C/ 93A	SC 93A.1	P 195	L <b>24</b>	# 27	C/ 120F	SC 120F.3.1	P <b>208</b>	L 18	# 83
Healey, Ac	lam	Broadcom Inc	c.		Brown, Ma	tt	Huawei		
Comment	Туре Е	Comment Status A		description	Comment	Гуре Т	Comment Status A		vf
What is this cha parame amend any de	s a "pad" in this ange to the para eter table in IEE Iment. This does scriptive value.	context and does the descrip ameter name, should it persis E Std 802.3 and not just the s not seem worthwhile since t	ation really fit this t, should be pro ones created or the change to th	s parameter? Note that pagated to every COM modified by this e name does not add	A value of 0 sh <i>Suggested</i> Replac	e for dv_f is requ ould be correct. <i>Remedy</i> e TBD with 0.	ired. If an appropriate refere	ence transmitter is	s defined, then a value
Suggested	Remedy				Response		Response Status C		
Remov Tables	ve "pad" from the 162-18. 163-11	e description of this paramete . and 120F-7 accordingly.	er (i.e., undo the	change). Update	ACCEI	PT.			
Response	,	Response Status C			[Editor	s note: Address	es incomplete specification.	]	
, ACCEI	PT IN PRINCIPL	.E.			C/ 120F	SC 120F.3.1	P 208	L <b>20</b>	# 13
Implen "single [Editor	nent the suggest -ended bump ca 's note: CC: 162	ted remedy. Also change "sin apacitance". , 163, 120F]	ngle-ended devid	ce bump capacitance" to	Comment <sup>-</sup> We ne	naro <i>Type</i> <b>TR</b> ed to specify V_ <i>Remedy</i>	Samtec Comment Status A peak/V_f not V_peak I.e. pr	ulse peak loss	vpeak
CI 93A	SC 93A.1.2.1	P 198	L 10	# 234	Chang	e			
Dawe, Pier	rs	Nvidia			Differe	nce between me	easured and reference linear	r fit pulse peak	
Comment	Туре Т	Comment Status R		cascade	Differe	nce between me	asured and reference linear	r fit pulse peak los	ss (min) d(V_peak/V_f)
It may that ca	be helpful to the scade() is assoc	e reader (particularly someone ciative.	e programming	this function) to know	Response		Response Status C		
Suggested	Remedy				ACCEI		.E.		
Add a s cascad S(x)), S	sentence: le is associative S(y)).	: cascade(S(w), cascade(S(x	i), S(y))) = casca	ade(cascade(S(w),	It is as V_pea If that i	sumed that the c s the case, imple	comment is requesting that t n just V_peak. ement the following with edi	the specification b torial license	be for the ratio of
Response		Response Status C			To ma	ke the paramete	r easier to read and use, de	fine the ratio R_p	eak equal to
REJEC	CT.				v_pea Define	the difference b	etween the reference and m	neasured ratio as	dR_peak.
Althoug equation	gh the forms sho ons already prov	own in the suggested remedy ided.	v are valid, they	can be deduced from	For tas [Editor	k force review. s note: CC: 163	, 120F]		

C/ 120F SC 120F.3.1

C/ 120F	SC 120F.3.1	P 208	L 21	# 84	C/ 120F	SC 120F.3.	1.1	P 209	L 21	# 79
Brown, Ma	itt	Huawei			Brown, N	latt		Huawei		
Comment	Туре Т	Comment Status A		vpe	eak Commen	tType E	Commer	nt Status A		parameter name
A value value c	e for dv_peak is of 0 should be co	required. If an appropriate re prrect.	ference transm	tter is defined, then a	The peak	arameter name ' is a real mouth	"Difference b ful. A more co	etween measure oncise name wou	d and reference	linear fit pulse
Suggested	Remedy				Suggeste	dRemedy				
Replac	ce TBD with 0.				Char	ge "Difference b	etween meas	ured and referen	ice linear fit pulse	e peak" to "linear fit
Response		Response Status <b>C</b>			pulse peak	. Apply through	out 163, 120F	, and 163A.		
ACCE	PT IN PRINCIPL	E.			Respons	e	Response	e Status <b>C</b>		
[Editor	's note: Address	es incomplete specification.]			ACC	EPT IN PRINCIP	LE.			
The re	sponse to comm	ent #13 replaces the specific	cation of dv_pea	k to dR_peak.	The	esponse to com	ment #13 pro	poses to replace	s v_peak with R_	_peak.
Chang	e the name of d	/_peak to dR_peak and use	the value 0 with	no units.	Char "diffe	ge "Difference b	etween meas	ured and referen	ice linear fit pulse	e peak" to
C/ 120F	SC 120F.3.1.	1 P 209	L 18	# 78						
Brown, Ma	itt	Huawei			[Edite	or's note: CC: 12	0F, 163, 163	4]		
Comment	Туре Е	Comment Status A		parameter na	ame Cl <b>120F</b>	SC 120F.3.	1.1	P 209	L 14	# 77
The pa	arameter name "I	Difference between measure	d and reference	steady-state	Brown, M	latt		Huawei		
voltage	e" is a real mouth	nful. A more concise name w	ould beneificial.		Commen	tType E	Commer	nt Status A		parameter name
Suggested	Remedy				The	arameter name	"Difference b	etween measure	d and reference	effective return
Chang	e "Difference bei	tween measured and referer	ice steady-state	voltage" to "difference	e loss"	is a real mouthf	ul. A more coi	ncise name woul	d beneificial.	
Posponso	-state voltage . r		and 105A.		Suggeste	dRemedy				
ACCE	PT.	Response Status			Char effec	ge "Difference b ive return loss".	etween meas Apply throug	sured and referen hout 163, 120F, a	nce effective retu and 163A.	rn loss" to "difference
[Editor	's note: CC: 120	F 163 163A1			Respons	9	Response	e Status <b>C</b>		
[Ealtor	0110101 0001 1201	, 100, 1001			ACC	EPT IN PRINCIP	PLE.			
					Note "effe	that the propose tive return loss"	ed response to	o comment #56 p	proposes to use "	ERL" rather than
					Imple edito	ment the sugge rial license.	sted remedy o	considering the c	losed response t	o comment #56 with
					[Edite	or's note: CC: 12	0F, 163, 163/	۹]		

C/ 120F SC 120F.3.1.1

C/ 120F	SC 120F.3.2	P 211	L 32	# 14	C/ 120F	SC 120F.3.2	.3 P 2	13 L 31	# 2
Mellitz, Richa	ard	Samtec			Mellitz, Ric	hard	Sam	tec	
Comment Ty	pe TR	Comment Status A		TP5v (bucket2)	Comment 7	Type TR	Comment Status	R	RITT
TP5a is ı	moot and repla	iced by TP5v			DFE4_	RSS > 0.05 ma	ay be difficult to achie	eve with test equipme	nt. The published C2C
SuggestedRe	emedy				Tiave a	DFE4_ROO Idi Domodu	ige between 0.05 v a		1010.047.
point to F	Rx table in 163	line done in table 120F-1			Since t	hese represent	design expectation s	et DEE4_RSS to 0.0.	3 which would be
Response		Response Status C			achieva	able in test setu	ps.		
ACCEPT	IN PRINCIPL	E.			Response		Response Status	С	
Resolve	using the resp	onse to comment #40.			REJEC	ЭΤ.			
7 120F	SC 120F.3.2.	3 P 213	L 1	# 280	There i	s no consensus	to make the propose	ed change.	
_i, Mike		Intel			C/ 120F	SC 120F.3.2	.4 P 2	14 <i>L</i> 16	# 201
Comment Ty	pe <b>TR</b>	Comment Status A		RITT	Wu, Mau-L	in	Medi	aTek	
Np TBD					Comment 7	Гуре Т	Comment Status	Α	RITT
SuggestedRe Np = 11,	e <i>medy</i> see li_3ck_01	_0920			It ment for eac Table 1	ions that "The re h case in Table 62.15, which is	eceiver under test sh 162-15". However, th	all meet the FEC sym ne FEC symbol error	bol error ratio requirement ratio requirement is 1e-3 in
Response		Response Status C			require	ment shall be 1	e-4.		
ACCEPT	IN PRINCIPL	E.			Suggested	Remedy			
[Editor's	note: Addresse	es incomplete specification.]			Change require	e the sentence t ment for each c	o "The receiver unde ase in Table 162-15.	r test shall meet 1e-4	FEC symbol error ratio
The follo	wing presentat	ion was reviewed by the tas	k force:		Response		Response Status	С	
mips.//w	ww.ieeeo02.01	g/3/ck/public/20_10/ll_3ck_0	1_1020.pui		ACCEF	PT IN PRINCIPL	-E.		
Impleme	nt the suggest	ed remedy.			The co	mment points o	ut a valid issue. How	ever, it would be bette	er to coordinate the
C/ 120F	SC 120F.3.2.	3 P 213	L <b>1</b>	# 86	specific	ation method o	f symbol error ratio fo	or the 3 interfaces.	ratio so baying it in the
3rown, Matt		Huawei			jitter to	lerance table is	not necessary or help	oful.	
Comment Ty	rpe <b>T</b>	Comment Status A		RITT	Remov	e FEC symbol e	error ratio row in Tabl	e 162-15.	
For the S consider	SNDR measure ations the valu	ement in item e) of receiver i e for N_p is not set.	nterference toler	ance test	"The re case in	9.3.4, cnange tr ceiver under te: Table 162–15.'	ie sentence on page st shall meet the FEC '	Symbol error ratio in	1 Table 163-10, for each
SuggestedRe	emedy				In 120F	.3.2.4, change	the sentence on page	e 214, line 16 to:	
Replace	TBD with an a	ppropriate value.			" I he re case in	Ceiver under tes	st shall meet the FEC	symbol error ratio in	Table 120F-5 for each
Response		Response Status C			In seve	ral locations fix	capitalization and ch	ange "FEC Symbol e	rror ratio" to "FEC symbol
ACCEPT	IN PRINCIPL	E.			error ra [Editor]	itio". s note: CC: 162	. 163. 120Fl		
[Editor's	note: Address	es incomplete specification.]			Leaver		,,]		
Resolve	using the resp	onse to comment #280.							
TYPE: TR/te	chnical require	d ER/editorial required GR	general required	T/technical E/editorial G	j/general			C/ 120F	Page 3 of 16
UNIVIENT S	STATUS: D/dis	patched A/accepted R/reje	ctea RESPOR	NSE STATUS: U/open W/	written C/closed	∠/witndrawn		SC 120F.3.2.4	10/21/2020 2:58:0

SORT ORDER: Clause, Subclause, page, line

-											
C/ 120G	SC 120G.3.1	P <b>224</b>	L <b>9</b>	# 148	Cl 120G	SC 120	G.3.3	Р	231	L <b>47</b>	# 146
Ghiasi, Ali		Ghiasi Quan	tum/Inphi		Ghiasi, Ali			Ghia	asi Quantu	um/Inphi	
Comment T	ype TR	Comment Status R		CM DC voltage	Comment	Гуре ТЕ	र	Comment Statu	5 D		CM DC voltage
KR/CR the sam is BiCM module	chips are defien he host to have s OS and uses 3. is CMOS then c	d with common mode of 0.2 such large output common r 3 V then one will use the rig one doesn't need to use 3.3	2 V to 1.0 V, the node voltage. If ht voltage rating V+ DC blocks.	re is no reason to define f the CDR in the module g but if the CDR in the	KR/CR the sar Suggested	chips are ne host wit Remedy	defiend h such	with common mo high common mo	de of 0.2 de	V to 1.0 V, there	∋ is no reason to define
SuggestedF	Remedy				Reduce	e common	mode n	nin to 0.2 V and c	ommon m	node max to 1.0	V
Reduce	common mode	min to 0.2 V and common i	mode max to 1.0	D V	Proposed I	Response		Response Status	Z		
Response		Response Status C			REJEC	ЭΤ.					
REJEC	Т.				This co	omment wa	is WIT⊢	IDRAWN by the c	ommente	۶r.	
In 802.3	Sck				C/ 120G	SC 120	G.3.4	Р	235	L 18	# 149
	DC CM voltage	(max) = 1.9 V			Ghiasi, Ali			Ghia	asi Quantu	um/Inphi	
C2C TX	DC CM voltage	(max/min) = 1.0/0.2  V e (max/min) = 1.9/0 V			Comment	Гуре ТЕ	र	Comment Statu	5 D		CM DC voltage
C2M ho C2M mo There is would m	est in/out CM vol odule in/out CM s not good alignr nake more sens	erfaces listed above. It pecifications.	KR/CR the sar is BiCM module	chips are ne host to IOS and us is CMOS	defiend have su ses 3.3 then or	with common mo uch large output c V then one will us ne doesn't need to	de of 0.2 ommon m se the righ use 3.3V	V to 1.0 V, there iode voltage. If the int voltage rating /+ DC blocks.	is no reason to define the CDR in the module but if the CDR in the		
Alternat	ely, align all of t	he interfaces.			Suggested	Remedy					
There is	s no consensus	to make the proposed chan	ges.		Reduce common mode min to 0.2 V and common mode max to 1.0 V $$						
[Editor's	s note: CC: 120F	F, 120G, 162]			Proposed I	Response		Response Status	z		
C/ 120G	SC 120G 3 2	P 229	/ 34	# 147	REJEC	;1.					
Ghiasi, Ali		Ghiasi Quan	tum/Inphi	" 177	This co	omment wa	is WIT⊦	IDRAWN by the c	ommente	۶r.	
Comment T	ype TR	Comment Status D		CM DC voltage							
KR/CR the sam If the C rating bu blocks.	chips are defien ne host with sucl DR in the modu ut if the CDR in	d with common mode of 0.2 h high common mode. le is BiCMOS and uses 3.3 the module is CMOS then c	2 V to 1.0 V, the V then one will one doesn't need	re is no reason to define use the right voltage t to use 3.3V+ DC							
SuggestedF	Remedy										
Reduce	common mode	min to 0.2 V and common i	mode max to 1.0	ט V							
Proposed R REJEC	esponse 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 Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 120G SC 120G.3.4

CL 120G	SC 120C 4 1	P 228	1 34	# 255	CI 162	SC 162 11	P156	: / 19	# 120
Dowo Dior	30 1 <b>200.4.</b> 1	F 230	L 34	# 255	Chicoi Ali	30 102.11			# 129
Comment 7	5 Tung <b>T</b>	Comment Status		Channell	Griidsi, Ali		Comment Status	ouantum/inpni	
I'm sur	e there could be	an acceptable channel that	failed this mask	at 45 GHz	802.3c	d standards sp	ecified 50 kHz AC coupl	Ind but this standard	d is operating 2x the
Suggested	Remedy				Baudra	te			
Make t	he straight section	on curve down and/or trunca	te it at 50 GHz		Suggested	Remedy			
Response	ine en algin eccue	Response Status C			Replac	e 50 KHz with	100 kHz		
ACCEF	PT IN PRINCIPLI	E.			<i>Response</i> REJEC	T.	Response Status (	2	
It make and/or 162 sp 163 sp	es sense to align 120F. However, ecifies 40 GHz. ecifies 45 GHz.	the high-frequency limit with even those are inconsistent	n channel IL spe	cifications in 162, 163,	The AC models provide	c-coupling spe as well as imp sufficient evid	cification is used throug lemented in 802.3cd ca ence for the proposed c	hout 802.3ck and ap ble assemblies. The hanged.	oplied to predictive e comment does not
120F s	pecifies 53.125 (	϶Hz.			C/ 162	SC 162.11	P 156	6 L 19	# 130
Change	e the upper frequ	ency limit of the informative	channel loss fo	r 163, 120F, and 120G	Ghiasi, Ali		Ghiasi	Quantum/Inphi	
to 40 G	iHz.				Comment 7	ype TR	Comment Status F	र	AC coupling
C/ 162 Ran. Adee	SC 162.9.3	P 147 Intel	<i>L</i> 1	# 49	If the A actually	C coupling nee 100 nF result	eds to be 50 KHz or 100 s in 32 KHz cut off	KHz why are we de	fining capacitor value,
Comment 7	Tvpe <b>T</b>	Comment Status A		editorial	Suggested	Remedy			
Footno	te d includes imp	portant information for meas	urement that she	ould be stated in the	Remov	e recommende	ed AC coupling value		
test pro	ocedure, not as a	comment on the table (it do	pes not change t	he specification).	Response		Response Status	<b>C</b>	
Suggested	Remedy				REJEC	T.			
Delete by clau	footnote d and in se 163 and shou	nstead add an informative N Ild also be used for 120F).	OTE in 162.9.3.	3 (which is referred to	Resolv	e using the res	ponse to comment #129	Э.	
Also de	elete footnote e ir	n Table 163-5.			C/ 162B	SC 162B.1.	3.1 <i>P</i> 256	6 L <b>26</b>	# 115
Response		Response Status C			Kocsis, Sa	m	Amphe	nol	
ACCEF	PT IN PRINCIPLI	Ε.			Comment 7	ype <b>TR</b>	Comment Status	0	MTF R
Implem	ent the suggest	ad remedy with aditorial lice	nse in 163 and e	auivalently in 120E	MTF "F	OM_ILD shall	be less than (TBD) dB"		
Implen	Territ the suggest	eu remedy with eutonal licel	ise in 105 and e		Suggested	Remedy			
[Editor'	s note: CC: 163,	120F]			Change determ ILD(f)< ILD(f)< see ba	e to "is recomm ined using the  1 dB for f<26.5  3 dB for 26.56 ckground/conse	nended to be less than 0 equation below." 56GHz <f<40ghz, ensus presentation</f<40ghz, 	).18dB, and ILD(f) sl	hall meet the values
					Proposed F	Response	Response Status Z	2	
					REJEC	т.			
					This co	mment was W	ITHDRAWN by the com	imenter.	
TYPE: TR/I	technical require	d ER/editorial required GR	aeneral required	d T/technical E/editorial G/o	neneral			C/ 162B	Page 5 of 16

			- J
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 162B.1.3.1	10/21/2020 2:58:09 PM
SORT ORDER: Clause, Subclause, page, line			

CI 163 SC 163.9.2 P 176 L 44 \$	# 61	C/ 163	SC 163.9.	2	P 176	L <b>44</b>	# 29		
Ran, Adee Intel		Healey, Ac	lam		Broadcom Inc.				
Comment Type T Comment Status A	vf/vpeak/erl	Comment	Туре Т	Comment S	Status A		TP0v method		
<ul> <li>Table 163-5 has multiple TBDs.</li> <li>Reference ERL, v_f and v_peak are calculated with an idealized package m products deviate from this model, so the limit values may need adjustment.</li> <li>v_f and v_peak may be degraded by a device or pacakge, but that can be m higher than minimum launch voltage and some equalization. So for dv_f and minimum of 0 V may be acceptable.</li> <li>There is no straightforward method to improve ERL. So to allow a wide rang implementations, the minimum dERL should be less than 0 dB. A minimum be acceptable.</li> <li>SuggestedRemedy</li> <li>Change value for dv_f in Table 163–5 from TBD to 0.</li> </ul>	nodel. Real nitigated using d dv_peak, a ge of of -3 dB may	<ul> <li>The reference to 163A.3.2.2 is in danger of becoming circular. Annex 163A is more written to be generic and states that PHY/interface-specific parameters are "spect the clause that invokes this method". However, no such specifications can be four clause, or in Annex 120F, that provides this information. This includes "test chan requirements", electrical characteristics used to compute S^(tp), values for Tr, fr, etc. One could assume that "test channel" requirements are given in the transmit fixture definition in 163.9.2.1, and the other values are the same as those used to COM from 163.10.1, but this should not be left to assumptions. It is unclear whet or test 2 (or test 1 AND test 2) characteristics for S^(tp) should be used and clari point needs to be provided.</li> <li>SuggestedRemedy</li> <li>Add a new subclause to Clause 163 and change the reference for "dERL", "dvf", "dvpeak" to this new subclause. The content of this subclause should be specific the PMD/interface-specific parameters that Annex 163A says are to be defined t "clause that invokes this method". Similar changes would be necessary for Anne</li> </ul>							
Change value for dERL in Table 163–5 from TBD to -3.		ACCEI	PT IN PRINC	IPLE.					
Response       Response Status       C         ACCEPT IN PRINCIPLE.       [Editor's note: Addresses incomplete specification.]         The following presentation was reviewed by the task force: https://www.ieee802.org/3/ck/public/20_10/wu_3ck_02_1020.pdf		Resolv [Editor	e using the rest of the rest o	esponse to comme 63, 120F]	ent #62.				
The response to comment #13 replaces the specification of dv_peak to dR_	_peak.								
Implement suggested remedy with editorial license, except change the nam dR_peak and use the value 0 with no units.	e of dv_peak to								
[Editor's note: CC: 163, 120F]									

C/ 163 SC 163.9.2

C/ 163	SC 163.9.2	2	P 176	L <b>48</b>	# 62	C/ 163	SC	163.9.2.1.1	P1	77	L <b>47</b>	# 227
Ran, Adee	)		Intel			Dawe, Pie	rs		Nvidi	а		
Comment	Туре <b>т</b>	Commen	t Status A		TP0v method	Comment	Туре	т	Comment Status	Α		test fixture
dv_f ai calcula	nd dv_peak re ations:	fer directly to 1	63A.3.2.1, but so	ome parameters	are missing for the	Try to measu	exclud iremen	le unexplore nt.	d / unnecessary ar	eas of inacc	curacy or po	or reproducibility in
At-s	hould be take	n from table 16	3-11 (or specify	as the value 0.4		Suggested	Reme	dy				
z_p - s	should be the r	naximum value	e from table 163-	11	•)	Set a	minimu	um insertion	loss for this test fix	ture as wel	l as a maxin	num. It could be as low
Suggestea	IRemedy					as 1.2	aB wn	lich we had i	Defore for TPUa, or		nigner.	
Add a dv_f ai param	subclause und nd dv_peak; in eters as in the	ter 162.9.2 (sin that subclause comment.	nilar to 163.9.2.3 e, point to 163A.3	for dERL) to def 3.2.1 and supply	ine the calculation of the required	ACCE	PT IN	PRINCIPLE		C		
Response		Response	Status C			Add m	inimun	m IL 1.7 dB.				
ACCE	PT IN PRINCI	PLE.				C/ 163	SC	163.9.2.1.1	P 1	77	L <b>48</b>	# 64
Tho ro	sponse to con	nment #13 renl	aces dy neak wi	ith dP neak		Ran, Adee	e		Intel			
Implen	nent suggeste	d remedy unde	er 163.9.2 with ec	ditorial license ad	dressing dR_peak	Comment ILD de	<i>Type</i> finition	<b>T</b> n in 93A.4 sh	Comment Status hould be cross refe	A renced.		test fixture
[Editor	's note: CC: 1	63, 120F]				This d corres	efinitio pond to	n requires so o the observ	ome parameters. S vable transition time	pecifically t at TP0 (la	the transition	n time Tt, which should e internal value).
C/ 163	SC 163.9.2	2	P 176	L <b>50</b>	# 5	Suggested	Reme	dy				
Mellitz, Rid	chard		Samtec			Appen and f	id "Inse b and f	ertion loss de	eviation is calculate	ed as specif	fied in 93A.4	I, where T_t is 0.1 ns,
Comment	Type <b>TR</b>	Commen	t Status A		terminology	Response	b anu i		Response Status	c		
We ne	ed to specify	/_peak/V_f not	t V_peak. I.e. pul	lse peak loss		ACCE	PT IN	PRINCIPLE		C		
Suggestea	IRemedy											
Chang		manage and	roforonoo linoor	fit nulse neek		Impler	nent si	uggested rer	medy except with I	_t set to 0.	01 ns.	
To	ince between i	neasured and	reference inear	ni puise peak		C/ 163	SC	163.9.2.1.2	P1	78	L <b>5</b>	# 161
Differe	nce between i	measured and	reference linear	fit pulse peak los	s (min) d(V_peak/V_f)	Dudek, Mi	ke		Marv	ell.		
Response ACCE	PT IN PRINCI	Response PLE.	Status C			Comment There	<i>Type</i> is no s	T specification	Comment Status for the ERL of the	A test fixture		test fixture
Resolv	/e usina respo	nase to comme	ent #13.			Suggested	Reme	dy				
						Insert	a Para	graph "The	ERL of the test fixt	ure shall be	e greater tha	n TBD dB"
[Editor	's note: CC: 1	53, 120F]				Response ACCE	PT IN	PRINCIPLE	Response Status	С		
						[Editor Resolv	r's note ve usin	e: Addresses	s incomplete specif nse to comment #6	ication.] 5.		
TYPE: TR/ COMMEN <sup>-</sup> SORT ORI	′technical requ T STATUS: D/ DER: Clause,	ired ER/editor dispatched A/a Subclause, pag	ial required GR/ accepted R/reject ge, line	general required cted RESPON	T/technical E/editorial G/g SE STATUS: O/open W/wr	general ritten C/closed	d Z/wit	hdrawn		C/ 163 SC 163.9	9.2.1.2	Page 7 of 16 10/21/2020 2:58:

58:09 PM

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C/ 163	SC 163.9.2.1.	.2 <i>P</i> 178	L <b>21</b>	# 65	C/ 163	SC 163.9.	3.2	P 181	L <b>1</b>	# 9
Ran, Adee		Intel			Mellitz, Ric	chard		Samtec		
Comment	Туре Т	Comment Status A		test fixture	Comment	Type <b>TR</b>		Comment Status A		RX test fixture (bucket2)
Per res ERL:	solution of comm	ent 154 against D1.2 there	should be a requ	irement on test fixture	There transm	is no reason iitter one.	why th	e receive test fixture speci	fication sho	uld be different from the
"The E	RL at TP0v shall	be greater than or equal to	TBD".		Suggested Point te	<i>Remedy</i> o the transmi	tter sp	ecification for test fixture		
This pa	art has not been	implemented.			Response			Response Status <b>C</b>		
With N change	l=20 the ERL of t ed to 15 dB (sam	he test fixture is expected to e as in clause 137) if there	be very good. T s consensus.	he TBD may be	ACCE	PT IN PRINC	IPLE.			
Sugaested	Remedv	,			Resolv	e using the r	espon	se to comment #40.		
Add th	e following sente	nce after the table"			Cl 163	SC 163.9.	3.2	P 181	L <b>1</b>	# 81
					Brown, Ma	itt		Huawei		
"Ine E	RL at TPUV shall	be greater than or equal to	IBD dB".		Comment	Туре <b>т</b>		Comment Status A		RX test fixture (bucket2)
Consid	ler changing TBD	D to 15 dB.			In Draf	t 1.3, the trar	smitte	er test fixture specification (	TP0 to TP0	a) was replace with a new
Response		Response Status <b>C</b>			test fix match	ture specificate the new trans	tion (1 smitte	P0 to TP0v). The receiver test fixture specfication.	test fixture	should be rewritten to
ACCEI		<b>L</b> .			Suggested	Remedy				
[Editor	's note: Addresse	es incomplete specification.]			Align t	he receiver te	st fixt	ure specification with the ne	ew transmit	ter test fixtures
Insert t "The E	the following sen RL at TP0v shall	tence after the table: be greater than or equal to	15 dB".		specifi https:// In 163	cation based /www.ieee802 and 120F, re	upon 2.org/3 place	slide 12 of the following pre /ck/public/adhoc/sept16_2 all references to TP5a with	o/brown_3c TP5v.	k_adhoc_01a_091620.pdf
C/ 163	SC 163.9.3	P 180	L 17	# 7	Response			Response Status <b>C</b>		
Mellitz, Ric	chard	Samtec			ACCEI	PT IN PRINC	IPLE.			
Comment TP5a i	<i>Type</i> <b>TR</b> s moot and repla	Comment Status A		TP5v (bucket2)	Resolv	re using the r	espon	se to comment #40.		
Suggested remove	<i>Remedy</i> e references to T	P5a and replace with TP5v.								
Response		Response Status <b>C</b>								
ACCEI	PT IN PRINCIPL	E.								
Resolv	e using the resp	onse to comment #40.								

C/ 163 SC 163.9.3.2

C/ 163	SC 163.9.3.2	P 181	L <b>3</b>	# 23	C/ 163	SC 163.9.	3.2	P 181	L 19	# 24
Ben-Artsi	i, Liav	Marvell Semi	conductor ltd.		Ben-Artsi,	Liav		Marvell Semic	conductor Itd.	
Comment	t Type E	Comment Status A		TP5v (bucket2)	Comment	Туре Т	С	omment Status A		RX test fixture (bucket2)
Acco outpu	rding to direction c It	f the entire path, TP5a is the	e input to the te	st fixture and not the	The te	est fixture inse	rtion los	s of 1.2-1.6dB is not co	mmonly feasi	ble
Suaaeste	dRemedv				Suggested	dRemedy	TDE			
Chan	ge: "Unless other	vise noted. measurements c	of the receiver a	re made at the output of	Recon for TP	nmend adjusti 0-TP0a.	ng TP5a	a-TP5 fixture characteris	tics to be the	same as those defined
a test show made	t fixture (TP5a) as n in Figure 163–5. at the input of a t	" to: "Unless otherwise note est fixture (TP5a) as	d, measuremer	ts of the receiver are	Can ei manne (comm	ither define lea er , just refer t non mode RL)	s than 5 5 163.9.2	5dB of loss and ILD less 2.1.1 (insertion loss), 16	than 0.2dB, 0 3.9.2.1.2 (ER	or even in a simpler L) and 163.9.2.1.3
snow	n in Figure 163–5.				Response		Re	sponse Status C		
Response	9	Response Status <b>C</b>			ACCE	PT IN PRINC	PLE.			
ACCE	EPT IN PRINCIPL	Ξ.			Basak	vo uning the r		to commont #10		
Close	ed comment #40 re	esults in TP5a being update	d to TP5v.		Resolu	ve using the re	sponse	to comment #40.		
					C/ 163	SC 163.9.	3.2	P 181	L 19	# 230
Imple	ement the suggest	ed remedy, except replace "	TP5a" with "TP	5v".	Dawe, Pie	ers		Nvidia		
C/ 163	SC 163.9.3.2	P 181	L <b>3</b>	# 68	Comment	Туре Т	С	omment Status A		RX test fixture (bucket2)
Ran, Ade	e	Intel			We ag	greed that a te	st fixture	e test fixture between 1.2	2 dB and 1.6 o	B is not practical.
Comment	t Type T	Comment Status A		RX test fixture (bucket2)	Suggested	Remedy				
Rece	iver test fixture de	ined here is not realistic (IL	of 1.2-1.6 dB a	t 25.56 GHz). The test	Make	the receiver te	st fixtur	e like the transmitter tes	t fixture.	
fixture	e specification sho	uld be similar to the transmi	tter's test fixture	Э.	Response		Re	snonse Status C		
Suggeste	dRemedy				ACCE		PIF			
Chag	e the receiver test	fixture subclause (163.9.3.2	2) to match 163	.9.2.1 or point to it.	//OOL					
Response	Э	Response Status <b>C</b>			Resolv	ve using the re	esponse	to comment #40.		
ACCE	EPT IN PRINCIPL	, <u>=</u> .								
Reso	lve using the resp	onse to comment #40.								

C/ 163	SC 163.9.3.2	P 181	L <b>26</b>	# 193	C/ 163	SC	163.9.3.3	P 18	31 <i>L</i> 34	# 70
Wu, Mau-l	Lin	MediaTek			Ran, Adee			Intel		
Comment	Туре Т	Comment Status A		RX test fixture (bucket2)	Comment	Туре	т	Comment Status	Α	RITT
The se refer to correc	entence here is to o Equation (163-2 t.	define the "differential return ) & Figure 163-6. However,	n loss" of the to the refered equ	est fixture (TP5a) and uation and figure are not	The ex the AL	ceptio I-C2C	n that "tran (Annex 12)	smitter equalization 0D) which does not	is configured by man have a training protoc	agement" is taekn from col.
The re had be	eason is that the c een removed from	n D1p3	63-2) & figure	(Figure 163-4) in D1p2	I his cl is out o	ause is of plac	s for the KF e. The proc	edure in Annex 93C	e a training protocol should be used as is	defined, so this exception s.
Suggested	Remedy				Suggestea	Reme	dy			
Copy I the ap	Equation 163-2 & propriate location	Figure 163-4 in D1p2 & rela & correct the refered Equation	ted descriptior ion ID & Figure	n to D1p3. Put them in e ID.	Delete manag	the se ement	endence "w t (see 120D	ith the exception tha 0.3.2.3) to the setting	t transmitter equaliza is that provide the low	ition is configured by west FEC symbol error
Response		Response Status C			Talio .				•	
ACCE	PT IN PRINCIPLI	Ξ.			Response ACCE	PT.		Response Status	С	
Resolv	ve using the respo	onse to comment #40.			C/ 163	SC	163.9.3.3	P 1	31 <i>L</i> 35	# 231
C/ 163	SC 163.9.3.2	P 181	L <b>26</b>	# 165	Dawe, Pie	s		Nvidia	à	
Dudek, Mi	ke	Marvell.			Comment	Гуре	т	Comment Status	Α	RITT
to use Suggested	ERLas the paran Remedy	neter.	ntence referrin	o to return loss with "The	respor transm 120D.3	sibility itter co 3.2.3 g	to choose ould be a te ot to do wit	an adequate transmest instrument that de h it? Was this text of	itter equalization setto pesn't do 802.3 mana popied from a C2C cla	ting. Further, the agement. What has ause?
Receiv	e to match the 12	all meet the specification for	ERL in 163.9.2	ig to return loss with "The 2.1.2"	Suggested	Reme	dy			
Response ACCE	PT IN PRINCIPL	Response Status <b>C</b> ≘.			Correc chance Same	t the te to tra for 163	ext. The tra iin, or a def 3.9.3.4 Rec	ansmitter equalizatio ault if it doesn't ask eiver jitter tolerance	n is what the receive for anything in particu	r asks for after it's had a Jlar.
Resolv	ve using the respo	onse to comment #40.			Response			Response Status	С	
C/ 163	SC 163.9.3.2	P 181	L <b>26</b>	# 25	ACCE	PT IN	PRINCIPLE	Ξ.		
Ben-Artsi,	Liav	Marvell Semi	conductor ltd.		Resolv	e the i	issue with 1	63.9.3.3 using the r	esponse to comment	: <b>#70.</b>
Comment The di which	<i>Type</i> <b>T</b> fferential return lo are an incorrect r	Comment Status A oss of the test fixture is define	ed to meet Equ	<i>RX test fixture (bucket2)</i> uation (163–2) and 163-3	For the of http:	e issue s://www	e with 163.9 w.ieee802.0	.3.4, implement the org/3/ck/public/20_1	changes highlighted D/ran_3ck_03_1020.p	in slide 5 pdf.
Suggested	Remedy				Except	also r	remove iten	n d).		
Recon	nmend replacing	with a reference to 163.9.2.	1.2 (Tx test fixt	ture ERL)	Implen	nent w	ith editorial	license.		
Response ACCE	PT IN PRINCIPLI	Response Status <b>C</b> E.			1 -					
Resolv	ve using the respo	onse to comment #40.								
TYPE: TR/ COMMEN	/technical require T STATUS: D/dis	d ER/editorial required GR/ patched A/accepted R/reje	general require	ed T/technical E/editorial G/ DNSE STATUS: O/open W/w	general ritten C/closec	Z/wit	hdrawn		C/ 163 SC 163.9.3.3	Page 10 of 16 10/21/2020 2:58:09 I

SORT ORDER: Clause, Subclause, page, line

C/ 163	SC 163.9.3.3	P 181	L <b>42</b>	# 194	C/ 163	SC 163.9.3.3	P 181	L <b>42</b>	# 71
Wu, Mau	ı-Lin	MediaTek			Ran, Adee	e	Intel		
Commen	t Type <b>T</b>	Comment Status A		RITT	Comment	Туре Т	Comment Status A		RITT
The r (equa	reference equation ation 163-2) in D1p	, Equation (163-2), is not con 2 and be removed from D1p	rrect. It shall be 3.	the original equation	In iten	n b, Equation 163	B-2 is a calculation of A_DD	, not related to re	eturn loss.
Suggeste	edRemedy				The tr	ansmitter's test fi	xture only has an ERL spec	, and that is defi	ned from TP0v towards
Copy locati	Equation 163-2 in ion & correct the re	D1p2 & related description ferred Equation ID.	to D1p3. Put the	em in the appropriate	The bi	reakout from the	package is typically controll	ed by the PMD's	s vendor and is
Response	е	Response Status <b>C</b>			practio	cally part of the D	UT. Therefore we should no	ot add ERL spec	ifications for the TP5
ACCI	EPT IN PRINCIPL	Ε.			replica	a - they may be ir	relevant and even incorrect	for a specific im	plementation.
Reso	lve using the respo	onse to comment #71.			This is DUT,	s similar to the ca but not from the [	ise of a transmitter's test fix DUT toward TP0v.	ture where ERL	is specified toward the
					Instea 163.10	d, the test chann ).3.	el's ERL should be specifie	d to meet the EF	RL specifications in
					Also a 93C–4 163.9.	pplies in 120F.3. heasured at TP 2.1" - but there a	2.3 item b which has "The r 25 replica towards TPt meet re no return loss specification	eturn loss of the s the return loss ons in 163.9.2.1	test setup in Figure specifications in anymore.
					Suggested	dRemedy			
					Repla	ce item b with the	e following:		
					The re in 163	eturn loss of the te .10.3.	est channel measured at TF	P5a towards TPt	meets the requirements
					Apply	similar change in	120F.3.2.3 with the referer	nce to requireme	ents in 120F.4.3 instead.
					Response	-	Response Status <b>C</b>		
					ACCE	PT IN PRINCIPL	E.		
					Repla toward	ce item b with "Th ds TPt meets the	he effective return loss of th requirements in 163.10.3."	e test channel m	neasured at TP5 replica
					Apply	similar change in	120F.3.2.3 with the referer	nce to requireme	ents in 120F.4.3 instead.
					Impler	ment with editoria	I license.		
					[Edito	r's note: CC: 163,	, 120F]		

C/ 163	SC 163.9.3.3	P 181	L <b>42</b>	# 166	C/ 163	SC 163.9.3.4	P 183	L <b>41</b>	# 200		
Dudek, Mike		Marvell.			Wu, Mau-	Lin	MediaTek				
Comment Ty	pe TR	Comment Status A		RITT	Comment	Туре Т	Comment Status A		RJT		
Equation paramete	163-2 is nothi er.	ng to do with return loss. Als	so it would be b	etter to use ERLas the	The " from <sup>-</sup>	The "Case E from Table 162-15" here is not correct. The original one in D1p2 is "Case E from Table Table 163-9", where Case E is the case with Jitter frequency 40 MHz. However,					
SuggestedRe	emedy				the "C There	ase E from Table is one similar er	e 162-15" in D1p3 is the ca rors in step c) in 120F.3.2.4	se with Jitter freq 4 at page 214.	uency 12 MHz.		
Change t	to "The ERL of	the test setup in Figure 93C	-4 measured a	t TP5 replica towards	Suggester	dRemedy					
requirem signal N	ents for ERL i is 3500 UI"	n 163.9.2.1.2 with the excep	tion that the len	gth of the reflection	Chang 163.9	ge "Case E from .3.4 at page 183	Table 162-15" to "Case F f & step c) in 120F.3.2.4 at p	rom Table 162.15 bage 214.	" both in step c) in		
Response		Response Status C			Response	1	Response Status C				
ACCEPT	IN PRINCIPL	Ε.			ACCE	PT.					
Resolve	using the resp	onse to comment #71			[Edito	r's note: CC: 120	)F, 163]				
C/ 163	SC 163.9.3.3	P 182	L <b>3</b>	# 279	C/ 163	SC 163.10.2	P 186	L 28	# 232		
Li, Mike		Intel			Dawe, Pie	ers	Nvidia				
Comment Ty	pe <b>TR</b>	Comment Status A		RITT	Comment	Туре Т	Comment Status A		channel IL		
Np TBD					A -60	dB response at 4	45 GHz, 32 dB below the re	sponse at Nyquis	st, can't matter, but a		
SuggestedRe	emedy				Suggester	d Domody					
Np = 29,	see li_3ck_01	_0920			Repla	ce the straight p	art of the limit with one that	curves down.			
Response		Response Status C			Response		Posponso Status				
ACCEPT	IN PRINCIPL	E.			ACCE	PT IN PRINCIPI	F.				
[Editor's	note: Addresse	es incomplete specification.]									
The follow	wing presentat	ion was reviewed by the tasl	c force:		Equation for IL mask is not provided. The suggested remedy does not provide sufficient details to implement.						
nups.//ww	ww.ieeeouz.org	g/3/ck/public/20_10/ll_3ck_0	1_1020.pdi		Resol	ve using the resp	oonse to comment #255.				
Impleme	nt the suggest	ed remedy.				-					

C/ 163 SC 163.10.2

C/ 163	SC 163.10.5	P 186	L <b>48</b>	# 138	C/ 163A	SC 163A.1	P 280	L <b>47</b>	# 205		
Ghiasi, Al	i	Ghiasi Quant	tum/Inphi		Wu, Mau-L	.in	MediaTe	k			
Comment	Type <b>TR</b>	Comment Status R		AC coupling	Comment 7	Гуре Т	Comment Status R		TP0v method		
802.3 Baudr	cd standards spec ate	cified 50 kHz AC coupling bu	ut this standard	is operating 2x the	By adopting "TP0v" test fixture methodology, not only ERL, vf, vpeak, but also AC common- mode RMS voltage shall be scaled by IL of TP0v test fixture.						
Suggestee	dRemedy				Suggested	Remedy					
Repla	ce 50 KHz with 10	00 kHz			If we take the V_ACCM as the notation for "AC common-mode RMS voltage", propose to change the blocks of "Measured ERL, V_f, V_peak" & "Reference ERL, V_f, V_peak" in Figure 163A-1 to "Measured ERL, V_f, V_peak, V_ACCM" & "Reference ERL, V_f, V_peak, V_ACCM". The paragraphs in Annex 163 related to this change shall be modified accordingly. Some new paragraphs may need if necessary.						
Response REJE	CT.	Response Status C									
Resol	ve using the respo	onse to comment #129.									
C/ 163	SC 163.13.4.4	4 P 192	L <b>33</b>	# 11	Response		Boononoo Statuo	120.pdi, 101 110			
Mellitz, Ri	chard	Samtec			DE IEC	`т	Response Status C				
Comment	Type TR	Comment Status A		TP5v (bucket2)	REJEC						
TP5a	is moot and repla	ced by TP5v			The fol	lowing presenta	ation was reviewed by the	e task force:			
Suggester	dRemedv				https://	www.ieee802.o	rg/3/ck/public/20_10/wu_	.3ck_01_1020.p	odf		
remov	e references to T	P5a and replace with TP5v.	Change RC2 t	o DERL at TP5v	There i	s no consensus	s to implement the propos	sed changes.			
Response	· · · · · · · · · · · · · · · ·	Posponso Status C	g			SC 4004 0			# [100		
		F			C/ 163A	SC 163A.2	P 281	L 3	# 128		
AUUL		L.			Hidaka, Ya	ISUO	Credo Se	emiconductor			
Resol	ve using the respo	onse to comment #40.			Comment	Гуре Т	Comment Status R		TP0v method		
C/ 163	SC 163.A.3.1	P 281	L <b>25</b>	# 139	TP0 is TP0 is	the interface be not stable for m	etween Transmitter packa neasurement, because Th	age ball and PC P0 is highly non	B as shown in Figure 163-3. 1-TEM mode. A replica test		
Ghiasi, Al	i	Ghiasi Quant	tum/Inphi		fixture	may have a tes	t point corresponding to T	TP0, but this car	nnot be exactly same as		
Comment	Type TR	Comment Status R		TP0v method	should	make the label	of the test point for replic	ca test fixture di	fferent from TP0.		
Why i should be DL	s the cascaded re dn't this be the DL JT package, using	ference package with test fi IT reference channel? Whe reference is confusing as it	ixture called virte on testing a real t could imply IEI	ual reference channel, device the package will EE COM reference	We should not assume replica test fixture is same as actual test fixture. Also for clarification, I suppose we should differentiate the label of TP0v between the test fixture attached to DUT and the replica test fixture.						
packa	ge.				Suggested	Remedy					
Suggestee Repal	dRemedy ce virtual with DU	T, and replace reference pa	ickage with DUJ	package	Use TF used.	Por and TPOvr a	as the labels for the test p	oints where the	replica test fixture may be		
Response	· · · · · · · · · · · · · · · · · · ·	Response Status C		para gr	Response		Response Status <b>C</b>				
REJE	CT.				REJEC	CT.	, -				
IEEE	802.3 specifies in	terfaces not devices.			Definin not add	g different test d clarity to the s	point labels is not necess pecification.	sary or helpful. 1	The suggested remedy does		
					There i	s no consensu	s to make the proposed c	hanges.			

TYPE: TR/technical required ER/editorial required GR/gener	C/ 163A	Page 13 of 16	
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 163A.2	10/21/2020 2:58:09 PM
SORT ORDER: Clause, Subclause, page, line			

C/ 163A	SC 163A.2	P <b>281</b>	L <b>4</b>	# 30	C/ 163A	SC 163	A.3.1	P <b>281</b>	L <b>25</b>	# 35	
Healey, Adam Broadcom Inc.					Healey, Adam Broadcom Inc.						
Comment T	<i>уре</i> Е	Comment Status A		TP0v method	Comment 7	<i>уре</i> <b>т</b>		Comment Status A		TP0v method	
The "test channel" requirements are not defined by the clause that invokes this method but "test fixture" requirements might be. It seems like this is the only place "transmitter test						In Figure 163A-2, termination resistance at TP0v should represent an instrument and not a device (i.e., it should be the reference resistance R_0 and not the device resistance R_d).					
channe	I" or "test chanr	nel" are used. The same enti	ty is referred to a	as the "TP0-TP0v	SuggestedRemedy Replace "R_0" with "R_d".						
Suggosted	Pomodu										
Change	the title of 163	Δ 2 to "Test fixture" and ren	lace its contents	with the following: "The	Response Response Status C						
test fixture is between test points TP0 and TP0v as shown in Figure 163A-2. Test fixture requirements are specified by the clause that invokes this method."						ACCEPT IN PRINCIPLE.					
Response		Response Status C			Replace "R_d" at TP0v with "R_0" .						
ACCEF	νT.				Implement with editorial license.						
C/ 163A	SC 163A.3.1	P 281	L <b>22</b>	# 277	C/ 163A	SC 163	A.3.1	P <b>281</b>	L 31	# 278	
Dawe, Piers	s	Nvidia			Dawe, Pier	S		Nvidia			
Comment Type <b>T</b> Comment Status <b>A</b> TP0v method I don't like the term "virtual reference channel". It's no more unreal than the other blocks in this figure. I didn't find any other "reference channel" in this draft.						Comment Type <b>T</b> Comment Status <b>A</b> TP0v metho The material in the NOTE needs to be normative.					
Suggested	Remedy				Move it to regular text at line 42						
Change	e its name to "re	eference channel" or "referen	nce test channel"	throughout.	Response	to regulai		Posponso Status C			
Response ACCEE	T IN PRINCIPI	Response Status <b>C</b> F			ACCEF	PT IN PRIN	ICIPLE				
10021					The response to comment #58 results in similar text being added.						
Replace	e "virtual referer	nce channel" with "reference	channel".		D		(				
Implement with editorial license.						comment #58.					

C/ 163A SC 163A.3.1

C/ 163A	SC 163A.3.1	P 281	L <b>40</b>	# 58	C/ 163A	SC 163A.	3.1.1	P 281	L <b>48</b>	# 36	
Ran, Adee		Intel			Healey, Ad	am		Broadcom In	с.		
Comment 7	Гуре Т	Comment Status A		TP0v method	Comment 7	<sup>-</sup> уре <b>т</b>	Comr	ment Status A		TP0v method	
"The scattering parameters for the reference package, S(tp), are determined using the method in 93A.1.2, with electrical characteristics specified in the clause that invokes this method"						Equation (93-17) defines GAMMA1 and GAMMA2 to be equal and furthermore a function of Rd. The termination at the TP0v should represent an instrument load and therefore would be better defined to be R0 independent of Rd.					
Typically there are two reference package for the Tx and two possibly other ones for the Rx. It is not stated which one should be used. A DUT should be allowed to be as "bad" as the worst of the two reference packages for any of the parameters. Editorially it seems that this should be stated separately in 163A.3.1.1 for v_peak and v_f and in 163A.3.1.2 for ERL (although the same rule applies in both cases). SuggestedRemedy Add a sentence in 163A.3.1.1 after the paragraph "The reference pulse response peak () is the peak value of h(t)"						SuggestedRemedy         Change the first paragraph of 163A.3.1.1 to the following: "Calculate the voltage transfer function, H_21(f) from the scattering parameters of the virtual reference channel, S^(0), using Equation (93A-18) where GAMMA1 is given by Equation (93A-17) and GAMMA2 is set to 0. In Equation (93A-17), the single-ended reference resistance R_0 is set to 50 [Ohms] and the single-ended termination resistance, R_d, specified by the clause that invokes this method."         Response       Response Status       C         ACCEPT IN PRINCIPLE.       The response to comment #277 changed "virtual reference channel" to "reference channel".					
such as	s the following:				Implem	ent the suge	jested reme	by incorporating the	response to col	mment #277.	
"If the i	nvoking clause li	ists more than one set of re	ference package	e parameters, the	C/ 163A	SC 163A.	3.1.1	P 282	L <b>25</b>	# 39	
calcula	tion is performed	d with each set, and the min	imum value is us	sed as the reference	Healey, Ad	am		Broadcom In	с.		
value.				Comment 7	<sup>-</sup> уре <b>Т</b>	Comr	ment Status A		TP0v method		
Add a send of	similar sentence 163A.3.1.2 (for E	at the end of 163A.3.1.1 (af ERL reference).	ter the definition	of v_f(ref)) and at the	The an 162.9.3 may en	nex is mostly 1.2 seems nploy this mo	v written to b out of place. ethod?	e generic so citing t Will the same value	the specific valu e of N_v apply to	e for N_v defined in o future clauses that	
ACCE		Response Status C			Suggested	Remedy					
Implem	ent the suggeste	⊑. ed remedy.			Change in the s the clau	e the definition teady state y use that invo	on of N_v to /oltage calcu kes this met	the following: "repre ulation". Add a sente hod.	esents the numb ence that the val	er of symbols to include lue of N_v is defined by	
Update	to 163 and 120	F to indicate the following:			Response		Respo	onse Status <b>C</b>			
For refe	erence ERL use	both package models and u	ise the worst ER	L of the two.	ACCEF	PT IN PRINC	IPLE.				
For refe	erence R_peak a	and v_f, use only the packag	e model with the	e longer package trace.	Implem	ent the suge	sted remed	y with editorial licen	se.		
Implem	ent with editoria	l license.									

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

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C/ 163A	SC 163A.3.	1.2 P 2	82 L 3	30	# 37				
Healey, Ad	lam	Broad	dcom Inc.						
Comment T	Туре Т	Comment Status	Α		TP0v method				
Equation There in where	on (93A-58) an s an additional R_d is not equa	d Equation (93A-59) d step required to obtai al to R_0. Also, the va	o not calculate t n the reflection o lue of T_fx shou	he PDTR resp coefficient s_ii( ld be 0.	onse from S^(0). (f) for the case				
Suggested	Remedy								
at TPOv is given by Equation (93A-7) where $[s_22]^{(x)}$ is GAMMA1 as defined by Equation (93A-17) and $[s_ji]^{(y)}$ are the components of the scattering matrix of the virtual reference channel S <sup>(0)</sup> . In Equation (93A-17), the single-ended reference resistance R_0 is set to 50 [Ohms] and the single-ended termination resistance, R_d, specified by the clause that invokes this method. The referece pulse time-domain reflection (PTDR) response is computed from the reference ERL value is determined from the reference PTDR response using the method in 93A-5.2 with T_fx set to 0 and other parameters specified by									
Response		Response Status	С						
ACCEF	PT IN PRINCIP	LE. e shown on slide 19 of	: Deck 3ck 01a 1	020 pdf					
C/ 163A	SC 163A.3.	2.2 P 2	83 L1	2	# 59				
Ran, Adee		Intel							
Comment T Both E	<i>Туре</i> Е RL(ref) and ER	<i>Comment Status</i> (meas) in equation 1	A 63A-6 are unde	fined terms.	TP0v method				
Suggested Add be	Remedy low the equation	on							
"Where ERL(re ERL(m	e f) is the ERL re eas) is the mea	eference value defined asured Effective returr	in 163A.3.1.2 loss"						
Response		Response Status	С						
ACCE	PT IN PRINCIP	LE.							
Implem	nent the sugges	sted remedy with edito	rial license.						