C/ 93A SC	C 93A.5.1	P 202	L 39	# 237	C/ 93A	SC	93A.5.1		P 202	L 41	# 34
Dawe, Piers		Nvidia			Healey, Ad	lam		B	roadcom Inc	.	
Comment Type	TR	Comment Status D		ERL tukey (bucket5)	Comment 7	Гуре	Е	Comment Sta	atus A		ERL tukey (bucket4)
Unexplained	d notation of	up and down: v ^			The no	tation	used in Ec	uation (93A-58a	i) is unecess	arily obscure. I	assume it is intended to $p_{1} = 1$
SuggestedReme	edy						, when t		Tukey Willuo		11 tw = 1.
Remove it. without-Tuke the equatior	Just say "ai ey into one n (somewha	nd" "or" or whatever you mea equation; you can easily say s simpler) applies.	an. Or, don't cr r if Tw is zero, H	am with-Tukey and Itw is 1, and if it's one,	Suggesteal Remov states t	re the ' that H <u></u>	ay "tw" qualifi _tw(f) is de fined_Rem	cation from the t	erms in Equa on (93-58a) v	ation (93A-58a) vhen tw is 1 and	Add a sentence that d H_tw(f) is 1 when tw is ist (page 203 line 12)
Proposed Respo	onse	Response Status W			Desman	not de	inneu. Ken				ist (page 203, inte 12).
PROPOSED	DACCEPT	N PRINCIPLE.			ACCEF	PT IN I	PRINCIPL	Response Sta E.	tus C		
Resolve usir	ng response	to comment #34.			Implem	nent su	uggested re	emedy with edito	orial license.		
[Editor's not response to	te (to be rem closed com	oved when closing this com ment #34 addresses this co	ment): Added t mment.]	o bucket #5. The	C/ 120F	SC	120.F.3.1		P 208	L1	# 140
CL 934 SC	C 934 5 1	P202	/ 41	# 238	Ghiasi, Ali			G	Shiasi Quant	um/Inphi	
Down Dioro	JJA.J.1	Nuidio	241	# 230	Comment 7	Гуре	т	Comment Sta	atus R		TP0v (bucket4
Dawe, Piers	-				Until it	is prov	ven TP0v v	vith real measure	ement the el	ectrical charact	eristics should be at
Comment Type	I	Comment Status A		ERL tukey (bucket4)	TP0a, t	there is	s no need	create all this co	IT beard los	complexity by i	introducing TP0v when
This way of	writing the r	niddle row of the equation is	unnecessarily	complicated.	and HC	CB!	s triviai jus	t increase the Di	JT DOATO IOS	S 10 2.4 0D as	
SuggestedReme	edy				Suggested	Domo	du				
Simplify it, re fper is +ve,	emembering	that cos(x)=cos(-x)=-cos(x- e fr in the formula.	+-pi). Notice th	at f < fb in this case and	Change	e TP0	v to TP0a				
Something I	like 0.5(1-co	s(2pi(fb-f)/fper))			Response			Response Sta	tus C		
Response		Response Status C			REJEC	Э.					
ACCEPT IN	I PRINCIPLI	Ξ.			Resolv	e usin	g the respo	onse to commen	t #135.		
Update the	equation wit	h the form proposed in the s	suggested reme	dy.							

C/ 120F SC 120.F.3.1

C/ 120F	SC 120F.3.1	P 207	L14	# 203	C/ 120F	SC 120	F.3.1	P 208	L 39	# 188
Wu, Mau-	Lin	MediaTek			Calvin, Joł	n		Keysight Tech	inologies	
Comment	Туре Т	Comment Status D		ERL value (bucket5)	Comment	Гуре Т	Co	omment Status D		EO jitter (bucket5)
dERL	is still TBD				The sp accura	ec limit for tely measu	Even-Odd red with cu	jitter is only 358 femtose irrent state of the art test	econds, which i t equipment.	s too low to be
Suggeste	dRemedy				Suggested	, Remedv				
Sugge wu_3e	est to set as some ck_adhoc_01_092	e negative values. I had share 2320.pdf. I plan to prepare on	e contribution,	nation in wu_3ck_02_1120.pdf,	Increas	se the spec	limit from	0.019 UI to 0.025 UI		
Proposod	Posponso	Doononoo Statua IN			Proposed I	Response	Re	sponse Status W		
					PROP	OSED ACC	EPT IN PF	RINCIPLE.		
[Edito	r's note: Address	es incomplete specification.			Resolv	e using the	response	to comment #190.		
					[Editor	s note: CC	: 120F, 120)G, 162, 163]		
The re https:	eferenced ad hoc //www.ieee802.or	presentations is here: g/3/ck/public/adhoc/sept23_2	0/wu_3ck_adh	loc_01a_092320.pdf	[Editor which p	s note: Thi provides a i	s comment new limit va	t was added to bucket # alue that addresses this	5. The respons comment.]	e to comment #190
Resol	ve using the value	e the response to comment #	61.		C/ 120F	SC 120	F.3.1.3	P 210	L 43	# 127
[Edito	r's note (to be rer	noved when closing this com	ment): Added	o bucket #5. The	Hidaka, Ya	ISUO		Credo Semico	nductor	
respo	nse to closed con	nment #61 provides value for	transmitter dE	RL.]	Comment	Tvpe T	C	omment Status D		EO iitter (bucket5)
Cl 120F Brown M	SC 120F.3.1	Р 208 Ниажеі	L 14	# 82	As Rot 120D.3	presented 3.1.8.2 does	l and we di s not correc	scussed at ad hoc on 9/ ctly measure EOJ due to	16/2020, EOJ i length of PRB	nethodology defined in S13Q and 4MHz
Comment	Type T	Comment Status D		FRL value (bucket5)	bandwi	dth of clocl	k recovery.			
A valu	le for dERL is req	uired. If an appropriate refere	ence transmitte	er is defined, then a value	To pre test pa	vent CDR f	rom tacking er than PRE	g two cycles of test patte 3S13Q.	ern, the best so	lution may be to use a
Suggeste	dRemedy				Suggested	Remedy				
Repla	ce TBD with 0.				Define	PRBS9Q t	est pattern	in clause 120.5.11.2, si	milar to PRBS1	3Q in 120.5.11.2.1, but
Proposed	Response	Response Status W			using F	PRBS9 defi	ned in Tab	le 68-6.		
PROF	POSED ACCEPT	IN PRINCIPLE.			Choose	e 12 edges	in PRBS9	Q test pattern, and add a	a table similar t	o Table 120D-4.
[Edito	r's note: Address	es incomplete specification.]			Add a	sub clause	how to me	asure EOJ using PRBS	9Q, similar to 1	20D.3.1.8.2.
The re	eferenced ad hoc	presentations is here:			Proposed I	Response	Re	sponse Status 🛛 🛛 🛛 🛛 🛛 🖉		
https:	//www.ieee802.or	g/3/ck/public/adhoc/sept23_2	0/wu_3ck_adh	loc_01a_092320.pdf	PROP	OSED ACC	EPT IN PF	RINCIPLE.		
Resol	ve using the value	e the response to comment #	61.		Resolv	e using the	response	to comment #190.		
[Edito	r's note (to be rer	noved when closing this com	ment): Added t	to bucket #5. The	[Editor	s note: CC	: 120F, 120	DG, 162, 163]		
тезро		innent #01 provides value for		ive.j	[Editor which	s note: This provides a i	s comment method to	t was added to bucket # resolve this comment.]	5. The respons	e to comment #190
				,,					_	_

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

C/ 120F SC 120F.3.1.3 Page 2 of 23 11/12/2020 11:09:01 AM

C/ 120F	SC 120F.3.1.3	3 P 2 1	0 L43	# 190	C/ 120F	SC 1	20F.3.2.1	P 2	11	L 40	# 85
Calvin, Joh	n	Keysig	ht Technologies		Brown, Matt			Huaw	<i>r</i> ei		
Comment 7	Туре Т	Comment Status	Α	EO jitter	Comment T	/pe	т	Comment Status	D		ERL value (bucket5)
Based https:// 620.pd based loop B\	on Sleigh/Calvin, grouper.ieee.org, if it has been sho on the test patter W to be reduced	/LeCheminant presen /groups/802/3/ck/publ wn that the EOJ mea n length and baud rat below 4 MHz	ntation lic/adhoc/sept16_20/c surement is susceptib te. This is easily reso	alvin_3ck_adhoc_01_091 le to a systematic error lved by allowing the CDR	The rec SuggestedF Assumin receiver	eiver E Remedy ng that ERL u	RL should the receivusing the second	be defined and me rer test fixture is alig ame specification a	easured in gned with t is the trans	the same way the transmitter smitter ERL us	v as for the transmitter. test fixture, specify the sing dERL in
Suggested	Remedy				120F.3. dB.	1.1. IN	Table 120	F-3, replace the the	e paramete	er name and s	et the specification to U
Update measu measu slope c	e the text of page rement method s red with a clock r of 20 dB/decade	210 line 43 to read Especified in 120D.3.1. recovery unit (CRU) w	Even-odd jitter is calcu 8.2. with the exceptior vith a corner frequency	ulated using the n that EOJ may be y of <= 4 MHz and a	Proposed R PROPC	espons SED A	Se ACCEPT IN	Response Status N PRINCIPLE.	W		
Response		Response Status	С		The refe https://w	erenceo /ww.iee	d ad hoc p ee802.org/	resentations is here 3/ck/public/adhoc/s	e: ept23_20/	/wu_3ck_adhc	c_01a_092320.pdf
The fol https:// https:// https://	llowing presentati /www.ieee802.org /www.ieee802.org /www.ieee802.org	 ions were reviewed by j/3/ck/public/20_10/ca j/3/ck/public/20_10/ra j/3/ck/public/20_10/ra	y the task force: alvin_3ck_01_1020.pc ın_3ck_01_1020.pdf ın_3ck_02a_1020.pdf	lf	[Editor's Closed ERL wit	note: (comme h dERL	CC: 120F, ent #40 aliç 	163] gned the RX test fix	ture with t	he TX test fixt	ure and the replaced
Implem	nent the proposal	on slides 3 to 5 in ra	n_3ck_02a_1020 with	editorial license.	Use the	value	provided ir	n the response to co	omment #6	61.	
[Editor	's note: CC: 120F	, 120G, 162, 163]			[Editor's	note (1	to be remo	oved when closing t	his comm	ent): Added to	bucket #5.]
Straw p I suppo change 1: Yes 2: No -	ooll #11 (decision ort resolving com es in slides 3-5 of 31 - 7	ı) ments 48, 186, 189, 5 ʻran_3ck_02a_1020.	52, 187, 188, 127, 190) with the proposed	Cr 120F Brown, Matt Comment T The ER SuggestedR Replace	/pe L value <i>Cemedy</i>	T is specifie with an app	P2 Huaw Comment Status ed as TBD. propriate value.	rei D	L 44	# <u>87</u> ERL value (bucket5)
					Proposed R PROPC	espons SED R	se REJECT.	Response Status	w		
					[Editor's	note: /	Addresses	s incomplete specifi	cation.]		
					The res changes	oonse t s propo	to closed o sed in this	comment #114 indic s comment.	cates that	there was no	consensus to make the
					[Editor's respons with stri	note (i e to clo kethrou	to be remo osed comm ugh in the i	oved when closing t nent #114 indicated referenced slide.]	his comm there was	ent): Added to s no consensu	bucket #5. The us to adopt the values
TYPE: TR/ COMMENT SORT ORE	technical required STATUS: D/dis DER: Clause, Sul	d ER/editorial require patched A/accepted pclause, page, line	ed GR/general require R/rejected RESPC	ed T/technical E/editorial G/ NSE STATUS: O/open W/w	general ritten C/closed	Z/witho	drawn		C/ 120F SC 120F	= =.4.3	Page 3 of 23 11/12/2020 11:09:01

C/ 120G	SC 120G.3.1	P226	5 L 17	# 88	C/ 120G	SC 120G.3.1	P	226	L17	# 41
Brown, Ma	tt	Huawei			Healey, Ad	lam	Broa	dcom Inc.		
Comment 7	Туре Т	Comment Status)	ew/esmw (bucket5)	Comment 7	Туре Т	Comment Status	A		ew/esmw
Host of comme referen Suggestedi Either f specific	utput eye symm ent resolution re- ice receiver and <i>Remedy</i> fix the methodol- cation.	etry mask width (ESMV vealed that an eye widt related methodology a ogy and provide a value	 V) value is TBD. Discu h measurement using s defined is not meaning e or replace with an appendix 	ussion during D1.2 the currently defined ingful. opropriate alternative	ESMW stresse referen feedba are oth width. the eye	d (eye symmetry d input parametry ce receiver that ck signal in the er, simpler mea The most straight height and vert	mask width) is "TBL ters are also "TBD". includes decision fe vicinity of the thresh ins to enforce that the ht-forward implement tical eye closure mea)". Similarly, ey These parame edback equalit old crossings is a reference re- tation for this of asurement pro 1205 4.2 for the	ye width spe eters will be of zation unless is clearly defi ceiver output draft is to exp incedure refer	cifications for difficult to define for a s the behavior of the ined. However, there t has a useable eye band on a feature of red to in 120G.5.2
Proposed F	Response	Response Status	V		vertica	. This items poli l eve closure. ar	nts to 120E.4.2 and and other parameters.	Step 4) in 12(DE.4.3 states	that the distribution
PROPO	OSED ACCEPT	IN PRINCIPLE.			of the s	signal voltage (fr	rom which eye heigh	t and vertical e	eye closure a	are derived) is to be
[Editor'	s note: Address	es incomplete specifica	ation.]		measu distribu	red over a windo ition over the tin	ow "within 0.025 UI c ne window or, though an around TCmid, Us	f time TCmid" it of a different	. This essen t way, is sim indow roduce	tially averages the ilar to having a
Resolv	e this comment	using the response to	comment #41.		height	and vertical eye	closure for signals v	vith narrower e	eve widths. T	he width of the
[Editor'	s note (to be rer	moved when this comm	ent is closed): This co	omment was added to	Suggested	Remedy	ieu te preside ingliei	acgreece of pre		
EH/VE	C test methodol	ogy.]			Removies to the final terms of the method of the method of the second of	re references to ollowing: "From thodologies defi of TCmid is set to a 3) from 120E.4 n 6) are the aver ck coefficients b l."	ESMW and eye heig the eye diagram, co ined in 120E.4.2 and o the sampling phas 4.2). The CDFs of the rage values over the o(n) determined in ste	Int from Anney mpute eye hei 120E.4.3 with e t_s determin e signal voltag time interval t ep d) are cons	< 120G. Cha ight and verti the followin ied in step d) les computed _s-0.05 UI to stant over the	nge 120G.5.2 item h) ical eye closure using g exceptions. The) (skipping steps 1) d in 120E.4.2 steps 4) o t_s+0.05 UI. The e averaging time
					Note th the red	at eye height ar uctions to these	nd vertical eye closure values via the avera	e limits may n ging window.	need to be ac	ljusted to account for
					Response		Response Status	С		
					ACCE	PT IN PRINCIPL	_E.			
					[Editor	s note: Address	es incomplete speci	fication.]		
					It is as: eye he The EV draft is Implem "eye he Add an adjuste For tas	sumed that in th ight. V and ESMW sp currently writter hent suggested eight". editorial note the d to account for k force discussi	ne suggested remedy pecifications are inco n. remedy with editorial nat all EH and VEC w r this new methodolo on.	, the intent wa implete both ir license, excep ralues currentl gy.	is to refer to n values and pt remove "e y specified n	eye width rather than in method as the ye width" rather than nay need to be
					[Editor	s note (to be rer	moved prior to closin	g this commei	nt): The follo	wing is an alternate
TYPE: TR/I	technical require	ed ER/editorial required	d GR/general required	d T/technical E/editorial G/g	general			C/ 120G		Page 4 of 23

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response based on consensus presentation healey_02.]

The following related presentations were reviewed by the task force: https://www.ieee802.org/3/ck/public/20_10/healey_3ck_01a_1020.pdf https://www.ieee802.org/3/ck/public/20_10/dawe_3ck_01a_1020.pdf https://www.ieee802.org/3/ck/public/20_10/healey_3ck_02_1020.pdf

Based on the results of straw poll #12 there is strong consensus for Alt #2 with TBD = 50 mUI.

Implement with editorial license the proposal for Alt 2 in healey_02 with TBD = 50 mUI.

Straw Poll #9:

I support the EW/ESMW direction of (Chicago rules): A: Keep ESMW and eye width B: Replace EH, ESMW, and eye width with an eye mask as proposed in dawe_3ck_01_1020 C: Remove ESMW and eye width and redefine EH and VEC as proposed in healey_3ck_01a_1020 D: Remove ESMW and eye width and leave EH and VEC as is Results: A: 9, B: 10, C: 24, D: 6

Straw poll #12 [Chicago rules] I would support replacing ESMW and EW with the following option from healey_3ck_02_1020: A. "Alt. 2" with TBD = 50 mUI B. "Alt. 1" with TBD1 = 25 mUI and TBD2 = 25 mUI C. "Alt. 1" with TBD1 = 50 mUI and TBD2 = 20 mUI D. "Alt. 2" with TBD = 70 mUI

A: 18 B: 8 C: 4 D: 9

	C/ 120G	SC 120G.3.1	P 226	L17	# 240
	Dawe, Pie	rs	Nvidia		
	Comment	Type TR	Comment Status D		ew/esmw (bucket5)
50	We ne limited in the t If the \ ESMW	ed an ESMW lim in combination n reference receive /EC values in this / should be betwe	it because in C2M, the effec ot separately. Eye width me r; examples in louchet_3ck_ s draft and Annex 120E, and een 0.22 and 0.3 UI.	ts of driver jitter easurement wor adhoc_01a_092 the ESMW in A	and part-channel are ks with or without a DFE 2320.pdf . Annex 120E is right,
Ι.	Suggested	Remedy			
	Write o	down a range of c ation to choose o	andidate limits in the next d	raft, or a single	limit if we have enough
	Proposed I	Response	Response Status W		
	PROP	OSED ACCEPT	IN PRINCIPLE.		
	[Editor	's note: Addresse	es incomplete specification.]		
	Resolv	ve this comment u	using the response to comm	ent #41.	
	[Editor bucket EH/VE	's note (to be rem #5. Comment #4 C test methodolo	noved when this comment is 11 removes all specifications ogy.]	closed): This co for EW/ESMW	omment was added to and updates the

C/ 120G SC 120G.3.1 Page 5 of 23 11/12/2020 11:09:01 AM

C/ 120G	SC 120	G.3.1	P 226	5 L	17	# 208	C/ 120G	SC 1	20G.3.1		P 226	L17	# 209
Ran, Adee			Intel				Ran, Adee			I	ntel		
Comment [·] ESMW	<i>Type</i> T / is TBD.	Co	mment Status)		ew/esmw (bucket5)	Comment 7 The ref	<i>ype</i> erence	T for ESMW	Comment St / is subclause	<i>atus</i> D 120G.3.1.6 v	vhich does not a	ew/esmw (bucket5) address ESMW at all.
The im	portance o eter.	f ESMW is	not clear and the	ere has been	no proposal t	for a value for this	Note: Ir SuggestedF	n anothe Re <i>medy</i>	er comme	nt, ESMW is p	roposed to b	e removed.	
It is su existing measu	ggested to g EH and \ rement me	remove EN (EC limits) a	ISW, at least unt and a robust esented, and a v	il evidence of alue for limit i	the need for	it (in addition to the	If ESM 120G-1 Proposed F	W is not I and in	t removed Table 120	l, change the re 0G–3.	eference fron	n 120G.3.1.6 to	120G.5.2 in Table
Suggested	Pomody	ined are pr			o proposodi						alus vv		
Remov	nemeuy	W row from	this table (1200	(-1) and also	from Table	120G_3 (twice)	FROFU	JSED A		N FRINCIFLE.			
Table	120G–6, ar	nd Table 12	0G-9.	<i>b-1)</i> , and also		1200–3 (twice),	[Editor's	s note: /	Addresses	s incomplete sp	pecification.]		
Proposed I	Response	Res	sponse Status	N			Resolve	e using	the respo	nse to commer	nt #41.		
[Editor	's note: Ad	dresses inco	omplete specifica	ation.]			[Editor's bucket EH/VE0	s note (#5. Cor C test m	to be remo nment #47 nethodolog	oved when this 1 removes all s gy.]	comment is specifications	closed): This co for EW/ESMW	omment was added to and updates the
Resolv		response i	o comment #41.				C/ 120G	SC 1	20G.3.1		P 226	L 17	# 89
[Editor	's note (to l	be removed	when this comm	nent is closed): This comn	nent was added to	Brown, Mat	t		ŀ	Huawei		
EH/VE	C test met	nodoloav.1	noves all specific		/ESIVIV and	upuales life	Comment T	уре	т	Comment St	atus D		ew/esmw (bucket5)
		0,1					In Table points t what to	e 120G- o 120G do with	1, the refe .3.1.6. Ho it.	erence for host wever, 120G.3	output eye s .1.6 does no	symmetry mask t specify how to	width (ESMW) value measure ESMW or
							Suggested	Remedy	,				
							In 1200	.3.1.6,	add meth	odology for ES	MW and exp	plain the relevan	ce.
							Proposed R	Respons	e	Response Sta	atus W		
							PROPC	DSED A	CCEPT I	, N PRINCIPLE.			
							[Editor's	s note: /	Addresses	s incomplete sp	pecification.]		
							Resolve	e this co	omment u	sing the respor	nse to comm	ent #41.	
							[Editor's bucket EH/VEC	s note (#5. Cor C test m	to be remo nment #47 nethodolog	oved when this 1 removes all s gy.]	comment is specifications	closed): This co for EW/ESMW	omment was added to and updates the
							EH/VEC	C test m	nethodolog	gy.]			

C/ 120G	SC 120G.3.1	P 226	L 23	# 90	C/ 120G	SC 120G.3.2	P 229	L17	# 94
Brown, Ma	itt	Huawei			Brown, Mat	tt	Huawei		
Comment	Туре Т	Comment Status D		ERL value (bucket5)	Comment 7	Гуре Т	Comment Status D		ew/esmw (bucket5)
The ho	ost output ERL v	alue is TBD.			In Tabl	e 120G-3, the re	ference for module outp	ut near-end and fa	r-end eye symmetry
Suggested	Remedy				mask v	vidth (ESMW) po re ESMW, or wh	pints to 120G.3.1.6. How	ever, 120G.3.1.6 d	loes not specify how to
Replac	e TBD with an a	appropriate value.			Suggested				
Proposed I	Response	Response Status W			Suggestedi	Cerneuy	hodology for ESMW and	evolain the releva	ince
PROP	OSED ACCEPT	IN PRINCIPLE.			Dramanad				ince.
					Proposed F	Response	Response Status W		
[Editor	's note: Address	es incomplete specification.]			PROPU	JSED ACCEPT	IN PRINCIPLE.		
Resolv	e using the resp	oonse to comment #114.			[Editor	s note: Address	es incomplete specificat	on.]	
[Editor	's note (to be rei	moved when closing this com	ment): Added	to bucket #5. The	Resolv	e this comment	using the response to co	omment #41.	
respon	ise to closed cor	mment #114 adopts a table of	parameters a	nd values that addresses	[ditar	a nata (ta ha rar	a a vad whan this as more	nt is alassed). This	aammant waa addad ta
this co	mment.j				bucket	#5. Comment #	41 removes all specifica	tions for EW/ESM	N and updates the
C/ 120G	SC 120G.3.1	.3 P227	L 46	# 143	EH/VE	C test methodol	ogy.]		•
Ghiasi, Ali		Ghiasi Quantu	um/Inphi		C/ 120G	SC 120G.3.2	P 229	L17	# 243
Comment	Type TR	Comment Status D		ERL parameter (bucket5)	Dawe Pier	s	Nvidia		
Rx of C	0.618 implies pe	rmitted reflection of -4.2 dB w	hich can be pr	oblematic for C2M	Comment 1	vne TR	Comment Status D		ew/esmw (bucket5)
by Mr.	er with just 41 D Mellitz but C2M	FE, at 50G we have Rx of 0.1 measurement points are at T	 Extensive a P1a and TP4 	analysis was performed	We nee	ed ESMW limits	because in C2M, the eff	ects of driver jitter	and part-channel are
COM					limited	in combination i	not separately. Eye widt	h measurement wo	orks with or without a DFE
https://	www.ieee802.oi	rg/3/ck/public/adhoc/jun10_20	/mellitz_3ck_a	adhoc_01a_061020.pdf	In the r	eference receive	er; examples in louchet_ SMW 0.265 UI. Here we	3ck_adhoc_01a_09 expect worse refle	92320.pdf . actions but a more
Suggested	Remedy				capable	e equaliser. If w	e stay with the two-settin	ngs method, ESMV	V should be somewhere
Recom	mend changing	back to the original Rx=0.19	which equates	s to -14.4 dB unless it can	in the r	ange 0.2 to 0.26	5 UI		
Bronosod I				not at the sheet.	Suggestedl	Remedy			
	ASED DE IECT	Response Status W			Write d	own a range of	candidate limits in the ne	ext draft, or a single	e limit if we have enough
TROF	OSED REJECT				Iniorna Dranagad (
The re	sponse to close	d comment #114 indicates that	at there was no	o consensus to make the	Proposea F	Response	Response Status W		
cnange	es proposed in t	nis comment.			PROPU	JSED ACCEPT	IN PRINCIPLE.		
[Editor	's note (to be re	moved when closing this com	ment): Added	to bucket #5. The	[Editor'	s note: Address	es incomplete specificat	on.]	
respon	ise to closed cor	mment #114 indicated there w	as no consen	sus to adopt the values	Pesoly	e this comment	using the response to co	mment #11	
with St	inketi i ougri iri th	e reierenceu silue.]			1/62010		using the response to b	##1.	
					[Editor	s note (to be rer	noved when this comme	nt is closed): This	comment was added to
					bucket FH/\/F	#5. Comment # C test methodol	41 removes all specifica	tions for EW/ESM	iv and updates the

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

C/ 120G SC 120G.3.2 Page 7 of 23 11/12/2020 11:09:01 AM

C/ 120G	SC 120G.3.2	P 229	L17	# 93	C/ 120G SC 12
Brown, Mat	t	Huawei			Brown, Matt
Comment T	<i>уре</i> т	Comment Status D		ew/esmw (bucket5)	Comment Type
Module Discuss	output near-end sion during D1.2	l and far-end eye symmetry r comment resolution revealed	mask width (ES d that an eye w	MW) values are TBD. idth measurement using	Module output f methodology wa
the curr meanin	rently defined ref gful.	erence receiver and related	methodology a	s defined is not	SuggestedRemedy
SuggestedF	Remedy				
Either fi specific	ix the methodolo ation.	gy and provide a value or rep	place with an a	ppropriate alternative	Response ACCEPT IN PR
Proposed R PROPC	Response DSED ACCEPT	Response Status W IN PRINCIPLE.			[Editor's note: A
[Editor's	s note: Addresse	s incomplete specification.			Resolve using t
[Latter of					C/ 120G SC 12
Resolve	e this comment u	using the response to comme	ent #41.		Dawe, Piers
[Editor's bucket EH/VEC	s note (to be rem #5. Comment #4 C test methodolo	loved when this comment is 1 removes all specifications gy.]	closed): This c for EW/ESMW	omment was added to and updates the	Comment Type We don't know with a very diffe
C/ 120G	SC 120G.3.2	P 229	L 22	# 245	I believe that the
Dawe, Piers	S	Nvidia			receivers from t
Comment T	ype T	Comment Status D		ew/esmw (bucket5)	but not so well t
We nee limited i in the re Annex worse r ESMW	ed ESMW limits in combination n eference receive 120E has FE ES eflections but a should be some	because in C2M, the effects ot separately. Eye width me r; examples in louchet_3ck_a MW 0.2 UI, no explicit VEC I more capable equaliser. If w where in the range 0.16 to 0	of driver jitter a easurement wor adhoc_01a_093 limit, and EH 30 ve stay with the .2 UI. But 0.16	nd part-channel are ks with or without a DFE 2320.pdf . 0 mV. Here we expect two-settings method, seems too small.	SuggestedRemedy We could leave for now while no Response ACCEPT IN PR
Write de	own a range of c	andidate limits in the next dr	aft or a single	limit if we have enough	[Editor's note: A
informa	tion to choose o	ne.	art, or a origio	in the nave energy	(
Proposed R PROPC	Response DSED ACCEPT	Response Status W			Resolve using t
[Editor's	s note: Addresse	es incomplete specification.]			
Resolve	e this comment u	using the response to comme	ent #41.		
[Editor's bucket EH/VEC	s note (to be rem #5. Comment #4 C test methodolo	noved when this comment is 11 removes all specifications ogy.]	closed): This c for EW/ESMW	omment was added to and updates the	

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

C/ 120G	SC 120G.3.2	P 229	L 26	# 96
Brown, Matt	t	Huawei		
Comment T	ype T	Comment Status A	pre	ecursor ISI ratio (bucket4)
Module methode	output far-end pr plogy was rewritt	re-cursor ISI ratio value is T en in D1.3.	BD. The related	dmeasurement
SuggestedF	Remedy			
Replace	e TBD with an ap	propriate value.		
Response		Response Status C		
ACCEP	T IN PRINCIPLE			
[Editor's	note: Addresse	s incomplete specification.]		
Resolve	using the respo	nse to comment #150.		
C/ 120G	SC 120G.3.2	P 229	L 26	# 246
Dawe, Piers	5	Nvidia		
Comment T	ype T	Comment Status A	pre	ecursor ISI ratio (bucket4)

what to do with far-end pre-cursor ISI ratio. It was copied in from a spec erent reference receiver. In this scenario, we don't know what it's for, what a or why.

e ordinary EH, EW and VEC specs with this reference receiver will defend the same threats that far-end pre-cursor ISI ratio in 120E was intended to except possibly for some drivers with exemplary noise, jitter and distortion uned which can be received anyway.

this TBD hanging around in case someone finds a use for it, or clean it up o-one has. We can bring it back later if justified.

Response Status C

RINCIPLE.

ddresses incomplete specification.]

he response to comment #150.

C/ 120G SC 120G.3.2 Page 8 of 23 11/12/2020 11:09:01 AM

C/ 120G SC 120G.3.2	P 229	L 29	# 95	C/ 120G	SC 120G.3.3	B P23	1 L 43	# 99
Brown, Matt	Huawei			Brown, Ma	t	Huaw	ei	
Comment Type T The module output ERL	Comment Status D value is TBD.		ERL value (bucket5)	Comment 7 The ho	<i>Type</i> T st input ERL va	Comment Status lue is TBD.	D	ERL value (bucket5)
SuggestedRemedy Replace TBD with an ap	propriate value.			Suggested Replac	R <i>emedy</i> e TBD with an a	appropriate value.		
Proposed Response PROPOSED REJECT.	Response Status W			Proposed F PROPO	Response DSED ACCEPT	Response Status	w	
[Editor's note: Addresses	incomplete specification.]			[Editor'	s note: Address	ses incomplete specific	cation.]	
The response to closed of changes proposed in this [Editor's note (to be remo response to closed comr	comment #114 indicates th s comment. oved when closing this com nent #114 indicated there v	at there was no iment): Added was no consens	o consensus to make the to bucket #5. The sus to adopt the values	Resolv [Editor' respon this cor	e using the resp s note (to be re se to closed co nment.]	conse to comment #11 moved when closing th mment #114 adopts a	4. nis comment): Add table of parameter	led to bucket #5. The rs and values that addresses
with strikethrough in the	referenced slide.]			C/ 120G	SC 120G.3.3	3.2 P23	2 L18	# 100
C/ 120G SC 120G.3.2.3 Ghiasi, Ali Comment Type TR Rx of 0.618 implies perm receiver with just 4T DFE by Mr. Mellitz but C2M m COM https://www.ieee802.org/ SuggestedRemedy Recommend changing b be proven that -4.2 dB w Proposed Response PROPOSED REJECT. The response to closed of changes proposed in this [Editor's note (to be remor response to closed comm with strikethrough in the	P231 Ghiasi Quant Comment Status D itted reflection of -4.2 dB w 5, at 50G we have Rx of 0.1 easurement points are at 1 3/ck/public/adhoc/jun10_20 ack to the original Rx=0.19 ould work on a link where of <i>Response Status</i> W comment #114 indicates the s comment.	L16 um/Inphi I9. Extensive a IP1a and TP4 D/mellitz_3ck_a which equates compliance is n at there was no ument): Added was no consensi	<pre># 145 ERL parameter (bucket5) oblematic for C2M analysis was performed not an end-end link using adhoc_01a_061020.pdf to -14.4 dB unless it can not at the slicer.</pre>	Brown, Mar Comment T In Tabl Suggestedi Replac Proposed F PROPO [Editor' Resolv [Editor' bucket EH/VE	tt <i>Type</i> T e 120G-6 for ho <i>Remedy</i> e TBD with an a <i>Response</i> DSED ACCEPT s note: Address e this comment # 5. Comment # C test methodo	Huawa Comment Status ost input stressed signa appropriate value. <i>Response Status</i> IN PRINCIPLE. ses incomplete specific using the response to moved when this comm #41 removes all specific logy.]	ei D al the value for eye W cation.] o comment #41. ment is closed): The ications for EW/ES	<i>ew/esmw (bucket5)</i> e width is TBD. his comment was added to SMW and updates the

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

C/ 120G SC 120G.3.3.2 Page 9 of 23 11/12/2020 11:09:01 AM

C/ 120G	SC	120G.3.3.2	P 232	L 18	# 101	C/ 120G	SC	2120G.3.4		P 235	L11	# 104
Brown, Ma	tt		Huawei			Brown, Mat	tt			Huawei		
Comment	Туре	т	Comment Status D		ew/esmw (bucket5)	Comment 7	Гуре	т	Comment S	tatus D		ERL value (bucket5)
In Tab	le 1200	G-6 for host	input stressed signal there	are specificati	ons for both far-end eye	The mo	odule	input ERL V	value is TBD.			
symme	etry ma ed innu	isk width (E it procedure	SMW) and eye width (EW)	. ESMW is not	mentioned in the	Suggestedl	Reme	edy				
Suggestee	IDomor					Replac	e TBI	D with an ap	opropriate value	Ð.		
Delete	FSMV	y V row in Tał	ble 120G-6			Proposed F	Respo	onse	Response St	atus W		
Proposed	Resnor	1 1011 III 101	Posponso Status W			PROPO	OSEE	REJECT.				
PROP	OSED	ACCEPT IN				[Editor'	e not	o. Addrosso	e incomplete e	necification	1	
1101	OOLD	NOOEI I II				[Luitor	5 1100	e. Audresse	s incomplete s	pecification.	1	
[Editor	's note	: Addresses	incomplete specification.]			The res change	spons es pro	se to closed	comment #114 is comment.	1 indicates tl	hat there was no	o consensus to make the
Resolv	e this o	comment us	sing the response to comm	ent #41.		[L ditor	o	o /to ho rom		aina thia aar	mmant), Addad	to buoket #5. The
[Editor bucket	's note #5. Co	(to be remo omment #41	oved when this comment is removes all specifications	closed): This of for EW/ESMV	comment was added to V and updates the	respons with str	s not se to iketh	closed com rough in the	ment #114 ind referenced slie	icated there de.]	was no consen	sus to adopt the values
	.0 1031	memodolog	- -			C/ 120G	SC	2 120G.3.4. ⁻	1	P 231	L 35	# 105
C/ 120G	SC	120G.3.3.2	P 232	L18	# 211	Brown, Mat	tt			Huawei		
Ran, Adee	•		Intel			Comment 7	Гуре	т	Comment S	tatus D		ew/esmw (bucket5)
Comment	Туре	Т	Comment Status D	. ,. ,	ew/esmw (bucket5)	In Tabl	e 120	G-9 for mo	dule input stres	sed signal t	he value for eye	e width is TBD.
Eye wi no cor	dth is d respon	ding param	neter of host stressed input eter in the module output s	ignal.	Table 120G-6). There is	Suggestedl Replac	Reme	edy D with an ar	opropriate value	2		
Simila	rly in m	odule stres	sed input (Table 120G-9).			Proposed F	Respo	onse	Response St	atus W		
Creatir not jus	ng a sp tified if	ecial condit there is no	ion for the stress signal is l such specification for outp	ourdensome fo ut signal.	r the test setup, and is	PROPO	OSEE	O ACCEPT I	IN PRINCIPLE			
Suggestea	Remed	dy				[Editor'	s not	e: Addresse	es incomplete s	pecification.]	
Delete	the ey	e width row	s in tables 120G-6 and 120	G-9.		Resolv	e this	comment u	using the respo	nse to comr	nent #41.	
Proposed	Respor	nse	Response Status W			[Editor'	e not	e (to be rem	oved when this	e comment i	e closed): This (comment was added to
PROP	OSED	ACCEPT IN	N PRINCIPLE.			bucket	#5. C	Comment #4	1 removes all	specification	s for EW/ESMV	V and updates the
[Editor	's note	: Addresses	incomplete specification.]				0 103	i methodolo	97.1			
Resolv	ve this o	comment us	sing the response to comm	ent #41.								
[Editor bucket EH/VE	's note #5. Co C test	(to be remo omment #41 methodolog	oved when this comment is removes all specifications yy.]	closed): This of for EW/ESMV	comment was added to / and updates the							

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

C/ 120G SC 120G.3.4.1 Page 10 of 23 11/12/2020 11:09:01 AM

Cl 120G	SC 120G.3.4	.1 P235	L 34	# 106	C/ 120G	SC 120	G.5.2	P 241	L14	# 210
Brown, Ma	tt	Huawei			Ran, Adee			Intel		
Comment	Туре Т	Comment Status D		ew/esmw (bucket5)	Comment T	⁻ уре т		Comment Status D		ew/esmw (bucket5)
In Tabl symme stresse	le 120G-9 for hos etry mask width (ed input procedu	st input stressed signal there ESMW) and eye width (EW) re nor does it seem relevant.	are specification. ESMW is not i	ns for both far-end eye nentioned in the	"Compute the samplir	ute the rec	eiver in s and t	nput signal yrx(k) by applyin ap weights b(n) determined	g the effect of in the previous	the DFE to y2(k) using s step"
Suggested Delete	Remedy ESMW row in T	able 120G-6.			It is not differen retained	specified t eye shaj d thev will	fully ho be. Alth depend	ow the effect of the DFE is a nough EH and VEC are not a d on the DFE application, so	applied. Differe affected, if EW	nt methods can result in or ESMW spec are e specified
Proposed i PROP	NSED ACCEPT	Response Status W			Sugaested	Remedv		,,		
[Editor	's note: Changed	I subclause, page, and line n	umber from 120)G.3.3.2, 232, and 18.]	If ESM	W and EW	/ speci	fications are not removed, C	Change the quo	oted statement to
[Editor	's note: Address	es incomplete specification.]		· · ·	"Compu b(n) de signal v	ute the rec termined i vith transit	eiver in n the p ions oc	nput signal yrx(k) by adding revious step to y2(k). The D ccurring at t_s + UI/2".	the output of a FE output is a	DFE with tap weights piecewise-constant
The co than Ta	ommenter indicat able 120G-6.	ed that the suggested remed	ly should refer t	o Table 120G-9 rather	Proposed F PROPC	Response DSED AC	CEPT I	Response Status W N PRINCIPLE.		
Resolv	e this comment	using the response to comm	ent #41.		[Editor's	s note: Ad	dresse	s incomplete specification.]		
[Editor bucket	's note (to be rer #5. Comment #	noved when this comment is 41 removes all specifications	closed): This c for EW/ESMW	omment was added to and updates the	Resolve	e this com	ment u	ising the response to comm	ent #41.	
		וינאַי			[Editor's bucket EH/VE0	s note (to #5. Comn C test met	be rem 1ent #4 hodolo	oved when this comment is 1 removes all specifications gy.]	closed): This (for EW/ESMV	comment was added to V and updates the

C/ 120G SC 120G.5.2

C/ 120G	SC	120G.5.2	P 24	1 L 23	# 102	C/ 120G	SC	120G.5.3	P 241	L 34	# 258
Brown, Mat	tt		Huawe	i		Dawe, Piers	S		Nvidia		
Comment 7	Гуре	т	Comment Status	D	ew/esmw (bucket5)	Comment T	уре	TR	Comment Status A		precursor ISI ratio (bucket4)
For eac there is specifie there its	ch C2N s a poir es a me s not re	<i>I</i> interface, nter to 1200 ethod only l eally clear v	there is a specificati 6.5.2. However, 120 EH, EW, and VEC. I what to do with it.	on for eye symmetry n G.5.2 does not specifiy SMW is discussed in	nask width (ESMW) and a method for ESMW; it 120E.4.2, but even	The val <i>SuggestedF</i> Modify	id sett R <i>emea</i> the de	ing would I ly finition of N	nave to satisfy eye width a valid setting or delete the	/ ESMW too. subclause.	
Suggestedl Add me	Remea ethodol	<i>ly</i> logy for ES	MW and explain the	relevance.		Response ACCEF	PT IN F	PRINCIPLE	Response Status C		
Proposed F	Respon	ise	Response Status	w		Resolve		the respo	unse to comment #150		
PROPO	OSED /	ACCEPT IN	N PRINCIPLE.				s using	g the respe	-		
[Editor!	e noto:	Addrossor	incomplete specific	ation 1		C/ 120G	SC	120G.5.3	P 241	L 37	# 259
	s note.	Audresses	s incomplete specific	allon.j		Dawe, Piers	S		Nvidia		
Resolve	e this c	comment us	sing the response to	comment #41.		Comment T	уре	т	Comment Status A		precursor ISI ratio (bucket4)
[Editor's	s note	(to be remo	oved when this com	nent is closed): This c	omment was added to	The pul of 1200	se pea 6.5.2, b	ak is not at out it's clos	the same time as the DF e. No need for both.	E sampling p	hase ts determined in step d
EH/VE	#5. Co C test i	methodoloc	v.]	cations for EW/ESIMW	and updates the	Suggested	Remea	ly			
					" [===]	Change	from	pmax to th	e pulse at the DFE samp	ling phase ts,	or delete the subclause.
C/ 120G Dawe, Pier	sc ·	120G.5.2	P 24 Nvidia	1 L 27	# 257	Response	-		Response Status C		
Comment 1	Гуре	TR	Comment Status	D	ew/esmw (bucket5)	ACCEP	'I IN F	RINCIPLE	Ξ.		
We car	n't pass	s the signal	when it passes EH	but fails EW / ESMW,	but it might be OK at	Resolve	e using	g the respo	onse to comment #150.		
another solution	r settin ns that	g. Note thi fail EW (co	s does not require o onstraint not goal). V	ptimising for EW, only Ve did this in 120E, no if it remains	rejecting candidate thing new here.	C/ 162	SC	162.5	P137	L19	# 120
Suggosted	Domod					Kocsis, Sar	n •	TD	Ampnenoi		
Change	nemeu a	iy				Comment I	ype		Comment Status R		medium delay
where e	eye hei erface.	ight also co	omplies with the spec	cification for eye height	(min) as specified for	SuggestedF	Remea	ly			
to:						one-wa	y dela	y no more	than "16ns", for consister	ncy with ERL p	parameter values
where t applica	the eye	e also comp s specified f	olies with the specific	ations for eye height,	SMW, and eye width if	Response			Response Status C		
Proposed F	Resnon	ise	Response Status	M.		REJEC	Т.				
PROPC	DSED /	ACCEPT IN	N PRINCIPLE.			The foll	owing	presentati	ons was reviewed by the	task force:	
Resolv	e this c	romment us	sing the response to	comment #41		https://v	www.ie	ee802.org	/3/ck/public/20_10/kocsis	_3ck_01a_10	20.pdf
[Editor's bucket	s note #5. Co	(to be remo	oved when this comr removes all specifi	nent is closed): This cr cations for EW/ESMW	omment was added to and updates the	Insuffic delay a	ient ev Ilocatio	vidence to on reduces	make the proposed chang the delay allocated to the	ge was provide e PMD.	ed. Increasing the medium
EH/VE	C test i	methodolog	gy.]			There is	s no co	onsensus t	o make the proposed cha	ange.	
	tochnic		ED/aditorial require	d CP/general require	t T/tooppical E/aditorial C/	nonoral				160	Dogo 12 of 22

rre. Indecinical required Endeditional required Grogeneral required internitical Endeditional Grogeneral Critical Endeditin Critical Endeditional Grogeneral Critical									
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 162.5	11/12/2020 11:09:01 AM						
SORT ORDER: Clause, Subclause, page, line									

C/ 162	SC 162.9.3	P146	L 27	# 3	C/ 162	SC 162.9.3	P146	L 48	# 48		
Mellitz, Rie	chard	Samtec			Ran, Adee		Intel				
Comment	Type TR	Comment Status D		ERL value (bucket5)	Comment 7	Гуре Т	Comment Status D		EO jitter (bucket5)		
The El 100G Suggestec Set El	RL range is bet Host designs. <i>IRemedy</i> RL (min) to 7.3 (ween 7.3 dB and 18.8 for pub	lished channels	that representative of	(CC) The even-odd jitter limit of 0.019 UI (less than 360 fs) was not met by several different transmitters tested in lab environment. The same parts showed good link performance ov challenging channels.						
Proposed PROF	Response	Response Status W			This requirement seems difficult to meet and not too important for interoperability. It seems that much higher EOJ can be tolerated by existing receivers.						
[Editor	r's note: Addres	ses incomplete specification.	I		For refe and for	erence, in multi optical PMDs i	ple generations of NRZ PMD it is not defined at all.	s the allowed E	OJ is 0.035 UI; for C2M		
Resolv	ve using the res	ponse to comment #114.			Also ap	oplies to KR, Ta	able 163-5 (163.9.2) and to Al	JI-C2C, Table 1	20F–1 (120F.3.1.1)		
[Editor	r's note (to be re	emoved when closing this cor	nment): Added	to bucket #5. The	Suggested	Remedy					
respor this cc	nse to closed co mment.]	mment #114 adopts a table o	of parameters a	nd values that addresses	For par listed ir	ameter "Even-on the comment.	odd jitter, pk-pk" change "valu	ie" from 0.019 to	o 0.035, in all places		
					Proposed F PROPO	Response DSED REJECT	Response Status W				
					Resolv	e using the res	ponse to comment #190.				
					[Editor'	s note: CC: 16	3, 120F]				
					[Editor' which p	s note: This co provides a new	mment was added to bucket	#5. The respons s comment.]	se to comment #190		
					C/ 162	SC 162.9.3	P146	L 48	# 186		
					Calvin, Joh	in	Keysight Teo	hnologies			
					Comment 7	Гуре Т	Comment Status D		EO jitter (bucket5)		
					The sp accura	ec limit for Eve tely measured	n-Odd jitter is only 358 femtos with current state of the art te	seconds, which st equipment.	is too low to be		
					Suggested	Remedy					
					Increas	se the spec limi	t from 0.019 UI to 0.025 UI				
					Proposed F	Response	Response Status W				
					PROP		T IN PRINCIPLE.				
					Resolv	e using the res	ponse to comment #190.				
					[Editor' which r	s note: This co provides a new	mment was added to bucket	#5. The respons	se to comment #190		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general	C/ 162	Page 13 of 23
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 162.9.3	11/12/2020 11:09:01 AM
SORT ORDER: Clause, Subclause, page, line		

C/ 162 SC 162.9.3.3	B P150	L 39	# 189	C/ 162	SC 162.9.3.	.3 P15	0 L40	# 52	
Calvin, John	Keysight Tec	hnologies		Ran, Adee		Intel			
Comment Type T	Comment Status D	-	EO jitter (bucket5)	Comment T	Туре Т	Comment Status	D	EO jitter (bucket5)	
Based on Sleigh/Calvi https://grouper.ieee.or 620.pdf it has been sh based on the test patte loop BW to be reduced SuggestedRemedy	n/LeCheminant presentation g/groups/802/3/ck/public/adh own that the EOJ measurement ern length and baud rate. This d below 4 MHz	oc/sept16_20/ca ent is susceptibl is is easily resoly	Ilvin_3ck_adhoc_01_091 e to a systematic error /ed by allowing the CDR	The me Physic wider c Since e	ethod in 120D. al measuremen listribution and even-odd jitter i	3.1.8.2 is very specific a nts of even-odd jitter wit larger values compared is inherently a high freq	bout using PRBS13 h PRBS13Q at 53.1 d with shorter test pa uency effect (fb/2), t	3Q. 25 GBd show a much atterns. this variability seems to be	
Update the text of pag measurement method measured with a clock slope of 20 dB/decade	e 150 line 39 to read Even-o specified in 120D.3.1.8.2. wi recovery unit (CRU) with a c	dd jitter is calcul th the exception orner frequency	ated using the that EOJ may be of <= 4 MHz and a	a meas limiting If a dev the me	surement artifa the accuracy over the section of th	ct. The considerations r of measurements at this ted with a shorter patter b be made more accuration	nentioned in NOTE s signaling rate. n which enables cal te; such results shou	1 of 120D.3.1.8.2 may be lculation of even-odd jitter, uld be acceptable.	
Proposed Response	Response Status W			The co	mment also ar	onlines to 120F 3.1.3			
PROPOSED ACCEPT	IN PRINCIPLE.			Suggested	Remedy				
Resolve using the resp	oonse to comment #190.			Add the	e following exc	eption in 162.9.3.3:			
[Editor's note: This cor which provides a meth	nment was added to bucket a od to resolve this comment.]	#5. The respons	e to comment #190	The pa length symbol	ttern used for I pattern that inc Is.	Even-odd jitter measure cludes the 12 possible tr	 a.2 is very specific about using PRBS13Q. of even-odd jitter with PRBS13Q at 53.125 GBd show a much er values compared with shorter test patterns. herently a high frequency effect (fb/2), this variability seems the considerations mentioned in NOTE 1 of 120D.3.1.8.2 may easurements at this signaling rate. with a shorter pattern which enables calculation of even-odd jimade more accurate; such results should be acceptable. is to 120F.3.1.3. on in 162.9.3.3: o-odd jitter measurement may be PRBS13Q or any shorter or as the 12 possible transitions between two different PAM4 cross-reference for EOJ measurement from 120D.3.1.8.2 to <i>Response Status</i> W PRINCIPLE. se to comment #190. 162] ent was added to bucket #5. The response to comment #190 to resolve this comment.] 		
				In 120F 162.9.3	3.1.3, change 3.3.	e the cross-reference fo	r EOJ measurement	t from 120D.3.1.8.2 to	
				Proposed F	Response	Response Status	w		
				PROP	OSED ACCEP	T IN PRINCIPLE.			
				Resolv	e using the res	ponse to comment #19	0.		
				[Editor'	s note: CC: 12	0F, 162]			
				[Editor' which p	s note: This co provides a met	omment was added to b hod to resolve this com	ucket #5. The respo ment.]	onse to comment #190	

C/ 162 SC 162.9.3.3 Page 14 of 23 11/12/2020 11:09:01 AM

C/ 162	SC 162.9.3.4	P151	L12	# 217	C/ 162	SC 162.9.3.4	P151	L16	# 157			
Dawe, Pie	ers	Nvidia			Dudek, Mi	ke	Marvell.					
Comment	Туре Т	Comment Status D		ERL tfx (bucket5)	Comment	Type E	Comment Status D		ERL tfx (bucket5)			
Both t assoc	he parameter desc iated with the test	cription and the note are ind fixture", "The specified Tfx	correct: "Twice th value represents	e propagation delay twice the transmission	The wording in the footnote doesn't properly describe what is being mitigated. In particular what is "the test point and transmission line". A test point doesn't have a return loss.							
line de And th	elay which sufficier ne terminology doe	ntly mitigates the test point esn't match: propagation de	and transmissioi lav. transmissior	n line return loss." n line delav - are thev	SuggestedRemedy							
the sa	ame thing or what?		· , · · · · · · · · · · · · · · · · · · ·		Chang "which	e " which sufficien	ntly mitigates the test point	and transmissio	n line return loss." to			
Suggestee	dRemedy				transn	nission line". Also	on the footnote to table 16	2-17 on page 1	57 line 15			
Tfx is	windowing time the	at is larger than twice the d twice the delay from the te	elay associated	with the test point r to the other end of the	Proposed Response Response Status W							
test fi	xture's transmissio	n line.			PROPOSED ACCEPT IN PRINCIPLE.							
Also 1 Make	Ifx needs to appea similar changes in	r in 93A.5, which is where each ERL section in the d	the explanation s raft.	hould go, not here.	!!! Nee	ed response for bu	ucket. !!!					
Proposed	Response	Response Status W			T_fx is defined in the variable list for Equation 93A-61 in 802.3cd-2018. However, the							
PROF	POSED ACCEPT II	N PRINCIPLE.			definit Chanc	ion should be upd ie: "is twice the pr	ated as follows: opagation delay in ns asso	ciated with the te	est fixture, obtained by			
!!! Ne	ed response for bu	icket. !!!			measurement or inspection"							
The re	esponse to comme	ent #157 addresses the first	part of the sugg	ested remedy.	To: "is twice the propagation delay in ns associated with the test fixture, obtained by measurement or inspection, or as specified by the clause that invokes this method" [Editor's note: CC: 162, 163, 93A]							
T_fx is	s defined in the var	riable list for Equation 93A-	61 in 802.3cd-20	18.								
Chang	ge:		15.		Cl 162 SC 162.9.4 P151 L44 # 4							
"is twi	ce the propagation	delay in ns associated wit ion"	h the test fixture,	obtained by	Mellitz, Ri	chard	Samtec					
To:	diement of mapeet				Comment	Type TR	Comment Status D		ERL value (bucket5)			
"is twi meas	ce the propagation urement or inspect	delay in ns associated wit ion, or as specified by the	h the test fixture, clause that invok	obtained by es this method"	The ERL range is between 7.3 dB and 18.8 for published channel that representative of 100G Host designs.							
[Edito	r's note: CC: 162, 1	163, 93A]			Suggested	lRemedy						
					Set Ef	RL (min) to 7.3 dB	in Table 16213					
					Proposed	Response	Response Status W					
					PROP	OSED ACCEPT I	N PRINCIPLE.					
					Resolv	ve using the respo	onse to comment #114.					
					[Editor respor this co	's note (to be rem nse to closed com omment.]	oved when closing this cor ment #114 adopts a table of	nment): Added t of parameters ar	o bucket #5. The nd values that addresses			

C/ 162 SC 162.9.4

C/ 162 SC 162.11	P156	L 37	# 110	C/ 162	SC 162.11	P156	L 37	# 114
Champion, Bruce	TE Connectivi	ity		Kocsis, Sa	m	Amphenol		
Comment Type T C Cable Assembly ERL listed	<i>comment Status</i> D as TBD in Table 162-16		ERL value (bucket5)	Comment 7 Minimu	<i>Type</i> TR Im cable asse	Comment Status A mbly ERL = TBD		ERL value
SuggestedRemedy TBD to be changed to 7.4 d	B. See presentation			Suggestedl Change	<i>Remedy</i> e to "7.4dB", s	ee background/consensus pre	sentation	
Proposed Response Re PROPOSED REJECT.	esponse Status W			Response ACCEF	PT IN PRINCI	Response Status C PLE.		
[Editor's note: Addresses in	complete specification.]			[Editor'	s note: Addres	sses incomplete specification.]		
The response to closed con changes proposed in this co [Editor's note (to be remove consensus is noted directly	nment #114 indicates that omment. d when closing this comi in the comment respons	at there was no ment): Added e rather than i	o consensus to make the to bucket #5. The lack of n the referenced slide.]	The fol https:// https:// Additio https:// https:// ERL pa https://	lowing presen www.ieee802. www.ieee802. nal presentatio www.ieee802. www.ieee802. www.ieee802. arameter and www.ieee802. www.ieee802. was no conser	tations were reviewed by the ta org/3/ck/public/20_10/kocsis_3 org/3/ck/public/20_10/wu_3ck_ ons were posted for review: org/3/ck/public/20_10/champio org/3/ck/public/20_10/wu_3ck_ org/3/ck/public/20_10/wu_3ck_ value comments were discusse org/3/ck/public/20_10/kochupa	sk force: ck_01a_1020.pd 02_1020.pdf n_3ck_02_1020 03_1020.pdf 04_1020.pdf rd together by re rambil_3ck_03b values shown ir	df .pdf viewing _1020.pdf
				or the E	ERL value for	the cable assembly.	values showin in	
				Implem in slide value.	nent with edito 3 of kochupa	rial license the parameter value rambil_3ck_03b_1020 with the	es proposed in re exception of the	ed without strikethrough cable assembly ERL

C/ 162 SC 162.11

C/ 162	SC 162.11.2	P157	L 8	# 173	C/ 162	SC 162.11.2	2 P157	L10	# 174	
Haser, Ale	x	Molex			Haser, Ale	x	Molex			
Comment	Type TR	Comment Status A		CA IL	Comment	Type TR	Comment Status D		CA IL (bucket5)	
The m min IL	inimum IL is too : limit	strict to allow 0.5m 30awg ca	ables (see supp	ort slide); need to relax	Fill in TBD. Low freqeuncy cable loss can't vary wildly if the cable works at higher freuqencies; no need to over-spec					
Suggestea	Remedy				Suggestea	Remedy				
More v	vork needed to de	etermine what the mask sho	uld be		Replac	ce TBD with 0.0	5GHz			
Response		Response Status C			Proposed	Response	Response Status W			
ACCE		Ε.			PROP	OSED ACCEP	I IN PRINCIPLE.			
The fo https://	llowing related pr /www.ieee802.org	esentation was reviewed by g/3/ck/public/20_10/diminico_	the task force: _3ck_04_1020.	odf	[Editor	's note: Addres	ses incomplete specification.]			
Implen provide	nent with editoria ed on slide 4 of d	l license the insertion loss ec iminico_3ck_04_1020.	quation including	g frequency limits as	Resolv [Editor respor	ve using the res 's note (to be re use to closed co	ponse to comment #173. emoved when closing this com mment #173 provides value in	iment): Added to n place of the TB	bucket #5. The BD.]	
C/ 162	SC 162.11.2	P157	L10	# 17	C/ 162	SC 162 11 2	P157	/ 26	# 221	
DiMinico, (Christopher	MC Commun	ications		Dowo Dio		Nuidio	-20		
Comment Replac	<i>Type</i> TR ce TBD	Comment Status D		CA IL (bucket5)	Comment	Type TR	Comment Status D		CA IL (bucket5)	
Suggestea	Remedy				This m	iinimum loss cu	rve bends the wrong way at h	igh frequencies		
Replac	e TBD with 0.05				Suggestea	Remedy				
Proposed	Response	Response Status W			Chang	e the limit (Eq 1	62-10) so it becomes flatter a	at high frequencie	es	
PROP	OSED ACCEPT	IN PRINCIPLE.			Proposed PROP	Response OSED REJECT	Response Status W			
[Editor	's note: Addresse	es incomplete specification.]								
Pocol	o using the resp	ance to comment #172			Resolv	e using the res	onse to comment #173.			
116501	e using the resp				[Editor	's note (to be re	moved when closing this com	ment): Added to	bucket #5. The	
[Editor respor	's note (to be ren use to closed com	noved when closing this com ment #173 provides value ir	ment): Added to place of the TI	bucket #5. The 3D.]	respor	ise to closed co	mment #173 provides a IL cu	rve that also add	Iress this comment.]	

C/ 162 SC 162.11.2 Page 17 of 23 11/12/2020 11:09:01 AM

					·					
C/ 162	SC 162.11.3	P158	L 9	# 113	C/ 162	SC 162	2.11.3	P 158	L15	# 176
Kocsis, Sa	m	Amphenol			Haser, Ale	x		Molex		
Comment 7	Type TR	Comment Status D		ERL parameter (bucket5)	Comment	Туре Е	R	Comment Status D		ERL tfx (bucket5)
CR ER	L parameter N i	s "3500"			The no	ote about fi	ixture de	elay is misleading. The spec	cified delay does	s not represent twice the
Suggestedl	Remedy				transm	ission line	e delay.	Only the coax is being remo	oved from the fix	aure.
Change	e to "5100", see	background/consensus pres	entation		Suggested	Remedy	4 "Th			he test weigt end
Proposed F	Response	Response Status W			transm	ission line	return	loss by removing the coax of	connector and vi	a from the
PROPO	OSED ACCEPT	IN PRINCIPLE.			measu	irement." c	or some	thing along those lines		
The foll	lowing presenta	tions was reviewed by the tas	k force		Proposed	Response		Response Status W		
https://	www.ieee802.or	g/3/ck/public/20_10/kocsis_3	ck_01a_102	:0.pdf	PROP	OSED AC	CEPT I	N PRINCIPLE.		
Resolve	e using the resp	onse to comment #114.			!!! Nee	ed wording	for buc	ket !!!		
[Editor'	s note (to be rer	noved when closing this com	ment): Adde	d to bucket #5. The	Resolv	ve using th	e respo	nse to comment #157.		
respons	se to closed cor	nment #114 adopts a table of	parameters	and values that addresses	C/ 162	SC 162	2 11 7	P158	/ 35	# 121
this cor	mment.j		Kocsis, Sam			Amphenol	200	121		
C/ 162	SC 162.11.3	P158	L12	# 175	Comment	Type T	R	Comment Status D		CA XTALK
Haser, Alex	x	Molex			T ris	"7.5ps"	IX I			ONTRINER
Comment 7	Туре Т	Comment Status D		ERL parameter (bucket5)	Suggester	Romody				
Setting betwee	a single vlaue f	or fixture delay is not flexible	enough to a	ccount for variation	Chang	e to "6.5ps	s", see l	background/consensus pres	entation	
Sugaestedl	Remedv				Proposed	Response		Response Status Z		
Specify	a range for fixt	ure delay (e.g., 2ns +/- 10%)			REJE	CT.				
Proposed F PROPC	Response DSED REJECT.	Response Status W			This co	omment w	as WIT	HDRAWN by the commente	er.	
The res	sponse to closed as proposed in th	d comment #114 indicates that his comment.	at there was	no consensus to make the						
[Editor's respons with str	s note (to be rer se to closed cor ikethrough in th	moved when closing this com nment #114 indicated there w e referenced slide.]	ment): Adde /as no conse	ed to bucket #5. The ensus to adopt the values						

C/ 162 SC 162.11.7

C/ 162A SC 162A.4		P 248	L 42	# 18	C/ 162B	SC 162B.1.1	.1	P 253	L 32	# 268
DiMinico, Christopher		MC Communi	cations		Dawe, Pie	rs	Ν	lvidia		
Comment Type TR Replace TBD with equ	Comment S uation	tatus A		Host IL	Comment I read TP2 o	<i>Type</i> T "reference TP2 or r TP3 test fixture	Comment Sta or TP3 test fixture But I think it is	atus A insertion lo the reference	oss" as the insertion loss	<i>TF wording</i> tion loss of a reference of a TP2 or TP3 test
SuggestedRemedy					fixture	(similar to line 1	9).			
ILPCBmax(fGHz)=0.9 for 0.01 GHz = f </= 50</td <td>9809*(0.471*SQR 9 GHz</td> <td>RT(f)+0.1194*f-</td> <td>+0.002*(f^2))</td> <td></td> <td>Suggested It migh TP3 te loss" a</td> <td>Remedy at be clearer to re est fixture referer as appropriate th</td> <td>e-order "reference nce insertion loss" roughout 162B.</td> <td>≥ TP2 or TP ', putting "re</td> <td>P3 test fixture inst eference" immed</td> <td>ertion loss" to "TP2 or liately before "insertion</td>	9809*(0.471*SQR 9 GHz	RT(f)+0.1194*f-	+0.002*(f^2))		Suggested It migh TP3 te loss" a	Remedy at be clearer to re est fixture referer as appropriate th	e-order "reference nce insertion loss" roughout 162B.	≥ TP2 or TP ', putting "re	P3 test fixture inst eference" immed	ertion loss" to "TP2 or liately before "insertion
See supporting presei	ntation diminico_	_3CK_1020.pdf			Response		Response Sta	tus C		
Response	Response St	tatus C			ACCE	PT IN PRINCIPI	LE.			
ACCEPT IN PRINCIP [Editor's note: Addres: Implement the sugges	PLE. ses incomplete s sted remedy.	specification.]			With e Repla "the re With "the T	ditorial license ce: ference TP2 or ⁻ P2 or TP3 test fi	TP3 test fixture in xture reference in	sertion loss	5"	
See slide 7 supporting https://www.ieee802.c	g presention prg/3/ck/public/20	0_10/diminico_	_3ck_01_1020.pdf		C/ 162B	SC 162B.1.3	3.1	P 255	L 35	# 21
C/ 162A SC 162A.4		P 249	L 39	# 19	DiMinico,	Christopher	N	IC Commur	nications	
DiMinico, Christopher		MC Communi	cations		Comment	Type TR		itus D	a alian with achie	MIFIL
Comment Type TR Replace TBD with equ	Comment S uation	tatus A		Host IL	Suggested	Remedy			align with achie	vable MTF Insertion loss
SuggestedRemedy					See si	upporting presen	itation diminico_3	ск_1020.ро	זנ	
ILHOST(f)=1.5658*(0. for	.471*SQRT(f)+0.	1194*f+0.002*	(f^2))		Proposed PROP	<i>Response</i> OSED ACCEPT	Response Sta IN PRINCIPLE.	tus W		
0.01 GHz = f </= 50<br See supporting prese) GHz ntation diminico_	_3ck_1020.pdf			Modify	Equation (162B	3–3) ILMTFMAX >	· 40 GHz to	o align with achie	vable MTF insertion loss
Response ACCEPT IN PRINCIP	Response St PLE.	tatus C			See sl https:/	ide 11 supportin /www.ieee802.or	g presention rg/3/ck/public/20_	_10/diminicc	o_3ck_02a_1020).pdf
[Editor's note: Addres	ses incomplete s	specification.]			For ta	sk force discussi	ion of cited prese	ntation.		
Implement the sugges	sted remedy.									
See slide 8 of support https://www.ieee802.c	ting presention prg/3/ck/public/20)_10/diminico_	_3ck_01_1020.pdf							

C/ 162B SC 162B.1.3.1

01 4005	00 4000 4 5		1.40	# 222		00 4000 4	D055	1.40	"
C/ 162B	SC 162B.1.3.	1 P 256	L1 2	# 269	C/ 162B	SC 162B.1.3	5.2 P256	∠40	# 178
Dawe, Pie	rs	Nvidia			Haser, Alex		Molex		
Comment	Туре Е	Comment Status D		MTF IL	Comment T	ype TR	Comment Status A		MTF RL
Figure not the	162B-3, Mated te reference IL.	est fixtures insertion loss, sh	ows the maximu	m and minimum IL but	Current	RL mask does	n't accurately capture neces	sary RL performa	ance
Suaaestea	IRemedv				Suggestear	kemeay			
Please	show the referen	nce insertion loss of the mat	ed test fixture als	o on the same graph	Remove	RL mask and	replace with ERL; input value	ues and ERL limit	t IBD
				io, on the same graph.	Response		Response Status C		
Proposed PROP	Response OSED ACCEPT I	Response Status W			ACCEP	T IN PRINCIP	LE.		
Change					The res	ponse to close	d comment #122 adds an M	TF ERL specifica	tion.
to 30 Chang	e upper frequenc GHz.	y in Eqaution 162B-5			Change	the differentia	I return loss specification fror	n normative to in	formative.
Plot M	TF reference IL ir	n Figure 162B-3.			Strawpo	ll #14 (choose	1)		
See sl https://	ide 13 in the follo /www.ieee802.org	wing presentation: g/3/ck/public/20_10/diminico	_3ck_02a_1020.	pdf	I suppor A: retair B: retair	rt: n MTF return Ic n MTF return Ic	ess specification as normative less specification as informative	e ve	
C/ 162B	SC 162B.1.3.	1 P 256	L 25	# 177	C: remo A: 11 B:	ve MTF return 18 C: 10	loss specification		
Haser, Ale	x	Molex							
Comment	Type TR	Comment Status A		MTF IL					
Start fi haser_ a start	requency has mir _3ck_adhoc_01c_ frequency of 10 l	imal impact on FOM_ILD va _062420, slide 8); a start frec MHz due to current common	llues (see quency of 50 MH ly available VNA	z is more practical than capabilities					
Suggestea	IRemedy								
Chang	e fmin for FOM_I	LD calculation from 10 MHz	to 50 MHz						
Response		Response Status C							
ACCE	PT IN PRINCIPLI	≣.							
Chang	e fmin for FOM_I	LD calculation from 10 MHz	to 50 MHz.						
See sli https://	ide 8 of the suppo /www.ieee802.org	orting presention g/3/ck/public/adhoc/jun24_20)/haser_3ck_adh	oc_01c_062420.pdf					

C/ 162B SC 162B.1.3.2

C/ 162B	SC 1	62B.1.3.2	P 256	L41	# 122	C/ 162B	SC 162B.1.3.	6 P 260	L 29	# 180
Kocsis, Sa	m		Amphenol			Haser, Alex	c	Molex		
Comment T	Туре	TR	Comment Status A		MTF RL	Comment 7	ype TR	Comment Status D		MTF XTALK
text say	ys test fi	ixture "shal	l meet" Eq 162B-6			Start ar	nd stop frequenci	es are not defined for IC	N calculation. This	section points to
Suggested	Remedy	/				(should for this	point to) 110B.1 data rate	.3.6, which specifies 50	MHz to 19 GHz; this	s range is insufficient
Chang backgr	e to "is r ound/co	ecomment ensensus pi	ded to meet and shall meet resentation	an ERL of 8dB, se	e	Suggested	Remedy			
Response			Response Status C			Someh size, ei	ow specifiy ICN (ther by adding te	calculations should be do xt or adding values to Ta	one 50 MHz to 40 G ble 162B-1	Hz with a 10 MHz step
ACCE	PT IN PF	RINCIPLE.				Proposed F	Response	Response Status W		
The fol https:// https://	llowing p /www.iee /www.iee	oresentation ee802.org/3 ee802.org/3	n was reviewed by the task 3/ck/public/20_10/kocsis_3/ 3/ck/public/20_10/diminico_	force: ck_02a_1020.pdf _3ck_03_1020.pdf		PROPO Implem https://v	, DSED ACCEPT I ent with editorial www.ieee802.org	N PRINCIPLE. license the proposal on /3/ck/public/20_07/dimin	slide 24 of the follo ico_3ck_02e_0720	wing presentation: .pdf
Add su	ibclause	for MTF E	RL with TBD dB requireme	ent.		C/ 162C	SC 162C.2.1	P 268	L 6	# 271
Add a t	table sin	nilar to Tab	le 120G-4 with Tfx to "0" to	o use as reference	for MTF ERL.	Dawe, Pier	S	Nvidia		
Implem	nent with	n editorial li	cense.			Comment 7 "SFP+	ype E	Comment Status R e". "OSEP+ supports up	to four lanes" and s	MDI (bucket4)
[Editor	's note (1	to be remo	ved when comment is close	ed): Response upo	ated 2020/11/10.]	Suggested	Remedy	-,		
Straw p I suppo	poll #13 ort closin	(decision), ng commen	choose 1 at #122 with:			Would other c	it be clearer to sa onnector types?	ay "SFP+ supports one la	ane in each directio	n" and similarly for the
A: ERL B: ERL C: No I	specific specific ERL spe	cation with cation with ecification	minimum of 9 dB minimum of TBD dB			Response REJEC	т.	Response Status C		
C/ 162B	SC 1	62B.1.3.2	P 256	L 46	# 22	Langua Make n	ge usage is cons o changes.	sistent with 802.3cd.		
DiMinico, C	Christopl	her	MC Communi	cations		C/ 162C	SC 162C.2.2	P 268	L 46	# 272
Comment T	Туре	TR	Comment Status D		MTF RL	Dawe, Pier	S	Nvidia		
Modify	Equatio	on (162B–6) DRL(f) > 40 GHz to align	with achievable M	TF return loss	Comment 7	<i>уре</i> т	Comment Status A		MDI (bucket4)
Suggested	Remedy	/				SFP-DI	D supports up to	four lanes		. ,
See su	pporting	g presentati	ion diminico_3ck_1020.pdf			Suggestedl	Remedy			
Proposed F	Respons OSED A	Se CCEPT IN	Response Status W			SFP-DI Similar	D supports up to y for DSFP.	four lanes [in each direct	tion]	
The fol https://	llowing p /www.iee	presentation ee802.org/3	n was reviewed by the task 3/ck/public/20_10/diminico_	force: _3ck_03_1020.pdf		Response ACCEF		Response Status C		
						Change the equ	e "SFP-DD suppo ivalent change fo	orts up to four lanes" to " or DSFP in 162C.2.3.	SFP-DD supports u	p to two lanes". Make
	tochnica	al required	ER/editorial required CR/	neneral required. T	toophical Eladitorial Cla	eneral		CL	1620	Page 21 of 22

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 C/
 162C
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 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
 SC
 11/12/2020 11:09:01 AM

 SORT ORDER: Clause, Subclause, page, line
 SC
 11/12/2020 11:09:01 AM

C/ 163	SC 163.9.2	P 176	L 44	# 202	C/ 163	SC	163.9.2.2	P 178	L 33	# 204					
Wu, Mau-	-Lin	MediaTek			Wu, Mau-l	_in		MediaTek							
Comment	Туре Т	Comment Status D		ERL value (bucket5)	Comment	Туре	т	Comment Status A		example TF (bucket4)					
dERL	dERL is still TBD						The IL and ILD specs here are too challenging to achieve. In this case, I see no points to								
SuggestedRemedy Suggest to set as some negative values. I had shared some information in wu_3ck_adhoc_01_092320.pdf. I plan to prepare one contribution, wu_3ck_02_1120.pdf, for this comment.						provide this kind of "example 1X test fixture". Based on that, I proposed to relax the IL and II D specs of this example TX test fixture (TP0a). Detailed information had been included in									
						wu_3ck_adhoc_01_092320.pdf. I plan to prepare one contribution, wu_3ck_02_1120.pdf, for this comment. SuggestedRemedy									
															Proposed
PROPOSED ACCEPT IN PRINCIPLE.						dB at 26.56 GHz". ILD is less than or equal to 0.2 dB from 0.05 to 26.56 GHz Remove the Equation (163-1), Figure 163-4, and related paragraphs since TP0a is just an example and informative									
https:	https://www.ieee802.org/3/ck/public/adhoc/sept23_20/wu_3ck_adhoc_01a_092320.pdf							Response Status C							
The fo							PRINCIPLE								
https://www.ieee802.org/3/ck/public/20_10/wu_3ck_02_1020.pdf						Resolve using the response to comment #229.									
Resol	Resolve using the value in the response to comment #61.						163922	P178	/ 33	# 162					
[Edito	or's note (to be rer	noved when closing this com	ment): Added	to bucket #5. The	Dudek Mil	ko		Marvell	-00	102					
response to closed comment #61 provides value for transmitter dERL.]						Tvne	TR	Comment Status A		example TF (bucket4)					
C/ 163	SC 163.9.2	P177	L16	# 187	The in:	sertion	loss of this	example test fixture is ur	n-realistically low.	This applies to the					
Calvin, John		Keysight Tech	ht Technologies			SugaestedPeredu									
Comment Type T Comment Status D EO jitter (bucket5)				Suggested		ass to "hotu	yoon 2.4 and 2.2dB" and	double the co offi	cients in equation 162.1						
The spec limit for Even-Odd jitter is only 358 femtoseconds, which is too low to be accurately measured with current state of the art test equipment.						and change Figure 163-4 to match. Note that the Rx test fixture refers to this equation and figure as well. Change the loss of the Rx test fixture to "hetween 2.4 and 3.2dB" on page									
Suggeste	dRemedy				181 lin	e 19.	. enange								
Increase the spec limit from 0.019 UI to 0.025 UI					Response			Response Status C							
Proposed Response Response Status W				ACCE	PT IN	PRINCIPLE									
PROPOSED REJECT.						Resolve using the response to comment #229									
Resol	lved using the res	ponse to comment #190.			IXESON	e usin	ig the respon								
[Edito which	or's note: This com a provides a new li	mment was added to bucket # mit value that addresses this	5. The responst comment.]	se to comment #190											

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

C/ 163 SC 163.9.2.2

C/ 163	SC	163.9.2.2	P 178	L 39	# 26	C/ 163	SC ·	163.9.3.2	P18	1	L18	# 137	
Ben-Artsi,	Liav		Marvell Semi	conductor ltd.		Ghiasi, Ali			Ghiasi	Quantum	/Inphi		
Comment	Туре	т	Comment Status A		example TF (bucket4)	Comment Ty	'pe	TR	Comment Status	Α		RX test fixture (bucket4)	
The tra have e	ansmit extrem	ter and reci ely low loss	ever test fixture informative	examples are ir	relevant, since they	Inccreas	e the	loss from 1	1.2 dB and 1.6 dB				
Suggested	dReme	dy				to 2.2 ar	nd 2 6	y dB					
Recon which 163.9.	nmend is mor 3.2 on	l changing e e realistic a page 181 li	equation 163.1 to $IL(F) = 0.0$ nd meets 4dB of loss at 26. ines 22-24	1+0.292*sqrt(F 5625GHz. It is a)+0.0936*F (F in GHz), also refered to in	Response ACCEP		RINCIPLE	Response Status	с			
Response			Response Status C			Resolve	using	the respor	oses to comments #	40 and #2	29		
ACCE	PT IN	PRINCIPLE	Ε.				using				20.		
Resolv	ve usin	a the respo	inse to #229			C/ 163	SC ·	163.10.3	P18	6	L 41	# 10	
			B			Mellitz, Rich	ard		Samte	с			
/ 163	SC	163.9.2.2.	P 178	L 33	# 136	Comment Ty	γpe	TR	Comment Status	D		ERL value (bucket5)	
shiasi, Ali	İ		Ghiasi Quant	um/Inphi		The ERI	rang	le is betwee ions	en 9.7 dB and 23.5 c	B for pub	lished char	nnel that representative of	
omment	Туре	TR	Comment Status A		example TF (bucket4)	Suggostod	omod	lg113. hz					
Inccre	Inccrease the loss from 1.2 dB and 1.6 dB IggestedRemedy						change the TBD in in line 41 to 9.7 dB						
uggested									Booponoo Statuo				
to 2.2 =0.006	and 2. 62 + 0.	6 dB and up 1753*sqrt(f	odate equation 163-1 to)+0.0561*f the equation nom	ninal loss is 2.4	dB	PROPO	SED /	ACCEPT IN	N PRINCIPLE.	vv			
Response ACCE	sponse Response Status C ACCEPT IN PRINCIPLE.					[Editor's note: Addresses incomplete specification.]							
Resolv	ve usir	ig the respo	onse to comment #229.			Resolve	using	the respor	nse to comment #11	4.			
C/ 163	SC	163.9.3	P180	L 26	# 8	[Editor's note (to be removed when closing this comment): Added to						to bucket #5. The	
Mellitz, Rid	chard		Samtec			this com	ment.	.]					
comment	Туре	TR	Comment Status D		ERL value (bucket5)	C/ 163	SC /	163 13 4 3	P19	2	18	# 12	
There	is no r	eason why	the receive ERL specification	on should be dif	ferent from the	Mellitz, Rich	ard	100.10.4.0	Samte	c	20	π 12	
	Romo	dv				Comment Ty	'pe	TR	Comment Status	D		ERL wording (bucket5)	
Point t	to the t	ransmitter s	specification for DERI			We are	not sp	ecifying EF	RL directly				
Proposed	Respo	nse	Response Status W			SuggestedR	emed	ly					
PROP						Change	TC2 t	to DERL at	t TP0v				
TIXOF	JULD					Proposed Re	espon	se	Response Status	z			
Closed ERL w	d comr <i>v</i> ith dE	nent #40 al RL.	igned the RX test fixture with	n the TX test fix	ture and the replaced	REJECT							
[Editor	Editor's note (to be removed when closing this comment): Added to bucket #5.]						This comment was WITHDRAWN by the commenter.						
TYPE: TR/ COMMEN	/techni T STA	cal required TUS: D/disp	ER/editorial required GR/ batched A/accepted R/reje	general require	d T/technical E/editorial G/ NSE STATUS: O/open W/w	general ritten C/closed	Z/with	Idrawn		C/ 163 SC 163.1	3.4.3	Page 23 of 23 11/12/2020 11:09	

SORT ORDER: Clause, Subclause, page, line