC common-n hout AC couplir	age." - what does it	"DC cor refer to SuggestedF change Proposed R PROPC This con and D2.	nmon-mode v footnote b, no Remedy footnote refere Response DSED ACCEP mment does n 0 or the unsat	oltage (max)" - t footnote a. ence from a to <i>Response</i> Γ IN PRINCIPL ot apply to the	assuming this s b. <i>Status</i> W .E. substantive cha	specification is n	not removed, it should
given that its output is A limits given in this table SuggestedRemedy Clarify what the quoted Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatisf	C coupled (per 120G.1). Wi are not reasonable. sentence mean, or delete it. DC common mode voltage s <i>Response Status</i> W N PRINCIPLE. apply to the substantive cha	hout AC couplir	node voltage at all, ng in the module, the	change Proposed R PROPC This coi and D2.	footnote refer esponse OSED ACCEP mment does n 0 or the unsat	Response	Status W .E. substantive cha	ngos botwoon II	
given that its output is A limits given in this table SuggestedRemedy Clarify what the quoted Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatisf	C coupled (per 120G.1). Wi are not reasonable. sentence mean, or delete it. DC common mode voltage s <i>Response Status</i> W N PRINCIPLE. apply to the substantive cha	hout AC couplir	node voltage at all, ng in the module, the	change Proposed R PROPC This coi and D2.	footnote refer esponse OSED ACCEP mment does n 0 or the unsat	Response	Status W .E. substantive cha	ngos botwoon II	
limits given in this table SuggestedRemedy Clarify what the quoted Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatist	are not reasonable. sentence mean, or delete it. DC common mode voltage s <i>Response Status</i> W N PRINCIPLE. apply to the substantive cha	·		Proposed R PROPC This con and D2.	Pesponse DSED ACCEP ⁻ mment does n 0 or the unsat	Response	Status W .E. substantive cha	ingos botwoon II	
Clarify what the quoted Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatisf	DC common mode voltage s Response Status W N PRINCIPLE. apply to the substantive cha	pecification.		PROPC This cor and D2.	DSED ACCEP mment does n .0 or the unsat	F IN PRINCIPL	.E. substantive cha	ingos botwoon I	
Consider removing the I Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatist	DC common mode voltage s Response Status W N PRINCIPLE. apply to the substantive cha	pecification.		This cor and D2.	mment does n .0 or the unsat	ot apply to the	substantive cha	ungos botwoon I	
Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatist	Response Status W N PRINCIPLE. apply to the substantive cha	pecification.		and D2.	0 or the unsat	ot apply to the	substantive cha	naac hatwaan l	
Proposed Response PROPOSED ACCEPT I This comment does not and D2.0 or the unsatist	Response Status W N PRINCIPLE. apply to the substantive cha			Hence i		istied nedative	comments from	the initial ballot	EE P802.3CK D2.1
PROPOSED ACCEPT I This comment does not and D2.0 or the unsatist	N PRINCIPLE. apply to the substantive cha				t is not within t	he scope of th	e recirculation b	allot.	
and D2.0 or the unsatist				Resolve	using the res	ponse to comn	nent #49		
and D2.0 or the unsatist		nace between I	IEEE DOOD Sole DO 1	C/ 120G	SC 120G.3.		P 254	L 23	# 70
Hence it is not within the						2.2	-	-	# 70
	e scope of the recirculation b	allot.		Ben Artsi, L Comment T		Comment	Marvell Techn	0,	st setup figures (bucket1)
which are intended to de DC common-mode volta	g to module output "DC com offine a tolerance for the mod ige tolerance specification is	ule output to ho required as the	ost DC bias voltage. A e module output,	The loca	ation of TP4 la at the connec	bel may be mi	sleading. One m	nay be confused	I to understand TP4 is need to de-embed to
	capacitor or decoupling on t the host input. This is a new			SuggestedF	Remedy				
not be deleted. Howeve	r, this specification as writter potnote for "DC common-m	n is difficult to in	iterpret.						CB, or change the G–9 on page 258 it is
	native and thus should be co	onverted to a tab	ole note or regular text,	Proposed R	esponse	Response	Status W		
- change footnote "b" to	plement the following as a n a table note (per style guide ared to provide a presentatio n.)	is comment further.	Comme figures f	ents 47, 69, 70 for host output	F IN PRINCIPL , 60, 65, and 6 , module outpu	.E. 7 propose variou ıt, host input, an	us changes to th ad module input. related commer	

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

SORT ORDER: Clause, Subclause, page, line

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C/ 120G SC 120G.3.2.2

C/ 120G SC 120G.3.2.2 P 254 L 24 # 60	C/ 120G SC 120G.3.3 P 255 L 34 $\#$ 51
Ghiasi, Ali Ghiasi Quantum/Inphi	Ran, Adee Cisco systems
Comment Type ER Comment Status D test setup figures (bucke	et1) Comment Type TR Comment Status D MO AC CM noise tolerance
Figure 120G-7 could be improved with relation of module DUT, switch, and there is no need for DC blocks on the output of HCB	The host should tolerate the AC common mode output allowed for the module output. Even if this is not included in the stressed input test, this expectation should be part of the host input aposition
SuggestedRemedy	input specification.
Please center MCB with HCB above and module DUT under to make it more clear that	SuggestedRemedy
both are inserted into MCB, remove DC blocks from HCB, and improve the switch figure	Add a row to Table 120G–7 with parameter "AC common-mode input voltage tolerance (RMS)" and value based on Table 120G–3.
Proposed Response Response Status W	
PROPOSED ACCEPT IN PRINCIPLE.	Proposed Response Response Status W
Comments 47, 69, 70, 60, 65, and 67 propose various changes to the test configuration figures for host output, module output, host input, and module input. Implement with editorial license along with the other related comments.	PROPOSED REJECT. Comment #55 proposes a similar change to the host input. A parameter with only a value is not sufficient. A test method including some constraints on the CM noise, e.g., frequency spectrum, PDF, etc., is necessary.
C/ 120G SC 120G.3.2.2.1 P 254 L 51 # 102	For task force discussion.
Dawe, Piers Nvidia	C/ 120G SC 120G.3.3.1 P 256 L 4 # 52
Comment Type TR Comment Status D //O SI host reference chan	nnel
The near and and for and about he placed for enough enorth as that the resolute	Ran, Adee Cisco systems
rne near end and far end should be placed far enough apart so that the module	Comment Type E Comment Status D bucket1
The near end and far end should be placed far enough apart so that the module implementer has little choice what emphasis to use, so that all modules are set up	
implementer has little choice what emphasis to use, so that all modules are set up similarly. As short is easier than long, this means that far minus near (mm or dB) for sho	
implementer has little choice what emphasis to use, so that all modules are set up similarly. As short is easier than long, this means that far minus near (mm or dB) for sho should be at least as much as far minus near for long. As real host channels are not	
implementer has little choice what emphasis to use, so that all modules are set up similarly. As short is easier than long, this means that far minus near (mm or dB) for sho	It is preferable to refer to the value in table 120G-7 than to repeat it. SuggestedRemedy
implementer has little choice what emphasis to use, so that all modules are set up similarly. As short is easier than long, this means that far minus near (mm or dB) for sho should be at least as much as far minus near for long. As real host channels are not exactly like the theoretical reference host channel, there should be a healthy overlap of short and long to give the host room for its implementation. D2.0's 160 mm delivered on both these criteria, D2.1's 133 mm doesn't.	It is preferable to refer to the value in table 120G-7 than to repeat it. SuggestedRemedy Change "for any signaling rate in the range
implementer has little choice what emphasis to use, so that all modules are set up similarly. As short is easier than long, this means that far minus near (mm or dB) for sho should be at least as much as far minus near for long. As real host channels are not exactly like the theoretical reference host channel, there should be a healthy overlap of short and long to give the host room for its implementation. D2.0's 160 mm delivered on both these criteria, D2.1's 133 mm doesn't.	It is preferable to refer to the value in table 120G-7 than to repeat it. SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 120G-7".
 implementer has little choice what emphasis to use, so that all modules are set up similarly. As short is easier than long, this means that far minus near (mm or dB) for sho should be at least as much as far minus near for long. As real host channels are not exactly like the theoretical reference host channel, there should be a healthy overlap of short and long to give the host room for its implementation. D2.0's 160 mm delivered on both these criteria, D2.1's 133 mm doesn't. SuggestedRemedy Change 133 to 150, change 80 to 90 	It is preferable to refer to the value in table 120G-7 than to repeat it. SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 120G-7". Proposed Response Response Status W
 implementer has little choice what emphasis to use, so that all modules are set up similarly. As short is easier than long, this means that far minus near (mm or dB) for sho should be at least as much as far minus near for long. As real host channels are not exactly like the theoretical reference host channel, there should be a healthy overlap of short and long to give the host room for its implementation. D2.0's 160 mm delivered on both these criteria, D2.1's 133 mm doesn't. SuggestedRemedy Change 133 to 150, change 80 to 90 	It is preferable to refer to the value in table 120G-7 than to repeat it. SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 120G-7". Proposed Response Response Status W

C/ 120G SC 120G.3.3.1

C/ 120G SC 120G.3.3.4 P 256 L 50	# 122	C/ 120G SC 120G.3.3.	.4.1 <i>P</i> 257	L 21	# 125
Dawe, Piers Nvidia		Dawe, Piers	Nvidia		
Comment Type TR Comment Status D	HI/MI SI method	Comment Type T	Comment Status D		LATE
While we are upturning this section, we might as well do it con spec. There is no requirement to test, only to comply.	rectly. 802.3 is not a test	below the upper freque	er frequency between 150 MH ncy limit of the pattern genera rs have jitter bandwidths arour	ator external mo	. This value is kept dulator input." because
SuggestedRemedy		SuggestedRemedy			
Change "The host stressed input tolerance is tested using the 120G.3.3.4.1 which is calibrated as described in 120G.3.3.4.2 120G.3.3.4.3." to "The host stressed input tolerance is define 120G.3.3.4.3 using the test setup described in 120G.3.3.4.1,	, and the test procedure in d by the test procedure in which is calibrated as	Before arbitrarily deletir and users if this is still a	ng technical content, I would li a problem, and if it is, whether extra filter is reasonable, or wh	r a tactic such a	
described in 120G.3.3.4.2." Similarly in 120G.3.4.2 Module s	ressed input test.	Proposed Response	Response Status W		
Proposed Response Response Status W		PROPOSED REJECT.			
PROPOSED ACCEPT IN PRINCIPLE.	we have a fight a star fight have a second	This comment was rece	eived after the ballot closed.		
The intent of the suggested remedy is an improvement to the for consistency in the draft the language should be consistent		C/ 120G SC 120G.3.3.	.4.1 P 257	L 31	# 89
similar clause 162.9.4.2 as a template.		Wu, Mau-Lin	MediaTek Inc.		
Change: "The host stressed input tolerance is tested using th 120G.3.3.4.1 which is calibrated as described in 120G.3.3.4.2		Comment Type E	Comment Status D		bucket1
120G.3.3.4.3."					
To: "Host stressed input tolerance is measured according to t	he procedure described in	better to align with othe	el" here means "reference hos er places.	t channel" in oth	ner places. It would be
To: "Host stressed input tolerance is measured according to t 120G.3.3.4.1 through 120G.3.3.4.3."	·			t channel" in oth	ner places. It would be
To: "Host stressed input tolerance is measured according to t 120G.3.3.4.1 through 120G.3.3.4.3." Update 120G.3.4.2 Module stressed input test in a similar wa	·	better to align with othe SuggestedRemedy			ner places. It would be
To: "Host stressed input tolerance is measured according to t 120G.3.3.4.1 through 120G.3.3.4.3." Update 120G.3.4.2 Module stressed input test in a similar wa Implement with editorial license.	<i>.</i>	better to align with othe SuggestedRemedy Change "host reference	er places. e channel" to "reference host o		ner places. It would be
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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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 120G SC 120G.3.3.4.1

Shiasi, Ali Ghiasi Quantum/Inphi Comment Type ER Comment Status D test setup figures (bucket) The figure can improve Sugasted/Remedy Comment Status D U Please consider following improvements: - Make line to either stress or DUT solid and the other dotted - Marine in the Hast under test are conlusing Comment Type E Comment Status D U PROPOSED Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comments. W PROPOSED Response Response Status W 2/1 200 SC 1206.3.3.4.2 P258 L 33 # 53 2/2 100 SC 1206.3.3.4.2 P258 L 33 # 53 2/2 100 SC 1206.3.3.4.2 P258 L 33 # 53 2/2 100 SC 1206.3.3.4.2 P258 L 33 # 53 2/2 100 SC 1206.3.3.4.2 P258 L 33 # 53 2/2 100 SC 1206.3.3.4.2 P258 L 33 # 53 2/2 100 SC 1206.3.3.4.2 P258 L 33 # 53 2/2 100 SC 1206.3.3.4.2 P258 L 33 # 53	7 120G	SC 120G.3.3	4.1	P 258	L 18	# 65	C/ 120G	SC	C 120G.3.3	3.4.2	P 258	L 35	# 134	
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SuggestedRemedy Please consider following improvements: - Make line to either stress or DUT solid and the other dotted - The arrows in the Host under test are confusing Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment S47, 69, 70, 60, 65, and 67 propose various changes to the test configuration figures for host output, module output, host input, and module input. Implement with editorial license along with the other related comments. C/1 120G SC 120G.3.3.4.2 P 258 L 33 # 53 Somment Type Comment Status D HI SI method Unlike the jitter levels in step c, the initial signal levels in the calibration procedure are not defined. Using inappropriately low levels can result in bad jitter measurement in step c. To achieve good jitter measurement, the initial output levels should be as high as possible without exceeding the differential peak to peak specification. Also applies in module stressed input test, 120G.3.4.2.2. SuggestedRemedy Add guidance to step a to use initial signal level as high as possible such that the differential peak-to-peak input voltage tolerance given in Table 120G–9 is not exceeded. Proposed Response Proposed Response Response Status W	Comment Ty	vpe ER	Comment	t Status D		test setup figures (bucket1)	Comment	Туре	Е	Comme	nt Status D			LATE
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differential peak-to-peak input voltage tolerance given in Table 120G–9 is not exceeded. Proposed Response Response Status W	00	-												
PROPOSED REJECT.	Proposed Re	esponse	Response	Status W										
The proposed change is one of many considerations that are outside the scope of this test		0	s one of mar	ny consideration	s that are out	side the scope of this test								
procedure. For task force discussion.			n											

C/ 120G SC 120G.3.3.4.2

C/ 120G	SC 120G.3.	3.4.2	P 258	L 36	# 54
Ran, Adee			Cisco syster	ms	
Comment Typ	be T	Commen	t Status D		HI SI SJ

The host stressed input calibration is performed with PRBS13Q and with SJ at 40 MHz (case F of table 162-16). This frequency is not coherent with the PRBS13Q cycle, so the combination of SJ and ISI can create different signal statistics depending on the alignment of the SJ cycle and the PRBS13Q cycle. This can create variability in eye metrics and may require repeated or long measurements.

If the calibration is done with an SJ whose frequency is coherent with the PRBS13Q cycle, data collection can be done with a period which has an integer number of PRBS13Q cycles and integer number of SJ cycles. This can reduce the variability of the calibration. The different frequency would not affect the test which is performed with much longer pattern anyway.

It would be preferable to use a frequency of $f_b*6/8191$ (approximately 38.915 MHz) instead of 40 MHz during calibration. This would enable more repeatable calibration if the data is collected from an integer multiple of 6 PRBS13Q cycles. The frequency difference should have little effect as the proposed frequency is still far out the reference CRU bandwidth.

Also applies to module stressed input calibration, 120G.3.4.2.2.

SuggestedRemedy

Change item b from "Sinusoidal jitter is applied with frequency and amplitude per case F in Table 162–16." to:

"Sinusoidal jitter is applied with a frequency of at least 38 MHz and pk-pk amplitude of 0.05 UI."

Add the following informative note after the list:

NOTE—It is recommended to use a sinusoidal jitter frequency which is coherent to the frequency of the PRBS13Q pattern, such as $f_b*6/8191$ where f_b is the signaling rate of the pattern generator (approximately 38.915 MHz) and calculate eye height and VEC from 6N full cycles of the sinusoidal jitter, where N is an integer.

Apply similar changes in 120G.3.4.2.2.

Implement with editorial license.

Proposed Response Response Status W

PROPOSED REJECT.

The proposed changes are not sufficiently justified by the comment. A coherent or synchronous pattern also prove to result in non-repeatable tests since the arbitrary relative phase of the SJ and the test pattern. For task force discussion.

C/ 120G	SC 12	0G.3.3.4.2	P 25	58	L 39	#	72
Dudek, Mike			Marve	ell			
Comment Ty	vpe E	Ξ (Comment Status	D			HI SI method

The final values of jitter used in the test are unlikely to match these values of Jrms and J4u because crosstalk is added in step e and random jitter is adjusted in step g. It would be helpful to the reader to indicate this.

SuggestedRemedy

Add to the end of bullet c. "Note that these are initial jitter values. They will be modified by the addition of crosstalk in step e and adjustment of random jitter in step g" Add this to the end of bullet c on page 262 as well.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license. For task force discussion.

C/ 120G S	C 120G.3.3	4.2 P 258	L 46	# 127
Dawe, Piers		Nvidia		
Comment Type	⇒ T	Comment Status D		LATE

This sentence used to say "The pattern may be changed to a valid 100GBASE-R, 200GBASE-R, or 400GBASE-R signal for amplitude calibration and the stressed input test". The same sentence was used for host stressed input calibration with target amplitude and transition time, and module stressed input calibration with target amplitude and slew time. It wasn't as clear as it could have been: crosstalk pattern or victim pattern? Amplitude calibration of crosstalk or victim? I believe it meant that the crosstalk pattern could be changed to a long one when calibrating the eye height of the victim. CEI 16.3.10.3.1 says "The crosstalk signal is calibrated at TP4 or TP1a using a QPRBS13-CEI pattern, then the pattern is changed to QPRBS31-CEI for the test".

SuggestedRemedy

Change "The pattern" to "The crosstalk pattern", change "amplitude calibration" to "stressed signal eye height and VEC calibration". Also in 120G.3.4.2.2 step e.

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the ballot closed.

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 120G SC 120G.3.3.4.2 Page 11 of 37 2021-07-14 4:46:56 PM

	C/ 120G SC 120G.3.3.4.2 P 259 L 4	# 71
Dawe, Piers Nvidia	Dudek, Mike Marvell	
Comment Type E Comment Status D LATE	Comment Type T Comment Status D	HI SI method
This says "the host PCB in 120G.3.2.2.1" while 120G.3.2.2.1 says "reference host channel"	The pattern generator pre-emphasis should be optimized for the host stres it is for the module stressed input.	ssed input just as
SuggestedRemedy	SuggestedRemedy	
Use the same name in both subclauses, e.g. change "host PCB" to "reference host channel"	Add a sentence to the end of bullet g. "The pattern generator pre-emphas	sis and reference
Proposed Response Response Status W	receiver settings that minimize VEC are used."	
PROPOSED REJECT.	Proposed Response Response Status W	
This comment was received after the ballot closed.	PROPOSED ACCEPT IN PRINCIPLE.	
C/ 120G SC 120G.3.3.4.2 P 258 L 50 # 129	The additional text proposed in the suggested remedy is warranted. However suggests changes to similar text in 120G.3.4.	ver, comment #9
Dawe, Piers Nvidia	With editorial license, implement similar text in 120G.3.3 as modified by co	omment 9 if it is
Comment Type E Comment Status D LATE	adopted, otherwise implement the suggested remedy. For task force discussion.	
parameters in Table 120G–5 for far-end host channel type and the requested mode		
	C/ 120G SC 120G.3.3.4.2 P 259 L 16	# 66
SuggestedRemedy	Ghiasi, Ali Ghiasi Quantum/Inphi	
parameters in Table 120G–5 for host channel type and the requested module output mode	Comment Type TR Comment Status D	HI SI EH/VEC
Proposed Response Response Status W	Host stress input VEC is too high and does not account for real host chan	nel and ASIC
PROPOSED REJECT. This comment was received after the ballot closed.	packge and VEO can be as small as 12 mV	
	SuggestedRemedy	
C/ 120G SC 120G.3.3.4.2 P 259 L 2 # 136	Reduce VEC=11-11.5 dB range and VEO to 12 mV, see ghiasi_3ck_01_0	0721
Dawe, Piers Nvidia	Proposed Response Response Status W	
Comment Type T Comment Status D LATE	PROPOSED ACCEPT IN PRINCIPLE.	
	The following presentation was provided by the commenter:	
If "differential peak-to-peak voltage" is supposed to convey the idea that the MSB and LSB	https://www.icco.00.2 org/2/ok/public/21_07/abicci_2ck_01_0721 pdf	
are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak-	https://www.ieee802.org/3/ck/public/21_07/ghiasi_3ck_01_0721.pdf Comments #59 and #62 propose changes to VEC and EH for the module	output. Update
are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak- to-peak voltage is limited at TP4, not the PG.	Comments #59 and #62 propose changes to VEC and EH for the module the host input values based upon the resolution of those comments.	output. Update
are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak- to-peak voltage is limited at TP4, not the PG. SuggestedRemedy	Comments #59 and #62 propose changes to VEC and EH for the module	output. Update
are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak- to-peak voltage is limited at TP4, not the PG. SuggestedRemedy Change "differential peak-to-peak voltage are adjusted" to "amplitude are adjusted". Change "voltage tolerance given" to "voltage tolerance at TP4 given".	Comments #59 and #62 propose changes to VEC and EH for the module the host input values based upon the resolution of those comments.	output. Update # 90
are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak- to-peak voltage is limited at TP4, not the PG. SuggestedRemedy Change "differential peak-to-peak voltage are adjusted" to "amplitude are adjusted". Change "voltage tolerance given" to "voltage tolerance at TP4 given". See another comment about introducing the pattern generator.	Comments #59 and #62 propose changes to VEC and EH for the module the host input values based upon the resolution of those comments. For task force discussion.	· ·
are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak- to-peak voltage is limited at TP4, not the PG. SuggestedRemedy Change "differential peak-to-peak voltage are adjusted" to "amplitude are adjusted". Change "voltage tolerance given" to "voltage tolerance at TP4 given". See another comment about introducing the pattern generator. Similarly in 120G.3.4.2.2 step g.	Comments #59 and #62 propose changes to VEC and EH for the module the host input values based upon the resolution of those comments. For task force discussion. C/ 120G SC 120G.3.3.4.2 P 259 L 20 Wu, Mau-Lin MediaTek Inc. Comment Type TR Comment Status D	# 90 bucket1
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are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak- to-peak voltage is limited at TP4, not the PG. <i>SuggestedRemedy</i> Change "differential peak-to-peak voltage are adjusted" to "amplitude are adjusted". Change "voltage tolerance given" to "voltage tolerance at TP4 given". See another comment about introducing the pattern generator. Similarly in 120G.3.4.2.2 step g. <i>Proposed Response</i> <i>Response Status</i> W PROPOSED REJECT.	Comments #59 and #62 propose changes to VEC and EH for the module the host input values based upon the resolution of those comments. For task force discussion. Cl 120G SC 120G.3.3.4.2 P 259 L 20 Wu, Mau-Lin MediaTek Inc. Comment Type TR Comment Status D The 'Value' for 'Crosstalk differential peak-to-peak voltage' is 870, which is Unit of voltage shall be included here as other items. S70, which is 100, which is	# 90 bucket1
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are not adjusted separately as in the previous draft, it doesn't do it. Also, differential peak- to-peak voltage is limited at TP4, not the PG. <i>SuggestedRemedy</i> Change "differential peak-to-peak voltage are adjusted" to "amplitude are adjusted". Change "voltage tolerance given" to "voltage tolerance at TP4 given". See another comment about introducing the pattern generator. Similarly in 120G.3.4.2.2 step g. <i>Proposed Response</i> <i>Response Status</i> W PROPOSED REJECT.	Comments #59 and #62 propose changes to VEC and EH for the module the host input values based upon the resolution of those comments. For task force discussion. Cl 120G SC 120G.3.3.4.2 P 259 L 20 Wu, Mau-Lin MediaTek Inc. Comment Type TR Comment Status D The 'Value' for 'Crosstalk differential peak-to-peak voltage' is 870, which is Unit of voltage shall be included here as other items. SuggestedRemedy	# 90 bucket1

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 C/
 120G
 Page 12 of 37

 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
 SC
 120G
 2021-07-14
 4:46:56 PM

 SORT ORDER: Clause, Subclause, page, line
 C/
 Description
 Description
 2021-07-14
 4:46:56 PM

C/ 120G	SC	120G.3.3.4	l.2 P 2	59	L 20	# 130	
Dawe, Pier	rs		Nvidi	a			
Comment 7 Add the		E I Units colu	Comment Status mn, add units for 8	-			LATE
Suggested. Per co							
This co	OSED ommen	REJECT. t was recei	Response Status	closed.			
C/ 120G	SC	120G.3.3.4	I.3 P 2	59	L 30	# 131	
Dawe, Pier	rs		Nvidi	a			
Comment 1	Туре	т	Comment Status	D			LATE
		t all the S I	cases are applied I	pefore the HC	B is detach	ad from the MC	B
This sa implyin	ig that a	all SJ case	es are used together le all others are act	· (as one migl			

After the stress has been calibrated, the pattern generator is set to generate PRBS31Q, scrambled idle, or another valid 100GBASE-R, 200GBASE-R, or 400GBASE-R sequence, and the HCB is detached/unplugged from the MCB and plugged into the host under test. The host electrical output is enabled on all lanes with any of the patterns above. The sinusoidal jitter is stepped through the six cases in Table 162-16.

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the ballot closed.

C/ 120G S	C 120G.3	.3.4.3 P 259	L 35	# 132
Dawe, Piers		Nvidia		
Comment Type	т	Comment Status D		LATE

There's a problem with identifying which lanes are relevant. For "The host electrical output is enabled on all lanes with any of the patterns above", this is to include realistic crosstalk so it could include all 8 transmit lanes of a QSFP-DD, or maybe all the output lanes on the host if it makes a difference. While for "The host BER is the average of the BER of each of its lanes", only the lanes in the PMD under test (1, 2 or 4 lanes) are relevant. "Module BER" in 120G.3.4.2.3 is even more open to misinterpretation because we are so clear how many lanes a module has. But, terminology for this has been set up: the term "interface BER" occurs 19 times in section 6, and is defined in 86.8.2.1, 86.8.4.7, 86.8.4.8, 95.8.1.1...

SuggestedRemedy

The relevant BER is the interface BER, which is the average of the BER of each of the lanes in the PMD under test.

If the test is performed with PRBS31Q, the BER of a PMA lane may be calculated using the bit error counter in the PMA test pattern checker (see 120.5.11.2.2) as the number of bit errors divided by the number of received bits.

If the test is performed with scrambled idle or another valid 100GBASE-R, 200GBASE-R, or 400GBASE-R sequence, the interface BER may be calculated using the host FEC decoder error counters (see 91.6 and 119.3.1), as the number of FEC symbol errors divided by the number of received bits. Similarly in 120G.3.4.2.3.

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the ballot closed.

C/ 120G	SC 120G.3.3	3.4.3 P 259	L 44	# 133
Dawe, Piers		Nvidia		
Comment Typ	be E	Comment Status D		LATE

"Methods of extracting the received bit pattern and counting errors other than the ones described above may be used if they generate equivalent results" - more wordy than needed for something that shouldn't need saying each time.

SuggestedRemedy

Other methods of extracting the received bit pattern and counting errors may be used if they generate equivalent results. Also in 120G.3.4.2.3.

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the ballot closed.

C/ 120G SC 120G.3.3.4.3

C/ 120G SC 120G.3.4	P 260	L 9	# 55	C/ 120G S	C 120G.3.4.2	2.1	P 261	L 18	# 67
Ran, Adee	Cisco systems	S		Ghiasi, Ali			Ghiasi Quant	um/Inphi	
Comment Type TR	Comment Status D	٨	MI AC CM noise tolerance	Comment Type	ER	Comment S	tatus D	tes	st setup figures (bucket1)
	te the AC common mode c			The figure of	can improve				
if this is not included in th module input specification	e stressed input test, this e	expectation sho	ould be part of the	SuggestedRem	edy				
SuggestedRemedy						ng improvemer			
	–9 with parameter "AC com	nmon-mode inp	out voltage tolerance	- The arrow	s in the Host	ess or DUT sol under test are	e confusing	er dotted	
	Response Status W			Proposed Resp		Response S			
PROPOSED REJECT.	, a similar change to the host	t input.		Comments figures for h	47, 69, 70, 6 nost output, n	nodule output,	propose vario host input, ar	us changes to the nd module input related comme	
C/ 120G SC 120G.3.4.1	P 260	L 30	# 56	C/ 120G S	C 120G.3.4.2	2.2	P 262	L1	# 139
Ran, Adee	Cisco systems	S		Dawe, Piers			Nvidia		
Comment Type E	Comment Status D		bucket1	Comment Type	т	Comment S	tatus D		LATE
·	the value in table 120G-9 tl	han to repeat it	t.				mphasis" in s	tep g will change	e the pattern generator
SuggestedRemedy		han to repeat if	t.	transition ti	me from step		mphasis" in s	tep g will change	e the pattern generator
SuggestedRemedy Change "for any signaling	g rate in the range	·		transition til SuggestedRem	me from step edy	a.			
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f	g rate in the range to "for any signaling rate in	·		transition til SuggestedRem In step a, s	me from step edy ay that, exce	a.	pattern genera		e the pattern generator ne is defined for neutral
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" t Proposed Response	g rate in the range	·		transition til SuggestedRem In step a, s	me from step edy ay that, exce at the pattern	ptionally, this	pattern genera put.		
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" 1 Proposed Response PROPOSED ACCEPT.	g rate in the range to "for any signaling rate in <i>Response Status</i> W	the range spec	cified in Table 120G-9".	transition ti SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE	me from step redy ay that, exce at the pattern ronse D REJECT.	o a. ptionally, this generator out <i>Response</i> S	pattern genera put. <i>tatus</i> W		
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" 1 Proposed Response PROPOSED ACCEPT.	g rate in the range to "for any signaling rate in <i>Response Status</i> W	·		transition ti SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE	me from step redy ay that, exce at the pattern ronse D REJECT.	o a. ptionally, this generator out	pattern genera put. <i>tatus</i> W		
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. Cl 120G SC 120G.3.4.2.	g rate in the range to "for any signaling rate in <i>Response Status</i> W	the range spec	cified in Table 120G-9".	transition tii SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm	me from step redy ay that, exce at the pattern ronse D REJECT.	o a. ptionally, this generator out <i>Response S</i> ived after the	pattern genera put. <i>tatus</i> W		
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. C/ 120G SC 120G.3.4.2. Ran, Adee Comment Type TR	g rate in the range to "for any signaling rate in <i>Response Status</i> W 1 <i>P</i> 261 Cisco systems <i>Comment Status</i> D	the range spec	tified in Table 120G-9". # <u>36</u> <i>MI reference channel</i>	transition tii SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm	me from step redy ay that, exce at the pattern ronse D REJECT. ent was rece	o a. ptionally, this generator out <i>Response</i> S ived after the 2.2	pattern genera put. <i>tatus</i> W ballot closed.	ator transition tir	ne is defined for neutral
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. Cl 120G SC 120G.3.4.2. Ran, Adee Comment Type TR The test setup includes "l	g rate in the range to "for any signaling rate in <i>Response Status</i> W 1 <i>P</i> 261 Cisco systems <i>Comment Status</i> D Frequency-dependent atten	the range spec	tified in Table 120G-9". # <u>36</u> <i>MI reference channel</i> enting the host channel"	transition ti SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm Cl 120G St	me from step ledy ay that, exce tt the pattern lonse D REJECT. ent was rece C 120G.3.4.2	o a. ptionally, this generator out <i>Response</i> S ived after the 2.2	pattern genera put. <i>tatus</i> W ballot closed. <i>P</i> 262 Nvidia	ator transition tir	ne is defined for neutral
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. C/ 120G SC 120G.3.4.2. Ran, Adee Comment Type TR The test setup includes "I but the frequency depend	g rate in the range to "for any signaling rate in <i>Response Status</i> W 1 <i>P</i> 261 Cisco systems <i>Comment Status</i> D Frequency-dependent atten lence is not defined. The or at 26.56 GHz - a single free	the range spec	t is given in step f of	transition til SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm Cl 120G Su Dawe, Piers Comment Type "transition t profile of th	me from step edy ay that, exce the pattern onse D REJECT. ent was rece C 120G.3.4.2 E ime at the e signal at th	o a. ptionally, this generator out <i>Response S</i> ived after the 2.2 <i>Comment S</i> input to the frue output of the	pattern genera put. tatus W ballot closed. P 262 Nvidia tatus D equency-depe e pattern gene	L 2 endent attenuator	# <u>135</u> <i>LATE</i> r", "jitter re the same place and
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. Cl 120G SC 120G.3.4.2. Ran, Adee Comment Type TR The test setup includes "I but the frequency depend 120G.3.4.2.2 as 18.2 dB notch filter - obviously not The attenuator should be	g rate in the range to "for any signaling rate in <i>Response Status</i> W 1 <i>P</i> 261 Cisco systems <i>Comment Status</i> D Frequency-dependent atten lence is not defined. The or at 26.56 GHz - a single free	the range spec	# <u>36</u> <i>MI reference channel</i> string the host channel" t is given in step f of an be implemented by a The suggested remedy	transition til SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm Cl 120G St Dawe, Piers Comment Type "transition t profile of th the style gu frequency-o	me from step edy ay that, exce to the pattern onse D REJECT. ent was rece C 120G.3.4.2 E ime at the e signal at the ide says to u dependent att	o a. ptionally, this generator out <i>Response S</i> ived after the 2.2 <i>Comment S</i> input to the fr is output of the use the same r	pattern genera put. tatus W ballot closed. P 262 Nvidia Status D equency-depe e pattern gene hame for the s muator is not a	L 2 Endent attenuator rator". These a ame thing every	# <u>135</u> <i>LATE</i> or", "jitter re the same place and y time. Also the
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. Cl 120G SC 120G.3.4.2. Ran, Adee Comment Type TR The test setup includes "I but the frequency depend 120G.3.4.2.2 as 18.2 dB notch filter - obviously not The attenuator should be is to use a reference PCE	g rate in the range to "for any signaling rate in <i>Response Status</i> W 1 <i>P</i> 261 Cisco systems <i>Comment Status</i> D Frequency-dependent atten lence is not defined. The or at 26.56 GHz - a single free t what we intend.	the range spec	# <u>36</u> <i>MI reference channel</i> string the host channel" t is given in step f of an be implemented by a The suggested remedy	transition til SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm Cl 120G St Dawe, Piers Comment Type "transition t profile of th the style gu frequency-o	me from step edy ay that, exce to the pattern onse D REJECT. ent was rece C 120G.3.4.2 E ime at the e signal at the ide says to u dependent att .2 says "at the	o a. ptionally, this generator out <i>Response S</i> ived after the 2.2 <i>Comment S</i> input to the fr e output of the ise the same r tenuation/atten	pattern genera put. tatus W ballot closed. P 262 Nvidia Status D equency-depe e pattern gene hame for the s muator is not a	L 2 Endent attenuator rator". These a ame thing every	# <u>135</u> <i>LATE</i> or", "jitter re the same place and y time. Also the
SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. Cl 120G SC 120G.3.4.2. Ran, Adee Comment Type TR The test setup includes "I but the frequency depend 120G.3.4.2.2 as 18.2 dB notch filter - obviously nor The attenuator should be is to use a reference PCE SuggestedRemedy With editorial license, def model of 162.11.7.1 (as in	g rate in the range to "for any signaling rate in <i>Response Status</i> W 1 <i>P</i> 261 Cisco systems <i>Comment Status</i> D Frequency-dependent atten lence is not defined. The or at 26.56 GHz - a single free t what we intend. specified across a wide free model. Alternatively, a free ine the frequency-depende n Annex 163B) with zp=461	the range spec <i>L</i> 4 s s s s s s s s s s s s s	# <u>36</u> <i>MI reference channel</i> enting the host channel" t is given in step f of an be implemented by a The suggested remedy can be used.	transition til SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm Cl 120G St Dawe, Piers Comment Type "transition t profile of th the style gu frequency-o 120G.3.3.4 SuggestedRem	me from step edy ay that, exce to the pattern onse D REJECT. ent was rece C 120G.3.4.2 E ime at the e signal at the ide says to u dependent att .2 says "at the redy the input to t	ptionally, this generator out <i>Response S</i> ived after the l 2.2 <i>Comment S</i> input to the fra- input to the fra- ise the same r tenuation/atten in pattern gene	pattern genera put. tatus W ballot closed. P 262 Nvidia tatus D equency-depe battern gene hame for the s huator is not a erator output".	L 2 Endent attenuato prator". These a same thing every lways present.	# <u>135</u> <i>LATE</i> or", "jitter re the same place and y time. Also the
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SuggestedRemedy Change "for any signaling 53.125 GBd ± 100 ppm" f Proposed Response PROPOSED ACCEPT. Cl 120G SC 120G.3.4.2. Ran, Adee Comment Type TR The test setup includes "I but the frequency depend 120G.3.4.2.2 as 18.2 dB notch filter - obviously not The attenuator should be is to use a reference PCE SuggestedRemedy With editorial license, def model of 162.11.7.1 (as in to create 18.2 dB at 26.56	g rate in the range to "for any signaling rate in <i>Response Status</i> W 1 <i>P</i> 261 Cisco systems <i>Comment Status</i> D Frequency-dependent atten lence is not defined. The or at 26.56 GHz - a single free t what we intend. specified across a wide free model. Alternatively, a free ine the frequency-depende n Annex 163B) with zp=461	the range spec <i>L</i> 4 s s s s s s s s s s s s s	# <u>36</u> <i>MI reference channel</i> enting the host channel" t is given in step f of an be implemented by a The suggested remedy can be used.	transition til SuggestedRem In step a, s emphasis a Proposed Resp PROPOSE This comm Cl 120G St Dawe, Piers Comment Type "transition t profile of th the style gu frequency-c 120G.3.3.4 SuggestedRem Change "at generator (Proposed Resp PROPOSE	me from step edy ay that, exce to the pattern onse D REJECT. ent was rece C 120G.3.4.2 E ime at the e signal at the ide says to u dependent att .2 says "at the edy the input to to TP4a)". onse D REJECT.	ptionally, this generator out <i>Response</i> S ived after the l 2.2 <i>Comment</i> S input to the fr ise the same r tenuation/atter he pattern generation the frequency-	pattern genera put. tatus W ballot closed. P 262 Nvidia tatus D equency-depe e pattern gene name for the s nuator is not a erator output". dependent att tatus W	L 2 Endent attenuato prator". These a same thing every lways present.	# <u>135</u> <i>LATE</i> or", "jitter re the same place and <i>y</i> time. Also the By the way,

TYPE: TR/technical required ER/editorial required GR/gene	ral required T/technical E/editorial G/general	C/ 120G	Page 14 of 37
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn	SC 120G.3.4.2.2	2021-07-14 4:46:56 PM
SORT ORDER: Clause, Subclause, page, line			

C/ 120G	SC 120G.3.4	4.2.2	P 262	L 18	# 68	C/ 120G SC
Ghiasi, Ali			Ghiasi Quar	ntum/Inphi		Dawe, Piers
Comment T	<i>Type</i> TR om Ghiasi page		t Status D		MI EH/VE	C Comment Type Remove an
https:// and Ca https://	www.ieee802.c Ilvin page 4 www.ieee802.c	org/3/ck/public	• -	21/calvin_3ck_ad	lhoc_01a_042121.pdf hoc_01_063021.pdf	SuggestedRem Change "pa
Suggested	Ũ		at i Pia notiea			Proposed Resp
This is	an area that we			out given what we luced to 8.5 mV t	e know at this point VEC o support Lim	C PROPOSEI
Channe	els, see ghiasi_	_3ck_01_072	1			C/ 120G SC
Proposed F	Response	Response	Status W			Brown, Matt
Comm same j The fol https://	ustification as t lowing presenta	es new value his comment. ation was pro org/3/ck/public	vided by the co c/21_07/ghiasi_		utput based on the	Comment Type This step g) "The patterr are adjus "The patterr reference re
C/ 120G	SC 120G.3.4	4.2.2	P 262	L 24	# 137	I believe the jitter/voltage
Dawe, Pier	S		Nvidia			SuggestedRem
setting for the less the	misleading: "Fo s where gDC + low-loss case." an or equal to -	or the high-los gDC2 is less Even the pr 13 dB" was m	than or equal to evious text, "Th hisinterpreted to	o -13 dB. This rea e CTLE setting, (o mean that there	LA7 CTLE is limited to striction does not apply gDC+gDC2, has to be is no constraint on 20G-11 still apply.	E Change: "TI minimize VI To: "For any receiver set Proposed Resp
Suggested	Remedy					PROPOSEI
height constra gDC + Alterna Delete	and VEC are m aint for the high gDC2 is less th tively, modify T "For the high-lo	easured at T -loss case: th han or equal t fable 120G-1 pss case, the	P1a as describe e reference rec o -13 dB. 1 to add the rule reference recei	ed in 120G.5.2, w eiver CTLE is lim e there. ver CTLE is limit	in 120G.5.2." to "Eye vith an addtional lited to settings where ed to settings where ot apply for the low-loss	i
Proposed F	Response DSED REJECT		Status W			

This comment was received after the ballot closed.

Cl 120G	SC 120G.3.4	. 2.2 P 2	262	L 25	# 138
Dawe, Pier	s	Nvid	a		
Comment 7 Remov	<i>fype</i> T e ambiguity	Comment Status	D		LATE
S <i>uggestedl</i> Change	-	ator pre-emphasis" t	o "pattern g	enerator pre	cursor emphasis"
	, DSED REJECT.	Response Status eived after the ballot			
C/ 120G	SC 120G.3.4	. 2.2 P 2	.62	L 26	# 9
Brown, Mat	tt	Huav	vei		
Comment T	Гуре Т	Comment Status	D		MI SI method
"The pa are a "The pa referen I believ	attern generator adjusted so that attern generator ce receiver setti e the the latter o	VEC is within the pre-emphasis and ngs that minimize V	limits in Tal EC are used to specify th	ble 120G–10 d." hat for each	U U
Suggestedl	Remedy				
minimiz	ze VEC are use	enerator pre-empha d."			0

To: "For any jitter and voltage setting, the pattern generator pre-emphasis and reference receiver settings that minimize VEC are used."

Proposed Response Response Status W

PROPOSED ACCEPT.

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 120G SC 120G.3.4.2.2 Page 15 of 37 2021-07-14 4:46:56 PM

C/ 120G	SC 120G.5.1	P 264	L 31	# 37
Ran, Adee		Cisco systems		
Comment Ty	/pe TR	Comment Status D		signal level

This clause is referred to in Table 120G-1 and Table 120G-3 for the parameter differential PtP output voltage (max), among others.

The content is only a reference back to 120E.3.1.2: "The signal levels are as defined in 120E.3.1.2". 120E.3.1.2 does have a definition of differential signal but also states that "Unless otherwise noted, differential and common-mode signal voltages are measured with a PRBS13Q test pattern".

But PRBS13Q is not an appropriate signal for measurement of the PtP output voltage, because it has a maximum run length of 7 symbols and does not have any spectral content below 3 MHz. Much longer runs are possible in real data. Measurement with PRBS13Q over a lossy channel between the transmitter and the measurement point, without sufficient equalization, can thus yield peak-to-peak value lower than the value that real data would create.

Since there is no way to control the transmitter's swing or equalization, this may cause events of higher signal levels than the receiver expects, and cause periods of high BER, which can span many FEC symbols and cause uncorrectable codewords.

It is proposed to define the differential PtP explicitly as a requirement for any data pattern, and recommend to measure it using a pattern that contains low-frequency content, such as PRBS31Q or SSPRQ.

The definition of signal levels measurement using PRBS13Q also applies for CR/KR/C2C but in these cases the transmitter can be controlled to reduce the signal to an adequate level for the receiver, so it is less of an issue.

SuggestedRemedy

Replace the content of 120G.5.1 with the following:

"The definition of differential and common-mode signals can be found in 120E.3.1.2. The signal levels specifications for host and module outputs hold for any data pattern. It is recommended to measure differential peak to peak signal levels with PRBS31Q or SSPRQ test pattern."

Consider applying similar changes in 162, 163, and 120F, with editorial license.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.

The proposal to refer "any data pattern" is rather broad.

SSPRQ has been previously used only for optical transmitter testing and has no advantages for this test. It is not clear that similar changes are warranted for 162, 163, and 120F since the insertion loss to the test point is smaller. Change the text in 120G.5.1 to the following: "The signal levels are as defined in 120E.3.1.2, with the exception that differential and common-mode signal voltages are measured with a PRBS31Q test pattern." For task force discussion. [Editor's note: CC: 120F, 120G, 162, 163]

C/ 120G	SC 120G.5.2	P 264	L 40	# 140
Dawe, Piers		Nvidia		
Comment Ty	be T	Comment Status D		LATE

This needs explanation: "the probabilities are relative to the number of PAM4 symbols measured."

SuggestedRemedy

For a histogram, it should be the expectation of number of bad samples in the histogram / total number of samples *in the histogram*, assumed evenly distributed across its width. In conventional eye mask terminology, hit ratios are hits in a keepout region / number of samples, assumed evenly distributed across 1 UI (see 86.8.3.2.1).

Proposed Response Response Status W

PROPOSED REJECT.

This comment was received after the ballot closed.

C/ 120G SC	2120G.5.2	P 26	65	L 12	#	105	
Dawe, Piers		Nvidia	a				
Comment Type	TR	Comment Status	D			I	RR gdc

When gDC2 is -2, we allow no more than -(-12-2) = 14 dB of peaking, yet when gDC2 is -3, we allow -(-13-3) = 16 dB, yet the channel loss should not be higher. This doesn't make sense.

SuggestedRemedy

For TP1a, change -12 -12 -13 to -12 -11 -10 or -12 -12 -11 (so the strongest CTLE peaking for the highest two gDC2 categories is the same).

Proposed Response Response Status W

PROPOSED REJECT.

The comment does not provide sufficient justification for the proposed changes.

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 120G SC 120G.5.2 Page 16 of 37 2021-07-14 4:46:56 PM

C/ 120G	SC 120G.5.2	P 265	L 16	# 103	C/ 120G SC 120G.	5.2 P 265	L 51	# 38
Dawe, Piers		Nvidia		100	Ran, Adee	Cisco systems		
Comment Typ		Comment Status D gDC2 should not be the sam	ne for short and	RR gdc long output modes.	Comment Type ER	Comment Status D ause starts at h) instead of a).		bucket1
SuggestedRe	medy				SuggestedRemedy			
Create se style of TI		or TP4 short and long output	modes, so 4 se	ets for TP4+, in the	Change the list form Proposed Response			
Proposed Res	sponse ED REJECT.	Response Status W			PROPOSED ACCE	Response Status W		
This com basis of ir style used The com	ment is a rest nsufficient just d for TP1a but nent does not	atement of D2.0 comment #1 ification and detail. It adds re does not provide specific val provide sufficient justificatior provide sufficient detail to imp	quest to provide lues. No further n for the propos	e 4 sets of values in the justification is provided.	Cl 120G SC 120G. Brown, Matt Comment Type E Method should start	Huawei Comment Status D	L 51	# 10 bucket1
C/ 120G	SC 120G.5.2	P 265	L 25	# 104	SuggestedRemedy			
Dawe, Piers		Nvidia			Reformat list to star	: at "a)".		
Comment Typ	e TR	Comment Status D		RR gdc	Proposed Response	Response Status W		
less than	to TP1a, the i	for TP4 far-end is known exact ange of gDC, gDC2 combina elieve the strongest gDC and	tions should be	a subset of the TP1a	PROPOSED ACCE	PT.		
SuggestedRe	medy							
depend o	n gDC2 in the	er, DC gain for TP4 far-end (same style as for TP1a, with wed values should be a subse	the strongest g	DC and gDC2 adding				
Proposed Res	sponse	Response Status W						
This com basis of ir is provide	nsufficient just d. nent does not	atement of D2.0 comment #1 ification and detail. No furthe provide sufficient justificatior provide sufficient detail to imp	r justification or	implementation detail				

C/ 120G SC 120G.5.2

C/ 120G	SC 120G.5.2	P 266	L 23	# 106
Dawe, Piers		Nvidia		
Comment Ty	be TR	Comment Status D		EO method

This draft has a primitive rectangular eye mask spec with mask height = max(EHmin, EA/VECmax) and mask width = 0.1 UI, although it is described as a histogram. Measuring a diamond eye with a rectangular mask is an inefficient, inaccurate way of measuring signal quality and provides weak and uncertain protection against too much jitter. Its effective width is less than its actual because of the 1e-5 probability criterion and the inefficient shape.

De-weighting the sides of the histogram/mask would make this worse, equivalent to increasing the target BER by 10x or so. A higher VEC / smaller EH limit with the rectangular mask would allow more jittered and more varied signals, particularly for very short host channels (see Mike Dudek's work) that can have faster edges than higher loss ones. The target BER is not going to change.

We need an eye mask that's more eye shaped, so that a higher proportion of the samples are near the boundary and contribute to the measurement.

SuggestedRemedy

Change from a 4-cornered mask with corners at t = ts+/-0.05, V = y +/-H/2 to a 10-cornered mask with corners at t = ts+/-0.05, ts+/-1/16, ts+/-3/32, V = y +/-H/2, k +/-H*0.4, y. y is near VCmid, VCupp or VClow (vertically floating, as in D2.1).

H is max(EHmin, Eye Amplitude * 10^(-VECmax/20)). Eye Amplitude is AVupp, AVmid or AVlow, as in D2.1.

This simple scalable method can remain as the EH and VEC limits are revised. Scopes have been measuring with 10-sided masks for many years, it's not more difficult than a rectangular mask and gives better results.

Proposed Response Response Status W

PROPOSED REJECT.

This comment is a restatement of D2.0 comment #127, which was REJECT.ed on the basis of insufficient justification and insufficient analysis to show equivalent or better interoperability. No further justification or implementation detail is provided.

The comment does not provide sufficient evidence to make the proposed changes. All of the simulations and related specifications thus far have been based upon the current CTLE pole-zero and gain parameters. Any changes to these parameters would require all related specifications to be revisited.

C/ 120G	SC 120G.5.2	P 266	L 25	# 39
Ran, Adee		Cisco syster	ns	
Comment Ty	pe TR	Comment Status D		EO method

As has been reported in calvin_3ck_adhoc_01_063021, the authors have been "unable to reliably close the calibration loop on TP1a at 12.5dB VEC with precision lab equipment" for insertion loss of 16.4 dB. This suggests that the VEC specification may be unfeasible.

Allowing a higher (worse) VEC for transmitters (host/module outputs) might pass bad receivers with very closed eyes, which will put more burden on receivers (even if the signal in stressed input test does not change, receivers will have to work with transmitters that have the same VEC due to other reasons, e.g. a "rectangular eye" closed by high noise that can't be equalized, rather than ISI).

Instead of lowering the VEC bar for transmitters, we should look at the definition of VEC and make it more suitable to the expected eye shape of good transmitters after processing with the reference receiver (this shape is not rectangular), taking into account the expected behavior of real receivers.

The calculation of VEC and EH from a CDF accumulated over ts ± 0.05 UI gives the same weight to all phases. This makes sense if the receiver's phase is distributed uniformly in this window; it supposedly makes sense it we don't know where the receiver will sample within this region and account for sampling error. But the eye is not independent of the receiver - it is shaped by the receiver's equalization, and in the reference receiver we assume a certain behavior.

A receiver is expected to optimize its equalization (CTLE+DFE or equivalent) at the sampling point ts - this is part of the measurement procedure (currently steps k and l) - which would result in the maximum vertical opening being at ts. We should assume the average sampling phase is then ts; any difference between the optimized phase and the average phase is an implementation penalty that should be covered by the minimum EH.

A real receiver's CDR does not have a uniform phase distribution around its mean; the probability of sampling at either -0.05 UI or +0.05 UI from ts is smaller than the probability of sampling closer to ts. The rare events where the sample is taken far from ts contribute less to the average BER, so they should be weighted down in the calculation of the CDFs. Having equal weights as in the current method is overly pessimistic in both EH and VEC.

It is therefore proposed to apply a weighting function to the sampled data based on the phase.

SuggestedRemedy

A detailed proposal will be provided in a presentation.

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot.

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 C/
 120G
 Page 18 of 37

 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
 SC 120G.5.2
 2021-07-14 4:46:56 PM

 SORT ORDER: Clause, Subclause, page, line
 Subclause, page, line
 SC 120G.5.2
 2021-07-14 4:46:56 PM

C/ 161

Ran. Adee

SC 161.5.2.9

Hence it is not within the scope of the recirculation ballot.

The comment does not provide sufficient justification for any changes and the suggested remedy as written does not provide sufficient detail to implement. The following presentation analyzed the effect of the currently specified measurement method. A similar analysis is required to make any changes. Https://www.ieee802.org/3/ck/public/20_10/healey_3ck_01a_1020.pdf The suggested remedy does not provide sufficient detail to implement. A related presentation is anticipated. For task force discussion.

C/ 161	SC 161.5.2.8	P 134	L 3	# 18
Brown, Matt		Huawei		
Comment Ty	pe E	Comment Status D		bucket1

To address the editor's note a simple change to 161.5.2.9 can address the main concern of D2.1 Comment #163. The terms "FEC encode" and "Reed-Solomon" encoded should be reconciled. All other references in Clause 161 to encoding are preceded by "Reed-Solomon" not "FEC". The same holds for decoder except for one instance.

Reed-Solomon encoder 3x

Reed-Solomon encoding 1x Reed-Solomon encoded 2x FEC encoded 1x Reed-Solomon decode 1x Reed-Solomon decoding 1x Reed-Solomon decoder 9x decoder 1x

SuggestedRemedy

In 161.5.2.9, change "FEC encoded" to "Reed-Solomon" encoded. In 161.5.3.3 (page 136, line 31), change "decoder" to "Reed-Solomon decoder"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Resolve the first part of the suggested remedy using the response to comment #27. In 161.5.3.3 (page 136, line 31), change "decoder" to "Reed-Solomon decoder"

Comment Status D Comment Type **T** bucket1 The text can be made more precise to avoid possible confusion of "FEC encoded" vs. "Reed-Solomon encoded" and to clarify where the codewords come from and what is being distributed. SuggestedRemedy Change "Once the data has been FEC encoded, two FEC codewords" to "Once the data has been encoded per 161.5.2.8. two resulting codewords" On line 16, change "Once the data has been Reed-Solomon encoded and interleaved, it shall be distributed" to "tx out<1087:0> shall be distributed". Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change "Once the data has been FEC encoded, two FEC codewords" to "Once the data has been Reed-Solomon encoded, two resulting FEC codewords" On line 16, change "Once the data has been Reed-Solomon encoded and interleaved, it shall be distributed" to "tx_out<1087:0> shall be distributed". C/ 162 SC 162.1 P 149 L 15 # 82 Wu. Mau-Lin MediaTek Inc. Comment Type E Comment Status D bucket1 The hyperlink of "Figure 162-1" is not correct. It is linked to Table 162-1. SuggestedRemedy Correct the hyperlink of "Figure 162-1". Proposed Response Response Status W PROPOSED ACCEPT. C/ 162 SC 162.9.3 P 162 L12 # 83 Wu. Mau-Lin MediaTek Inc. Comment Type E Comment Status D bucket1 There is no "hyperlink" to 162A.2. SuggestedRemedy The hyperlink ot 162A.2 shall be added in the sentence "The transmitter characteristics at TP0 are provided informatively in 162A.2." Proposed Response Response Status W PROPOSED ACCEPT.

P134

Cisco systems

L3

27

C/ 162 SC 162.9.3 Page 19 of 37 2021-07-14 4:46:56 PM

Cl 162	SC 162.9.3	P 163	L 5	# 28	C/ 162	SC 1	162.9.3	P 163	L 18	# 92
Ran, Adee		Cisco systems	3		Dawe, Pier	s		Nvidia		
Comment T	ype TR	Comment Status D		bucket1	Comment	Гуре	TR	Comment Status D		host/CA IL
53.125 This lab Table 1 The "(ra these ta Make th SuggestedF	± 50 ppm so the vel is inconsisted 20G-1 it is "Sig ange)" seems of ables are per-la ne label consis Remedy	rst parameter is "Signaling rate his label is incorrect (nominal is ent: in Table 163-5 it is just "Sig gnaling rate, each lane (range)" correct. The words "each lane" ane. tent across the similar tables.	s 53.125). gnaling rate", in '. are unnecessar	Table 120F-1 and	losses. The re 6.875 c passive can be QSFP- better long po This ch get cre The sy	6.875/ comme dB, come e coppe made v DD to 2 for the s orts. nange w dit for t mmetrie	2.3 = 3:1. ndation for pares ve er to this or with only 2 x QSFP standard for vould also heir low for c budget	is used for some designs und	yet not needed otprint and hos rrtion loss up to re for a switch, are asymmetric ymmetric loss anyway. C2M s because the	I for NICs. to connector footprint, 11.9 dB, making yet a full range of NICs in form factor (e.g. budget, so it would be already has short and shortest ports would
0			adles.					and the better way added.		
Proposed R		Response Status W			Suggested		-	host loss allocations of A 10,		
and D2 Hence i Change	0 or the unsat it is not within t the label to "S	ot apply to the substantive cha sfied negative comments from he scope of the recirculation b Signaling rate, each lane (range OF, 120G, 162, 162]	the initial ballot allot.		Use 2 to the o Techno Ability In Tabl	bits in C other er blogy Al Field bi e 162-1	Clause 73 nd. In the bility Field t from an	nits A and C for linear fit pulse	n A port ignore port ignores a 1	s a 100G/lane 00G/lane Technology
C/ 162	SC 162.9.3	P 163	L 15	# 99				blumns for Test 2 (high loss),		
Dawe, Piers Comment T	s Type E	Nvidia Comment Status D ablished a consistent way of na		bucket1	higher In 162/ 162A-1	(26.75 A.4, add and 2.	dB to 27. d equation In 162A	125 dB lower (20.5 dB to 21.5 75 dB). No change needed for ns for IL_PCBmax and ILHost .5, add Value columns A, C ir ist figures 162A-3 and 4.	or Test 1. Max A and B a	nd show them in Fig
easier f	or the reader to	o find them.	-		Proposed I	Respon	se	Response Status W		
others, Proposed R	add "RLcc", "R throughout the	Ldc" and so on in the table rov draft. Also in running text suc <i>Response Status</i> W			PROP D2.0 s conser For tas	OSED F traw pol isus is i k force	REJECT. Ils #6 and needed to discussio	f #7 indicated interest in explo make a change of this magr		R port types. However,

C/ 162 SC 162.9.3

C/ 162 SC 162.9.3	P 163	L 20	# 101		C/ 162	SC 162.9.3	.1.1	P 165	L 5	# 29
Dawe, Piers	Nvidia				Ran, Adee			Cisco systems	6	
Comment Type T	Comment Status D			units	Comment T	Type TR	Comment St	tatus D		Np value
The units for a ratio shou is meant.	ld be spelled out so the rea	der knows which	n of V/V, W/W o	or A/A,	SNDR.	Other invocat	ions of this proce	dure, for vf an	d vpeak, use N	ective for calculation of /=200 instead. Nv
SuggestedRemedy						s several time s is not stated		parameter, bu	ut it is not - it is	a value that replaces
Change the long dash to	V/V. This may be desirable	e for some other	ratios also, an	d in 163.	• •		,			
PROPOSED REJECT. The suggested remedy d	Response Status W	kisting specificat	ion.		162.9.3	3.1.3, 162.9.3. ⁻		.5, it does not	t matter whethe	coefficients used in r 29 or 200 UI are
[Editor's note: CC: 162, 1	63]				Having and cor		rs instead of one	parameter wh	ich takes two va	alues is unnecessary
					Suggested	Remedy				
					In 162.9	9.3.1.1, chang	e "Np=29" to "Np	=200".		
					162.9.3		o "with the except			ar fit procedure in re in 162.9.3.1.1 is
					In 162.9	9.3.1.2 (Stead	y-state voltage ar	nd linear fit pul	se peak) delete	"using Nv=200".
					In 163.9	9.2.3 (Differen	ce steady state v	oltage) delete	"with Nv = 200"	
					In 163A (3 times		/-state voltage an	d pulse peak	reference value	s) change "Nv" to "Np"
					In 163B	3.2 (Character	stics) delete "Wit	h Nv = 200".		
					With ec	ditorial license	change any remain	aining occurre	nce of Nv to Np).
					Proposed R	Response	Response St	atus W		
					The foll https://\ Implem	lowing present www.ieee802. hent the sugge	org/3/ck/public/ad	ed by the task hoc/july14_21		ous ad hoc meeting. c_01a_071421.pdf.

C/ 162 SC 162.9.3.1.1

C/ 162	SC 162.9.3.1.2	P 166	L 4	# 30	C/ 16
Ran, Ade	e	Cisco system	S		Dudel
Comment	t Type TR	Comment Status D		vf method	Comm
		e vf is defined in 136.9.3.1. atio calculated by the proce			Th we te
It is d	letermined _from_ t	ne linear fit pulse, and the	_peak ratio_ is	irrelevant here.	ba as
of and	other comment.	ot use the parameter Nv - in	t has Np which	is 13. This is the subject	ar ap we
00	dRemedy				Sugge
"The s pulse		e vf is defined in 136.9.3.1. ed by the procedure in 162. with Np=200".			Sugge Ac wi Propo
Proposed	l Response	Response Status W			Pl
PROF	POSED ACCEPT IN	PRINCIPLE.			C/ 16
and D	02.0 or the unsatisfi	apply to the substantive cha ed negative comments from scope of the recirculation b	n the initial ball		Comn
and D Hence Howe	02.0 or the unsatisfi e it is not within the	ed negative comments fror scope of the recirculation t hange is an improvement t	n the initial ballo ballot.		Dawe <i>Comm</i> Al re bo ur
and D Hence Howe Imple	02.0 or the unsatisfi e it is not within the ever, the proposed o	ed negative comments from scope of the recirculation the hange is an improvement the d remedy.	n the initial ballo ballot.		Comm Al re bo
and D Hence Howe Imple	02.0 or the unsatisfi e it is not within the ever, the proposed of ement the suggested SC 162.9.3.1.2	ed negative comments from scope of the recirculation the hange is an improvement the d remedy.	n the initial ballo ballot. to the draft.	ot.	Comn Al re bo ur Sugge Pi
and D Hence Howe Imple C/ 162 Dawe, Pie	02.0 or the unsatisfi e it is not within the ever, the proposed of ement the suggested SC 162.9.3.1.2 ers	ed negative comments fror scope of the recirculation b hange is an improvement f d remedy. P 166	n the initial ballo ballot. to the draft.	ot.	Comn Al re bo ur Sugge Pi w
and D Hence Iowe Imple C/ 162 Dawe, Pie Comment	02.0 or the unsatisfi e it is not within the ever, the proposed of ement the suggested SC 162.9.3.1.2 ers t Type T	ed negative comments from scope of the recirculation b hange is an improvement f d remedy. P166 Nvidia	n the initial ballo ballot. to the draft. <i>L</i> 5	bt. # [<u>107</u> <i>vf value</i>	Comn A re bo un Sugge Pi w Propo
and D Hence Imple C/ 162 Dawe, Pie Comment Redu	02.0 or the unsatisfi e it is not within the ever, the proposed of ement the suggested SC 162.9.3.1.2 ers t Type T	ed negative comments fror scope of the recirculation b hange is an improvement f remedy. <i>P</i> 166 Nvidia <i>Comment Status</i> D	n the initial ballo ballot. to the draft. <i>L</i> 5	bt. # [<u>107</u> <i>vf value</i>	Comn A re bo un Sugge P w
and D Hence Howe Imple 2/ 162 Dawe, Pie Comment Redui Suggestee Chang	02.0 or the unsatisfi e it is not within the ever, the proposed of ement the suggested SC 162.9.3.1.2 ers t Type T ndantly stating norm dRemedy ge "The steady-stat	ed negative comments fror scope of the recirculation f hange is an improvement f d remedy. P 166 Nvidia Comment Status D native requirements is bad e voltage shall be greater t	n the initial ballo ballot. to the draft. <i>L</i> 5 practice. Table han or equal to	# <u>107</u> <i>vf value</i> e 162-10 is normative. 0.387 V and less than	Comr A re bu Sugge P w Propo
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and D Hence Howe Imple Dawe, Pie Comment Redui Suggestee Chang or equ 10", "i	02.0 or the unsatisfi e it is not within the ever, the proposed of ement the suggested SC 162.9.3.1.2 ers t Type T ndantly stating norm dRemedy ge "The steady-stat ual to 0.6 V" to "The meet the requirement	ed negative comments fror scope of the recirculation b hange is an improvement of remedy. P166 Nvidia Comment Status D native requirements is bad e voltage shall be greater t e steady-state voltage shall nts specified in Table 162-	n the initial ballo ballot. to the draft. <i>L</i> 5 practice. Table han or equal to be within the lii	# 107 # 107 <i>vf value</i> # 162-10 is normative. 0.387 V and less than	Comr A re b Suggu P w Propo T C/ 16 Ran,
and D Hence Howe Imple 2/ 162 Dawe, Pie Comment Redui Suggestee Chang or equ 10", "n	02.0 or the unsatisfi e it is not within the ever, the proposed of sement the suggested SC 162.9.3.1.2 ers t Type T ndantly stating norm of Remedy ge "The steady-station ual to 0.6 V" to "The meet the requirement I Response	ed negative comments fror scope of the recirculation b hange is an improvement of remedy. P166 Nvidia Comment Status D native requirements is bad e voltage shall be greater to e steady-state voltage shall nts specified in Table 162- Response Status W	n the initial ballo ballot. to the draft. <i>L</i> 5 practice. Table han or equal to be within the lii	# 107 # 107 <i>vf value</i> # 162-10 is normative. 0.387 V and less than	Comr A re b Sugg P W Propo T CI 16 Ran, Comr
and D Hence Howe Imple C/ 162 Dawe, Pie Comment Redui Suggester Chang or equ 10", "i Proposed PROF Chang or equ	02.0 or the unsatisfi e it is not within the ever, the proposed of sever, the proposed of <i>SC</i> 162.9.3.1.2 ers t <i>Type</i> T ndantly stating norm <i>dRemedy</i> ge "The steady-stat ual to 0.6 V" to "The meet the requirement <i>I Response</i> POSED ACCEPT IN ge "The steady-stat ual to 0.6 V" to "The	ed negative comments fror scope of the recirculation b hange is an improvement of remedy. P166 Nvidia Comment Status D native requirements is bad e voltage shall be greater to e steady-state voltage shall nts specified in Table 162- Response Status W	n the initial ballo ballot. to the draft. <i>L</i> 5 practice. Table han or equal to be within the li 10", or similar. han or equal to	# <u>107</u> <i>vf value</i> e 162-10 is normative. 0.387 V and less than mits given in Table 162- 0.387 V and less than	Comm A re bu Sugge P w Propo CI 16 Ran, 12 Sugge
and D Hence Howe Imple C/ 162 Dawe, Pie Comment Redui Suggester Chang or equ 10", "i Proposed PROF Chang or equ	02.0 or the unsatisfi e it is not within the ever, the proposed of scenent the suggested SC 162.9.3.1.2 ers t Type T ndantly stating norm dRemedy ge "The steady-stat ual to 0.6 V" to "The meet the requirement I Response POSED ACCEPT IN ge "The steady-stat	ed negative comments fror scope of the recirculation b hange is an improvement of remedy. P166 Nvidia Comment Status D native requirements is bad e voltage shall be greater t e steady-state voltage shall nts specified in Table 162- Response Status W I PRINCIPLE. e voltage shall be greater t	n the initial ballo ballot. to the draft. <i>L</i> 5 practice. Table han or equal to be within the li 10", or similar. han or equal to	# <u>107</u> <i>vf value</i> e 162-10 is normative. 0.387 V and less than mits given in Table 162- 0.387 V and less than	Comm A re bu Sugge P w Propo Cl 16 Ran, 12 Sugge C
and D Hence Howe Imple C/ 162 Dawe, Pie Comment Redui Suggester Chang or equ 10", "i Proposed PROF Chang or equ	02.0 or the unsatisfi e it is not within the ever, the proposed of sever, the proposed of <i>SC</i> 162.9.3.1.2 ers t <i>Type</i> T ndantly stating norm <i>dRemedy</i> ge "The steady-stat ual to 0.6 V" to "The meet the requirement <i>I Response</i> POSED ACCEPT IN ge "The steady-stat ual to 0.6 V" to "The	ed negative comments fror scope of the recirculation b hange is an improvement of remedy. P166 Nvidia Comment Status D native requirements is bad e voltage shall be greater t e steady-state voltage shall nts specified in Table 162- Response Status W I PRINCIPLE. e voltage shall be greater t	n the initial ballo ballot. to the draft. <i>L</i> 5 practice. Table han or equal to be within the li 10", or similar. han or equal to	# <u>107</u> <i>vf value</i> e 162-10 is normative. 0.387 V and less than mits given in Table 162- 0.387 V and less than	Comm A re bu Sugge P w Propo CI 16 Ran, 12 Sugge

C/ 162 SC	C 162.9.3.3	P 167	L 31	# 78
Dudek, Mike		Marvell		
Comment Type	т	Comment Status D		SNDR test response

measurement method for SNDR in 120D.3.1.6 uses a 33MHz filter bandwidth, which Id take precedence over the statement that for Transmitter electrical characteristics "A system with a fourth-order Bessel-Thomson low-pass response with 40 GHz 3 dB dwidth is to be used for all transmitter signal measurements, unless otherwise specified t is "otherwise specified". This was probably not intended and there is potential biguity here that should be removed. However as the Rx is only expected to have proximately the Nyquist bandwidth measuring SNDR to 40GHz may be excessive and should consider using a narrower bandwidth.

tedRemedy

a sentence. A test system with a fourth-order Bessel-Thomson low-pass response 40 GHz 3 dB bandwidth should be used.

Proposed Response	Response Status	W	

OPOSED ACCEPT.

C/ 162	SC 162.9.3.4	P 167	L 47	# 109
Dawe, Piers		Nvidia		
Commont Tu		Commant Status		EQ 1 months of

Comment Status **D** ent Type **TR** EOJ method

owing 4 different ways to measure the same thing, admitting that they will give different ults yet not ranking them, is too indecisive, and forces people to do all four tests in derline cases. Worse, "lower than 4 MHz" is open-ended and introduces yet more certainty.

tedRemedy

k one pattern and CRU corner as definitive, the others can be "if it passes/fails this it Ild have passed/failed".

ed Response Response Status W

OPOSED REJECT.

suggested remedy is not sufficiently complete to implement.

C/ 162	SC 162.9.3.4	P1	68	L 1	# 31
Ran, Adee	9	Cisco	o systems		
Comment	Type ER	Comment Status	D		bucket1
120D.3	3.1.2 is not the co	rect reference for th	he pattern s	symbols a	nd thresholds.

tedRemedv

ange 120D.3.1.2 to Table 120D-4.

ed Response Response Status W OPOSED ACCEPT.

TYPE: TR/technical required ER/editorial required GR/gener	al required T/technical E/editorial G/general
COMMENT STATUS D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed U/upsatisfied Z/withdrawn

C/ 162

SC 162.9.3.4 OMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

idaka, Yasuo o <i>mment Type</i> E 164 on the row F10	Credo Semic Comment Status D	onductor, Inc.		Dev. Adv.					
	Comment Status D			Ran, Adee	•		Cisco system	าร	
164 on the row F10			bucket1	Comment	Туре Е	R	Comment Status D		signaling rate (bucket1
uggestedRemedy Change 164 with 26		symbol is a typo.		across	tables. In n Table 12	Table	ons tables the signaling rate 162–14 it is "Signaling rate" Table 120G–7, and Table 1	, in Table 163-	-8 "Receiver signaling
roposed Response PROPOSED ACCE	Response Status W PT.						ns correct. The words "eacl ane. Similarly "Receiver" is		ecessary - all parameters
162 SC 162.9.	4 P 170	L 29	# 111	Make t	the label c	onsiste	nt across the similar tables.		
awe, Piers	Nvidia			Suggested	Remedy				
omment Type E	Comment Status D		TP5 specifications	Chang	e the labe	l to "Sig	gnaling rate (range)" in all 4	tables.	
The receiver specifi 162A.3 says. uggestedRemedy	3: that's not what	Proposed PROP	,		Response Status W				
oposed Response PROPOSED ACCE The suggested cha	stics at TP5, to Recommended <i>Response Status</i> W PT IN PRINCIPLE. nge in wording in 162.9.4 is an in then similar text in 162.9.3 Tra	mprovement to th	e draft. However, if	Chang "Signa	e in all tab ling rate, e	oles to b each lar	e scope of the recirculation be consistent with Table 120 he (range)" 5, 120G, 162, 163]		
	o update the title for subclauses	162A.2 and 162	A.3 since Annex 162A	C/ 162	SC 162	2.9.4.1	P 171	L 4	# 33
is informative and th In 162.9.3	ne text introduces the specificati	ons as recomme	nded.	Ran, Adee	•		Cisco system	าร	
change "The transn to "Recommended In 162.9.4	nitter characteristics at TP0 are ransmitter specifications are pro er specifications at TP5 are prov	ovided in 162A.2.			ranslates t	to a nor	Comment Status D ninal unit interval of 18.823 nominal unit interval but an		
	eceiver specifications are provid			In fact, 4 digits (0.1 fs resolution) result in about 1 ppm error, which is sufficient for any practical purpose.					
				Suggested Chang		53" to "	approximately 18.8235".		
				Proposed PROP	Response OSED AC		Response Status W		

C/ 162 SC 162.9.4.1

C/ 162 SC 162.9.4.2	P 171	L 12	# 84	C/ 162 SC 162.9.4.3.3 P 173 L 38 # 113
Vu, Mau-Lin	MediaTek Inc			Dawe, Piers Nvidia
Comment Type TR Co	omment Status D		bucket1	Comment Type E Comment Status D broadband
The peak-to-peak differential of "footnote a".	output voltage is define	ed in Table 162-	10 footnote b, instead	"sigma_bn is the RMS broadband noise amplitude" means nothing because the text doesn't call it that.
uggestedRemedy				SuggestedRemedy
Change "Table 162-10 footno	ote a" to "Table 162-10	footnote b".		Add "RMS broadband noise amplitude" to the text where sigma_bn is mentioned (step
Proposed Response Res	sponse Status W			Proposed Response Response Status W
PROPOSED ACCEPT IN PR				PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license.
This comment does not apply and D2.0 or the unsatisfied n				C/ 162 SC 162.9.4.3.4 P 174 L 8 # 114
Hence it is not within the sco	pe of the recirculation t	pallot.		Dawe, Piers Nvidia
However, the proposed chan	ge is an improvement t	to the draft.		Comment Type TR Comment Status D bu
				These equations for spectral density mask are too obscure.
Implement the suggested rer	nedy.			SuggestedRemedy
/ 162 SC 162.9.4.3.3	P 172	L 25	# 6	Add a graph
	<i>Р</i> 172 Ниаwei	L 25	# 6	Add a graph Proposed Response Response Status W
Brown, Matt			# 6transition time (bucket1)	
rown, Matt omment Type E Co Transition time is referred to	Huawei omment Status D here as "20% to 80% ti	ransition time". It	<i>transition time (bucket1)</i> t is defined explicitly in	Proposed Response Response Status W
Frown, Matt <i>comment Type</i> E Co Transition time is referred to 120E.3.1.5. Transition time is	Huawei omment Status D here as "20% to 80% ti	ransition time". It	<i>transition time (bucket1)</i> t is defined explicitly in	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.
Transition time is referred to 120E.3.1.5. Transition time is Align terminology.	Huawei omment Status D here as "20% to 80% ti	ransition time". It	<i>transition time (bucket1)</i> t is defined explicitly in	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license.
Brown, Matt Comment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology.	Huawei omment Status D here as "20% to 80% to s usually referred to els	ransition time". It ewhere in draft a	<i>transition time (bucket1)</i> t is defined explicitly in	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85
rown, Matt omment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. uggestedRemedy Change "20% to 80% transiti roposed Response Res	Huawei omment Status D here as "20% to 80% to s usually referred to els	ransition time". It ewhere in draft a	<i>transition time (bucket1)</i> t is defined explicitly in	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. C/ 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc.
rown, Matt omment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. uggestedRemedy Change "20% to 80% transiti	Huawei mment Status D here as "20% to 80% to s usually referred to els ion time" to "transition t	ransition time". It ewhere in draft a	<i>transition time (bucket1)</i> t is defined explicitly in	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were but
Frown, Matt formment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. uggestedRemedy Change "20% to 80% transiti roposed Response Res PROPOSED ACCEPT.	Huawei mment Status D here as "20% to 80% to s usually referred to els ion time" to "transition t	ransition time". It ewhere in draft a	<i>transition time (bucket1)</i> t is defined explicitly in	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. CI 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. Implement Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. Implement Status Implement S
Brown, Matt Comment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. SuggestedRemedy Change "20% to 80% transiti Proposed Response Res PROPOSED ACCEPT.	Huawei promment Status D here as "20% to 80% to s usually referred to els ion time" to "transition t sponse Status W	ransition time". It where in draft a ime"	<i>transition time (bucket1)</i> t is defined explicitly in as just "transition time".	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. Comment Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. SuggestedRemedy
Brown, Matt Comment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. SuggestedRemedy Change "20% to 80% transiti Proposed Response Res	Huawei pmment Status D here as "20% to 80% to s usually referred to els tion time" to "transition to sponse Status W P 173	ransition time". It where in draft a ime"	<i>transition time (bucket1)</i> t is defined explicitly in as just "transition time".	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. Implement Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. SuggestedRemedy but SuggestedRemedy Change "(see)" to "(see 162.9.4.3.4)" W Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE.
Arown, Matt comment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. uggestedRemedy Change "20% to 80% transiti troposed Response Resp	Huawei pomment Status D here as "20% to 80% to s usually referred to els tion time" to "transition to sponse Status W P 173 Nvidia	ransition time". It where in draft a ime"	transition time (bucket1) t is defined explicitly in as just "transition time". # 112	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. Implement Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. SuggestedRemedy Change "(see)" to "(see 162.9.4.3.4)" Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Reference to 162.9.4.3.4 is not helpful since that subclause does not address added
Arown, Matt formment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. SuggestedRemedy Change "20% to 80% transiti Proposed Response Re	Huawei pomment Status D here as "20% to 80% to s usually referred to els tion time" to "transition to sponse Status W P 173 Nvidia	ransition time". It where in draft a ime"	transition time (bucket1) t is defined explicitly in as just "transition time". # 112	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. Implement Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. SuggestedRemedy but SuggestedRemedy Change "(see)" to "(see 162.9.4.3.4)" W Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE.
Arown, Matt formment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. SuggestedRemedy Change "20% to 80% transiti Proposed Response Re	Huawei pomment Status D here as "20% to 80% to s usually referred to els tion time" to "transition to sponse Status W P 173 Nvidia	ransition time". It where in draft a ime"	transition time (bucket1) t is defined explicitly in as just "transition time". # 112	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. Implement Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. SuggestedRemedy Change "(see)" to "(see 162.9.4.3.4)" Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Reference to 162.9.4.3.4 is not helpful since that subclause does not address added sinusoidal jitter. Given that the previous subclause 162.9.4.4.1 describes the test setup
Brown, Matt Comment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. SuggestedRemedy Change "20% to 80% transiti Proposed Response Res PROPOSED ACCEPT. Control 162 SC 162.9.4.3.3 Dawe, Piers Comment Type TR Co function flop	Huawei pomment Status D here as "20% to 80% to s usually referred to els tion time" to "transition to sponse Status W P 173 Nvidia	ransition time". It where in draft a ime"	transition time (bucket1) t is defined explicitly in as just "transition time". # 112	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. Implement Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. SuggestedRemedy Change "(see)" to "(see 162.9.4.3.4)" Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Reference to 162.9.4.3.4 is not helpful since that subclause does not address added sinusoidal jitter. Given that the previous subclause 162.9.4.4.1 describes the test setup including sinusoidal jitter this reference can be deleted.
Brown, Matt Comment Type E Co Transition time is referred to 120E.3.1.5. Transition time is Align terminology. SuggestedRemedy Change "20% to 80% transiti Proposed Response Res PROPOSED ACCEPT. Control 162 SC 162.9.4.3.3 Dawe, Piers Comment Type TR Co function flop	Huawei promment Status D here as "20% to 80% to s usually referred to els ion time" to "transition to sponse Status W P 173 Nvidia promment Status D sponse Status W	ransition time". It where in draft a ime"	transition time (bucket1) t is defined explicitly in as just "transition time". # 112	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Implement the suggested remedy with editorial license. Cl 162 SC 162.9.4.4.2 P 175 L 18 # 85 Wu, Mau-Lin MediaTek Inc. MediaTek Inc. Implement Type E Comment Status D but The reference here is missed in D2.1. It's (see 162.9.4.3.4 in D2.0). No comments were accepted to change this in D2.0. SuggestedRemedy Change "(see)" to "(see 162.9.4.3.4)" Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Reference to 162.9.4.3.4 is not helpful since that subclause does not address added sinusoidal jitter. Given that the previous subclause 162.9.4.4.1 describes the test setup including sinusoidal jitter this reference can be deleted.

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 162 SC 162.9.4.4.2 Page 24 of 37 2021-07-14 4:46:57 PM

C/ 162	SC 162.9.4.6	P 176	L 11	# 115	C/ 162	SC 16	62.11.5	P 181	L 2	# 116
Dawe, Pier	rs	Nvidia			Dawe, Pie	rs		Nvidia		
Comment ` Don't v	<i>Type</i> ER waste the reader	Comment Status D		RLdc/RLcd graphs	Comment Follow		E enclature	Comment Status D we chose last round.		IL terminology
Suggested	Remedy				Suggested	Remedy				
		r Transmitter common mode	to differential re	turn loss and Receiver	Chang	e Conver	sion_los	s(f) to ILcd(f), in 4 places		
		mode return loss.			Proposed I	Response	Э	Response Status W		
•	Response OSED REJECT.	Response Status W						N PRINCIPLE.		
		t apply to the substantive cha			C/ 162	SC 16	62.11.6	P 181	L 38	# 94
		sfied negative comments from the scope of the recirculation b		t.	Dawe, Pie	rs		Nvidia		
Tience			anot.		Comment	Туре	TR	Comment Status D		CA RLcc
case to	o have identical r	ent requirements for different responses. page from 175.]	components, w	hich happen in this	justifie		Iraft spec	y loose CM RL spec from 2 of becomes useless at the free tz.		
/ 162	SC 162.11	P 177	L 29	# 93	Suggested	Remedy				
awe, Pier		Nvidia			Use a 162.9.3		y-depend	dent mask e.g. 1.6 + 0.01f. S	Similarly for Tx,	Table 162-11,
omment i	••	Comment Status D ss makes CR unattractive, wh		host/CA IL	Proposed I	Response	Э	Response Status W		
switch needeo In the i class f	have host loss g d. remedy, each ho rom its I2C comp	going to waste. Enabling long ost knows the other host's loss pliance code, so the situation tures needed in the spec for t	er cables on a s class through is just like any o	ninority of links is AN and the cable's loss other CR scenario, no	This co the co insuffic The ba	mment ar cient evid asis for th	s a restand sugge ence to r e change	tement of D2.0 comment #1 sted remedy. D2.0 comment make the change. e to the cable assembly CM-	#177 was reje	cted on due to
Suggested	•	•	U U					ng presentation. g/3/ck/public/21_01/champior	3ck 012 012	21 ndf
2 class 19.75+ cables valid co In 162. In 162. In Tabl	ses of cable, white -2*(6.875-3.75) = connect port typ ombination of A, .11.2, cable asso .11.7.1.1, add zp	embly insertion loss, change t = 30.7 mm for the "short" ca column for the A-short-A sce	chievable cable at both ends, s ext to refer to T ble.	length 3 m). Long hort cables connect a able 162-17.	The co		ind sugg	ested remedy does not provi		
	Response	Response Status W								
The su commi Resolv	ittee discussion.	v is predicated on the adoption with comment #92. , 162A]	n of Comment	#92 to the draft. For						

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 162 SC 162.11.6

	SC 162.11.6	P 181	L 38	# 79	C/ 16
Dudek, M	ike	Marvell			Dawe
Comment	Туре Т	Comment Status D		CA RLcc	Comr
		the unsatisfied comment # 17			Т
		on mode return loss limit effe			ta
		9dB. The rejection however he the loss is low.	had a valid point	t that there is a potential	re li
	•				tł
	dRemedy	dB from 0 to 4GHz, 2.2-0.1*1	from 10Hz to		ta
	0			10GHZ.	V b
	Response	Response Status W			
-	POSED REJECT				Sugg
1 ne c 1.8		led the following update to the Hz) = 4 GHz</td <td>e suggested rem</td> <td>iedy.</td> <td>L 1</td>	e suggested rem	iedy.	L 1
-	.1*f 4< f(GHz)				S
		lated suggested remedy does	not provide suf	ficient justification to	Propo
suppo	ort the change to	the draft.			P
C/ 162	SC 162.11.7	P 183	L 39	# 95	
Dawe, Pie	ers	Nvidia			Т
Comment		Comment Status D		COM bbgmax	a ⊢
••••••	.)pe in			o o m oogmax	
The n	ormalized DFF o	oefficient minimum limit bbmi	n for taps 3 to 1	2 is -0.03. It doesn't	
make	sense that taps	oefficient minimum limit bbmi 13 to 40 could be worse, -0.0	5. If I have und	erstood the data	Т
make correc	sense that taps ctly, the example		5. If I have und this. (Rememi	erstood the data per, these are reference	T C/ 16
make correc receiv	sense that taps ctly, the example ver limits not hard	13 to 40 could be worse, -0.09 channels we have don't need	5. If I have und I this. (Rememi ay; a cable or c	erstood the data ber, these are reference hannel can go beyond a	
make correc receiv tap lin	sense that taps ctly, the example ver limits not harc nit if it makes up	13 to 40 could be worse, -0.0 channels we have don't need cable or channel limits anyw	5. If I have und I this. (Rememi ay; a cable or c	erstood the data ber, these are reference hannel can go beyond a	C/ 16
make correc receiv tap lin Suggestee	sense that taps ctly, the example ver limits not harc nit if it makes up dRemedy	13 to 40 could be worse, -0.0 channels we have don't need cable or channel limits anyw	5. If I have und this. (Rememb ay; a cable or c ith acceptable c	erstood the data ber, these are reference hannel can go beyond a	C/ 16 Dude
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C/ 162	SC 162.11.7	P 183	L 40	# 96
Dawe, Piers		Nvidia		
Comment Ty	pe TR	Comment Status D		COM DFE RSS

The spec allows a cable (not even the whole channel) to have its COM calculated with 9 taps in the range 13 to 24 clipped at +/-0.05 - which means that the channel's pulse response could be worse than +/-0.05 for all these 9 taps. That's a very bad cable! and not likely to get made: there won't be that many reflections in the same area. (Remember, these are reference receiver limits not hard cable limits anyway; a cable can go beyond a tap limit if it makes up the COM another way, e.g. with acceptable crosstalk.) We don't need to provide all the receiver power and complexity to cope with unreasonably bad cables.

SuggestedRemedy

Use another DFE root-sum-of-squares limit for positions 13-24. Similarly in 163, but as 163 specifies the complete channel while 162 uses clean synthetic host traces, the limit should be higher.

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.

The suggested remedy is not complete.

C/ 162	SC 162.11.7.1	P 184	L 7	# 81
Dudek, Mike	;	Marvell		
Comment Ty	vpe E	Comment Status D		bucket1

93A.1.2.3, Equation 93A-13, 93A-14 and Table 162-19 should be hot links or green text.

SuggestedRemedy

fix them
Proposed Response Response Status W
PROPOSED ACCEPT.

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 162 SC 162.11.7.1 Page 26 of 37 2021-07-14 4:46:57 PM

C/ 162	SC 162.11.7.1	P 18	34	L 8	#	86	
Wu, Mau-l	Lin	Media	aTek Inc.				
Comment There	<i>Type</i> E is no "hyperlink" te	Comment Status Table 162-19.	D				bucket1
Suggested Add hy	dRemedy yperlink to Table 1	62-19					
•	Response POSED ACCEPT.	Response Status	w				
C/ 162A	SC 162A.4	P 27	73	L 40	#	108	
Dawe, Pie	ers	Nvidia	a				
differe PCB II host tr 136A.4 has ho	ecommended minin Intial controlled im L without evidence race loss (6.875 df 4 use a ratio of 1/5 post insertion loss u	Comment Status num insertion loss a bedance PCBs, 2.3 a sto what happens 3) which is too small 6.8 which allows mor p to 11.9 dB (11.9/2 t have been increase	allocation for dB, has bee s with less lo l a ratio to la re flexibility i 2.3 = 5.2/1, w	n set the oss. 2.3 y out a s n host lay /hich is C	same as th dB is 1/3 of witch PCB. yout than 1/	eceiver he 2.3 df the max 92A.4 a 3 does.	kimum and 120G
Suggested		nave been increase		•			
00							

Reduce the recommended minimum insertion loss allocation for the CR transmitter or receiver differential controlled impedance PCBs to whatever is justified. If the reasonable limit is a strong function of host package reflection, state whether the recommendation is for a "nominal worst" package, or what. If there is no justification, remove the recommendation.

Proposed Response Response Status W

PROPOSED REJECT.

See comment response #180 D2.0 Slides 4 and 5 of the following presentation were reviewed by the task force:

https://www.ieee802.org/3/ck/public/adhoc/apr28_21/dawe_3ck_adhoc_01_042821.pdf Slide 3 of the following presentation were reviewed by the task force:

https://www.ieee802.org/3/ck/public/21_05/diminico_3ck_04b_0521.pdf The IL pcb min and max are derived on the basis of PCB material IL and via IL. The PCB IL assumed is 1.24 dB/in and via of 0.68 dB @26.56 GHz. With consideration for maintaining reasonable minimum length while allowing loss between TX and connector. Ilpcb(min)=(0.76 in*1.24 dB/in)+(2*0.68) dB = ~ 2.3 dB.

The MCB PCB IL is the same to emulate min host IL.

Lower loss hosts can also create poor performance due to reflections see the following presenation: https://www.ieee802.org/3/ck/public/20_01/dudek_3ck_01_0120.pdf

C/ 162A	SC ·	162A.4		P 274	L 34	# 141	
Dawe, Pier	S		N	/idia			
Comment 7	Гуре	Е	Comment Stat	us D			LATI
			3 to TP5 including d in Figure 162A-		ture is determine	ed using Equation	n
S <i>uggestedi</i> Figure		•					
-	DSED I	REJECT.	Response Stat				
C/ 162A	SC ·	162A.5		P 276	L1	# 142	
Dawe, Pier	s		N	/idia			
-	T a	Е	Comment Stat	us D			LAT
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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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line C/ 162A SC 162A.5 Page 27 of 37 2021-07-14 4:46:57 PM

C/ 162B SC 162B.1.2.1	P 280	L 41	# 12	C/ 162B SC 162B.1.3.3 P 283 L 37 # 144
Brown, Matt	Huawei			Dawe, Piers Nvidia
Comment Type E Comme Ilcatf and f should be italic.	ent Status D		bucket1	Comment Type E Comment Status D LATE Use the naming convention we agreed last round. <td< td=""></td<>
SuggestedRemedy Format as italic.				SuggestedRemedy Change CMCIL to Ildc, twice
Proposed Response Response PROPOSED ACCEPT.	se Status W			Proposed Response Response Status W PROPOSED REJECT. This comment was received after the ballot closed.
C/ 162B SC 162B.1.3	P 281	L 25	# 143	
Dawe, Piers	Nvidia			
Comment Type E Comme "The TP2 or TP3 and cable asser SuggestedRemedy The TP2 or TP3 test fixture and th	·		LATE e test fixtures.	Brown, Matt Huawei Comment Type ER Comment Status D IL terminology Throughout 802.3ck, the variable names used to describe insertion loss and conversion loss are inconsistent. In D2.1, the return loss variables were updated so that they were common throughout the draft. A similar convention is encouraged for IL and CL.
	se Status W			SuggestedRemedy
PROPOSED REJECT. This comment was received after				Select and use common variable names throughout the draft. A summary presentation will be provided.
7 162B SC 162B.1.3.3 Brown, Matt	<i>P</i> 283 Huawei	L 33	# 13	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.
	ent Status D		IL terminology	This comment does not apply to the substantive changes between IEEE P802.3ck D2.1
Throughout 802.3cd, the terminol inconsistent. In this subclause alc			0,	and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.
SuggestedRemedy Select and use common terminolo provided.	ogy throughout the	draft. A summa	ry presentation will be	Https://www.ieee802.org/3/ck/public/adhoc/july14_21/brown_3ck_adhoc_01_071421.pdf Pending review of presentation and task force discussion. [Editor's note: CC: 120F, 120G, 162, 163, 162A, 162B]
1	comment should r		rather than 802.3cd.	[Editor's note: Changed clause/subclause from 162/162.B.1.3.3.]
https://www.ieee802.org/3/ck/pub Pending review of presentation ar [Editor's note: CC: 120F, 120G, 1 [Editor's note: Changed clause/su	nd task force discus 62, 163, 162A, 162	ssion. 2B]	hoc_01_071421.pdf	

C/ 162B SC 162B.1.3.3

C/ 162B SC 162B.1.3.	5 P 286	L 43	# 15	C/ 162C	SC 162C.1	P 292	L 5	# 63
Brown, Matt	Huawei			Ghiasi, Ali		Ghiasi Qua	antum/Inphi	
Comment Type T	Comment Status D		transition time	Comment 7	ype TR	Comment Status D		MDI pins
Measurement method for PMD specifications per should be "transition tim 120E.3.1.5 and to be co helpful but not complete SuggestedRemedy With editorial license sp	for transition times is never s 120E.3.1.5. To be consister ne" not "rise and fall timers". common with other clauses ca e. becify that the transition time nge "20% to 80% rise and fall <i>Response Status</i> W	nt with other clau Given explicit m an delete "20% to e is measured acc	the it is the same as for ses and annexes ethodology in 0 80%" since this is cording to 120E.3.1.5.	The pin Suggested I will inc Proposed F PROPC This co and D2	n map for Table Remedy Clude pin maps Response DSED REJECT mment does no .0 or the unsati	162C-3 is all messed up for all the MDI connectors <i>Response Status</i> W bt apply to the substantive sfied negative comments for the scope of the recirculation	changes between I rom the initial ballo	02_0721 IEEE P802.3ck D2.1
exception to the measu	4 propose that the reference irement bandwidth. emedy along with the measu			The su draft. For tas	ggested remedy	y does not provided sufficient of the following presentation rg/3/ck/public/21_07/ghiasi	ent information to n	U U
CI 162C SC 162C.1	P 290	L 20	# 64	C/ 162D	SC 162D.1	P 302	L 14	# 145
Ghiasi, Ali	Ghiasi Quant	tum/Inphi		Dawe, Pier	S	Nvidia		
is specified are MDIs the SuggestedRemedy Please replace SFP+ wi http://sfp-dd.com SFP-DD with SFP-DD1 ⁻¹ http://sfp-dd.com QSFP+ with QSFP112 f	12	d or 25.78 GBd		162C, t Suggested/ Change There a to There a Proposed F PROPC	can have other hird sentence. Remedy are six MDI con are six MDI con Response DSED REJECT	nector "receptacles" specif nector types. Response Status W	ied for hosts.	LATE g terminology with
and D2.0 or the unsatisf Hence it is not within the This is a restatement of Comment #57 is reques	t apply to the substantive cha fied negative comments fror e scope of the recirculation t f comment D2.0 comment #4 sting similar changes in Anno .3 normative references in 8	n the initial ballot ballot. 45 with some add ex 162D.	t. ditional information.	This co	mment was rec	eived after the ballot close	u.	
•	d ER/editorial required GR/ patched A/accepted R/reje	• •		0	U/unsatisfied		162D 162D.1	Page 29 of 37 2021-07-14 4:46

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 162D SC 162D.1	P 302	L 21	# 57	C/ 162D SC 162D.1	1 P 304	L 20	# 146
Shiasi, Ali	Ghiasi Quantur	n/Inphi		Dawe, Piers	Nvidia		
Comment Type TR	Comment Status D		MDI names	Comment Type E	Comment Status D		LATE
	, 162D-3, and 162D-4 should b			supportable PMDs			
or 25.78 GBd	currenlty what is specified are M	IDIS that eithe	r operate at 10.3 GBd	SuggestedRemedy			
SuggestedRemedy				supportable number	of PMDs		
Please replace SFP+	with SFP112			Proposed Response	Response Status W		
http://sfp-dd.com SFP-DD with SFP-DD http://sfp-dd.com	112			PROPOSED REJEC This comment was re	Γ. ceived after the ballot closed.		
QSFP+ with QSFP112	2 for reference see			CI 163 SC 163.9.2	P 199	L 12	# 75
http://www.qsfp-dd.co	m/wp-content/uploads/2021/05/	QSFP-DD-Har	rdware-Rev6.01.pdf	Dudek, Mike	Marvell		
Proposed Response	Response Status W			Comment Type TR	Comment Status D		TX residual IS
	ot apply to the substantive chan			transmitters that pass	21 it was shown that with large all the transmitter specification e channel specifications. This	ns but only prov	ride 1.5dB COM on
This comment does n and D2.0 or the unsat Hence it is not within t Comment #57 is requ	-	the initial ballo llot.		transmitters that pass channels that pass th li_3ck_adhoc_01_06 of ERL specifications values of Rd and oth Tx parameter is need		ns but only prov was confirmed 3021 it was also would also fail tra OM on these sa e still passing th	ide 1.5dB COM on in shown that a tightening ansmitters with varying me channels. Another
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This comment does n and D2.0 or the unsat Hence it is not within t Comment #57 is requ Resolve using the res C/ 162D SC 162D.1. Dawe, Piers	ot apply to the substantive chan isfied negative comments from he scope of the recirculation ba esting similar changes in Annex ponse to comment #64 <i>P</i> 303 Nvidia	the initial ballo llot. : 162C.	# 1 <u>47</u>	transmitters that pass channels that pass the li_3ck_adhoc_01_06 of ERL specifications values of Rd and othe Tx parameter is need Rd. A presentation SuggestedRemedy Add an extra Tx spect Sigma_e/Vpeak whether	all the transmitter specification e channel specifications. This 3021. In Li_3ck_adhoc_01_063 to fail these bad transmitters v er paramters that give 3.0dB C ed to fail the high Cp Tx's while will be made in support of this of ification "Residual ISI (max) var re sigma_e and Vpeak are as	ns but only prov was confirmed 3021 it was also would also fail tra OM on these sa e still passing th comment.	ide 1.5dB COM on in shown that a tightening ansmitters with varying me channels. Another e Tx's with variable
This comment does n and D2.0 or the unsat Hence it is not within t Comment #57 is requ Resolve using the res C/ 162D SC 162D.1. Dawe, Piers Comment Type E	ot apply to the substantive chan isfied negative comments from he scope of the recirculation ba esting similar changes in Annex ponse to comment #64 <i>P</i> 303 Nvidia	the initial ballo llot. : 162C.	# 1 <u>47</u>	transmitters that pass channels that pass the li_3ck_adhoc_01_06 of ERL specifications values of Rd and othe Tx parameter is need Rd. A presentation of SuggestedRemedy Add an extra Tx spect Sigma_e/Vpeak whe is used instead of Np Proposed Response PROPOSED REJEC	all the transmitter specification e channel specifications. This 3021. In Li_3ck_adhoc_01_063 to fail these bad transmitters v er paramters that give 3.0dB C ed to fail the high Cp Tx's while will be made in support of this of ification "Residual ISI (max) va re sigma_e and Vpeak are as =29. Response Status W T.	ns but only prov was confirmed 3021 it was also would also fail tra OM on these sa e still passing th comment. alue 0.027". Def defined in 162.9	ide 1.5dB COM on in shown that a tightening ansmitters with varying me channels. Another e Tx's with variable fined as the value of .3.3 except that Np=11
This comment does n and D2.0 or the unsat Hence it is not within t Comment #57 is required Resolve using the res C/ 162D SC 162D.1. Dawe, Piers Comment Type E other end SuggestedRemedy other end(s)	ot apply to the substantive chan isfied negative comments from he scope of the recirculation ba esting similar changes in Annex ponse to comment #64 <i>P</i> 303 Nvidia	the initial ballo llot. : 162C.	# 1 <u>47</u>	transmitters that pass channels that pass the li_3ck_adhoc_01_06 of ERL specifications values of Rd and othe Tx parameter is need Rd. A presentation of SuggestedRemedy Add an extra Tx spect Sigma_e/Vpeak whe is used instead of Np Proposed Response PROPOSED REJEC This comment does not	all the transmitter specification e channel specifications. This 3021. In Li_3ck_adhoc_01_063 to fail these bad transmitters v er paramters that give 3.0dB C ed to fail the high Cp Tx's while will be made in support of this of ification "Residual ISI (max) va re sigma_e and Vpeak are as =29. Response Status W T.	ns but only prov was confirmed 3021 it was also would also fail tra OM on these sa e still passing th comment. alue 0.027". Def defined in 162.9	ide 1.5dB COM on in shown that a tightening ansmitters with varying me channels. Another e Tx's with variable fined as the value of 0.3.3 except that Np=11 IEEE P802.3ck D2.1
This comment does n and D2.0 or the unsat Hence it is not within t Comment #57 is requ Resolve using the res C/ 162D SC 162D.1. Dawe, Piers Comment Type E other end SuggestedRemedy other end(s) Proposed Response PROPOSED REJECT	ot apply to the substantive chan isfied negative comments from he scope of the recirculation ba esting similar changes in Annex ponse to comment #64 P 303 Nvidia Comment Status D Response Status W	the initial ballo llot. : 162C.	# 1 <u>47</u>	transmitters that pass channels that pass the li_3ck_adhoc_01_06 of ERL specifications values of Rd and othe Tx parameter is need Rd. A presentation of SuggestedRemedy Add an extra Tx spect Sigma_e/Vpeak whe is used instead of Np Proposed Response PROPOSED REJEC This comment does not and D2.0 or the unsal	all the transmitter specification e channel specifications. This 3021. In Li_3ck_adhoc_01_063 to fail these bad transmitters v er paramters that give 3.0dB C ed to fail the high Cp Tx's while will be made in support of this of ification "Residual ISI (max) va re sigma_e and Vpeak are as =29. Response Status W T.	ns but only prov was confirmed 3021 it was also would also fail tra OM on these sa e still passing th comment. alue 0.027". Def defined in 162.9	ide 1.5dB COM on in shown that a tightening ansmitters with varying me channels. Another e Tx's with variable fined as the value of 0.3.3 except that Np=11 IEEE P802.3ck D2.1

C/ 163 SC 163.9.2

C/ 163	SC	163.9.2	P 199	L 46	# 110
Dawe, Pier	s		Nvidia		
Comment 1	Гуре	т	Comment Status D		TX RLcc
			. We have such a lenient sp do; here, there is no connec		CR because that's what
Suggested	Reme	dy			
			or whatever is reasonable for of test fixture loss.	or an IC and pac	kage. The 0.01 can be
This co	OSED ommer	REJECT.	Response Status W	to justify the pro	pposed RLcc limit. For
C/ 163	SC	163.9.2	P 200	L 5	# 19
Brown, Mat	tt		Huawei		
recomr Suggestedi	163-5 i nenda <i>Reme</i> o	tion. Jy	Comment Status D tive table, but footnote c rela	J	
Conver	rt footr	ote c to a	table note (see style manua	I 16.4) or delete	footnote c.
This ca The co Remov of the f	OSED in also mmen re footi irst pa	ACCEPT be fixed b t equally a note c from ragraph in	Response Status W IN PRINCIPLE. by placing the recommendati pplies to footnote c in Table n Table 163-5 and Table 162 162.9.3.1.4 as follows: t the same step size is used	162-10. 2-10 and add a i	new sentence to the end
C/ 163	SC	163.9.2	P 200	L 12	# 17
Brown, Mat	tt		Huawei		
Comment 7	Гуре	Е	Comment Status D		table footnote (bucket1)
			tion in Table 163-5, footnote h provides the exact same i		
Suggested	Reme	dy			
Delete	footno	te a.			

C/ 163	SC 163.9.2	P 200	L 21	# 77
Dudek, Mi	ke	Marvell		
Comment	Туре Е	Comment Status D		table footnote (bucket1
	ote d to table 163- te refers to.	5 just duplicates the informa	ation in the sho	ort section that this
Suggested	dRemedy			
Delete	e the footnote.			
Proposed	Response	Response Status W		
	OSED ACCEPT.			
Remo	ve footnote d.			
C/ 163	SC 163.9.2.1.	3 P 201	L 27	# 117
Dawe, Pie	ers	Nvidia		
Comment	Type TR	Comment Status D		TF RLc
Test fi	xture common-mo	de to common-mode return	loss should be	e way better than the

worst module connector! And needs to be significantly better than the spec for the IC+TF.

SuggestedRemedy

Change 2 to something sensible

Proposed Response	Response Status	w

PROPOSED REJECT.

This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.

This comment does not provide sufficient details for implementation.

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 163 SC 163.9.2.1.3 Page 31 of 37 2021-07-14 4:46:57 PM

Table 162: 10 specifies AC common-mode RMS voltage, vomi (max) note b just changes to a PRBS13Q with method described in 93.8.1.3. The problem is that coherent CM signal are included in differentiating the SMDR, littler, and Linear fit pulse peak ratio. That means it is the coherent part if AC CM is double counted. Suggested/Remedy Add note to line 10 (vomi) indicating that the CM mode measurement is only for the non-coherent CM part of the measurement. This applies to Tables 163-5, 120F-1, 120G-1, and 120G-3 <i>Proposed Response Response Status</i> PROPOSED REJECT. This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2 or Jule and											
Comment Type TR Comment Status D AC CM noise Table 162-10 specifies AC common-mode RMS voltage, vomi (max) note b just changes to a PRBS103 with nethod described in 38.1.3. The problem is that coherent CM signal are included in differential measurements like SNDR, Jutter, and Linear fit pulse peak ratio. That means it is the ocherent DA and to to line 10 (vcmi) indicating that the CM mode measurement is only for the non-coherent CM part of the measurements. Comment Type E Comment Type Comment Status O Suggested/Remedy Add note to line 10 (vcmi) indicating that the CM mode measurement is only for the non-coherent CM part of the measurement. No Suggested/Remedy PROPOSED REJECT. PROPOSED REJECT. No apple to the usubstantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatified negative comments from the initial ballot. No No <td>C/ 163 SC</td> <td>163.9.3</td> <td>P 163</td> <td>L 10</td> <td># 123</td> <td>C/ 163</td> <td>SC 1</td> <td>63.9.3.5</td> <td>P 204</td> <td>L 39</td> <td># 7</td>	C/ 163 SC	163.9.3	P 163	L 10	# 123	C/ 163	SC 1	63.9.3.5	P 204	L 39	# 7
Table 122-10 specifies AC common-mode RMS voltage, vom (max) note b just changes to a PRS13Q with method described in 93.8.1.3. The problem is that coherent CM signal are included in differential measurements like SNDR, differ, and Linear fit pulse peak ratio. That means it is the coherent part if AC CM is double counted.Transition time is presumably part the method in 120E.3.1.5 and the cor torm with the dotting 10 (vom) indicating that the CM mode measurement is only for the non- coherent CM part of the measurement.The coherent part if AC CM is double counted.This applies to Tables 163.5, 120F-1, 120G-1, and 120G-3 Proposed Response Response Status W PROPOSED REJECT.Response Status W PROPOSED REJECT.Segmeted/Remedy Consider adding text in one place specifying that transition time is per 120E.3.1.5 and the cor transition time is for any signal mate with the proposed change. The following presentation was provided by the comment for review: thips://www.ieed20.corg/3(vok/public/21_OTP)/melitz_3ct_01_0721.ptf. Response Status D Signaling rate (bucket1)CI 163SC 163.9.3.1P 202 L 37# 34CI 163SC 163.9.3.1P 202 L 37# 34Comment TypeComment 320 Conger Ware T is the same as the measured and the docket1) is isolar and and the analyce integration time of is isolar adding rate in the range S 3125 GR 4100 ppm to 'rany signaling rate in the range specified in Table 163-8'.Comment TypeE Comment Status	Mellitz, Richard		Samtec			Brown, Mat	t		Huawei		
to a PRBS130 with method described in 93.8.1.3. The problem is that coherent CM signal are included in differential measurements this CSNDR, Jutter, and Linear fit pulse peak ratio. That means it is the coherent part if AC CM is double counted. SuggestedRemedy Add note to line 10 (vorm) indicating that the CM mode measurement is only for the non-coherent CM part of the measurement. This applies to Tables 163-5, 120F.1, 120G-1, and 120G-3 Proposed Response Response Status W PROPOSED REJECT. This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the reciculation ballot. [change clause/subclause to 162.9.3] The comment does not provide sufficient evidence to support the proposed change. The following presentation was provided by the comment for review: https://www.ieee802.org/3ck/public21_07/melltz_3ck_01_0721.pdf. Resolve in comment Status D signaling rate in the range Signales Response Response Response Response Status W PROPOSED ACCEPT I. PR	Comment Type	TR	Comment Status D		AC CM noise	Comment 7	уре	E	Comment Status D		transition tim
Add note to line 10 (vcmi) indicating that the CM mode measurement is only for the non- coherent CM part of the measurement. On page 204 line 39, change "transition time" (first instance) to "transition time (see 120E.3.1.5)". Proposed Response Response Status W PROPOSED REJECT. PROPOSED REJECT. This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot. W [change clause/subclause to 162.9.3] The comment does not provide sufficient evidence to support the proposed change. The following presentation was provided by the commenter for review: https://www.ieee802.org/3/ck/pubici21.0/miniti_3ck_01_0721.pdf. Resolve in conjunction with comment #46. [Editor's note: CC: 163.120F, 120G] P202 L37 # 34 C1 163 SC 163.9.3.1 P 202 L37 # 34 Ran, Adee Cisco systems Signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). Signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). Signaling rate in the range S3.125 C64 ± 100 pm ⁺ to 'tor any signaling rate in the range specified in Table 163-8'. Proposed Response Response Status W PROPOSED ACCEPT. Nearesurement bandwidth. Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED	to a PRBS13 are included	Q with me in different	thod described in 93.8.1.3. T ial measurements like SNDF	he problem is the problem is the R, Jitter, and Lin	nat coherent CM signal	subclau term us	ise. Als ed in th	o, given the draft is	nat transition time is fully de	fined in 120E.3	.1.5 and the common
coherent CM part of the measurement. This applies to Tables 163-5, 120F-1, 120G-1, and 120G-3 Proposed Response Response Status W PROPOSED REJECT. This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot. Ichange clause/subclause to 162.9.3] The comment does not provide sufficient evidence to support the proposed change. The following presentation was provided by the comment for review: https://www.ieee802.org/sk/bublic2_lot_0/1_0/mellit2_ack_01_0_0/21.pdf. Resolve in conjunction with comment #46. Editor's note: CC: 163, 120F, 120G] CI 163 SC 163.9.3.1 P 202 L 37 # 34 Comment Type E Comment Status D signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). SuggestedRemedy Change "for any signaling rate in the range specified in Table 163-8". SuggestedRemedy Change "for any signaling rate in the range Status W PROPOSED ACCEPT. IN PRINCIPLE. Suggested Response Response Status W PROPOSED ACCEPT. Proposed Response Response Status W PROPOSED ACCEPT. IN PRINCIPLE.	SuggestedReme	dy				Suggestedl	Remedy	/			
This applies to Tables 163-5, 120F-1, 120G-1, and 120G-3 Proposed Response Response Status W PROPOSED REJECT. This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Proposed Response Response Status W Prohose d Response or the unsatisfied negative comments from the initial ballot. Proposed Response Response Status W Prohose d Response or the unsatisfied negative comments from the initial ballot. Proposed Response Response Status W [change clause/subclause to 162.9.3] The comment does not provide sufficient evidence to support the proposed change. The following presentation was provided by the commenter for review: Proposed Response Response Status W Proposed Response Cisco systems Sc 163.9.3.1 P 202 L 37 # [34] Ci 163 SC 163.9.3.1 P 202 L 37 # [34] The filtered Ht(f) should be using the transition time of the signal generator, however measured transition time might be interpreted as measured with the 40GHz 3dB be used for any signaling rate in the range space Response Response Status B SuggestedRemedy Change "for any signaling rate in the range spacified in Table 163-8". Proposed Response Response Status W Pro				de measureme	nt is only for the non-	120E.3	.1.5)".		-	,	
PROPOSED REJECT. This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. PROPOSED ACCEPT IN PRINCIPLE. Ichange clause/subclause to 162.9.3] PROPOSED ACCEPT IN PRINCIPLE. The comment does not provide sufficient evidence to support the proposed change. The following presentation was provided by the commenter for review: https://www.ieee802.org/3/ck/public/21_07/melitz_3ck_01_0721.pdf. Resolve in conjunction with comment #46. [Editor's note: CC: 163, 120F, 120G] CI 163 SC 163.9.3.1 P 202 L 37 # 34 The filtered Ht(f) should be using the transition time of the signal generator, however measured transition time might be interpreted as measured with the 40GHz 3dB ba used for all Tx measurements. Also nothing is stated as to how the signal is measured transition time of the signal generator, however measured transition time of the signal is neasured transition time of the signal and is the value in table 163-8 than to repeat it. (The NOTE can stay as it is). SuggestedRemedy SuggestedRemedy Change "for any signaling rate in the range "53.125 GBd ± 100 ppm" to 'for any signaling rate in the range signaling rate in the range signal to the ransmitter output corrected for the measurement bandwidth. The transmitter output corrected for the measurement bandwidth. The transmittero output corected for any signaling rate in the range secified in	This applies	to Tables 1	63-5, 120F-1, 120G-1, and 2	120G-3							
This comment does not apply to the substantive changes between IEEE P802.3ck D2.1 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot. [change clause/subclause to 162.9.3] The comment does not provide sufficient evidence to support the proposed change. The following presentation was provided by the commenter for review: https://www.ieee802.org/3/ck/public/21.07/mellitz_3ck_01_0721.pdf. Resolve in conjunction with comment #46. [Editor's note: CC: 163, 120F, 120G] CI 163 SC 163.9.3.1 P202 L 37 Kan, Adee Cisco systems Comment Type E Comment Status D SuggestedRemedy Change "tor any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 163-8". Proposed Response Response Status PROPOSED ACCEPT. Proposed Response			Response Status W							nsition time is p	per 120E.3.1.5 so this
and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot. (change clause/subclause to 162.9.3] The comment does not provide sufficient evidence to support the proposed change. The following presentation was provided by the comment #6. [Editor's note: CC: 163, 120F, 120G] C/ 163 SC 163.9.3.1 P 202 L 37 # 34 Ran, Adee Cisco systems Comment Type E Comment Type E Comment Status D signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 163-8". Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT IN PRINCIPLE.	TROF USED	NESECT.				Proposed F	Respons	se	Response Status W		
https://www.ieee802.org/3/ck/public/21_07/mellitz_3ck_01_0721.pdf. Resolve in conjunction with comment #46. [Editor's note: CC: 163, 120F, 120G] Cl 163 SC 163.9.3.1 P 202 L 37 # 34 Ran, Adee Cisco systems D signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). SuggestedRemedy SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 163-8". Proposed Response Response Status W PROPOSED ACCEPT. Proposed Response Response Status W PROPOSED ACCEPT. Proposed Response Response Status W	Hence it is no [change clau: The commen	ot within the se/subclau	e scope of the recirculation b se to 162.9.3] provide sufficient evidence t	oallot. o support the pr	oposed change.	for Tr ir For pag defined	i 93A.2, je 204 li accord	, but this is ine 39, ad ling to 120	s for an NRZ signal and is n d a sentence as follows "Tr E.3.1.5 except there is no c	neasured at TP is determined a observation filter	0a. at the die bump and r.".
[Editor's note: CC: 163, 120F, 120G] Cl 163 SC 163.9.3.1 P 202 L 37 # 34 Ran, Adee Cisco systems Cisco systems Comment Type TR Comment Status D trans Comment Type E Comment Status D signaling rate (bucket1) the filtered Ht(f) should be using the transition time of the signal generator, howevere measured transition time might be interpreted as measured with the 40GHz 3dB ba used for all Tx measurements. Also nothing is stated as to how the signal is measured it is). SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 163-8". SuggestedRemedy Change "where Tr is the same as the measured transition time of the reasurement bandwidth. The transmitter output" to "where Tr is the same as the measured transition time of signal at the transmitter output corrected for the measurement bandwidth. Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE.						C/ 163	SC 1	63.9.3.5	P 204	L 45	# 73
CI 163 SC 163.9.3.1 P 202 L 37 # 34 Ran, Adee Cisco systems Cisco systems Comment Type E Comment Status D signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). SuggestedRemedy Also nothing is stated as to how the signal is measured transition time of the same as the measured 20% to 80% transition time of the signal is measured 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 163-8". Suggested Remedy Proposed Response Response Status W PROPOSED ACCEPT. W PROPOSED ACCEPT IN PRINCIPLE.						,					
Ran, Adee Cisco systems Comment Type E Comment Status D signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). SuggestedRemedy Also nothing is stated as to how the signal is measured transition time of the signal is measured transition of the signal is measured transition time of the signal is measured transmitter output to "where Tr is the same as the measured transition time of signal at the transmitter output corrected for the measurement bandwidth. The transitien is corrected to remove the effect of this measurement bandwidth. Proposed Response Response Status W PROPOSED ACCEPT. Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT IN PRINCIPLE. M	CI 163 SC	163 9 3 1	P 202	/ 37	# 34						transition tim
Comment Type E Comment Status D signaling rate (bucket1) It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). used for all Tx measurements. Also nothing is stated as to how the signal is measured it is. SuggestedRemedy Change "for any signaling rate in the range Signaling rate in the range specified in Table 163-8". Proposed Response Response Status W PROPOSED ACCEPT. W		100.0.0.1		-	# 04						
It is preferable to refer to the value in table 163-8 than to repeat it. (The NOTE can stay as it is). SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 163-8". Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT. PROPOSED ACCEPT. PROPOSED ACCEPT IN PRINCIPLE.		F		3	signaling rate (bucket1)	used fo	r all Tx	measurer	nents. Also nothing is state	ed as to how the	
it is). SuggestedRemedy Change "for any signaling rate in the range 53.125 GBd ± 100 ppm" to "for any signaling rate in the range specified in Table 163-8". Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT. SuggestedRemedy Change "where Tr is the same as the measured 20% to 80% transition time of the signal at the transmitter output" to "where Tr is the same as the measured transition time of signal at the transmitter output" to "where Tr is the same as the measured transition time of signal at the transmitter output" to "where Tr is the same as the measured transition time of the reasured transition time of signal at the transmitter output" to "where Tr is the same as the measured transition time of signal at the transmitter output" to "where Tr is the same as the measured transition time of the reasured transition time of signal at the transmitter output" to "where Tr is the same as the measured transition time of signal at the transmitter output corrected for the measurement bandwidth. The transitient is corrected to remove the effect of this measurement bandwidth. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.				an to repeat it <i>(</i>	0 0 ()				d what the Tx FFE is set to		
SuggestedRemedy the transmitter output" to "where Tr is the same as the measured transition time of signal at the transmitter output corrected for the measurement bandwidth. The transmitter output corrected for the measurement bandwidth. The transmitter output corrected for the measurement bandwidth and time is measured using the method in 120E.3.1.5 with a 40GHz 3dB bandwidth and risetime is corrected to remove the effect of this measurement bandwidth. Proposed Response Response Status W PROPOSED ACCEPT. Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE.											
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Proposed Response Catalus W PROPOSED ACCEPT. Proposed Response Catalus W PROPOSED ACCEPT IN PRINCIPLE.				the range spec	fied in Table 163-8".	signal a time is	it the tra measur	ansmitter ed using t	output corrected for the me he method in 120E.3.1.5 w	asurement band ith a 40GHz 3dB	dwidth. The transition B bandwidth and the
PROPOSED ACCEPT IN PRINCIPLE.	Proposed Respo	nse	Response Status W							asurement band	dwidth.
	PROPOSED	ACCEPT.				•	•				
										ise.	

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 163 SC 163.9.3.5 Page 32 of 37 2021-07-14 4:46:57 PM

Cl 163 SC 163.9.3.5	P 204 L	50 #	74	C/ 163 SC 163.9.	3.5 <i>P</i> 205	<i>L</i> 31	# 45
Dudek, Mike	Marvell			Ran, Adee	Cisco system	าร	
Comment Type TR Commer	nt Status D		transition time	Comment Type TR	Comment Status D		bucket1
The method of measuring the trans				In NOTE 1, "Q(Q3)"	should be "Q(Q3d)".		
filter in the measurement which isn that the 40GHz 3dB bandwidth is u				SuggestedRemedy			
measurement filter. These need to				Change per comme	nt.		
SuggestedRemedy				Proposed Response	Response Status W		
Change "is equal to the transmitter				PROPOSED ACCE	PT.		
120E.3.1.5 with the transmitter equ transition time measured at TP0v				C/ 163 SC 163.9.	3.5 <i>P</i> 205	L 31	# 25
time is measured using the method	in 120E.3.1.5 with a 40	GHz 3dB bandwidt		Hidaka, Yasuo		conductor, Inc.	# 20
risetime is corrected to revmoe the	effect of this measurem	ent bandwidth.		Comment Type E	Comment Status D	onductor, Inc.	bucket1
, , , , , , , , , , , , , , , , , , , ,	e Status W			Symbol Q3 remains			DUCKETT
PROPOSED ACCEPT IN PRINCIP				5			
				SuggestedRemedy Change Q(Q3) with	O(O3d)		
C/ 163 SC 163.9.3.5	-	51 #	35	Proposed Response	. ,		
Ran, Adee	Cisco systems			PROPOSED ACCE	Response Status W		
···· //··	nt Status D		RIT TX off	PROPOSED ACCE	F1.		
"with the transmitter equalizer turne in this draft which use the wording			other places	C/ 163 SC 163.10	<i>P</i> 206	L 38	# 87
in this drait which use the wording	set to preset 1 (no equ			Wu, Mau-Lin	MediaTek Ind	с.	
Also is 162.9.4.3.3 with a variation	on the wording - prefera	bly change that on	e too.	Comment Type TR	Comment Status D		bucket1
SuggestedRemedy					ing 3 dB corner frequency shall	be 50 kHz, instea	d of 50 Hz, based on
Use the term "preset 1 (no equalization	ation)" in all places.			163.10.7			
	e Status W			SuggestedRemedy	Toble 162 10 from "11-" to "11	-"	
PROPOSED ACCEPT.				-	Table 163-10 from "Hz" to "kH	۷	
[Editor's note: CC: 163, 162]				Proposed Response	Response Status W		
C/ 163 SC 163.9.3.5	P 205 L	30 #	44	PROPOSED ACCE	PI.		
Ran, Adee	Cisco systems						
Comment Type E Commen	nt Status D		bucket1				
"Q3d" is formatted with inconsisten	t roman/italic font.						
SuggestedRemedy							
For consistency with clause 162, u	se italics for all occurren	ces of Q3d.					
	a						
Proposed Response Response	e Status W						

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 163 SC 163.10 Page 33 of 37 2021-07-14 4:46:57 PM

C/ 163 SC 163.10	P 206	L 40	# 88	C/ 163A	SC 163A.3.1	.1	P 307	L 13	# 40
Wu, Mau-Lin	MediaTek Inc			Ran, Adee		Ci	sco system	IS	
Comment Type TR	Comment Status D		bucket1	Comment T	ype TR	Comment Stat	tus D		pulse response
The note "a" here is spec Clause SuggestedRemedy	cific for Cable assembly and	d shall be remov	ved, due to this is KR	with H(0					d Equation (93A–24) by the clause that
Remove note a				Clause	163 and anney	120F which invok	o this moth	od do not specify	(At and Th - the
	Response Status W			invoking	g text refers to t		hich includ	e the parameters	Av and fb instead.
	N PRINCIPLE. ated in D2.1 the referenced to include the provision in th		ccidentally included.						3A–23) and (93A–24). and At is defined as
C/ 163A SC 163A.3.1	P 306	L 23	# 148	Also ap	plies to 163A.3	.1.3, P308 L23.			
Dawe, Piers	Nvidia			SuggestedF	Remedy				
Comment Type E	Comment Status D		LATE	Change	e the quoted ser	ntence to:			
Make it easier to see whi SuggestedRemedy	at S(0) is 4, change "Reference char	nel" to "Referen	ace channel S(0)			e response, h(t), and fb are specified			H(0)(f) from Equation his method."
-	-			Apply a	lso in 163A.3.1.	.3.			
PROPOSED REJECT.	Response Status W			Proposed R	Response	Response Stat	us W		
	ved after the ballot closed.			PROPC	DSED ACCEPT	IN PRINCIPLE.			
				and D2	.0 or the unsatis	t apply to the sub sfied negative con ne scope of the re	nments fron	n the initial ballot	EEE P802.3ck D2.1

However, the proposed changes are an improvement to the draft.

Implement the suggested remedy.

C/ 163A SC 163A.3.1.1

awe, Piers Nvidia	
	Hidaka, Yasuo Credo Semiconductor, Inc.
omment Type E Comment Status D LATE	Comment Type TR Comment Status D measurement filter
Duplication	A measurement filter of BT filter is already included, because the step response is derived from the pulse response h(t) that uses the BT filter.
uggestedRemedy	
Move this sentence to p 306 line 53: "If the invoking clause lists more than one set of reference package parameters, the calculation is performed with the longer package trace	Figure 163A-3 is not correct, because the effect of BT filter is included.
length." At line 36, delete "If the invoking clause lists more than one set of reference	SuggestedRemedy
package parameters, the calculation in Equation (163A–3) is performed with the longer package trace length."	Remove Editor's note in page 308.
roposed Response Response Status W	Change Figure 163A-3 as follows: Add H_BT(f) in the same way as Figure 163A-2.
PROPOSED REJECT.	Append a block of "Equation (163A-5)" followed by "Stepresponse u(t)" at the end after
This comment was received after the ballot closed.	"Pulse response h(t)".
163A SC 163A.3.1.1 P 307 L 33 # 91	Proposed Response Response Status W
/u, Mau-Lin MediaTek Inc.	PROPOSED ACCEPT.
omment Type E Comment Status D language	C/ 163A SC 163A.3.1.3 P 308 L 25 # 22
For the definition of N_v here, it would be better to change it from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of	Hidaka, Yasuo Credo Semiconductor, Inc.
	Comment Type T Comment Status D bucket1
sympols to be included in the steady-state voltage calculation".	
symbols to be included in the steady-state voltage calculation".	f_r is also a parameter specified by the clause that invokes this method but missing in the
uggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage	f_r is also a parameter specified by the clause that invokes this method but missing in the list.
UggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy
uggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation"	f_r is also a parameter specified by the clause that invokes this method but missing in the list.
uggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status W	 f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13.
uggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation"	 f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13.
UggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status W PROPOSED REJECT.	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status W PROPOSED ACCEPT.
Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status W PROPOSED REJECT. The suggested remedy does not add clarity to the existing wording.	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status W PROPOSED ACCEPT.
uggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status PROPOSED REJECT. The suggested remedy does not add clarity to the existing wording. 163A SC 163A.3.1.3 P 307 L 53 # 150	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status PROPOSED ACCEPT. C/ 163A SC 163A.3.1.3 P 308 L 27 # 151
Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status W PROPOSED REJECT. The suggested remedy does not add clarity to the existing wording. 1 163A SC 163A.3.1.3 P 307 L 53 # 150 awe, Piers Nvidia comment Type E Comment Status D LATE	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status PROPOSED ACCEPT. Cl 163A SC 163A.3.1.3 P 308 L 27 # 151 Dawe, Piers Nvidia
Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status W PROPOSED REJECT. The suggested remedy does not add clarity to the existing wording. 1 163A SC 163A.3.1.3 P 307 L 53 # 150 awe, Piers Nvidia comment Type E Comment Status D LATE	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status W PROPOSED ACCEPT. C/ 163A SC 163A.3.1.3 P 308 L 27 # 151 Dawe, Piers Nvidia Comment Type E Comment Status D LATE
uggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status PROPOSED REJECT. The suggested remedy does not add clarity to the existing wording. / 163A SC 163A.3.1.3 P 307 L 53 # 150 awe, Piers Nvidia comment Type E Comment Status D LATE The method for obtaining the reference transmitter and package models are defined Scatering Scatering	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status W PROPOSED ACCEPT. Cl 163A SC 163A.3.1.3 P 308 L 27 # 151 Dawe, Piers Nvidia Comment Type E Comment Status D LATE Out of order
Understand Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" Proposed Response Response Status W PROPOSED REJECT. The suggested remedy does not add clarity to the existing wording. 163A SC 163A.3.1.3 P 307 L 53 # 150 awe, Piers Nvidia omment Type E Comment Status D LATE The method for obtaining the reference transmitter and package models are defined below, and are outlined in Figure 163A–3. B L	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status W PROPOSED ACCEPT. Cl 163A SC 163A.3.1.3 P 308 L 27 # 151 Dawe, Piers Nvidia Comment Type E Comment Status D LATE Out of order SuggestedRemedy
uggestedRemedy Change from "represents the number of symbols to include in the steady-state voltage calculation" to "represents the number of symbols to be included the steady-state voltage calculation" roposed Response Response Status PROPOSED REJECT. The suggested remedy does not add clarity to the existing wording. / 163A SC 163A.3.1.3 P 307 L 53 / 150 Memory comment Type E Comment Status D LATE The method for obtaining the reference transmitter and package models are defined below, and are outlined in Figure 163A–3. uggestedRemedy Late	f_r is also a parameter specified by the clause that invokes this method but missing in the list. SuggestedRemedy Change "A_t and T_b" with "A_t, T_b and f_r" in page 308 line 25. Apply the same change to page 307 line 13. Proposed Response Response Status W PROPOSED ACCEPT. C/ 163A SC 163A.3.1.3 P 308 L 27 # 151 Dawe, Piers Nvidia Comment Type E Comment Status D LATE Out of order SuggestedRemedy Swap equations 163A-5 and 4

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SC 163A.3.1.3 SORT ORDER: Clause, Subclause, page, line

extra closing parenthesis "Tr(ref))" SuggestedRemedy remove extra closing parenthesis Proposed Response Response Status W PROPOSED ACCEPT. C/ 163A SC 163A.3.1.3 P 308 L 52 # 23 Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D language There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D language There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D language There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. Hidaka, Yasuo Yasua Yasu	C/ 163A SC 163A.3.1.3	3 P 308	L 43	# 1	C/ 163A	SC 163A.3.2	P 309	L 3	# 41
 extra closing parenthesis "Tr(ref))" SuggestedRemedy remove extra closing parenthesis Proposed Response Response Status W PROPOSED ACCEPT. Cl 163A SC 163A.3.1.3 P 308 L 52 # 23 Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D language There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length". In this subclause, difference parameters quantify the difference between measured values and reference values, and are used to determine whether a transmitter meets the pass requirements for a given parameter. SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length". In this subclause difference parameters quantify the difference between measured values and reference values. PROPOSED ACCEPT IN PRINCIPLE. This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the reciculation ballot. 	Brown, Matt	Huawei			Ran, Adee		Cisco system	าร	
SuggestedRemedy and reference values, and are used to determine whether a transmitter meets the pass requirements for a given parameter. Proposed Response Response Status W PROPOSED ACCEPT. This subclause _defines_ the difference parameters. The pass/fail requirements are n this annex. Cl 163A SC 163A.3.1.3 P 308 L 52 # 23 Hidaka, Yasuo Credo Semiconductor, Inc. SuggestedRemedy Comment Type T Comment Status D language There may be more than two sets of reference package parameter. Allonge inthe transmitter package parameter. W SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length". This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot. Hence it is not within the scope of the recirculation ballot.	Comment Type E	Comment Status D		bucket1	Comment T	ype ER	Comment Status D		language
SuggestedRemedy remove extra closing parenthesis requirements for a given parameter" Proposed Response Response Status W PROPOSED ACCEPT. It is annex. SuggestedRemedy C/ 163A SC 163A.3.1.3 P 308 L 52 # [23] Hidaka, Yasuo Credo Semiconductor, Inc. SuggestedRemedy Change the subclause text to Comment Type T Comment Status D Ianguage There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. Ianguage SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length". PROPOSED ACCEPT IN PRINCIPLE. This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.	extra closing parenthesi	s "Tr(ref))"							
Proposed Response Response Status W Proposed Response Response Status W PROPOSED ACCEPT. This subclause _defines_ the difference parameters. The pass/fail requirements are not this annex. C/ 163A SC 163A.3.1.3 P 308 L 52 # 23 Hidaka, Yasuo Credo Semiconductor, Inc. SuggestedRemedy Change the subclause text to "This subclause defines the parameters that quantify the difference between measured values and reference values". Comment Type T Comment Status D language There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameters. Also, this should be taken from the transmitter package parameter. W SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length". This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot. Hence it is not within the scope of the recirculation ballot.	,	renthesis						hether a transmi	tter meets the pass/fail
PROPOSED ACCEPT. this annex. C/ 163A SC 163A.3.1.3 P 308 L 52 # 23 Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D Ianguage There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. Ianguage Proposed Response Response Status W SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length" with "the longest transmitter package trace length". Proposed Response of the recirculation ballot.	01				This su	bclause defines	the difference parameters	s. The pass/fail r	equirements are not in
C/ 163A SC 163A.3.1.3 P 308 L 52 # 23 Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D language There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. language SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length" with "the longest transmitter package trace Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.		Response Status W				_			- 1
Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D Ianguage There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. Ianguage Proposed Response Response Status W SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hidaka, Yasuo Credo Semiconductor, Inc. Hidaka, Yasuo This subclause defines the parameters that quantify the difference between measured values and reference values".	PROPOSED ACCEPT.				Suggested	Remedy			
Hidaka, Yasuo Credo Semiconductor, Inc. Comment Type T Comment Status D language There may be more than two sets of reference package parameters. Also, this should be tanguage There may be more than two sets of reference package parameters. Also, this should be Proposed Response Response Status W SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.	C/ 163A SC 163A.3.1.	3 P 308	L 52	# 23	Change	the subclause t	ext to		
There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length". Proposed Response Transmitter Transmitter Proposed Response Status W PROPOSED ACCEPT IN PRINCIPLE. This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.	Hidaka, Yasuo	Credo Semi	conductor, Inc.					ty the difference	between measured
There may be more than two sets of reference package parameters. Also, this should be taken from the transmitter package parameter. SuggestedRemedy Change "the longer package trace length" with "the longest transmitter package trace length". PROPOSED ACCEPT IN PRINCIPLE. This comment does not apply to the substantive changes between IEEE P802.3ck D2 and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.	Comment Type T	Comment Status D		language	Proposed R	esponse	Response Status W		
Change "the longer package trace length" with "the longest transmitter package trace length". and D2.0 or the unsatisfied negative comments from the initial ballot. Hence it is not within the scope of the recirculation ballot.			kage parameters	. Also, this should be	PROPC	SED ACCEPT	,		
length". Hence it is not within the scope of the recirculation ballot.	SuggestedRemedy				This co	mment does not	apply to the substantive ch	anges between I	EEE P802.3ck D2.1
Apply the same change to page 307 line 36. However, the proposed changes are an improvement to the draft.		kage trace length" with "the	e longest transmit	ter package trace			5		t.
	Apply the same change	to page 307 line 36.			Howeve	er, the proposed	changes are an improveme	nt to the draft.	
Proposed Response Response Status W	Proposed Response	Response Status W							
PROPOSED ACCEPT.	PROPOSED ACCEPT.								

C/ 163A SC 163A.3.2

C/ 163A	SC 163A.3.2.	P 309	L 9	# 42	C/ 163A	SC 1	163A.3.2.2	P 309	L 33	# 43
Ran, Adee		Cisco system	ms		Ran, Adee)		Cisco syster	าร	
Comment Ty	vpe TR	Comment Status D		vpeak/vf	Comment	Туре	Е	Comment Status D		language
procedur exceptio fact that	re, but 162.9.3. on parameters, a v_f and v_peak nt normative sta	 162.9.3.1.2 for the definit 1.2 does not define the me and adds normative require are defined with PRESET aements) and the fact that 	thod, it refers to f ments which are 0 is unclear (it is	36.9.3.1.2 with irrelevant for 163A. The only part of the	this sh The re <i>Suggest</i> eo	ould be ference IRemedy	just a defir to 93A.5 s	the method defined in 93/ nition of the difference par hould be in the definition c	ameter.	s a test procedure. But
and 85.8 3, which	3.3.3.5), the defined on the defined of the definition of the defi	k definition refers to 162.9. nition of v_f refers to 136.9 to the actual procedure (wi	0.3.1.2 which ther nich is in 85.8.3.3	n refers to 85.8.3.3 step 8.5). These are parallel	Chang	e "ERL((meas) is th	he measured ERL" to "ER I in 93A.5)".	_(meas) is the E	RL calculated from
Also, "M	leasure the tran	nces with exceptions, whic smitter output steady-state	voltage and th	ne linear fit pulse	Proposed PROP	•	se ACCEPT.	Response Status W		
	e peak voltage n of the differen	." is phrased as a test proc ce parameter	cedure. But this s	hould be just a	C/ 163A	SC 1	163A.3.2.2	P 309	L 42	# 152
		•			Dawe, Pie	rs		Nvidia		
	gested remedy surement is at	is a rewrite for clarity and f	or clarification the	at preset 0 is used and	Comment	Туре	т	Comment Status D		LATE
SuggestedR		1 00.			Give th	ne units				
	•	aph to the following:			<i>Suggested</i> Say th	-	,	RL(meas) are in decibels		
calculate	ed from a linear smit equalizer s	pulse peak v_peak(meas) fit pulse response p(k) obt et to preset 1 (no equalizat	ained from meas	urement at TP0v with	Proposed PROP	Respon OSED F	se REJECT.	Response Status W		
v_peak(meas) is the pe	ak value of p(k). v_f(meas)	is defined by equ	uation (163A-x).	C/ 163B	SC 1	163B.2	P 311	L 21	# 153
	i=1}{M×Nv) p(i)/ p(i) and M are de	M efined in 162.9.3.1.1 and N	v is 200.		Dawe, Pie Comment	Туре	т	Nvidia <i>Comment Status</i> D		LATE
Proposed Re	esponse	Response Status W			Compl	ete the	example			
PROPO	SED ACCEPT I	N PRINCIPLE.			Suggestea					
and D2.0	0 or the unsatist	apply to the substantive clied negative comments fro	om the initial ballo		in 163l	B.3, e.g	ause 163 e . in the text lle is based	example, there's another part t, with the lower value in Ta d on.	ackage length zp able 163B-1, or a	b = 12. Give both ERLs at least say which zp the
Hence it	t is not within the	e scope of the recirculation	ballot.		Proposed	Respon	se	Response Status W		
Howeve	r, the proposed	changes are an improvem	ent to the draft.		-		REJECT. t was receiv	ved after the ballot closed.		

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 U/unsatisfied Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 163B SC 163B.2 Page 37 of 37 2021-07-14 4:46:57 PM