C/ FM	SC FM	P 1	L 31	# 26	C/ 80	SC 80.1.5	P 80	L 45	# 2
Ran, Ade	е	Cisco system	าร		Brown, Ma	att	Huawei		
Comment 802.3	<i>Type</i> E cv is published.	Comment Status A		bucket1	Comment In Tab	<i>Type</i> T ble 80-4a, 100GA	Comment Status A	n added to se	PHY table (bucket1) everal PHY types, but the
Suggestee Chang	<i>dRemedy</i> ge "IEEE Std 80	2.3cv-20xx" to "IEEE Std 802	.3cv-2021", here	and on page 16.	physic Suggestee	cal layer tables in dRemedy	the corresponding PMD clau	ses have not	been updated.
Response	e PT	Response Status C			Amen C2C a	id the 100 Gb/s p and C2M sublaye	physical layer tables in clauses ers.	s 138 and 140	0 to include 100GAUI-1
C/ 00	SC 0	P 0	L 0	# 20	Response ACCE	PT.	Response Status C		
Brown, Ma	att	Huawei			C/ 93A	SC 93A.1.6	P 225	L 15	# 118
Comment	Type E	Comment Status A		bucket1	Dawe. Pie	ers	Nvidia		
Accor table i within Sever to this	ding to the style note should be s the boxed table al table notes w guidance.	manual subclause 16.4, table set immediately following the t , above the bottom border of ere added to several tables in	e notes should b able to which it the table." recent drafts bu	e placed as follows: "A belongs, enclosed it not placed according	Comment The e	Type E quation for b(n) is dRemedy	Comment Status R s clumsy and hard to follow		b(n) equation (bucket3)
Sugaestee	- dRemedv				b(n) =	min(max(h,	bbmin(n)), bbmax(n))		
Fix the	e table note at th	ne following page/line: 169/24	, 179/21, 251/46	, 255/25, 283/28	Response)	Response Status C		
Response	•	Response Status C			REJE	CT.			
ACCE	PT.	,			The s	uggested remedy	y does not improve upon the o	larity of the e	existing equation.
[Edito	r's note: CC: 12	0G, 162, 162B]			There	is no consensus	to make the proposed chang	e.	
C/ 00	SC O	P 0	L 0	# 5	C/ 116	SC 116.1.4	P 98	L 18	# 3
Brown, Ma	att	Huawei			Brown, Ma	att	Huawei		
Comment 802.3 amen	<i>Type</i> E ck will not be inc dment to that re	Comment Status A corporated into the next amen vision.	dment (802.3dc)	<i>bucket1</i> so it will be	Comment In Tab types,	<i>Type</i> T ble 116-3, 200GA but the physical	Comment Status A UI-2 C2C and C2M have bee layer tables in the correspond	n added to se ding PMD cla	PHY table (bucket1) everal 200 Gb/s PHY uses have not been
Suggestee	dRemedy				update	ed.			
Conve 802.3	ert draft to be an -2018.	amendment of new revision	(802.3dc) rather	than an amendment of	Suggested Amen	dRemedy d the 200 Gb/s p	hysical layer tables in clauses	s 121 and 122	2 to include 200GAUI-2
Response	•	Response Status C			C2C a	and C2IM Sublaye			
ACCE	PT.				ACCE	PT.	Response Status C		

C/ 116 SC 116.1.4

C/ 116	SC 1'	16.1.4	P 99	L 18	# 4	
Brown, Ma	att		Huawei			
Comment	Туре	т	Comment Status A		PHY tabl	e (bucket1)
In Tab types, update	le 116-4, but the p ed.	400GAL hysical la	II-4 C2C and C2M hav ayer tables in the corre	e been added to s esponding PMD cla	everal 400 Gb/s luses have not b	PHY een
Suggested	dRemedy					
Amen includ	d the 400 e 400GA	Gb/s ph UI-4 C2C	ysical layer tables in cl and C2M sublayers.	lauses 122, 123, 1	24, 138, 150, an	d 151 to
Response			Response Status C			
ACCE	PT.					
Cl 120	SC 12	20.5.1	P 107	L 54	# 16	
Sun, Junq	ing		Credo S	emiconductor		
SSPR spec v	<i>Type</i> Q usually vill help to	TR causes clarify.	confusion in the field to	o be used as recei	ve pattern. A not	withdrawn
Suggested	Remedy					
Add "a will be SSPR	and SSPF "Test pa Q, may n	RQ" after tterns tha ot be cor	"square wave" in the s at are intended for tran rectly recovered by an	second paragraph smitter testing, suc adjacent PMA."	of 120.5.1. This ch as square way	paragraph ve for
Proposed	Respons	е	Response Status Z			
REJE This c [Editor	CT. omment r's note: c	was WIT changed	HDRAWN by the comi page/line from 108/46]	nenter.		
C/ 120	SC 12	20.5.11.2	.a <i>P</i> 110	L 48	# 80	
Dudek, Mi	ke		Marvell			
Comment 120.5.	<i>Type</i> 7 should	E be a hot	Comment Status A link			bucket1
Suggested fix it	dRemedy					
Response ACCE	PT		Response Status C			

	SC 120F.3.1	P 232	L 32	# 76
Dudek, Mik	æ	Marvell		
Comment 7	Type TR	Comment Status A		TX residual IS
The val howeve residua the sys	lue for SNDR is er chip to chip re al ISI beyond the tem.	measured using the method ference receiver is only a 6 t length of the DFE will pass	in 162.9.3.3 whi ap DFE. Transr this Tx specifica	ch uses Np=29, nitters with significant tion and will not work in
Suggestedl	Remedy			
Add an Sigma_ is used	extra Tx specific _e/Vpeak where instead of Np=2	cation "Residual ISI (max) va sigma_e and Vpeak are as 29.	alue 0.027". Def defined in 162.9	ined as the value of .3.3 except that Np=11
Response		Response Status C		
ACCEF	PT IN PRINCIPL	E.		
The foll https://v	lowing presentat www.ieee802.org	ion was reviewed by the tas g/3/ck/public/21_07/dudek_3	k force: 3ck_01_0721.pdf	
than a	ratio (0.027). Imp	plement with editorial license	except specify	
[Editor's	s note: CC: 163,	120F]	/ 12	# 101
[Editor's	s note: CC: 163, SC 120G.3.1	120F] <i>P</i> 250 Nuidio	L 12	# [121
[Editor' C/ 120G Dawe, Pier	s note: CC: 163, SC 120G.3.1 s	120F] P 250 Nvidia Comment Status	L 12	# <u>121</u>
[Editor' Cl 120G Dawe, Pier Comment 7 As disc the sign	s note: CC: 163, SC 120G.3.1 s <i>Type</i> TR cussed, AC commonalling rate of 12	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector	L 12 hax) 17.5 mV isn s and layout ske	# 121 AC CM noise 't reasonable at double w.
[Editor' Cl 120G Dawe, Pier Comment 7 As disc the sign Suggested	s note: CC: 163, SC 120G.3.1 s <i>Type</i> TR cussed, AC commonalling rate of 12 <i>Remedy</i>	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector	L 12 hax) 17.5 mV isn s and layout ske	# 121 AC CM noise 't reasonable at double w.
[Editor' Cl 120G Dawe, Pier Comment 7 As disc the sign Suggested Increas	s note: CC: 163, SC 120G.3.1 s Type TR cussed, AC common nalling rate of 12 Remedy se to 25 mV, both	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector h host and module output.	L 12 hax) 17.5 mV isn s and layout ske	# 121 AC CM noise 't reasonable at double w.
[Editor' Cl 120G Dawe, Pier Comment 7 As disc the sigr Suggested Increas Response ACCEF	s note: CC: 163, SC 120G.3.1 s Type TR cussed, AC commonalling rate of 12 Remedy se to 25 mV, both PT IN PRINCIPL	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector h host and module output. Response Status C E.	L 12 hax) 17.5 mV isn s and layout ske	# 121 AC CM noise 't reasonable at double w.
[Editor' Cl 120G Dawe, Pier Comment 1 As disc the sign Suggested Increas Response ACCEF This co and D2 Hence	s note: CC: 163, SC 120G.3.1 s Type TR cussed, AC commonling rate of 12 Remedy se to 25 mV, both PT IN PRINCIPL comment does not 0.0 or the unsatis it is not within th	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector h host and module output. Response Status C E. t apply to the substantive ch fied negative comments from e scope of the recirculation	<i>L</i> 12 hax) 17.5 mV isn s and layout ske anges between I n the initial ballo ballot.	# 121 AC CM noise 't reasonable at double w. EEE P802.3ck D2.1 t.
[Editor' Cl 120G Dawe, Pier Comment 7 As disc the sign Suggested Increas Response ACCEF This co and D2 Hence Resolve	s note: CC: 163, SC 120G.3.1 s Type TR cussed, AC common halling rate of 12 Remedy se to 25 mV, both PT IN PRINCIPL omment does not .0 or the unsatis it is not within th e using the respo	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector h host and module output. Response Status C E. t apply to the substantive ch fied negative comments from e scope of the recirculation is onse to comment #46.	<i>L</i> 12 hax) 17.5 mV isn s and layout ske anges between I n the initial ballo ballot.	# [<u>121</u> AC CM noise 't reasonable at double w. EEE P802.3ck D2.1 t.
[Editor ⁴ Cl 120G Dawe, Pier Comment T As disc the sign Suggestedl Increas Response ACCEF This co and D2 Hence Resolve	s note: CC: 163, SC 120G.3.1 s Fype TR cussed, AC commaling rate of 12 Remedy se to 25 mV, both PT IN PRINCIPL omment does not .0 or the unsatis it is not within th e using the response	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector h host and module output. Response Status C E. t apply to the substantive ch fied negative comments from e scope of the recirculation of onse to comment #46.	L 12 hax) 17.5 mV isn is and layout ske anges between I in the initial ballo ballot.	# <u>121</u> AC CM noise 't reasonable at double w. EEE P802.3ck D2.1 t.
[Editor' Cl 120G Dawe, Pier Comment 1 As disc the sign Suggested Increas Response ACCEF This co and D2 Hence Resolve	s note: CC: 163, SC 120G.3.1 s Type TR cussed, AC comm halling rate of 12 Remedy se to 25 mV, both PT IN PRINCIPL omment does not 0 or the unsatis it is not within th e using the response	120F] P 250 Nvidia Comment Status A mon-mode output voltage (m 0E with the same connector h host and module output. Response Status C E. t apply to the substantive ch fied negative comments from e scope of the recirculation of onse to comment #46.	<i>L</i> 12 hax) 17.5 mV isn s and layout ske anges between I n the initial ballo ballot.	# [<u>121</u> AC CM noise 't reasonable at double w. EEE P802.3ck D2.1 t.

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 2 of 34 2021-08-11 4:15:22 PM

Cl 120G	SC 120G.3.1	P 250	L 12	# 46
Ran, Adee		Cisco systems		
Comment Ty	rpe TR	Comment Status A		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 commonmode 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.

Response Response Status U

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.

Comment 121 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 resolution to comment #123 indicates there is not consensus to make the change proposed in option (b), above.

Following straw polls #3 and #4, there was consensus to close this comment changing the value to 25 mV.

Change the AC common-mode RMS output voltage (max) for module output and host

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

output to 25 mV.

Straw poll #3, pick one (direction) Straw poll #4, Chicago rules (direction) To address comments #46 and #121, for the module output and host output AC CM noise (max) I would support: A: no change B: change to 25 mV C: change to 30 mV Straw poll #3 A: 12 B: 13 C: 9 Straw poll #4 A: 15 B: 25 C: 21

C/ 120G	SC 120G.3.1	P 250	L 18	# 61
Ghiasi, Ali		Ghiasi Quant	um/Inphi	
Comment Typ	be TR	Comment Status D		HO EH/VEC

Data from Ghiasi page 7

https://www.ieee802.org/3/ck/public/adhoc/apr21_21/ghiasi_3ck_adhoc_01a_042121.pdf and Calvin page 4

https://www.ieee802.org/3/ck/public/adhoc/jun30 21/calvin 3ck adhoc 01 063021.pdf indicate meeting current VEO/VEC at TP1a not feasible to meet

SuggestedRemedy

Considering that on a system all 32 ports plus lanes must meet the TP1a, the best in practice channels should have margin to pass not fail. This is an area that we need more measurement but given what we know at this point VEC should be increased to 13 dB and VEO reduced to 8.5 mV

Proposed Response Response Status Z REJECT.

This comment was WITHDRAWN by the commenter.

C/ 120G SC 120G.3.1 Page 3 of 34 2021-08-11 4:15:22 PM

C/ 120G SC 120G.3.1	P 250	L 25	# 58		C/ 120G	SC 120G.3	.1.2	P 251	L 41	# 100	
Ghiasi, Ali	Ghiasi Quant	um/Inphi			Dawe, Piers	6		Nvidia			
Comment Type TR Co	omment Status A			HO TT	Comment T	ype TR	Comm	nent Status A		ERL Tfx	
Transition time host requesti	ng short mode or long	mode is for TP4	ļ		This fix	ed time value	of time-gate	ed propagation del	ay Tfx is unworka	ble because the HCB	
SuggestedRemedy					SFP+ n	hay be constr	ucted from I	PCB, those for cor	nectors with man	ly lanes such as QSFP-	
Please revert to 10 ps in dra	ft D2.0, please move th	is parameter to	TP4 table 1200	G-3	DD are challenged by fanout and may use cabled construction with the same loss and much greater delay than a PCP. The discontinuity at cable PCP interface which is in the						
Response Re	sponse Status C				connec	feater delay t	eral inches f	rom the coax conr	ector and near th	e module connector,	
ACCEPT IN PRINCIPLE.					should	be windowed	out just like	the coax connecto	or itself, it's not pa	art of the DUT. The	
This comment relates to the	host output transition ti	ime specified in	Table 120G-1.		that in there.	63 and 120F	"The value	of Tfx is twice the	delay from TP5v	to TP5", so it's known	
Separate values for host lon	g and short modes wer	88.	Suggested	Remedy							
The justification was that the similar, which is reflected in calibration. This must also b	ly be	Change 0.3 ns to twice the delay between the test fixture test connector and the test fixture host-facing connection minus 0.2 ns, or 85% of the delay. This gives the cabled HCB designer the length of the module PCB less about 30 mm to position up to 16 coax-PCB transitions. Make a similar change in 162.9.3.5 (HCB for CR).					ctor and the test fixture the cabled HCB to up to 16 coax-PCB				
and short modes.			use that defines	siong	Response	milar change	Bosnou		(WCD).		
Add a factacto to the sub ray	ve for long and chart m	odoo in Toblo 1	20C 1 pointing	to	ACCEF	T IN PRINCI	PIF.				
120G.3.2.1.	ws for long and short in		200-1 pointing	10							
					[Editor's	s note: CC: 12	20G, 162]				
					Per stra	w polls #11 a	nd #12 ther	e is sufficient cons	sensus to accept	the suggested remedy.	
					Implem	ent the sugge	sted remed	y with editorial lice	nse.		
						Straw poll #11 I support making the changes proposed in the suggested remedy for comment #100. A: Yes B: No C: Need more information A: 11 B: 8 C: 10					
					Straw p I suppo Yes: 16 No: 14	oll #12 (decis rt making the	ion) changes pr	oposed in the sug	gested remedy fo	r comment #100.	

C/ 120G SC 120G.3.1.2

C/ 120G SC 120G.3.1.5	P 252	L 15	# 8	C/ 120G	SC 120G.3.	1.5	P 252	L 20	# 47
Brown, Matt	Huawei			Ran, Adee			Cisco system	าร	
Comment Type E Con	mment Status A		transition time (bucket1)	Comment 7	ype ER	Comment	Status A		test setup figures
Reference to transition time n	nethodology.			Figure	20G-6 should	d be edited to c	orrectly show t	he plugging of th	e HCB into either the
SuggestedRemedy				MCB of 120G–9	the host unde	er test, and the	locations of tes	st points, similari	y to the updated Figure
Repeat at:	ransition time (see 120	JG.3.1.4)".		Similar	y for Figure 12	20G–7 for plugg	ing into the MC	CB.	
page 254, line 13 page 258, lines 43/44				Suggested	Remedy				
page 262, lines 10/11				Update	the figures wit	th editorial licer	ise.		
Response Res	ponse Status C			Response		Response	Status C		
ACCEPT IN PRINCIPLE.				ACCEF	т.				
Implement the suggested rem	nedy with editorial lice	nse.		C/ 120G	SC 120G.3.	2	P 253	L 1	# 48
C/ 120G SC 120G.3.1.5	P 252	L 16	# 120	Ran, Adee			Cisco system	าร	
Dawe, Piers	Nvidia			Comment 7	ype E	Comment	Status A		bucket1
Comment Type TR Com "without the use of a reference	mment Status A e receiver" which occu	urs several times	<i>test system response</i> , is misleading; the	"Table with oth elsewh	120G–3–Mod er similar table ere).	lule output char es (Host output	acteristics (at in this annex,	TP4)" - Parenthe and Transmitter	ses are inconsistent characteristics
BT4 filter, which is the referer	nce receiver response	in so many clau	ses, applies.	Suggestedl	Remedy				
SuggestedRemedy				Change	title to "Modu	le output chara	cteristics at TP	24"	
Change to "observed through reference receiver of 120G.5.	the Bessel-Thomson 2" or similar. Several	response of 120 places.	G.3.1 in place of the	Response		Response	Status C		
Response Res	ponse Status C			ACCEF	Т.				
ACCEPT IN PRINCIPLE.									
This comment does not apply and D2.0 or the unsatisfied ne Hence it is not within the scop	to the substantive ch egative comments from the recirculation	anges between I m the initial ballo ballot.	EEE P802.3ck D2.1 t.						
There could be some misinter includes the effect of the test should not be in parentheses. On page 252, line 16 Change: "calibrated at TP4 (v To: "calibrated at TP4 using a than the reference receiver of Apply similarly at page/line: 2 Implement with editorial licens	rpretation since the re equipement filter. Also vithout the use of a rel a test system with a re f 120G.5.2" 54/12, 258/43, and 26 se.	ference receiver o, since the resp ference receiver) sponse as define 52/10.	as defined in 120G.5.2 onse is prescriptive, it d in 120G.3.1 rather						

C/ 120G SC 120G.3.2

SC 120G.3.2

C/ 120G	SC 120G.3.2	P 253	L 11	# 97	C/ 120G				
Dawe, Pier	rs	Nvidia			Ghiasi, Ali				
Comment 7	Type TR	Comment Status R		MO VEC/EH	Comment				
The dri at near	iver swing has to end, short mode	be aggressively reduced a. 120E has 70 mV, and	d from 600 mV pk-pł D1.4 had 24 mV,	k to deliver only 15 mV	TP4 V host c				
ghiasi_ can use	_3ck_adhoc_01a_ efully optimise fo	_042121 shows 35 mV (r e.g. different crosstalk	before Vpkpk was re or noise if given a re	educed). Yet a host easonable signal	Suggested				
strengt	h. A NIC has no nincrease this w	high-loss ports so it can eak signal without overlo	do this even if a swi	tch won't. There is Also, making the limits	Reduc				
more li	ke reality encour	ages more consistent m	odule setup across t	he industry.	Response				
SuggestedRemedy									
Increase the eye height, short mode near end, by 1.1 dB from 15 mV to 17 mV $$									
Response REJEC	Response Response Status U REJECT.								
This co	This comment pertains to the module output eye height (min) for short mode, near end.								
The co	mment does not	provide sufficient evider	nce that the propose	d change is necessary.	from -				
C/ 120G	SC 120G.3.2	P 253	L 11	# 98	(1110X).				
Dawe, Pier	rs	NL C.C.			C/ 400C				
	Dawe, Piers NVidia								
Comment 7	Type TR	NVIdia Comment Status R		MO VEC/EH	Ghiasi, Ali				
Comment 7 If the e at near	Type TR eye height limit is r end and the imp	Comment Status R the same at long near e lementer is encouraged	nd as at long far end to optimise for far e	MO VEC/EH d, there is huge margin nd or beyond, only	Ghiasi, Ali Comment TP4 lo				
Comment T If the e at near limited range f	Type TR by height limit is r end and the imp by the NE VEC s from near to far.	Comment Status R the same at long near e lementer is encouraged spec, while we want mod EH is naturally larger at	nd as at long far end to optimise for far e dules to be set up co NE for a well set up	MO VEC/EH d, there is huge margin nd or beyond, only insistently, for the full output.	Ghiasi, Ali Comment TP4 lo Suggested Reduc				
Comment T If the e at near limited range f Suggested	Type TR ye height limit is end and the imp by the NE VEC s from near to far. Remedy	Comment Status R the same at long near e elementer is encouraged spec, while we want mod EH is naturally larger at	nd as at long far end to optimise for far e dules to be set up co NE for a well set up	MO VEC/EH d, there is huge margin nd or beyond, only insistently, for the full output.	Ghiasi, Ali Ghiasi, Ali Comment TP4 lo Suggested Reduc				
Comment T If the e at near limited range f Suggested Increas	Type TR eye height limit is end and the imp by the NE VEC s from near to far. <i>Remedy</i> se the eye height	Comment Status R the same at long near e lementer is encouraged spec, while we want mod EH is naturally larger at	nd as at long far end to optimise for far e dules to be set up co NE for a well set up y 3 dB from 15 mV t	MO VEC/EH d, there is huge margin nd or beyond, only insistently, for the full output.	Ghiasi, Ali Comment TP4 lo Suggested Reduc Proposed REJE				
Comment T If the e at near limited range f Suggested Increas Response	Type TR even height limit is end and the imp by the NE VEC s from near to far. <i>Remedy</i> se the eye height	Comment Status R the same at long near e blementer is encouraged spec, while we want moo EH is naturally larger at , long mode near end, b Response Status U	nd as at long far end to optimise for far e dules to be set up co NE for a well set up y 3 dB from 15 mV to	MO VEC/EH d, there is huge margin nd or beyond, only insistently, for the full output.	Ghiasi, Ali Ghiasi, Ali Comment TP4 lo Suggested Reduc Proposed REJE				
Comment T If the e at near limited range f Suggested Increas Response REJEC	Type TR even height limit is end and the imp by the NE VEC s from near to far. <i>Remedy</i> se the eye height CT.	Comment Status R the same at long near e blementer is encouraged spec, while we want mod EH is naturally larger at , long mode near end, b Response Status U	nd as at long far end to optimise for far e dules to be set up co NE for a well set up y 3 dB from 15 mV to	MO VEC/EH d, there is huge margin nd or beyond, only nsistently, for the full output.	Ghiasi, Ali Ghiasi, Ali Comment TP4 lo Suggested Reduc Proposed REJE				
Comment T If the e at near limited range f Suggested Increas Response REJEC This co	Type TR eye height limit is end and the imp by the NE VEC s from near to far. <i>Remedy</i> se the eye height CT.	Comment Status R the same at long near e lementer is encouraged spec, while we want mod EH is naturally larger at , long mode near end, b Response Status U	nd as at long far end to optimise for far e dules to be set up co NE for a well set up y 3 dB from 15 mV t e height (min) for lor	MO VEC/EH d, there is huge margin nd or beyond, only insistently, for the full output. o 21 mV	Ghiasi, Ali Comment TP4 lc Suggestec Reduc Proposed REJEC This c				

Ghiasi, Ali		Ghias	i Qua	ntum/Inphi	
Comment Type	TR	Comment Status	Α		MO VEC/EH
TP4 VEC c host chann	an be lowere	ed from current 12 dl ASIC	3 to 11	dB to allow addit	ional penalty for real
SuggestedRem	nedy				
Reduce TF	4 VEC=11 d	IB, see ghiasi_3ck_0	1_072	1	
Response		Response Status	С		
ACCEPT II	N PRINCIPL	E.			
This comm	ent pertains	to the module outpu	t VEC	(max).	
Slides 7 an https://www	d 8 of the fo v.ieee802.org	llowing presentation g/3/ck/public/21_07/g	was re phiasi_	viewed by the tas 3ck_01_0721.pdf	k force:
The slide s end measu from -3 dB (max).	hows that wi rement. The to -2 dB. Wi	th the current g_dc c comment suggests th this change to the	onstra that g_ g_DC	ints VEC fails for _dc max for TP4 fa limit there is no n	the long mode, near- ar-end be increased eed to change VEC
C/ 120G S	C 120G.3.2	P 2	53	L 13	# 59
Ghiasi, Ali		Ghias	i Qua	ntum/Inphi	
Comment Type TP4 long V	TR EO at max l	Comment Status oss drops to 12 mV	D		MO VEC/EH
SuggestedRem	nedv				
Reduce TF	4 high loss	/EO=12 mV, see gh	asi_3	:k_01_0721	
Proposed Resp REJECT.	oonse	Response Status	z		
This comm	ent was WIT	HDRAWN by the co	mmen	ter.	

P 253

L 12

62

C/ 120G SC 120G.3.2

C/ 120G SC 120G.3.	2 P 253	L 20	# 49	Cl 120G	SC 120G.	3.2	P 253	L 22	# 50
Ran, Adee	Cisco systems	s		Ran, Adee			Cisco system	ns	
Comment Type TR	Comment Status A	MO E	OC CM voltage tolerance	Comment 7	ype ER	Comment	Status A	МО	DC CM voltage tolerance
footnote b says "Spec mean?	cification includes effects of gro	ound offset voltag	ge." - what does it	"DC co refer to	mmon-mode footnote b, r	voltage (max)" -	assuming this	specification is	not removed, it should
It is unclear why the r given that its output is	nodule needs a specification of AC coupled (per 120G.1). Wit	f DC common-m thout AC couplin	ode voltage at all, ig in the module, the	Suggestedl change	Remedy footnote refe	erence from a to b	р.		
limits given in this tab	le are not reasonable.			Response		Response S	Status C		
SuggestedRemedy				ACCEF	PT IN PRINC	IPLE.			
Clarify what the quote Consider removing th Response		This co and D2 Hence	mment does .0 or the uns it is not within	not apply to the s atisfied negative of n the scope of the	substantive cha comments fror recirculation l	anges between n the initial ballo ballot.	IEEE P802.3ck D2.1 ot.		
				Resolve		esponse to comm	ent #49.		
This comment does n	not apply to the substantive cha	anges between I	EEE P802.3ck D2.1	C/ 120G	SC 120G.	3.2.2	P 254	L 24	# 60
Hence it is not within	the scope of the recirculation b	allot.		Ghiasi, Ali			Ghiasi Quant	tum/Inphi	
				Comment 7	ype ER	Comment S	Status A		test setup figures
The comment is refer which are intended to	ring to module output "DC com define a tolerance for the mod	imon-mode volta lule output to hos	age" specifications st DC bias voltage. A	Figure need fo	120G-7 could r DC blocks	d be improved wit on the output of H	h relation of m ICB	odule DUT, swit	tch, and there is no
whether it be a discre	te capacitor or decoupling on the	he die, must tole	erate the DC common-	Suggestedl	Remedy				
mode voltage applied not be deleted. Howe	by the host input. This is a new ver, this specification as writter	cessary requirent is difficult to int	nent and thus should rerpret.	Please both ar	center MCB e inserted int	with HCB above at the MCB, remove I	and module DI DC blocks from	UT under to mal n HCB, and imp	ke it more clear that rove the switch figure
Implement slide 16 of	⁺ brown_3ck_02b_0721 with ed	litorial license.		Response ACCEF	YT IN PRINC	Response S IPLE.	Status C		
				Implem diagran	ent the sugg n.	ested remedy wit	h editorial licer	∩se, except leav	e the DC blocks in

C/ 120G SC 120G.3.2.2

C/ 120G	SC 120G.3.	2.2.1	P 254	L 51	# 102
Dawe, Pie	rs	N	vidia		
Comment	Type TR	Comment Sta	tus R	ЛС	O SI host reference channel
The ne implen similar should exactly short a both th	ear end and far nenter has little ly. As short is l be at least as / like the theore and long to give nese criteria, D2	end should be pla choice what empt easier than long, the much as far minus etical reference hos the host room for 2.1's 133 mm does	ced far e nasis to u his mear s near for st channe its imple sn't.	nough apart so t use, so that all m is that far minus r long. As real ho el, there should b ementation. D2.0	hat the module odules are set up near (mm or dB) for short ost channels are not e a healthy overlap of 's 160mm delivered on
Suggested	IRemedy				
Chang	e 133 to 150, c	hange 80 to 90			
Response		Response Sta	tus U		
REJE	CT.				
The co	omment does n	ot provide sufficier	nt justifica	ation for the prop	osed changes.
There Furthe	may be some b r analysis is en	benefit to balancing couraged.	g the leng	gth range betwee	en short and long modes.
Ci 120G	30 1 200.3 .	ა ი		L 34	# 51
Commont	; Tupo TP	Comment Sta		lenis	$MO \Lambda C C M$ noise tolerance
The ho if this i input s	s not included i pecification.	ate the AC common the stressed inp	on mode ut test, th	output allowed fo	or the module output. Even hould be part of the host
Suggested	IRemedy				
Add a (RMS)	row to Table 12 " and value bas	20G–7 with parame sed on Table 120G	eter "AC i–3.	common-mode i	nput voltage tolerance
Response		Response Sta	tus C		
ACCE	PT IN PRINCIF	νLΕ.			
Comm	ent #55 propos	ses a similar chang	e to the	host input.	
Impler	nent slide 19 of	brown_3ck_02b_	0721 with	n editorial license).
Strawp I supp		2)			

C/ 120G	SC 120G.3.3.1	P 2	56	L 4	# 52]
Ran, Adee		Cisco	systems			_
Comment Ty	rpe E	Comment Status	Α		bucket	1
It is pref	erable to refer to	the value in table 1	20G-7 than	to repeat it.		
SuggestedR	emedy					
Change 53.125 ("for any signaling GBd ± 100 ppm" f	g rate in the range to "for any signaling	g rate in the r	ange specif	ied in Table 120G-7".	
Response ACCEP	г.	Response Status	С			
C/ 120G	SC 120G.3.3.4	P 2	56	L 50	# 122]
Dawe, Piers		Nvidia	a			
Comment Ty	rpe TR	Comment Status	Α		HI/MI SI metho	d
While we spec. T	e are upturning th here is no require	nis section, we mig ment to test, only	ht as well do to comply.	it correctly.	802.3 is not a test	

SuggestedRemedy

Change "The host stressed input tolerance is tested using the test setup described in 120G.3.3.4.1 which is calibrated as described in 120G.3.3.4.2, and the test procedure in 120G.3.3.4.3." to "The host stressed input tolerance is defined by the test procedure in 120G.3.3.4.3 using the test setup described in 120G.3.3.4.1, which is calibrated as described in 120G.3.3.4.2." Similarly in 120G.3.4.2 Module stressed input test.

Response Response Status C

ACCEPT IN PRINCIPLE.

The intent of the suggested remedy is an improvement to the quality of the draft. However, for consistency in the draft the language should be consistent with other clauses. Use similar clause 162.9.4.2 as a template.

Change: "The host stressed input tolerance is tested using the test setup described in 120G.3.3.4.1 which is calibrated as described in 120G.3.3.4.2, and the test procedure in 120G.3.3.4.3."

To: "Host stressed input tolerance is measured according to the procedure described in 120G.3.3.4.1 through 120G.3.3.4.3."

Update 120G.3.4.2 Module stressed input test in a similar way. Implement with editorial license.

C/ 120G SC 120G.3.3.4

302.3ck D2.1 100/200/400 Gb/s Electrical Interfaces Task Force 1st Wo	orking Group recirculation ballot co
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C/ 120G SC 120G.	3.3.4.1 <i>P</i> 257	L 31	# 89	C/ 120G	SC 120G.3.	3.4.2	P 258	L 33	# 53
Wu, Mau-Lin	MediaTe	ek Inc.		Ran, Adee			Cisco system	าร	
Comment Type E	Comment Status A		bucket1	Comment 7	Гуре Т	Comme	ent Status A		HI SI method
"host reference char better to align with o	nnel" here means "referend ther places.	ce host channel" in o	ther places. It would be	Unlike defined	the jitter levels I. Using inappro	in step c, th opriately low	e initial signal leve / levels can result	els in the calibra in bad jitter mea	tion procedure are not asurement in step c.
SuggestedRemedy Change "host refere	nce channel" to "reference	e host channel"		To achi without	ieve good jitter exceeding the	measureme differential	ent, the initial outp peak to peak spec	out levels should cification.	be as high as possible
Response ACCEPT	Response Status C	;		Also ap	plies in module	e stressed i	nput test, 120G.3.	4.2.2.	
				Suggestedl	Remedy				
C/ 120G SC 120G.3	3.3.4.1 <i>P</i> 258	L 18	# 65	Add gu	idance to step	a to use init	ial signal level as	high as possible	e such that the
Ghiasi, Ali	Ghiasi C	Quantum/Inphi		differen	itial peak-to-pe	ak input vol	tage tolerance giv	en in Table 120	G–9 is not exceeded.
Comment Type ER	Comment Status R	-	test setup figures	Response		Respon	se Status C		
The figure can impro	ove		, 3 , 1	ACCEF	PT IN PRINCIP	LE.			
SuggestedRemedy				Implem	ent the sugges	sted remedy	with editorial lice	nse.	
Please consider follo - Make line to either - The arrows in the H	owing improvements: stress or DUT solid and th lost under test are confus	ne other dotted ing		Straw p To add	ooll #9 (decision ress comment	า) #53, I supp	ort implementing t	he suggested re	emedy.
Response	Response Status U	I		No:5)				
REJECT.									
There is no consens	sus to make the proposed	changes.							

C/ 120G SC 120G.3.3.4.2

C/ 120G	SC 120G.3.3.	4.2 P 258	L 36	# 54
Ran, Adee		Cisco syste	ms	
Comment Typ	be T	Comment 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 Z REJECT.

This comment was WITHDRAWN by the commenter.

C/ 120G	SC 12	0G.3.3.4.2	2 P 2	58	L 39	#	72
Dudek, Mike			Marve	ell			
Comment Typ	be E	Ξ	Comment Status	Α			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.

Response Response Status C

ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license.

C/ 120G	SC ·	20G.3.3.4.	2 P 259	L 4	#	71
Dudek, Mike			Marvell			
Comment Ty	рe	т	Comment Status A			HI SI method

The pattern generator pre-emphasis should be optimized for the host stressed input just as it is for the module stressed input.

SuggestedRemedy

Add a sentence to the end of bullet g. "The pattern generator pre-emphasis and reference receiver settings that minimize VEC are used."

Response ACCEF	ΥТ.	Response Status	С		
C/ 120G	SC 120G.3.3.4	4.2 P2	259	L 16	# 66
Ghiasi, Ali		Ghia	si Quanti	um/Inphi	
Comment T	ype TR	Comment Status	D		HI SI EH/VEC
Host sti packge	ress input VEC is and VEO can be	s too high and does as small as 12 m	s not acco √	ount for real host	channel and ASIC
Suggested	Remedy				
Reduce	e VEC=11-11.5 d	B range and VEO t	o 12 mV,	see ghiasi_3ck	_01_0721
Proposed R	Response T	Response Status	Z		

This comment was WITHDRAWN by the commenter.

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 10 of 34 2021-08-11 4:15:22 PM

C/ 120G	SC 120G.3.3.4	4.2	P 259	L 20	# 90	C/ 120G	SC 120G.3.4	4.2.1	P 261	L 4	# 36
Wu, Mau-L	in		MediaTek Inc.			Ran, Adee			Cisco system	ns	
Comment 7	ype TR	Comment St	tatus A		bucket1	Comment 7	ype TR	Comment S	tatus A		MI reference channel
The 'Va Unit of	alue' for 'Crosstal voltage shall be i	k differential pe ncluded here a	eak-to-peak vo as other items.	oltage' is 870, v	vhich is without unit.	The tes but the	t setup include frequency depe	s "Frequency-de endence is not d	pendent atte efined. The c	nuation represe only requirement	enting the host channel" It is given in step f of
Suggestedl Change	R <i>emedy</i> e '870' to '870 m\	<i>(</i> '				120G.3 notch fi	.4.2.2 as 18.2 d Iter - obviously	dB at 26.56 GHz not what we inte	- a single fre end.	equency. This c	an be implemented by a
Response ACCEF	ΥТ.	Response St	atus W			The attrist to us	enuator should e a reference F	be specified acr CB model. Alter	oss a wide fr natively, a fre	equency range equency mask	. The suggested remedy can be used.
						Suggested	Remedy				
Cl 120G Ran, Adee	SC 120G.3.4		P 260 Cisco systems	L 9	# 55	With ec model o to creat	litorial license, of 162.11.7.1 (a e 18.2 dB at 26	define the freque as in Annex 1638 6.5625).	ency-depende 3) with zp=46	ent attenuation 1 mm (value so	based on the PCB caled from Annex 163B
Comment 7	ype TR	Comment St	tatus A	٨	II AC CM noise tolerance	Response		Resnonse St	atus C		
The mo if this is module	dule should tole not included in t input specificati	rate the AC cor the stressed in on.	mmon mode o put test, this e	utput allowed f xpectation sho	or the host output. Even uld be part of the	ACCEF	T IN PRINCIP	LE.			
Suggestedl Add a r (RMS)"	Remedy ow to Table 1200 and value based	G–9 with paran I on Table 120	neter "AC com G–1.	mon-mode inp	ut voltage tolerance	conside - retain - mentio - includ	ent the sugges erations: text stating 18. on the channel e figure with pla	.2 dB @ 26.5625 should approxim ot of IL curve	GHz GHz this pres	scribed respons	e
Response		Response Sta -	atus C			CI 120C	SC 120C 3	1 2 2	D 262	/ 10	# 69
AUCEP							30 1200.3.4	+.2.2	F ZUZ		# 00
Comme	ent #51 proposes	a similar char	nge to the host	input.		Griidsi, Ali		Commont		tum/mpm	
Resolv	e using the respo	inse to comme	ent #51.			Data fro	ype in om Ghiasi nade	2 7			WIT LT WVLC
C/ 120G	SC 120G.3.4.	I	P 260	L 30	# 56	https://v and Ca	www.ieee802.o lvin page 4	rg/3/ck/public/ac	lhoc/apr21_2	1/ghiasi_3ck_a	dhoc_01a_042121.pdf
Ran, Adee			Cisco systems	6		https://	www.ieee802.0	rg/3/ck/public/ac	lhoc/jun30_2	1/calvin_3ck_a	dhoc_01_063021.pdf
Comment 7	ype E	Comment St	tatus A		bucket1	Suggested	Pomody		in ranotica		
It is pre	ferable to refer to	o the value in ta	able 120G-9 th	nan to repeat it		This is	an area that we	e need more me	asurement hi	ut given what w	e know at this point VEC
Suggested Change	Re <i>medy</i> e "for any signalir	ng rate in the ra	ange			should Channe	be increased to els, see ghiasi_	0 13 to 13.5 dB a 3ck_01_0721	ind VEO redu	uced to 8.5 mV	to support Lim
53.125	GBd ± 100 ppm'	to "for any sig	naling rate in t	the range spec	ified in Table 120G-9".	Proposed F	Response	Response St	atus Z		
Response		Response St	atus C			REJEC	т.				
ACCEF	РТ.					This co	mment was WI	ITHDRAWN by t	he commente	er.	

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

C/ 120G	SC 120G.3.4.2	2.2 P 262	L 26	# 9	C/ 120G S	C 120G.5.2	P 265	L 16	# 103		
Brown, Ma	tt	Huawei			Dawe, Piers		Nvidia				
Comment	Туре т	Comment Status R		MI SI method	Comment Type	e TR	Comment Status R		RR gdc		
This st "The p	ep g) has criteria attern generator r	for VEC which might be int andom	erpreted as con	flicting.	The limits for TP4 gDC, gDC2 should not be the same for short and long output modes.						
are : "The p referer	adjusted so that attern generator p nce receiver settin	VEC is within the limits in pre-emphasis and gs that minimize VEC are	used."	<i>L.</i> "	Create sep style of TP	parate limits 1a.	for TP4 short and long outpu	t modes, so 4 s	ets for TP4+, in the		
I believ	ve the the latter cr	iteria was intended to spec	ify that for each	pattern generator output	Response		Response Status U				
Suggested	Remedy		126 VLC.		REJECT.						
Chang minimi To: "Fo receive	e: "The pattern ge ze VEC are used. or any jitter and vo er settings that mi	enerator pre-emphasis and " oltage setting, the pattern g nimize VEC are used."	reference receiv enerator pre-em	ver settings that phasis and reference	This comm insufficient used for T	nent is a rest justification P1a but does	atement of D2.0 comment # and detail. It adds request to s not provide specific values.	179, which was provide 4 sets No further justi	s rejected on the basis of of values in the style fication is provided.		
Response		Response Status C			The comm	ent does not	t provide sufficient justification provide sufficient detail to im-	on for the proposition of the pr	sed changes nor does		
REJEC	CT.										
The int	tent is that the ste	p g is an iterative or autom	atic process suc	h that the conditions in	Dawe, Piers	C 120G.5.2	P 265 Nvidia	L 25	# 104		
both se	econd and last se	ntences are simultaneously	/ met.		Comment Type	e TR	Comment Status R		RR adc		
Howev	er, a complete co	nsensus proprosal to addre	ess this is neces	sary.	As a lot of	the channel	for TP4 far-end is known exa	actly and the ma	ax loss to TP4 far end is		
C/ 120G	SC 120G.5.2	P 265	L 12	# 105	less than t ones. As f	o TP1a, the for TP1a, I b	range of gDC, gDC2 combin elieve the strongest gDC and	ations should b d gDC2 should a	e a subset of the TP1a add to a constant.		
Dawe, Pier	rs	Nvidia			SuggestedRen	nedy					
Comment When we allo	<i>Type</i> TR gDC2 is -2, we all ow -(-13-3) = 16 dl	Comment Status R low no more than -(-12-2) = B, yet the channel loss sho	a 14 dB of peakir uld not be highe	<i>RR gdc</i> ng, yet when gDC2 is -3, r. This doesn't make	For Contin depend on to a consta	uous time fil gDC2 in the ant. The allo	ter, DC gain for TP4 far-end e same style as for TP1a, wit wed values should be a subs	(gDC), change h the strongest set of those for	to a set of limits that gDC and gDC2 adding TP1a.		
sense.					Response		Response Status U				
Suggested	Remedy				REJECT.						
For TP for the	1a, change -12 -1 highest two gDC2	2 -13 to -12 -11 -10 or -12 2 categories is the same).	-12 -11 (so the s	strongest CTLE peaking	I his comm insufficient	i justification	atement of D2.0 comment # and detail. No further justific	178, which was ation or implem	rejected on the basis of ientation detail is		
Response		Response Status U			provided. The comm	ent does not	t provide sufficient justification	on for the propos	sed changes nor does		
REJEC The co	CT. Imment does not	provide sufficient justification	on for the propos	sed changes.	the sugges	sted remedy	provide sufficient detail to im	plement.			

C/ 120G SC 120G.5.2

C/ 120G	SC 120G.5.2	P 265	L 51	# 38	C/ 120G	SC 120G.5.2	P 266	L 23	# 106
Ran, Adee		Cisco systems			Dawe, Piers	5	Nvidia		
Comment 7	Type ER	Comment Status A		bucket1	Comment T	ype TR	Comment Status A		EO method
The list	t in this subclaus	e starts at h) instead of a).			This dra	aft has a primitiv	ve rectangular eye mask spec	c with mask hei	ght = max(EHmin,
Suggested Change	Remedy e the list format t	o start at a).			a diamo signal c	ond eye with a re puality and provi	ectangular mask is an ineffici des weak and uncertain prote	ent, inaccurate	way of measuring oo much jitter. Its
Response ACCEF	РТ.	Response Status W			effectiv inefficie De-weig	e width is less th nt shape. ghting the sides	of the histogram/mask would	1e-5 probability d make this wor	 riterion and the se, equivalent to
C/ 120G	SC 120G.5.2	P 265	L 51	# 10	increas rectang	ing the target Bl ular mask would	ER by 10x or so. A higher VI d allow more jittered and mor	EC / smaller EF	l limit with the s, particularly for very
Brown, Ma	tt	Huawei			short he	ost channels (se The target BER	e Mike Dudek's work) that ca	an have faster e	dges than higher loss
Comment 7 Method	<i>Type</i> E I should start at s	Comment Status A step "a)" not "h)"		bucket1	We nee are nea	ed an eye mask ir the boundary a	that's more eye shaped, so t and contribute to the measur	hat a higher pro ement.	portion of the samples
Suggested	Remedy				Suggested	Remedy			
Reform	at list to start at	"a)".			Change	from a 4-corne	red mask with corners at t =	ts+/-0.05, V = y	+/-H/2 to a 10-cornered
Response ACCEF	ग.	Response Status C			mask w VCmid, H is ma AVlow, This sir have be rectang	vith corners at t : VCupp or VClo IX(EHmin, Eye as in D2.1. nple scalable m een measuring v ular mask and g	= ts+/-0.05, ts+/-1/16, ts+/-3/3 w (vertically floating, as in D2 Amplitude * 10^(-VECmax/20 ethod can remain as the EH vith 10-sided masks for many gives better results.	32, V = y +/-H/2 2.1).))). Eye Amplitu and VEC limits / years, it's not	, k +/-H*0.4, y. y is near ude is AVupp, AVmid or are revised. Scopes more difficult than a
					Response		Response Status U		
					ACCEF	T IN PRINCIPL	E.		
					This co insuffici	mment is a rest ent justification	atement of D2.0 comment #1 and insufficient analysis to s	27, which was how equivalent	rejected on the basis of or better interoperability.
					Straw p Howeve comme	olls 5, 6, and 7 er, the resolutior nt.	indicate there is no consesus to comment #39 addresses	to make the pl the concern ex	roposed change. pressed in this

C/ 120G SC 120G.5.2

C/ 120G	SC 120G.5.2	P 266	L 25	# 39
Ran, Adee		Cisco systems		
Comment Ty	pe TR	Comment Status A		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.

Response Status C

Response

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.

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

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

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 following presentation was reviewed by the task force: https://www.ieee802.org/3/ck/public/21_07/ran_3ck_01a_0721.pdf

Per straw polls 5, 6, and 7 there was consensus to implement the proposal in ran_01a (slide 9) with sigma_r set to 0.02 UI.

Implement the method in ran_01a (slide 9) with sigma_r set to 0.02 UI.

Straw poll #5 (chicago rules) direction Straw poll #6 (pick one) direction For the eye opening method in 120G.5.2 I would support: A: a weighted method similar to comment #39 and ran_01a B: a multi-sided eye mask similar to comment #106 C: no change D: need more information #5: A: 25 B: 15 C: 13 D: 11 #6: A: 15 B: 8 C: 11 D: 5

Straw poll #7 (decision) I support resolving comment #39 using the proposal in ran_01a (slide 9) except with standard deviation (sigma_r) of 0.02 UI. Yes: 21 No: 11

> C/ 120G SC 120G.5.2

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Cl 161	SC 161.5.2.8	P 134	L 3	# 18	C/ 161	SC 161.5.2.	9 <i>P</i> 134	L 3	# 27
Brown, Ma	att	Huawei			Ran, Adee	9	Cisco syste	ems	
Comment	Туре Е	Comment Status A		bucket1	Comment	Туре т	Comment Status A		bucket1
To add D2.1 (recond	dress the editor's r Comment #163. Th ciled. All other refe	note a simple change to 16 ne terms "FEC encode" and erences in Clause 161 to en	1.5.2.9 can addr I "Reed-Solomo ncoding are pre	ress the main concern of n" encoded should be ceded by "Reed-	The te "Reed- distribu	xt can be made -Solomon encoo uted.	more precise to avoid poss ded" and to clarify where the	ible confusion of codewords come	"FEC encoded" vs. e from and what is being
Solom Reed-	on" not "FEC". In Solomon encoder	e same holds for decoder e 3x	except for one in	stance.	Suggested	lRemedy			
Reed- Reed-	Solomon encoding Solomon encoded	y 1x 2x			Chang has be	e "Once the dat en encoded pe	ta has been FEC encoded, r 161.5.2.8, two resulting co	wo FEC codewor dewords"	rds" to "Once the data
FEC e Reed-	solomon encode / encoded 1x Solomon decode ⁻	zx Ix			On line shall b	e 16, change "O e distributed" to	once the data has been Ree o "tx_out<1087:0> shall be d	d-Solomon encoc istributed".	led and interleaved, it
Reed-	Solomon decoding	y 1x			Response		Response Status C		
decod	er 1x	98			ACCE	PT IN PRINCIP	LE.		
Suggested In 161 In 161	<i>Remedy</i> .5.2.9, change "FE .5.3.3 (page 136,	C encoded" to "Reed-Solo ine 31), change "decoder"	mon" encoded. to "Reed-Solom	on decoder"	Chang has be On line shall b	e "Once the dat een Reed-Solom e 16, change "O e distributed" to	ta has been FEC encoded, non encoded, two resulting f once the data has been Ree v "tx_out<1087:0> shall be d	wo FEC codewor EC codewords" d-Solomon encoc istributed".	rds" to "Once the data led and interleaved, it
Response		Response Status C			C/ 162	SC 162 1	P149	/ 15	# 82
ACCE		•			Wu Mau-I	in	/ 145 MediaTek I	2 13	# 02
Resolution	ve the first part of	he suggested remedy usin	g the response t	to comment #27.	Comment	Type F	Comment Status A		bucket1
	.5.5.5 (page 150, 1	ine 51), change decoder	lo Reed-Solom	on decoder	The hy	/perlink of "Figu	re 162-1" is not correct. It is	linked to Table 1	62-1.
					Suggester	lRemedv			
					Correc	t the hyperlink of	of "Figure 162-1".		
					Response		Response Status C		
					ACCE	PT.			
					C/ 162	SC 162.9.3	P 162	L 12	# 83
					Wu, Mau-I	Lin	MediaTek I	nc.	
					Comment There	<i>Type</i> E is no "hyperlink	Comment Status A " to 162A.2.		bucket1
					Suggested	Remedy			
					The hy TP0 a	/perlink ot 162A re provided info	2 shall be added in the sen rmatively in 162A.2."	tence "The transr	mitter characteristics at
					Resnonse		Response Status C		
					Response				

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 C/
 162
 Page 15 of 34

 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
 SC
 162
 2021-08-11 4:15:22 PM

 SORT ORDER: Clause, Subclause, page, line
 SC
 162
 2021-08-11 4:15:22 PM

C/ 162	SC 162.9.3	P 163	L 5	# 28	C/ 162	SC 162.9.3	P 163	L 10	# 123			
Ran, Adee	e	Cisco system	ns		Mellitz, Ri	chard	Samtec					
Comment	Type TR	Comment Status A		bucket1	Comment	Type TR	Comment Status R		AC CM noise			
In Tab 53.125 This la	le 162–10 the firs 5 ± 50 ppm so this abel is inconsisten	t parameter is "Signaling ra blabel is incorrect (nominal t: in Table 163-5 it is just "S	te, each (nomin is 53.125). Signaling rate", ii	al)" - but the value is n Table 120F-1 and	Table 162-10 specifies AC common-mode RMS voltage, vcmi (max) note b just changes to a PRBS13Q with method described in 93.8.1.3. The problem is that coherent CM signa are included in differential measurements like SNDR, Jitter, and Linear fit pulse peak ratio. That means it is the coherent part if AC CM is double counted.							
Table	120G-1 it is "Sign	aling rate, each lane (range	e)".		Suggestee	dRemedy	·					
The "(i these	range)" seems co tables are per-lan	rrect. The words "each lane e.	e" are unnecess	ary - all parameters in	Add n coher	ote to line 10 (vc ent CM part of th	mi) indicating that the CM m e measurement.	ode measureme	ent is only for the non-			
Make	the label consiste	nt across the similar tables.			This a	pplies to Tables	163-5, 120F-1, 120G-1, and	120G-3				
Suggested	Remedy				Response		Response Status U					
Chang	e the label to "Sig	gnaling rate (range)" in all 4	tables.		REJE	CT.						
Response		Response Status W			[Edito	r's note: Change	d clause/subclause from 163	3/163.9.3.]				
ACCE This c and D Hence Chang [Editor	Response Response Si ACCEPT IN PRINCIPLE. This comment does not apply to the si and D2.0 or the unsatisfied negative c Hence it is not within the scope of the Change the label to "Signaling rate, ea [Editor's note: CC: 120F, 120G, 162, 1		anges between m the initial ball ballot. ge)" for all 4 tab	IEEE P802.3ck D2.1 ot. les.	This c and D Hence The fo https:/ Resol Based chang Straw I woul prese Yes: 1 No: 6 Need Absta	omment does no 2.0 or the unsatis a it is not within the ollowing presenta //www.ieee802.or ve in conjunction I on straw poll #2 es. poll #1 (direction d support the AC ntation mellitz_30 8 more information in: 3	bt apply to the substantive ch sfied negative comments fro ne scope of the recirculation tition was reviewed by the tas rg/3/ck/public/21_07/mellitz_ with comment #46. 2, there is not sufficient conse a) CCM voltage test methodolog ck_01_0721.	nanges between om the initial ballo ballot. sk force: 3ck_01a_0721.p ensus to implem gy in Comment #	IEEE P802.3ck D2.1 odf. ent the proposed #123 and the related			
					Straw For th metho Yes: 1 No: 16	poll #2 (decision e resolution of co dology in Comm 5) omment #123, I support adop ent #123 and the related pre	pting the AC CM esentation mellitz	voltage test z_3ck_01a_0721.			
					[Edito	r's note: CC: 163	s, 120⊢, 120G]					

C/ 162 SC 162.9.3

C/ 162	SC ·	162.9.3	P 163	L 15	# 99	C/ 162	SC 1	62.9.3	P 16	53 L 18	8	# 92
Dawe, Piers			Nvidia			Dawe, Piers			Nvidia	1		
Comment Ty	/pe	Е	Comment Status A		bucket1	Comment T	/pe	TR	Comment Status	R		host/CA IL
Now tha easier fo SuggestedR Please a others, t	t we h or the <i>emed</i> add "R hroug	have estab reader to /y RLcc", "RL hout the c	blished a consistent wa find them. dc" and so on in the ta Iraft. Also in running te	y of naming these re ble rows as we do fc ext such as 162.9.3.6	eturn losses, let's make it or ERL, VEC, vf and 6. Similarly Rpeak.	The dra losses, The rec 6.875 d passive can be	ft CR le 6.875/2 ommer 3, com coppe nade v	oss budg 2.3 = $3:1$ ndation f pares ver to this with only	get wastes over 3 dB i , is too small for switc for the host traces plus ery poorly with C2M's draft expensive and u 3.75 dB. Server-swit	n nearly every ca ch layout yet not it s BGA footprint a host insertion los nattractive for a s ch links are asyn	ase. The relative needed for NIC and host conne s up to 11.9 df switch, yet a fu nmetric in form	re range of host Ss. ctor footprint, B, making Il range of NICs factor (e.g.
Response ACCEP ⁻	Γ.		Response Status C			USFP-L better fo long poi This cha get creo The syn LOM, so	or the s ts. ange w it for the netric	vould also heir low l budget ept here	c) and will get made w to regularise what will o benefit CR switch-suloss. is used for some des a, and the better way a	itn an asymmetri happen anyway witch links becau igns under way a dded.	c loss budget, . C2M already se the shortest and may be use	so it would be has short and t ports would eful in future for
						SuggestedF	emedy	у				
						3 classe A conne Use 2 b to the o Technol Ability F In Table 162.9.3 In Table loss: A: higher (In 162A 162A-1 ILMaxH	es of C ects to its in C her en ogy Ak 162-1 1.2 to 162-1 6.875- 26.75 c .4, adc and 2. ost diff	R ports, C, B to E Clause 73 Id. In the bility Fiel t from an (0, add li refer to t 4, add c 3.75 = 3 dB to 27. d equatio In 162A fer). Adji	host loss allocations of B or C, C to A, B or C. 3 Auto-Negotiation Lin Priority Resolution fund bit from an A or B p A port. mits A and C for linea the table. columns for Test 2 (hig 3.125 dB lower (20.5 d .75 dB). No change n ons for IL_PCBmax an A.5, add Value column ust figures 162A-3 and	of A 10, B 6.875, k codeword Base nction, an A port ort, a B port igno r fit pulse peak ra h loss), A and C B to 21.5 dB), ar eeded for Test 1 d ILHostMax A a is A, C in Table 1 d 4.	C 3.75 dB. B e Page to adve ignores a 1000 res a 100G/lan atio (min). Cha , with test char id C: 10-6.875 nd B and show 62A-1 (ILChm	is as D2.1. ertise A, B or C G/lane le Technology ange text in mel insertion = 3.125 dB v them in Fig in and
						Response			Response Status	U		
						REJEC [®]	Г.					
						D2.0 str consens	aw pol sus is r	lls #6 and needed t	d #7 indicated interest to make a change of th	t in exploring mul nis magnitude.	tiple CR port ty	/pes. However,
						The follohttps://v	owing p /ww.iee	presenta ee802.or	tion was reviewed by rg/3/ck/public/21_07/d	the task force: awe_3ck_01a_0	721.pdf	
						Based of changes	n strav in dav	w poll #1 we_3ck_	l0, there is not sufficie _01a_0721.	nt consensus to	implement the	proposed
						Strawpo I suppor Y: 7	ll #10 t P802	(direction 2.3ck spe	n) ecifying multiple CR h	ost types such as	s in dawe_3ck_	_01_0721.
TYPE: TR/te	chnic STAT	al required US: D/dis	d ER/editorial required patched A/accepted F	GR/general require	d T/technical E/editorial G/ NSE STATUS: O/open W/w	general ritten C/closed	U/unsa	atisfied	Z/withdrawn	C/ 162 SC 162.9.3		Page 17 of 34 2021-08-11 4:15:22

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

Np value

N: 24 A: 8				
C/ 162	SC 162.9.3.1.1	P 165	L 5	# 29
Ran, Adee		Cisco systems		

Comment Status R

Here it is stated that Np takes the value 29, but this value is only effective for calculation of SNDR. Other invocations of this procedure, for vf and vpeak, use Nv=200 instead. Nv appears several times and looks like a parameter, but it is not - it is a value that replaces Np; this is not stated anywhere.

In the remaining use of the linear fit, for calculation of the equalizer coefficients used in 162.9.3.1.3, 162.9.3.1.4, and 162.9.3.1.5, it does not matter whether 29 or 200 UI are used. So Np=29 is important only for SNDR, which is the exception.

Having two parameters instead of one parameter which takes two values is unnecessary and confusing.

SuggestedRemedy

Comment Type **TR**

In 162.9.3.1.1, change "Np=29" to "Np=200".

In 162.9.3.3 (Output SNDR) change "with the exception that the linear fit procedure in 162.9.3.1.1 is used" to "with the exception that the linear fit procedure in 162.9.3.1.1 is used with Np=29 instead of 200".

In 162.9.3.1.2 (Steady-state voltage and linear fit pulse peak) delete "using Nv=200".

In 163.9.2.3 (Difference steady state voltage) delete "with Nv = 200".

In 163A.3.1.1 (Steady-state voltage and pulse peak reference values) change "Nv" to "Np" (3 times).

In 163B.2 (Characteristics) delete "With Nv = 200".

With editorial license, change any remaining occurrence of Nv to Np.

Response Response Status U

REJECT.

The following presentation was reviewed by the task force at a previous ad hoc meeting. https://www.ieee802.org/3/ck/public/adhoc/july14_21/wu_3ck_adhoc_01a_071421.pdf.

There is no consensus to make the proposed changes at this time.

[Editor's note: CC: 162, 163, 163A, 163B]

C/ 162	SC 162.9.3.1.2	P 1	66	L 4	# 30
Ran, Adee		Cisco	systems		
Comment Ty	be TR	Comment Status	Α		vf method

"The steady-state voltage vf is defined in 136.9.3.1.2, and is determined using Nv=200 and the linear fit pulse peak ratio calculated by the procedure in 162.9.3.1.1"

It is determined _from_ the linear fit pulse, and the _peak ratio_ is irrelevant here.

Also, 162.9.3.1.1 does not use the parameter Nv - it has Np which is 13. This is the subject of another comment.

SuggestedRemedy

Change this sentence to

"The steady-state voltage vf is defined in 136.9.3.1.2, and is determined from the linear fit pulse peak ratio calculated by the procedure in 162.9.3.1.1 with the exception that Np is replaced by Nv=200" or "with Np=200".

Response Response Status C

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.

However, the proposed change is an improvement to the draft.

Change: "The steady-state voltage vf is defined in 136.9.3.1.2, and is determined using Nv=200 and the linear fit pulse peak ratio calculated by the procedure in 162.9.3.1.1." To: "The steady-state voltage vf is defined in 136.9.3.1.2, and is determined from the linear fit pulse calculated by the procedure in 162.9.3.1.1 with the exception that Np and Nv are equal to 200."

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 162.9.3.1.2 Page 18 of 34 2021-08-11 4:15:22 PM

C/ 162	SC 162.9.3.1.2	P 166	L 5	# 107	C/ 162	SC 162.9.3.4
Dawe, Pie	rs	Nvidia			Dawe, Piers	3
Comment	Туре т С	omment Status A		vf value	Comment T	ype TR
Redun	dantly stating normati	ve requirements is bad	practice. Table	162-10 is normative.	Allowing	g 4 different way
Suggestea	Remedy				borderli	vet not ranking ti ne cases. Wors
Chang	e "The steady-state v	oltage shall be greater th	han or equal to	0.387 V and less than	uncerta	inty.
or equ 10". "n	al to 0.6 V" to "The st neet the requirements	eady-state voltage shall specified in Table 162-	be within the lir 10". or similar.	nits given in Table 162-	SuggestedF	Remedy
Response	Re	sponse Status C	,		Pick on	e pattern and CF
ACCE	PT IN PRINCIPLE.				would h	ave passed/faile
					Response	-
Chang	e: "The steady-state \ al to 0.6 \/"	oltage shall be greater t	han or equal to	0.387 V and less than	REJEC	1.
To: "Ti	ne steady-state voltag	e shall meet the require	ments specified	d in Table 162-10"	The sug	gested remedy
C/ 162	SC 162.9.3.3	P 167	L 31	# 78	There is	s no consensus t
Dudek, Mi	ke	Marvell			C/ 162	SC 162.9.3.4
Comment	Туре т С	omment Status A		SNDR test response	Ran. Adee	
The m	easurement method f	or SNDR in 120D.3.1.6	uses a 33MHz f	filter bandwidth, which	Comment T	vpe ER
test sy	stem with a fourth-ord	ler Bessel-Thomson low	-pass response	e with 40 GHz 3 dB	120D.3	1.2 is not the co
bandw	idth is to be used for a	all transmitter signal mea	asurements, un	less otherwise specified	SuggestedF	Remedy
as it is ambig	uity here that should b	e removed. However	as the Rx is on	v expected to have	Change	120D.3.1.2 to T
approx	imately the Nyquist b	andwidth measuring SN	DR to 40GHz m	hay be excessive and	Response	
we sho	build consider using a	narrower bandwidth.			ACCEP	т.
L'110000400	Remedy	om with a fourth order E	Pagaal Thomas		CI 162	SC 162 0 2 4
Suggested	contonoo A toot ovot		22261-110111201	TIOW-DASS TESDOUSE	0/ 102	30 102.9.3.4
Add a with 40	sentence. A test syst) GHz 3 dB bandwidth	ι should be used.			Llidaka Va	
Add a with 40	sentence. A test syst) GHz 3 dB bandwidth <i>R</i> e	should be used.			Hidaka, Yas	SUO
Add a with 40 Response ACCE	sentence. A test syst) GHz 3 dB bandwidth <i>Re</i> PT IN PRINCIPLE.	n should be used. Isponse Status C			Hidaka, Yas <i>Comment T</i> 164 on	suo ype E the row F10 and
Add a with 40 Response ACCE	sentence. A test syst) GHz 3 dB bandwidth <i>Re</i> PT IN PRINCIPLE. e the text in 162.9.3.3	n should be used. <i>sponse Status</i> C to the following:			Hidaka, Yas <i>Comment T</i> 164 on <i>SuggestedF</i>	suo ype E the row F10 and Remedy
Add a with 40 Response ACCE Chang "The tr with th	sentence. A test syst) GHz 3 dB bandwidth Re PT IN PRINCIPLE. e the text in 162.9.3.3 ransmitter SNDR is de	a should be used. sponse Status C to the following: ifined by the measurement st system with response	ent method des	cribed in 120D.3.1.6	Hidaka, Yas Comment T 164 on SuggestedF Change	suo ype E the row F10 and Remedy ± 164 with 264.
Add a with 40 Response ACCE Chang "The tr with th fit proc	sentence. A test syst) GHz 3 dB bandwidth Re PT IN PRINCIPLE. e the text in 162.9.3.3 ransmitter SNDR is de e exceptions that a te redure in 162.9.3.1.1 a	a should be used. <i>esponse Status</i> C to the following: afined by the measurement st system with response are used."	ent method des as specified in	cribed in 120D.3.1.6 162.9.3 and the linear	Hidaka, Yas Comment T 164 on SuggestedF Change Response	suo iype E the row F10 and Re <i>medy</i> 164 with 264.

C/ 162	SC 162.9.3.4	P 1	67	L 47	# 109
Dawe, Pie	rs	Nvidi	а		
Comment	Type TR	Comment Status	R		EOJ method
Allowir results border uncert	ng 4 different way yet not ranking t line cases. Wors ainty.	vs to measure the sa them, is too indecisiv se, "lower than 4 MH	me th /e, and z" is c	ing, admitting that th I forces people to do pen-ended and intro	ney will give different all four tests in oduces yet more
Suggested	Remedy				
Pick o would	ne pattern and C have passed/faile	RU corner as definiti ed".	ve, the	e others can be "if it	passes/fails this it
Response		Response Status	С		
REJE	CT.				
The si	iggested remedy	is not sufficiently co	molet	e to implement	
1110 00	iggeolea remeay	is not sumbiently co	mpieu		
There	is no consensus	to make the propose	ed cha	nges.	
C/ 162	SC 162.9.3.4	P 1	68	L 1	# 31
Ran, Adee	•	Cisco	o syste	ems	
Comment	Type ER	Comment Status	Α		bucket1
120D.3	3.1.2 is not the co	orrect reference for t	he pat	tern symbols and th	resholds.
Suggested	Remedy				
Chang	e 120D.3.1.2 to ⁻	Table 120D–4.			
Response		Response Status	w		
ACCE	PT.				
Cl 162	SC 162.9.3.4	P1	68	L 22	# 24
Hidaka, Ya	asuo	Cred	o Serr	iconductor, Inc.	
Comment	Туре Е	Comment Status	Α		bucket1
164 or	the row F10 and	the column of index	of las	st symbol is a typo.	
Suggested	Remedy				
Chang	e 164 with 264.				
Response		Response Status	С		
ACCE	PT.				

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 162.9.3.4

C/ 162	SC	162 9 4	P 170	/ 29	# 111	C/ 162	SC 162 9	4	P 170	/ 30	# 32
	iors	102.3.4	Nvidia	L Z J	π	Ran Adec	00 102.9.	7	Cisco sveten	L J J	π 32
Commer	t Type	F	Comment Status A	TP	5 specifications (bucket?	Comment	Type FR	Comme	nt Status A		signaling rate (bucket1)
The 162/	receiver A.3 says	specificati	ons at TP5 are provided info	rmatively in 162	2A.3: that's not what	The re across	ceiver specific tables. In Ta	cations tables t ble 162–14 it is	the signaling rate s "Signaling rate"	e parameter has , in Table 163–8	inconsistent name 8 "Receiver signaling
Suggest	edReme	dy				rate", i (range	n Table 120F	–4, Table 1200	G–7, and Table 1	20G–9 "Signalir	ng rate, each lane
The Rece	*recomn eiver cha	nended* re aracteristics	ceiver specifications at TP5 at TP5, to Recommended	are Also cha receiver charac	nge the title of 162A.3, teristics at TP5.	The w	v . ord "(range)" s	seems correct.	The words "eacl	h lane" are unne	ecessary - all parameters
Respons	e		Response Status C			in thes	e tables are p	per-lane. Simila	arly "Receiver" is	unnecessary.	
ACC	EPT IN	PRINCIPL	Ξ.			Make	he label cons	sistent across tl	he similar tables.		
The	suggest	ed change	in wording in 162.9.4 is an i	mprovement to	the draft. However, if	Suggested	Remedy				
this	ext is ch	nanged, the	n similar text in 162.9.3 Tra	nsmitter charac	teristics should be	Chang	e the label to	"Signaling rate	e (range)" in all 4	tables.	
upaa	itea.					Response		Respons	e Status W		
It is is inf	not nece ormative	essary to up and the te	date the title for subclauses ext introduces the specificati	162A.2 and 16 ons as recomm	2A.3 since Annex 162A ended.	ACCE	PT IN PRINC	IPLE.			
In 16 char to "F	2.9.3 ige "The lecomm	transmitte	r characteristics at TP0 are smitter characteristics are p	provided inform rovided in 162A	atively in 162A.2." .2."	This c and D Hence	omment does 2.0 or the uns it is not within	not apply to th atisfied negativ n the scope of	e substantive ch ve comments from the recirculation	anges between m the initial ball ballot.	IEEE P802.3ck D2.1 ot.
In 16 char to "F	2.9.4 ige "The ecomm	receiver s	pecifications at TP5 are prov iver characteristics are prov	vided informativided in 162A.3.	ely in 162A.3." '	Chang "Signa [Editor	e in all tables ling rate, eacl 's note: CC: 1	to be consiste h lane (range)" 20F, 120G, 16	nt with Table 120 62, 163])G-9:	
						C/ 162	SC 162.9.	4.1	P 171	L 4	# 33
[Edit	or's note	e: CC: 162,	162A]			Ran, Adee			Cisco system	ns	
						Comment "This t decima	<i>Type</i> T ranslates to a al, this is not t	<i>Commei</i> nominal unit ir he nominal uni	nt Status A nterval of 18.823 it interval but an	53 ps" - even wi approximation.	<i>UI value (bucket1)</i> ith 5 digits after the
						In fact practic	4 digits (0.1 al purpose.	fs resolution) re	esult in about 1 p	opm error, which	n is sufficient for any
						Suggested	Remedy				
						Chang	e "18.82353"	to "approximat	tely 18.8235".		
						Response		Respons	e Status C		

C/ 162 SC 162.9.4.1

Wu, Mau-Lin <i>Comment Type</i> TR			# 84	C/ 162		.0	r 1/3	L 30	# 113
Comment Type TR	Media i ek inc.			Dawe, Pier	S	Ν	lvidia		
	Comment Status A		bucket1	Comment 7	уре Е	Comment Sta	ntus A	br	roadband noise (bucket2
The peak-to-peak differ of "footnote a".	rential output voltage is define	d in Table 16	2-10 footnote b, instead	"sigma doesn't	_bn is the RMS call it that.	broadband noise	amplitude" n	neans nothing l	because the text
SuggestedRemedy				Suggestedl	Remedy				
Change "Table 162-10	footnote a" to "Table 162-10 fe	ootnote b".		Add "R	MS broadband r	noise amplitude"	to the text wh	nere sigma_bn	is mentioned (step g).
Response	Response Status W			Response		Response Sta	tus C		
ACCEPT IN PRINCIPL	E.			ACCEF	PT IN PRINCIPL	E.			
This comment does no	t apply to the substantive char	nges betweer	IEEE P802.3ck D2.1	Implem	ent the suggest	ed remedy with e	editorial licens	se.	
and D2.0 or the unsatis Hence it is not within th	e scope of the recirculation ba	the initial bai illot.	lot.	C/ 162	SC 162.9.4.3	.4	P 174	L 8	# 114
However the proposed	l change is an improvement to	the draft		Dawe, Pier	s	N	lvidia		
nowever, the proposed	r change is an improvement to	the uran.		Comment 7	ype TR	Comment Sta	ntus A		bucket
Implement the suggest	ed remedy.			These	equations for sp	ectral density ma	ask are too ob	oscure.	
C/ 162 SC 162.9.4.3	.3 <i>P</i> 172	L 25	# 6	Suggestedl	Remedy				
Brown, Matt	Huawei			Add a g	graph				
Comment Type E	Comment Status A		transition time (bucket1)	Response		Response Sta	tus W		
Transition time is referr	ed to here as "20% to 80% tra	insition time"	. It is defined explicitly in	ACCEF	PT IN PRINCIPL	E.			
120E.3.1.5. Transition 1 Align terminology.	time is usually referred to else	where in drai	t as just "transition time".	Implem	ent the suggest	ed remedy with e	editorial licens	se.	
SuggestedRemedy				C/ 162	SC 162 9 4 4	2	P 175	/ 18	# 85
SuggestedRemedy Change "20% to 80% to	ransition time" to "transition tin	ne"		C/ 162 Wu, Mau-I	SC 162.9.4.4	.2 M	P 175 lediaTek Inc.	L 18	# 85
SuggestedRemedy Change "20% to 80% to Response	ransition time" to "transition tin <i>Response Status</i> C	ne"		C/ 162 Wu, Mau-L Comment 7	SC 162.9.4.4 in īvpe E	.2 N Comment Sta	P 175 lediaTek Inc. htus A	L 18	# 85
SuggestedRemedy Change "20% to 80% ti Response ACCEPT.	ransition time" to "transition tin <i>Response Status</i> C	ne"		C/ 162 Wu, Mau-L Comment 7 The ref	SC 162.9.4.4 in <i>Type</i> E erence here is n	.2 N <i>Comment Sta</i> nissed in D2.1. It	P 175 lediaTek Inc. h <i>tus</i> A 's (see 162.9	L 18 .4.3.4 in D2.0).	# 85 bucket No comments were
SuggestedRemedy Change "20% to 80% t Response ACCEPT.	ransition time" to "transition tin Response Status C	ne"	# 112	C/ 162 Wu, Mau-L Comment 7 The ref accepte	SC 162.9.4.4 in <i>Type</i> E erence here is n ed to change this	2 <i>Comment Ste</i> nissed in D2.1. It s in D2.0.	P 175 lediaTek Inc. <i>itus</i> A 's (see 162.9	L 18 .4.3.4 in D2.0).	# 85 bucket No comments were
SuggestedRemedy Change "20% to 80% t Response ACCEPT. C/ 162 SC 162.9.4.3	ransition time" to "transition tin <i>Response Status</i> C .3 <i>P</i> 173	ne" <i>L</i> 25	# 112	Cl 162 Wu, Mau-L Comment 1 The ref accepte Suggested	SC 162.9.4.4 in <i>Type</i> E erence here is n ed to change this Remedy	2 <i>Comment Sta</i> nissed in D2.1. It s in D2.0.	P 175 IediaTek Inc. <i>htus</i> A 's (see 162.9	L 18 .4.3.4 in D2.0).	# 85 bucket No comments were
SuggestedRemedy Change "20% to 80% t Response ACCEPT. Cl 162 SC 162.9.4.3. Dawe, Piers Comment Type TP	ransition time" to "transition tin Response Status C .3 P 173 Nvidia	ne" <i>L</i> 25	# <u>112</u>	Cl 162 Wu, Mau-L Comment 1 The ref accepte Suggested Change	SC 162.9.4.4 in Type E erence here is n ed to change this Remedy e "(see)" to "(se	.2 <i>Comment Sta</i> nissed in D2.1. It s in D2.0. e 162.9.4.3.4)"	P 175 IediaTek Inc. htus A 's (see 162.9	L 18 .4.3.4 in D2.0).	# 85 bucket No comments were
SuggestedRemedy Change "20% to 80% t Response ACCEPT. C/ 162 SC 162.9.4.3. Dawe, Piers Comment Type TR fhp is not defined.	ransition time" to "transition tin Response Status C .3 P 173 Nvidia Comment Status A	ne" L 25	# 112 bucket1	Cl 162 Wu, Mau-L Comment 1 The ref accepte Suggested Change Response	SC 162.9.4.4 in <i>Type</i> E erence here is n ed to change this Remedy e "(see)" to "(se	2 <i>Comment Sta</i> nissed in D2.1. It s in D2.0. e 162.9.4.3.4)" <i>Response Sta</i>	P 175 IediaTek Inc. <i>htus</i> A 's (see 162.9. <i>tus</i> C	L 18 .4.3.4 in D2.0).	# 85 bucket
SuggestedRemedy Change "20% to 80% t Response ACCEPT. Cl 162 SC 162.9.4.3 Dawe, Piers Comment Type TR fhp is not defined.	ransition time" to "transition tin Response Status C .3 P 173 Nvidia Comment Status A	ne" L 25	# 112 bucket1	Cl 162 Wu, Mau-L Comment 1 The ref accepte Suggested Change Response ACCEF	SC 162.9.4.4 in <i>Type</i> E erence here is n ed to change this Remedy e "(see)" to "(se PT IN PRINCIPL	2 <i>Comment Sta</i> nissed in D2.1. It s in D2.0. e 162.9.4.3.4)" <i>Response Sta</i> E.	P 175 IediaTek Inc. htus A 's (see 162.9 tus C	<i>L</i> 18 .4.3.4 in D2.0).	# 85 bucket No comments were
SuggestedRemedy Change "20% to 80% t Response ACCEPT. Cl 162 SC 162.9.4.3 Dawe, Piers Comment Type TR fhp is not defined. SuggestedRemedy Define fhp	ransition time" to "transition tin Response Status C .3 P 173 Nvidia Comment Status A	ne" <i>L</i> 25	# 112 bucket1	Cl 162 Wu, Mau-L Comment 1 The ref accepte Suggestedl Change Response ACCEF Referen	SC 162.9.4.4 in Type E erence here is n ed to change this Remedy e "(see)" to "(se PT IN PRINCIPL nce to 162.9.4.3	.2 <i>Comment Sta</i> nissed in D2.1. It s in D2.0. e 162.9.4.3.4)" <i>Response Sta</i> E. .4 is not helpful s	P 175 IediaTek Inc. htus A 's (see 162.9. tus C	<i>L</i> 18 .4.3.4 in D2.0). oclause does no	# 85 bucket No comments were bt address added
SuggestedRemedy Change "20% to 80% t Response ACCEPT. Cl 162 SC 162.9.4.3 Dawe, Piers Comment Type TR fhp is not defined. SuggestedRemedy Define fhp Response	ransition time" to "transition tin Response Status C .3 P 173 Nvidia Comment Status A	L 25	# 112 bucket1	Cl 162 Wu, Mau-L Comment 1 The ref accepte Suggested/ Change Response ACCEF Referen sinusoi	SC 162.9.4.4 in <i>Type</i> E erence here is n ed to change this Remedy e "(see)" to "(se PT IN PRINCIPL nce to 162.9.4.3 dal jitter. Given it	.2 <i>Comment Sta</i> nissed in D2.1. It s in D2.0. e 162.9.4.3.4)" <i>Response Sta</i> E. .4 is not helpful state the previous at the previous	P 175 MediaTek Inc. <i>itus</i> A 's (see 162.9.) <i>tus</i> C since that sub subclause 16 can be delete	<i>L</i> 18 .4.3.4 in D2.0). pclause does no 62.9.4.4.1 desc	# 85 bucket No comments were ot address added tribes the test setup
SuggestedRemedy Change "20% to 80% t Response ACCEPT. Cl 162 SC 162.9.4.3 Dawe, Piers Comment Type TR fhp is not defined. SuggestedRemedy Define fhp Response ACCEPT IN PRINCIPL	ransition time" to "transition tin Response Status C .3 P 173 Nvidia Comment Status A Response Status W E.	ne" <i>L</i> 25	# 112 bucket1	Cl 162 Wu, Mau-L Comment 1 The ref accepte Suggested Change Response ACCEF Referen sinusoi includir Delete	SC 162.9.4.4. in Type E erence here is n ed to change this Remedy e "(see)" to "(se PT IN PRINCIPL nce to 162.9.4.3 dal jitter. Given to g sinusoidal jitte "(see)".	.2 <i>Comment Sta</i> nissed in D2.1. It s in D2.0. e 162.9.4.3.4)" <i>Response Sta</i> E. .4 is not helpful s that the previous er this reference	P 175 lediaTek Inc. htus A 's (see 162.9. tus C since that sub subclause 16 can be delete	<i>L</i> 18 .4.3.4 in D2.0). oclause does no 62.9.4.4.1 desc	# 85 bucket No comments were bt address added cribes the test setup

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 C/
 162
 Page 21 of 34

 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
 SC
 162
 2021-08-11 4:15:22 PM

 SORT ORDER: Clause, Subclause, page, line
 SC
 162
 Page 21 of 34
 2021-08-11 4:15:22 PM

C/ 162	SC	162.9.4.6	P 1	1 76 L1	11	# 115	C/ 162	SC 162.1	1	P 177	L 29	# 93
Dawe, Pie	ers		Nvidi	ia			Dawe, Pie	rs		Nvidia		
Comment	Туре	ER	Comment Status	R	RLdc/R	Lcd graphs (bucket3)	Comment	Туре Т		Comment Status R		host/CA IL
Don't	waste t	the reader's	s time.				The po	or max cable	e loss	makes CR unattractive, wh	ile all NICs and	some ports on any
Suggeste	dReme	dy					switch	have host lo	ss go	ing to waste. Enabling long	er cables on a	minority of links is
Comb differe	oine the ential to	graphs for common-r	Transmitter commo node return loss.	on mode to differ	ential returr	loss and Receiver	In the class f	remedy, each rom its I2C c	n host ompli	t knows the other host's lost ance code, so the situation	s class through is just like any	AN and the cable's loss other CR scenario, no
Response	9		Response Status	U			extra n	nanagement	featu	res needed in the spec for t	he long cable c	lass.
REJE	CT.						Suggested	lRemedy				
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 two graphs represent requirements for different components, which happen in this case to have identical responses.				E P802.3ck D2.1	2 class 19.75+ cables valid c In 162 In 162 In Tab Illustra	ses of cable, -2*(6.875-3.7 connect port ombination o .11.2, cable a .11.7.1.1, add le 162A-1, ac te in Figure 1	which 5) = 1 t type: f A, B assem d zp = dd a c 162A-	n could be called "short" (19 19.75+6.25 = 26 dB max (ac s C (see another comment) 3, C. nbly insertion loss, change t = 30.7 mm for the "short" ca solumn for the A-short-A sce 4.	.75 dB, as toda hievable cable at both ends, s ext to refer to T ble. mario (ILCama:	y) and "long", length 3 m). Long short cables connect a able 162-17. x differs).		
Ihere	e is no c	consensus t	to make the propose	ed changes.			Response			Response Status C		
[Edito	or's note	: Changed	page from 175.]				REJEC	CT.				
							Per the commo	e resolution to ent is overtak	o com ken by	nment #92, there are no cha y events.	inges to the hos	st port types and this
							[Editor	's note: CC:	162, 1	162A]		

C/ 162 SC 162.11

C/ 162	SC 16	2.11.6	P 181	L 38	# 94	C/ 162
Dawe, Pie	ers		Nvidia			Dawe, Piers
Comment	Туре	TR Com	ment Status R		CA RLcc	Comment Ty
Relax justifie dB, w	ing the alred. This d	eady very loose raft spec becom y 8.5 GHz.	CM RL spec from 2 nes useless at the fre	dB to 1.8 dB at equency when th	all frequencies isn't ne MCB loss is 1.8/2	The norm make ser correctly,
Suggeste	dRemedy					tap limit i
Use a	frequency	y-dependent ma	isk e.g. 1.6 + 0.01f.	Similarly for Tx,	Table 162-11,	SuggestedRe
Response	.0.0.	Respo	nse Status II			Change b
REJE	, СТ	Respe				Response
NEUL						REJECT
The b was g	asis for the	e change to the following prese	cable assembly CM entation.	-to-CM RL spec	from 2 dB to 1.8 dB	This com
Https:	//www.iee	е802.org/3/ск/р	ublic/21_01/cnampic	on_3ck_01a_012	21.pdf	and D2.0 Hence it
The c	omment a	nd suggested re	emedy does not prov	ide sufficient inf	ormation or justification	
to sup	oport a cha	ange to the draft	•			The follow
C/ 162	SC 16	2.11.6	P 181	L 38	# 79	https://ww
Dudek, M	like		Marvell			The com
Comment	Туре	T Comi	ment Status R		CA RLcc	[Editor's i
As wa specif fixture issue	as pointed fication for loss exce up to 4GH	out in the unsat common mode eds 0.9dB. The tz where the los	isfied comment # 17 return loss limit effe e rejection however h s is low.	7 against draft 2 ctively doesn't e nad a valid point	2.0 the existing exist once the test that there is a potential	
Suggeste	dRemedy					
Chan	ge the limi	t to 1.8dB from	0 to 4GHz, 2.2-0.1*1	from 4GHz to 4	l0GHz.	
Response)	Respo	onse Status C			
REJE	CT.					
The c 1.8 1.4+0	ommenter 0.5< 0.1*f 4< f	r provided the fo = f(GHz) </= 4<br (GHz) = 30 GI</td <td>llowing update to the GHz Hz</td> <td>e suggested rem</td> <td>edy.</td> <td></td>	llowing update to the GHz Hz	e suggested rem	edy.	
The re	evised spe	ecification may r	esult in currently pos	ted channels fai	iling.	
The c suppo	omment a	nd updated sug nge to the draft.	gested remedy does	not provide suf	ficient justification to	
Furthe	er analysis	and a consens	us proposal is requir	ed.		

C/ 162	SC 162.11.7	P 183	L 39	#	95
Dawe, Pie	ers	Nvidia			
Comment	Type TR	Comment Status R			COM bbgmax
The n make correc receiv tap lin	ormalized DFE co sense that taps 1 ctly, the example o er limits not hard nit if it makes up t	befficient minimum limit bbm 3 to 40 could be worse, -0.0 channels we have don't need cable or channel limits anyw he COM another way, e.g. w	in for taps 3 to 12 5. If I have unde I this. (Rememb vay; a cable or ch vith acceptable cr	2 is -0.03. erstood the er, these nannel car rosstalk.)	It doesn't e data are reference n go beyond a
Suggested	dRemedy				
Chang	ge bgmax 0.05 to	bbgmax 0.05, bbgmax -0.03	. Also in 163.		
Response REJE	CT.	Response Status U			
This c and D Hence	omment does no 2.0 or the unsatis e it is not within th	t apply to the substantive cha fied negative comments fror e scope of the recirculation I	anges between II n the initial ballot pallot.	EEE P802 t.	2.3ck D2.1
The for coeffice https://	bllowing presentat cient values of <-0	ion showed that some backp).03. p/3/ck/public/19_09/beck_3c	blane channels h	ad floating	g tap

The comment does not provide an assessment of the impact to those channels. Editor's note: CC: 162, 163]

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

01.400	00 400 47 -	Disc	/ 10	// [22	01.400	00 i		Diai	1.0	# [22
C/ 162	SC 162.11.7	P 183	L 40	# 96	C/ 162	SC 1	62.11.7.1	P 184	L 8	# 86
Dawe, Pie	ers	Nvidia			Wu, Mau-l	Lin		MediaTek Inc.		
Comment	Type TR	Comment Status R		COM DFE RSS	Comment	Туре	Е	Comment Status A		bucket1
The sp	pec allows a cabl	e (not even the whole chann	el) to have its Co	DM calculated with 9	There	is no "hy	/perlink" to	Table 162-19.		
taps in	n the range 13 to	24 clipped at \pm -0.05 - which	means that the	channel's pulse	Suggested	Remedy	/			
likely t	to get made: there	e won't be that many reflection	ons in the same	area. (Remember,	Add h	perlink t	to Table 16	62-19		
these	are reference rec	eiver limits not hard cable lir	nits anyway; a c	able can go beyond a	Response			Response Status C		
tap lim We do	nit if it makes up t	the COM another way, e.g. w	ith acceptable c	rosstalk.)	ACCE	PT.				
bad ca	ables.		complexity to o	spe with unreasonably						
Suggested	dRemedy									
Use a	nother DFE root-s	sum-of-squares limit for posi	tions 13-24. Sin	nilarly in 163, but as						
163 sp	pecifies the comp	lete channel while 162 uses	clean synthetic	nost traces, the limit						
snouic	a be nigner.									
Response		Response Status U								
REJE	CT.									
This c and D Hence	comment does no 2.0 or the unsatis e it is not within th	t apply to the substantive cha fied negative comments fror e scope of the recirculation I	anges between I n the initial ballo pallot.	EEE P802.3ck D2.1 t.						
The su	uggested remedy	is not complete nor has suff	icient analysis b	een provided.						
C/ 162	SC 162.11.7.	1 <i>P</i> 184	L 7	# 81						
Dudek, Mi	ike	Marvell								
Comment	Type E	Comment Status A		bucket1						
93A.1.	.2.3, Equation 93	A-13, 93A-14 and Table 162	-19 should be h	ot links or green text.						
Suggested	dRemedy									
fix the	m									
Response)	Response Status C								
ACCE	PT.									

C/ 162 SC 162.11.7.1

C/ 162A S	C 162A.4	P 273	L 40	# 108
Dawe, Piers		Nvidia		
Comment Type	e T	Comment Status R		host PCB IL

The recommended minimum insertion loss allocation for the transmitter or receiver differential controlled impedance PCBs, 2.3 dB, has been set the same as the 2.3 dB MCB PCB IL without evidence as to what happens with less loss. 2.3 dB is 1/3 of the maximum host trace loss (6.875 dB) which is too small a ratio to lay out a switch PCB. 92A.4 and 136A.4 use a ratio of 1/5.8 which allows more flexibility in host layout than 1/3 does. 120G has host insertion loss up to 11.9 dB (11.9/2.3 = 5.2/1, which is OK. If it wasn't wanted, the C2M max loss would not have been increased as it was).

SuggestedRemedy

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.

Response

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 was reviewed by the task force: https://www.ieee802.org/3/ck/public/21_05/diminico_3ck_04b_0521.pdf

Response Status C

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.

Reducing the insertion loss could cause reflections that may adversely affect system performance.

The comment does not provide sufficient justification for the proposed changes and specific alternate specification was not provided.

C/ 162A	SC 162A.5	P 277	L 30	# 11
Brown, Matt		Huawei		
Comment Typ	e E	Comment Status A		terminology (bucket1)

The acronym "IL" is often used to represent "insertion loss" in text, but is never formally introduced.

SuggestedRemedy

Either introduce it properly, e.g., "insertion loss (IL)" or expand it everywhere.

Response Response Status C

ACCEPT IN PRINCIPLE.

Introduce the acronym properly, e.g., "insertion loss (IL) with editorial license.

C/ 162B	SC 162B.1.2.1	P 2	80	L 41	# 12
Brown, Mat	t	Huaw	/ei		
Comment T	<i>ype</i> E Id f should be ital	Comment Status ic.	Α		bucket1
SuggestedF Format	Remedy as italic.				
Response ACCEP	Т.	Response Status	С		
C/ 162B	SC 162B.1.3.5	P 2	86	L 43	# 15
Brown, Mat	t	Huaw	vei		
Comment T	ype T	Comment Status	R		transition time

Measurement method for transition times is never specified. I assume it is the same as for PMD specifications per 120E.3.1.5. To be consistent with other clauses and annexes should be "transition time" not "rise and fall timers". Given explicit methodology in 120E.3.1.5 and to be common with other clauses can delete "20% to 80%" since this is helpful but not complete.

SuggestedRemedy

With editorial license specify that the transition time is measured according to 120E.3.1.5. Throughout 162B, change "20% to 80% rise and fall times" to "transition time".

Response Response Status C

REJECT.

The parameter names should not be changed as they relate to specific parameters in a referenced calculation.

C/ 162B SC 162B.1.3.5 Page 25 of 34 2021-08-11 4:15:22 PM

CI 162C	SC	162C.1		P 290	L 20	# 64	C	7 162C	SC	162C.1		P 292	L 5	# 63
Ghiasi, Ali			G	hiasi Quan	tum/Inphi			Ghiasi, Ali Ghiasi Quantum/Inphi						
<i>Comment T</i> Table 1 is speci	<i>ype</i> 62C-1 fied a	TR should be re MDIs th	Comment State updated with M at either operate	<i>tus</i> R DI that actι at 10.3 GE	ually operate at 53 3d or 25.78 GBd	<i>MDI nai</i> 3.1 GBd, currenlty w	mes C hat	Comment T	ype map	TR for Table 1	Comment S 162C-3 is all m	Status R nessed up		MDI pins
Suggested	Remed	ly SED : w					3	I will inc	lude p	<i>iy</i> bin maps f	or all the MDI	connectors in	the ghiasi_3ck	_02_0721
http://sf SFP-DI	p-dd.c p-dd.c D with	com SFP-DD1 ⁻	12				R	Response REJEC	Т.		Response S	tatus U		
QSFP+ http://w	with (ww.qs	QSFP112 f fp-dd.com	or reference see /wp-content/uplo	ads/2021/0	5/QSFP-DD-Har	dware-Rev6.01.pdf		This con and D2. Hence i	mmen .0 or tl t is no	it does not he unsatis	apply to the s fied negative of the	ubstantive ch comments from	anges between n the initial ball ballot	IEEE P802.3ck D2.1 ot.
REJEC	т.		Response Stat	us U				For task	< force	e reviewed	of the followin	ng presentatio	n: Bick 02 0721 pr	df
This co and D2 Hence	mmen .0 or ti it is no	it does not he unsatist ot within the	apply to the sub fied negative con e scope of the re	stantive ch nments froi circulation	anges between I m the initial ballot ballot.	EEE P802.3ck D2.1		The sug draft.	ggeste	ed remedy	does not prov	ided sufficient	information to	make changes to the
This is Comme	a resta ent #5	atement of 7 is reques	comment D2.0 o sting similar char	comment # iges in Ann	45 with some add ex 162D.	litional information.		A more	comp	lete propo	sal is required			
MDI na	mes a	lign with 1	.3 normative refe	erences in 8	302.3ck and the b	ase standard.								

If there are newer more appropriate normative references then these must be made available to the task force and new comments need to be submitted to request add new references.

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/ 162C SC 162C.1 Page 26 of 34 2021-08-11 4:15:23 PM

C/ 162D	SC	162D.1	P 302	L 21	# 57	C/ 163	SC	163.9.2	P 200	L 5	# 19	
Ghiasi, Ali			Ghiasi Quan	tum/Inphi		Brown, Ma	itt		Huawei			
Comment	Туре	TR	Comment Status R		MDI names	Comment	Туре	т	Comment Status A		table note (bucket1)	
Table operat	162D- ⁻ e at 53	1, 162D-2, ´ 3.1 GBd, cu	162D-3, and 162D-4 should rrenlty what is specified are	be updated with MDIs that either	MDI that actually roperate at 10.3 GBd	Table 163-5 is a normative table, but footnote c relating to transmitter waveform is a recommendation.						
or 25.7	78 GB0	ł				Suggestea	Reme	dy				
Suggested	Reme	dy				Conve	rt footr	note c to a	table note (see style manu	al 16.4) or delet	e footnote c.	
Please	e repla	ce SFP+ wi	th SFP112			Response			Response Status C			
SFP-D	D with	SFP-DD11	12			ACCE	PT IN	PRINCIPL	Е.			
http://s QSFP http://v	sfp-dd. + with www.qs	com QSFP112 f sfp-dd.com/	or reference see /wp-content/uploads/2021/0	5/QSFP-DD-Har	dware-Rev6.01.pdf	This ca The co	an also mmen	b be fixed b t equally a	by placing the recommendation of the second se	ation in regular to e 162-10.	ext.	
Response			Response Status U			of the	first pa	aragraph in	162.9.3.1.4 as follows:	52-10 and add a	new semence to the end	
REJE	CT.					"It is re	comm	nended tha	t the same step size is use	d for all coefficie	ents."	
This c	ommei	nt does not	apply to the substantive ch	anges between I	EEE P802.3ck D2.1	C/ 163	SC	163.9.2	P 200	L 12	# 75	
and D	2.0 or 1	the unsatisf	ied negative comments from	m the initial ballo	t.	Dudek, Mi	ke		Marvell			
Hence	entis no	ot within the	scope of the recirculation	Dallot.		Comment	Туре	TR	Comment Status A		TX residual ISI	
Comm	nent #5	7 is reques	ting similar changes in Ann	ex 162C.		In dud	ek_3ck	<_01_0521	it was shown that with larg	ger values of Cp	it is possible to have	
Recolu		a the respo	unse to comment #61			transm	hitters t	that pass a	all the transmitter specificat	ions but only pro	ovide 1.5dB COM on	
Reson		g the respo				li 3ck	adhoc	: 01 0630	21. In Li 3ck adhoc 01 0	63021 it was als	o shown that a tightening	
C/ 163	SC	163.9.2	P 199	L 46	# 110	of ERL	speci	fications to	o fail these bad transmitters	s would also fail	transmitters with varying	
Dawe, Pie	rs		Nvidia			values Tx par	of Rd	and other	paramters that give 3.0dB	COM on these s	same channels. Another	
Comment	Туре	т	Comment Status A		TX RLcc	Rd. A	v prese	entation wil	I be made in support of this	s comment.		
2 dB F	RLCC is	very weak.	We have such a lenient s	pec in C2M and (CR because that's what	Suggestea	IReme	dy				
Suggester		dy				Add ar	n extra	Tx specifi	cation "Residual ISI (max)	value 0.027". D	efined as the value of	
Chang	ge to 3	+0.01f dB c	or whatever is reasonable fo	or an IC and pack	kage. The 0.01 can be	Sigma is used	_e/Vpe d instea	eak where ad of Np=2	sigma_e and Vpeak are a 29.	s defined in 162	.9.3.3 except that Np=11	
Deenenee	seu as	s a fraction				Response			Response Status C			
Response			Response Status C			ACCE	PT IN	PRINCIPL	E.			
ACCE	PTIN	PRINCIPLE	1.			[Editor	's note	: Changed	page from 199.1			
Set RL	_cc (mi	in) to 3.25 c	B.			[= arror	0	enangee	, page			
						This co and D2 Hence	ommer 2.0 or t it is no	nt does no the unsatis ot within th	t apply to the substantive c fied negative comments from e scope of the recirculation	hanges betweer om the initial bal ballot.	h IEEE P802.3ck D2.1 lot.	
						Resolv	ve usin	g the resp	onse to comment #76.			
						[Editor	's note	e: CC: 163,	120F]			
TYPE: TR/	/techni	cal required	ER/editorial required GR	/general required	I T/technical E/editorial G/g	eneral			Cl	163	Page 27 of 34	

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn SC 163.9.2 2021-08-11 4:15:23 PM SORT ORDER: Clause, Subclause, page, line

C/ 163	SC 163.9.2	P 200	L 12	# 17	C/ 163	SC 163.9.2.	1.3 P 201	L 27	# 117		
Brown, N	<i>l</i> att	Huawei			Dawe, Pie	rs	Nvidia				
Commen	nt Type E	Comment Status A		table footnote (bucket2)	Comment	Type TR	Comment Status A		TF RLcc (bucket2)		
For t point	he SNDR specific ts to 162.9.3.3 whi	ation in Table 163-5, footnote	e d is redunda information as	nt. The reference column	e column Test fixture common-mode to common-mode return loss should be wa worst module connector! And needs to be significantly better than the						
Suggeste	edRemedy				Suggested	Remedy					
Dele	te footnote a.				Chang	e 2 to somethir	ng sensible				
Respons ACC	e EPT IN PRINCIPI	Response Status C _E.			Response ACCE	PT IN PRINCIP	Response Status U				
Reso	olve using the resp	oonse to comment #77.			This c	omment does n	ot apply to the substantive	changes between	IEEE P802.3ck D2.1		
C/ 163	SC 163.9.2	P 200	L 21	# 77	and D Hence	2.0 or the unsat it is not within t	isfied negative comments f the scope of the recirculation	from the initial ballo on ballot.	ot.		
Dudek, N	Vike	Marvell			This c	omment does n	ot provide sufficient details	for implementation	n		
Commen	nt Type E	Comment Status A		table footnote (bucket2)	1110 0						
Foot footn	note d to table 163 note refers to.	3-5 just duplicates the inform	ation in the sh	nort section that this	The te specifi	st fixture RLcc vied. However, th	value is too small to permit here is no consensus on an	measurement of a appropriate new s	a transmitter RLcc as specification. Further		
Suggeste	edRemedy				analys	sis and consens	us is required.				
Dele	te the footnote.				Add ar	n editor's note p	ointing out the issue as ab	ove calling for con	tributions to address this.		
Respons	e	Response Status C			C/ 163	SC 163 9 3	1 P 202	/ 37	# 34		
ACC	EPT IN PRINCIPI	_E.			Ran. Adee))	Cisco svst	tems			
Simil	lar footnote "d" in	Table 162-10 and Table 120	F-1 is also rec	lundant and thus should	Comment	Type E	Comment Status A		sianalina rate (bucket1)		
be de	eleted as well.				It is pritis).	eferable to refer	r to the value in table 163-8	than to repeat it.	(The NOTE can stay as		
Dele	te footnote d in Ta	able 162-10, Table 163-5, and	d Table 120F-	1.	, Suaaestea	Remedv					
					Chang 53.125	ge "for any signa 5 GBd ± 100 ppi	aling rate in the range m" to "for any signaling rate	e in the range spec	ified in Table 163-8".		
					Response		Response Status C				
					ACCE	PT.					

C/ 163 SC 163.9.3.1

-					-							
C/ 163	SC 163.9.3.5	<i>P</i> 204	L 39	# 7	C/ 163	SC 163.9.3.	5 P 20	4 L 45	# 73			
Brown, N	/latt	Huawei			Dudek, Mil	<e< td=""><td>Marve</td><td>11</td><td></td></e<>	Marve	11				
Commen	t Type E	Comment Status A		transition time	Comment	Type TR	Comment Status	Α	transition time			
Trans subc term "trans	sition time is presu lause. Also, given used in the draft i sition time".	umably per the method in 1 that transition time is fully o s simply "transition time", "2	20E.3.1.5 for all i defined in 120E.3 20% to 80% trans	nstances in this 3.1.5 and the common sition time" should be	The filtered Ht(f) should be using the transition time of the signal generator, however the measured transition time might be interpreted as measured with the 40GHz 3dB bandwidth used for all Tx measurements. Also nothing is stated as to how the signal is measured at the transmitter output and what the Tx FFE is set to.							
Suggeste	edRemedy				Suggested	Remedy						
On p 120E On p 120E Cons	age 204 line 39, c 3.1.5)". age 204 line 45 cl 3.1.5)". sider adding text ir	hange "transition time" (firs hange "20% to 80% transition hone place specifying that t	t instance) to "tra on time" to "trans ransition time is	insition time (see ition time (see per 120E.3.1.5 so this	Chang the tra signal time is risetim	e "where Tr is t nsmitter output at the transmitt measured usir e is corrected t	he same as the measu " to "where Tr is the sar er output corrected for ng the method in 120E. o remove the effect of t	red 20% to 80% tra ne as the measured the measurement b 3.1.5 with a 40GHz this measurement b	Insition time of the signal at d transition time of the andwidth. The transition 3dB bandwidth and the andwidth.			
does	not have to be re	peated multiple times.			Response		Response Status	с				
Respons ACC	e EPT IN PRINCIPL	Response Status C E.			ACCE		LE.	_				
Reso	lve using the rest	onse to comment #73			Impien	nent the followi	ng with editorial license	:				
1000					In the t defined	first sub-bullet of according to t	on item e, insert: "Tr is o he method in 120G.3.1	determined at the d .4 except there is n	ie bump and o observation filter."			
					In the s "where signal with "where 120G.3	second sub-bul Tr is the same at the transmitt Tr is the trans 3.1.4 and adjus	let on item e replace: as the measured 20% er output." mitter transition time, w ted to remove the effec	to 80% transition ti hich is measured u t of the observatior	me of the sing the method in ı filter."			
					In the f "is equ 120E.3 with "is the off, usi filter."	hird sub-bullet al to the transn 3.1.5 with the tra- transmitter trar ng the method	on item e replace: nitter transition time me ansmitter equalizer turn nsition time measured a in 120G.3.1.4 and adju	asured at TP0v usi ied off." it TP0v with the trar isted to remove the	ng the method in nsmitter equalizer turned effect of the observation			

C/ 163 SC 163.9.3.5

C/ 163	SC 163.9.3.5	P 204	L 50	# 74	C/ 163	SC 1	63.9.3.5	P 205	L 30	# 44	
Dudek, Mik	e	Marvell			Ran, Adee			Cisco systems			
Comment T	ype TR	Comment Status A		transition time	Comment T	ype	E	Comment Status A		buck	ket1
The me	thod of measuring	ng the transition time in 120	E.3.1.5 uses a 3	3GHz measurement	"Q3d" is	s format	tted with i	inconsistent roman/italic font.			
tilter in that the	the measuremer 40GHz 3dB bar	nt which isn't appropriate for adwidth is used. The metho	100G PAM4 ho d in 163A.3.1.3	wever bullet k states does not have anv	SuggestedF	Remedy	,				
measur	rement filter. The	ese need to be the same.			For con	sistenc	y with cla	use 162, use italics for all occ	urrences of Q3	Bd.	
Suggested	Remedy				Response			Response Status C			
Change	e "is equal to the	transmitter transition time n	neasured at TP0	v using the method in	ACCEP	T.					
120E.3	.1.5 with the tran	smitter equalizer turned off.	" to "is equal to t ter equalizer turr	the transmitter	C/ 163	SC 1	63 9 3 5	P 205	/ 31	# 25	_
time is	measured using	the method in 120E.3.1.5 w	vith a 40GHz 3dE	B bandwidth and the	Hidaka Vas		00.0.0.0	Credo Semicor		# 23	
risetime	e is corrected to	revmoe the effect of this me	easurement band	lwidth.	Comment T	ivne	F			buc	kot1
Response		Response Status C			Symbol	Q3 rem	∟ nains in N			Duci	(et i
ACCEP	PT IN PRINCIPLE	Ξ.			Suggested	Comodu	,				
Resolve	e using the respo	onse to comment #73.			Change	Q(Q3)	with Q(Q	03d).			
C/ 163	SC 163.9.3.5	P 204	L 51	# 35	Response			Response Status C			
Ran. Adee		Cisco system	IS		ACCEP	T.					
Comment T	vpe E	Comment Status A		RIT TX off							
"with th	e transmitter equ	alizer turned off" - preferab	ly be consistent	with most other places	C/ 163	SC 1	63.9.3.5	P 205	L 31	# 45	I
in this c	draft which use th	ne wording "set to preset 1	(no equalization)	".	Ran, Adee			Cisco systems			
Also is	162.9.4.3.3 with	a variation on the wording -	preferably chan	ge that one too.	Comment T	ype	TR	Comment Status A		buck	(et1
Suggested	Remedy	Ũ		•		E 1, "Q((Q3)" sno	bula be "Q(Q3d)".			
Use the	e term "preset 1 (no equalization)" in all place	es.		SuggestedF	Remedy	, 				
Response		Response Status C			Change	e per co	mment.				
ACCEP					Response	-		Response Status W			
[Editor's	s note: CC: 163,	162]			ACCEP	1.					
In 162.9	9.4.3.3, 162.9.4.3	3.5, and 163.9.3.5, and else	where if appropr	iate, change the text to	C/ 163	SC 1	63.10	P 206	L 38	# 87	
the follo	owing:				Wu, Mau-Li	n		MediaTek Inc.			
"with tra	ansmitter equaliz	ation off by setting coefficie	nts to preset 1 v	alues (see 162.9.3.1.3)"	Comment T	ype	TR	Comment Status A		buck	ket1
			·	· · · · · · · · · · · · · · · · · · ·	Maximu	Im AC-c	coupling 3	3 dB corner frequency shall be	e 50 kHz, instea	ad of 50 Hz, based o	n
Implem	ent with editorial	license.			163.10.	/ 					
					SuggestedF	Remedy	, nit" in Tok	blo 162 10 from "Uz" to "kUz"			
					Change	ine oi					
					Response	-		Response Status W			
					AUGEP	1.					
TYPE: TR/t	echnical required	d ER/editorial required GR	aeneral required	d T/technical E/editorial G/c	general			C/ 163		Page 30 of 3	34
COMMENT	STATUS: D/dis	patched A/accepted R/reje	cted RESPO	NSE STATUS: O/open W/wr	ritten C/closed	U/unsa	atisfied Z	/withdrawn SC 163	10	2021-08-11	4:15:23 PM

SORT ORDER: Clause, Subclause, page, line

C/ 163	SC 163.10	P 206	L 40	# 88		C/ 163A	SC 163A.3.1.	1 P 307	L 13	# 40
Wu, Mau-L	in	MediaTek Inc.				Ran, Adee		Cisco system	IS	
Comment 7	Type TR	Comment Status A		bi	ucket1	Comment T	ype TR	Comment Status A		pulse response
The no Clause	te "a" here is sp	pecific for Cable assembly and	I shall be remov	ved, due to this is k	٢R	"Obtain with H(0	the output pulse))(f) from Equati	e response, h(t), using Equa on (163A–2), where At and ⊺	tion (93A–23) a Tb are specified	nd Equation (93A–24) by the clause that
Suggestedl	Remedy					invokes	this method"			
Remov	e note a					Clause	163 and annex	120F which invoke this meth	od do not speci	ify At and Tb - the
Response ACCEE		Response Status W				invoking The rea	g text refers to the der may be left	ne COM tables, which includ wondering what At and Tb a	e the parameter re.	rs Av and fb instead.
When t There v Delete	his table was c was no commer table footnote a	reated in D2.1 the referenced nt to include the provision in th a.	footnote was ad is footnote.	ccidentally included	d.	This ca 93A.1.5 Av.	n be remedied b includes the ec	y pointing to 93A.1.5 instead uations and the definition of	d of equations ([!] Tb based on fb	93A–23) and (93A–24). , and At is defined as
						Also ap	plies to 163A.3.	1.3, P308 L23.		
						SuggestedF	Remedy			
						Change	the quoted sen	tence to:		
						"Obtain (163A–2	the output pulse 2), where Av and	e response, h(t), as defined i d fb are specified by the clau	in 93A.1.5, with use that invokes	H(0)(f) from Equation this method."
						Apply a	lso in 163A.3.1.	3.		
						Response ACCEP	T IN PRINCIPL	Response Status C E.		
						This co and D2 Hence i	mment does not 0 or the unsatis t is not within th	t apply to the substantive cha fied negative comments fror e scope of the recirculation b	anges between n the initial ballo pallot.	IEEE P802.3ck D2.1 bt.
						Howeve	er, the proposed	changes are an improveme	nt to the draft.	
						Implem	ent the suggest	ed remedy.		

C/ 163A SC 163A.3.1.1

Wu, Mau-Lin Comment Type For the dei of symbols symbols to SuggestedRen	e E Corr finition of N_v here, s to include in the ste	MediaTek Inc			Hidaka Yası	-				
Comment Type For the dei of symbols symbols to SuggestedRen	e E Com finition of N_v here, s to include in the ste	ment Status A			Thousa, Tube	0		Credo Semico	onductor, Inc.	
For the de of symbols symbols to SuggestedRen	finition of N_v here, s to include in the ste			language (bucket2)	Comment Ty	be T	Co	mment Status D		withdrawn
SuggestedRen	be included in the s	ady-state voltage cal	hange it from "re culation" to "repr alculation"	presents the number esents the number of	f_r is also list.	a parame	eter specif	ied by the clause that i	nvokes this meth	nod but missing in the
Suggesteurten	nedy	icaal claic reliage c			SuggestedRe	medy				
Change fro	om "represents the r	umber of symbols to	include in the st	eady-state voltage	Change '	A_t and I same cha	_b" with "A ange to pa	A_t, T_b and f_r" in pag ige 307 line 13	ge 308 line 25.	
calculation	" to "represents the	number of symbols to	be included the	steady-state voltage	Proposed Re	sponse	Res	nonse Status 7		
calculation	ו"				REJECT	openee	100			
Response	Resp	onse Status C								
ACCEPT I	N PRINCIPLE.				This com	ment was	WITHDR	AWN by the commente	er.	
Change th	e definition to:				C/ 163A	SC 163A	3.1.3	P 308	L 43	# 1
"represent	s the number of sym	bols included in the s	teady-state volta	age calculation"	Brown, Matt			Huawei		
C/ 163A S	SC 163A.3.1.3	P 308	L 18	# 21	Comment Ty	be E	Со	mment Status A		bucket1
Hidaka, Yasuc)	Credo Semico	onductor, Inc.		extra clos	ing paren	thesis "Tr(ref))"		
Comment Type	e TR Com	ment Status A	·	measurement filter	SuggestedRe	medy				
A measure	ement filter of BT filte	er is already included,	because the ste	p response is derived	remove e	xtra closir	g parenth	esis		
from the p	ulse response h(t) th	at uses the BT filter.			Response		Res	ponse Status C		
Figure 163	3A-3 is not correct, b	ecause the effect of E	T filter is include	ed.	ACCEPT			-		
SuggestedRen	nedy				CI 162 A	SC 4634	24.2	D 200	1 50	# [22
Remove E	ditor's note in page	308.			C/ IOJA	SC 103A	3.1.3	F 306	L 32	# 23
					Hidaka, Yasi		0.		onductor, Inc.	
Add H BT	gure 163A-3 as follo	ws: as Figure 163A-2.			Comment Ty		CO then two	mment Status A		Ianguage (bucketz)
Append a	block of "Equation (1	63A-5)" followed by "	Stepresponse u	(t)" at the end after	taken fro	n the tran	smitter pa	ckage parameter.	age parameters.	Also, this should be
"Pulse res	ponse h(t)".				SuggestedRe	medy				
Response	Resp	onse Status U			Change '	the longer	package	trace length" with "the	longest transmitt	er package trace
ACCEPTI	IN PRINCIPLE.				length".					
This subcla	ause needs to be ali	gned with the interfere	ence tolerance to	est in 163 and 120F,	Apply the	same cha	ange to pa	ge 307 line 36.		
but there is	s no consensus to m	ake related changes	s at this time.		Response		Res	ponse Status C		
Add an edi test in 163	itorial note that this r and 120F.	nethod needs to be a	ligned with the ir	terference tolerance	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/ 163A SC 163A.3.1.3

C/ 163A	SC 163A.3	.2	P 309	L 3	# 41	C/ 163A	SC 163A.3.2	2.1	P 309	L 9	# 42		
Ran, Adee			Cisco system	าร		Ran, Adee			Cisco systen	ns			
Comment	Type ER	Com	ment Status A		language (bucket2)	Comment 7	Type TR	Comment S	Status A		vpeak/vf		
"In this and rei require This su	subclause, di ference values ments for a gi ubclause defi	fference parameters, and are un ven parameters the d	arameters quantify t used to determine w neter" lifference parameter	he difference be hether a transm s. The pass/fail	etween measured values nitter meets the pass/fail	This subclause points to 162.9.3.1.2 for the definition of v_f and to 162.9.3.1.1 for the procedure, but 162.9.3.1.2 does not define the method, it refers to 136.9.3.1.2 with exception parameters, and adds normative requirements which are irrelevant for 163A. The fact that v_f and v_peak are defined with PRESET0 is unclear (it is only part of the irrelevant pormative statements) and the fact that measurements are at TPOv is not							
this an	nex.					mentio	ned at all.						
Suggested	Remedy					In addit	tion while v pe	eak definition ref	ers to 162.9.3	3 1 1 (which itse	If refers to 85.8.3.3.4		
Chang "This s values	e the subclaus ubclause defin and reference	se text to nes the pare values".	rameters that quanti	fy the difference	e between measured	and 85 3, whic and lon	.8.3.3.5), the de h does not poir ig paths of refe	efinition of v_f rent to the actual period	efers to 136.9. procedure (wh eptions, which	.3.1.2 which the lich is in 85.8.3. h are very unfrie	3.5). These are parallel andly to the reader.		
Response		Respo	onse Status 🛛 🛛 🛛 🛛 🛛 🖉			Ale - "	1 · · · - 4 4 4			unite and a second of	the line on fit mules		
ACCEI	PT IN PRINCI	PLE.	a tha auhatantiva ah			respon definitio	se peak voltage on of the differe	e" is phrased a ence parameter.	as a test proc	edure. But this	should be just a		
and D2 Hence	2.0 or the unsa it is not within	tisfied neg the scope	ative comments from a first statistication of the recirculation	m the initial ball ball	ot.	The su the me	ggested remed asurement is a	ly is a rewrite for t TP0v.	clarity and fo	or clarification th	at preset 0 is used and		
However, the proposed changes are an improvement to the draft.					Suggestedl	Remedy							
						Change	e the first parag	graph to the follo	wing:				
						The me calcula the trar 162.9.3	easured linear f ted from a linea nsmit equalizer 3.1.1.	fit pulse peak v_ ar fit pulse respo set to preset 1	peak(meas) a onse p(k) obta (no equalizatio	and steady-state ained from meas on) using the m	e voltage v_f(meas) are surement at TP0v with ethod defined in		
						v_peak	(meas) is the p	beak value of p(l	x). v_f(meas)	is defined by ec	quation (163A-x).		
						\Sigma Where	{i=1}{M×Nv) p(i p(i) and M are	i)/M defined in 162.9	0.3.1.1 and N	v is 200.			
						Response ACCEF	PT IN PRINCIP	Response S PLE.	tatus C				
						This co and D2 Hence	mment does no .0 or the unsati it is not within t	ot apply to the s isfied negative of the scope of the	ubstantive ch comments from recirculation	anges between m the initial ball ballot.	IEEE P802.3ck D2.1 ot.		
						Howeve	er, the propose	ed changes are a	an improveme	ent to the draft.			
						Implem	ent the sugges	sted remedy with	editorial lice	nse.			

C/ 163A SC 163A.3.2.1 Page 33 of 34 2021-08-11 4:15:23 PM

C/ 163A	SC 163A.3.2.2	P 3	09	L 33	# 43				
Ran, Adee		Cisco	system	S					
Comment Ty	pe E	Comment Status	Α		language (bucket2)				
"Measure the ERL using the method defined in 93A.5" is phrased as a test procedure. But this should be just a definition of the difference parameter.									
The refe	rence to 93A.5 s	hould be in the defi	nition of	ERL(meas).					
SuggestedR	emedy								
Delete th	ne quoted senter	nce.							
Change measure	"ERL(meas) is the ment as defined	ne measured ERL" I in 93A.5)".	to "ERL	(meas) is the EF	L calculated from				
Response		Response Status	С						
ACCEPT	Γ.								

C/ 163A SC 163A.3.2.2 Page 34 of 34 2021-08-11 4:15:23 PM