C/ 180	SC 180.8.5	P 364	L 23	# 1	C/ 181	SC 181.1	P 372	L16	# 4
Johnson, Jo	ohn	Broadcom			Johnson, J	lohn	Broadcom		
Comment T	<i>уре</i> т	Comment Status D		TDECQ	Comment	Туре Т	Comment Status D		Editorial (bucket)
121.8.5 DR1, th	.2 Table 121-11 is needs to be 1	specifies ORL of 21.4dB be ap 15.1dB.	plied for TX	testing. For 200GBASE-	The P consis	HY bracket in Fig	gure 181-1 is shown encompas is PMDs.	ssing the MDI	layer, which isn't
SuggestedF Add a n "- The c Proposed F PROPC Add a r "- The (Remedy new exception to optical return los Response OSED ACCEPT new exception to optical return los	o the list in 180.8.5: ss is as given in Table 180-6." <i>Response Status</i> W IN PRINCIPLE. o the list in 180.8.5: ss is as given in Table 180-7."			Suggester Shorte Proposed PROP Impler Cl 182	Remedy on the PHY brack Response OSED ACCEPT nent the sugges SC 182.1	ket to exclude the MDI layer. <i>Response Status</i> W IN PRINCIPLE. ted remedy with editorial licens <i>P</i> 395	ье. <i>L</i> 21	# 5
Implem	ent with editoria	I license.			Johnson, J	ionn T	Broadcom		
C/ 181	SC 181.8.5	P386	L 41	# 2	Comment	<i>Type</i> T	Comment Status D		Editorial (bucket)
Johnson Jr	ohn	Broadcom			consis	tent with previou	gure 182-1 does not encompas is PMDs.	s the PIMD la	yer, which isn't
Comment T The TD require Suggested Replac	ype T ECQ methods r ments in local cl Remedy e the reference t	Comment Status D reference channel requirements lause 181.8.5.1. to 121.8.5.2 with reference to 1	in 121.8.5.2 81.8.5.1.	Reference (bucket) instead of the channel	Suggested Length Proposed PROP Impler	<i>Remedy</i> nen the PHY bra <i>Response</i> OSED ACCEPT nent the sugges	cket to include the PMD layer. <i>Response Status</i> W IN PRINCIPLE. ted remedy with editorial licens	e.	
Proposed F	Response	Response Status W			C/ 181	SC 181.6.1	P378	L13	# 6
PROPC Implem	OSED ACCEPT ent the suggest	IN PRINCIPLE. ed remedy with editorial license			Johnson, J	lohn	Broadcom	- 10	
C/ 182	SC 182 8 5	P411	/ 30	# 3	Comment	Туре Т	Comment Status D		TX specs
lohnson le	hn	Broadcom	200	" 3		average launch p	ower (max) in Table 181-5 is i	BD for 800Gt	3ASE-FR4-500.
Comment 1	vne T	Comment Status D		TDECO	Suggested	IRemedy			
121.8.5 200GB	.2 Table 121-1 ASE-FR1, this n	1 specifies ORL of 21.4dB be a leeds to be 17.1dB.	pplied for TX	testing. For	which (claus	ce TBD with a va is 4.9 + 6 = 10.9 es 122, 151).	He equal to the Average laund 9 dB. This methodology is con	sistent with pr	revious FR4 PMDs
Suggestedł	Remedy				Proposed	Response	Response Status W		
Add a r "- The (new exception to optical return los	o the list in 182.8.5: is as given in Table 182-7."			PROP Impler	OSED ACCEPT nent the sugges	IN PRINCIPLE. ted remedy with editorial licens	e.	
Proposed F	Response	Response Status W							
PROPC Implem	OSED ACCEPT ent the suggest	IN PRINCIPLE. ed remedy with editorial license							

C/ 183	SC 183.6.1	P 425	L16	# 7	C/ 181	SC 181	.6.2	P380	L 21	# 10
Johnson, .	John	Broadcom			Johnson,	John		Broadcom		
Comment	Туре Т	Comment Status D		TX specs	Comment	Туре Т		Comment Status D		RX specs
Total a	average launch p	ower (max) in Table 183-6 is [.]	TBD for 800GB	ASE-FR4.	Differe	ence in rece	ive pow	er between any two lanes (OMAouter) (ma	ax) in Table 181-6 is
Suggested	Remedy				TBD f	or 800GBA	SE-FR4-	·500.		
Repla	ce TBD with a va	lue equal to the Average laun	ch power, each	lane (max) + 6 dB,	Suggestee	dRemedy				
which	is $4.9 + 6 = 10.9$	dB. This methodology is cor	nsistent with pre	vious FR4 PMDs	Repla	ce TBD wit	n a value	e of 4.1 dB, consistent with	other FR4 PMD	Ds (Cl. 122, 151)
(claus	es 122, 151) and	1800GBASE-LR4 In this Table	9.		Proposed	Response		Response Status W		
Proposed	Response	Response Status W			PROF	OSED AC	CEPT IN	PRINCIPLE.		
PROF	OSED ACCEPT	IN PRINCIPLE.	20		Implei	ment the su	ggested	remedy with editorial licens	se.	
Impici	field the suggest		30.		C/ 183	SC 183	.6.2	P 427	L 21	# 11
/ 181	SC 181.6.1	P 378	L 23	# 8	Johnson,	John		Broadcom		
ohnson, .	John	Broadcom			Comment	Type T		Comment Status D		RX specs
comment	Туре Т	Comment Status D		TX specs	Differe	ence in rece	eive pow	er between anv two lanes (OMAouter) (ma	x) in Table 183-7 is
Differe	ence in launch po	ower between any two lanes (C	OMAouter) (max	() in Table 181-5 is TBD	TBD f	or 800GBA	SE-FR4.	· · · · · · · · · · · · · · · · · · ·		,
for 80	OGBASE-FR4-50	00.			Suggestee	dRemedy				
Suggestee	Remedy				Repla	ce TBD wit	n a value	e of 4.1 dB, consistent with	other FR4 PMD	Ds (Cl. 122, 151)
Repla	ce TBD with a va	lue of OMAouter(max) minus	OMAouter(min)	or 4 dB, whicher is	Proposed	Response		Response Status W		
Silialie			, 131).		PROF	OSED AC	CEPT IN	PRINCIPLE.		
	Response				Implei	ment the su	ggested	remedy with editorial licens	se.	
	nent the suggest	ted remedy with editorial licens	se.		C/ 183	SC 183	6.1	P425	/ 24	# 12
			• • • •		lohnson	lohn		Broadcom		" 12
/ 183	SC 183.6.1	P 425	L 28	# 9	Comment			Comment Status D		TX specs
ohnson, .	John	Broadcom			The T	X must he i	romolian	t over the full range of fiber	lenath (disper	sion) so the use of
comment	Туре Т	Comment Status D		TX specs	TDEC	Q alone is	nsufficie	ent to determine Outer Option	cal Modulation	Amplitude (OMAouter),
Differe	ence in launch po	ower between any two lanes (C	OMAouter) (max	() in Table 183-6 is TBD	each l	ane				
tor 80	JGBASE-FR4.				(min)	in Table 18	3-6 for 8	00GBASE-FR4/LR4.		
uggested	Remedy				Suggestee	dRemedy				
Repla smalle	ce TBD with a va er, consistent with	llue of OMAouter(max) minus n other FRn/LRn clauses (122	OMAouter(min) , 151).	or 4 dB, whicher is	Repla PMDs	ce TDECQ in Clauses	with ma: 180-182	x(TECQ, TDECQ) for both 2. Note that max(TECQ, TI	PMDs, as has b DECQ) is alread	been done in all other dy in Equation 183-1.
roposed	Response	Response Status W			For co	onsistency,	replace '	"Equation 183-1" with "-0.1	+ max(TECQ, [*]	TDECQ)" in Table 183-
PROF	OSED ACCEPT	IN PRINCIPLE.			6 and	surrounding	g text wit	th max(TECQ, TDECQ).	Nou upuale Fig	juies 103-3, 103-3, 183-
Implei	ment the suggest	ted remedy with editorial licens	se.		Proposed	Response	-	Response Status W		
						POSED AC	CEPT IN	PRINCIPI F.		

Implement suggest remedy with editorial license.

C/ 180	SC 180.8.11	P 365	L 52	# 13	C/ 182	SC	
LeChemin	LeCheminant, Greg Keysight Technologies				LeCheminant, Gre		
Comment	Comment Type T Comment Status D RIN-OMA						
The re technor requir achiev	equired -3dB BW f ology. (State of th e the bandwidth o ve the current syst	for the measurement system ne art power meters with a m f the photodetetor to be subs tem bandiwdth required for th	is not achievab aximum 120 GH staitially higher the test system, a	le with existing Iz bandwidth, would nan 120 GHz to as defined in clause 52)	The re techno requir achiev	equired ology. (e the ba	
Suggestee	dRemedy				Suggestee	dRemeo	
The b the sy limits	andiwdth of the R vstem receivers an for RIN OMA may	IN-OMA test system should ad consider the expected nois need adjustment to adapt to	be based on the se spectrum of t o any changes ir	expected bandwidth of ransmitters. Spec the test method	The b the sy limits	andiwdtl ′stem re for RIN	
Proposed	Response	Response Status W			Proposed	Proposed Respor	
PROF Resol	POSED ACCEPT	IN PRINCIPLE.			PROF Resol	OSED /	
C/ 181	SC 181.8.11	P388	L 52	# 14	C/ 183	SC	
LeChemin	ant, Greg	Keysight Tech	nnologies		LeChemin	ant, Gre	
Comment	Туре Т	Comment Status D		RIN-OMA	Comment	Туре	
The re technor requir achiev	equired -3dB BW f ology. (State of th e the bandwidth o ve the current syst	for the measurement system he art power meters with a m f the photodetetor to be subs tem bandiwdth required for th	is not achievabl aximum 120 GH staitially higher the test system, a	le with existing Iz bandwidth, would nan 120 GHz to as defined in clause 52)	The re techno requir achiev	equired - ology. (e the ba ve the c	
Suggeste	dRemedy				Suggestee	dRemea	
The b	The b	andiwdt					

The bandiwath of the RIN-QIVIA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec limits for RIN OMA may need adjustment to adapt to any changes in the test method

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518

C/ 182	SC 182.8.11	P 413	L10	# 15
LeCheminant, Greg		Keysight Tech	nologies	
Comment	Туре Т	Comment Status D		RIN-OMA

-3dB BW for the measurement system is not achievable with existing State of the art power meters with a maximum 120 GHz bandwidth, would andwidth of the photodetetor to be substaitially higher than 120 GHz to urrent system bandiwdth required for the test system, as defined in clause 52)

dy

th of the RIN-OMA test system should be based on the expected bandwidth of ceivers and consider the expected noise spectrum of transmitters. Spec OMA may need adjustment to adapt to any changes in the test method

Proposed Response	Response Status	W
, ,		

ACCEPT IN PRINCIPLE. g the response to comment #518

C/ 183	SC ·	183.8.11	P 437	L 41	# 16
LeCheminant, Greg			Keysight Tech	nnologies	
Comment	Туре	т	Comment Status D		RIN-OMA

-3dB BW for the measurement system is not achievable with existing State of the art power meters with a maximum 120 GHz bandwidth, would andwidth of the photodetetor to be substaitially higher than 120 GHz to current system bandiwdth required for the test system, as defined in clause 52)

dv

The bandiwdth of the RIN-OMA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec limits for RIN OMA may need adjustment to adapt to any changes in the test method

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518

C/ 180	SC 180.8.5	P 364	L 23	# 17	
LeCheminant, Greg		Keysight Tecl	hnologies		
Comment Ty	vpe T	Comment Status D		TDEC	Q

The current method for optimizing the tap weighs of equalizer in the TDECQ reference receiver is described in clause 121.8.5. The equalizer tap coefficients are iteratively adjusted to effectively minimize the TDECQ penalty. Although not explicitly stated, one way to view this is that ANY combination of tap weights is valid and that ALL combinations should be tried to ensure the optimum tap weight combination is used when calculating TDECQ. As the equalizer length has been increased from 5 taps to 15 taps, the time required to verify all possible tap weights is likely problematic. This issue was managed in the 802.3 db project, where a 9 tap virtual equalizer is used for TDECQ. The following text was added to clause the definition of the TDECQ method: ôThe lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibrationö. Note that the MMSE optimization method is used in almost all TDECQ measurements performed today

SuggestedRemedy

Add the following text at line 36 (end of exceptions list): The lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibration

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. For CRG discussion.

C/ 181	SC 181.8.5	P 386	L 41	# 18
LeChemin	ant, Greg	Keysight Tech	nnologies	
Comment	Type T	Comment Status D		TDECQ

The current method for optimizing the tap weighs of equalizer in the TDECQ reference receiver is described in clause 121.8.5. The equalizer tap coefficients are iteratively adjusted to effectively minimize the TDECQ penalty. Although not explicitly stated, one way to view this is that ANY combination of tap weights is valid and that ALL combinations should be tried to ensure the optimum tap weight combination is used when calculating TDECQ. As the equalizer length has been increased from 5 taps to 15 taps, the time required to verify all possible tap weights is likely problematic. This issue was managed in the 802.3 db project, where a 9 tap virtual equalizer is used for TDECQ. The following text was added to clause the definition of the TDECQ method: ôThe lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibrationö. Note that the MMSE optimization method is used in almost all TDECQ measurements performed today

SuggestedRemedy

Add the following text at line 53 (end of exceptions list): The lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibration

Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #17

C/ 182	SC 182.8.5	P 411	L 30	# 19
LeCheminant, Greg		Keysight Tecl	nnologies	
Comment	Type T	Comment Status D		TDECQ

The current method for optimizing the tap weighs of equalizer in the TDECQ reference receiver is described in clause 121.8.5. The equalizer tap coefficients are iteratively adjusted to effectively minimize the TDECQ penalty. Although not explicitly stated, one way to view this is that ANY combination of tap weights is valid and that ALL combinations should be tried to ensure the optimum tap weight combination is used when calculating TDECQ. As the equalizer length has been increased from 5 taps to 15 taps, the time required to verify all possible tap weights is likely problematic. This issue was managed in the 802.3 db project, where a 9 tap virtual equalizer is used for TDECQ. The following text was added to clause the definition of the TDECQ method: ôThe lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibrationö. Note that the MMSE optimization method is used in almost all TDECQ measurements performed today

SuggestedRemedy

Add the following text at line 44 (end of exceptions list): The lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibration

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #17

C/ 183	SC 183.8.5	P 435	L 25	# 20
LeChemin	ant, Greg	Keysight Tech	inologies	
Comment	Туре Т	Comment Status D		TDECQ

The current method for optimizing the tap weighs of equalizer in the TDECQ reference receiver is described in clause 121.8.5. The equalizer tap coefficients are iteratively adjusted to effectively minimize the TDECQ penalty. Although not explicitly stated, one way to view this is that ANY combination of tap weights is valid and that ALL combinations should be tried to ensure the optimum tap weight combination is used when calculating TDECQ. As the equalizer length has been increased from 5 taps to 15 taps, the time required to verify all possible tap weights is likely problematic. This issue was managed in the 802.3 db project, where a 9 tap virtual equalizer is used for TDECQ. The following text was added to clause the definition of the TDECQ method: ôThe lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibrationö. Note that the MMSE optimization method is used in almost all TDECQ measurements performed today

SuggestedRemedy

Add the following text at line 40 (end of exceptions list): The lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibration

Proposed Response	Response Status W
PROPOSED ACCEPT	IN PRINCIPLE.
Resolve using the respo	Sinse to comment #17

C/ 176	SC 176	P 242	L10	# 21
Liu, Cathy		Broadcom		
Comment Ty	/pe T	Comment Status D		Precoding

In this section, precoding is mentioned to CR, KR and C2C links. How about C2M link? It should add C2M since C2M LT session specifies precoding as one of the options.

SuggestedRemedy

Add C2M link into the statement: ôThe precoding specifications in this subclause apply to the input and output lanes of a PMA that are connected to the service interface of an xBASE-CRn or xBASE-KRn PMD, or are part of an xAUI-n C2C/C2M link.ö

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Background and proposed changes are provided in the the "Precoding" slides in following editorial presentation for CRG review. URL/brown_3dj_02_2406

Comment ID 21

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C/ 177	SC 177	P 257	L 28	# 22	C/ 179B	SC 179	в	P670	L	# 25
Liu, Cathy		Broadcom			Liu, Cathy			Broadcom		
Comment	Туре Т	Comment Status D		Inner FEC coding gain	Comment	Туре Е		Comment Status D		(editorial)
This s details the so budge	ection only men s implementatior ft-decision deco t might be misse	tions that the inner FEC decodent is beyond the scope of the the der's performance bound? If n ed.	ler is soft-deci is standard. H ot, the optical	sion decoder and the owever, shall we specify PMD BER target or link	Figure Suggested	179B-1 fig Remedy	jure is	not showing completely in my	PDF file	
Suggested	Remedy				Proposed I	Response		Response Status W		
To spe end Fl	ecify the soft-dee EC provided that	cision decoder shall provide TE t the error statistics are sufficie	BD dB (say 2c ently random.	B) coding gain over end-	PROP Implen	OSED AC	CEPT ditoria	IN PRINCIPLE. al license and discretion.		
Proposed	Response	Response Status W			C/ 179B	SC 179	в	P672	L	# 26
PROP	OSED REJECT			ding goin. It noodo	Liu Cathy		_	Broadcom		
include	e the relationshi	p between the errors on the in	out, errors on	the output, and the effect	Comment	Tvpe E		Comment Status D		(editorial)
those	errors have on t	he RS-FEC.			Figure	179B-2 fic	iure is	not showing completely in my	PDF file	(********)
A cons encou	sensus presenta raged.	ation to appropriately define the	e expected Inr	er FEC performance is	Suggested	Remedy				
C/ 178	SC 178	P 270	L17	# 23	-	-		_		
Liu, Cathy		Broadcom			Proposed I	Response	0-DT	Response Status W		
Comment Table	<i>Type</i> E 178-4 "120F-1.6	Comment Status D TGAUI-16 C2C'		(editorial)	Implen	nent with e	ditoria	IN PRINCIPLE. al license and discretion.		
Suaaested	dRemedv				C/ 178	SC 178	.9.2	P 276	L 34	# 27
chang	e to "120F-1.6T	AUI-16 C2C'			Mellitz, Ric	hard		Samtec		
Proposed	Response	Response Status W			Comment	Туре Т	R	Comment Status D		TX SNDR/SCMR
PROP	OSED ACCEPT	IN PRINCIPLE.			adjust	SNDR with	n loss	correction factor which is abo	ut 1 dB basd c	n prior assumptions
Impler	ment with editori	al license and discretion.			Suggested	Remedy				
C/ 179A	SC 179A	P664	L	# 24	change	e SNDR to	33,5	dB.		
Liu, Cathy		Broadcom			Proposed I	Response		Response Status W		
Comment	Type E	Comment Status D		(editorial)	PROP	OSED AC	CEPT	IN PRINCIPLE.		
Figure	179A-1 and fig	ure 179A-2 are not showing co	mpletely in m	y PDF file	Resolv	e using th	e resp	UNSE IU CUMMENI #43.		
Suggested	Remedy	-								
Proposed	Response	Response Status W								

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Comment ID

PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.

C/ 178	SC 178.9.2.1.2	P 277	L37	# 28		C/ 178	SC 178.9.2.4	P 279	L 4	# 30
Mellitz, Ri	chard	Samtec				Mellitz, Ric	chard	Samtec		
Comment scale	<i>Type</i> TR ERL parameter form	Comment Status D n 0.3ck			ERL	<i>Comment</i> The ba	<i>Type</i> TR aud rate has doub	Comment Status D bled from .3ck,. If loading is	s scaled down wit	<i>Linear fit</i> th the baud rate, the
Suggester in tabl Tr 0.0 a x 0 0 ?x 0.0 N 400 Proposed PROF The c conse There comm	dRemedy le 178-7 change TBI 05 ns GHz 618 • UI Response POSED ACCEPT IN omment addresses ensus is not obvious. • are several comme hent resolution slide PO disensation	D's as follows Response Status W PRINCIPLE. an open TBD and the sug nts on this topic. The editu deck URL/ran_3dj_01_24	gested remedy i orial team prepa 06.	s reasonable, but red a proposal in the		Suggested Chang Proposed PROP The co conse There comm	IRemedy JRemedy ge Nv=TBD to Nv Response OSED ACCEPT omment addresse nsus is not obvior are several comr ent resolution slic RG discussion.	r=400 <i>Response Status</i> ₩ IN PRINCIPLE. ss an open TBD and the su us. nents on this topic. The ed de deck URL/ran_3dj_01_2	uggested remedy litorial team prepa 2406.	is reasonable, but ared a proposal in the
	RG discussion.	D				C/ 178	SC 178.9.2.6	P 279	L 22	# 31
C/ 178 Mellitz, Ri Comment scale Suggestee in tab Tr 0.0 $\blacksquare x 0 (0)$	SC 178.9.2.2 chard <i>Type</i> TR ERL parameter form <i>dRemedy</i> le 163-7 change TBI 05 ns GHz 618	P278 Samtec Comment Status D n 0.3ck D's as follows	L 26	# <u>29</u>	ERL	Mellitz, Ric Comment adjust Suggestec add + Proposed PROP Resolv	chard <i>Type</i> TR SCMR with loss <i>dRemedy</i> loss correction fa <i>Response</i> POSED ACCEPT ve using the response	Samtec Comment Status D correction factor ctor to equation 178-1 Response Status W IN PRINCIPLE. onse to comment #45.		TX SNDR/SCMR
Proposed PROF It is as chang Resol	Response P POSED ACCEPT IN ssumed based on th ge Table 178-8. ve using the respons	Response Status W PRINCIPLE. e subclause/page/line, the se to comment #28.	e suggested rem	edy seems to ask to		Cl 178 Mellitz, Ric Comment The B preser Suggested chang Proposed PROP Resolv	SC 178.9.3.3 chard Type TR essel-Thomson finations. IRemedy e TBD to 67GHz Response POSED ACCEPT ve using the resp	P281 Samtec Comment Status D Iter should track fr which b Response Status W IN PRINCIPLE. onse to comment #60.	L 41 etwee 0.5 and 0.6	# 32 <i>B-T filter BW</i> 6 has been shown in

C/ 178	SC 178 10	P284	/ 11	# 33	C/ 178	SC 178 10 1	P286	/ 12	# 36
Mellitz, Ri	chard	Samtec		" 33 	Mellitz, Rid	chard	Samtec	- 12	
Comment	Type TR	Comment Status D		СОМ	Comment	Type TR	Comment Status D		COM f_r
Use 3	B dB as minimur	n COM as in .3ck or			T(able	178û13) Prese	ntations so far have used fr of	0.5, 0.55, 0.58	, and 0.6. 67 Ghz limits
Suggeste	dRemedy	ma in 178 10 1 lina 28)			on tes require	t equipment and ed for good mea	I cabling/connector modal phys surements at 67 GHz. Set fr to	sics suggest at 0.6 or lower to	least a 9 dB loss is achieve this.
Dremene					Suggested	dRemedy			
Proposed	Response	Response Status W			chang	e TBD to 0.6.			
Reso	lve using the res	sponse to comment #250.			Proposed	Response	Response Status W		
					PROP	OSED ACCEPT	IN PRINCIPLE.		wa waaaaaa ah la kuut
C/ 178	SC 178.10	P284	L12	# 34	conse	nsus is not obvi	ous.	ment and SR a	re reasonable, but
Mellitz, Ri	chard	Samtec			There	are several com	ments on this topic. The edito	rial team prepa	red a proposal in the
Comment	Type TR	Comment Status D	25 J	Channel ILdd (bucket)	comm For Cl	ent resolution sl	ide deck URL/ran_3dj_01_240	6.	
retere	ence is wrong ar	id lidd should reflect tpud to tp	005d.						
Suggeste	dRemedy				C/ 178	SC 178.10.1	P 286	L18	# 37
chang and T	ge reference to ' BD to 40 dB	178.10.2			Mellitz, Rid	chard	Samtec		
or elir	ninate the refere	ence to Ildd			Comment	Type TR	Comment Status D		COM TxFFE
Proposed	Response	Response Status W			Prese	ntations so for h	ave not shown the need for Tx	FFE. Change	to no TXFFE until
PRO	POSED ACCEP	, T IN PRINCIPLE.			Rx noi	se mav suddest	a. a need for the TXFFE which v	vould improve	performance. It's not
The c	bjective this cla	use is addressing is 40 dB die	e-to-die.	lianal taut to atota that it	clear f	rom a channel p	erspective that the TX FFE is	not a zero sum	gain compared to the
is spe	cified from TP0	d to TP5d.			Rx no	ise loss of COM	. Until Rx FFE noise is better c	lefined zero ou	t IXFFE.
Imple	ment with editor	rial license.			Suggested	Remedy			
C/ 178	SC 178 10	1 P285	/ 38	# 35	Chang	ge TBDs for c(-3),c(-2),c(-1), and c(1) to zero. \$	Set C(0) tp 1.	
Mollitz Ri	chard	Samtec	200		Proposed	Response	Response Status W		
Comment		Comment Status D		RO	PROP	OSED ACCEPT	IN PRINCIPLE.	rial team prepa	red a proposal in the
(Tabl	- 178û12). Com	putation can be independent	of R0 Add a no	te to explain S	comm	ent resolution sl	ide deck URL/ran_3dj_01_240	16.	
parar	neter can utilize which is the na	any R0. For computation pur tive impedance for the most c	poses s-param ommon test eq	eters are converted to 50 upment.	For Cl	RG discussion.			
Suggeste	dRemedy								
Chan be co	ge R0 for TBD t nverted into 50	o 50 ohms and add a note ind ohm reference before comput	icating the imp ation.	orted s-parameter are to					
Proposed	Response	Response Status W							
PROI There comn	POSED ACCEP are several cor nent resolution s	T IN PRINCIPLE. nments on this topic. The edit lide deck URL/ran_3dj_01_24	orial team prep 06.	ared a proposal in 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: Comment ID

C/ 178	SC 178.10.1	P 286	L 46	# 38	C/ 178	SC 178.1	0.2	P 287	L 5	# 41
Mellitz, Rid	chard	Samtec			Mellitz, Rid	chard	Sa	mtec		
Comment	Type TR	Comment Status D		COM voltage parameters	Comment	Type TR	Comment Stat	tus D		TX SNDR/SCMR
It not o	clear the power so	ources have significantly char	nged from 0.30	k and to avoid the	SNR_	TX can be SN	NDR when loss correct	tion is employed	d	
Suggested	dRemedy	bitage requirement from pack	ages use the t	J.3CK Voltages.	Suggester	Remedy	5 dB			
set Av	and Afe to 0.413	and Ane to 0.608			Proposed	Resnanse	Posponso Stat	ue W		
Proposed PROP	Response POSED ACCEPT	Response Status W IN PRINCIPLE.			PROF Resol	OSED ACCE	EPT IN PRINCIPLE.	#45.		
The co The sa	omment addresse ame values are suggest	es an open TBD and the suge uggested in 5 comments (38,	gested remedy 267, 406, 417	is reasonable. , 434).	C/ 178	SC 178.1	0.2	P 287	L	# 42
Implei	ment the suggest	eu teinieuy.			Mellitz, Rid	chard	Sa	mtec		
C/ 179	SC 179.10.1	P 286	L 50	# 39	Comment	Type TR	Comment Stat	tus D	M	ultiple COM parameters
Mellitz, Ric	chard	Samtec		00117	Select progre	ing values the ss. Many pre	e "Receiver discrete-t sentations a have sho	ime equalizer pa own quite a varia	arameters" a ation. Select	are critical for making values based on what
Comment	<i>Type</i> IR	Comment Status D		COM I_r	seems	s consistent o	or use straw ballot to d	letermine.		
scale			al TPUU.		Suggestee	Remedy				
Suggested	dRemedy				use st	raw polls fron	n the following			
set ir	to 0.00375 hs				Dw 4, Nfix 1	6, or 8 0, 15, 24				
Proposed	Response	Response Status W			Ng 1,	2, 3				
IClaus	se should be chan	aed to 179.10.1			Nf 3, 4 Nmax	40 60 120				
The co	omment addresse	es an open TBD and the sugg	gested remedy	is reasonable, but	Wmax	(j)=1				
conse There	are several comr	us. nents on this topic. The edito	rial team prepa	ared a proposal in the	Wmin bmax((-1,0,1)=0. otl 1) = 0 5 0 75	herwise -0.5 0 85			
comm	ent resolution slid	le deck ran_3dj_01_2406co	omment_resolu	tion_electrical.	bmin(1)= 0-0,5-0	.75 -0 85			
For Cl	RG discussion.				Proposed	Response	Response State	us W		
C/ 178	SC 178.10.2	P 287	L37	# 40	PROF	OSED REJE	CT.			
Mellitz, Ric	chard	Samtec			I he si questi	uggested rem	edy does not propose action is not valid.	e an actionable ((within the dr	aft) remedy. A
Comment	Type TR	Comment Status D		Channel ILdd (bucket)	Propo	sed changes	should preferably be	backed by techr	nical justificat	tion and not just straw
Define	e the channel inse	rtion loss to include the pack	age i.e TP0d t	o TP5d.	polls.					
Suggested chang	dRemedy le TBD to 40 dB									
Proposed	Response	Response Status W								
PROP The co	POSED REJECT.	es an open TBD, but the ILdd	limit in this su	bclause is expected to						
be a fr inadeo	requency-depend quate.	ent mask. The suggested rer	neay is a singl	e number, which is						

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: Comment ID

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Melliz, Richard Samtec Comment Type TR Comment Status D Serie SuggestedRemedy In table 174 change TBD's as follows Tr 0.005 rs SuggestedRemedy In table 174 change TBD's as follows Tr 0.005 rs Response Status W Perposed Response Status W PROPOSED ACCEPT IN PRINCIPLE Response Status W PEROPOSED ACCEPT IN PRINCIPLE Response Status W Resolve using the response to comment #28. Linear fit For CRG discussion Comment Type T Resolve using the response to comment #28. C1 T79 SC 179.9.4.1.1 P312 L2 # def The board rate thas doubled from 3ck. If loading is escaled wow with the board rate, the physical setting time would remain untainged. Adjust N pand Dp accordinger. Comment Type T	C/ 178	SC 178.10.3	P 288	L 29	# 43	C/ 179	SC 179.9.4.1.	1 P 312	L 42	# 45
Comment Type TR Comment Status D TX SNDR/SCMR scale ERL parameter form 0.3ck SNDR reduces with loss and used that way for equation 178/u18. SNDR reduces with loss and used that way for equation 178/u18. Suggested/Remedy In table 178-14 change TBD's as follows Tr 0.005 ns N 7000 UI Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response Status V Resolve using the response to comment #28. Imeet as used outlon, but consensus is not downous. The following presentation was reviewed by the task force at the May interim meeting: https://www.incedbCo.2005.04CCEPT IN PRINCIPLE. Resolve using the response to comment #28. Imeet as doubled from Sch. If loading is scaled down with the baud rate, the physical setting time would remain unchanged. Adjust Np and Dp accordingly. Comment Status D Linear fit Suggested/Remedy Change Np from 200 to 400. change Dp from 4 to 8. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #300. Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response Status W Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response Status W Resolve using the response to #300. Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response Status W Proposed Response <	Mellitz, Rid	chard	Samtec			Mellitz, Ric	hard	Samtec		
scale ERL parameter form 0.3ck SuggestadRainedy in table 1741 d change TBD's as follows Tr (0.06 ns Tr	Comment	Type TR	Comment Status D		ERL	Comment	Type TR	Comment Status D		TX SNDR/SCMR
SuggestedRemody In table 1078-11 change TBD's as follows SuggestedRemody In table 1078-11 change TBD's as follows Proposed Response Response Status W Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response Status W Resolve using the response to comment 128. If 144 Insert a subsection e) Loserful Loserful Cl 179 SC 173.9.4.1.1 P312 L 2 If 144 Meliza, Richard Samtec The comment and presentation highights an apparently valid issue, and the presentation suggest a reasonable collution, Juck comensus is not coloronestus. Resolve using the response to appose 3 and the presentation suggest a reasonable collution. Linear fit scale N from .304, The add to be accordingly. SuggestedRemody Comment Type TR Comme	scale	ERL parameter fo	rm 0.3ck			SNDR	reduces with loss	s and used that way for e	quation 178Aû18.	
h table 178-14 change TBD's as follows T 0.005 ns *x 0.618 N 7030 UI Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE: Resolve using the response to comment #28. CI 179 SC 179.9.4.1. P312 L2 # [4] CI 179 SC 179.9.4.1. P312 L2 # [4] The following Presentation was reviewed by the task force at the May interim meeting: https://www.ieee802.org/3/g/public/24_05/melliz_3d_102_2406_comment_sectuation suggest response to comment #28. CI 179 SC 179.9.4.1. P312 L2 # [4] The baud rate has doubled from 30k, If loading is scaled down with the baud rate, the physical setting time would remain unchanged. Adjust Np and Dp accordingly. SuggestedRemedy Change Np from 200 to 400. change Dp from 4 to 8. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #30. CI 179 SC 179.9.4.1.2 P312 L53 # [4] Melliz, Richard Samtec Comment Type T Comment Status D Linear fit scale NV from 32k. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #30. CI 179 SC 179.9.4.1.2 P312 L53 # [4] Melliz, Richard Samtec Comment Type T Comment Status D Linear fit scale NV from 32k SuggestedRemedy Change Nv to 400 Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #30. CI 179 SC 179.9.4.6 P315 L17 # [4] Melliz, Richard Samtec Comment Type T R Comment Status D TX SNDR/SCMR SNDR reduces with loss and used that way for equation 178A018. SuggestedRemedy change Nv to 400 Proposed Response Status W PROPOSED ACCEPT IN PRINCIPLE. SNDR reduces with loss and used that way for equation 178A018. SuggestedRemedy change Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #30. Proposed Response Trype TR Comment Metades D TX SNDR/SCMR SNDR reduces with loss and used that way for equation 178A018. SUGGEstedRemedy change Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to accountent method described in 120D.3.1.6 plus a power	Suggested	Remedy				Suggested	Remedy			
* 0.0 GHz 7x.0.618 Rsponse Status W PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE. The following presentation was reviewed by the task force at the May interim meeting: https://www.inteedbo.org/of/stafublic/24.05/ptill/24.05/pti	in tabl Tr 0.0	e 178-14 change 05 ns	TBD's as follows			Insert a presen	a subsection e) tation	Loss correction factor for	fitted pulse measured	urements. See
N 7000 UI Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #28. C1 179 SC 179.9.4.1.1 Pail Richard Samtec Comment Type TR Comment Type TR Comment Type T Resolve using the response to #300. Linear fit SuggestedRemedy Carage Np from 200 to 400. change Dp from 4 to 8. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #30. C1 179 SC 179.9.4.1.2 P312 L53 Melliz, Richard Samtec Comment Type T Comment Type SuggestedRemedy Change Np from 200 to 400. change Dp from 4 to 8. SuggestedRemedy Change Np from 200 to 400. change Dp from 4 to 8. SuggestedRemedy PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #30. C1 179 SC 179.9.4.5 P315 L17	■x00 2x06	GHZ S18				Proposed I	Response	Response Status W		
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PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #28. CI 179 SC 179.9.4.1. P312 L2 # [4] CI 170 SC 179.9.4.1.1 P312 L2 # [4] Comment Type TR Comment Status D Comment Type TR Comment Status D Comment Type TR Comment Status D Linear fit The baud rate has doubled from .3ck. If loading is scaled down with the baud rate, the physical setting time would remain unchanged. Adjust Np and Dp accordingly. Suggested/Remedy Comment Yape Change Np from 20 to 400. change Dp from 4 to 8. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to #30.	Proposed	Response	Response Status W			The fol https://	lowing presentat	ion was reviewed by the t p/3/di/public/24_05/mellitz	ask force at the M	ay interim meeting:
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The transmitter SNDR is defined by the measurement method described in 120D.3.1.6 to The transmitter SNDR is defined by the measurement method described in 120D.3.1.6 plus a power loss factor defined in xxxx <i>Proposed Response</i> Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #45						change	9			
The transmitter SNDR is defined by the measurement method described in 120D.3.1.6 plus a power loss factor defined in xxxx Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #45						The tra	insmitter SNDR i	s defined by the measure	ement method dese	cribed in 120D.3.1.6
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #45						The tra	insmitter SNDR i er loss factor defi	s defined by the measure ned in xxxx	ement method dese	cribed in 120D.3.1.6 plus
PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #45						Proposed I	Response	Response Status W		
						PROP Resolv	OSED ACCEPT	IN PRINCIPLE.		

C/ 179	SC 179.9.4.8	P315	L 41	# 48	C/ 179	SC 179.11.3	P 327	L 41	# 51
Mellitz, Ric	hard	Samtec			Mellitz, Rich	ard	Samtec		
Comment 7	Type TR	Comment Status D		ERL	Comment Ty	ype TR	Comment Status D		ERL
scale E	RL parameter fo	rm 0.3ck			The data ERL par	a rate was dou rameters accor	bled and cable length was dingly	scale by a factor of	of 2 from .3ck. Adjust
Suggested	Remedy				Suggested	emedv			
in table Tr 0.00 ■x 0 G ?x 0.6	e 163-7 change T 95 ns Hz 18	BD's as follows			in table Tr 0.005	179-14 change 5 ns 1z	e TBD's as follows		
N 1600) UI				?x 0.61	8			
Proposed I	Response	Response Status W			N 4500	UI	-		
PROP	OSED ACCEPT I	N PRINCIPLE.			Proposed R	esponse	Response Status W		
It is as	sumed that, base	d on the subclause/page/li	ne, the suggested	remedy is asking to	PROPO Resolve	USED ACCEPT using the resp	IN PRINCIPLE.		
change	e Table 179-9.				C/ 179	SC 179.11.7	P 331	L 43	# 52
Resolv	e using the respo	onse to comment #28.			Mellitz, Rich	ard	Samtec		
C/ 179	SC 179.9.5.3	P 319	L 22	# 49	Comment T	ype TR	Comment Status D		R_0
Mellitz, Ric	hard	Samtec			(Table 1 paramet	79û15): Comp ter can utilize a	utation can be independen iny R0. For computation p	nt of R0. Add a not ourposes s-parame	e to explain. S ters are converted to 50
The C(Type IR OM values need t	o he set to make progress	Lintil a more com	nrehensive proposal is	ohms w	hich is the nativ	ve impedance for the most	t common test equ	ipment.
presen	ted use what is i	n 0.3ck and many other pri	or standards		SuggestedR	Remedy	50 1 1 1 1		
Suggested	Remedy				be conv	R0 for TBD to erted into 50 ol	50 ohms and add a note in hm reference before comp	ndicating the impo	rted s-parameter are to
set CO	M to 3 dB				Proposed R	esponse	Response Status W		
Proposed P PROP	Response OSED ACCEPT I	Response Status W N PRINCIPLE.			PROPO Resolve	SED ACCEPT	IN PRINCIPLE.		
Resolv	e using the respo	onse to comment #250.			C/ 179	SC 179.11.7	P 332	L12	# 53
C/ 179	SC 179.11	P 326	L 21	# 50	Mellitz, Rich	ard	Samtec		
Mellitz, Ric	hard	Samtec			Comment Ty	ype TR	Comment Status D		COM f_r
Comment	Type TR	Comment Status D		СОМ	T(able 1	79û16) Preser	ntations so far have used fr	r of 0.5, 0.55, 0.58	and 0.6. 67 Ghz limits
The CO presen	DM values need t ted use what is ir	o be set to make progress. 1 0.3ck and many other price	Until a more com or standards	prehensive proposal is	on test e required	equipment and I for good meas	cabling/connector modal p surements at 67 GHz. Set	physics suggest at fr to 0.6 or lower to	least a 9 dB loss is achieve this.
Suggested	Remedy				SuggestedR	Remedy			
set CO	M to 3 dB				change	TBD to 0.6.			
Proposed I	Response	Response Status W			Proposed R	esponse	Response Status W		
PROP Resolv	OSED ACCEPT I e using the respo	N PRINCIPLE. onse to comment #250.			PROPO Resolve	SED ACCEPT using the resp	IN PRINCIPLE. oonse to comment #36.		

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: Comment ID

Comment ID 53

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C/ 179	SC 179.11.7	P333	L11	# 54	C/ 179A	SC 17	79A.2	P 662	L6710	# 56
Mellitz, Ric	hard	Samtec			Mellitz, Ricl	nard		Samtec		
Comment	Type TR	Comment Status D	٨	Iultiple COM parameters	Comment 7	уре	TR	Comment Status D		93B (bucket)
(table	179-16)Selectin	g values the "Receiver discre	ete-time equalize	r parameters" are	Refenc	e to a dia	agram w	ith TP0d and TP5d is require	ed	
critical values	for making prog	ress. Many presentations a h	have shown quite	e a variation. Select	Suggested	Remedy				
Suggested	Remedy		W Ballot to dotol		Add TF	Od and	TP5d to	figure 93B-1 and table 93B-1		
Juse str	aw polls from the	e following			Proposed F	Response	е	Response Status W		
Dw 4,	6, or 8	e ronowing			PROPO	OSED A	ССЕРТІ	IN PRINCIPLE.		
Nfix 10), 15, 24				Annex	93B is in	relevant	for CR.		
Ng 1, 2 Nf 3, 4	2, 3				Also, A clauses	nnex 93 163 an	B IS NOT d 137.	referenced anywhere in the d	iratt, nor in previo	bus backplane PIVID
Nmax	40 60 120				A diagr	am with	the new	test points exists in Figure 1	79–2 and can be	referenced instead.
Wmax Wmin((j)=1 -1 0 1)=0 otherv	vise -0.5			Add a i	eference	e in 1794	A.2 to Figure 179-2. Implement	nt with editorial li	cense.
bmax($1) = 0.5 \ 0.75 \ 0 \ 8$	5			C/ 179A	SC 17	79A.7	P668	L12	# 57
bmin(1)= 0 -0,5 -0.75	-0 85			Mellitz, Ricl	nard		Samtec		
Proposed I	Response	Response Status W			Comment 1	ype	TR	Comment Status D		СОМ
PROP Resolv	OSED REJECT. ve using the resp	onse to comment #42.			The CC presen	OM value ted use v	es need t what is i	to be set to make progress. L in 0.3ck and many other prior	Intil a more com	prehensive proposal is
C/ 93B	SC 93B	P 520	L6710	# 55	Suggested	Remedy				
Mellitz, Ric	hard	Samtec			set CO	M to 3 d	В			
Comment	Type TR	Comment Status D		93B (bucket)	Proposed F	Response	е	Response Status W		
We ha this an slide 6	ve been talking a d reference to se and 7.	about "die-to-die" loss for wh ection Annex 93B. One refere	ile now. Add at to ence to this is in	est point reference to diminico_3dj_01_2307	PROP(Resolv	DSED AG	CCEPT I the respo	IN PRINCIPLE. onse to comment #250.		
Suggested	Remedy									
Add TI	P0d and TP5d to	figure 93B-1 and table 93B-	1							
Proposed I	Response	Response Status W								
PROP Annex 163 an There Figure	OSED REJECT. 93B is not referend 137. is no benefit in u 178-2 is used in	enced anywhere in the draft, pdating an annex that is not this project instead.	nor in previous b referenced.	ackplane PMD clauses						

C/ 179B	SC 179B.4.2	P673	L13	# 58	C/ 178	SC 178.9.2	P 275	L 48	# 60
Mellitz, Rich	nard	Samtec			Mellitz, Ri	chard	Samtec		
Comment 7	ype TR	Comment Status D		ER	L Comment	Type TR	Comment Status D		B-T filter BW
scale E	RL parameter fo	rm 0.3ck			The B	essel-Thomson nations.	filter should track fr. Betwe	en 0.5 fb and 0.6	fb have been shown in
Suggested in table Tr 0.00	Remedy 178-14 change ⁻ 5 ns	TBD's as follows			Suggestee chang	dRemedy le TBD to 67GH	z		
■x 0 GI ?x 0.6 ² N 1600 Tfx 0 tw 1 DER0 2	Hz 18 UI 2e-5				Proposed PROF The c conse There	Response POSED ACCEP comment addres nsus is not obvi are several cor	Response Status W T IN PRINCIPLE. ses an open TBD and the su jous. mments on this topic. The ed	uggested remedy i litorial team prepa	is reasonable, but ired a proposal in the
Proposed F	Response	Response Status W			comm For C	RG discussion.	lide deck URL/ran_3dj_01_2	2406.	
It is ass change	sumed that, base Table 179B-1.	ed on the subclause/page/lir	e, the suggest	ed remedy is asking to	<i>Cl</i> 176A Dudek, Mi	SC 176A.4 ke	P 555 Marvell	L17	# 61
Resolve	e using the respo	onse to comment #26.			_ Comment	Туре Т	Comment Status D		ILT Frame
C/ 179B	SC 179B.4.26	P676	L 41	# 59	It wou	ld be better to h	ave the existing patterns the	e same as for prev	vious clause 136.
Mellitz, Rich	nard	Samtec			Suggestee	dRemedy			
Comment 7 At least Suggested	<i>ype</i> TR the symbol rate Remedy	Comment Status D is known		HCB and MCB (bucke	t) In Tab same runnir PRBS	ble 176A-3 use t as they were in g PRBS13, 011 31	he 1 in bit 12 for the new pa clause 136 i.e. change 010 to PAM4 PRB13 with preco	tterns keeping the to PAM4 PRBS13 oding and 110 to P	e bits 11 and 10 the 3, 100 to PAM4 free PAM4 free-running
set fb to	o 106.25 GBd				Proposed	Response	Response Status W		
Proposed F PROPC	Response DSED ACCEPT.	Response Status W			PROF	POSED ACCEP	T IN PRINCIPLE.		
					C/ 176D	SC 176D.2	P 596	L19	# 62
					Dudek, Mi	ke	Marvell		
					Comment	Туре Т	Comment Status D		(bucket)
					The n the co corres	ote "The electric presponding PM ponding PMD's	cal specifications of C2C cor ID's isn't helpful. What does ?	nponents are not s "not equivalent" i	equivalent to those of mean?. Which
					Suggestee	dRemedy			
					Delete	e the note.			
					Proposed	Response	Response Status W		
					PROF Resol	POSED ACCEP	T IN PRINCIPLE. ponse to comment #64.		

C/ 176D	SC 17	76D.4.2	P607	L31	# 63	C/ 176E	SC 176E.5.2	P634	L 8	# 65
Dudek, Mi	ike		Marvell			Dudek, Mil	e	Marvell		
Comment	Туре	т	Comment Status D		Channel ILdd (bu	cket) Comment	Туре Т	Comment Status D		C2M output
An ins should	sertion los dn't specif	s of only 2 y the loss	20dB is less than desirable at this time	and the equati	on is TBD. We	There	shouldn't be any	YTx parameters in a specific	ation for a refere	ence receiver.
Sugaested	dRemedv					Suggested	Remeay	: :		a su alisan a a afficienta
Chang	ge 20dB to	o TBD.				transm Delete	itter differential	peak output voltage, transitio	on time, transmitter	itter signal to noise ratio,
Proposed	Response	e	Response Status W				-	5		
PROP The va Slide explici Impler	POSED A0 alue 20 dE 18 of https itly that the ment sugg	CCEPT IN B was not s://www.ie e intercon gested rer	I PRINCIPLE. adopted, and its appearance ee802.org/3/dj/public/24_0 unect length is TBD. nedy with editorial license.	ce here is unin 1/ran_3dj_01a	tended. _2401.pdf states	PROP Comm receive table r	OSED ACCEPT ents #186 throu er specifications hay be replaced G discussion af	T IN PRINCIPLE. Igh #189 suggest using the C based on resolution of thes by a COM parameters table ter resolution of #186-#189	CR methodology e comments, th	r for transmitter and e reference receiver
C/ 176E	SC 17	76E.2	P615	L 20	# 64					
Dudek, Mi	ike		Marvell							
Comment	Type	т	Comment Status D		(bu	cket)				
The ne the co define corres the sa	ote "The e prrespondi ed are diffe sponding F ame as Cla	electrical s ng PMD's erent isn't PMD's? ause 179.	specifications of C2C comp . Specifically the test point helpful. What does "not ec Although the module test po	onents are not s at which moo juivalent" mear pints are differe	equivalent to those o dule compliance is n?. Which ent those for the host	are				
Suggested	dRemedy									
Delete	e the note									
Proposed	Response	е	Response Status W							
PROP The cc C2M cc The ne essen point cc The dc differe Howev In 176 Clause	POSED AC orrespond componen ote appea atial difference difference escription ences is us ver, the te SE.2, chan e 179".	CCEPT IN ling PMDs at is function ars after the ence betwo for the m of the C2 seful for re- erm "corre- inge "the co	I PRINCIPLE. s are noted in the third para onally equivalent to a PMD. le paragraph about the elec- een a C2M component and odule. M component's similarity to eaders. sponding PMDs" can be cla prresponding PMDs" to "the	graph of 176E. trical characte a PMD. It is sp a PMD is new arified. e corresponding	2, which states that a ristics, and highlights pecific about the test v, and noting the g PMDs defined in	the				

Cl 120	SC 120.1.1a	P114	L 30	# 66	C/ 120F	SC 120F.1	P 522	L 7	# 67
Dudek, Mik	е	Marvell			Dudek, Mik	æ	Marvell		
Comment T	Гуре Т	Comment Status D		PMA introduction (bucket)	Comment 7	Туре Т	Comment Status D		Precoding (bucket)
Table 1	16-1 and Table 1	16-2 include the 200Gb/s p	er lane PMD	s which require the symbol	Clause	176 is for the sy	ymbol mux PMA it should n	ot be used for An	nex 120F
muxing	PMA. This bit m	uxing PMA would only be u	sed for lower	r speed AUIs. Saying it	Suggested	Remedy			
Suggested	Bomody		•		Remov	ve the reference	to 176.9.1.2		
Change	to "The 200GBA	SE-R PMA(s) can support	any of the tw	o or four lane 200Gb/s	Proposed F	Response	Response Status W		
PMDs i any of t	n Table116û1 an	d the 400GBASE-R PMA(s) 400Gb/s PMDs in Table 11) can support 16û2". As	a less preferred apporach	PROP Annex	OSED REJECT. 120F is amende	d to include 1.6TAUI-16.	hhaa a 16 lana i	ntorface that can use
could b 400Gb/	e added saying " 's in table 115-2 r	The single lane 200Gb/s PN equire the symbol-muxing P	MDs in Table MAs describ	116-1 and the two lane bed in clause 176."	1.6TAL 176.9.1	JI-16 as a physic 1.2 describes the	cal interface. e precoding function for all s	symbol-muxing Pl	MAs, which can also be
Proposed F	Response	Response Status W			used in	the aforemention	oned PMA.		
PROPO	DSED ACCEPT II	N PRINCIPLE.			C/ 169	SC 169.1.4	P118	L 22	# 68
Indeed	, the PMA defined f 100 Gb/s or less	I in Clause 120 can support	only PMDs	with per-lane signaling	Dudek, Mik	æ	Marvell		
The ref	erenced paragrap	 h should therefore be corre	ected.		Comment T	Туре Т	Comment Status D		(bucket)
In Clau Remov "PHY ty	se 116 e 200GBASE-KR ype and clause co	1/CR1 from Table 116-3 an prrelation (200GBASE copp	d change tak er with 2 or 4	ble title to: 4 lanes)"	There a or 8000 800GB	are errors in Tab GBASE-FR4-500 ASE-FR4, or 80	le 169-3. 800GBASE-DR8-), 800GBASE-DR8-2 PMD 0GBASE-LR4,	PMD is not needed for	ed for 800GBASE-DR4 800GBASE-DR4-2,
"PHY tv	e 400GBASE-KR	prrelation (200GBASE copp	er with 4 lane	able title to: es)	Suggested	Remedy			
Create	new Table 116-3	c with title "PHY type and cl	ause correla	tion (200GBASE copper	Delete	the offending "M	1"s		
with 1 l	anes)" 200GBASE-KR1	/CR1 in this table			Proposed F	Response	Response Status W		
Create with 2 I	new Table 116-3 anes)"	d with title "PHY type and cl	lause correla	tion (400GBASE copper	PROPO	OSED ACCEPT.			
Include	400GBASE-KR2	CR2 in this table.			C/ 169	SC 169.1.4	P 118	L 22	# 69
Change	e the referenced s	sentence to:			Dudek, Mik	æ	Marvell		
"The 20	00GBASE-R PMA	(s) can support any of the 2	200Gb/s PMI	Ds in Table 116–3 and	Comment T	Туре Т	Comment Status D		(bucket)
1 able 1 116–3a Implem	and Table 116-5 ent with editorial	JGBASE-R PMA(s) can sup ." license. 201	oport any of t	ne 400GD/S PIVIDS IN TAble	There a or 8000 800GB	are errors in Tab GBASE-FR4-500 ASE-FR4, or 80	le 169-3. 800GBASE-DR8-), 800GBASE-DR8-2 PMD 0GBASE-LR4,	PMD is not neede is not needed for	ed for 800GBASE-DR4 * 800GBASE-DR4-2,
[Lonor		20]			Suggested	Remedy			
					Delete	the offending "M	1"s		
					Proposed F	Response	Response Status W		
					PROP	OSED ACCEPT.			

-									
C/ 179	SC 179.11.7	P332	L12	# 70	Cl 178	SC 178.10.1	P 286	L12	# 71
Lusted, K	lent	Intel Corpora	tion		Lusted, Ke	ent	Intel Corpor	ation	
Commen	t Type TR	Comment Status D		Multiple COM parameters	Comment	Type TR	Comment Status D		Multiple COM parameters
The (and 1	COM parameter v I.6TBASE-CR8 P	alues for the 200GBASE-CR MDs are TBDs	1, 400GBASE	E-CR2, 800GBASE-CR4	The C and 1.	OM parameter v 6TBASE-KR8 P	alues for the 200GBASE-KI MDs are TBDs	R1, 400GBASE	-KR2, 800GBASE-KR4
Suggeste	edRemedy				Suggested	Remedy			
In tat https	ble 179-16, Use th ://www.ieee802.or	e COM parameter values fro g/3/dj/public/24_01/healey_3	m 8dj_01_2401.j	odf slide 18, which are:	In tabl https:/	e 178-13, use th /www.ieee802.o	ne COM parameter values fr rg/3/dj/public/24_01/healey_	om _3dj_01_2401.p	odf slide 18, which are:
f_r = c(-3) c(-2) c(-1) c(0) = c(1) = A_r = A_r = A_r = A_r = eta_(SNR sigm; A_DI R_LM d_w = Nfix = N_f = N_f = N_f = N_f = D_m	$\begin{array}{l} 0.58 \\ = 0 \\ = 0 \\ = 0 \\ = 1 \\ = 0 \\ = 0.413 \\ = 0.413 \\ = 0.45 \\ 0 = 6e-9 \\ _{TX} = 33 \\ a_{RJ} = 0.01 \\ D = 0.02 \\ A = 0.95 \\ = 5 \\ = 10 \\ = 0 \\ = 0 \\ ax = 0 \\ ax = 0 \\ ax (1) = 0.85 \\ n(1) = 0 \end{array}$				f_r = C c(-3) = c(-2) = c(-1) = c(0) = c(1) = A_v = A_re = A_re = eta_0 SNR_ sigma A_DD R_LM d_w = Nfix = N_fr = N_ma b_ma: b_min	$\begin{array}{l} 0.58 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0.413 \\ 0.41$			
addit	ionally, set MLSE	= 0 (not enabled)			additio	onally, set MLSE	= 0 (not enabled)		
Proposed	l Response	Response Status W			Proposed	Response	Response Status W		
PRO The c cons This comr The e URL/ For C	POSED ACCEPT comment address ensus is not obvio comment propose nents address sub editorial team prep ran_3dj_01_2406 CRG discussion.	IN PRINCIPLE. es open TBDs and the sugge us. es a large set of COM parame osets of these parameters. pared a proposal in the comm	ested remedy eter values to nent resolutio	may be reasonable, but gether, while other n slide deck	PROF The conse This c comm The ea URL/r For Cl	OSED ACCEPT omment address nsus is not obvio omment propose ents address su ditorial team pre an_3dj_01_2406 RG discussion.	TIN PRINCIPLE. Ses open TBDs and the suggous. es a large set of COM paran bsets of these parameters. pared a proposal in the com	gested remedy neter values tog ment resolutior	may be reasonable, but gether, while other n slide deck

C/ 176E	SC	176E.4.2	P605	L 50	# 72	For Cl	RG discussion				
Lusted, Ke	nt		Intel Corporat	ion		C/ 176E	SC 176E.4	l.1	P 632	L 6	# 73
Comment	Туре	TR C	Comment Status D		Multiple COM parameters	Lusted, Ke	ent		Intel Corpora	tion	
The Contract The Contract The Contract The Contract The Contract Termination of termina	OM par nt from	ameter values the AUI C2C	for the AUI C2M electric	cal interfaces	s in Annex 176E are	Comment The II	<i>Type</i> TR dd for AUI C	<i>Comment</i> 2M channel is a	Status D TBD		Channel ILdd
Suaaestea	IRemea	lv				0			100		
Create	a new	, COM parame	ter values table in 176F.	4.2 and use	the COM parameter values	Suggested	Remedy				
from h	ttps://w	ww.ieee802.or	rg/3/dj/public/24_03/lit_3	dj_01a_2403	3.pdf slide 6 and 11, which	Set IL	_dd = 33 per h	ttps://www.ieee	802.org/3/dj/pul	blic/24_01/lusted	d_3dj_03_2401.pdf
are:						Proposed	Response	Response	Status W		
f_r = 0 c(-3) = c(-2) = c(-1) = c(1) = c(1) = A_v = A_re = eta_0 SNR	.58 :0 min, :-0.4 m 0.54 0.413 :0.413 =0.45 = 1.25e TX = 33	0.12 max in, 0 max -8				PROF The fc meetin https:/ The pr sugge The conse The ec ran_3c For Cl	OSED REJEC llowing preser ng: /www.ieee802 resentation do sted in the cor omment addre nsus is not ob ditorial team p dj_01_2406c RG discussion	CT. htation has been .org/3/dj/public/2 es not include a nment. sses an open TI vious. repared a detaile omment_resolut	reviewed by th 24_05/lusted_3 proposal for th BD and the sug ed response in tion_electrical.	the task force in the task force in the dj_03_2405.pdf e ILdd of the AL gested remedy the comment re	he May 2024 interim II C2M channel as is reasonable, but solution slide deck
sigma	_RJ = 0	.01				C/ 1	SC 1.5		P51	L11	# 74
A_DD	= 0.02										
R_LM	= 0.95					Lusted, Ke	ent	_	Intel Corpora	tion	
u_w = Nfix =	10					Comment	Type TR	Comment	Status D		(bucket)
N q =	1					The al	obreviation "M	LSD" is used nu	merous times i	n Annex 178A to	o reference Maximum
$N_f = 4$	4					Likelih	ood Sequence	e Detection and	should be adde	ed to the abbrevi	ations list.
N_max	x = 60					Suggested	lRemedy				
w_max	x(1) = 1					Add M	LSD Maxim	um Likelihood S	equence Detec	tion	
w_min	(1) = 0					Durant			.		
b_max	x(1) = 0.	75				Proposed	Response	Response	Status W		
D_IIIII	(1) = 0					PROP	OSED ACCEI		.E.		
additio	nally, s	et MLSE = 0 (not enabled)			Impler	nent suggeste	ed remedy with e	ditorial license.		
Proposed	Respon	se Re	esponse Status W								
PROP [Page/ The cc conser Note til param This cc comm The ec URL/ra	OSED Line sh omment nsus is hat althe eters fo ommen ents ad ditorial t an_3dj_	ACCEPT IN P ould be 632/4 raises a valid not obvious. bugh C2M has r receiver and t proposes a la dress subsets eam prepared 01_2406.	RINCIPLE. 8]] concern and the sugges no channel that needs transmitter are required arge set of COM parame of these parameters. a proposal in the comm	sted remedy to be qualifie for input tes ster values to tent resolutio	may be reasonable, but ed with COM, COM t calibration. gether, while other n slide deck						

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: Comment ID

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C/ 30	SC 30.3.2.1.3	P53	L 21	# 75	C/ 169	SC 169.3.2	P 122	L35	# 78	
Huber, Th	omas	Nokia			Huber, The	omas	Nokia			
Comment	Туре Т	Comment Status D		(bucket)	Comment	Туре Т	Comment Status D		ER1 PHY (bucket)	
There	should also be an	entry for 800GBASE-ER1 s	since it is a diffe	rent PCS	A simi	lar diagram is ne	eded for 800GBASE-ER1 and	d 800GBASE-E	R1-20 PHYs.	
Suggeste	dRemedy				Suggested	Remedy				
Add a entry	new editing instru for 800GBASE-R).	ction to insert 800GBASE-E	R1 after 400GB	ASE-R (or before the	Use fig 800GE	gure 169-2b as a BASE-LR1 Inner	basis. Replace 800GBASE- FEC with 800GBASE-ER1 PM	R PCS with 800 MA, and 800GE	OGBASE-ER1 PCS, ASE-R PMD with	
Proposed	Response	Response Status W			ouuge		(and of course renams all the	service interna	ces to align with that).	
PROF	POSED ACCEPT.				Proposed	Response	Response Status W			
C/ 169	SC 169.1.3	P116	L 43	# 76	A simi which	lar diagram for 8 specifies both of	00GBASE-ER1 and 800GBAS these PMD types. No other P	SE-ER1-20 is p MD is of this fo	rovided in Clause 185 orm so it is not	
Huber, Th	omas	Nokia			neces	sary to show a co	ommon diagram in Clause 16	9.		
Comment	Туре Т	Comment Status D		ER1 PHY (bucket)	C/ 171	SC 171.8	P144	L23	# 79	
ER1 e	escriptions of 8000 encoding rather that	an 800GBASE-R encoding s	ASE-ER1 should ince the ER1[-2	D refer to 800GBASE-	Huber, The	omas	Nokia			
the 80	00GBASE-R PCS				Comment	Туре Т	Comment Status D		(bucket)	
Suggeste	dRemedy				In tabl	es 171-3 and 17	1-5, it is not clear what has ch	anged in the ro	ws that are shown.	
Chan	ge 800GBASE-R to	o 800GBASE-ER1 in the las	t two rows of the	e table.	Suggested	Remedy				
Proposed	Response	Response Status W			Indicat	te the changes w	vith revision marks			
PROF Resol	POSED ACCEPT I ve using the respo	N PRINCIPLE. nse to comment #315.			Proposed Response Response Status W					
C/ 169	SC 169.1.4	P119	L 20	# 77	FNOF	USED REJECT.				
Huber, Th	omas	Nokia			Althou that ch	igh it may be han banged in tables	d to see, the draft is following	802.3 editing g was added be	uidelines. The thing	
Comment	Туре Т	Comment Status D		(bucket)	"FEC_	_symbol_error_co	ounter" and "<0:31>" in the sta	atus variable co	lumn. Being added text,	
The 8 optior	00GXS can contain al for the ER1 and	n AUIs - so the C2C and C2 I ER1-20 PHYs, as should th	M clauses shoune associated P	ld be marked as MAs.	the "_' misse	' is underlined in d in the 802.3df o	keeping with 802.3 editing co draft, including during the final	nvention. The r	nissing underscore was ⁄iew.	
Suggeste	dRemedy									
Indica SM-P PHYs	tge that 800GBAS MA, 800GAUI-4 C2	E-R BM-PMA, 800GAUI-8 (2C, and 800GAUI-4 C2M an	C2C, 800GAUI-8 e optional for bo	C2M, 800GBASE-R th ER1 and ER1-20						
Proposed	Response	Response Status W								
PROF The ta AUIs	POSED REJECT. able references the and PMAs.	e optional 800GMII Extender	which specifies	the optional/condition						

C/ 176	SC 176.6.1	P 213	L 5	# 80	C/ 177	SC 177.1.4	P 250	L 25	# 83
Huber, Tho	omas	Nokia			Huber, The	omas	Nokia		
Comment	Туре Т	Comment Status D		Reorg	Comment	Туре Т	Comment Status D		PAM4 decoding (bucket)
The 80 than th symbo essent well if	00G 32:4 PMA, 4 he numbers of lar l interleaving. A ially the same. I the number of lar	00G 16:2 PMA and the 200G nes. The 1.6T 16:8 is differen I of the PMAs with the same t would simplify maintenance nes were parameterized as m	8:1 PMA are b t since it has 40 number of lane and likely read and n	asically the same, other b deskew and 4- s on both sides are er understanding as	Indica decod the PA Suggested	ting PAM4 deco ing in any case, AM4 symbols. dRemedy	ding as optional seems a bit m so the FEC must do some sor	isleading. Th t of decoding	e P{MD isn't doing soft- to recover the bits from
Suggested	Remedy	·			Gener are m	alize the label in ultiple options fo	the box to "Decoding", and ex	plain in the te	ext in 177.5.x that there
Reorga 1.6T m figures rates a	anize 176.5 throu n:n PMAs, and or with the parame and the values of	igh 176.8 into 3 clauses: one ne for 200/400/800/1.6T m:m eters m and n for the number m an n (e.g, with columns Pl	for 200/400/80 PMAs, and use of lanes. Includ IY, m, and n, a	0 m:n PMAs, one for a single set of text and e a table showing PHY nd rows 200GBASE-R,	Proposed PROP Remo	Response POSED ACCEPT ve footnote in Fi	Response Status W IN PRINCIPLE. gure 177-2.		
8, 1; 4	DUGBASE-R, 16	, 2; etc.).			C/ 177	SC 177.4.6	P 254	L 44	# 84
Proposed	Response	Response Status W			Huber, Th	omas	Nokia		
PROPOSED ACCEPT IN PRINCIPLE. Reorganize the Clause to reduce repetition of text and figures, and make the state diagrams more generic across the SM-PMAs. Implement with editorial license.					<i>Comment</i> The la things	<i>Type</i> T st parargaph on in different orde	Comment Status D p254 is not necessary - impler rs, as long as the end result m	mentations ar	pad insertion (bucket) re always free to do becified behavior.
C/ 177	SC 177.1.3	P 249	L10	# 81	Suggested	lRemedy			
Huber. The	omas	Nokia			Delete	e the paragraph.			
Comment The se	<i>Type</i> T econd bullet could	Comment Status D d be written more clearly		(bucket)	Proposed PROP	Response POSED ACCEPT	Response Status W IN PRINCIPLE.		
Suggested	Remedy					field the sugges	remedy with contraincense.		
Revise Inner F	e to read "Distribu EC flows	uting (collecting) the convoluti	onal interleave	d data to (from) eight	C/ 177 Huber, Th	SC 177.5 omas	Р 256 Nokia	L 24	# 85
Proposed PROP	Response OSED ACCEPT.	Response Status W			Comment Accor	<i>Type</i> T ding to figure 17	Comment Status D 7-2, the first process the receiv	ver performs i	Precoding s PAM4 decoding (or soft-
C/ 177	SC 177.1.3	P249	L 14	# 82	decisi	on decoding).			
Huber The	mas	Nokia			Suggested	Remedy			
Comment	Т <i>vp</i> е т	Comment Status D		(bucket)	Add a	subclause for tr	e decoding process.		
The fif	th bullet could be	e written more clearly		(Sucher)	Proposed	Response	Response Status W		
Suggested	Remedy	,			Impler	OSED ACCEPT	IN PRINCIPLE. t remedv with editorial license.		
Revise	e to read "8:1 inte flow"	erleaving (1:8 deinterleaving)	he eight Inner	FEC flows to (from) a					
Proposed PROP	Response OSED ACCEPT.	Response Status W							

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Comment ID

<u></u>	00 / - /	0.050	1	"	01.101	~~~		5		" [
C/ 177	SC 177.5.1	P256	L 25	# 86	C/ 184	SC	184.2	P 444	L 5	# 88	
Huber, Th	iomas	Nokia			Huber, The	omas		Nokia			
Comment	Туре Т	Comment Status D		Inner FEC Sync (bucket)	Comment	Туре	т	Comment Status D		Functional (Bucket)	
This s goal o revers	subclause is confi of the process is t se the processes	using and seems to be presc o find codeword boundaries a of the tx, this process would	ribing a speci and remove th (in a logical s	fic implementation. The ne pad. If we simply ense) be performed on the	The se permu after th	econd Itation hey we	sentence of function) s are reorder	of the paragraph (dsicussing t ems to imply that the 32 lane ed and deskewed, but the tex	he distributior s were interlea t doesn't actu	n to 32 lanes by the aved into a serial stream ally say that is done.	
interle	eaved stream, and	d would search for the (intere	laved) FS pat	tern	Suggested	dReme	dy				
Suggeste	dRemedy				If the intent is that the 32 lanes are re-interleaved, and then the permutation function						
Rewri interv	Rewrite the text to describe searching for the FS pattern and finding it at the expected interval					utes th e the e	e symbols and of the f	back to 32 lanes (in somethi	ng other than red, deskewed	a round-robin manner), d, and serialized". If the	
Proposed	Response	Response Status W			intent	is that	the permu	tation process just moves syn	mbols around	among the 32 lanes,	
PROF	POSED REJECT.		32 lan	e the s es by a	a permutat	ion function.".	ymbols are the	en rearranged across the			
The c	The comment does not provide sufficient justification to support the suggested remedy.					, Respo	nse	Response Status W			
i ne e	existing text is con	isistent with the adopted base	eline.		PROPOSED ACCEPT IN PRINCIPLE.						
C/ 184	SC 184.2	P 443	L 7	# 87	Impler	ment th	ne following	g with editorial license.			
Huber, Th	iomas	Nokia			Chang	ge "The	RS-FEC	symbols are then distributed	over the 32 la	nes by a permutation	
Comment	Туре Т	Comment Status D		General (Bucket)	permu	itation	function."		igeu acioss li	ie 52 laites by a	
Other proce	diagrams of this sses.	type do not have dashed box	kes areound t	ne transmit and received	C/ 184	SC	184.4.1	P 445	L 5	# 89	
Suggeste	dRemedy				Huber, The	omas		Nokia			
For co	onsisetncy with th	ne rest of the document, remo	ove the dashe	d boxes	Comment	Туре	т	Comment Status D		Functional (bucket)	
Proposed	Response	Response Status W			There docum	are alv nent, w	ways many ve just have	implementation options, but to describe the behavior that	we don't have it is required.	e to describe them in the	
PROF	POSED REJECT.				Suggested	dReme	dv				
The d	lashed boxes clea	arly denote the transmit and r	eceive function	ons. Removing the dashed	Delete	e "wher	n implemei	nted" from the first sentence,	and delete the	e second paragraph.	
boxes	boxes does not improve clarity of the draft.					Respo	nse	Response Status W			
					PROF Comm Resolv	POSED nent #2 ve usin	ACCEPT 299 respon	IN PRINCIPLE. se implements suggested rer onse to comment #299	nedy.		

C/ 184	SC	184.4.1	P 445	L12	# 90	C/ 184	SC	184.4.3	P 446	L1	# 93
Huber, Th	omas		Nokia			Huber, The	omas		Nokia		
Comment	Туре	т	Comment Status D		Functional (Bucket)	Comment	Туре	т	Comment Status D		Reorder (Bucke
What simply neede Suggestee Either Proposed	is the p y alignir ed. dRemed explair Respor	ourpose of ng them ba dy n why this nse	this mapping? There are 32 ased on the RS FEC frame, so mapping process is needed, or <i>Response Status</i> W	anes being rec o it doesn't see or delete it.	eived; this process is m like a.mapping is	This fi think t have r four-sy that ea more s in colu	gure is he colo no idea ymbol ach lar simply umn 0,	s not clear, umns 0-3 a a why there basis. The he has inter by using bl block 1 wo	nor is the relatoinship of the re just numbers that relate t are 32 sets of 4 symbols, a function is simply reversing leaved symbols from all fou ocks of 16 symbols in the fi uld be lanes 16-31 in colum	e figure to the ps to the post-FEC is the algorithm of flow1 and flow(r codewords. Th gure (i.e, block in 0, etc.).	eudocode beneath it. I distribution process. I doesn't do anything on a 0 every two columns, so his could be described c 0 would be lanes 0-15
PROF	POSED	ACCEPT	IN PRINCIPLE.			Suggested	dReme	edy			
Add text to explain the purpose of this mapping. Implement with editorial license.						Revise corres	e the fi pondir	gure as sug ng to 16 PC	ggested. The input side wo S lanes i nthe figure):	uld look like this	(where each row here is
C/ 184	SC	184.4.2	P 445	L 22	# 91	135	7				
Huber, Th	omas		Nokia			and th	e outp	ut would be	9		
Comment	Type	т	Comment Status D		Reorder (Bucket)	025	/ 5				
to arri Suggestee Chang accore Proposed PROF Resol	ve in th dRemed ge the s ding to Respor POSED ve using	e correct o dy second ser the PCS is nse ACCEPT g the resp	order, it's a simple process. ntence to say "The lane reorde ane number." <i>Response Status</i> W IN PRINCIPLE. onse to comment #300	er process shal	l order the PCS lanes	Proposed PROP	Respo POSED	ove any co e 32 PCS la onse D ACCEPT I ne suggeste	Response Status W Response Status W N PRINCIPLE. ad remedy with editorial lice	to see what is ch	pposed to be somenow nanging between the
C/ 184	SC	184.4.2	P 445	L 26	# 92						
Huber, Th	omas		Nokia								
Comment	Туре	т	Comment Status D		Reorder (Bucket)						
It is no this.	ot clear	why this o	description is needed. Other o	lauses about r	eordering don't have						
Suggestee	dReme	dy									
Delete	e the las	st paragra	ph								
Proposed	Respor	nse	Response Status W								
PROF Resol	POSED	ACCEPT g the resp	IN PRINCIPLE. onse to comment #178								

C/ 184	SC 18	4.4.3	P 446	L 45	# 94
Huber, The	omas		Nokia		
Comment	Туре '	т	Comment Status D		Algorithm (Bucket)

The algorithm is unnecessarily complex. There is no need for bit-level detail since the operation is performed on 10-bit symbols - though really it seems to be performed on 160bit entities. Per figure 184-3, it's essentially receiving as input alternating sets of 160 bits from flow0 and flow1, and changing the order from 0, 1, 0, 1, 0, 1, 0, 1 to 0, 1, 0, 1, 1, 0, 1, 0.

SuggestedRemedy

A minimal change would be to state that the algorithm operates on 10-bit symbols, delete the for jà loop and its terminator, and replace "10i+j" with "I" in the statement that describes the permutation ...

Another option would be to rewrite the description around the 160-bit entities as described, and perhaps also change the figure to show those instead of 40-bit entities (which as noted in a previous comment seem to have no relevance to this process, or to the convolutional interleaver process that follows it).

Proposed Response Response Status W

PROPOSED REJECT.

The algorithm is correct (and explicit) as written. This bit-wise mapping shows explicitly how the bits are mapped into the larger vector.

Removing j does not seem to add clarity, better have the detailed function as described in the adopted baseline

C/ 184	SC 184.4.4	P 447	L 22	# 95
Huber, The	omas	Nokia		
Comment	Туре Т	Comment Status D		Algorithm (Bucket)

Algorithm (Bucket)

The description of the convolutional interleaver process could be improved. The variable i is used in the first part of the subclause as an index for the delay lines and as an indication of time within a sequence. Then at the bottom of page 447 it's used a symbol index.

SuggestedRemedy

Revise the list above the figure to read as follows, eliminating the overleading of the index i and improcing the clarity a bit (and change the figure to label the lines as b=0, b=1, b-2):: a) The input and output switches are always aligned to the same row b, where b = 0 to 2 b) a block of 40 bits is read from row b

c) The concents of row b are shifted to the right by 40 bits

d) A block of 40 bits is written to row b

e) The switch position is updated to (b+1) mod 3

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement suggested remedy with editorial license.

C/ 184	SC 184.4.	4 P447	L 48	# 96
Huber, Tho	omas	Nokia		
Comment	Туре Т	Comment Status D		Algorithm (Bucket)

Since the convolutional interleaver operates separately on each PCS lane, there's no value in having an algorithm that includes the PCS lanes. Since it operates on 40-bit units, there's also no need to include bit-level description.

SuggestedRemedy

State that the algorithm describes the operation on the 40 bit entities and is run on each PCS lane independently. This allows elimination of the p and j variables.

Proposed Response Response Status W

PROPOSED REJECT.

This is correct as written.

Removing the lanes and bits does not seem to add clarity, better have the detailed function as described in the adopted baseline.

C/ 184	SC 184.4	.4 P 448	L3	# 97
Huber, The	omas	Nokia		
Comment	Туре Т	Comment Status D		Algorithm

The algorithm relating the convolutional interleaver output to its input doesn't work when i<36 - it refers to negative block numbers for the input (permo) while the delay lines are filling, and those negative numbers need to be ignored as the process starts up. In other words, given the input sequence of 40-bit blocks 0, 1, 2, 3, à, the convolutional interleaver is supposed to produce the output sequence 0, 3, 6, 9, 12, 15, 18, 1, 21, 4, 24, 7, 27, 10, 30, 13, 33, 16, then 36, 19, 2, and then each successive set of 3 is 3 more than the previous (so it continues 39, 22, 5, 42, 25, 8, ...). The algorithm says that output 0 is input 0-18 x (0 mod 3), so that produces 0 as expected, but output 1 is then supposed to be input 1-18 x (1 mod 3), which is -17, not 3.

SuggestedRemedy

The text above figure 184-4 already provides an algorithmix description of how the interleaver works. Rather than a second algorithmic description, it might be better to show the worked example as noted in the comment - i.e., show a table of input blocks from 0 to 42, and the corresponding output blocks.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #613

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: Comment ID

Comment ID 97

Page 22 of 139 5/30/2024 4:13:26 PM

C/ 184	SC 184.4.5	P 448	L12	# 98	C/ 184	SC	184.4.6	P 449	L16	# 100
Huber, Th	omas	Nokia			Huber, Th	omas		Nokia		
Comment	Туре Т	Comment Status D		Algorithm (Bucket)	Comment	Туре	т	Comment Status D		Algorithm (Bucket
The fi	rst statement shou	ld not be a 'shall' (which ind	icates a PICS if	em of conformance).	Clarify	that th	e circular s	shift is applied per lane.		
The s	econd sentence is	correct, in that there are 32	encoders, but	what's actually required	Suggestee	Remed	dy			
Suggosto	dDomody				Make	similar	changes to	o what was suggested in pre	vious sections -	remove the
Suggester	e the paragraph to	read: The BCH encoder wo	rks in conjuncti	on with the $PS(5/4, 51/4)$	unneo	essary	variable p	and associated for loop in th	e pseudocode,	and add a sentence
FEC t	to increase the FEC	C coding gain. There is a BC	CH encoder prod	cess for each PCS lane.	Dronocod	g inai in Deener		Shint process is performed or	i each iane indiv	vidually.
Proposed	Response	Response Status W			Proposea	Respor		Response Status W		
PROF	POSED ACCEPT IN	, N PRINCIPLE.			Remo	vina the	acceri a lane does	s not seem to add clarity, be	tter have the det	tailed function as
Imple	ment the following	with editorial license .			descri	bed in t	he accept	ed baseline.		
Chang	ge: "The BCH enco	der shall work in conjunctio	n with the outer	RS(544,514) FEC to	Add a	senten	ce stating	that the circular shift process	s is performed o	n each flow individually.
function	ons." to: "The BCH	encoder works in conjunction	on with the oute	er RS(544,514) FEC to		nent wi				
provid	le a high-performar	nce FEC for 800GBASE-LR	1. The Inner FE	C shall implement 32	C/ 184	SC	184.4.7.1	P 450	L12	# 101
БСП	encoder functions.				Huber, Th	omas		Nokia		
C/ 184	SC 184.4.5	P 448	L 40	# 99	Comment	Туре	т	Comment Status D		Order (Bucket
Huber, Th	iomas	Nokia			The D	SP fran	ne should	probably be a level 3 clause	of its own, rathe	er than a sub-clause
Comment	Туре Т	Comment Status D		Algorithm (Bucket)	under	BCH in	iterleaver.			
The v	ariable p is being o	verloaded - it is used at line	35 as a lane ir	dex, and at line 40 as	SuggestedRemedy Change to a level 3 heading					
the pa	arity polynomial. Sir	nce the BCH encoding is do	ne per lane, the	ere is really no need to						
applie	ed to each lane indi	vidually.	can simply star		Proposed	Respor	nse	Response Status W		
Suggeste	dRemedy	·			PROF		ACCEPT	IN PRINCIPLE.	ortion Change	alausa 184.4.7 titla ta:
Chan	ge the line above th	ne dashed list to say "The B	CH encoding is	done separately on	BCH i	nterleav	/er and pile	ot insertion"	ertion. Change (liause 104.4.7 lille lo.
each	lane. The encoding	of of each BCH codeword	u is deined as f	ollows:	Imple	ment wi	th editorial	license.		
At the	e top of page 449, re	emove the 'for pà' loop from	the pseudocod	le.	C/ 184	SC	184.4.7.1	P 450	L18	# 102
Proposed	Response	Response Status W			Huber, Th	omas		Nokia		
PROF	POSED ACCEPT IN	N PRINCIPLE.			Comment	Type	т	Comment Status D		DSP (Bucket
Remo	ving the lane does	not seem to add clarity, bet	ter have the de	tailed function as	The fi	st sente	ence of the	e second paragraph could be	written more cl	early.
descr Chan	described in the accepted baseline. Change the flow index from p to g to remove p overload.				SuggestedRemedy					
enan		- , , s			Repla	ce with	"Two strea	ams of DSP frames, one for	each polarizatio	n. are generated by the
					inner	FEC."				, 3 , , ,
					Proposed	Respor	nse	Response Status W		
					PROF	OSED	ACCEPT.			

Comment ID 102

DSP (Bucket)

Order (Bucket)

Algorithm (Bucket)

C/ 184	SC 184.4.7.2	P 450	L 45	# 103
Huber, Thom	nas	Nokia		
Comment Ty	rpe T	Comment Status D		DSP (Bucket)

It is not clear what "192 bits that are complemented with zeros" is intended to mean. Based on what is in Table 184-2. I think the intent is that a zero is inserted after each bit of the PRBS9 ouput to form the bit-pairs that become the PS symbols. Also, the text talks about 4-bit PS symbols, but Table 184-2 is showing bit-pairs for each component rather than 4-bit symbols without explaining that outputs 0 and 1 are for the X polarization (so the X PRBS is spread across outputs 0 and 1) and outputs 2 and 3 are for the Y polarization.

SuggestedRemedy

F

Revise the two pargraphs above table 184-1 to read as follows:

For both DSP frame 0 and DSP frame 1, the generator is initialized using the seed at the start of every DSP frame. The generator produces a sequence of 192 bits. A zero bit inserted after each bit to generate the bit-pairs that form the pilot symbos, which use the outer points of the 16QAM constellation.

The generator polynomial and seed values are shown in Figure 184-6 and listed in Table 184-1. The complete pilot sequence is shown in Table 184-2. The bit-pairs for the X polarization are distributed in a round-robin manner to outputs 0 and 1. The bit-pairs for the Y polarization are distributed in a round-robin manner to outputs 2 and 3.

Proposed Response	Response Status	W	
PROPOSED ACCEPT.			

C/ 184	SC 184.4.9	P 452	L 50	# 104
Huber, Tho	omas	Nokia		
Comment	Түре Т	Comment Status D		Interface (Bu

Interface (Bucket)

The editor's note suggesting that the mapping to analog signals probably belongs in the PMD clause seems to make sense, in which case this clause is really not "DP-16QAM mapping", it's really just mapping to 4-level signals, which the PMD will then turn into DP-16QAM.

SuggestedRemedy

Change the title to "4-level signal mapper", and make the corresponding change in 184.5.3.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

After the first sentence of subclause 184.4.9 add: "This four-level signals are used by the 800GBASE-LR1 PMD to generate a single optical DP-16QAM signal with orthogonal polarizations (see 185.4.2)." Implement with editorial license.

C/ 184	SC 184.4.9	P 452	L 50	# 105
Huber, Thom	as	Nokia		
Comment Ty	pe T	Comment Status D		Order (Bucket)

The overall flow would be improved if it went BCH interleaver, 4-level signal mapping, DSP frame, with all the pilot symbol details then in the DSP frame clause.

SuggestedRemedy

Revise so the flow is like this: 184.4.7 BCH interleaver 184.4.8 Four-level signal mapping (current 184.4.9, without subclauses) 184.4.9 DSP frame generation (current 184.4.7.1) 184.4.9.1 Pilot sequence (current 184.4.7.2 and 184.4.9.1)

Proposed Response Response Status W

PROPOSED REJECT.

The text is correct as written.

The actual order is the right one. It describes the bit blocks generation and handling, then the mapping to four levels.

C/ 184	SC 184.5.1	P 455	L 42	# 106
Huber, Th	omas	Nokia		
Comment	Type T	Comment Status D		Interface (Bucket)

The paragraph that begins with "the signals Rx Xi, Rx XQ, à" doesn't seem to make sense. The Tx and Rx signals are not guaranteed to be the same (i.e., Tx XI can be received as any of the four components), but the contents of Tx_XI aren't distibuted to all the Rx signals.

SuggestedRemedy

Revise to say: The signals Rx XI, Rx XQ, Rx YI, and Rx YQ each represent one of the corresponding Tx XI, Tx XQ, Tx YI, Tx YQ signals from the transmitting PMD. The association between Tx and Rx components is arbitrary (e.g., Rx XI can be any of the 4 Tx components).

Proposed Response Response Status W

PROPOSED ACCEPT.

C/ 184	SC 184.5.8	P 457	L 45	# 107	C/ 187	SC 187.5.2	P 501	L 8	# 110
Huber, Th	omas	Nokia			Huber, Th	iomas	Nokia		
Comment Simila the co	<i>Type</i> T ar changes should provolutional interl	Comment Status D d be made in the convolutiona eaver in earlier comments	al de-interleaver	Algorithm (Bucket) as were requested for	Comment The p	<i>Type</i> T pm value for this	Comment Status D PMD should be 20 ppm		TX specs
Suggested	dRemedy				Repal	lce TBD with 20			
Revise agree	e the items in the d for the convolu	e lettered list and the algoritm tional interleaver.	to align with wh	atever changes are	Proposed	Response	Response Status W		
Proposed PROF	Response POSED ACCEPT	Response Status W IN PRINCIPLE.			PROF	POSED ACCEPT ment suggest ren	IN PRINCIPLE. nedy with editorial license.		
Implei	ment suggested	remedy with editorial license.			C/ 1	SC 1.4.184da	a P 49	L 44	# 111
C/ 186	SC 186	P 491	L1	# 108	Huber, Th	iomas	Nokia		
Huber. Th	omas	Nokia			Comment	Туре Т	Comment Status D		ER1 PHY (bucket)
Comment The ba	<i>Type</i> T aseline for the 80 der sublaver is us	Comment Status D DOGBASE-ER1[-20] PCS has sed.	issues with PTF	<i>(bucket)</i> accuracy when an	Since ER1 a encoc	800GBASE-ER1 and ER1-20 shoul ding	and -ER1-20 have a separa d refer to 800GBASE-ER1 e	ate PCS, the defi encoding rather t	nition for 800GBASE- han 800GBASE-R
Suggester	dRemedy				Suggestee	dRemedy			
Undat	e the baseline p	er presentations in the May m	eetina proposina	n a mechanism to	Chang	ge 800GBASE-R	to 800GBASE-ER1 for both	the ER1 and ER	1-20 definitions.
reduce	e the PTP inaccu	Jracy.			Proposed	Response	Response Status W		
Proposed PROF	Response	Response Status W			PROF Resol	POSED ACCEPT	IN PRINCIPLE. onse to comment #309.		
Resol	ve using the prop	posal in			C/ 30	SC 30.3.2.1.2	P53	L11	# 112
https:/	//www.ieee802.or	rg/3/dj/public/24_05/sluyski_3	dj_01a_2405.pc	lf, which was presented	Huber. Th	omas	Nokia		
editori	ial license.	sung. Impeleinint the suggeste		yski_suj_ora_2400 with	Comment	Type T	Comment Status D		(bucket)
CI 197	SC 197 5 1	P501	/ 9	# 100	There	should also be a	n entry for 800GBASE-ER1	since it is a diffe	rent PCS
Huber Th	000 107.3.1	Nokia	20	# 105	Suggestee	dRemedy			
Comment	Type T	Comment Status D		TX specs	Add a entry	new editing instr for 800GBASE-R	uction to insert 800GBASE-).	ER1 after 400GE	BASE-R.(or before the
The p	pm value for this	PMD should be 20 ppm			Proposed	Response	Response Status W		
Suggested Repal	<i>dRemedy</i> ce TBD with 20				PROF	POSED ACCEPT.			
Proposed PROF	Response POSED ACCEPT	Response Status W	uggest remedy	with editorial license.					

C/ 182	SC 182.8.5	P 411	L 30	# 113	C/ 187	SC 187.3	P 497	L 31	# 115
Stassar, P	eter	Huawei Techr	nologies		Stassar, F	Peter	Huawei Tech	nologies	
Comment	Туре Т	Comment Status D		TDECQ	Comment	Туре Т	Comment Status D		Delay
Currer of 2km	ntly reference is n n	made to compliance channel	in 121.8.5.2, w	hich is for 500m instead	The T latest	BDs need to be draft D3.0 of P8	replaced by values. Follow the 302.3cw	e same methoc	lology as in 154 and
Suggested	lRemedy				Suggestee	dRemedy			
Create conter Develo	e new subclause hts along the line op with editorial l	182.8.5.1 and refer to it inste s of 124.8.5.1 from 802.3df w icense	ad of 121.8.5.2 ith the same co	. Create 182.5.2.1 with ompliance channel.	Repla contril more	ce contents by ⁻ buted by the 800 than 16 384 bit t	The sum of the transmit and re DGBASE-LR1 PMD including 2 times (32 pause_quanta or 20	eceive delays a 2 m of fiber in o .48 ns).	t one end of the link ne direction shall be no
Proposed	Response	Response Status W			pause	e_quanta can be	found in 169.4 and its referen	ia the definition: ices.	s for bit times and
PROP	OSED ACCEPT	IN PRINCIPLE.			Proposed	Response	Response Status W		
For CF	RG discussion	led remedy with editorial licer	150.		, PROF	, POSED ACCEP	T IN PRINCIPLE.		
CL 495	SC 405 2	D 472	/ 24	# 444	Implei For C	ment the sugges	sted remedy and update Table	e 169-4 with ed	itorial license.
Stassar P	otor	r 4/3 Huawai Tachr		# 114					
Comment	T_{VDP} T	Comment Status D	lologics	Delay	C/ 187	SC 187.6	P 503	L 44	# 116
The TI	BDs need to be i	eplaced by values. Follow the	same method	ology as in 154 and	Stassar, F	Peter	Huawei Tech	nologies	
latest	draft D3.0 of P80)2.3cw			Comment	Туре Т	Comment Status D		optical channel specs
Suggested Replac	<i>Remedy</i> ce contents by T	he sum of the transmit and re	ceive delays at	one end of the link	Negat min a can be	ive dispersion d nd max dispersion e used for a way	loes not occur around 1550 nn on as in draft D3.0 of P802.3c velength close to 1550 nm	n. 0 ps/nm is th w. A safe uppe	e minimum. Only need r limit of 20 ps/nm.km
contrib	outed by the 800	GBASE-LR1 PMD including 2	m of fiber in o	ne direction shall be no	Sugaestee	dRemedv	0		
A desc	cription of overal	system delay constraints and	d the definitions	s for bit times and	Repla	ce "Positive dis	persion (max)" by "Chromatic	dispersion (max	x)" with value 400 ps/nm
pause	_quanta can be	found in 169.4 and its referen	ces.		for EF	R1-20 and 800 p	s/nm for ER1. Replace "Nega	tive dispersion	(min)" by "Chromatic
Proposed	Response	Response Status W			disper	rsion (min)" with	value 0 ps/nm for both ER1-2	0 and for ER1.	
PROP	OSED ACCEPT	IN PRINCIPLE.	100.1		Proposed	Response	Response Status W		
Impler For CF	nent the sugges	ed remedy and update Table	169-4 with ed	itorial license.	Imple	ment suggest re	medy with editorial license.		
					C/ 187	SC 187.5	P 502	L17	# 117
					Stassar, F	Peter	Huawei Tech	nologies	
					Comment	Туре Т	Comment Status D		RX specs
					Previo receiv Claus	ously for Clause rer reflectance h e 155.5.2	154 and draft Clause 156 in E as been used, which is a com	03.0 for P802.30 mon value in th	cw 20 dB maximum e industry and in draft
					Suggestee	dRemedy			
					For R	eceiver reflectar	nce (max) replace TBD by 20 o	dB for both ER1	-20 and ER1
					Proposed PROF	Response POSED ACCEP	Response Status W		
									_

C/ 178	SC 178	.10.1	P 285	L18	# 118	C/ 179	SC ·	179.11.7	P331	L18	# 120
Sakai, To	shiaki		Socionext			Sakai, Tos	shiaki		Socionext		
Comment	t Туре т	Co	omment Status D		COM pkg tau (bucket)	Comment	Туре	т	Comment Status D		COM pkg tau (bucket)
COM In "Ta 6.141 (page	reference p able 178û12 e-4 ns/mm, e8-9), the va	ackage para " class A pa but based o lue is 6.141	ameter vlaue. (transmi ackage model Transmi on the adopted motion e-3. The value should	ssion line para ssion line para #10, Nov/2024 be 6.141e-3 ns	meter tau) meter t(tau) value is , llim_3dj_01a_2311.pdf s/mm.	COM I In "Tal 6.1416 (page8	referenc ble 179i e-4 ns/m 8-9), the	ce package û15" class nm, but ba e value is 6	e parameter vlaue. (transm A package model Transm sed on the adopted motion 0.141e-3. The value should	iission line para ission line para n#10, Nov/2024 I be 6.141e-3 n	ameter tau) ameter t(tau) value is 4, (llim_3dj_01a_2311.pdf is/mm.
Suggeste	dRemedy					Suggested	Remed	ly			
Chan ns/mr Or si	ge t(tau) val m. mply delete	ue in Table this row, as	178-12 (class A packa the t(tau) value in tab	age) from 6.14 le 93A-3 is 6.1	1e-4 ns/mm to 6.141e-3 41e-3 ns/mm.	Chang ns/mm Or sin	ge t(tau) n. nply del	value in - ete this ro	Table 179-15 (class A pac w, as the t(tau) value in ta	kage) from 6.14 ole 93A-3 is 6.7	41e-4 ns/mm to 6.141e-3 141e-3 ns/mm.
Proposed	l Response	Re	sponse Status W			Proposed	Respon	se	Response Status W		
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 178–12, Table 179–15, and Table 176D–6 (twice						PROP	OSED /	ACCEPT I the respo	N PRINCIPLE. nse to comment #118.		
each	table).	10 0.1410-0		ic 170–10, and		C/ 179	SC ·	179.11.7	P331	L 28	# 121
C/ 178	SC 178	10 1	P285	/ 28	# 119	Sakai, Tos	shiaki		Socionext		
Sakai Ta	chiaki		Socioport	- 20	<i>"</i> 110	Comment	Туре	т	Comment Status D		COM pkg tau (bucket)
Common		C			COM plas tou (buokot)	COM	referenc	e package	e parameter vlaue. (transm	ission line para	ameter tau)
COM "Table 4 ns/r	reference p e 178û12" c mm, but bas	ackage para lass B pack ied on the a	ameter vlaue. age model Transmissi dopted motion#10, No	on line parame v/2024, llim 30	eter t(tau) value is 6.141e- di 01a 2311.pdf (page8-	In "Tal 6.141¢ (page8	ble 1790 e-4 ns/m 8-9), the	û15" class nm, but ba value is 6 ,	B package model Transm sed on the adopted motion 141e-3. The value should	ission line para 1#10, Nov/2024 I be 6.141e-3 n	ameter t(tau) value is 4, (llim_3dj_01a_2311.pdf is/mm.
9), th	e value is 6.	141e-3. The	e value should be 6.14	1e-3 ns/mm.		Suggested	aRemed	y 	5-64- 470 45 (alass Duras		14 - 4 / to C 4 44 - 0
Suggeste	dRemedy					chang ns/mm	je t(tau) n.	value in	able 179-15 (class B pac	kage) from 6.14	41e-4 ns/mm to 6.141e-3
Change t(tau) value in Table 178-12 (class B package)from 6.141e-4 ns/mm to 6.141e-3						Or sin	nply del	ete this ro	w, as the t(tau) value in ta	ole 93A-3 is 6.′	141e-3 ns/mm.
ns/mm. Or simply delate this row, as the t/tau) value in table 934, 3 is 6,141e,3 ps/mm.						Proposed	Respon	se	Response Status W		
Proposed		unis iow, as		16 334-3 15 0.1	416-3115/11111.	PROP	OSED	ACCEPT I	N PRINCIPLE.		
	DOSED ACI					Resolv	ve using	the respo	nse to comment #118.		
Reso	Ive using the	e response	to comment #118.								

C/ 176D	SC 176D.4.1	P 605	L16	# 122	C/ 179	SC	179.9.4	P309	L 23	# 124
Sakai, Tosl	niaki	Socionext			Sakai, To	shiaki		Socionext		
Comment	Гуре Т	Comment Status D		COM pkg tau (bucket)	Comment	Туре	т	Comment Status D		B-T filter BW
COM r In "Tab 6.141e (page8 <i>Suggested</i>	eference packag le 176Dû6" clas -4 ns/mm, but ba -9), the value is Remedy	e parameter vlaue. (transmis s A package model Transmis ased on the adopted motion# 6.141e-3. The value should b	sion line param sion line param 10, Nov/2024, l e 6.141e-3 ns/	neter tau) neter t(tau) value is llim_3dj_01a_2311.pdf mm.	Ttrans "Unles separ 40 GF The 4 AN17	smitter s ss spec ately us Iz, with 4th-BW 6E.3.3,	signal mea ified otherv sing a fourth AC-couple filter BW s as the Nyc	surement filter bandwidth des wise, transmitter signal measu h-order Bessel-Thomson low- ed connection from TP2 to the hould be "TBD GHz", the sar quist frequency of the signal is	scription. urements are -pass respons e test equipme ne as for CL1 s 53.125GHz	made for each lane se with 3 dB bandwidth of ent." 78.9.2, AN176D.3.3 and and 40GHz is too low
ns/mm	e ((au) value ill		ige) 110111 0.141	e-4 h5/mm to 0.141e-3	Suggeste	dReme	dy			
Or sim	ply delete this ro	ow, as the t(tau) value in table	e 93A-3 is 6.14	1e-3 ns/mm.	Chan	ge 40G	Hz to TBD	GHz.		
Proposed I	Response	Response Status W			Proposed	Respo	nse	Response Status W		
PROP Resolv	OSED ACCEPT e using the resp	IN PRINCIPLE. onse to comment #118.			PROF The v Resol	POSED alue 40 ve usin	ACCEPT I GHz is a lo a the respo	N PRINCIPLE. eftover from an older clause a onse to comment #60.	and has not b	een adopted.
C/ 176D	SC 176D.4.1	P605	L 26	# 123						" [107
Sakai, Tosl	niaki	Socionext			C/ 183	SC	183.7.1	P431	L 31	# 125
Comment	Гуре Т	Comment Status D		COM pkg tau (bucket)	Johnson,	John 	_	Broadcom		
COM r	eference packag	e parameter vlaue. (transmis	sion line param	neter tau) otor t(tau) valuo is	Comment	Type		Comment Status D		optical channel specs
6.141e	-4 ns/mm, but ba	ased on the adopted motion#	10, Nov/2024, I	lim_3dj_01a_2311.pdf	Claus	e 183.7	TIS TBD.			
(page8	-9), the value is	6.141e-3. The value should b	e 6.141e-3 ns/	mm.	Suggeste	dReme	dy			
Suggested. Chang	Re <i>medy</i> e t(tau) value in	Table 176D-6 (class B packa	age) from 6.141	e-4 ns/mm to 6.141e-3	Use ti cable contro	ne sam specs f oversial	e text and t from extern	able as given in 182.7.1. Sir al standards, not 802.3 spec	ific specs, this	lause only reiterates fiber s should not be
ns/mm	Inly doloto this r	w. as the t(tau) value in table	024 2 ic 6 14	10.3 ns/mm	Proposed	Respo	nse	Response Status W		
Proposed I	Response	Response Status W		1e-5 ha/mm.	PROF	POSED ment th	ACCEPT I	N PRINCIPLE.	se.	
Resolv	e using the resp	onse to comment #118.			C/ 183	SC	183.7.2	P431	/ 41	# 126
					Johnson	.lohn		Broadcom		
					Comment	Type	т	Comment Status D		optical channel specs
					Claus	e 183.7	.2 is TBD.			
					Suaaeste	dReme	dv			
					Use t	ne sam	e text as ai	ven in 182.7.2: "An optical fil	ber connectio	n. as shown in Figure
					183û7 terms	7, consi , it shou	sts of a ma uld not be c	ted pair of optical connectors controversial.	s." Since this	is a basic definition of
					Proposed	Respo	nse	Response Status W		
					PROF Imple	POSED ment th	ACCEPT I	N PRINCIPLE. ed remedy with editorial licens	Se.	
TYPE: TR/ COMMENT SORT ORI	echnical require STATUS: D/dis DER: Comment I	d ER/editorial required GR/g patched A/accepted R/rejec D	general require ted RESPO	d T/technical E/editorial G/g NSE STATUS: O/open W/w	general ritten C/close	d Z/wit	hdrawn	Comme	nt ID 126	Page 28 of 139 5/30/2024 4:13:

ge 28 of 139 0/2024 4:13:26 PM

C/ 180	SC 180.6.3	P356	L 47	# 127	C/ 176E SC 17
Johnson,	John	Broadcom			Ghiasi, Ali
Comment	t Type T	Comment Status D		power budget	Comment Type
The p	ower budget doe	s not explicitly say what the p	enalty allocation	is for MPI and DGD.	Figure depicts lo
It's in	plied by the diffe	erence between Allocation for p takes it hard for average reade	penalties (for ma ers to understan	ax TDECQ) and det	SuggestedRemedy
Suggeste	dRemedy			a the perior badget.	application an
Add t	oTable 180-9, for penalties "	otnote (b), "This value include	s an allocation of	of 0.1 dB for MPI and	To make it more Module C2M De
Proposed	l Response	Boononoo Statua M			Proposed Response
PROI Imple	POSED ACCEPT	IN PRINCIPLE. ted remedy with editorial licen	se.		PROPOSED AC The C2M loss b packages. However, the su
C/ 181	SC 181.6.3	P 381	L 48	# 128	It is preferable to
Johnson,	John	Broadcom			TP1 and betwee
Comment	t Туре Т	Comment Status D		power budget	to "Module pack
The p It's im	oower budget doe pplied by the diffe	es not explicitly say what the perence between Allocation for p	enalty allocation penalties (for ma	n is for MPI and DGD. ax TDECQ) and	C/ 176E SC 17
TDEC	CQ(max). This m	akes it hard for average reade	ers to understan	d the power budget.	Ghiasi, Ali
Suggeste	dRemedy				Comment Type
Add t	oTable 181-7, foo penalties "	otnote (d), "This value include	s an allocation of	of 0.5 dB for MPI and	Loss budgets ar
Proposeo	Response	Pesnonse Status W			SuggestedRemedy
PROI	POSED ACCEPT	TIN PRINCIPLE. ted remedy with editorial licen	se.		See Ghiasi C2M IIDD=28 dB Connector with Module IIdd = 3. Host IIdd=21.4 d
					Proposed Response
					PROPOSED RE The comment is The following pr https://www.ieee The comment a

C/ 176E	SC 176E.2	P615	L 23	# 129
Ghiasi, Ali		Ghiasi Quant	um/Marvell	
Comment	Туре Т	Comment Status D		Channel ILdd (bucket)
Figure	depicts loss sho	uld be bump-bump		
Suggested	Remedy			
appli To mal Module	cation and the as ke it more clear l e C2M Device	ssociated ILdd bump-bump b Host C2M Component should	budget at 53.12 d be changed to	5 GHz Host C2M Device and
Proposed I	Response	Response Status W		
PROPO The C2 packag Howev It is pro TP1 ar In figur to "Moo	OSED ACCEPT 2M loss budget is ges. er, the suggeste eferable to align ad between TP4 re 176E-2, chang dule package an	IN PRINCIPLE. s currently TBD, but it is expend d remedy does not significar the diagram with Figure 179- and TP5d are shown to inclu ge "Host ILdd" to "Host packa d PCB ILdd".	ected that it will atly clarify this fa 2, where the pa de the package age and PCB IL	be inclusive of act. aths between TP0d and a. .dd", and "Module ILdd"
C/ 176E	SC 176E.2	P615	L 33	# 130
Ghiasi, Ali		Ghiasi Quant	um/Marvell	
Comment T Loss b	<i>Type</i> T udgets are TBD	Comment Status D		Channel ILdd
Suggested	Remedy			
See GI IIDD=2 Conne Module Host II	hiasi C2M May-2 8 dB ctor with one via ∋ IIdd = 3.6 dB dd=21.4 dB	4 Contribution for backgrour = 3 dB	nd on the numbe	ers
Proposed I	Response	Response Status W		
PROPO The co The fol https:// The co conser The ed	OSED REJECT. mment is agains lowing presental www.ieee802.or mment address nsus is not obvio litorial team prep	st Figure 176E-2. tion was reviewed by the tasl g/3/dj/public/24_05/ghiasi_3@ es several open TBDs and th us. vared a detailed response in t	k force in the M dj_02a_2405.pc le suggested re the comment re	ay 2024 interim meeting: If medy is reasonable, but esolution slide deck

ran_3dj_01_2406--comment_resolution_electrical.

For CRG discussion.

							_			
C/ 176E	SC 176E.3.3	P617	L13	# 131	C/ 176E	SC 176E.4.1	P63	2	L 6	# 134
Ghiasi, Ali		Ghiasi Quantu	um/Marvell		Ghiasi, Ali		Ghiasi	Quantum/Ma	arvell	
Comment 7 3 dB B	<i>Туре</i> Т W is TBD	Comment Status D		B-T filter BW	Comment T Loss is	<i>Type</i> T TBD	Comment Status	D		(bucket)
Suggested	Remedy				Suggested	Remedy				
propos should	e to use 0.55*Ba the COM for C2I	udrate=58.4375 GHz but in o W be changed to BT4 fitler?	current OCM co	de we use Butterworth,	See Gł Bump-l	niasi C2M May- bump Insertion	24 Contribution for bac loss at Nyquist frequer	kground on t hcy (53.125 C	he number GHz) is less	s than or equal to 28 dB
Proposed F	Response	Response Status W			Proposed F	Response	Response Status	w		
PROP	OSED ACCEPT	IN PRINCIPLE.			PROP	OSED REJECT				
Resolv	e using the respo	onse to comment #60.			The los	ss in the text is	TBD because equation	176E-3 has	TBDs. Wh	en an equation is
[Editor'	s note: changed	line from 33 to 13]			for the	equation.	be changed according	y, but the cor	mmena aoe	es not propose values
C/ 176E	SC 176E.3.3	P 617	L 35	# 132	The fol https:// The pre	lowing presenta www.ieee802.o esentation does	ation was reviewed by t rg/3/dj/public/24_05/gh s not include a proposa	he task force iasi_3dj_02_ equation 17	e in the May _2405.pdf 6E-3.	2024 interim meeting:
Comment 7	Type T	Comment Status D		C2M output	[Editor	s note: change	d nade from 621 to 633	21		
Eve he	ight and VEC are	e TBD		OZIN Gulpur		s note. change		-1		
Suggested	S Remedy				C/ 176E	SC 176E.5.2	P63	3	L 39	# 135
See Gł	niasi C2M Mav-24	4 Contribution for backgroun	d on the numbe	rs	Ghiasi, Ali		Ghiasi	Quantum/Ma	arvell	
VEC=1	0.7 dB				Comment T	Туре Т	Comment Status	D		(bucket)
VEO=8 Proposed F	8 mV Response	Response Status W			Eye op measu	ening reference rement	e receiver parameters v	vill be differer	nt between	TP1d and TP4a
PROP	OSED REJECT				Suggested	Remedy				
The co The fol https:// The pre results, comme	mment addresse lowing presentati www.ieee802.org esentation includ , and does not ju ent, nor for the pr	es open TBDs. ion was reviewed by the task y/3/dj/public/24_05/ghiasi_3o es COM analysis of selected stify using VEC/EH as outpu oposed values.	force at the Ma ij_02a_2405.pdf channels, but s t specification a	y 2024 interim meeting: shows no VEC or EH s proposed in the	Given t packag loss of At TP4 - short - long t recom	that number of it ge it will be core the HCB and p a this is just the trace race mendation is to	module plug implemen -less ~8 mm so there i lug boards are similar. a output of the module measure at the ASIC t	tation will have s no need to should be tes	ve COC or add packag sted with sy	even if there is ge after HCB given the nthetic need at least 2 test
C/ 176E	SC 176E.3.5	P 621	L 7	# 133	cases	with Package A	and 2 with Package E	3	, no noula	
Ghiasi, Ali		Ghiasi Quantu	um/Marvell		Proposed F	Response	Response Status	w		
Comment 7 BW is 7	<i>Type</i> T TBD	Comment Status D		B-T filter BW	PROP The su	OSED REJECT ggested remed	y does not propose an	actionable (v	within the d	raft) remedy.
Suggested	Remedy									
propos	e to use 0.55*Ba	udrate=58.4375 GHz								
Proposed F PROPO Resolv	Response DSED ACCEPT e using the respo	Response Status W IN PRINCIPLE. onse to comment #60.								

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: Comment ID

C/ 176E	SC 176E.5.2	P633	L 47	# 136	C/ 176E	SC 176E.5.2	р. Р.	634	L 50	# 139
Ghiasi, Ali		Ghiasi Quant	um/Marvell		Ghiasi, Ali		Ghia	si Quantum/N	/larvell	
Comment	Туре Т	Comment Status D		R_0	Comment	Туре Т	Comment Status	3 D		C2M output
TP1d a	and TP4a measu	rement should be done with	out device mode	with just 50 scope	Jitter a	nd noise param	eters are TBD			
termin	ation				Suggested	Remedy				
Device	model - NA				See G	hiasi C2M May-2	24 Contribution for b	ackground on	the numb	bers
Single	ended transmitte ended reference	er termination - NA resistance - 50 ohms			Transr	nitter SNR = NA nitter Sigma = N	for reference receiv IA for reference rece	er but may us iver but may ι	e 33 dB fc use 0.01 L	or COM code JI for COM code
Proposed	Response	Response Status W			Transr Transr	nitter dual-Dirac nitter RI M = NA	<pre>itter = NA for refere for reference receiv</pre>	nce receiver b	out may us	se 0.02 UI for COM code
PROP	OSED ACCEPT	IN PRINCIPLE.			Proposed	Response	Response Status	W		
Resolu	re using the resp				, PROP	, OSED ACCEPT	IN PRINCIPLE.			
C/ 176E	SC 176E.5.2	P 634	L 5	# 137	Comm	ents #186 throu	igh #189 suggest usi	ng the CR me	thodology	for transmitter and
Ghiasi, Ali		Ghiasi Quante	um/Marvell		table n	nav be replaced	by a COM parameter	ers table.	iments, th	ie reference receiver
Comment	Туре Т	Comment Status D		COM R_d, f_r	For CF	G discussion at	fter resolution of #18	6-#189.		
Single	ended receive te	rmination and receive 3 dB l	BW		C/ 176E	SC 176E 5 2	D P	635	/ 50	# 140
Suggested	lRemedy				Chiosi Ali	00 1702.3.2		oi Ouentum/N		# 140
Single Receiv	ended receive te /e 3 dB BW=0.55	rmination is the 50 ohm sco *106.25=58.4375 GHz	pe termination		Comment	Туре Т	Comment Status	si Quantum/M 3 D	larven	COM ref Rx
Proposed	Response	Response Status W			Refere	nce equalizer is	TBD			
PROP	OSED ACCEPT	IN PRINCIPLE.			Suggested	Remedy				
Resolv	e using the respo	onse to comments #36 and #	¥396		Propos	e to use fix 25 t	tap FFE with 1T DFE			
C/ 176E	SC 176E.5.2	P 634	L 8	# 138	Max # DFE m	of pre-cursor tap ax tap weight =	ps = 6 0.75			
Ghiasi, Ali		Ghiasi Quante	um/Marvell		Proposed I	Response	Response Status	W		
Comment Transr	<i>Type</i> T mitter equalizer co	Comment Status D pefficients		COM TxFFE	PROP Resolv	OSED ACCEPT	IN PRINCIPLE.	274 and #279.	-	
Suggested	IRemedy									
Given C(0)=0 C(-1)= C(-2)= C(1)=[little benefit of T> 0.65 [-0.3:0.02:0] [0:.02:0.14] -0.14:.02:0.14]	FFE C(-3) - NA also goes positive to allow s	slowing driver for	reflection mitigation						
Proposed	Response	Response Status W								
PROP Resolv	OSED ACCEPT	IN PRINCIPLE.								

C/ 176D SC 176D.4.1	P604	L 50	# 141	C/ 176D	SC 176D.4.	1 P605	L52	# 143
Ghiasi, Ali	Ghiasi Quant	um/Marvell		Ghiasi, Ali	-	Ghiasi Quant	tum/Marvell	
Comment Type T Missing TBDs	Comment Status D		COM R_d, R_0	Comment Ty C2C sho	<i>ope</i> T The second se	Comment Status D d with C2M and addressing T	BDs	Multiple COM parameters
SuggestedRemedy Ro= 50 ohms Rdr=50 ohms RDt=50 ohms Receiver 3 dB BW=0.55*10 Proposed Response	06.25=58.4375 GHz			SuggestedR SNRTx= Add=0.0 Sigma=0 RLM=0. Eta0=1.1	emedy 33 dB 2 UI 0.01 UI 95 25E-8			
PROPOSED ACCEPT IN Resolve using the respons	PRINCIPLE. es to comments #396 an	d #35.		Proposed Re PROPO	esponse SED ACCEP	Response Status W T IN PRINCIPLE.	intorim mootin	a :
C/ 176D SC 176D.4.1	P605	L10	# 142	Straw P	oll #7	on was taken in the May 2024		ıg.
Ghiasi, Ali	Ghiasi Quanti	um/Marvell		I would the editor	support puttin	g the COM parameter values	eta_0 and d_w	/ and 05
Comment Type T Transmitter equalizer coeff	Comment Status D		COM TxFFE	slides 3- Results	4) into the P8 (all): Y: 67, N	302.3dj draft specification : 0, A: 23	and COM	
SuggestedRemedy Given little benefit of TX FF C(0)=0.65 C(-1)= [-0.3:0.02:0] C(-2)=[_0.02:0.14]	FE C(-3) - NA			Change https://w The othe expected	eta0 to 1e-8 f ww.ieee802.c er suggested d to be partly	for C2M and C2C, and add ec org/3/dj/public/24_05/lusted_3 changes are addressed by mi resolved by the responses to	litor's note per s idj_07_2405.pd ultiple other cor these other co	slide 4 of If. mments. This comment is mments.
C(1)=[-0.14:.02:0.14] als	o goes positive to allow s	slowing driver fo	r reflection mitigation	C/ 176D	SC 176D.4.	1 P 605	L 52	# 144
Proposed Response R	Response Status W			Ghiasi, Ali		Ghiasi Quant	tum/Marvell	
PROPOSED ACCEPT IN I Resolve using the respons	PRINCIPLE. e to comment #37.			Comment Ty C2C refe	<i>pe</i> T erence equaliz	Comment Status D zer should be aligned with C2	M and address	COM ref Rx
				SuggestedR Propose Max # o DFE ma	emedy to use fix 25 f pre-cursor ta x tap weight =	tap FFE with 1T DFE aps = 6 = 0.75		
				Proposed R	esponse	Response Status W		
				PROPO Resolve	SED ACCEP using the res	T IN PRINCIPLE.	#279.	

C/ 181	SC 181.4	P 373	L 33	# 145	C/ 183	SC 183.4	P 420	L 37	# 148
Ghiasi, Ali		Ghiasi Quanti	um/Marvell		Ghiasi, Ali		Ghiasi Quantu	ım/Marvell	
Comment	Туре Т	Comment Status D		Precoding	Comment	Туре Т	Comment Status D		Precoding
Prior t	o 181.4 add sect	ion for PMA function to suppo	ort precoder to m	nitigate burst errors	Prior to	o 183.4 add se	ection for PMA function to suppo	rt precoder to r	mitigate burst errors
Suggested	dRemedy				Suggested	Remedy			
The tr 120.5. OLT, v mitiga	ransmitter need t .7.2, and 173.5.7 without OLT the o te burst error.	to supports 1/(1+D) mod 4 pre .2, 6 and 176.9.1.2, that may optical transmitter should ena	ecoding, as spec be enabled or d able 1/(1+D) moc	ified in 135.5.7.2, isabled as needed with 4 precoding to	The tr 120.5. OLT, v mitiga	ransmitter need 7.2, and 173.5 without OLT the te burst error.	d to supports 1/(1+D) mod 4 pre 7.2, 6 and 176.9.1.2, that may e optical transmitter should enal	coding, as spe be enabled or o ble 1/(1+D) mo	cified in 135.5.7.2, disabled as needed with d 4 precoding to
Proposed	Response	Response Status W			Proposed	Response	Response Status W		
PROP Resol	POSED ACCEPT	IN PRINCIPLE.			PROP Resolv	OSED ACCEF	PT IN PRINCIPLE. nse to comment #21.		
C/ 180	SC 180.4	P349	L10	# 146	C/ 73	SC 73	P 85	L 9	# 149
Ghiasi, Ali		Ghiasi Quanti	um/Marvell		Mi, Guang	can	Huawei Techn	ologies Co., Lt	d
Comment	Туре Т	Comment Status D		Precoding	Comment	Type TR	Comment Status D		(bucket)
Prior t	o 180.4 add sect	ion for PMA function to suppo	ort precoder to m	itigate burst errors	Table	73-5 is missing	g the indication of higherst priori	ty.	
Suggested	dRemedy				Suggested	Remedy			
The t	ransmitter need t	to supports 1/(1+D) mod 4 pre	ecoding, as spec	ified in 135.5.7.2,	chang	e 1.6Tb/s 8lan	e in the capability column to 1.6	Tb/s 8 lane, hiç	ghest priority.
120.5.	7.2, and 173.5.7	.2, 6 and 176.9.1.2, that may	be enabled or d	isabled as needed with	Proposed	Response	Response Status W		
mitiga	te burst error.				PROP	OSED REJEC	ст.		
Proposed PROP Resolution	Response POSED ACCEPT	Response Status W IN PRINCIPLE.			Table define priority	73-5 already ir d in Table 73– /" in the Table	ndicates "lowest priroity" and 73 5 (listed from highest priority to 73-5 is redundant.	.7.6 contains th lowest priority)"	is text "priority as '. So adding "highest
					C/ 116	SC 116	P 94	L 6	# 150
C/ 182	SC 182.4	P 397	L 20	# 147	Mi, Guang	can	Huawei Techn	ologies Co., Lt	d
Ghiasi, Ali		Ghiasi Quanti	um/Marvell		Comment	Type TR	Comment Status D		(bucket)
Comment	Type T	Comment Status D		Precoding	In tabl	e 116-3, the la	st two column, missusage of PM	/ID names.	
Prior t	o 182.4 add sect	ion for PMA function to suppo	ort precoder to m	nitigate burst errors	Suggested	Remedy			
Suggestee	dRemedy				chang	e PHY type of	CL 178 and 179 in the table to t	he correct nom	enclature, i.e.,
The t	ransmitter need t	to supports 1/(1+D) mod 4 pre	ecoding, as spec	ified in 135.5.7.2,	200GE	BASE-KR1 and	200GBASE-CR1		
0LT, 1	without OLT the	.2, o and 170.9.1.2, that may optical transmitter should ena	able 1/(1+D) mod	4 precoding to	Proposed	Response	Response Status W		
mitiga	te burst error.		(PROP	OSED ACCEF	PT IN PRINCIPLE.		
Proposed	Response	Response Status W			Impler	nent the sugge	ested remedy with editorial licen	se.	

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: Comment ID

PROPOSED ACCEPT IN PRINCIPLE. Resolve using response to comment #21.

C/ 116	SC 116	P 95	L 4	# 151	C/ 169	SC 169		P116	L17	# 154	
Mi, Guangcan Huawei Technologies Co., Ltd			Mi, Guangcan Huawei Technologies Co., Ltd								
Comment Type TR Comment Status D (bucket)			Comment	Туре Т	R	Comment Status D		PHY descriptions (bucket)			
In tab	e 116-3a, the last	two column, missusage of F	PMD names.		In Tab	ole 169-1, R	low of a	800GBASE-CR4 was describe	ed as 800Gb/	s PHY using 800GBASE-	
Suggestee	dRemedy				R enc descri	oding over t ption in pag	four lar ge 49, ⁻	nes of twinaxial copper cable, 1.4.184aa	which is inco	insistent with the	
chang 400Gl	e PHY type of CL BASE-KR2 and 40	. 178 and 179 in the table to 00GBASE-CR2	the correct nom	enclature, i.e.,	Suggested	dRemedy					
Proposed	Response	Response Status W			make the language consistent.						
PROPOSED ACCEPT.						Response		Response Status W			
C/ 116	SC 116	P 102	L 5	# [152	PROP The la simila	POSED RE. Inguage use r difference	JECT. ed here s betw	e is consistent with other simil een the PHYs described in th	lar PHY types is table and th	s in this table. There are he definitions in 1.4.	
Comment			lologies CO., Li	(hucket)	C/ 169	SC 169		P116	/ 15	# 155	
200GI	BASE-R SM PMA	delay constraint is missing		(Bucket)	Mi Guand	ican		Huawei Techno	ologies Co. L	td	
Suggestee	dRemedy				Comment same	<i>Type</i> Ti as the prev	R rious co	Comment Status D	Jogico 00., L	PHY descriptions (bucket)	
Proposed	Response	Response Status W			Suggested	dRemedy					
PROF	OSED REJECT.				make the description consistent Proposed Response Response Status W						
A sug	gested remedy is	not provided.									
200GBASE-R 8:1, 1:8, and 1:1 PMA types, all SM-PMA types are listed. Note that the term SM-PMA is used to reference any symbol multiplexing PMA, where it would otherwise be ambiguous. In the referenced text the multiplex ratio is unambiguous and the reference to Clause 176 in the notes column backs that up.						PROPOSED REJECT. It is assumed that the referenced "previous comment" is Comment #154. The language used here is consistent with other similar PHY types in this table. There is similar differences between the PHYs described in this table and the definitions in 1.4.					
C/ 116	SC 116	P107	L 4	# 153		SC 400		D440	1.4	# 450	
Mi, Guang	can	Huawei Techr	nologies Co., Lto	±	0/ 169	30 169		P118	L4	# 156	
Comment Type TR Comment Status D (bucket)						can	_	Huawei Lechno	plogies Co., L	td "	
In Tab	ole 116-9, there sh	nould be no applicable SP1 a	and SP6 for 113	.4375GBd PMD lane	Comment	Type T	R	Comment Status D		(bucket)	
Suggestee	dRemedy				In tabl 80000	BASE-DR	ny type 8 PMD	and clause correlation was m and 800GBASE-DR8-2 PMD	narked incorre	ectly for the columns of	
chang	e the content of r	ow SP1 and SP6 in the colu	mn of 113.4375	GBd PMD lane to N/A	Suggested	dRemedy					
Proposed PROF	Response POSED ACCEPT.	Response Status W		remov DR4, 3 800GB	e the unne 800GBASE BASE-DR8-	cessar -FR4-5 -2 PMD	y M in the following rows for 8 500. remove the unnecessary 0: 800GBASe-DR4-2, 800GB/	800GBASE-D M in the follo ASE-FR4, and	R8 PMD: 800GBASe- wing rows for d 800GBASE-LR4.		
					Proposed	Response		Response Status W			
					PROF	OSED ACC	CEPT.				

CI 160	SC 160	D107	1.4	# 157	CL 174	SC 174	DAGA	/ 20	# 450				
Mi Guan		F 121		# <u>\G</u>	Mi Guana	00 1/4		L ZU	# 198				
Comment Type TR Comment Status D (bucket)					Comment	Type TR		nnologies co., L	(huckot)				
In Tal	ble 116-6, there s	hould be no applicable SP1 a	and SP6 for 113	3.4375GBd PMD lane	In Tab mediu	ble 174-4, the no	otes for 1.6TBASE-KR8 and on. No length of the medium	1.6TBASE-CR8 was provided, n	says includes the or any explicit delay due				
chang	ge the content of	row SP1 and SP6 in the colu	mn of 113.437	5GBd PMD lane to N/A	to the directi	on through cabl	e medium was provided for a	4, a definitive of 800GBASE-CR4	Ans allocated for one				
Proposed	Response	Response Status W			1.6TB 1.6TB	ASE-CR8 would ASE-KR8.	d be consistent with 800GBA	SE-CR4. The sa	me problem applies to				
It is a	ssumed that the	comment is referring to Table	169-6 rather th	nan the referenced Table	Suggested	dRemedy							
116-6 Imple	i. ment the sugges	ted remedy with editorial licer	ise.		Put in 1.6TB feasib	explicit allocation ASE-KR8. Align ly.	on of delay constraints for the with that of 800GBASE-CR	e medium used i 4 and 800GBAS	n 1.6T BASE-CR8 and E-KR4, if technically				
C/ 169	SC 169	P123	L 5	# 158	Proposed	Response	Response Status W						
Mi, Guang	gcan	Huawei Techr	nologies Co., Li	td	PROPOSED ACCEPT IN PRINCIPLE. Use the same text used for 800GBASE-KR8/CR8 in IEEE Std 802.3df-2024. For the 800GBASE-KR4 row change the text in the note column to: "Includes allocation of 14 ns for one direction through backplane medium. See 178.6." For 800GBASE-CR4 row change the text in the note column to:								
Comment In Tal PMA	<i>Type</i> TR ble 169-4, the del are missing	Comment Status D ay constraints on 800GBASE	-R BM-PMA ar	<i>(bucket)</i> nd 800GBASE-R SM-									
Suggeste	dRemedy				"Includ	des allocation of	f 14 ns for one direction thro	ugh backplane m	edium. See 179.6."				
add a	ppropriate rows v	vith TBD if no consensus has	been built.		C/ 180	SC 180.4.1	P 350	L13	# 160				
Proposed	Response	Response Status W			Yu, Rang-	chen	InnoLight						
800G	BASE-R 32:4. 4:	32. and 4:4. all SM-PMA type	s are listed in T	able 169-4. Note that	Comment TypeERComment StatusDEditorial (bucket)A typo of 'L3' in figure 180-2, right side, 3rd channel output label.								
the te	rm SM-PMA is u	sed to reference any symbol r	multiplexing PM	IA, where it would									
otherwise be ambiguous. In the referenced text the multiplex ratio is unambiguous and the reference to Clause 176 in the notes column backs that up.					SuggestedRemedy								
						It should be 'L2'.							
						Proposed Response Response Status W							
						PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.							
					C/ 181	SC 181.6.3	P381	L 36	# 161				
					Yu, Rang-	chen	InnoLight						
					Comment	Type TR	Comment Status D		power budget				
						Power budget (for maximum TDECQ)' for 800GBASE-FR4-500 in Table 181-7 could be incorrect. It should be equal to channel IL + allocation for penalties (for maximum TDECQ).							
					Suggested	dRemedy							
					Power	r budget (for ma	ximum TDECQ)' in Table 18	1-7 should be up	dated to 7.4 dB				
					Proposed	Response	Response Status W						
					PROP	POSED ACCEP	Т.						

C/ 181	SC 181.6.1	P378	/ 16	# 162	C/ 183	SC 183.6.2	P 427	/ 18	# 165			
Yu. Rang-	chen	InnoLight			Yu. Rang-	chen	InnoLight					
Comment	Type TR	Comment Status D		TX specs	Comment	Type TR	Comment Status D		RX specs			
recom follow	mend relationshi 400G FR4, with	ip between 'Tx_OMAout (min) delta=3dB, assuming max. O)' and 'Tx_Pavg ER infinite.	(min)' (in Table 181û5)	The de loss' (elta between 'Tx 4.0dB for FR4)	_Pavg(min)' and 'Rx_Pavg(m	iin)' should equal	to 'Channel insertion			
Suggeste	dRemedy				Suggested	dRemedy						
With ' 181û5	OMAout (min)'=0 5 should be chang	.8dBm, then 'Average launch ged to -2.2dBm.	power, each la	ne (min) ' in Table	Rx_Pa	avg (min)' in Tab	le 183û7 should be -2.2dBm	-4.0dB=-6.2dBm				
Proposed	Response	Response Status W			Proposed Response Response Status W							
PROF	POSED ACCEPT	IN PRINCIPLE.			PROF	OSED ACCEPT	IN PRINCIPLE.					
Imple	ment the suggest	ted remedy with editorial licen	ise.		For Ta	able 183-7, in the	e 800GBASE-FR4 column, cl	nange the value f	for "Average receive			
C/ 181	SC 181 6 2	P380	/ 18	# 163	power	, each lane (min)" to -6.2.					
Yu Rang-	chen	Innol ight	210	# 105	C/ 183	SC 183.6.1	P 425	L19	# 166			
Comment	Type TR	Comment Status D		RX specs	Yu, Rang-	chen	InnoLight					
The d	elta between 'Tx	Pavg(min)' and 'Rx Pavg(mi	n)' should equal	to 'Channel insertion	Comment	Type TR	Comment Status D		TX specs			
loss' (3.5dB for FR4-50		,		Recor	nmended relatio	nship between 'Tx_OMAout (min)' and 'Tx_Pa	avg (min)' for 800G LR4			
Suggeste	dRemedy				(in Ta	ble 183û6) shoul	d follow 400G LR4-6, with de	elta equal to 3dB	, assuming max . OER			
Rx_P	avg (min)' in Tabl	le 181û6 should be -2.2dBm-3	3.5dB=-5.7dBm		infinite	Э.						
Proposed Pesnonse Pennonse Status W						SuggestedRemedy						
PROF	POSED ACCEPT				With	'OMAout (min)'=	1.9dBm, then 'Average laund	h power, each la	ine' for 800G LR4 in			
					Dranaad							
In Tab	ole 181-6, change	e the value for "Average recei	ve power, each	lane (min)" to -5.7.	Proposed	Response						
C/ 183	SC 183.6.1	P 425	L19	# 164	Implei	ment the sugges	ted remedy with editorial lice	nse.				
Yu. Rang-	chen	InnoLight					,					
Comment	Type TR	Comment Status D		TX specs	C/ 183	SC 183.6.2	P 427	L18	# 167			
recom	mend relationshi	in between 'Tx OMAout (min))' and 'Tx Pavo	(min)' (in Table 183û6)	Yu, Rang-	chen	InnoLight					
follow 400G FR4, with delta=3dB, assuming max. OER infinite.						Type TR	Comment Status D		RX specs			
Suggeste	dRemedy				The d	elta between 'Tx	_Pavg(min)' and 'Rx_Pavg(m	in)' for 800G LR	4 should equal to			
With 'OMAout (min)'=0.8dBm, then 'Average launch power, each lane (min) ' in Table 183û6 should be changed to -2.2dBm.						Channel Insertion loss' (6.3dB for LR4)						
						SuggestedRemedy						
Proposed	Response	Response Status W			Rx_Pa	avg (min)' for 800	G LR4 in Table 18307 shou	d be -1.1dBm-6.	3dB=-7.4dBm			
PROF	OSED ACCEPT	IN PRINCIPLE.			Proposed	Response	Response Status W					
Imple	ment the suggest	ted remedy with editorial licen	ISE.		PROPOSED ACCEPT IN PRINCIPLE.							
					For Ta power	able 183-7, in the , each lane (min	e 800GBASE-LR4 column, cł)" to -7.4.	nange the value f	or "Average receive			
					-							
C/ 183	SC 183.6.3	P 429	L 6	# 168	C/ 182	SC 182.6.3	P 404	L 3	# 171			
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Yu, Rang-	chen	InnoLight			Yu, Rang-	chen	InnoLight					
Comment	Туре Т	Comment Status D		power budget	Comment	Туре Т	Comment Status D		power budge			
Footn	ote e did not clari	fy what's the compisiton of to	tal 5dB allocatio	on for penalties.	Althou	ugh TDECQmax is	s still TBD. However, the footr	note b should a	also indicate the			
Suggeste	dRemedy				alloca	tion for penalties,	just leave dispersion section	as TBD for fut	ure update.			
Reco	mmend to add "Al	locations to penalties for 800	G-LR4 including	g penalties due to	Suggestee	dRemedy						
dipers	sion 3.9dB, DGD (0.7dB and MPI 0.4dB" to foot	note e.		Recor	mmend to add "All	ocations to penalties for DRx	-2 series inclu	ding penalties due to			
Proposed	Response	Response Status W										
PROF	POSED ACCEPT	IN PRINCIPLE.			Proposea	Response	Response Status W					
Resol	ve using the resp	onse to comment #502.			PROF	VOSED ACCEPT	IN PRINCIPLE.	e exception th	at the value is 4dB and			
C/ 181	SC 181.6.3	P 381	L 48	# 169	not .5	dB.						
Yu, Rang-	chen	InnoLight			Implei	ment with editorial	license.					
Comment	Туре Т	Comment Status D		power budget	C/ 183	SC 183.6.3	P 429	L 6	# 172			
Footn	ote d did not clari	fy what's the compisiton of to	tal 3.9dB alloca	tion for penalties.	Yu, Rang-	chen	InnoLight					
Suggeste	dRemedy				Comment	Type T	Comment Status D		power budge			
Recor dipers	mmend to add "Al sion 3.4dB, DGD a	locations to penalties for 800 and MPI 0.5dB" to footnote d.	G-FR4-500 incl	uding penalties due to	Althou alloca	ugh TDECQmax is tion for penalties,	s still TBD. However, the footr just leave dispersion section	note b should a as TBD for fut	also indicate the ure update.			
Proposed	Response	Response Status W			Suggestee	dRemedy						
PROF Resol	POSED ACCEPT	IN PRINCIPLE. onse to comment #128			Recor	mmend to add "All sion TBDdB, DGD	ocations to penalties for 8000 and MPI 0.5dB" to footnote e	G-FR4 includin	g penalties due to			
CI 400	SC 400 C 2	Dasa	1 47	# 470	Proposed	Response	Response Status W					
	30 100.0.3	F 300	L41	# 170	PROF	POSED ACCEPT	N PRINCIPLE.					
Yu, Rang-	-chen	InnoLight			Resol	ve using the respo	onse to comment #171.					
Comment	Type T	Comment Status D		power budget	C/ 181	SC 181.7	P383	L16	# 173			
Footh	ote b did not clari	ry what's the compisiton of to	tal 3.50B alloca	tion for penalties.	Yu Rang-	chen	Innol ight					
Suggeste	dRemedy				Comment		Comment Status D		power huda			
Recor	mmend to add "Al	locations to penalties for DR	c series includir	g penalties due to	DGDr	nax (in Table 181í	(18) probably used DGDmean:	=0.8ps_it_shou	IId be 2 24ps refer to			
Upers					802.3	df DR series.		-0.000, 11 01100				
	NESPUNSE				Suggestee	dRemedy						
Resol	ve using the resp	onse to comment #127.			Recor	mmend change to	2.24ps					
	5 1				Proposed	Response	Response Status W					
					PROF	POSED ACCEPT	N PRINCIPLE.					

Implement proposed remedy with editorial license.

power budget

power budget

power budget

Cl 177	SC 177.4.6.1	P 255	L 25	# 174	C/ 179	SC 179.9.5.	4.2	^{>} 323	L 38	# 177	
Ramesh, Srid	dhar	Maxlinear Inc			Ramesh, S	Sridhar	Ma	xlinear Inc			
Comment Ty	rpe E	Comment Status D		(editorial)	Comment	Type TR	Comment Stat	us D		RX ITOL/JTOL	
"Pad fran purpose i "Eromo A	me sequence" in alignment. S	naming does not convey Suggest to call this field			Table 179-12: Jitter mask extended below 40Khz and above 40MHz for completeness SuggestedRemedy						
		Jence Insteau.			Case	A - please amer	nd to <= 0.04, Case	F, please	amend to >= 40		
	emedy mo Alignmont 9	Soquenee			Proposed	Response	Response Stati	us W			
	ne Algrinerit s				, PROP	, OSED REJECT	Г.				
Proposed Re PROPOS Impleme	esponse SED ACCEPT ent with editoria	Response Status W IN PRINCIPLE. I license and discretion.		The co Note the CF https://	omment does no hat the jitter cas RU bandwidth ao //www.jeee802.c	ot provide sufficient ses are matched to dopted by motion # pro/3/di/public/23_0	justification the expecte 7 in the Ma 5/motions	n to support the ed CDR bandwid y 2023 meeting 3cwdfdi 2305 p	suggested remedy. dth which is matched to (see df). This bandwidth is		
C/ 177	SC 177.6.2.3	P 260	L 3	# 175	the sa	me as in existin	g specifications, e.	g., for 100 (Gb/s per lane Pl	MDs, which have the	
Ramesh, Srid	dhar	Maxlinear Inc			same	test cases in Ta	able 162–17.				
Comment Ty	rpe TR	Comment Status D		counters(bucket)	C/ 184	SC 184.4.1		⊃445	L12	# 178	
Add a co	ounter for unco	rectable codewords (detected	with additiona	al one bit parity)	Brown, Ma	att	Alp	hawave Se	emi		
SuggestedRe	emedy				Comment	Туре Т	Comment Stat	us D		Functional (Bucket)	
uncorr_c Countes decoder	w_cnt the number of	inner FEC codewords conside	ered uncorrect	able by inner FEC	The pr FEC s proces	rocess provided ervice interface ss in 184.4.2 rer	in 184.4.1 "Alignme to vectors; it does maps the vectors su	ent lock and not include uch that the	d deskew" mere and RS-FEC sy ere is alignment	ely maps bits on the mbol alignment. The to the RS-FEC symbols	
Proposed Re	esponse	Response Status W			and th	e lanes are prop	perly ordered.				
PROPOS	SED ACCEPT	IN PRINCIPLE.			Suggested	Remedy					
Resolve	using the resp	onse to comment # 183.			Either symbo	combine the tw ol alignment pro	o subclauses and p cess in 184.4.2 to 1	rocess into 84.4.1.	o one subclause	or move the RS-FEC	
CI 177	SC 177.6.2.3	P 260	L 3	# 176	Proposed	Response	Response Statu	us W			
Ramesh, Srid	dhar	Maxlinear Inc			PROP	OSED ACCEP	T IN PRINCIPLE.				
Comment Ty Counters	<i>pe</i> TR s defined here of	Comment Status D do not seem consistent with th	ose defined ir	<i>counters(bucket)</i> Table 177-4.	 Implement the following with editorial license. Move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. 						
SuggestedRe Please m page 263	e <i>medy</i> nake definitions 3	s of counters consistent with s	tatus variables	s shown on Table 177-4,							
Proposed Re	esponse	Response Status W									

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment # 183.

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: Comment ID

C/ 184	SC 184.4.2	P 445	L 22	# 179	C/ 176	SC 1	76.11	P243	L 31	# 181		
Brown, Ma	att	Alphawave Se	emi		Brown, Ma	att		Alphawave Se	mi			
Comment	Туре Т	Comment Status D		Reorder (Bucket)	Comment	Туре	т	Comment Status D		Skew		
The la requir mand is con	ane reorder proce red (or optional) if atory if the lanes aditional, rather th dRemedy	ss is stated as being optiona the lanes are already in orde may not be in order (e.g., con an optional.	l, however, that er (e.g., connect nnected to an 8	is not the case. It is not ed to a PCS above) and :32 PMA above), thus it	A sim skew one ty clause requir	ilar subcl at each ii /pe of PM es for 200 ed. This	ause has nstantiat IA for ea OG, 4000 seems b	s traditionally been included ir ed interface from the PMD to ch Ethernet rate. Now we hav G, and 800G. A rate-neutral ar eyond a subclause in Clause	the PMA sub- the PCS. Until re two types de nd type-neutral 176.	clauses, defining the now, there was only ifined in two separate I specification is		
Chan	an the first 2 sent	ences in 184 4 2 to "If the su	hlaver above th	e Inner FEC does not	Suggeste	dRemedy	/					
provid	the PCS lanes of the PCS lanes	in order at the service interfa according to the PCS lane n	umber.".	order function shall	Creat relation	e a new a onships th	annex (or nrough th	r perhaps a subclause in 176 ne PHY sublayer stack. A pres	 used to defir sented support 	ned the skew and skew ing this will be provided.		
Proposed	Response	Response Status W			Proposed	Respons	se	Response Status W				
PROF	POSED ACCEPT				PROF	POSED A	CCEPT	IN PRINCIPLE.				
01 474	00 474 4 0	A presentation to address this comment is expected.										
C/ 1/4	30 174.1.2	P155	L 4 7	# 180	URL/k	prown_3d	lj_03_24	06				
Brown, Ma	att	Alphawave Se	emi		[Edito	r's note:	CC man	/]				
Comment	Туре Т	Comment Status D		List of interfaces	CL 177	SC 1	77 10	DJEA	1.28	# 192		
This li	ist of interface wid	ths has been traditionally inc	cluded in "new e	ethernet rate			//.10	F 204		# 102		
introa burde	in to amend with e	ach new interface added Th	ns unecessary ne number of lai	and present and extra	Brown, Ma	att		Alphawave Se	mi			
in eac	ch clause that defi	ines and interface. The origin	al intent was to	point out that the	Comment	Туре	Т	Comment Status D		Skew		
struct are no	ural detail of the s ot specified.	specified interfaces are to be	as specified wh	ile others that are not	In ord alread	er for the ly specifi	Inner Fl ed 200G	EC in combination with the SN BASE-R, 400GBASE-R, and	<i>I</i> -PMA above t 800GBASE-R	to interoperate with the PCS, the total skew		
Suggeste	dRemedy				PMA	defined for	or each r	ate. Furthermore, the skew sl	nould exclude	the systematic skew that		
Delete	e the paragraph a	nd lists from page 155 line 4	7 to page 156 li	ne 12.	is add	led then i	removed	by the 8:1 and 16:2 SM-PMA	for 200G/400	G.		
Proposed	Response	Response Status W			Suggeste	dRemedy	/					
PROF Imple Pendi	POSED ACCEPT ment the suggesting discussion by	IN PRINCIPLE. ed remedy with editorial licer the CRG.	nse.		Speci subla numb	fy the ma yer above er needs	iximum s e it, exclu to be de	skew for the combination of In Iding the systematic skew add termined.	ner FEC subla ded then remo	yer and the SM-PMA ved by the SM-PMA. A		
					Proposed	Respons	se	Response Status W				

PROPOSED ACCEPT IN PRINCIPLE. Add an editor's note based on the suggested remedy. A presentation regarding this comment is expected.

C/ 177	SC 177.5.3	P 257	L 29	# 183	C/ 00	SC (D	P 0	L 0	# 185	
Brown, N	latt	Alphawave Ser	ni		Brown, M	att		Alphawave S	Semi		
Commer	nt Type T	Comment Status D		counters(bucket)	Comment	Туре	т	Comment Status D		Machine Convention (bucket)	
177. these	5.3 lists a few cour e could be improve	nter to be supported by the inned. Further, additional counters	er FEC. The des should be inc	efintion for some of luded provides bins of	Many indica	state dia te that th	agrams i he variat	n this draft as well as in the l ble be incremented by 1. How	base standa wever, this op	rd use the operator "++" to perator is never defined.	
Current					Suggeste	dRemed	'y				
Suggest	earemeay	مراجعه ومرازلاته والمراجع			Impo	t Clause	21 and) 			
A co	ntribution with mor	e details will be provided.			Amer Delet	10 21.5 to e the foll	o include owing fre	e definition of "++.	ns in multinle	clauses "The notation used	
Propose	d Response	Response Status W			in the	state dia	agrams f	follows the conventions of 21	.5. The nota	ition ++ after a counter or	
PRO	POSED ACCEPT	IN PRINCIPLE.			intege	er variab	le indicat	tes that its value is to be incr	emented."		
The	following presentat	tion was reviewed by the 802.	Rdi task force a	t the May Interim	Proposed	Respon	se	Response Status W			
mee	ting: https://www.ie	eee802.org/3/dj/public/24_05/b	rown_3dj_05a	_2405.pdf.	PROPOSED ACCEPT IN PRINCIPLE.						
					Impo	t Clause	21 and.				
Imple	ement slides 7, 9 a	and 10 with editorial license.			Delete the following from state diagram conventions in 175.2.6.1, 176.5.1.6, 177.6.1,					.1. 176.5.1.6. 177.6.1.	
C/ 184	SC 184.4	P 445	L 22	# 184	184.6	.1, 176A	.10.1.		· · · · · · · · · · · · · · · · · · ·		
Brown, M	latt	Alphawave Sei	ni		increi	notation nented."	++ aπer	a counter or integer variable	indicates th	at its value is to de	
Commer	nt Type T	Comment Status D		Reorder (Bucket)	Imple	ment wit	h editoria	al license.			
The enco one othe	Inner FEC transmi der/decoder and o per PCS lane, thes r FEC clauses and	t (184.4) and receive (184.5) f other functions to be performed se should be called "flows" rath to differentiate between "lane	unctions provic I on each PCS ner than "lanes s" that go betw	le a BCH lane. Although there is " to be consistent with een sublayers.							
Suggeste	edRemedy										
Whe "flow	n describing the pi " rather than "lane	rocess applied to each PCS la ".	ne in each dire	ction, use the word							
Propose	d Response	Response Status W									

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license.

C/ 176E SC	176E.3.3	P 617	L10	# 186	C/ 176E	SC 176E.3	.4	P 621	L13	# 187	
Ran, Adee		Cisco			Ran, Adee			Cisco			
Comment Type	TR (Comment Status D		C2M output	Comment T	ype TR	Comment	Status D		C2M output	
Host output c settings that o	haracteristics can result from	need to be defined with n training.	consideration of	the variable output	Module output characteristics need to be defined with consideration of the variable output settings that can result from training.						
This will affect	ct the entire su	bclause 176E.3.3.			This wil	Il affect the er	ntire subclause 1	76E.3.4.			
SuggestedRemed	dy				Suggested	Remedy					
Define the ou specifications	tput character in 179.9.4.	istics using a methodolo	ogy similar to that	t of transmitter	Define specific	the output cha ations in 179.	aracteristics usir .9.4.	ig a methodol	ogy similar to tha	t of transmitter	
Use a table s insertion loss	imilar to Table budget for C2	179-7 but with different M.	t values due to th	e higher host channel	Use a t assume	able similar to ed for the mod	o Table 179-7 bu dule output test.	t with differen	t values due to th	e lower insertion loss	
A detailed pro	posal will be	provided.			A detail	led proposal v	vill be provided.				
Proposed Respor	nse R	esponse Status W			Proposed F	Response	Response \$	Status W			
The following meeting: https://www.ie The presenta (subject of co The following Straw Poll #3 I would suppor specifications Results (all): However, stra Y: 12, N: 11, The results of but consensu Based on the A: Implement the exception B: Implement jitter leave the C: Implement (including jitte In either appr For CRG disc	ACCEPTINF presentation eee802.org/3/d tion addressed omment #187), straw poll was soutlined in ra Y: 38, N: 9, Ni aw poll #8 rela NMI: 22, A: 3 f the straw pol us is not obviou se two straw pol se two straw pol to f the jitter m t the proposed of the jitter m t the proposed e limit values t the proposed er values). roach, editorial cussion.	ANNOTPLE. has been reviewed by the dj/public/24_05/ran_3dj_ d host output (subject of s taken in the May 2024 ch for the AUI-C2M host n_3dj_02_2405 MI: 9, A: 42 ted to the jitter measure 36 I show support for the p us. polls, possible approach changes on slides 6, 8 ethod and parameters. changes on slides 6, 8 FBD. I changes on slides 6, 8 I license should be inclu	he task force at th _02_2405.pdf. f this comment) a interim meeting: and module outp ement had less de roposed jitter means es are: , 10, and 11 of ra , 10, and 11 of ra , 10, and 11 of ra ded.	ne May 2024 interim and module output out ecisive results: asurement changes, n_3dj_02_2405, with n_3dj_02_2405, but for n_3dj_02_2405	Resolve	using the re	sponse to comm	⊢. hent #186 (wh	ich addresses ho	st characteristics).	

C/ 176E	SC	176E.3.5	P624	L 3	# 188	C/ 176E	SC	176E.3.6	P628	L 26	# 189
Ran, Adee			Cisco			Ran, Adee			Cisco		
Comment	Туре	TR	Comment Status D		C2M input	Comment 7	уре	TR	Comment Status D		C2M input
Host ir	nput ch	aracteristic	cs need to be defined with c	onsideration of th	ne availability of training.	Module training	input	characteris	stics need to be defined with	consideration o	f the availability of
This w	ill affeo	ct the entire	e subclause 176E.3.5.								
Suggested	Reme	dy				This wi	ll affec	t the entire	subclause 176E.3.6.		
Define	the in	put charact	eristics using a methodolog	y similar to that o	of receiver	Suggested	Remea	ly			
specifi	cations	s in 179.9.5	5, with the required changes	due to the lack of	of a cable assembly.	Define specific	the inp ations	ut charact in 179.9.5	eristics using a methodology , with the required changes	similar to that due to the lack	of receiver of a cable assembly
Use a and A	table s C comi	similar to Ta mon-mode	able 179-10 but with additio voltage tolerance.	nal rows for DC o	common-mode voltage	and us	age of	MCB inste	ad of HCB.		
A deta	iled pr	oposal will	be provided.			Use a t toleran	able si ce and	milar to Ta AC comm	able 179-10 but with addition non-mode voltage tolerance.	al rows for DC o	common-mode voltage
Proposed	Respo	nse	Response Status W			A detai	led pro	nosal will l	he provided		
PROP	OSED	ACCEPT I	N PRINCIPLE.			Proposed P	Posnon		Boononoo Statuo IN		
The fo	llowing	presentati	on has been reviewed by th	e task force:							
The fo	llowing	eee802.org straw.poll	y/3/dj/public/24_05/ran_3dj_ was taken in the May 2024	_01_2405.pdf. interim meeting:		Resolv	20 USING	the respo	IN PRINCIPLE.	h addresses ho	st characteristics)
Straw	Poll #2			interim meeting.			o donig				
I would	d suppo	ort the app	roach for the AUI-C2M host	and module inpu	ıt	C/ 174A	SC	174A.3	P 539	L 25	# 190
Specifi Result	cations	S OUTIINED II	n ran_3dj_01_2405 5 NMI: 6 A: 39			Ran, Adee			Cisco		
Based	on this	s straw poll	, a possible approach is:			Comment 7	уре	TR	Comment Status D		BER/FLR
Impler For CF	nent th RG disc	e proposed cussion.	d changes on slides 6-9 of r	an_3dj_01_2405	, with editorial license.	174A.3	"Fram	e loss ratio	o for a Physical Layer impler	nentation" is err	ipty.
						I assun It is und are not	ne a "F clear h equiva	Physical La ow frame la alent; frame	yer implementation" means oss ratio can be defined for es are defined only at the R\$	the path betwee this path, becau S, and cannot be	en the RS and the MDI. se the two interfaces e identified, checked for

Comment ID 190

errors, or counted on the MDI. Similarly, the signals on the MDI cannot be compared to the

This is in contrast to "RS to RS link" and other subclauses, in which such checking and

data stream on the RS, so no other "error metric" can be defined.

Response Status W

counting is possible.

SuggestedRemedy Delete 174A.3. Proposed Response

This subclause should be deleted.

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #205.

								• • •	
C/ 174A	SC 174A.4	P 539	L 30	# 191	CI 73	SC 73.9.1.1	P86	L 26	# 194
Ran, Adee		Cisco			Ran, Adee		Cisco		
Comment 7	Type TR	Comment Status D		BER/FLR	Comment	Type TR	Comment Status D		ILT RTS SI
174A.4 Since ti should etc.) sh	Frame loss rather this annex define be based on the hould preferably	tio for an xMII Extender" is err es several performance metric e sub-link in question, while th be in the subclause text.	npty. s, the titles of s e specific requi	pecific subclauses rement (FLR, BER,	The ex two va (link_f 73-11)	isting semantics lues, OK and FA ail_inhibit_timer) . This can cause	of the link_status paramete IL. This imposes a need to b otherwise AN will restart (po numerous problems in a se	r of AN_LINK.ind pring up a link wi er the Arbitration gmented link.	dication enables only thin a specified time state diagram, Figure
Suggestedl A prese	<i>Remedy</i> entation with pro	posed content is planned.			proces indicat	s of training. Thi	s can be achieved by adding otiated PHY is still training.	g a third possible	e value to link_status,
Proposed F	Response	Response Status W			Suggested	Remedy			
PROPO	OSED ACCEPT	IN PRINCIPLE.			A pres	entation with pro	posed content is planned.		
Resolv	e using the resp	onse to comment #205.			Proposed	Response	Response Status W		
C/ 174A	SC 174A.5	P 539	L 36	# 192	PROP	OSED REJECT.			
Ran, Adee Comment 7 174A.5 Since t should etc.) sh Suggested A prese Proposed F PROPO Resolve	Type TR 5 "Frame loss rate be based on the bould preferably <i>Remedy</i> entation with pro <i>Response</i> OSED ACCEPT re using the resp	Cisco <i>Comment Status</i> D tio for PHY" is empty. es several performance metric e sub-link in question, while the be in the subclause text. posed content is planned. <i>Response Status</i> W IN PRINCIPLE. ponse to comment #205.	s, the titles of s e specific requi	BER/FLR	This p "Figurn over a consic Pendir during https:/ Resolv	roposal might ca e 73–11—Arbitra new "IN_PROG eration before be ng CRG review o the May Interim /www.ieee802.or re along with cor 's note: CC]	use AN to be stuck in the AN tion state diagram". It also re RESS" parameter value. The sing accepted by the CRG. f the following contribution w meeting: g/3/dj/public/24_05/ran_3dj_ nment #195	N GOOD CHECH equires each PC e proposed chan /hich was review .05_2405.pdf	K state as shown in S to exercise control ge needs careful ed by the Task Force
C/ 169	SC 169.2	P119	L 31	# 193					
Ran, Adee		Cisco							
Comment 7 A new 8 introduc only ref	<i>Type</i> TR 800GBASE-ER [•] ction clause, 16 fers to the 800G	Comment Status D 1 PCS is defined in clause 18 9.2.3 ("Physical Coding Subla BASE-R PCS.	6. It should be r yer (PCS)" in 8	ER1 PHY (bucket) nentioned in the 02.3df) which currently					
Suggestedl Bring 1	Remedy 69.2.3 into the c	draft and amend it to include t	he clause 186 F	PCS.					
Proposed F PROPO Resolve	Response OSED ACCEPT re using the resp	Response Status W IN PRINCIPLE. onse to comment #319.							

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: Comment ID

[Editor's note: The comment type was change from ER to T as it was deemed somewhat technical.]

C/ 176A	SC 17	6A.9	P 560	L19	# 197	C/ 176A	SC	176A.2.3.	2	P 552	L 14	# 199
Ran, Adee)		Cisco			Ran, Adee				Cisco		
Comment	Type I	ER	Comment Status D		(editorial)	Comment	Гуре	TR	Commen	t Status D		ILT Pattern (Bucket)
The "S the pu	Segment b rpose of t	y segme he whole	nt training" seems to be a thing.	in introductory su	bclause that explains	"The d is 0 wh	efault i ich sel	dentifier fo lects polyn	or each lane iomial_0)"	is its lane numb	per (e.g., the de	efault value for identifier_0
It wou	ld help rea uction in 1	aders if th 76A.1 se	is introduction is placed a ems too brief.	at the beginning c	f the annex. The current	Some	interfac	ces have 8	3 lanes.			
Suggested	Remedy					The de	fault m	napping pro	ovided in Ta	ble 176Aû1 can	be used instead	ad.
Move	176A.9 ar	nd its sub	clauses into 176A.1 (with	some hierarchy)	or after it.	Suggested	Remea	dy				
Rephr	Rephrase the text as necessary to make it a good introduction to the control function (e.g.,							he default Fable 176A	identifier for \-1".	each lane is th	e same as that	of the PRBS13 function,
explai	n what "R	rs" stand	ds for).			Proposed I	Respor	nse	Response	Status W		
Proposed	Response)	Response Status W			PROP	OSED	ACCEPT	IN PRINCIP	LE.		
PROP Impler	OSED AC	CEPT IN editorial	I PRINCIPLE. icense and discretion.			Implen Chang	nent th e: "The	e following e default id	y with editori lentifier for e	al license. each lane is its la	ane number"	in Table 1764 1"
C/ 176A	SC 17	6A.2	P 548	L 24	# 198	10. 11	ie dela		er for each i	ane is the same	as that shown	In Table 176A-1
Ran, Adee	•		Cisco									
Comment	Туре І	ER	Comment Status D		(editorial)							
"tx_sy param functio	mbol and leters of th on.	rx_symbolie ne service	ol variables" do not appea e interface primitives of th	r in this annex. T e sublayer that in	hey are in fact nplements the control							
Suggested	dRemedy											
Tie the	e text defi	ning the s	symbols to the service inte	erface of the subl	ayer.							

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.

C/ 176A	SC	176A.2.3.3	P 552	L 40	# 200	C/ 176A	SC 17	6A.6	P 557	L 3	# 201
Ran, Adee			Cisco			Ran, Adee			Cisco		
Comment	Туре	TR	Comment Status D		ILT Pattern	Comment T	ype ٦	R	Comment Status D		ILT Coefficients (Bucket)
"These 176A.2	e three 2.3.2"	variations a	re produced as described f	or the PRBS13 f	ree-running function in	"When the dev	the interf ice may	ace co request	ntrol state diagram (Figure 17 its link partner to"	'6Aû6) is in	the TRAIN_LOCAL state,
PRBS PAM4	13 free +preco	e-running is o ding variants	defined only with PAM4 and s. These variants are define	does not have led for the PRBS	PAM2 or 13 function in	It is imp process	oortant to sed, and	also n what ha	ote at which states requests f appens in the other states - th	rom the link	k partner should be be obvious.
176A.2 state a	2.3.1, t at the b	out the defini eainning of (tion of the precoding variar each training frame, which	nt includes resett would be inaded	ling of the precoder luate.	Suggested	Remedy				
Suggesteg	IReme	dv	j i i , i			Insert ti	ne followi	ng para	agraphs after the first one:		
Chang	e to th	e following:				When t TRAIN_	he interfa _REMOT	ace cor E state	trol state diagram is in either , the device shall respond to	the TRAIN_ requests re	LOCAL or ceived from the link partner.
The initial state of the PRBS31 generator shall not be all zeros. It may be any other value. When the training pattern selector is set to PAM4, the training pattern is generated in a similar manner to the definition in 176A.2.3.2. except that PRBS31 generator output is					When t TRAIN_ ignore r	he interfa _REMOT requests	ace cor E, the (from th	trol state diagram is in any si device shall not send any req e link partner.	ate other th uests to the	an TRAIN_LOCAL or Ink partner and shall	
used i	nstead	of PRBS13	generator output.			Proposed R	esponse		Response Status W		
When similar used ii B}.	the tra mann nstead	ining pattern er to the defi of PRBS13	n selector is set to PAM2, th inition in 176A.2.3.2, excep generator output, and the p	ne training patter of that PRBS31 g pair of bits {A, A}	n is generated in a generator output is is used instead of {A,	PROPC	OSED AC	CEPT.			
When genera	the tra ated fro	ining pattern om the PRBS	n selector is set to PAM4 wi S31 PAM4 pattern by preco	th precoding, the oding the Gray-m	e training pattern is apped PAM4 symbols						

as specified in 135.5.7.2. The precoder initial state is not specified. The state is not reinitialized or reset during generation of the training pattern.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #358

C2M output

C/ 176A	SC 176A.8	P 559	L 45	# 202
Ran, Adee		Cisco		
Comment Typ	be TR	Comment Status D		ILT Coefficients (Bucket)

"When the receiver frame lock bit in the status field of transmitted training frames is set to 1, the time from the receipt of a new request to the acknowledgment of that request shall be less than 2 ms"

This requirement was defined in 802.3cd when training was limited in time (to 3 seconds) in order to prevent limiting the number of change requests due to delayed responses.

The new training scheme is not limited in time, and a receiver can use as many requests as it needs.

In some multi-tasking implementations, a hard 2 ms maximum may be challenging to meet. To avoid real-time requirements, it would be sufficient to have 2 ms as the average response time (and it does not need to be normative). The maximum response time can be relaxed without impact to the protocol.

SuggestedRemedy

Change to

"When the receiver frame lock bit in the status field of transmitted training frames is set to 1, the time from the receipt of a new request to the acknowledgment of that request shall be less than 20 ms. It is recommended that the average response time is less than 2 ms".

Proposed Response	Response Status	w
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PROPOSED ACCEPT.

C/ 176E SC	176E.5	P 633	L12	# 203
Ran, Adee		Cisco		
Comment Type	TR	Comment Status D		C

Measurement methodology for C2M should consider the variable output settings that can result from training. Eye opening parameters with specific transmitter settings are not the relevant metrics for transmitter quality anymore.

The measurement methodology of CR transmitter, which focuses on training-related equalizer parameters and training-independent signal parameters, is more suitable.

SuggestedRemedy

SORT ORDER: Comment ID

Move the measurement methodology section into another annex that both Clause 179 and Annex 176E can refer to.

A detailed proposal will be provided.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #186.

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

C/ 179	SC	179.9.4.7	P3	10	L25	#	204	
Ran, Adee			Cisco					
Comment T	ype	TR	Comment Status	D				Tx jitter
Jitter sp	ecifica	ation is TBD).					

Based on

https://www.ieee802.org/3/dj/public/adhoc/electrical/24_0104/calvin_3dj_elec_01a_240104. pdf, the jitter measurement methodology of existing clauses 162, 163, and 120G (specifically using the two edges R03/F30) is feasible for measurements with a loss 30 dB. It is expected that the same method can be used for higher losses as long as the scope can maintain CDR lock.

This methodology should be used for all electrical interfaces, with adequate adjustments.

SuggestedRemedy

A detailed proposal will be provided.

Proposed Response Response Status W

PROPOSED REJECT.

The following presentation was reviewed by the task force in the May 2024 interm: https://www.ieee802.org/3/dj/public/24_05/ran_3dj_03_2405.pdf In addition, additional presentations related to jitter were: https://www.ieee802.org/3/dj/public/24_05/calvin_3dj_01b_2405.pdf https://www.ieee802.org/3/dj/public/24_05/zivny_3dj_01a_2405.pdf Resolve using the response to comment #236.

C/ 174A	SC 174A.1	P 539	L10	# 205	C/ 181	SC 181.8.5.1	P 387	L19	# 207
Ran, Adee		Cisco			Parsons, I	Earl	CommScope		
Comment 7	Type TR	Comment Status D		BER/FLR	Comment	Туре Т	Comment Status D		optical channel specs
The firs	st subclause of a quired.	Annex 174 is currently a mini	"table of conter	ts" of the clause. This	The m equat some	naximum and minir ions similar to one: times called "CM1'	mum dispersion values in th s found in previous clauses ".	is table should l (i.e. Table 151-	be replaced by 12). This method is
Instead	d, an introductio	n to the annex would be helpf	ul for readers. I	t should provide the	Suggestee	dRemedy			
ratio, a physica	s well as the pu al layer.	rpose of defining error require	ements for inter	hal interfaces within the	In the colum Table	minimum column in replace "1.66" w 151-12 with the co	replace "-2.94" with "0.0115 ith "0.0115 x ? x [1-(1300/?) pefficient divided by 4.	x ? x [1-(1324/ ^4]". These are	?)^4]". In the maximum the same values as in
Suggested	Remedy				Proposed	Response	Response Status W		
A prese	entation with pro	posed content is planned.			PROF	POSED ACCEPT I			
Proposed F	Response	Response Status W			Imple	ment suggested re	emedy with editorial license		
PROP The fol	OSED ACCEPT lowing presenta	IN PRINCIPLE. tion was reviewed by the IEE	E 802.3dj task f	orce as the May Interim	C/ 183	SC 183.7	P431	L12	# 208
meetin	g.	ra/3/di/public/2/ 05/rap 3di (14 2405 pdf		Parsons, I	Earl	CommScope		
Impler	nent as follows v	with editorial license.	54_2400.pui		Comment	Туре Т	Comment Status D		optical channel specs
Update in slide Update	ed Annex 174A a s 11, 12, and 13 clauses/annex	as proposed on slides 8 to 13 3. es 120F, 120G, 171, 178, 179	of ran_3dj_04_ 9, 179D, 179E,	2405 excluding option A 180 to 183, 185, 187	The p mode subm	ositive and negativ I that uses a statist itted.	ve dispersion values in this t tical approach. A contributio	able should con n on fiber dispe	ne from a channel rison statistics will be
approp [Editor]	riately.	wl			Suggestee	dRemedy			
		[Y]			Repla	ce TBDs with value	es agreed upon by the Task	Force.	
C/ 174A	SC 174A.2	P 539	L19	# 206	Proposed	Response	Response Status W		
Ran, Adee		Cisco			PROF	OSED REJECT.			
Comment T	Type TR	Comment Status D		BER/FLR	The fo	ollowing presentation	on was reviewed by the 802	.3dj task force a	at the May Interim
174A.2	"Frame loss ra	tio for RS to RS link" is empty	/.		meeti https://	ng: //www.ieee802.org	/3/di/public/24_05/parsons	3di 01a 2405.	odf
Since t should etc.) sh	his annex define be based on the hould preferably	es several performance metric e sub-link in question, while th be in the subclause text.	cs, the titles of s ne specific requ	specific subclauses irement (FLR, BER,	The p deterr to mo	resentation provident nine dispersion pa dify the draft.	ed an overview of the latest rameters but no specific val	fiber data set th ues were provid	lat could be used to led or directions on how
Suggested	Remedy				C/ 178A	SC 178A.1.8	P 654	L 42	# 209
A prese	entation with pro	posed content is planned.			Shakiba, I	Hossein	Huawei Techr	nologies Canad	a
Proposed F	Response	Response Status W			Comment	Туре Т	Comment Status D	-	(bucket)
PROP	OSED ACCEPT	IN PRINCIPLE.			Refer	ence to the wrong	section 178A.1.6.4		. ,
Resolv	e using the resp	oonse to comment #205.			Suaaestee	dRemedv			
					Chang	ge reference to sec	ction 178A.1.8.1		
					Proposed	Response	Response Status W		
					PROF	POSED ACCEPT.			

-												
C/ 178A SC	C 178A.1.9	P657	L 51	# 210		C/ 178A	SC	178A.1.11		P660	L 33	# 212
Shakiba, Hosse	in	Huawei Techr	nologies Canada			Shakiba, H	ossein	1		Huawei Tech	nologies Canad	a
Comment Type	т	Comment Status D			(bucket)	Comment	Гуре	т	Commen	t Status D	ЭМ І	methodology MLSD_PAM
h_ISI in equ	uation (178A-29) should not include the n	nain cursor (h_IS	I(main) = 0)		The fac See co	ctor 3/4 ntribut	4 in equatio	on (178A-37) dj_02_2405.), as is or rewriti pdf and shakiba	en, is specific to a_3dj_01_2405.	ວ PAM4. pdf.
Suggesteakem	edy to dofing buildl	$(n) = 0$ for $n = d \cdot 1$				Suggested	Reme	dy				
Proposed Resp	onse R	Response Status W				Chang contrib	e 3/4 te ution t	o (L-1)/L to bd.	make it ger	neral. Note that	L=4 still yields 3	3/4.Please refer to
PROPOSE	D ACCEPT IN F	PRINCIPLE.				Proposed I	Respoi	nse	Response	Status W		
Implement	the suggested r	emedy with editorial licen	156.			PROP	OSED	ACCEPT I	N PRINCIPI	LE.		
Cl 178A So Shakiba, Hosse Comment Type The factor 2 equation is See contrib	C 178A.1.11 in T (2/3 in equation (rewritten. utions lim_3dj_(P 660 Huawei Techr Comment Status D (178A-36) is specific to P/ 02_2405.pdf and shakiba	L 27 nologies Canada) <i>M m</i> e AM4. This change _3dj_01_2405.pc	# 2 <u>11</u> ethodology MLS e does not appl	SD_PAM y if the	The fol https:// https:// The mo respon Resolv	lowing www.ie odificat ses to e using	contributio eee802.org eee802.org tions to Equ comments g the respo	/3/dj/public/ /3/dj/public/ /3/dj/public/ uations (178 #285 and # nse to com	riewed at the Ma 24_05/lim_3dj_t 24_05/shakiba_ 3A-36) and (178 362. ment #362.	ıy 2024 interim ı)2_2405.pdf 3dj_01_2405.pd A-37) are also iı	meeting: df nfluenced by the
SuggestedRem	edy					[Editor	s note	: changed s	subclause to	o 178A.1.11.]		
Change 2/3 contribution	to L/2(L-1) to n tbd.	nake it general. Note that	L=4 still yields 2/	3. Please refer	to	C/ 178A	SC	178A.1.11	.1	P660	L 52	# 213
Proposed Resp	onse R	Response Status W				Shakiba, H	ossein	1		Huawei Tech	nologies Canad	а
PROPOSE	D ACCEPT IN F	PRINCIPLE.				Comment	Гуре	т	Commen	t Status D		MLSD_PDF (bucket)
The followin	ng contribution	was reviewed at the May	2024 interim mee	ting:		Althoug to have	gh clea been	ar, the resul normalized	It of the PDF to satisfy t	- convolution co he PDF sum red	nv[p(y),p(y/b1)] quirement.	is a PDF and assumed
Thips.//www	.ieee002.019/3/	uj/public/24_05/silakiba_	3uj_01_2403.pui			Suggested	Reme	dy				
The modific responses t	ations to Equat co comments #2	ions (178A-36) and (178/ 285 and #362.	A-37) are also infl	uenced by the		Either normal	mentio ization	on that after coefficient	convolutior of 1/b1 in f	n, the result sho ont of conv.	uld be normalize	əd, or add a
Resolve usi	ng the respons	e to comment #362.				Proposed I	Respoi	nse ACCEDT II		Status W		
[Editor's no	te: changed sub	oclause to 178A.1.11.]				On pag the abs In Equa Add a a, and Implem	ge 660 solute ation (note th that th nent wi	, line 52, ch value of a. 178A-39), c nat states th e scaled pr ith editorial	hange "conv change "p(y/ nat the opera- obability dis license.	[p(y), p(y/b1)]" t ((1-b1))" to "p(y/ ation p(y/a)/ a s stribution functio	o "conv[p(y), p(y (1-b1))/ 1-b1 ". cales random v in integrates to	₄/b1)/ b1)" where a is ariable Y by a factor of 1.

C/ 178A SC 178A.1.1	1.1 <i>P</i> 661	L1	# 214	C/ 179	SC 1	79.11.1	P 326	L 27	# 216
Shakiba, Hossein	Huawei Tech	nologies Canad	a	Noujeim, L	eesa		Google		
Comment Type T	Comment Status D		MLSD_PDF (bucket)	Comment	Туре	т	Comment Status D	Na	minal impedance (bucket)
Although clear, the res assumed to have beer	sult of the PDF convolution of n normalized to satisfy the PI	f equation (178A DF sum requiren	-39) is a PDF and nent.	There assem differe	is no tes hbly. Th ent nomin	st method e compon nal charac	or definition for the nominal ents (eg paddle card, twinax teristic impedances. There	characteristic) within a cable is no need to s	impedance of the cable e assembly may have specify the nominal
SuggestedRemedy	an an an a battan a than an a dtach a			charac	cteristic	impedanc	e of the cable assembly, sind	ce the perform	ance of the cable
normalization coefficie	er convolution, the result sho	buid be normalize	ed, or add a	assem	hbly is de	etermined	by cl 179.11.2-7.		
Proposed Response	Boononoo Statuo M			Suggested	dRemed	V			
				Remo	ve "The	nominal c	haracteristic impedance of the	he cable asser	mbly is 100 ohms"
Resolve using the resp	ponse to comment #213.			Proposed	Respon	se	Response Status W		
C/ 179A SC 179A.7	P668	L 9	# 215	PROP It is im	POSED A	ACCEPT I to define	N PRINCIPLE. the reference impedance for	return loss sp	ecifications etc., but as
Noujeim, Leesa	Google			the co	mment o	correctly s	uggests, there is no need to	specify a nom	iinal value.
Comment Type T	Comment Status D		COM methodology	Impier	nent the	suggeste	a remeay.		
TP0 and TP5 are not t	he appropriate test points for	Annex 179A C	MC	C/ 179	SC 1	79.11.2	P 326	L 42	# 217
SuggestedRemedy				Noujeim, L	eesa		Google		
Change text to " betw	veen TP0d and TP5d"			Comment	Туре	т	Comment Status D		B-T filter BW
Proposed Response	Response Status W			The m	naximum	frequenc	y of 40GHz is is insufficient f	or 200Gbps/la	ne PAM4
PROPOSED ACCEPT The procedure in Anne and device models to If the recommendation	IN PRINCIPLE. ex 179A and the parameters both sides of the channel from there is to calculate COM for	in Table 178–13 m TP0 and TP5 r the channel fro	add reference package m TP0d to TP5d, which	Suggested Increa rolloff https://	dRemedy ise to 65 eg in htt //www.ie	/ GHz, con ps://www. ee802.org	sistent with test equipment c ieee802.org/3/dj/public/23_1 /3/dj/public/24_01/benartsi_3	apabilities and 1/weaver_3dj_ 3dj_01_2401.p	demonstrated channel _01_2311.pdf and df OR change to TBD
includes the packages	, then no package models ne	eed to be concar	endated.	Proposed	Respon	se	Response Status W		
Implement the sugges COM, only the device models are excluded). Implement with editori	ted remedy with the addition models are concateneted to al license.	of an exception the TP0d-TP5d	that in calculation of channel (i.e., package	PROP The va Resolv	POSED A alue 40 (ve using	ACCEPT I GHz is a le the respo	N PRINCIPLE. eftover from an older clause inse to comment #60.	and has not be	een adopted.

C/ 179	SC 179.11.3	P327	L 31	# 218	C/ 176E	SC 17	6E.3.3.3	P620	L 32	# 220
Noujeim, L	eesa	Google			Noujeim, L	eesa		Google		
Comment	Туре Т	Comment Status D		ERL Tfx	Comment	Гуре	г С	omment Status D		ERL Tfx
Practio conne the EF	cal test fixtures m ction (mating inte RL calculations, v	nay have discontinuities clos erface). If the intent is to rer we should adjust the 0.2ns	se to 0.2ns from the test fixtu	he host-facing ure discontinuities from	Practic connec the ER	al test fix tion (ma L calcula	tures may ha ting interface tions, we sho	ave discontinuities c e). If the intent is to ould adjust the 0.2ns	lose to 0.2ns from t remove the test fixt	the host-facing cure discontinuities from
Suggested	lRemedy				Suggested	Remedy				
Chang test fix discon	e text to "Tfx e ture host -facing tinuities from the	equal to twice the delay betw connection minus 0.2ns or ERL result"	een the test fixtur as needed to rem	re connector and the nove test-fixture	Chang test fix discon	e text to ' ture host tinuities f	'Tfx equal -facing conn rom the ERL	to twice the delay be lection minus 0.2ns . result"	etween the test fixtu or as needed to rer	ure connector and the move test-fixture
Proposed PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. ponse to comment #227.			Proposed I PROP Resolv	Response OSED A0 e using t	e Re CCEPT IN Pl he reponse t	esponse Status W RINCIPLE. o comment #227.		
C/ 179	SC 179.9.5.5	6 P 324	L 5	# 219	C/ 176E	SC 17	6E.3.4.2	P 622	L 49	# 221
Noujeim, L	eesa	Google			Noujeim, L	eesa		Google		
Comment	Туре Т	Comment Status D		ERL Tfx	Comment	Гуре '	г с	omment Status D		ERL Tfx
Practic conne the EF	cal test fixtures m ction (mating inte RL calculations, v	nay have discontinuities clos erface). If the intent is to rer we should adjust the 0.2ns	se to 0.2ns from the test fixtu	he host-facing ure discontinuities from	Practic connec the ER	al test fix tion (ma L calcula	tures may ha ting interface tions, we sho	ave discontinuities c e). If the intent is to ould adjust the 0.2ns	lose to 0.2ns from t remove the test fixt	the host-facing ure discontinuities from
Suggested	IRemedy				Suggested	Remedy				
Chang test fix discon	e text to "Tfx e ture host -facing tinuities from the	equal to twice the delay betw connection minus 0.2ns or e ERL result"	een the test fixtur as needed to rem	re connector and the nove test-fixture	Chang test fix discon	e text to ' ture host tinuities f	'Tfx equal -facing conn rom the ERL	to twice the delay be action minus 0.2ns . result"	tween the test fixtu or as needed to rer	ure connector and the move test-fixture
Proposed	Response	Response Status W			Proposed I	Response	e Re	sponse Status W		
PROP Resolv	OSED ACCEPT /e using the resp	IN PRINCIPLE.			PROP Resolv	OSED AC	CCEPT IN PI	RINCIPLE. o comment #227.		
					C/ 179B	SC 17	'9B.1	P669	L15	# 222
					Noujeim, L	eesa		Google		
					Comment Incorre	<i>Type</i> ct Annex	T C	omment Status D		(bucket)
					S <i>uggested</i> Replac	Remedy :e 120G \	vith 176E			
					Proposed I PROP	Response OSED AG	e <i>R</i> e CCEPT.	esponse Status W		
TYPE: TR	/technical require	ed ER/editorial required GR	/general required	T/technical E/editorial G/g	general			Cor	nment ID 222	Page 51 of 139
COMMEN SORT OR	T STATUS: D/dis DER: Comment	spatched A/accepted R/rej ID	ected RESPON	NSE STATUS: O/open W/w	ritten C/closed	Z/withd	awn			5/30/2024 4:13:2

C/ 179B	SC 179B.1	P669	L17	# 223	C/ 179	SC 179.9.4.3	P 314	L 39	# 226
Noujeim, Le	eesa	Google			Noujeim, L	eesa	Google		
Comment 7	Гуре Т	Comment Status D		HCB and MCB (bucket)	Comment	Туре Т	Comment Status D		Tx SNR_ISI
Missing	g reference to Mo	odule compliance at TP1 and	TP4		Nb of	6 should be incre	ased since hosts shouldn'	t be penalized for	having reflections within
Suggested	Remedy	anta fan Markulan an arifiad i	A		capab capab	lity of receiver to ility well beyond 6	compensate; hosts in this S UI.	generation shou	ld have equalization
Add "M TP4 wit	lodule measuren	s specified in 179B.3. "	n Annex 176	= are made at TP1 and	Suggested	lRemedy			
Proposed F	Response	Response Status W			increa	se Nb to 20 (or T	BD based on ref receiver of	capabilities)	
PROPO Insert ti Module complia 179B.3	DSED ACCEPT he sentence: measurements ance points TP1	IN PRINCIPLE. for modules specified in Anne and TP4 (see Figure 176E–4	ex 176E are)) with test fix	nade at module tures as specified in	Proposed PROP The co from c The co	Response OSED ACCEPT omment is related alculations of SN omment and sugg	Response Status W IN PRINCIPLE. d to the number of UI after R_ISI. gested remedy seem reaso	the pulse peak th	nat should be excluded
C/ 179B	SC 179B.4.6	P676	L 26	# 224	If it is a editor's	agreed that 6 is r s note can be ad	ot the right number, but th ded to state that a larger n	ere is no consen umber is required	sus on 20, then an I but the specific number
Nouieim Le		Google	- 20		needs	more work (inste	ad of changing to TBD).		
Comment 1	Type T	Comment Status D		HCB and MCB (bucket)	For CF	RG discussion.			
SFPxx	k is unclear				C/ 179	SC 179.9.4.8	P315	L 35	# 227
Suggested	Remedy				Noujeim, L	eesa	Google		
Replac	e "The SFPxxx n	nated test fixture" with "The s	ingle-lane ma	ated test fixture"	Comment	Туре Т	Comment Status D		ERL Tfx
Proposed F PROPO	Response DSED ACCEPT	Response Status W IN PRINCIPLE.			Practio conne the EF	cal test fixtures m ction (mating inte & calculations, w	ay have discontinuities clo rface). If the intent is to re ve should adjust the 0.2ns	ose to 0.2ns from emove the test fix	the host-facing ture discontinuities from
In 179E	B replace SFPxx	x with SFP112			Suggested	IRemedy			
C/ 179	SC 179.9.4	P309	L 23	# 225	Chang test fix discon	e text to "Tfx e ture host -facing tinuities from the	qual to twice the delay bet connection minus 0.2ns of ERL result"	ween the test fixt r as needed to re	ure connector and the move test-fixture
Commont 7				D T filtor DM/	Proposed	Response	Response Status W		
Adopte filter ba 200Gbp	d baseline https: ndwidth as TBD ps/lane PAM4	://www.ieee802.org/3/dj/public but D1.0 has 40GHz. 3dB ba	c/24_01/ran_ andwidth of 4	3dj_01a_2401.pdf has BT 0GHz is insufficient for	PROP The co conse	OSED ACCEPT omment addressensus is not obvio	IN PRINCIPLE. es an open TBD and the su us.	uggested remedy	is reasonable, but
Suggestedl	Remedy				comm	ent resolution slid	de deck URL/ran_3dj_01_2	2406.	areu a proposar în the
Increas rolloff e https://	e to 65GHz, con g in https://www www.ieee802.org	nsistent with test equipment ca .ieee802.org/3/dj/public/23_1 g/3/dj/public/24_01/benartsi_3	apabilities an 1/weaver_3d 3dj_01_2401.	d demonstrated channel j_01_2311.pdf and pdf OR change to TBD	For CF	RG discussion.	_ ,		
Proposed F	Response	Response Status W							
PROPO The val Resolve	DSED ACCEPT lue 40 GHz is a l e using the respo	IN PRINCIPLE. eftover from an older clause a onse to comment #60.	and has not b	been adopted.					

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: Comment ID

C/ 178A	SC	178A.1.5	P650	L 7	# 228	C/ 178	SC 178.9.2	P 275	L 48	# 230
Noujeim, L	eesa		Google			Li, Mike		Intel		
Comment The po 12 and	<i>Type</i> ort labe I with tl	T Is on Figure ne text on lii	Comment Status D 178A-6 are inconsistent w ne 1.	ith the cascade	<i>(bucket)</i> e order implied in 178A-	Comment 3dB B	<i>Type</i> TR W is TBD	Comment Status D		B-T filter BW
Suggested In Fig Alterna directio Proposed	IRemed 178A-6 atively, ons and Respor	dy ireplace "P replace Fig d swap Port	ort 2" with "Port 1" and repl ure 178A-6 with a copy of F 1 with Port 2. <i>Response Status</i> W	ace "Port 1" wi Figure 178A-2 a	th "Port 2" and reverse the arrow	Suggested Chang Ration associ Proposed PROP	Remedy e it to 65 GHz. al, considering t ated ~7% meas Response OSED ACCEPT	the common and cost effectiv urement error, give rise to th <i>Response Status</i> W IN PRINCIPLE.	ve 1.85mm conn is number.	ector BW, and
PROP	OSED	ACCEPT IN	N PRINCIPLE.	conventions (1	is an input 2 is an	Resolv	e using the resp	ponse to comment #60.		
output In Figu) shoul ire 178 of the	d be consis A-6, label th "Device terr	tently applied. ne input to the "Host channe mination" as "Port 2".	el (optional)" as	s "Port 1" and label the	<i>Cl</i> 178 Li, Mike	SC 178.9.2	P 276 Intel	L 19	# 231
Chang "The p the op and po Impler	e the la ort ord tional h ort 2 be nent wi	ast sentence er of the res lost channe comes the th editorial	e of 178A.1.5 to: sulting model is then reverse I (or the device package who output of the device termina license.	ed so that port ien the host ch ation."	1 becomes the input to annel is not included)	Comment dERL Suggested Chang	<i>Type</i> TR (min) is TBD <i>Remedy</i> e it to -3 dB. Se	Comment Status D		ERL
Cl 179A Noujeim, L	SC .eesa Type	179A.5 T	P 665 Google	L 24	# 229	Proposed A PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. ponse to comment #28.		
Doubli design	ng ILdo ations.	ן d_(host+TFı	max) implies both ends of th	ne link have the	e same host	C/ 178	SC 178.9.2	P276	L 20	# 232
Suggested Replac ILdd_(IRemed ce "2*IL host+tF	dy _dd_(host+T Fmax)_end2 is in Table 1	FFmax)" with "ILdd_(host+tF or similar notation to acc י סג-ז	⁻ max)_end1 + ommodate asy	vmmetric Link	Comment RLcc (Type TR min) is TBD	Comment Status D		TX RLcc
Proposed	Respoi	nse	Response Status W			Chang	e it to 3.25 dB.	See lim_3dj_01_2403a.		
PROP Replac ILdd_(Config	OSED ce "2*IL host+tf uration	ACCEPT IN _dd_(host+T Fmax)_othe s in Table 1	N PRINCIPLE. "Fmax)" with "ILdd_(host+tF r end" with editorial license 79A-3.	Fmax)_one enc to accommoda	I + ate asymmetric Link	Proposed i PROP The re https:// There clause For CF	Response OSED ACCEPT ferenced preser /www.ieee802.o is no justification 163. RG discussion.	Response Status W IN PRINCIPLE. ntation is rg/3/dj/public/24_03/lim_3dj_ n in the presentation for the p	_01a_2403.pdf. proposed value, I	out it is the same as in

Comment ID 232

C/ 178	SC 178.9.2	P 276	L 28	# 233	C/ 178	SC	178.9.2	P 276	L 30	# 235
Li, Mike		Intel			Li, Mike			Intel		
Comment	Type TR	Comment Status D		TX FFE	Comment	Туре	TR	Comment Status D		TX FFE
absolution "absolution" absolution "absolution" absolution "a absolution" absolution "absolution" absolution "absolution" absolution "absolution" absolution "absolution" absol	ute value of step 2.3dj at 200G/L, a	size for all taps (max)" ingre and no simod supports"	ated from 802.3	ck, value not suitable	"value 200G/	e at max /L, and i	state for c	(û2) (min) " from 802.3ck, pa upports"	arameter not su	itable for 802.3dj at
Suggested	lRemedy				Suggested	dRemed	ły			
Chang	je it 0.02, see Se	e lim_3dj_01_2405			chang	je it to 0	.16, see lir	n_3dj_01_2405		
Proposed I	Response	Response Status W			Proposed	Respor	nse	Response Status W		
PROP	OSED REJECT.				PROF Resol	POSED ve using	REJECT. g the respo	nse to comment #234		
The fo https://	llowing presenta /www.ieee802.or	tion was reviewed by the tas g/3/dj/public/24_05/lim_3dj_	k force at the Ma 01_2405.pdf	ay 2024 interim meeting:	C/ 178	SC	178.9.2	P 276	L 38	# 236
The co	omment and the	presentation do not provide s	sufficient justifica	ation to support the	Li, Mike			Intel		
sugges	sted remedy.				Comment	Туре	TR	Comment Status D		TX jitter
The st	en sizes in the P	MD Tx specifications do not	need to match t	he COM parameters	Outpu	it jitter (i	max) TBD			
They a	are based on rea	sonable implementation and	measurement a	accuracy assumptions.	Suggestee	dRemed	ły			
See ht and the https:// 0506.p	ttps://www.ieee80 e related comme /www.ieee802.or odf#page=14.	02.org/3/ck/public/adhoc/mai ent #62 against 802.3ck d1.1 g/3/ck/comments/draft1p1/8	11_20/ran_3ck_ and its respons 023ck_D1p1_fin	_adhoc_01_031120.pdf e in al_closedcomments_20	Jrms : J2.7u J2.7u Even- See lii	: 0.023 03: 0.10 : 0.110 -odd jitt m_3dj_(UI 02 UI UI er, pk-pk: (01_2403a,).025 UI lim_3dj_01_2405, and [1], [[2], [3]	
C/ 178	SC 178.9.2	P 276	L 29	# 234	Proposed	Respor	ise	Response Status W		
Li, Mike		Intel			PROF	POSED	ACCEPT I	N PRINCIPLE.		
Comment	Type TR	Comment Status D		TX FFE	The c	ommen	t addresse	s an open TBD and the sugg	gested remedy i	s reasonable, but
"value at 200	at minimum stat G/L, and no sime	te for c(û3) (max) " from 802. od supports"	3ck, parameter	not suitable for 802.3dj	There	are sev	/eral comm	s. ients on this topic. The edito e deck URI /ran_3di_01_240	orial team prepa	red a proposal in the
Suggested	lRemedy				For C	RG disc	ussion.	<u>-</u> <u>-</u>		
C(-3) i	s not needed, de	elete it, see lim_3dj_01_2405			C/ 178	SC	178022	P278	/ 26	# 227
Proposed	Response	Response Status W				00	170.3.2.2	Intel	20	π 231
PROP	OSED REJECT.	tion was reviewed by the tes	force at the M	ov 2024 interim meeting	LI, IVIIKE	Tuno	тр			EDI
https://	/www.ieee802.or	rg/3/dj/public/24 05/lim 3dj	01 2405.pdf	ay 2024 intenim meeting.	Comment Tris T	rype BD	IK			ERL
The co	mment and the	presentation do not provide	sufficient justifica	ation to support the			<i>h</i> .			
sugges	sted remedy.				suggested		$\frac{1}{10}$	see lim 3di 01 2403a		
					Dranagad		10.005 113,			
					Proposed	Respor				
					Resol	ve using	g the respo	nse to comment #28.		

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: Comment ID

Comment ID 237

Page 54 of 139 5/30/2024 4:13:27 PM

C/ 178 S	SC 178.9.2.2	P 278	L 27	# 238		C/ 178	SC 178.9.2.2	P 278	L 32	# 241
Li, Mike		Intel				Li, Mike		Intel		
Comment Type Betax is TE	e TR BD	Comment Status D			ERL	<i>Comment</i> Nbx is	<i>Type</i> TR TBD	Comment Status D		ERL
SuggestedRen repalce it v	<i>nedy</i> with 0 GHz, se	ee lim_3dj_01_2403a				Suggested repalce	<i>IRemedy</i> e it with 44, see l	im_3dj_01_2403a, lim_3dj_	_01_2405	
Proposed Resp PROPOSE Resolve us	ponse ED ACCEPT I sing the respo	Response Status W N PRINCIPLE. Inse to comment #28.				Proposed I PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. onse to comment #28.		
C/ 178 S	SC 178.9.2.2	P 278	L 29	# 239		C/ 178	SC 178.9.2.3	P 278	L 46	# 242
Li, Mike		Intel				Li, Mike		Intel		
Comment Type Rox is TBD	e TR D	Comment Status D			ERL	Comment mac fr	<i>Type</i> TR eq is TBD	Comment Status D		ERL
SuggestedRen repalce it v	<i>nedy</i> with 0.618, se	e lim_3dj_01_2403a				Suggested repalce	<i>IRemedy</i> e it with 80 GHz,	see lim_3dj_01_2403a		
Proposed Resp PROPOSE Resolve us	ponse ED ACCEPT I sing the respo	Response Status W N PRINCIPLE. Inse to comment #28.				Proposed PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. onse to comment #28.		
C/ 178 S	SC 178.9.2.2	P 278	L 31	# 240		C/ 178	SC 178.9.2.4	P 278	L 4	# 243
Li, Mike		Intel				Li, Mike		Intel		
Comment Type N is TBD	e TR	Comment Status D			ERL	Comment Nv is T	<i>Type</i> TR TBD	Comment Status D		Linear fit
SuggestedRen repalce it v	<i>nedy</i> with 400, see	lim_3dj_01_2403a				Suggested repalce	<i>IRemedy</i> e it with 400, see	lim_3dj_01_2403a		
Proposed Resp PROPOSE Resolve us	<i>ponse</i> ED ACCEPT I sing the respo	Response Status W N PRINCIPLE. onse to comment #28.				Proposed I PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. onse to #30.		

Comment ID 243

Li, Mike Intel Comment Type TR Comment Status D GERL is TBD SuggestedRemedy FEC symbol error ratio is not aligned with DER value SuggestedRemedy repace it with -3dB, see lim_3dj_01_2403a FEC symbol error ratio is not aligned with DER value Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #28. Cl 178 SC 178.9.3.3 P281 L40 # 245 Li, Mike Intel The comment addresses an inconsistency between FEC SER and DER. Comment Type TR Comment Status D SuggestedRemedy SuggestedRemedy The required test performance needs to be aligned with the DER allocation for interface, but consensus on the suggested remedy is not obvious. The test re should to account for correlated errors and the FEC symbol interleaving sche SuggestedRemedy Change it to 65 GHz. Change it to 65 GHz. Rational, considering the common and cost effective 1.85mm connector BW, and associated -7% measurement error, give rise to this number Proposed Response Response Status V PROPOSED ACCEPT IN PRINCIPLE. Response Status W PROPOSED ACCEPT IN PRINCIPLE. The sequired test performance needs to be varified and updated as not alig	BER/FLR FBD instead. or each equirement me. 10 stating that
Comment Type TR Comment Status D ERL dERL is TBD SuggestedRemedy FEC symbol error ratio is not aligned with DER value SuggestedRemedy repalce it with -3dB, see lim_3dj_01_2403a FEC symbol error ratio is not aligned with DER value Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response to comment #28. Cl 178 SC 178.9.3.3 P 281 L 40 # 245 Li, Mike Intel The same value appears in Table 179-11 for the CR test. Table 1760-4 has 1 The same value appears in Table 179-11 for the CR test. Table 1760-4 has 1 SuggestedRemedy Gamment Type TR Comment Status D Gomment Type TR Comment Status D B-T filter BW 3dB BW is TBD B-T filter BW B-T filter BW Intel Resolve errors and the FEC symbol error ratio rate beformance needs to be verified and updated as not able ror ratio requirement need to be verified and updated as not able ror ratio rate priormance needs to be ore sample error ratio rate beform table 178-11. SuggestedRemedy Change it to 65 GHz. Rational, considering the common and cost effective 1.85mm connector BW, and associated -7% measurement error, give rise to this number Proposed Response Response Status W	BER/FLR FBD instead. or each equirement me. 10 stating that
SuggestedRemedy repalce it with -3dB, see lim_3dj_01_2403a SuggestedRemedy Proposed Response Response Status W Proposed Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #28. Proposed Response an inconsistency between FEC SER and DER. Cl 178 SC 178.9.3.3 P 281 L 40 # 245 Li, Mike Intel The comment addresses an inconsistency between FEC SER and DER. Comment Type TR Comment Status D B-T filter BW 3dB BW is TBD B-T filter BW SuggestedRemedy Change it to 65 GHz. Rational, considering the common and cost effective 1.85mm connector BW, and associated -7% measurement error, give rise to this number B-T filter BW PROPOSED ACCEPT IN PRINCIPLE. Response Status W PROPOSED ACCEPT IN PRINCIPLE. Retro comment 3dd response in Table 179-11. SuggestedRemedy Change it to 65 GHz. Rational, considering the common and cost effective 1.85mm connector BW, and associated -7% measurement error, give rise to this number Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response Status W PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE. Response Status W PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE.	FBD instead. or each equirement me. 10 stating that
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #28. Cl 178 SC 178.9.3.3 P281 L 40 # 245 Li, Mike Intel The required test performance needs to be aligned with the DER allocation for interface, but consensus on the suggested remedy is not obvious. The test resolute to account for correlated errors and the FEC symbol interleaving sche SuggestedRemedy B-T filter BW Change it to 65 GHz. Response Kesponse Response Status Rational, considering the common and cost effective 1.85mm connector BW, and associated ~7% measurement error, give rise to this number B-T filter BW PROPOSED ACCEPT IN PRINCIPLE. Response Status W Rottors of correlated errors and the FEC symbol interleaving sche However, the suggestion is likely a move in the right direction. Implement the suggested remedy Change it to 65 GHz. Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment Side 176D-14 and, if required following resolutions in the response to comment #60. [Editor's note: Page changed from 280 to 281] W Response TR Comment Type TR Comment Type TR Comment Status D IL for Class A PKG are TBDS	TBD instead. or each equirement me. 10 stating that
Cl 178 SC 178.9.3.3 P281 L40 # 245 Li, Mike Intel Intel The required test performance needs to be aligned with the DER allocation to interface, but consensus on the suggested remedy is not obvious. The test resolute to account for correlated errors and the FEC symbol interfeaving sche SuggestedRemedy B-T filter BW B-T filter BW Change it to 65 GHz. Rational, considering the common and cost effective 1.85mm connector BW, and associated ~7% measurement error, give rise to this number B-T filter BW Proposed Response Response Status W Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #60. [Editor's note: Page changed from 280 to 281] Li, Mike Intel Comment Type TR Comment Status D Lidot's note: Page changed from 280 to 281] L40 # 245	appresent equirement me. 10 stating that
Li, Mike Intel Comment Type TR Comment Status D B-T filter BW 3dB BW is TBD 3dB BW is TBD B-T filter BW Intelface, but consensus on the suggested remedy is not obvious. The test reshould to account for correlated errors and the FEC symbol interleaving sche SuggestedRemedy Change it to 65 GHz. Rational, considering the common and cost effective 1.85mm connector BW, and associated ~7% measurement error, give rise to this number Add a similar editor's note below table 176D-4 and, if required following resolutions on the suggested remedy. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #60. [Editor's note: Page changed from 280 to 281] Li, Mike IL, Mike Intel Comment Type TR Comment #60. IL, Mike [Editor's note: Page changed from 280 to 281] SuggestedRemedy IL, for Class A PKG are TBDs SuggestedRemedy	equirement me. 10 stating that
Comment Type TR Comment Status D B-T filter BW 3dB BW is TBD 3dB BW is TBD SuggestedRemedy Change it to 65 GHz. Response to common and cost effective 1.85mm connector BW, and associated ~7% measurement error, give rise to this number Add a similar editor's note below table 176D-4 and, if required following resolutions in 176E as appropriate. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #60. [Editor's note: Page changed from 280 to 281] Li, Mike IL for Class A PKG are TBDs SuggestedRemedy	10 stating that
SuggestedRemedy Change it to 65 GHz. Rational, considering the common and cost effective 1.85mm connector BW, and associated ~7% measurement error, give rise to this number Add a similar editor's note below table 176D-4 and, if required following resolucions as performent, in 176E as appropriate. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. C/ 178 SC 178.9.3.3 P 282 L 13 # Li, Mike Intel Comment Type TR Comment Status D IL for Class A PKG are TBDs SuggestedRemedy SuggestedRemedy SuggestedRemedy	
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Li, Mike Intel Resolve using the response to comment #60. Comment Type TR Comment Status D [Editor's note: Page changed from 280 to 281] IL for Class A PKG are TBDs SuggestedRemedy SuggestedRemedy	ution of other
PROPOSED ACCEPT IN PRINCIPLE. Li, Mike Intel Resolve using the response to comment #60. Comment Type TR Comment Status D [Editor's note: Page changed from 280 to 281] IL for Class A PKG are TBDs SuggestedRemedy	247
Resolve using the response to comment #60. Comment Type TR Comment Status D [Editor's note: Page changed from 280 to 281] IL for Class A PKG are TBDs SuggestedRemedy	
[Editor's note: Page changed from 280 to 281] IL for Class A PKG are TBDs SuggestedRemedy	RX ITOL/JTOL
SuggestedRemedy	
For Test1, reaplce them with IL(min): 13.5dB, Ilmax: 14.5 dB; for Test2, reapl IL(min): 27.5dB, Ilmax: 28.5; see li_3dj_01_2311, lusted_3dj_02_2311.pdf	ce them with
Proposed Response Response Status W PROPOSED ACCEPT.	
C/ 178 SC 178.9.3.3 P282 L15 #	248
Li, Mike Intel	
Comment Type TR Comment Status D IL for Class B PKG are TBDs	RX ITOL/JTOL
SuggestedRemedy	
For Test1, reaplce them with IL(min): 10.5dB, Ilmax: 11.5 dB; for Test2, reapl IL(min): 21.5dB, Ilmax: 22.5; see li_3dj_01_2311, lusted_3dj_02_2311.pdf	lce them with
Proposed Response Response Status W	
PROPOSED ACCEPT.	

Comment ID 248

C/ 178	SC 178.9.3.3	P 282	L16	# 249	C/ 178	SC 178.10	P 284	L14	# 252
Li, Mike		Intel			Li, Mike		Intel		
Comment COM	<i>Type</i> TR for test1 and test2	Comment Status D 2 are TBDs		COM	Comment Chann	<i>Type</i> TR el ERL TBD	Comment Status D		ERL
Sugaeste	dRemedv				Suaaested	Remedv			
Repal	ced both with 3 dl	3, see lim_3dj_01_2405			Repalo	ed it with 11 dB,	see oif2023.531.00		
Proposed PROF Resol	Response POSED ACCEPT ve using the respo	Response Status W IN PRINCIPLE. onse to comment #250.			Proposed I PROP Resolv	Response OSED ACCEPT re using the resp	Response Status W IN PRINCIPLE. onse to comment #28.		
C/ 178	SC 178.10	P 284	L11	# 250	C/ 178	SC 178.10.1	P 284	L 28	# 253
Li, Mike		Intel			Li, Mike		Intel		
Comment COM(<i>Type</i> TR (min) is TBD	Comment Status D		СОМ	Comment COM 1	<i>Type</i> TR IBD	Comment Status D		СОМ
Suggestee Repal	dRemedy ced both with 3 dE	3, see lim_3dj_01_2405			Suggested Repalo	<i>Remedy</i> ed it with 3 dB, s	see lim_3dj_01_2405		
Proposed PROF The c	Response POSED ACCEPT omment addresse	Response Status W IN PRINCIPLE. Is an open TBD and the sugg	gested remedy is	s reasonable, but	Proposed I PROP Resolv	Response OSED ACCEPT re using the resp	Response Status W IN PRINCIPLE. onse to comment #250.		
conse There comm For C	are several comment resolution slice	us. nents on this topic. The edito le deck URL/ran_3dj_01_24(orial team prepai 06.	ed a proposal in the	C/ 178 Li, Mike	SC 178.10.1	P285 Intel	L 38	# 254
C/ 178	SC 178.10	P 284	L12	# 251	Comment Ro TB	nype inc D	Comment Status D		R_0
Li, Mike		Intel			Sunnested	- Remedy			
Comment	Type TR	Comment Status D		Channel ILdd	Repalo	ed it w 50 ohm,	see see lim 3dj 01 2405,	slide 5	
IL(ma	x) is TBD				Proposed I	Response	Response Status W		
Suggestee Repal 28 dB 25 dB 22 dB	dRemedy ced the TBD with: , Class A PKG pa , Class A PKG pa , Class B PKG pa	irs with Class A PKG irs with Class B PKG irs with Class B PKG			PROP Resolv	OSED ACCEPT re using the resp	IN PRINCIPLE. onse to comment #35.		
Proposed PROF Resol	Response POSED ACCEPT ve using the respo	Response Status W IN PRINCIPLE. onse to comment #34.							

C/ 178	SC 178.10.	1 P 285	L 40	# 255	C/ 178	SC 178.10.1	P 286	L14	# 258
Li, Mike		Intel			Li, Mike		Intel		
Comment RD(T)	<i>Type</i> TR) TBD	Comment Status D		COM R_d	Comment C(-3) I	<i>Type</i> TR not needed	Comment Status D		COM TxFFE
Suggestee Repal	<i>dRemedy</i> lced it w 46.25 o	hm, see see lim_3dj_01_24	05, slide 5		Suggested Delete	dRemedy e it, see see lim_	_3dj_01_2405, slide 5		
Proposed PROF Resol	Response POSED ACCEP Ive using the res	Response Status W T IN PRINCIPLE. ponse to comment #396.			Proposed PROP The fo	Response OSED ACCEPT Illowing presentation	Response Status W IN PRINCIPLE. tion was reviewed by the tas	k force at the Ma	ay 2024 interim meeting:
C/ 178	SC 178.10.	1 P 285	L 41	# 256	The co	omment and the	presentation do not provide	sufficient justifica	ation to support the
Li, Mike		Intel			sugge Resolu	sted remedy.	onse to comment #37		
Comment RD(R)	<i>Type</i> TR) TBD	Comment Status D		COM R_d	C/ 178	SC 178.10.1	P286	L18	# 259
Suggestee Repal	<i>dRemedy</i> lced it w 46.25 d	hm, see see lim_3dj_01_24	05, slide 5		Li, Mike <i>Comment</i>	Type TR	Intel Comment Status D		COM TxFFE
Proposed PROF Resol	Response POSED ACCEP lve using the res	Response Status W T IN PRINCIPLE. sponse to comment #396.			C(-2) ⁻ Suggested Repla	TBD <i>IRemedy</i> ce it w ::0.02(min max, s	top)		
C/ 178	SC 178.10.	1 P 286	L12	# 257	see s	ee lim_3dj_01_2	2405, slide 5		
Li, Mike		Intel			Proposed	Response	Response Status W		
Comment fr TBD	<i>Type</i> TR	Comment Status D		COM f_r	PROP The fo	OSED ACCEPT	IN PRINCIPLE. tion was reviewed by the tas	k force at the Ma	ay 2024 interim meeting:
Suggestee Repal	<i>dRemedy</i> lced it w 0.5, see	e see lim_3dj_01_2405, slide	5		The co sugge	omment and the sted remedy.	presentation do not provide	sufficient justifica	ation to support the
Proposed	Response	Response Status W			Resol	ve using the repo	onse to comment #37.		
PROF The fo https:/ The c sugge Resol	POSED ACCEP ollowing present //www.ieee802.c comment and the ested remedy. lve using the res	T IN PRINCIPLE. ation was reviewed by the tas org/3/dj/public/24_05/lim_3dj_ presentation do not provide : ponse to comment #36.	k force at the Ma 01_2405.pdf sufficient justifica	y 2024 interim meeting: tion to support the					

C/ 178	SC 178.10	.1 P2	86 L	22	# 260	C/ 178	SC ·	178.10.1	P 286	L 26	# 262
Li, Mike		Intel				Li, Mike			Intel		
Comment C(-1)	<i>Type</i> TR TBD	Comment Status	D		COM TxFFE	Comment C(1) T	<i>Type</i> BD	TR	Comment Status D		COM TxFFE
Suggestee Repla -0.4.0 see s	<i>dRemedy</i> ce it w .0.02 (min,max ee lim_3dj_0 [,]	<, step), I_2405, slide 5				Suggested Replac -0.2.0.0 see se	<i>Remed</i> ce it w 0.02 (m ce lim_	/y iin,max, st .3dj_01_24	ep), 105, slide 5		
Proposed PROF The fo https:// The c sugge Resol	Response POSED ACCE blowing preser //www.ieee802 omment and the sted remedy. ve using the re	Response Status PT IN PRINCIPLE. Intation was reviewed by .org/3/dj/public/24_05/li ne presentation do not p eponse to comment #37	W the task force a im_3dj_01_2405 provide sufficien	at the May 20 5.pdf t justification	024 interim meeting: h to support the	Proposed I PROP The fol https:// The co sugges Resolv	Respon OSED I Ilowing www.ie omment sted ren re using	se REJECT. presentati ee802.org and the p nedy. the repor	Response Status W on was reviewed by the task /3/dj/public/24_05/lim_3dj_0 resentation do not provide s se to comment #37.	c force at the N 01_2405.pdf ufficient justific	lay 2024 interim meeting: cation to support the
C/ 178	SC 178.10	.1 P2	86 L	26	# 261	C/ 178	SC ·	178.10.1	P 286	L 32	# 263
Li, Mike		Intel				Li, Mike			Intel		
Comment C(0) T	<i>Type</i> TR BD	Comment Status	D		COM TxFFE	Comment g1 inhe	<i>Type</i> erited fr	TR om 802.3d	Comment Status D k, no simod support, not ap	proproaite	COM CTLE parameters
Suggeste	dRemedy					Suggested	Remed	'y			
Repla see s	ce it w 0.54, ee lim_3dj_0′	_2405, slide 5.				Replac -15 :0,	e them 1 (min,	w max, step)) 		
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. The following presentation was reviewed by the task force at the May 2024 interim meeting: https://www.ieee802.org/3/dj/public/24_05/lim_3dj_01_2405.pdf The comment and the presentation do not provide sufficient justification to support the suggested remedy. Resolve using the reponse to comment #37.				024 interim meeting: to support the	see lim_3dj_01_2405, slide 5 Proposed Response Response Status W PROPOSED REJECT. The following presentation was reviewed by the task force at the May 2024 interim in https://www.ieee802.org/3/dj/public/24_05/lim_3dj_01_2405.pdf The comment and the presentation do not provide sufficient justification to support is suggested remedy. There are several comments on this topic. The editorial team prepared a proposal in comment resolution slide deck URL/ran_3dj_01_2406. For CPC discussion					lay 2024 interim meeting: cation to support the ared a proposal in the	

C/ 178	SC 178.10.1	P 286	L 32	# 264	C/ 178	SC 178.10.1	P 286	L 46	# 267
Li, Mike		Intel			Li, Mike		Intel		
Comment 7	Type TR	Comment Status D		COM CTLE parameters	Comment	Type TR	Comment Status D		COM voltage parameters
g2 inhe	erited from 802.3	Bck, no simod support, not ap	proproaite		Av, Af	e, Ane TBDs			
Suggestedl Replac	Remedy e them w				Suggested Replac	IRemedy ce them w			
-5:0, 1 see lin	(min, max, step n 3di 01 2405.) slide 5			0.413, see li	0.413,0.608 V m 3di 01 2405	(Av, Afe, Ane) . slide 5		
Proposed F PROPO Resolve	Response DSED REJECT. e using the resp	Response Status W			Proposed PROP Resolv	Response OSED ACCEPT ve using the res	Response Status W TIN PRINCIPLE. ponse to comment #38.		
C/ 178	SC 178.10.1	P 286	L 40	# 265	C/ 178	SC 178.10.1	P 286	L 50	# 268
Li, Mike		Intel			Li, Mike		Intel		
Comment 7 fz1,fz2	<i>Type</i> TR from 802.3ck, n	Comment Status D o simod support, not appropr	oaite	COM CTLE parameters	<i>Comment</i> Tr TBI	<i>Type</i> TR D	Comment Status D		COM T_r
Suggestedl	Remedy				Suggested	IRemedy			
Replac fb/4.22	e them w 3, fb/80 (fz1,fz2))			Repla see li	ce it w 0.004 ns m_3dj_01_2405	, slide 5		
see lin	n_3dj_01_2405,	slide 5			Proposed	Response	Response Status W		
Proposed F PROPO Resolve	Response DSED REJECT. e using the resp	Response Status W			PROP The fo https:/ The co	OSED ACCEPT llowing presenta /www.ieee802.o	IN PRINCIPLE. ation was reviewed by the tasl rg/3/dj/public/24_05/lim_3dj_(presentation do not provide s	k force at the l 01_2405.pdf	May 2024 interim meeting:
C/ 178	SC 178.10.1	P 286	L 42	# 266	sugge	sted remedy.	presentation do not provide a	sumoioni justii	ication to support the
Li, Mike		Intel			Resolv	ve using the res	ponse to comment #39.		
Comment 7 f1,fp2, t	<i>Type</i> TR fp3 from 802.3c	Comment Status D k, no simod support, not appl	roproaite	COM CTLE parameters					
Suggestedl Replac fb/1.89 see lin	Remedy e them w 73, fb/2.6562, fb n_3dj_01_2405,	o/80 (fp1,fp2, fp3) slide 5							

Proposed Response Response Status W

PROPOSED REJECT. Resolve using the response to comment #263.

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: Comment ID

Comment ID 268

C/ 178	SC 178.10.1	P 286	L 53	# 269	C/ 178	SC ·	178.10.1	P 287	L 7	# 271
Li, Mike		Intel			Li, Mike			Intel		
Comment eta0	Type TR	Comment Status D		COM eta0	<i>Comment</i> sigma	<i>Type</i> RJ TBD	TR	Comment Status D		Tx jitter
Suggested	dRemedy				Suggested	Remed	ly			
Repla see li	ce it w 5e-9 V^2 m_3dj_01_2405	/GHz , slide 5			Repla see li	ce it w C m_3dj_().01 UI, 01_2405, s	slide 5		
Proposed	Response	Response Status W			Proposed	Respon	se	Response Status W		
https:/ The pr within on the The co sugge Althou	//www.ieee802.o resentation is ba that code is how critical eta0 par omment and the sted remedy. ugh Straw Poll #	rg/3/dj/public/24_05/im_3dj_(ised on COM4.50draft3 using vever tentative and has not be ameter is therefore premature presentation do not provide s 7 in the May 2024 meeting sh	01_2405.pdf MLSE. The ML een fully debugg e. sufficient justifica owed consensu:	SE implementation ed. Making a decision ation to support the s for the value 1e-8 for	https:// The cd sugge Resolv	/www.ie omment sted rer ve using SC	and the p nedy. the response the response th	/3/dj/public/24_05/lim_3dj_0 resentation do not provide s onse to comment #236. P287)1_2405.pdf ufficient justifica	ation to support the # [272
Although Straw Poll #7 in the May 2024 meeting showed consensus for the value 1e-8 for C2C and C2M, CR/KR were not addressed. The values 5e-9 and 6e-9 are suggested in various comments without substantial justification. Further analysis and consensus building are encouraged.					LI, MIKE Comment ADD T	<i>Туре</i> ГВD	TR	Comment Status D		Tx jitter
C/ 178	SC 178 10 1	P287	/ 5	# 270	Suggester	dRemed	<i>ly</i> 102111			
Li Miko		Intel	20	# 270	see li	m_3dj_(01_2405, s	slide 5		
Comment SNRT	Type TR	Comment Status D		TX SNDR/SCMR	Proposed PROF	Respon	ise ACCEPT I	Response Status W N PRINCIPLE.		
Suggester	dRemedv				The fo	llowing	presentati	on was reviewed by the task	(force at the Ma	ay 2024 interim meeting:
Repla see li	ce it w 33 dB m_3dj_01_2405	, slide 5			The co	omment sted rer	and the p	resentation do not provide s	ufficient justifica	ation to support the
Proposed	Response	Response Status W			Resolv	ve using	the respo	onse to comment #236.		
PROP The fo https:/ The co sugge Resolv	POSED ACCEPT ollowing presenta //www.ieee802.o pmment and the sted remedy. ve using the resp	IN PRINCIPLE. ation was reviewed by the tasl rg/3/dj/public/24_05/lim_3dj_(presentation do not provide s ponse to comment #45.	k force at the Ma 01_2405.pdf sufficient justifica	ay 2024 interim meeting: ation to support the						

C/ 178	SC 178.10.1	P 287	L 9	# 273	C/ 178	SC	178.10.1	P 28	7 L13	# 275
Li, Mike		Intel			Li, Mike			Intel		
Commen RLM	<i>t Type</i> TR TBD	Comment Status D		R_LM	Comment Nfix TI	<i>Type</i> BD	TR	Comment Status	D	COM ref Rx
Suggeste Repla see	edRemedy ace it w 0.95, lim_3dj_01_2405, s	slide 5			Suggested Replac see lii	d <i>Remed</i> ce it w 2 m_3dj	dy 24, _012405, s	slide 5		
Proposed	l Response	Response Status W			Proposed	Respor	nse	Response Status	N	
PRO The f https The c sugg reme The s Imple	POSED ACCEPT ollowing presentati ://www.ieee802.org comment and the p ested remedy. How dy is reasonable. same value is sugg ement the suggeste	N PRINCIPLE. on was reviewed by the task y/3/dj/public/24_05/lim_3dj_0 resentation do not provide s vever, the comment address jested in 5 comments (273, 4 ed remedy.	force at the Ma 1_2405.pdf ufficient justifica es an open TBE 109, 420, 436, 4	y 2024 interim meeting: tion to support the and the suggested 42).	PROP The cc conse The fo https:// The cc sugge There which	POSED ommen nsus is ollowing //www.ie ommen sted re are oth should	REJECT. t addresse not obviou presentati eee802.org t and the p medy. her comme be resolve	s an open TBD and th is. on was reviewed by th y/3/dj/public/24_05/lim resentation do not pro nts with related refere ed together with this o	he suggested reme he task force in the _3dj_01_2405.pdf ovide sufficient just once receiver parar ne. However, no co	edy is reasonable, but May 2024 interim meeting: dification to support the neters, Ng, Nf, and Nmax, consensus has been
C/ 178	SC 178.10.1	P 287	L13	# 274	achiev	ved yet	for these p	arameters.		
Li, Mike		Intel			C/ 178	SC	178.10.1	P28	7 L15	# 276
<i>Commen</i> dw T	<i>t Type</i> TR BD	Comment Status D		COM ref Rx	Li, Mike	T	TD	Intel		
Suggeste Repla	edRemedy ace it w 6,				Ng TB	i ype SD		Comment Status		COMITER RX
see	lim_3dj_01_2405,	slide 5			Renla	re it w	цу 4			
Proposed	l Response	Response Status W			see lii	m_3dj_	_, _01_2405, s	slide 5		
PRO The f https The c	POSED ACCEPT ollowing presentati ://www.ieee802.org comment and the p	IN PRINCIPLE. on was reviewed by the task ŋ/3/dj/public/24_05/lim_3dj_0 resentation do not provide s	force at the Ma 1_2405.pdf ufficient justifica	y 2024 interim meeting: tion to support the	Proposed PROP Resolv	Respor OSED ve using	nse ACCEPT I g the respo	Response Status N PRINCIPLE. onse to comment #27	W 5.	
The f	following straw poll v Poll #7	was taken in the May 2024 i	nterim meeting:		C/ 178	SC	178.10.1	P28	7 L16	# 277
l wou the e	Id support putting t ditors note for AUI	the COM parameter values e C2M and AUI C2C (per luster 2 3di draft specification	eta_0 and d_w a ed_3dj_07_2405	nd 5,	Comment	Туре	TR	Comment Status	D	COM ref Rx
Resu	ilts (all): Y: 67, N: 0), A: 23			NT I BI	D				
The r	esults show conse	nsus for d_w=5 for C2C and	C2M.		Suggested	Reme	dy			
Chan https	ige d_w to 5 for C2 ://www.ieee802.org	M and C2C, and add editor's y/3/dj/public/24_05/lusted_3c	s note per slide lj_07_2405.pdf.	4 of	Replac see lii	ce it w m_3dj_	5, _01_2405, s	slide 5		
					Proposed	Respoi	nse	Response Status	N	
					PROP Resolv	OSED	ACCEPT I g the respo	N PRINCIPLE.	5.	
TYPE: TR	R/technical require	d ER/editorial required GR/	general required	I T/technical E/editorial G/c	eneral			(Comment ID 277	Page 62 of 139

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Comment ID

5/30/2024 4:13:27 PM

CL 179	SC 179 10 1	D 207	/ 17	# 070	CI 179	SC 179 10 1	D 207	/ 20	# 294
Li Miko	30 176.10.1	F 201	L 17	# 278	Li Miko	30 170.10.1	r 201	L 20	# 201
Comment Namx	<i>Type</i> TR TBD	Comment Status D		COM ref Rx	Comment T bmaxT	<i>Type</i> TR BD	Comment Status D		COM ref Rx
Suggested Repla see li	<i>dRemedy</i> ce it w 60, m_3dj_01_2405,	slide 5			Suggested Replac see lin	R <i>emedy</i> e it w 0.85, n_3dj_01_2405,	slide 5		
Proposed PROF Resol	Response POSED ACCEPT ve using the resp	Response Status W IN PRINCIPLE. onse to comment #275.			Proposed F PROP(Resolv	Response DSED ACCEPT e using the resp	Response Status W IN PRINCIPLE. onse to comment #279.		
C/ 178	SC 178.10.1	P 287	L18	# 279	C/ 178	SC 178.10.1	P 287	L 21	# 282
Li, Mike		Intel			Li, Mike		Intel		
Comment Wam>	<i>Type</i> TR x(j) TBD	Comment Status D		COM ref Rx	Comment T bminTE	<i>Type</i> TR BD	Comment Status D		COM ref Rx
Suggested Repla see li	<i>dRemedy</i> ce it w 0.7, m_3dj_01_2405,	slide 5			Suggested Replac see lin	R <i>emedy</i> e it w 0.3, n_3dj_01_2405,	slide 5		
Proposed PROF The co	Response POSED ACCEPT omment addresse	Response Status W IN PRINCIPLE. as an open TBD and the sugg	gested remedy is	s reasonable, but	Proposed F PROP(Resolv	Response DSED ACCEPT e using the resp	Response Status W IN PRINCIPLE. onse to comment #279.		
There	are several comment resolution slic	us. nents on this topic. The edito de deck URL/ran_3dj_01_240	rial team prepa 06.	red a proposal in the	C/ 178 Li, Mike	SC 178.10.1	P 287 Intel	L 22	# 283
For Cl	RG discussion.				Comment T	vpe TR	Comment Status D		COM ref Rx
C/ 178	SC 178.10.1	P 287	L 19	# 280	no foal	toing tap coeffic	ient max limit		
Li, Mike		Intel			Suaaested	Remedy			
<i>Comment</i> Wmin	<i>Type</i> TR (j) TBD	Comment Status D		COM ref Rx	Added see lin	a new line for flo n_3dj_01_2405,	oating tap coefficeint max lin slide 5	nit and set it to 0.05	
Suggested Repla see li	<i>dRemedy</i> ce it w -0.7, m_3dj_01_2405,	slide 5			Proposed F PROP(Resolv	Response DSED ACCEPT e using the resp	Response Status W IN PRINCIPLE. onse to comment #275.		
Proposed PROF Resol	Response POSED ACCEPT ve using the resp	Response Status W IN PRINCIPLE. onse to comment #279.							

C/ 178 SC 178.10.1	P 287	L 23	# 284	C/ 178A	SC 178A.1.11	P660	L 33	# 287
Li, Mike	Intel			Li, Mike		Intel		
Comment Type TR Comment no foaltoing tap coefficient min limit	Status D		COM ref Rx	Comment T EQ (17	<i>Туре</i> тк '8А-37)	Comment Status D	DM m	nethodology MLSD_PAM
SuggestedRemedy				Suggested	Remedy			
Added a new line for floating tap coe see lim_3dj_01_2405, slide	fficeint min limit and	d set it to -0.05		Update suppor	e the equation per t data sheet.	slide 4 of lim_3dj_02_240	5, see also a mar	ked version in the
Proposed Response Response PROPOSED ACCEPT IN PRINCIPL Resolve using the response to comm	Status W E. nent #275.			Proposed F PROP	Response OSED ACCEPT I	Response Status W N PRINCIPLE.		
C/ 178A SC 178A.1.10.2	P 659	L12	# 285	Resolv	e using the respo	inse to comment #362.		
Li, Mike	Intel			C/ 178	SC 178.9.2	P 276	L 31	# 288
Comment Type TR Comment	Status D		DER0	Li, Mike		Intel		
DER0 EQ is wrong				Comment T	Type TR	Comment Status D		TX FFE
SuggestedRemedy				"value 200G/L	at min state for c _, and no simod s	(û1) (max) " from 802.3ck, upports"	parameter not sui	table for 802.3dj at
change P(y0)= DER0 to 1-P(y0) =D marked version in the support data s	ER0, see slide 3 of heet.	lim_3dj_02_2405	, see also a	Suggested	Remedy			
Proposed Response Response	Status W			change	e it to -0.4, see lin	n_3dj_01_2405		
PROPOSED ACCEPT IN PRINCIPL Resolve using the response to comm	E. nent #362.			Proposed F PROP Resolv	Response OSED REJECT. e using the respo	Response Status W		
C/ 178A SC 178A.1.11	P660	L 27	# 286		00 470 7 4 0	. Dees		"
Li, Mike	Intel			C/ 176	SC 176.7.1.2.	4 P 225	<i>L</i> 1	# 289
Comment Type TR Comment	Status D	DM metho	dology MLSD_PAM	Galan, Jos	e Vicente	Maxlinear In	с	
EQ (178A-36)				Comment T	Type T	Comment Status D		Figures (bucket)
SuggestedRemedy				In Figu transm	re 176-18, the ou ission order of th	tput lane arrow is indicated e output PCSL symbols	d in the opposite d	lirection than the actual
Update the equation per slide 4 of lir	n_3dj_02_2405, se	e also a marked	version in the	Suggested	Remedy			
Support data sneet.	o			Change	e the direction of	the arrow to follow the actu	ual transmission o	rder.
Proposed Response Response	Status W			Proposed F	Response	Response Status W		
The following contribution was review https://www.ieee802.org/3/dj/public/2 The modifications to Equations (178, responses to comments #285 and #3 Resolve using the response to comm	.E. ved at the May 2024 24_05/lim_3dj_02_2 A-36) and (178A-37 362. nent #362.	4 interim meeting 405.pdf ') are also influen	: ced by the	PROP Update license	OSED ACCEPT I e Figure 176-18 to e.	N PRINCIPLE. o clarify the order of transm	iission on the outp	out lane, with editorial

C/ 176	SC 176 6 1 2	5 P216	/ 1	# 290	C/ 176	SC 176 5 1 3 4	P203	14	# 293
Galan Io	se Vicente	Maylinear Inc	- 1	11 230	Galan Io	se Vicente	Maylinear Inc		" 200
Comment		Comment Status D		Figures (bucket)	Comment				Figures (bucket)
In Fig	ure 176-12, the o	utput lane arrow is indicated in	the opposite	direction than the actual	For F	iqure 176û5 , it has	to be explained what AÆ/B	Æ shall be.	riguics (bucket)
transr	mission order of th	ne output PCSL symbols			Suggeste	dRemedy	·		
Suggeste	dRemedy				Add a	an explanation for A	Æ/BÆ. e. g. "AÆ/BÆ'are th	e symbols fron	n previous 2 CWs that
Chan	ge the direction of	the arrow to follow the actual	transmission of	order.	are de	elayed"			
Proposed	Response	Response Status W			Proposed	Response	Response Status W		
PROF Upda	POSED ACCEPT te Fig 176-12 to cl	IN PRINCIPLE. arify the order of transmission	n on the output	lane, with editorial	PROF Upda	POSED ACCEPT IN te the text referenci	N PRINCIPLE. ng Fig 176-5 (in 176.5.1.3.4)	to state that R	S-FEC symbols A and
licens	e.				from I	FEC-B.	iewolus lioni FEC-A, and b a		o dinerent codewords
C/ 176	SC 176.5.1.3	.5 P 204	L 1	# 291	Imple	ment with editorial	license.		
Galan, Jo	se Vicente	Maxlinear Inc			C/ 176	SC 176.7.1.2.2	P224	L38	# 294
Comment	Туре Т	Comment Status D		Figures (bucket)	Galan Jo	se Vicente	Maxlinear Inc		
In Fig	ure 176-6, the out	put lane arrow is indicated in t	the opposite d	rection than the actual	Comment	Tvpe T	Comment Status D		Figures (bucket)
transi		ie output PCSL symbols			In all	Figures in the 8000	G PMA section, it is referred t	to AÆ/BÆ sym	bols, although we have
Suggeste	aremedy	the arrow to follow the actual	transmission	ordor	4 RS	CWs			, Ç
Chan			112112111221011	Jidei.	Suggeste	dRemedy			
Proposed	Response	Response Status W			Chan	ge to use A,B,C,D f	or the 4 RS CWs, instead of	A, B, AÆ, BÆ	
Upda	te Fig 176-6 to cla	in PRINCIPLE.	on the output I	ane, with editorial	Proposed	Response	Response Status W		
licens	se.	,			PROF	POSED ACCEPT IN	N PRINCIPLE.		
C/ 177	SC 177.4.1	P 252	L9	# 292	Reso	ive using the respoi	nse to comment # 593		
Galan, Jo	se Vicente	Maxlinear Inc	-		C/ 177	SC 177.4.1	P 252	L18	# 295
Comment	Type TR	Comment Status D		CI (bucket)	Galan, Jo	se Vicente	Maxlinear Inc		
The C	Q values of Convo	lutional interleaver are not in li	ne with previo	us contributions, D0.1,	Comment	Туре Т	Comment Status D		CI (bucket)
D0.2,	with the TP2 test	vectors of Annex 177A and ha	ave to be corre	cted.	Usual	lly, a convolutional i	interleaver switches round-ro	bin from low to	high delay lines and
Suggeste	dRemedy				the co Figure	onvolutional de-inte e 177-3 it is defined	rleaver switches round-robin	from high to lo	w delay lines. Why in
Q=24	for 1.6TBASE-R,	Q=48 for 800GBASE-R, Q=9	6 for 400GBAS	SE-R and Q=192 for	Suggeste	dRemedy	and other may round.		
200G	BASE-R	_			Chan	ae the convolutions	I interleaver order if that is th	ne case	
Proposed	Response	Response Status W			Pronosed	Response	Response Status M		
PROF	POSED ACCEPT	IN PRINCIPLE.			PROF		Nesponse Status W		
1,000					This i	s consistent with th	e adopted baseline. It is corr	ect as docume	nted.

CL 177	SC 177 / 6	P254	1 22	# 206	CI 184	SC 194 4 1	PAA5	12	# 200
	30 177.4.0	F 234	L 33	# 290		30 104.4.1	r 443	L 3	# 299
Galan, Jo					Loewentha	ai, Arnon	alphawave sen	ni	
Comment	t lype T	Comment Status D		pad insertion (bucket)	Comment	Туре Т	Comment Status D		Functional (bucket)
It is n	not declared when	the first pad insertion should h	happen.		Need full de	to further define skew is optional	the deskew requirement. For r , but doing 10b alignment of R	iow it is define S symbols is i	ed as optional. In practice mandatory.
Suggeste	edRemedy				Suggester	Remedv		-	
Indica	ate in the text that as in the test veo	the first pad insertion will happeters.	pen right at ti	he beginning of CWs,	Repla	ce lines 8-18 wit	h the requirement of partial des	skew, which n	neans 10b RS symbols
Proposed	l Response	Response Status 🛛 🛛 🛛 🛛 🛛 🖉			resolu	tion deskew.			
PRO	POSED ACCEPT	IN PRINCIPLE.			Proposed	Response	Response Status W		
Imple	ement the suggest	remedy with editorial license.			PROP	OSED ACCEPT			
C/ 177	SC 177.4.6.2	P 255	L 49	# 297	In the	first paragraph o	of clause 184.4.1 delete ", when	n implemente	d,"
Galan, Jo	se Vicente	Maxlinear Inc			and de	elete the second	paragraph		
Comment	t Type T	Comment Status D		pad insertion (bucket)	C/ 184	SC 184.4.2	P 445	L19	# 300
The c	details of how ot u	se the IBSF are beyond the so	ope of this s	tandard. Does it mean	Loewentha	al, Arnon	alphawave sen	ni	
this is	s vendor discretion	nary? Or will it be defined in o	ther standard	1?	Comment	Type T	Comment Status D		Reorder. (Bucket)
Suggeste	edRemedy				Need	to further define	the lanes reorder requirement.	For now it is	defined as optional. In
Clarif	y in the text where	e the use of the IBSF will be de	efined.		practio	ce full lanes reor	der is optional, but partial reord	der, meaning	having flow-0 on lanes 0-
Proposed	l Response	Response Status W			15 and	d flow-1 on lanes	s 16-31 is required. Not doing t	hat would imp	eact end to end FEC
PRO	POSED ACCEPT	IN PRINCIPLE.			perior		gins.		
Imple	ement the suggest	remedy with editorial license.			Suggested	Remedy			
C/ 176	SC 176C	P594	/ 1	# 208	I WO O 1 rem	ptions: love the word 'or	ntional' from line 22		
Loowooth			- I	# 230	2. Def	ine the restrictio	n of having flow-0 on lanes 0-1	5 and flow-1	on lanes 16-31.
Comment			11	Test Mesters	Proposed	Response	Response Status W		
Comment		Comment Status D		lest vectors	PROF	OSED ACCEPT	, IN PRINCIPLE.		
Anne	X 176C SM-PMA	test vectors" is currently empt	у.		Impler	ment the followin	ng with editorial license.		
Suggeste	edRemedy				Chang	ge: "If that is the	case, the optional lane reorder	function shal	I order the PCS lanes
Add t 1.6TE	est vectors for 20 BASE-R 16:8 to A	0GBASE-R 8:1, 400GBASE-R nnex 176C based on supportir	16:2, 800GI	BASE-R 32:4, and n on May interim.	lanes	according to the	PCS lane number."	order function	shall order the PCS
Proposed	l Response	Response Status W							
PROI Pend	POSED ACCEPT ling CRG review o	IN PRINCIPLE. f presentation and discussion.							

C/ 182 SC 182.1	P 392	L 44	# 301	C/ 182	SC 1	82.1	P 394	L 50	# 304	
Maki, Jeffery	Juniper Networ	·ks		Maki, Jeffe	ry		Juniper Netwo	orks		
Comment Type TR	Comment Status D		IMDD acronym (bucket)	Comment	Туре	TR	Comment Status D		IMDD acronym (bucket)	
Associated clause d appear in the actual Clause 177 is used t describe Inner FECs terminology.	escription is malformed. The acro Clause 177 title. Why preclude th for something other than IMDD? a used for coherent PMDs to setu	onym IMDD i hat at some f Also, there is p the approp	s used, which does not uture point in time that no use of "Coherent" to riate parallelism of	Associated clause description is malformed. The acronym IMDD is used, which does r appear in the actual Clause 177 title. Why preclude that at some future point in time th Clause 177 is used for something other than IMDD? Also, there is no use of "Coherent describe Inner FECs used for coherent PMDs to setup the appropriate parallelism of terminology.						
SuggestedRemedy				Suggested	Remedy	/				
Delete the acronym	IMDD.			Delete	the acro	onym IM	DD.			
Proposed Response PROPOSED ACCEI	Response Status W			Proposed I PROP	Respons OSED A	se CCEPT.	Response Status W			
C/ 182 SC 182.1	P 393	L 29	# 302	C/ 183	SC 1	83.1	P 418	L 39	# 305	
Maki, Jeffery	Juniper Networ	ks		Maki, Jeffe	ry		Juniper Netwo	orks		
Comment Type TR	Comment Status D		IMDD acronym (bucket)	Comment	Туре	TR	Comment Status D		IMDD acronym (bucket)	
Associated clause d appear in the actual Clause 177 is used t describe Inner FECs terminology.	escription is mailformed. The acro Clause 177 title. Why preclude th for something other than IMDD? a s used for coherent PMDs to setu	nat at some f Also, there is p the approp	s used, which does not uture point in time that no use of "Coherent" to riate parallelism of	Associ appear Clause descrit termine	ated cla r in the a e 177 is be Inner blogy.	use deso actual Cla used for FECs us	cription is malformed. The ac ause 177 title. Why preclude something other than IMDD? sed for coherent PMDs to set	ronym IMDD that at some Also, there i tup the appro	is used, which does not future point in time that s no use of "Coherent" to priate parallelism of	
SuggestedRemedy				Suggested	Remedy	/				
Delete the acronym	IMDD.			Delete	the acro	onym IM	DD.			
Proposed Response PROPOSED ACCEI	Response Status W			Proposed I PROP	Respons OSED A	Se CCEPT.	Response Status W			
C/ 182 SC 182.1	P 394	L 23	# 303	C/ 177A	SC 1	77A	P 643	L 5	# 306	
Maki, Jeffery	Juniper Networ	ks		Maki, Jeffe	ry		Juniper Netwo	orks		
Comment Type TR Associated clause d appear in the actual Clause 177 is used describe Inner FECs terminology.	Comment Status D escription is malformed. The acro Clause 177 title. Why preclude the for something other than IMDD? A sused for coherent PMDs to setu	onym IMDD i nat at some f Also, there is p the approp	<i>IMDD acronym (bucket)</i> s used, which does not uture point in time that no use of "Coherent" to riate parallelism of	Comment Annex cannot Suggested Delete	<i>Type</i> title unr be achi <i>Remed</i> y the acro	T ecessar eved sin onym IM	Comment Status D ily uses the acronym IMDD. I aply by omitting the use of the DD.	Not clear wha e acronym IN	<i>(bucket)</i> It purpose is achieved that IDD.	
SuggestedRemedy				Proposed I	Respons	se	Response Status W			
Delete the acronym	IMDD.			PROP	OSED A	CCEPT	IN PRINCIPLE.			
Proposed Response PROPOSED ACCEI	Response Status W PT.			Chang 1.6TB/	e title to ASE-R II	"Test ve nner FEC	ectors for 200GBASE-R, 400	GBASE-R, 80	00GBASE-R, and	

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: Comment ID

Comment ID 306

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C/ 184	SC 184.6.5	P 462	L3	# 307	C/ 1	SC	1.4.184da	a P 49	L 43	# 309
Bruckma	n, Leon	Huawei			D'Ambro	osia, Johr	۱	Futurewei, U.	.S. Subsidiary of	f Huawei
Commen	t Type TR	Comment Status D		Diagrams (Bucket)	Commer	nt Type	TR	Comment Status D		ER1 PHY (bucket)
Set 7	BD values of N a	nd M			8000	GBASE-E	ER1 is defi	ined as using 800GBASE-R	encoding, but p	er 802.3df-2024,
Suggeste Set N	ed <i>Remedy</i> N=12, M=8. See c	ontribution bruckman_3dj_01	_241205		1.4.1 Phys as n	184e - "T sical Cod oted in T	he term 80 ling Sublay able 169-3	00GBASE-R represents a fai yer (PCS) defined in Clause 3a,uses PCS encoding as de	mily of Physical 172 for 800 Gb/ efined in Clause	Layer devices using the s operation." This PHY 186.
Proposed	d Response	Response Status W			Suggest	edReme	dy			
PRO The f	POSED ACCEPT	IN PRINCIPLE.	sted remedy) w	as reviewed by the	Defii Mod	ne new n lify definit	ame for fa tion of enti	amily / encoding based on Cl ry for 800GBASE-ER1 to refl	ause 186 encod lect new family r	ling. name.
802.3	Bdj task force at th	ne May Interim meeting:	n 2di 01a 240	5 ndf	Propose	d Respo	nse	Response Status W		
Imple	ement the sugges	ted remedy with editorial licer	nse.		PRC The	POSED commen	ACCEPT at correctly	IN PRINCIPLE.	n is not correct. I	However, it is not
C/ 184	SC 184.1.1	P 441	L 8	# 308	nece Cha	essary to	define a r	iew family. If 800GBASE-ER1 and 800G	BASE-ER1-20	to the following:
Bruckma	n, Leon	Huawei			1.4.1	184da 80	0GBASE-	ER1: IEEE 802.3 Physical L	ayer specificatio	on for 800 Gb/s PHY
Commen	t Type TR	Comment Status D		General (Bucket)	usin	g 800GB	ASE-ER1	PCS and PMA encoding, du	al polarization 1	6-state quadrature
The I	nner FEC as defi	ned, includes the PMA. Shall	make this clea	to the reader	amp leas	iitude mo t 40 km	See IFFF	Std 802.3. Clause 186 and	d conerent detec Clause 187).	ction with reach up to at
Suggeste	edRemedy				1.4.1	184db 80	OGBASE-	ER1-20: IEEE 802.3 Physica	al Layer specific	ation for 800 Gb/s PHY
Eithe the P	r add sentence: " MA sublayer", or	This Inner FEC subllayer incl split the PMA function	udes functional	ty often associated with	using amp	g 800GB litude mo	ASE-ER1 odulation (PCS and PMA encoding, du DP-16QAM) modulation, and	al polarization 1 d coherent detec	6-state quadrature ction with reach up to at
Proposed	d Response	Response Status W			Impl	ement w	ith editoria	l license.	Clause 107).	
PRO Imple	POSED ACCEPT	IN PRINCIPLE.			C/ 1	SC	1.4.184da	a P49	L 47	# 310
Add	sentence: "This Ir	ner FEC sublayer includes fu	unctionality often	n associated with the	D'Ambro	sia, Johr	า	Futurewei, U.	.S. Subsidiary of	Huawei
Add :	similar text to the	appropriate sub clause in clau	use 177		Commer	nt Type	TR	Comment Status D		ER1 PHY (bucket)
[Edite	or's note: CC 184	, 177]			8000 1.4.1 Phys as n	GBASE-E 184e - "T sical Cod oted in T	ER1-20 is he term 80 ling Sublay able 169-3	defined as using 800GBASE 00GBASE-R represents a fai yer (PCS) defined in Clause 3a,uses PCS encoding as de	E-R encoding, bu mily of Physical 172 for 800 Gb/ efined in Clause	It per 802.3df-2024, Layer devices using the s operation." This PHY 186.
					Suggest	edReme	dy			
					Defi	na naw n	ame for fa	mily / encoding based on Cl	ause 186 encod	lina

Define new name for family / encoding based on Clause 186 encoding. Modify definition of entry for 800GBASE-ER1 to reflect new family name.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #309.

C/ 116 SC 116.1.3	P 92	L 30	# 311		C/ 116	SC 116.1.4	P 94	L 6	# 312
D'Ambrosia, John	Futurewei, U	.S. Subsidiary of	Huawei		D'Ambrosi	a, John	Futurewei, U	J.S. Subsidiary	of Huawei
Comment Type TR Co	omment Status D			FR1	Comment	Type TR	Comment Status D		Conditional PMA (bucket)
With the adoption of the obje and its nomenclature 800GB (e.g. FR-500). This introduc (DR1 is not FR1-500). In a "family" of PHYs emerges (2	ective to do 500m over ASE-FR4-500, "FR" in es an inconsistency fo ddition, when looking a 00GBASE-FR1, 400G	4 WDM lanes on s no longer limite r 200GBASE-FR ⁻ at 2km for 1,2,4,8 BASE-DR2-2, 80	a single mode fi d to just represer 1 and 200GBASE fibers- a confusi 0GBASE-DR4-2	ber ht 2km E-DR1 ng , and	200/40 Tables depen Suggested	00G BASE-R BM 5 116-3, 116-4,ai dent on the PHY <i>IRemedy</i>	I-PMA and 200/400G BASE nd 116-4a, but that is not qu ′ type and on whether specif	-R-SM-PMA are ite correct. The ic AUIs are imp	e noted as optional in ey are conditional lemented or not
1.6TBASE-DR8-2)					For 10	0Gb/s based PH	IYs the 200GBASE-R BM-P	MA is mandato	ory, all AUIs are optional,
SuggestedRemedy					For 20	0Gb/s based PH	IYs the 200GBASE-R SM-P	MA is mandate	orv. all AUIs are optional.
Rename 200GBASE-FR1 to	200GBASE-DR1-2				and 20	OGBASE R BM	PMA is "C" / conditional if e	ither 200GAUI-	2 is implemented.
Proposed Response Re PROPOSED ACCEPT IN PF The following presentation w meeting. https://www.ieee802.org/3/dj Implement the suggested ren Pending CRG discussion.	sponse Status W RINCIPLE. ras reviewed by the 80. /public/24_05/dambros medy with editorial lice	2.3dj task force a sia_3dj_02a_240 nse.	t the May Interim 5.pdf		For 10 and 40 For 20 and 40 Chang BM-PN Modify 200GE Modify 400GE Modify 400GE Modify 400GE Modify 200GE Modify 400GE Modify 400GE	0Gb/s based PH 0GBASE R SM 0GB/s based PH 0GBASE R BM 0GB/s based PH 0GBASE R BM e entries as des MA and 800GBA entry in Table 1 8ASE-R BM PM/ entry in Table 1 8ASE-R SM PM/ entry in Table 1 8ASE-R SM PM/ entry in Table 1 8ASE-R BM PM/ entry in Table 1	Ys the 400GBASE-R BM-P PMA is "C" / conditional if e Ys the 400GBASE-R SM-P PMA is "C" / conditional if e cribed above in Tables 116- SE-R-SM-PMA to C / with n 78-1 to 200GBASE-R BM P A must be implemented if a 1 78-2 to 400GBASE-R BM P A must be implemented if a 1 79-1 to 200GBASE-R SM P A must be implemented if a 1 81-1 to 200GBASE-R SM P A must be implemented if a 1 81-1 to 200GBASE-R BM P A must be implemented if a 1 80-2 to 400GBASE-R BM P A must be implemented if a 1 82-1 to 200GBASE-R BM P A must be implemented if a 1 82-1 to 200GBASE-R BM P A must be implemented if a 1 82-1 to 200GBASE-R BM P	MA is mandato ither 400GAUI- MA is mandato ither 400GAUI- 3, 116-4 and11 otes as stated a 'MA to Conditio 200GAUI-2 C20 'MA to Conditio 200GAUI-4 C20 'MA to Conditio 200GAUI-2 C20 'MA to Conditio	 ary, all AUIs are optional, 2 is implemented. ary, all AUIs are optional, 4 is implemented. 6-4a for 800GBASE-R above nal. Add note "c" A C is implemented. nal. Add note "c" A C/C2M is implemented. nal. Add note "c" A C/C2M is implemented. nal. Add note "c" A C/C2M is implemented. nal. Add note "c" A

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #317.

Comment ID 312

400GBASE-R BM PMA must be implemented if a 400GAUI-4 C2C/C2M is implemented.

C/ 116 SC 116.1.4	P 98	L18	# 313	C/ 169	SC 169.1.3	P116	L 42	# 315
D'Ambrosia, John	Futurewei, U	.S. Subsidiary of	Huawei	D'Ambrosia	a, John	Futurewei, U.S	S. Subsidiary o	of Huawei
Comment Type TR there is no PMD caller	Comment Status D d 400GBASE-LR4		(bucket)	Comment 800GE	Type TR ASE-ER1-20 and	Comment Status D 800GBASE-ER1 are both c	lefined as usir	ER1 PHY (bucket) ng 800GBASE-R
SuggestedRemedy Change 400GBASE-L	R4 to 400GBASE-LR4-6			encodi Physic for 800	ng, but per 802.3 al Layer devices Gb/s operation."	df-2024, 1.4.184e - "The terr using the Physical Coding S These two PHYs as noted i	n 800GBASE- ublayer (PCS) n Table 169-3	R represents a family of defined in Clause 172 a, they use PCS
Proposed Response	Response Status W			encoal Suggested	ng as defined in C Remedy	Jause 186.		
Cl 116 SC 116.2.4 D'Ambrosia, John Comment Type TR In support of 200 Gb/s PMA, Clause 176 was and 400 GbE sublayer SuggestedRemedy Modify last sentence of The 200GBASE-R and Clause 120. The 200GBASE-R and specified in Clause 17 Note that "PMA" is us Proposed Response PROPOSED ACCEPT The comment appropt to differentiate the two may both be referred PMA in the 802.3 star Implement the followin Replace the second s following: 200GBASE-R and 400 Clause 120. 200GBASE-R and 400 specified in Clause 17 Implement with editor	P99 Futurewei, U Comment Status D sper lane signaling - 200GBA s developed. No addition was rs was made. of 116.2.4 and add additional d 400GBASE-R PMAs, which d 400GBASE-R PMAs, which 6. ed as a general term to repre <i>Response Status</i> W T IN PRINCIPLE. riately proposes to add the new based on multiplexing type. to as PMA and in fact this could dard might be called a PMA. ng with editorial license: entence in 116.2.4 with appro- DGBASE-R PMAs that use bi DGBASE-R PMAs that use bi DGBASE-R PMAs that use sy 6. al license.	<i>L</i> 1 .S. Subsidiary of <i>P</i> ASE-R BM-PMA a s made to 116.2 : text a supports bit multiplexing text both types de the private editorial in t multiplexing (BM mbol multiplexing)	# 314 Huawei MA introduction (bucket) and 400GBASE-R Summary of 200GbE tiplexing, is specified in I multiplexing, is If PMAs for each speed. If PMAs for each speed. Incorrect, since any structions to the M-PMA) are specified in g (SM-PMA) are	Define Elimina Create encodi Modify name. Modify Proposed I PROP This ta 800GE deceiv 800GE nomen Note tf In Tab 800GE polariz cohere 800GE polariz cohere Implen	new name for far ate table entries for new table for PH ng. description of en description of en Response OSED ACCEPT I ble lists ALL 800 ASE-R PHY type ing and should be ASE optical cohe iclature table is no hat comments 11 ⁻ e 169-1, change ASE-ER1-20 80 ation 16-state qua int detection with ASE-ER1 800 C ation 16-state qua int detection with hent with editorial	nily / encoding based on Cla or ER1-20 and ER1 from Tal Y type and clause correlatio try for 800GBASE-ER1-20 ir try for 800GBASE-ER1 in Ta <i>Response Status</i> W N PRINCIPLE. Gb/s Ethernet PHY types (i. s. The description for 800GB e updated in line with the def or required for 800GBASE-E 1, 310, and 311 propose cha the definitions as follows: 00 Gb/s PHY using 800GBASE adarature amplitude modulatio reach up to at least 20 km (s 5b/s PHY using 800GBASE- darature amplitude modulatio reach up to at least 40 km (license.	ause 186 enco ble 169-3a. n for new fami a Table 169-1 able 169-1 to r e., 800GBASE BASE-ER1 an initions in Clau cally 800GBASE R1/ER1-20. anges to the d SE-ER1 PCS and on (DP-16QAM see Clause 18 see Clause 18	ding. ily based on Clause 186 to reflect new family eflect new family name. E), not specifically d 800GBASE-ER1-20 is use 1. Table 169-3a, lists SE-R), so a separate efinitions in Clause 1. and PMA encoding, dual <i>A</i>) modulation, and T) I PMA encoding, dual <i>A</i>) modulation, and 37)

-						
C/ 169	SC 169.1.4	P117	L12	# 316	C/ 169	SC
D'Ambrosi	a, John	Futurewei, U.S	S. Subsidiary of	Huawei	D'Ambros	ia, Joh
Comment	Type TR	Comment Status D	P	MA introduction (bucket)	Comment	Туре
Table 169-2, servic	169-2 introduces , but there is no re e interfaces, as n	the 800GBASE-R BM-PMA eal explanation to the use of oted in Items C&E. The clari	and 800GBASE the sub-layers - j ification of these	-R-SM-PMA in Table just the required PMA two sublayers is	800G 169-3 the Pl	BASE- , and] HY typ
actual	ly defined in 176.	2 Conventions, which doesnt	make sense.		Suggeste	dReme
Suggested	dRemedy				For 10	00Gb/s
Move 169.1.	definitions of 800 3 Nomenclature	GBASE-R BM-PMA and 800)GBASE-R-SM-I	PMA from 176.2 to	and 8 For 20	00GB/ 00Gb/s
Proposed	Response	Response Status W			and 8	00GBA
PROP	OSED ACCEPT	IN PRINCIPLE.			Chan	ge entr
The te listed	erms BM-PMA and in 176.2, but the i	d SM-PMA are defined in 120 tems in this larger list are ter	0.1.1 and 176.1. ms for use only	1. The same terms are within Clause 176.	BM-P	MA an
The de	efinition of BM-PN	A and SM-PMA should remain	ain in the subcla	uses listed above. But	Modif	y entry
they s	hould also be intr	oduced Clause 169.			800G	BASE
Resolv	ve using the resp	onse to comment #318.			Modif	v ontry

C/ 169	SC 169.1.4	P 117	L12	# 317	
D'Ambrosia,	John	Futurewei, U.S	S. Subsidiary of	Huawei	
Comment T	vpe TR	Comment Status D	(Conditional PMA (bucke	ət)

-R BM-PMA and 800GBASE-R-SM-PMA are noted as optional in Tables 169-2, Table 169-3a, but that is not quite correct. They are conditional dependent on be and on whether specific AUIs are implemented or not.

edv

/s based PHYs the 800GBASE-R BM-PMA is mandatory, all AUIs are optional, ASE R SM PMA is "C" / conditional if either 800GAUI-4 is implemented. s based PHYs the 800GBASE-R SM-PMA is mandatory, all AUIs are optional, ASE R BM PMA is "C" / conditional if either 800GAUI-8 is implemented.

ries as described above in Tables 169-2, 169-3 and 169-3a for 800GBASE-R nd 800GBASE-R-SM-PMA to C / with notes as stated above.

in Table 178-3 to 800GBASE-R BM PMA to Conditional. Add note "c" A -R BM PMA must be implemented if a 800GAUI-8 C2C is implemented. Modify entry in Table 179-3 to 800GBASE-R SM PMA to Conditional. Add note "c" A 800GBASE-R SM PMA must be implemented if a 800GAUI-4 C2C is implemented. Modify entry in Table 180-3 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented. Modify entry in Table 181-1 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented. Modify entry in Table 182-3 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented. Modify entry in Table 183-1 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Some guidance as to when the two PMA types are used would be helpful. However, it is not as simple as proposed in the suggested remedy. Guidance is required for all PMAs used within the various xAUIs. Annex 176B provides all of the necessary guidance. Each of the tables listing physical layer clauses associated with PMD types (e.g., Table 180-3 for 800GBASE-DR4) already include a reference to Annex 176B for the AUIs, but not for the two PMA types. Additional guidance in these tables would be helpful. In the nomenclature tables in Clause 169 it is not necessary to repeat all of these details nor is there any space in these already crowded tables: instead it would be sufficient. efficient, and future-proof to point back to the PMD clauses for guidance.

For each new PMD (Clauses 178, 179, 180 to 183, 185, 186), update the PMD tables in the PMD clause and the associated nomenclature table in Clause 116, 169, and 174, similar to the following for the 800GBASE-DR4 defined in Clause 180.

In Table 180-1, for the 800BASE-R BM-PMA row, change "Optional" to "Conditional" with the following footnote:

"If one or two 800GAUI-n is implemented in a PHY, additional 800GBASE-R BM-PMA or SM-PMA sublayers are required according to the guidelines in Annex 176B.6.1."

Comment ID 317

Page 71 of 139 5/30/2024 4:13:27 PM

Attach the same footnote to "Required" in the row for 800GBASE-R SM-PMA.

In Table 169-3...

In the cell (800GBASE-DR4 row, 800GBASE-R BM-PMA column), change "O" to "C". In footnote "a" add ". C = Conditional (refer to PMD clause for details)."

Implement with editorial license.

<i>CI</i> 1	69	SC	169.2
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P119 L28

D'Ambrosia, John Comment Type TR Futurewei, U.S. Subsidiary of Huawei

PMA introduction (bucket)

318

In support of 200 Gb/s per lane signaling - 800GBASE-R BM-PMA, Clause 176 was developed. No addition was made to 169.2 Summary of 800 GbE archicture

Comment Status D

SuggestedRemedy

Modify 169.2.4 to read -

The PMA sublayer provides a medium-independent means to support the use of a range of physical media.

The 800GBASE-R PMA, which supports bit multiplexing, is specified in Clause 173. The 800GBASE-R PMA, which supports symbol multiplexing, is specified in Clause 176. Note that "PMA" is used as a general term to represent both types of PMAs.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The comment appropriately proposes to add the new PMA types defined in Clause 176 and to differentiate the two based on multiplexing type. It is not necessary to point out that they may both be referred to as PMA and in fact this could be considered incorrect, since any PMA in the 802.3 standard might be called a PMA.

Implement the following with editorial license:

Replace the second sentence in 169.2.4 with appropriate editorial instructions to the following:

The 800GBASE-R PMA that uses bit multiplexing (BM-PMA) is specified in Clause 173. The 800GBASE-R PMA that uses symbol multiplexing (SM-PMA) is specified in Clause 176.

Implement with editorial license.

C/ 169	SC 169.2	P119	L 28	#	319
D'Ambrosia,	John	Futurewei,	U.S. Subsidiary	/ of Huawei	

Comment Type TR Comment Status D ER1 PHY (bucket)

800GBASE-ER1 and 800GBASE-ER1-20 use the Clause 186 800GBASE-ER1 PCS/PMA. This layer is not described as part of 169.2.

SuggestedRemedy

Create 169.2.4c 800GBASE-ER1 PCS/PMA

The 800GBASE-ER1 PCS performs encoding of data from the 800GMII, performs GMP mapping, applies FEC, and transfers the encoded data to the PMA. The 800GBASE-ER1 PMA sublayer perform the mapping of transmit and receive data streams between the PCS and PMA via the PMA service interface, and the mapping and multiplexing of transmit and receive data streams between the PMA and PMD via the PMD service interface. The 800GBASE-ER1 PCS is specified in Clause xxx.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Amend subclause 169.2.3 (from 802.3df) to the following with appropriate editorial instructions and mark-ups.

The PCS performs encoding of data from the 800GMII data into a form compatible with the PMA and PMD.

The 800GBASE-R PCS is specified in Clause 172.

The 800GBASE-ER1 PCS is specified in Clause 186.

Implement with editorial license.

C/ 169	SC 169.1.4	P119	L19	# 320
D'Ambrosi	a, John	Futurewei, U.	S. Subsidiary of	Huawei
Comment For 80 800GE 800GE	<i>Type</i> TR DOGBASE-LR1 ir BASE-R BM-PM BASE-R SM PM	Comment Status D n Table 169-3a A is conditional, pending impl A is conditional, pending impl	(ementation of 80 ementation of 80	Conditional PMA (bucket DOGAUI-8 C2C/C2M DOGAUI-4 C2C/C2M
Suggested	Remedy			
Chang PMA Add no of 800	ge entries for 800 ote "C= Conditio GAUI-8 C2C/C2	DGBASE-LR1 to C for 800GB mal, 800GBASE-R BM-PMA i 2M	ASE-R BM-PMA s conditional, pe	and 800GBASE-R SM-
800GE	BASE-R SM PM	A is conditional, pending impl	ementation of 80	00GAUI-4 C2C/C2M"
Proposed	Response	Response Status W		

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #317.

[Editor's note: Changed subclause from 169.1.3 to 169.1.4]
C/ 169	SC 169	.3.2	P 122	L 54	# 321	C/ 185	SC 185.1		P 468	L19	# 323
D'Ambros	ia, John		Futurewei, U.	S. Subsidiary of	Huawei	D'Ambrosi	a, John		Futurewei, U.	S. Subsidiary	of Huawei
Comment	Type TI	R	Comment Status D	,	ER1 PHY (bucket)	Comment	Type TR		Comment Status D	,	Conditional PMA (bucket)
There intera	is no figure ces includin	e descrit ng 800G	bing 800GBASE-ER1/-20 c BASE-ER1 PCS/PMA	lescribing inter-	sublayer service	Table correla	185-1, Figure ation in Table	185-1 169-3a	, Figure 185-2 does not re a. There is no mention of	eflect the PHY 800GBASE-F	type and clause R BM-PMA, 800GAU-I8
Suggestee Add p	dRemedy Iaceholder	text for f	future text.			2C2, 8 Baseli	00GAUI-8 C2	2M, 80 n https	0GBASE SM-PMA, 800G :://www.ieee802.org/3/dj/p	AUI-4 C2C, ar public/23_07/ki	nd 800GAUI-4 C2M. ota_3dj_01a_2307.pdf
Proposed	Response		Response Status W			shows	support for 8	OOGA	UI's.		
PROF	POSED RE.	JECT.				Suggested	Remedy				
Resol	ve using the	e respor	ise to comment #78.			Clause Table	e 185 needs t 85-1needs th	o be u ne follo	pdated to reflect these lay	ers.	
C/ 169	SC 169	.3.2	P 122	L14	# 322	800	GBASE-R B	И-РМА	- conditional		
D'Ambros	ia, John		Futurewei, U.	S. Subsidiary of	Huawei	800	GAU-18 2C2	- optior	nal		
Comment	Туре ТІ	R	Comment Status D		(bucket)	800	GBASE SM-I	PMA -	conditional		
There	is no inter-	sublaye	r interface for the PMA sub	player shown in	the figure	800	GAUI-4 C2C	- optio	nal		
Suggester	dRemedv					800	GAUI-4 C2M	- optio	nal		
Add n	laceholder	text for f	future text			of 800	GAUL-8 C2C	itional, C2M	800GBASE-R BIN-PINA I	s conditional,	pending implementation
						800GE	BASE-R SM F	PMA is	conditional, pending impl	ementation of	800GAUI-4 C2C/C2M"
PROF There sublay	POSED RE. is no PMA yer, instead	JECT. sublaye	er in the figure. The 800GB	ASE-LR1 is def n a PMA are sul	ned without a PMA osumed in the Inner	Figure Flgure interfa	185-1 should 185-2 needs ce between t	d inclue to be	de a PMA sublayer in the updated to show the 8000 S and Inner FEC	diagram and b 3BASE-R PM,	be added to legend below A Sublayer and service
FEC s	sublayer.					Proposed	Response	I	Response Status W		
						PROF Some for inc Regar Inner PCS a subsu Add th 800G/	OSED ACCE optional and lude the SM-I ding Figure 1 FEC sublayer nd the 800GI mes some fui e following rc 8ASE-R BM-F AUI-8 C2C - c AUI-8 C2M - c 8ASE SM-PM AUI-4 C2C - c AUI-4 C2M - c ve the concer sponse to cor nent with edit	PT IN conditi PMA a 85-1 a conne BASE- nctions PMA - co optiona optiona optiona optiona n abou n ment orial lic	PRINCIPLE. onal sublayers are missin nd BM-PMA should be ind nd Figure 185-2, no PMA acts directly with the PCS; LR1 Inner FEC. Note that //services normally provide Table 185-1: conditional // nditional // // t conditional SM-PMA and #317. cense.	g from Table luded in this t is shown beca a PMA is not the 800GBAS ed by a PMA f	185-1 and the conditions able. ause the 800GBASE-LR1 required between the 3E-LR1 Inner FEC for the PMD.

Comment ID 323

C/ 180	SC 180.8.5	P 364	L 39	# 324	C/ 180	SC	180.6.1	P 353	L 33	# 326
Welch, Br	ian	Cisco			Welch, Bri	ian		Cisco		
Comment	Type TR	Comment Status D		TDECQ	Comment	Туре	TR	Comment Status D		TX specs
Curre when Suggestee	nt baseline propo adopted. <i>dRemedy</i>	sal is lacking tap weight restr	ictions, which v	vere indicated as TBD	In late Pave(this na TDEC	er 100G (min) wa arrowed (Q(min)	PL specs as 3dB, to to 2.5 dB	(ie, 100GBASE-FR1) the difference of infinite extra as it was not updated to reflect the case of infinite extra as it was not updated to reflect the second	erence betweer tinction ratio. In ect the changes	n OMA(min) and the adopted baselines s to effective
			s as presented	in weich_3dj_01_0324.	Suggestee	dRemed	dy			
Proposed	Response POSED REJECT.	Response Status W			Propo to -3.3	ose char 3 dBm.	nging "Ave	rage launch power, each lan	e (min)" in Tabl	e 180-7 from -2.8 dBm
The fo meeti https:/	ollowing presenta ng: //www.ieee802.or	tion was reviewed by the 802 g/3/dj/public/24_05/welch_3d	.3dj task force a j_01_2405.pdf	at the May Interim	Proposed PROF	Respor	nse ACCEPT	Response Status W IN PRINCIPLE.		
There Pendi	did not seem to ng CRG discussi	be consensus relating to this on.	proposal.		In Tab each I	ole 180- lane (m	7, add a fo in)" with th	potnote to the value "-2.8" on e following text:	the row for "Av	erage launch power,
C/ 181	SC 181.8.5	P387	L 3	# 325	"Avera	age laur	nch power	of –2.8 dBm corresponds to	an OMA of -0.8	8 dBm with an extinction
Welch, Br	ian	Cisco			ratio c appro:	of appro ximatelv	ximately 1 v 16 dB."	0 dB or an OMA of -0.1 dBm	n with an extinct	tion ratio of
Comment	Type TR	Comment Status D		TDECQ			,			
Curre when	nt baseline propo adopted.	sal is lacking tap weight restr	ictions, which v	vere indicated as TBD		ment wi	th editoria	l license.		" [007
Suggeste	dRemedy				C/ 181	SC.	181.6.1	P378	L16	# 327
Propo	se adopting the 1	DECQ tap weight restrictions	s as presented	in welch_3dj_01_0524.	Welch, Bri	ian		Cisco		
Proposed PROF Resol	Response POSED REJECT. ve using the resp	Response Status W			Comment In late Pave(this na TDEC	<i>Type</i> er 100G (min) wa arrowed Q(min)	TR PL specs as 3dB, to to 2.6 dB	Comment Status D (ie, 400GBASE-FR4) the diffure reflect the case of infinite ext as it was not updated to reflect	erence betweer tinction ratio. In ect the changes	TX specs n OMA(min) and the adopted baselines s to effective
					Suggested Propo to -2.2	dRemed ose char 2 dBm.	dy nging "Ave	rage launch power, each lan	e (min)" in Tabl	e 181-5 from -1.8 dBm

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #162

C/ 182 SC 182.6.1	P 401	L 21	# 328	C/ 90A	SC	90A.3	P 519	L 43	# 330
Welch, Brian	Cisco			de Koos, A	Andras		Microchip Teo	chnology	
Comment Type TR	Comment Status D		TX specs	Comment	Туре	т	Comment Status D		(bucket)
In later 100GPL spec Pave(min) was 3dB, this narrowed to 2.5 o TDECQ(min).	es (ie, 100GBASE-FR1) the dif to reflect the case of infinite ex dB as it was not updated to ref	ference between ttinction ratio. In lect the changes	OMA(min) and the adopted baselines to effective	For the alignm The va a mair	e addeo ient ma alues fo itenanc	d row in Ta arker inser or 200G, 4 ce request	able 90A-1, the potential time rtion/removal for 1.6T is incor l00G, and 800G are also erro t to correct these, too.	estamp accu rect. It shou neous (shou	racy impairment due to Ild be 1.28ns, not 2.56ns. Ild all be 5.12ns). I've filed
SuggestedRemedy				Suggested	Remed	dy			
Propose changing "A	verage launch power, each lar	ne (min)" in Table	e 182-7 from -2.1 dBm	Chang	je 2.56	to 1.28ns	in the added row for Table 9	0A-1	
to -2.6 dBm.				Proposed	Respor	nse	Response Status W		
Proposed Response	Response Status W			PROP	OSED	ACCEPT			
PROPOSED ACCEP	T IN PRINCIPLE.			C/ 175	SC	175 2 4 5	P173	/ 50	# 331
In Table 182-7, add a	a footnote to the value "-2.1" or	n the row for "Ave	erage launch power,	de Koos A	Indras	110.2.4.0	Microchin Ter		<i>"</i> 331
"Average launch pow	r the following text: /er of –2.1 dBm corresponds to	o an OMA of –0.8	3 dBm with an extinction	Comment	Type	т	Comment Status D	mology	Scrambler seeds (bucket)
ratio of approximately	y 10 dB or an OMA of –0.1 dBı	m with an extinct	ion ratio of	Differe	nype Intiscra	n mhlar sac	ads for the two flows are NOT	- strictly nec	essary for the 1 6TBASE-R
approximately 16 dB. Implement with edito	" rial license.			PCS. T	The out , for ex	tput PCSL ample, sh	s are never bit muxed, so ha hould never have any advers	e effect on "	al outputs from FEC A and clock content" of the
0, 100 00 100 0	Die		" [222	lt does	s ouipi sn't hur	t to have t	the scramblers be seeded dif	ferently, how	vever.
C/ 183 SC 183.6.1	P 425	L19	# 329	Suaaestea	Remed	dv			
Welch, Brian				Consid	der cha	nging the	last sentence on page 173 fi	om:	
Comment Type TR	Comment Status D	(IX specs	When	reset is	s asserted	d, the two scramblers shall be	e initialized to	o a value other than zero
Pave(min) was 3dB.	to reflect the case of infinite ex	terence between tinction ratio. In	the adopted baselines	and di	fferent	from each	n other.		
this narrowed to 2.6 or TDECQ(min).	dB as it was not updated to ref	lect the changes	to effective	When	reset is	s asserted	d, the two scramblers shall be	e initialized to	o values other than zero.
SuggestedRemedy				(snuck	in an e	editorial co	orrection there, too!)		
Propose changing "A to -2.2 dBm.	verage launch power, each lar	ne (min)" in Table	e 183-6 from -1.8 dBm	Proposed PROP	Respor OSED	nse ACCEPT	Response Status W		
Proposed Response	Response Status W			Resolv	/e using	g the resp	oonse to comment #454.		
PROPOSED ACCEF Resolve using the resolve the test of t	PT IN PRINCIPLE. sponse to comment #164.								

C/ 175 SC 175	P169	L1	# 332	C/ 119	SC	119.2.4.1	P111	L 26	# 333
de Koos, Andras	Microchip T	echnology		de Koos, J	Andras		Microchip Te	chnology	
Comment Type T	Comment Status D		timesync (bucket)	Comment	Туре	т	Comment Status D		(bucket
Has any thought bee i.e. the path data del I do not see anything the path data delay of Clause 90.7.1 is inst as if the DDMP is at 90.7.1 is awkward fo which has four FEC SuggestedRemedy No proposed change Clause 90.7.1 could in parallel, but I assu maintenance reques Proposed Response PROPOSED REJEC The suggested reme	n given to how to calculate th ay values for the purposes of within the 1.6TBASE-R PCS ralues. ructive here, explaining that th the start of the FEC codeword r PCSs with more than one FI codewords in parallel. to Clause 175. be cleaned up to account for me that is out-of-scope for the t. <i>Response Status</i> W T. dy does not propose an actio	e latency through TimeSync? 5 that would preve he path data delay d". However, the EC engine like the when there are m e 802.3dj project? nable (within the o	the 1.6TBASE-R PCS, nt proper calculation of rs should be "reported existing language in a 1.6TBASE-R PCS, ultiple FEC codewords I'll submit a draft) remedy.	I unde and 4 scope HOW The s encoc 400G rando There statef The s flexibi to eith encoc imple Suggester Consi decoc Proposed PROF As sta for Ph C/ 186 de Koos, <i>J</i> Comment ER1 F How t 90A g functi But th imagi uniqu such :	erstand 00GBA e for the EVER, tateless der, only BASE-I om cause is abso ul enco- tateless lility (ren- ner 100 der/dection der/dection der der in su <i>Respo</i> POSED ated in si <i>Respo</i> POSED ated in si <i>Respo</i> POSED ated in si <i>SC</i> Andras <i>Type</i> PCS: Fi to calcu- pive gert ned in (e challe a PCS.	why the us SE-R over a 802.3dj pro- shouldn't cis shouldn't cis shouldn'	e of the stateless encoder of 200Gbps lanes. Allowing it opect. Dommon sense prevail, here ecoder was designed such to their treatment of /E/ block always protected by FEC, it in behaviour of the two enc anger of causing backward r are still allowed for all PM ecoder was added to the st timing paths). But any new or 200Gbps/lane PMDs wou the stateless encoder, the st that implemetors cannot a estriction on PMD type whe 19.2.4.1 and 119.2.5.8, res <i>Response Status</i> W In titself, adding an option to rt of the 802.3dj project is of <i>P</i> 491 Microchip Ter <i>Comment Status</i> D seed for when the PCS is r h data delay across the ER ke how to calculate the rx/i that introduce cyclical dela n the ER1 PCS is very diffe an Ethernet stream that flo not immediately clear how to	decoder is restrict on other PMDs. ? that it is all-but- (s. Since the 20 is not as if /E/ b oder/decoder ty- compatibility iss andard to allow v PCS implement Id have to imple standard is offer ctually use. en using the state pectively. b support statele but-of-scope . L1 chnology eady to be proper 1 PCS/PMA? Co (tx path data delay). erent from anyth ats within a GMI o determine the	(bucket, /AUIs would be out-of- identical to the stateful DOGBASE-R and blocks can occur at pes. sues, becasue the greater implementation ntation that may attach ement the stateful ing more eless encoder and ss encoding/decoding # 334 (bucket, erly reviewed. Clause 90 and Annex ay when there are ing that has been P frame will present min/max latency across

Proposed Response

Response Status W

PROPOSED REJECT.

The suggested remedy does not provide sufficient detail to implement.

Comment ID 334

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C/ 180	SC 180.7.1	P358	L 28	# 335	C/ 180	SC 180.7.3.2	P
Ferretti, V	ínce	Corning			Lambert, J	Angie	Corr
Comment	<i>Type</i> TR G.652 B cabled f	Comment Status D	ified for 1310 nr	optical channel specs n and 1550 nm	Comment	<i>Type</i> T 1753-1-1 has been	Comment Status
wavel	lengths. It is not sp t to be used in xW	Decified for wavelengths betw DM applications	veen 1260 nm a	and 1310 nm and not	Suggester	dRemedy	" to "IEC 61752 1"
Suggeste	dRemedy				Chang		10 IEC 61753-1
Remo	ove ITU-T G.652.B	(dispersion unshifted) as a	fiber option.		Proposed	Response	Response Status
Proposed PROF	Response POSED ACCEPT.	Response Status W			PROF Chang interco Gene	POSED ACCEPT ge "IEC 61753-1-1 onnecting devices ral and guidance"	IN PRINCIPLE. " to "IEC 61753-1" and passive comp to 1.3 Normative re
C/ 181	SC 181.7.1	P 383	L 26	# 336	C/ 180	SC 180 7 3 2	P
Ferretti, V	lince	Corning			Lombort	Angio	Corr
ITU-T wavel	G.652.B cabled f engths. It is not sp	iber attenuation is only spec pecified for wavelengths betw	ified for 1310 nr veen 1260 nm a	n and 1550 nm and 1310 nm and not	Comment IEC 6	<i>Type</i> T 1753-021-2 has b	Comment Status
mean	t to be used in xW	/DM applications			Suggestee	dRemedy	
Suggestee	dRemedy				Chang	ge "IEC 61753-02 ⁻	1-2" to "IEC 61753-
Remo	ove ITU-T G.652.B	(dispersion unshifted) as a	fiber option.		Proposed	Response	Response Status
Proposed PROF Resol	Response POSED ACCEPT lve using the respo	Response Status W IN PRINCIPLE. onse to comment #335.			PROF Chang optic i 02 [.] Si	POSED ACCEPT ge "IEC 61753-02 interconnecting de ngle-mode fibre o	IN PRINCIPLE. 1-2" to "IEC 61753- vices and passive
C/ 182	SC 182.7.1	P 405	L 31	# 337	C - Co	ontrolled environm	ent" to 1.3 Normati
Ferretti, V	ínce	Corning			C/ 180	SC 180 7 3 3	P
Comment	Type TR	Comment Status D		optical channel specs	Lombort	Angio	Corr
ITU-T	G.652.B cabled f	iber attenuation is only spec	ified for 1310 nr	n and 1550 nm	Commont		Commont Statu
wavel mean	lengths. It is not sp t to be used in xW	pecified for wavelengths betw /DM applications	veen 1260 nm a	and 1310 nm and not	IEC 6	1753-021-2 has b	een superseded by
Suggestee	dRemedy				Suggestee	dRemedy	
Remo	ove ITU-T G.652.B	(dispersion unshifted) as a	fiber option.		Chang	ge "IEC 61753-02 ⁻	1-2" to "IEC 61753-
Proposed	Response	Response Status W			Proposed	Response	Response Status
PROF	POSED ACCEPT	IN PRINCIPLE.			PROF	OSED ACCEPT	N PRINCIPLE.

Resolve using the response to comment #335.

C/ 180	SC 180.7.3.2	P361	L 9	# 338
Lambert, A	ngie	Corning		
Comment	Туре Т	Comment Status D		IEC revision
IEC 61	753-1-1 has beer	superseded by IEC 61	753-1.	
Suggested Chang	<i>IRemedy</i> e "IEC 61753-1-1	" to "IEC 61753-1"		
Proposed	Response	Response Status W		
PROP Chang interco Genera	OSED ACCEPT I le "IEC 61753-1-1 onnecting devices al and guidance" t	N PRINCIPLE. " to "IEC 61753-1" and and passive componer o 1.3 Normative referen	add "IEC 61753 its – Performanc nces.	-1:2020, Fibre optic e standard - Part 1:
C/ 180	SC 180.7.3.2	P361	L9	# 339
Lambert, A	ngie	Corning		
Comment	Type T	Comment Status D		IEC revision
IEC 61	1753-021-2 has be	en superseded by IEC	61753-021-02.	
Suggested	Remedy			
Chang	e "IEC 61753-021	-2" to "IEC 61753-021-	02".	
Proposed	Response	Response Status W		
PROP Chang optic ir 02: Sir C - Co	OSED ACCEPT I le "IEC 61753-021 nterconnecting de ngle-mode fibre op ntrolled environme	N PRINCIPLE. -2" to "IEC 61753-021- vices and passive comp tic connectors terminal ent" to 1.3 Normative re	02" and add "IE0 conents - Perforn ted as pigtails ar eferences.	C 61753-021-02:2023, Fibre mance standard - Part 021- nd patchcords for category
C/ 180	SC 180.7.3.3	P 361	L 42	# 340
Lambert, A	ngie	Corning		
Comment IEC 61	<i>Type</i> T 1753-021-2 has be	Comment Status D een superseded by IEC	61753-021-02.	IEC revision
Suggested Chang	<i>IRemedy</i> le "IEC 61753-021	-2" to "IEC 61753-021-	02".	
Dranaad	Posponso	Doononoo Statua M		

Resolve using the response to comment #339.

01.100		D	/ ===	"			D / 0 0		"
C/ 180	SC 180.7.3.4	P 361	L 50	# 341	C/ 182 SC 18	32.7.3	P 406	L 45	# 344
Lambert,	Angie	Corning			Lambert, Angie		Corning		
Comment	Туре Т	Comment Status D		IEC revision	Comment Type	T Comment S	tatus D		IEC revision
IEC 6	1753-021-2 has b	een superseded by IEC 6175	3-021-02.		IEC 61753-1-1 ł	has been superseded b	oy IEC 61753-	-1.	
Suggeste	dRemedy				SuggestedRemedy				
Chan	ge "IEC 61753-02	1-2" to "IEC 61753-021-02".			Change "IEC 61	1753-1-1" to "IEC 6175	3-1"		
Proposed PROF Reso	Response POSED ACCEPT live using the respo	Response Status W IN PRINCIPLE. onse to comment #339.			Proposed Response PROPOSED AC Resolve using th	Response Si CCEPT IN PRINCIPLE he response to comme	<i>tatus</i> W ent #338.		
C/ 180	SC 180.9.1	P 366	L 31	# 342	C/ 182 SC 18	32.7.3	P 406	L 45	# 345
Lambert,	Angie	Corning			Lambert, Angie		Corning		
Comment	Туре Т	Comment Status D		IEC revision	Comment Type	T Comment S	tatus D		IEC revision
IEC 6	0950-1 has been	superseded by IEC 62368-1.			IEC 61753-021-	2 has been supersede	d by IEC 617	53-021-02.	
Suggeste	dRemedy				SuggestedRemedy				
Chan	ge "IEC 60950-1"	to "IEC 63268-1".			Change "IEC 61	1753-021-2" to "IEC 61	753-021-02".		
Proposed	Response	Response Status W			Proposed Response	e Response Si	atus W		
PROF	POSED ACCEPT	IN PRINCIPLE.			PROPOSED AC	CCEPT IN PRINCIPLE			
Chan	ge "IEC 60950-1"	to "IEC 62368-1".			Resolve using the	he response to comme	ent #339.		
C/ 181	SC 181.7.3	P384	L 43	# 343	C/ 182 SC 18	32.7.3.2	P 408	L 22	# 346
Lambert,	Angie	Corning			Lambert, Angie		Corning		
Comment	Туре Т	Comment Status D		IEC revision	Comment Type	T Comment S	tatus D		IEC revision
IEC 6	1753-021-2 has b	een superseded by IEC 6175	3-021-02.		IEC 61753-1-1 h	has been superseded b	oy IEC 61753-	-1.	
Suggeste	dRemedy				SuggestedRemedy				
Chan	ge "IEC 61753-02	1-2" to "IEC 61753-021-02".			Change "IEC 61	1753-1-1" to "IEC 6175	3-1"		
Proposed	Response	Response Status W			Proposed Response	e Response Si	atus W		
PROF	POSED ACCEPT	IN PRINCIPLE.			PROPOSED AC	CCEPT IN PRINCIPLE			
Reso	lve using the respo	onse to comment #339.			Resolve using the	he response to comme	ent #338.		

C/ 182	SC 182.7.3.2	P 408	L 22	# 347	C/ 182	SC 182.9.1	P 413	L 43	# 350
Lambert,	Angie	Corning			Lambert, Ang	gie	Corning		
Comment IEC 6	t <i>Type</i> T 1753-021-2 has b	Comment Status D een superseded by IEC 6175	53-021-02.	IEC revision	Comment Ty IEC 6095	pe T 50-1 has been	Comment Status D superseded by IEC 62368-1.		IEC revision
Suggeste Chan	<i>dRemedy</i> ge "IEC 61753-02	1-2" to "IEC 61753-021-02".			SuggestedRe Change	<i>emedy</i> "IEC 60950-1"	to "IEC 63268-1".		
Proposed PROF Resol	I Response POSED ACCEPT lve using the resp	Response Status W IN PRINCIPLE. onse to comment #339.			Proposed Re PROPOS Resolve	esponse SED ACCEPT using the resp	Response Status W IN PRINCIPLE. ponse to comment #342.		
C/ 182	SC 182.7.3.3	P 409	L1	# 348	C/ 183	SC 183.7.3	P 432	L 40	# 351
Lambert,	Angie	Corning			Lambert, Ang	gie	Corning		
Comment IEC 6	t <i>Type</i> T 1753-021-2 has b	Comment Status D een superseded by IEC 6175	53-021-02.	IEC revision	Comment Ty IEC 6175	<i>pe</i> T 53-021-2 has l	Comment Status D been superseded by IEC 6175	3-021-02.	IEC revision
Suggeste Chan	<i>dRemedy</i> ge "IEC 61753-02	1-2" to "IEC 61753-021-02".			SuggestedRe Change	emedy "IEC 61753-02	21-2" to "IEC 61753-021-02".		
Proposed PROF Resol	I Response POSED ACCEPT lve using the resp	Response Status W IN PRINCIPLE. onse to comment #339.			Proposed Re PROPOS Resolve	esponse SED ACCEPT using the resp	Response Status W IN PRINCIPLE. ponse to comment #339.		
C/ 182	SC 182.7.3.4	P409	L 8	# 349	C/ 185	SC 185.6.3	P 480	L 52	# 352
Lambert,	Angie	Corning			Lambert, Ang	gie	Corning		
Comment IEC 6	t <i>Type</i> T 1753-021-2 has b	Comment Status D een superseded by IEC 6175	53-021-02.	IEC revision	Comment Ty IEC 6175	pe T 53-021-2 has l	Comment Status D been superseded by IEC 6175	3-021-02.	IEC revision
Suggeste Chan	<i>dRemedy</i> ge "IEC 61753-02	1-2" to "IEC 61753-021-02".			SuggestedRe Change	emedy "IEC 61753-02	21-2" to "IEC 61753-021-02".		
Proposed PROF Resol	I Response POSED ACCEPT lve using the resp	Response Status W IN PRINCIPLE. onse to comment #339.			Proposed Re PROPOS Resolve	esponse SED ACCEPT using the resp	Response Status W IN PRINCIPLE. ponse to comment #339.		

Comment ID 352

0		5.444	1.0-	"	01.1=0	00 1-0 10 1	D	1.10	" [
C/ 185	SC 185.11.4.6	6 P 490	L 27	# 353	C/ 178	SC 178.10.1	P 285	L19	# 356
Lambert, J	Angie	Corning			Healey, Ada	ım	Broadcom Inc.		
Comment	Туре Т	Comment Status D		IEC revision	Comment T	ype T	Comment Status D		COM pkg tau (bucket)
IEC 6	1753-021-2 has be	een superseded by IEC 61753	3-021-02.		In Table	e 178-12, the tra	nsmission line parameter "tau	" is set to 6	.141e-4. In the adopted
Suggeste	dRemedy				Daseine	e proposar ii_30j	$_01a_2311$ (sinces 6 and 9), t	The value is s	specified to be 6.14 re-3.
Chan	ge "IEC 61753-02′	1-2" to "IEC 61753-021-02".			SuggestedF	Remedy			
Proposed	Response	Response Status W			Replace	e the "tau" value es). Similarly in	s in the Table 178-12 with the Table 179-15 and Table 176D	adopted va)-6.	lue 6.141e-3 (2
PROF Resol	POSED ACCEPT I	N PRINCIPLE.			Proposed R	esponse	Response Status W		
	<u> </u>				PROPO	SED ACCEPT	IN PRINCIPLE.		
C/ 187	SC 187.6.3	P 504	L 48	# 354	Resolve	e using the respo	onse to comment #118.		
Lambert,	Angie	Corning			C/ 178	SC 178.10.1	P 285	L 31	# 357
Comment	Туре Т	Comment Status D		IEC revision	Healey, Ada	ım	Broadcom Inc.		
IEC 6	1753-021-2 has be	een superseded by IEC 61753	3-021-02.		Comment T	vpe T	Comment Status D		COM ref pka (bucket)
Suggeste	dRemedy				In Table	e 178-12, the tra	nsmision line parameters for	the "Class E	package model" do not
Chan	ge "IEC 61753-02'	1-2" to "IEC 61753-021-02".			match th	he adopted base	eline proposal li_3dj_01a_231	1 slide 9.	
Proposed	Response	Response Status W			SuggestedF	Remedy			
PROF Resol	POSED ACCEPT I	N PRINCIPLE.			Replace length/c	the characteris	stic impedance for stage 1 with bedances for stage 2 through	h 92 Ohms, 4 with 70 Of	and the ms/1 mm, 80 Ohm/1 mm,
CI 497	SC 497 44 4 6	DE44	/ 25	# 055	and Tuu	0 Onm/0.5 mm r	espectively. Similarly in Table	+179-15 and	Table 176D-6.
0/10/	30 107.11.4.0	o rol4	L 23	# 355	Proposed R	esponse	Response Status W		
Lambert,	Angie	Corning			PROPO	SED ACCEPT.			
Comment IEC 6	<i>Type</i> T 1753-021-2 has be	Comment Status D een superseded by IEC 61753	3-021-02.	IEC revision					
Suggeste Chan	dRemedy ge "IEC 61753-02′	1-2" to "IEC 61753-021-02".							
Proposed	- Response	Response Status W							
-	-	•							

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #339.

C/ 176A S	SC 176A.3	P 553	L 20	# 358
Healey, Adam		Broadcom Inc.		
Comment Typ	е Т	Comment Status D		ILT Frame

Training pattern options have been added to give receiver additional flexibility to successfully complete training. However, that flexibility is limited by a menu of fixed combinations of encoding and test pattern options. It would be better if encoding and test pattern selections were separated to allow receivers to request whatever combination best suits their needs. There is space in the control and status field structures to accommodate this.

SuggestedRemedy

In Table 176A-2, restore bits in control field bits 8 and 9 to the original "Modulation and precoding request" encoding defined in Clause 162. Define bits 5 and 6 to be "Test pattern request" with 00=PRBS13, 01=Free-running PRBS13, 10=Reserved, and 11=Free-running PRBS31. Restore bits 10 and 11 in the status field (Table 176A-3) to the "Modulation and precoding status" encoding defined in Clause 162. Define bits 12 and 13 to be "Test pattern status" using the same encodings as the control field. Update Figure 176A-2, 176A.3.2, and 176A.10.3.1 accordingly. Also add subclauses corresponding the Modulation and precoding request/status fields.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Pending review of a presentation and task force review. URL/brown_3dj_02_2406



The reader may be tempted to interpret the parameters in Tables 178-12 and 178-13 as implementation requirements. E.g., "Receiver discrete-time equalizer parameters" may mistakenly be interpreted as requirements for receiver implementations. It would be worthwhile to add text here clarifying that the parameters represent a minimum level performance and that there is expected to be a variety of approaches to implementation that achieve this performance.

SuggestedRemedy

Add text stating the parameter values in the tables are chosen to represent the minimum required transmitter and receiver performance and they do not represent required implementation details. Compliant implementations are only required to meet or exceed this minimum level of performance. Similarly in 179.11.7 and 176.D.4.1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add the following note to 178.10.1.

"NOTE—The parameters and values in Table 178–12 and Table 178–13 correspond to behavioral models of transmitters and receivers that are compliant to the PMD specifications in this clause. The purpose of these parameters and values is to compute COM, a channel metric, and they do not represent requirements for transmitter and receiver implementations. It is expected that a variety of approaches to transmitter and receiver implementation will be able to meet the PMD specifications in this clause." Add similar notes to 179.11.7 and 176D.4.1.

Implement with editorial license.

C/ 178	SC 1	78.10.1	P 286	L11	# 360
Healey, A	dam		Broadcom Inc.		
Comment	Type	т	Comment Status D		COM methodology

Parameters "f_min", "delta_f", and "M" are defined in Table 178-13 but are not used in Annex 178A. Any guidance on appropriate choices for measurement start frequency, frequency step, and simulation time step may be provided in a general way in Annex 178A (see, for example, 178A.1.3). The values for these parameters rarely, if ever, change and it seems unecessary to add a rows for them to an already lengthy table.

SuggestedRemedy

Remove these parameters from Table 178-13. Also remove these parameters from Tables 179-16 and Table 176D-7.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The suggested remedy is reasonable, but consensus is not obvious. Other comments suggest changing M from TBD to 32, as in previous projects. Pending CRG discussion.

Comment ID 360

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C/ 176D SC 176D.3.3	P 59	07 L 33	# 361
Healey, Adam	Broade	com Inc.	
Comment Type T Typo.	Comment Status	D	(bucket)
SuggestedRemedy Change "106.255" to "10	06.25".		
Proposed Response PROPOSED ACCEPT.	Response Status	w	
C/ 178A SC 178A.1.10	P65	i8 L 43	# 362
Healey, Adam	Broade	com Inc.	
Comment Type T	Comment Status	D	DER0

The relationship between "detector error ratio", "PAM-L symbol error ratio", and "bit error ratio" is not documented and, as a result, not generally understood. While these quantities are related, they are not interchangeable. Prior assumptions that they are interchangeable has led to errors in the translation between COM results and expected (measured) receiver performance. This new annex gives us an opportunity to clarify the relationship between DER0 and other terms or to replace DER0 with a more generally understood term.

SuggestedRemedy

Slide 5 of <https://www.ieee802.org/3/dj/public/23_11/healey_3dj_01a_2311.pdf> suggest expressions for relationship between detector error ratio and other terms. Either replace "DER0" with a target PAM-4 symbol error ratio (or bit error ratio) and adjust the equations for calculating COM accordingly, or document the relationship between DER0 and the other two terms.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The editorial team prepared a proposal in the comment resolution slide deck URL/ran_3dj_01_2406.

C/ 178	SC ·	178.8.9	P 275	L 33	# 363
Healey, Ad	dam		Broadcom Inc		
Comment	Туре	т	Comment Status D		(bucket)
The re refere	eference nces sp	to 179.8. ecific to th	9 seems inappropriate here : le Clause 179.	since that subcla	ause contains cross-
Suggestee	dRemed	У			
Replic require	ate the	content of to the cori	179.8.9 here, replacing referesponding references in Cla	erences to Claus ause 178.	e 179 electrical
Proposed	Respon	se	Response Status W		
PROF Implei	POSED /	ACCEPT I	N PRINCIPLE. ed remedy with editorial licen	nse.	
C/ 178	SC ·	178.1	P 268	L 45	# 364
Healey, A	dam		Broadcom Inc		
Comment	Туре	т	Comment Status D		(bucket)
The A done i	nnex 17 in Table	6A contro 179-1).	I function is required and sho	ould be included	in Table 178-1 (as is
Suaaesteo	dRemed	У			
Add "	176A - C	control" as	"Required" in Tables 178-1,	, 178-2, 178-3, a	ind 178-4.
Add " Proposed	176A - C Respon	Control" as se	"Required" in Tables 178-1, <i>Response Status</i> W	, 178-2, 178-3, a	ind 178-4.

PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license.

C/ 176E	SC 176E.5.2	P633	L 39	# 365	C/ 176	SC	176.5.1.1	P200	L11	# 367
Healey, Ada	am	Broadcom Inc.			He, Xiang			Huawei		
Comment T	<i>уре</i> т	Comment Status D		C2M output	Comment	Туре	TR	Comment Status D		Deskew
The title Many o diagran method remove	e of Table 176E f the parameters n measurement. l is adopted, but "TBDs" that wil	-7 suggests that is should cor s in the table are not relevant It is understood that this may until this decision is made the I never need to be defined.	tain reference to a reference become moo e table can be	receiver parameters. receiver or an eye if a different test trimmed down to	20b de https:/ deske <i>Suggested</i>	eskew i /www.ie w to co // <i>Reme</i> o	is incorrect eee802.org deword bo	. According to Motion #10 in y/3/dj/public/23_07/motions_ undaries.	3cwdfdj_2307.p	odf, it is required to
SuggestedF	Remedy				Chang	ge "20b	deskew" to	o "deskew to codeword bour	ndaries" or simp	ly "deskew"
Remove	e parameters "m	naximum start frequency", "ma	aximum freque	ncy step", all	Proposed	Respoi	nse	Response Status W		
"transm mismat	litter" parameter ch ratio", "numb estionable whet	s including "number of signal er of samples per unit interva ber device termination and pa	levels" and "le l", and "target	vel separation detector error ratio". It is arameters are peeded	PROP Resolv	OSED	ACCEPT I g the respo	N PRINCIPLE.		
(they we	ere not used in a	Annex 120G).	ickage model p		C/ 176	SC	176.5.1.3.	1 P 20 1	L32	# 368
Proposed R	Response	Response Status W			He, Xiang			Huawei		
Comme receive table m For CR	ents #186 throug r specifications. ay be replaced l G discussion aff	gh #189 suggest using the CR based on resolution of these by a COM parameters table. ter resolution of #186-#189.	methodology comments, the	for transmitter and reference receiver	20b de https:/ deske	eskew i //www.ie w to co	is incorrect eee802.org deword bo	. According to Motion #10 in //3/dj/public/23_07/motions_ undaries.	3cwdfdj_2307.p	odf, it is required to
C/ 177	SC 177.4.1	P 252	L 9	# 366	Remo	ve the	second and	d third paragraph in 176.5.1.	3.1 and reuse 1	19.2.5.1.
He, Xiang		Huawei			Proposed	Respor	nse	Response Status W		
Comment T	ype TR	Comment Status D		CI (bucket)	PROP	OSED	ACCEPT I	N PRINCIPLE.		
The Q v	alues are not tr	ne same as the baseline adop	ted.		The re	ference	ed motion i	ncludes the following extra r	requirement con	npared to the baseline
Suggested	Remedy				This w	along as not	implement	ed in Draft 1.0.	Sourroaries for T	00G/lane input lanes .
Accordi — 2000 — 4000 — 8000 — 1.6T	ing to the adopte G BASE-R: Q = G BASE-R: Q = G BASE-R: Q = BASE-R: Q = 2	ed baseline, change the Q val 192 96 48 4	ues as follows		A con	sensus	presentati	on is anticipated. Pending C	RG review of th	e presentation.
Proposed R	Response	Response Status W								
PROPC Implem	OSED ACCEPT ent the suggest	IN PRINCIPLE. ed remedy with editorial licens	se.							

CI 30	SC	30	P 56	L 33	# 369	C/ 184	SC 1	84.4.7.1	P 450	L14	# 371
He, Xiang	g		Huawei			He, Xiang			Huawei		
Commen	nt Type	TR	Comment Status D		timesync (bucket)	Comment	Туре	TR	Comment Status D		DSP (Bucket
Add 177 a	TimeSyr and 184	nc entity ma	naged object classes for In	ner FEC sublay	vers defined in Clause	It is sa messa But in	id " 4-bit ge block	pilot syr (s)."	mbols (PS) are inserted every	64 4-bit blocks	s (one 4-bit PS, 63 4-bit
Suggeste	edReme	dy				4-bit bl	locks.	84-5, me	essage blocks m<0:63>, m<64	1-127>, abetwe	en pilot symbols has 64
Add	register	set for Inner	r FEC sublayers in subclaus	es of 30.13.1: (30.13.1.1 - 30.13.1.14)	Suggested	Remedy	/			
(Pres	sentation	n will be prep	pared for this comment.)			Chang	e Figure	to matc	h the text, i.e., change m<0:63	3> to m<0:62>	, change m<64:127> to
Proposed	d Respo	nse	Response Status W			m<63:	125>, et	с.			
PRO	POSED	REJECT.				Proposed I	Respons	e	Response Status W		
The f Interi	following im meet	related pre ing:	sentation was reviewed by t	he 802.3dj task	force during the May	PROP Implen	OSED A nent sug	CCEPT gested r	IN PRINCIPLE. emedy with editorial license.		
This	present	ation does n	ot provide sufficient detail to	_2405.par describe the r	equested change in	C/ 184	SC 1	84.6.5	P 462	L1	# 372
Clau	se 30.		·			He Xiang			Huawei		
CL 45	SC	45	P81	/ 9	# 370	Comment	Tvpe	TR	Comment Status D		Diagram
He Vian	n 00		Huawei	20		It is po	ssible th	at one p	olarization is locked but the ot	her polarizatio	n can not get locked.
Common	y t Tuno	тр			timosyno(buckot)	With th	ne currer	nt variabl	e list and state diagrams this	can not be ide	ntified or reported.
Add	MDIO in	terface reigs	sters for Inner FEC sublayer	s defined in Cla	ause 177 and 184.	(This is sublay	s a little ers high	different er than tl	from AM lock process across he pilot sequence lock, and it i	PCS lanes, wh may not be a p	nere it is way up in the problem.)
Suggeste	edReme	dy				Suggested	Remedy	,			
Add		ns for the ne	ew register set defined for the	e Inner FEC su	blayers in 30.3.1.1 -	Recom	nmend to	add a t	imer (value TBD) to indicate th	nat it has waite	d long enough after one
30.1.	.1.14.					Proposed	Rosnons				
(Pres	sentatior	n will be prep	pared for this comment.)								
Proposed	d Respo	nse	Response Status W			The D	SP lock	state dia	gram is implemented per pola	rization, so the	ere is an indication of
PRO The f Interi	POSED following im meet	REJECT. related pre-	sentation was reviewed by t	he 802.3dj tasł	force at the May	sync p Add a of the s	er polari status va synchror	zation. T ariable w nization p	here are no timers defined for ith mapping to MDIO address process per polarization.	alarm indication, to allow the u	ons in the standard. ser reading the status
https	://www.i	eee802.org/	/3/dj/public/24_05/he_3dj_01	_2405.pdf		[Editor	's note:	CC 184	45]		
This	present	ation concer	ns TimeSync management	and refers to th	ne register set						
A dif	ferent co	omment (#60	03) addresses adding regist	ers for inner FE	C TimeSvnc.						
Anot	her com	ment (#183)) concerns adding additional	status counter	s for the inner FEC						
whick	h will rea	quire new reg	gisters.	70) and comm	nt #192 to make a						
chan	e is insu ide to Cl	ause 45 for	inner FEC register definition	s at this time.	511 # 103 10 111aKE a						

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: Comment ID

Diagrams

DSP (Bucket)

-										
C/ 184	SC 184.8	P 464	L10	# 373	C/ 175	SC 175	.2.1	P 172	L 26	# 376
He, Xiang		Huawei			Ofelt, Davi	d		Juniper Netwo	rks	
Comment	Type TR	Comment Status D		Diagrams	Comment	Туре Т		Comment Status D		(bucket)
Only "	alignment_valid	" is reported, not individual "de	p_lock <x>" vari</x>	ables.	Text s	ays to inter	leave tv	vo codewords from flow 0 ar	nd two from flo	ow 1, but it isn't clear that
Suggested	IRemedy				those	two should	be from	n different FEC encoders.		
lt is re	ecommend to re	port both "dsp_lock <x>" in tab</x>	le 184-7, as we	did for PCS lane lock	Suggested	Remedy				
where	we reported "L	ane x aligned" for all PCS lane	es.		After F	EC encod	ng, a F	EC codeword from each of t	he two encod	ers in flow 0 and a FEC
Proposed	Response	Response Status W			individ	ual PCS la	ach of ti nes.	ne two encoders in flow 1 ar	e then interiea	aved and distrubted to
PROP	OSED ACCEPT	IN PRINCIPLE.			Proposed	Response		Response Status W		
Resolv	e using the res	ponse to comment #372.			PROP		CEPTI			
C/ 185	SC 185.7.1	P 481	L 21	# 374		00207.0				
He. Xiana		Huawei			Impler	ment the su	ggeste	d remedy with editorial licen	se.	
Comment	Type TR	Comment Status D		test pattern	C/ 175	SC 175	.2.4.5	P174	L 3	# 377
The 80	00GBASE-LR1	Inner FEC would not see or us	e scrambled idl	es as its input. The	Ofelt. Davi	d		Juniper Netwo	rks	
input t	o the 800GBAS	E-LR1 Inner FEC should be "s	crambled idle p	rocessed by	Comment	Type T		Comment Status D		Scrambler seeds (bucket)
800GE	ASE-R PCS".				Editor	s Note ask	es if we	should require different res	et values for t	he scramblers.
Suggested	Remedy	· · · · · · · · · · · · · · · · · · ·			Suggester	Remedy		·		
Chang 800GE	je "pattern desc 3ASE-R PCS ar	ription" column in Table 185-9 nd then encoded by the 800GE	BASE-LR1 Inner	dle procedd by	Yes. v	ve should!				
Proposed	Response	Response Status W			Proposed	Response		Response Status W		
, PROP	, OSED ACCEPT	T IN PRINCIPLE.			PROP	OSED AC	CEPTI			
Impler	nent suggested	remedy with editorial license.			Resolv	ve using the	e respo	nse to comment #454.		
C/ 185	SC 185.7.1	P 481	L 21	# 375	C/ 176	SC 176	.5.1.6.6	<i>P</i> 207	L 6	# 378
He, Xiang		Huawei			Ofelt, Davi	d		Juniper Netwo	rks	
Comment	Type TR	Comment Status D		test pattern (bucket)	Comment	Туре Т		Comment Status D		(bucket)
The so	crambled idle te	st pattern for 800GBASE-R PO	CS is defined in	172.2.4.11, not	Should	d there be	an arc fi	rom ALIGNMENT_FAIL to L	OSS_OF_AL	IGNMENT?
175.2.	4.11.				Suggested	Remedy				
Suggested	lRemedy				lf so, a	add the arc				
Chang	je "175.2.4.11" t	to "172.2.4.11" and format as	external reference	ce.	Proposed	Response		Response Status W		
Proposed	Response	Response Status W			PROP	OSED RE	IFCT.			
PROP Impler	OSED ACCEP nent suggested	Γ IN PRINCIPLE. remedy with editorial license.			In the proces to fals LOSS	ALIGNMEI ss of Fig 11 e, which ca _OF_ALIG	NT_FAI 9-12 to uses th NMENT	L state, restart_lock_mux is be restarted on all lanes. Th e state machine of 176-7 to state.	set to true wh nis results in a go from ALIG	iich results in AM lock all_locked_mux to be set SNMENT_FAIL to

C/ 176									
	SC 176.7.1	P 221	L 20	# 379	C/ 185	SC 185.5.1	P 477	L 8	# 381
Maniloff, E	Eric	Ciena			Maniloff, E	ric	Ciena		
Comment	Type E	Comment Status D		(editorial)	Comment	Туре Т	Comment Status D		TX specs
Table	176-7 Includes to	wo references to 400GBASE	-R, these should	be replaced with	The sp	pecification shou	ld have a Tx clock noise defir	ied.	
800GI	BASE-R				Suggested	IRemedy			
Suggestee Repla	dRemedy ce the text "400G	BASE-R" with "800GBASE-I	R" in Table 176-7	,	Add a	n entry for Tx clo	ock phase noise (PN): Maximu	ım PN mask	
Proposed	Response	Response Status W			Add a	n entry for: Tx c	lock phase noise (PN); Maxim	ium total integ	rated random jitter
Implei	ment with editoria	al license and discretion.			Add a	n entry for: 1 x cl	ock phase noise (PN); Maxim	um total period	dic jitter
					Proposed	Response	Response Status W		
C/ 185	SC 185.5.1	P 4 77	L 8	# 380	PROP	OSED ACCEPT	IN PRINCIPLE.		
Maniloff, E	Eric	Ciena							
Comment	Туре Т	Comment Status D		TX specs	C/ 185	SC 185.5.3	P 478	L 43	# 382
800GI the DS	BASE-LR1 is beil SP digital acquisi nmodate_this_Va	ng defined to allow unlocked tion range. Additional parame alues will be provided after fu	eters are required atters are required ther study, but the	ency errors larger than d for the Tx laser to be new paramaters can	Maniloff, E <i>Comment</i>	ric <i>Type</i> T	Ciena Comment Status D		optical channel specs
be ad	ded to Table 185	-4. A supporting contribution	will be provided.	le new paramatere can	A valu	e of -27dB is ap	propriate for Maximum discret	e reflectance	
Suggestee	dRemedy				Suggested	IRemedy			
Add th	ne following para	meters to Table 185-4:			Repla	ce TBD for Maxi	mum discrete reflectance with	-27	
Maxim	num Tx laser freq	uency slew rate: Preacquisiti	ion [Units GHz/s]		Proposed PROP	Response OSED ACCEPT	Response Status W		
Maxin	num Tx laser freq	uency slew rate: Post acquis	sition [Units GHz/	ms]					
Maxin	num Tx laser freq Relative Frequer	uency slew rate: Post acquis	sition [Units GHz/ GHz]	ms]	C/ 185	SC 185.6	P 479	L 5 1	# 383
Maxin Laser	num Tx laser freq Relative Frequer	uency slew rate: Post acquis	sition [Units GHz/ GHz]	ms]	<i>Cl</i> 185 Maniloff, E	SC 185.6 ric	P 479 Ciena	L 51	# 383
Maxin Laser Proposed	num Tx laser freq Relative Frequer <i>Response</i>	uency slew rate: Post acquis ncy tracking accuracy [Units (<i>Response Status</i> W	sition [Units GHz/ GHz]	ms]	C/ 185 Maniloff, E Comment	SC 185.6 ric <i>Type</i> T	P 479 Ciena Comment Status D	L 51	# <u>383</u> optical channel specs
Maxin Laser <i>Proposed</i> PROF	num Tx laser freq Relative Frequer <i>Response</i> POSED ACCEPT	uency slew rate: Post acquis ncy tracking accuracy [Units (<i>Response Status</i> W IN PRINCIPLE.	sition [Units GHz]	ms]	C/ 185 Maniloff, E Comment A valu	SC 185.6 ric <i>Type</i> T e of 24dB is app	P 479 Ciena <i>Comment Status</i> D propriate for Optical Return Lo	L 51	# <u>383</u> optical channel specs
Maxim Laser <i>Proposed</i> PROF The fo	num Tx laser freq Relative Frequer <i>Response</i> POSED ACCEPT bllowing presenta	uency slew rate: Post acquis ncy tracking accuracy [Units (<i>Response Status</i> W IN PRINCIPLE. tion was reviewed by the 802	sition [Units GHz] GHz] !.3dj task force at	ms] the May Interim	Cl 185 Maniloff, E Comment A valu Suggested	SC 185.6 ric Type T e of 24dB is app IRemedy	P 479 Ciena <i>Comment Status</i> D propriate for Optical Return Lo	L 51	# <u>383</u> optical channel specs
Maxin Laser Proposed PROF The fo meetii https:/	num Tx laser freq Relative Frequer <i>Response</i> POSED ACCEPT Dillowing presenta ng: //www.ieee802.or	uency slew rate: Post acquis ncy tracking accuracy [Units (<i>Response Status</i> W IN PRINCIPLE. tion was reviewed by the 802 g/3/dj/public/24_05/maniloff	sition [Units GHz] GHz] 3dj task force at 3dj_01_2405.pdf	ms] : the May Interim f	Cl 185 Maniloff, E Comment A valu Suggested Replac	SC 185.6 ric Type T e of 24dB is app IRemedy ce TBD in Table	P 479 Ciena <i>Comment Status</i> D propriate for Optical Return Lo e 185-7 with 24	L 51 ss	# <u>383</u> optical channel specs

C/ 185	SC 185.5.1	P 477	L 8	# 384		C/ 171	SC 171	.3	P137	L 41	# 386
Maniloff, E	Eric	Ciena				Nicholl, Ga	ary		Cisco		
Comment	Туре Т	Comment Status D			TQM	Comment	Туре Т		Comment Status D		(bucket)
TQM i Contri	is currently undef bution to be prov	ined. Recommend adopting Rided.	SNR Penalty a	as a TQM. Supporti	ng	There referer	is an issue nce of "171	with : .6.2" i	subclause 171.3.3 generated n the following bullets:	oy 802.3df. Th	nere is an incorrect
Suggestee	dRemedy					ùΔna	dditional s	anal T	TXRD indicates the state of th	arv rm deara	adad variable (see
Repla	ce TQM with RS	NR Penalty				171.6.2	2) as	gnari		s ix_iiii_dogie	
Proposed	Response	Response Status W				detecte	ed by the F	HY 8	00GXS in the transmit direction	n EEC dograd	lad SEP variable (see
PROF	POSED REJECT					171.6.	2) as	ynai i		FLO_uegrau	ieu_SER valiable (see
The fo	ollowing presenta	tion was reviewed by the 802.	.3dj task force a	at the May Interim		detecte	ed by the F	PHY 8	00GXS in the transmit direction	n	
https:/	//www.ieee802.oi	g/3/dj/public/24_05/maniloff_3	3dj_02_2405.pd	df		Suggested	lRemedy				
No ag	reement yet on a	in appropriate quality metric th	nerefore no con	sensus to make a		Import	subclause	171.3	3.3 and correct the two bullets	s as follows:	
Chang	je.					ù An a	dditional s	anal 1	XRD indicates the state of the	e rx rm deara	aded variable (see
C/ 171	SC 171.5	P141	L 47	# 385		172.2.	6.2.2) as d	etecte	d by the PHY 800GXS in the	transmit direct	tion
Nicholl, Ga	ary	Cisco				ù An a rx loca	dditional s	gnal 1 d vari	TXLD is the logical OR of the l ables (see 172.2.6.2.2) as	EC_degrade	d_SER and
Comment	Туре Т	Comment Status D		Link fault sig	gnaling	detecte	ed by the F	PHY 8	00GXS in the transmit direction	n.	
There not re	sentence below leated to ôlink fa	the editor's not is a repeat of ult signalingö as defined in 81	what is capture .3.4, which is th	d in 171.3.2. It is al ne topic of this	lso	Proposed PROP	Response	CEPT	Response Status W		
subcla	ause.						OOLD AO				
Suggester	dRemedy					C/ 179	SC 179	.9.3	P 309	L14	# 387
Delete	e the sentence be	elow the editor's note.				Kocsis, Sa	m		Amphenol		
Proposed	Response	Response Status W				Comment	Туре Т		Comment Status D		R_0
PROF	OSED ACCEPT					The re spread	ference im Isheets.	pedar	nce should match the system i	mpedance, R	d as defined in COM
						Suggested	lRemedy				
						92-ohr contrib	n, TBD, or outions	straw	poll based on proposed value	s presented ir	n Task Force
						Proposed	Response		Response Status W		
						PROP Resolv	OSED AC	CEPT e resp	IN PRINCIPLE. onse to comment #35.		

C/ 179	SC 179.9.4	P 309	L 23	# 388	C/ 179	SC 179.11.7	P331	L 44	# 391
Kocsis, Sa	am	Amphenol			Kocsis, Sa	am	Amphenol		
Comment BT LP	<i>Type</i> T 3dB BW of "40G	Comment Status D Hz"		B-T filter BW	<i>Comment</i> Rd(t) :	<i>Type</i> T = "TBD"	Comment Status D		COM R_d
Suggested "TBD"	<i>Remedy</i> as cited in other	places of the document			Suggested Chang	dRemedy ge "TBD" to "92-o	ohm" to match majority of cor	ntributions to the	Task Force, and better
Proposed PROP The va Resolv	Response OSED ACCEPT alue 40 GHz is a l ve using the respo	Response Status W IN PRINCIPLE. eftover from an older clause a onse to comment #60.	and has not be	en adopted.	align v Proposed PROP Resolv	with 2c definition Response POSED ACCEPT ve using the resp	IN package Response Status W IN PRINCIPLE. ponse to comment #396.		
C/ 179	SC 179.11.1	P326	L 27	# 389	C/ 179	SC 179.11.7	P 331	L 45	# 392
Kocsis, Sa	am	Amphenol			Kocsis, Sa	am	Amphenol		
Comment Nomin	<i>Type</i> T nal characteristic i	Comment Status D mpedance of the cable asser	<i>Nor</i> nbly is "100-oh	<i>minal impedance (bucket)</i> m"	Comment RD(r)	<i>Type</i> T = "TBD"	Comment Status D		COM R_d
Suggested	Remedy				Suggested	dRemedy			
Contril the ca	butions to the tas ble assembly is ~	k force have demonstrated th 92-ohm	e nominal chai	acteristic impedance of	Chang align v	ge "TBD" to "92-o with Zc definition	ohm" to match majority of cor in package	ntributions to the	Task Force, and better
Proposed PROP It is ur	Response POSED ACCEPT Inderstood that the	Response Status W IN PRINCIPLE. suggested remedy is to char	nge the nomina	al impedance from 100	Proposed PROP Resolv	Response POSED ACCEPT ve using the resp	Response Status W IN PRINCIPLE. ponse to comment #396.		
to 92 0 Howey Resolv	Onm. ver, as noted in co ve with using the	omment #216, there is no nee response to comment #216.	ed to specify a	nominal impedance.	C/ 179A Kocsis, Sa	SC 179A.7 am	P 668 Amphenol	L 9	# 393
C/ 179 Kocsis. Sa	SC 179.11.3	P 327 Amphenol	L 34	# 390	<i>Comment</i> "TP0 a	<i>Type</i> E and TP5"	Comment Status D		(editorial)
Comment ERL re	<i>Type</i> T equirement for ca	Comment Status D ble assemblie sthat have CO	M less than "40	ERL (bucket) B"	Suggested Chang	dRemedy ge to "TP0d and "	TP5d"		
Suggested Chang Proposed	dRemedy ge "4dB" to "TBD" Response	. Historical precedent may no	t be relevant fo	or this specification	Proposed PROP Impler	Response POSED ACCEPT ment with editoria	Response Status W IN PRINCIPLE. al license and discretion.		
PROP The co Note th a num	OSED REJECT. comment does not hat any content o ber to TBD does	provide sufficient justification f the draft can be changed if t not move us forward.	to support the here is conser	suggested remedy. Isus, but changing from					

01.4700	00 1700 1	Daga	1.00	// <u></u>	0/ 470		Deer		// [227			
C/ 179C	SC 179C.1	P682	L 38	# 394	C/ 1/8	SC 178.10.1	P 285	L 41	# 397			
Comment	am Type E	Ampnenoi		(oditorial)	Comment	m Type T	Ampnenoi		COMPd			
"QSFF	P-DD800"			(eunonar)	RD(r) :	= "TBD"						
Suggested Chang	dRemedy ge to "QSFP-DD1	1600"			Suggested Chang align w	<i>Remedy</i> Je "TBD" to "92-(with Zc definition	ohm" to match majority of con	tributions to the	Task Force, and better			
Proposed PROP Impler [Editor	Response POSED ACCEPT ment with editoria r's note: Changeo	Response Status W IN PRINCIPLE. al license and discretion. d subclause to 179C.1]			Proposed PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. ponse to comment #396.					
C/ 178	SC 178.9.1	P 275	L 39	# 395	C/ 176D	SC 176D.3.3	B P597	L 33	# 398			
Kocsis, Sa	am	Amphenol			Wu, Mau-L	_in	MediaTek					
Comment	Туре Т	Comment Status D		R_0	Comment	Type TR	Comment Status D		(bucket)			
The reference impedance should match the system impedance, Rd as defined in COM				as defined in COM	The value of '106.255 +/- 50 ppm' is not correct.							
spread	usheets.				Suggested	lRemedy						
Suggested	aremeay				Chang	e '106.255' to '1	06.25'.					
92-onr contrib	m, TBD, or straw	poil based on proposed value	es presented in	I ASK FOICE	Proposed	Response	Response Status W					
Proposed	Response	Response Status W			PROP	OSED ACCEPT	IN PRINCIPLE.					
PROP	OSED ACCEPT	IN PRINCIPLE.			Resolv	'e using the resp	conse to comment #361.					
Resolv	ve using the resp	oonse to comment #35.			Cl 178	SC 178.9.2	P 275	L 49	# 399			
C/ 178	SC 178.10.1	P 285	L 40	# 396	Li, Tobey		MediaTek					
Kocsis, Sa	am	Amphenol			Comment	Type TR	Comment Status D		B-T filter BW			
Comment	Туре Т	Comment Status D		COM R_d	Transr	nitter measurem	nent bandwidth is TBD					
Rd(t) =	= "TBD"				Suggested	Remedy						
Suggested	dRemedy				Replac	e TBD with 62 (GHz					
Chang align v	ge "TBD" to "92-c	ohm" to match majority of cont in package	tributions to the	Task Force, and better	Proposed PROP	Response OSED ACCEPT	Response Status W IN PRINCIPLE.					
Proposed	Response	Response Status W			Resolv	ve using the resp	conse to comment #60.					
PROP	OSED ACCEPT	IN PRINCIPLE.										
There	are several com	ments on this topic and different	ent values are s	uggested.								
URL/ra	an_3dj_01_2406	bared a proposal in the comm-	ent resolution si	Ide deck								

C/ 178	SC 178.9.3.3	P 282	L16	# 400	C/ 178	SC 178.10.1	P 285	L 38	# 403
Li, Tobey		MediaTek			Li, Tobey		MediaTek		
Comment COM	<i>Type</i> TR values in Table 17	Comment Status D 78û10 are TBD		СОМ	Comment Single	<i>Type</i> TR -ended reference	Comment Status D e resistance R0 value in Tabl	le 178-13 is TBD	R_0
Suggested Replac	<i>IRemedy</i> ce TBD with 3 dB				Suggested Replac	<i>Remedy</i> ce TBD with 50 (Ohm		
Proposed PROP Resolv	Response OSED ACCEPT I ve using the respo	Response Status W IN PRINCIPLE. onse to comment #250.			Proposed PROP Resolv	Response OSED ACCEPT ve using the resp	Response Status W IN PRINCIPLE. conse to comment #35.		
C/ 178	SC 178.9.3.4	P 282	L 45	# 401	C/ 178	SC 178.10.1	P 286	L12	# 404
Li, Tobey		MediaTek			Li, Tobey		MediaTek		
<i>Comment</i> "The te	<i>Type</i> TR est channel COM	Comment Status D , calculated per items 3) thro	ugh 7) in 93C.2,	RX ITOL/JTOL (bucket) is at least 3 dB"	Comment Receiv	<i>Type</i> TR ver 3 dB bandwid	Comment Status D dth fr value in Table 178-13 is	s TBD	COM f_r
The re	ference to the tes	st channel COM is wrong.			Suggested Replac	Remedy ce TBD with 0.58	3*fb		
Chang least 3	ge it to "The test c dB" to be correct	hannel COM, calculated peri t	tem e) through h) in 178.9.3.3, is at	Proposed PROP	Response OSED ACCEPT	Response Status W		
Proposed	Response	Response Status W			Resolv	e using the resp	conse to comment #36.		
PROP Impler	OSED ACCEPT I ment the suggeste	IN PRINCIPLE. ed remedy with editorial licen	se.		<i>Cl</i> 178 Li Tobev	SC 178.10.1	P 286 MediaTek	L13	# 405
C/ 178	SC 178.10	P 284	L11	# 402	Comment	Type TR	Comment Status D		COM TxFFE
Li, Tobey		MediaTek		COM	The m those	ax/min values a in the Table 178	nd step size of transmitter eq û6 and thost in sub-clauses	ualizer in Table ⁻ 179.9.4.1.4 & 179	178-13 need to match 9.9.4.1.5
Minim	um COM in Table	178û11 is TBD		001	Suggested	IRemedy			
Suggested Replac	IRemedy ce TBD with 3 dB Response	in Table 178-11 and in line 2 Response Status W	8 of page 284		On line On line On line On line On line	e 14 replace TBI e 18 replace TBI e 22 replace TBI e 26 replace TBI e 28 replace TBI e 28 replace TBI	D with -0.06:0.02:0 D with 0:0.02:0.12 D with -0.34:0.02:0 D with 0.5 D with -0.2:0.02:0		
Resolv	ve using the respo	IN PRINCIPLE.			Proposed PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. conse to comment #37.		

C/ 178	SC 178.10.1	P 286	L 46	# 406	C/ 178	SC 178.10.1	P 287	L10	# 409
Li, Tobey		MediaTek			Li, Tobey		MediaTek		
Comment	Туре Т	Comment Status D		COM voltage parameters	Comment	Type TR	Comment Status D		R_LM
Trans	mitter differential	peak output voltage in Table	178-13 is TE	3D	Level s	separation mism	atch ratio RLM in Table 178-	13 is TBD	
Suggeste	dRemedy				Suggested	Remedy			
Repla	ice Av with 0.413	V			Replac	ce TBD with 0.95	5		
Repla	ice Afe with 0.413	S V B V			Proposed I	Response	Response Status W		
Proposed	Response	Response Status W			PROP Resolv	OSED ACCEPT	IN PRINCIPLE. oonse to comment #273.		
Resol	ve using the resp	onse to comment #38.			C/ 179	SC 179.9.4	P309	L 23	# 410
C/ 178	SC 178.10.1	P286	L 50	# 407	Li, Tobey		MediaTek		
Li. Tobev		MediaTek			Comment	Type TR	Comment Status D		B-T filter BW
Comment	Type TR	Comment Status D		COM T_r	"4th or Clause	der Bessel-Thor 178.9.2, Annex	nson filter with 3 dB bandwid 176D.3.3, and Annex 176E.	th of 40 GHz" is 3.3	inconsistent with
Irans	mitter transition ti	me ir value in Table 178-13	IS TBD		Suggested	Remedy			
Suggeste	dRemedy				Chang	e "40 GHz" to ei	ther "TBD" or "62 GHz"		
Repla	ice IBD with Ir =	4 ps			Proposed I	Response	Response Status W		
Proposed PROF Resol	Response POSED ACCEPT ve using the resp	Response Status W IN PRINCIPLE. onse to comment #39.			PROP The va Resolv	OSED ACCEPT Ilue 40 GHz is a ve using the resp	IN PRINCIPLE. leftover from an older clause onse to comment #60.	and has not be	en adopted.
C/ 178	SC 178.10.1	P 286	L 53	# 408	C/ 179	SC 179.9.5.3	P 319	L 22	# 411
Li, Tobey		MediaTek			Li, Tobey		MediaTek		
Comment	Type TR	Comment Status D		COM eta0	Comment	Type TR	Comment Status D		СОМ
One s	ided noise spectr	al density in Table 178-13 is	TBD		COM v	alues in Table 1	79û11 are TBD		
Suggeste	dRemedy				Suggested	Remedy			
Repla	ice TBD with 6e-9	V^2/GHz			Replac	ce TBD with 3 dB	3		
Proposed	Response	Response Status W			Proposed I	Response	Response Status W		
PROF Resol	POSED REJECT.	onse to comment #269.			PROP Resolv	OSED ACCEPT	IN PRINCIPLE. oonse to comment #250.		

C/ 179	SC 179.9.5.3.	B P320	L18	# 412	C/ 179	SC 179.11.7	P332	L12	# 415
Li, Tobey		MediaTek			Li, Tobey		MediaTek		
Comment 4th or	<i>Type</i> TR der Bessel-Thoms	Comment Status D on filter BW is TBD		B-T filter BW	Comment Receiv	<i>Type</i> TR /er 3 dB bandwid	Comment Status D th fr value in Table 179û16 is	s TBD	COM f_r
Suggestee Repla	dRemedy ce TBD with 62 GI	Ηz			Suggested Replac	<i>IRemedy</i> ce TBD with 0.58	*fb		
Proposed PROF Resol	Response POSED ACCEPT I ve using the respo	Response Status W N PRINCIPLE. nse to comment #60.			Proposed PROP Resolv	Response OSED ACCEPT /e using the resp	Response Status W IN PRINCIPLE. onse to comment #36.		
C/ 179	SC 179.11	P326	L 21	# 413	C/ 179	SC 179.11.7	P332	L13	# 416
Li, Tobey		MediaTek			Li, Tobey		MediaTek		
Comment	Type TR	Comment Status D		СОМ	Comment	Type TR	Comment Status D		COM TxFFE
Minim	um COM is TBD				The m	ax/min values an	d step size of transmitter eq	ualizer in Table	179-16 need to match
Suggestee	dRemedy				those	in the Table 1790	17 and thost in sub-clauses 1	179.9.4.1.4 & 17	9.9.4.1.5
Repla	ce TBD with 3 dB	in Table 179û13 and in line	41 of page 330		Suggested	Remedy			
Proposed PROF Resol	Response POSED ACCEPT I ve using the respo	Response Status W N PRINCIPLE. nse to comment #250.			On line On line On line On line On line	e 14 replace TBL e 18 replace TBD e 22 replace TBD e 26 replace TBD e 28 replace TBD) with -0.00:0.02:0) with 0:0.02:0.12) with -0.34:0.02:0) with 0.5) with 0.5		
C/ 179	SC 179.11.7	P331	L 42	# 414	Proposed	Response	Response Status W		
Li, Tobey		MediaTek			PROP	OSED ACCEPT	IN PRINCIPLE.		
Comment	Туре Т	Comment Status D		R_0	Resolv	ve using the resp	onse to comment #37.		
Single	e-ended reference	resistance R0 value in Table	e 179û15 is TBD		C/ 179	SC 179.11.7	P332	L 46	# 417
Suggestee	dRemedy				Li. Tobev	-	MediaTek		
Repla	ce TBD with 50 Of	m			Comment	Tvpe T	Comment Status D		COM voltage parameters
Proposed	Response	Response Status W			Transr	nitter differential	peak output voltage in Table	e 179û16 is TBD	5
PROF	POSED ACCEPT I	N PRINCIPLE.			Suggester	lRemedv			
Resol	ve using the respo	nse to comment #35.			Replac Replac Replac	ce Av with 0.413 ce Afe with 0.413 ce Ane with 0.608	V V 3 V		
					Proposed	Response	Response Status W		
					PROP Resolv	OSED ACCEPT	IN PRINCIPLE. onse to comment #38.		

C/ 179 SC 179.11.7	P332	L 50	# 418	Cl 179 SC 179.11.7 P333 L9 # 421
Li, Tobey	MediaTek			Li, Tobey MediaTek
Comment Type TR	Comment Status D		COM T_r	Comment Type TR Comment Status D COM methodology
Transmitter transition t	ime Tr value in Table 179û16	is TBD		Number of samples per unit interval in Table 179û16 is TBD
SuggestedRemedy Replace TBD with Tr =	- 4 ps			SuggestedRemedy Replace TBD with 32
Proposed Response PROPOSED ACCEPT Resolve using the resp	Response Status W IN PRINCIPLE. ponse to comment #39.			Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #360.
C/ 179 SC 179.11.7	P332	L 53	# 419	C/ 176D SC 176D.3.3 P597 L22 # 422
Li, Tobey	MediaTek			Li, Tobey MediaTek
Comment Type TR	Comment Status D		COM eta0	Comment Type TR Comment Status D B-T filter BW
One sided noise spect	ral density in Table 179û16 is	TBD		Transmitter measurement bandwidth is TBD
SuggestedRemedy				SuggestedRemedy
Replace TBD with 6e-9	9 V^2/GHz			Replace TBD with 62 GHz
Proposed Response	Response Status W			Proposed Response Response Status W
PROPOSED REJECT.				PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the resp	oonse to comment #269.			Resolve using the response to comment #60.
C/ 179 SC 179.11.7	P333	L 8	# 420	C/ 176D SC 176D.3.3 P597 L 33 # 423
Li, Tobey	MediaTek			Li, Tobey MediaTek
Comment Type TR	Comment Status D		R_LM	Comment Type TR Comment Status D (bucket)
Level separation mism	atch ratio RLM in Table 179û	16 is TBD		Signaling rate of 106.255 50 ppm in Table 176Dû1 is incorrect
SuggestedRemedy				SuggestedRemedy
Replace TBD with 0.95	5			Change "106.255 50 ppm" to "106.25 50 ppm"
Proposed Response	Response Status W			Proposed Response Response Status W
PROPOSED ACCEPT	IN PRINCIPLE.			PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the resp	oonse to comment #273.			Resolve using the response to comment #361.

C/ 176D SC 176D.3.4.4 P602	L 47	# 424	C/ 176D SC 176D.3.4.4 P603 L34	# 427
Li, Tobey Media Tek Comment Type TR Comment Status D Reference to ERL methodology is missing		ERL (bucket)	LI, Tobey Media Tek Comment Type TR Comment Status D COM values in Table 176Dû4 are TBD	СОМ
SuggestedRemedy Add reference to 176D.4.3.			SuggestedRemedy Replace TBD with 3 dB	
Proposed Response Response Status W PROPOSED ACCEPT.			Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #250.	
C/ 176D SC 176D.3.4.4 P603 Li, Tobey MediaTek	L18	# 425	C/ 176D SC 176D.3.4.5 P604 L1 Li, Tobey MediaTek	# 428
Comment Type TR Comment Status D 4th order Bessel-Thomson filter BW is TBD SuggestedRemedy Replace TBD with 62 GHz		B-T filter BW	Comment Type TR Comment Status D Reference to test procedure is missing SuggestedRemedy	Editorial (bucket)
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #60.			Add reference to 176D.3.4.4 Proposed Response Response Status W PROPOSED ACCEPT.	
C/ 176D SC 176D.3.4.4 P 603 Li, Tobey MediaTek	L 30	# 426	C/ 176D SC 176D.4 P 604 L 27 Li, Tobey MediaTek	# 429
Comment Type TR Comment Status D "Insertion loss at 26.5625 GHz"		(bucket)	Comment Type TR Comment Status D Table reference is missing	Editorial (bucket)
Nyquest frqeuncy in Table 176Dû4 is incorrect SuggestedRemedy Change "26.5625 GHz" to "53.125 GHz" Proposed Response Response Status W PROPOSED ACCEPT.			SuggestedRemedy Add reference of ERL to 176D.4.3. Add reference of differential-mode to common-mode return loss to 176 Proposed Response Response Status W PROPOSED ACCEPT.	D.4.4.

C/ 176D SC 176D.4	P 604	L 24	# 430	C/ 176D	SC 176D.4.1	P606	L 33	# 433
Li, Tobey	MediaTek			Li, Tobey		MediaTek		
Comment Type TR Co	omment Status D		СОМ	Comment 7	Type TR	Comment Status D		COM CTLE parameters
Minimum COM is TBD				Zero 2	frequency and p	ole 3 frequency of Continuou	is time filter a	are inconsistent with Table
SuggestedRemedy				178013	3			
Replace TBD with 3 dB in Ta	ble 176Dû5 and in line	38 of page 604		Suggested	Remedy			
Proposed Response Res	sponse Status W			Replac	e zero 2 frequer	icy with fb/80 cy from "fb" to "fb/80"		
PROPOSED ACCEPT IN PR	, RINCIPLE.			Bronosod B				
Resolve using the response	to comment #250.							
C/ 176D SC 176D 4 1	P605	/ 35	# 431	There a	are several com	ments on this topic. The edito	orial team pre	pared a proposal in the
	MediaTek			comme	ent resolution slid	de deck ran_3dj_01_2406co	omment_reso	olution_electrical.
Comment Type TR Co	mment Status D		RO	For CR	G discussion.			
Single-ended reference resis	tance R0 value in Tabl	e 176Dû6 is TBD	1_0	C/ 176D	SC 176D.4.1	P 606	L 40	# 434
SuggestedPeriody				Li, Tobey		MediaTek		
Replace TBD with 50 Obm				Comment T	Гуре Т	Comment Status D		COM voltage parameters
	0 / / 1 /			Transm	nitter differential	peak output in Table 176Dû7	í is TBD	
	sponse Status W			Suggested	Remedy			
Resolve using the response	to comment #35.			Replac	e Av with 0.413	V		
				Replac	e Afe with 0.413	V		
C/ 176D SC 176D.4.1	P605	L 50	# 432	Replac	e Ane with 0.608	3 V		
Li, Tobey	MediaTek			Proposed F	Response	Response Status W		
Comment Type TR Co	omment Status D		COM f_r	PROP(Resolv	DSED ACCEPT	IN PRINCIPLE.		
Receiver 3 dB bandwidth fr v	alue in Table 176Dû7 i	s TBD			e using the resp			
SuggestedRemedy				C/ 176D	SC 176D.4.1	P 606	L 49	# 435
Replace TBD with 0.58*fb				Li, Tobey		MediaTek		
Proposed Response Res	sponse Status W			Comment 7	Type TR	Comment Status D		COM T_I
PROPOSED ACCEPT IN PR	RINCIPLE.			Transm	nitter transition ti	me Tr value in Table 176Dû7	is TBD	
Resolve using the response	to comment #36.			Suggested	Remedy			
				Replac	e TBD with Tr =	4 ps		
				Proposed F	Response	Response Status W		
				PROPO	DSED ACCEPT	IN PRINCIPLE.		
				Resolv	e using the resp	onse to comment #39.		

C/ 176D SC 176D.4.1	P 607	L 5	# 436	C/ 176E SC 1	176E.5.2	P634	L 6	# 439
Li, Tobey	MediaTek			Li, Tobey		MediaTek		
Comment Type TR Level separation mismat	Comment Status D ch ratio RLM in Table 176D	Dû7 is TBD	R_LM	<i>Comment Type</i> Receiver 3 dB	TR Comi	<i>ment Status</i> D le in Table 176Eû7 is	s TBD	COM f_r
SuggestedRemedy Replace TBD with 0.95				SuggestedRemed	y with 0.58*fb			
Proposed Response PROPOSED ACCEPT II Resolve using the respo	Response Status W N PRINCIPLE. nse to comment #273.			Proposed Respon PROPOSED A Resolve using	se Response ACCEPT IN PRIN the response to o	onse Status W CIPLE. comment #36.		
C/ 176D SC 176D.4.1	P 607	L 8	# 437	C/ 176E SC 1	176E.5.2	P634	L 34	# 440
Li, Tobey	MediaTek			Li, Tobey		MediaTek		
Comment Type TR	Comment Status D		COM methodology	Comment Type	TR Com	ment Status D		COM CTLE parameters
Number of samples per	unit interval in Table 176Dû	7 is TBD		Pole & zero fre	equency values of	f continuous time filte	er are TBD	
SuggestedRemedy				SuggestedRemedy	V			
Replace TBD with 32				Replace zero	1 frequency, fz1,	with fb/2.5 GHz		
Proposed Response PROPOSED ACCEPT II Resolve using the respo	Response Status W N PRINCIPLE. nse to comment #360.			Replace zero 2 Replace pole 2 Replace pole 2 Replace pole 3	2 frequency, fz2, v 1 frequency, fp1, v 2 frequency, fp2, v 3 frequency, fp3, v	with fb/80 GHz with fb/2.5 GHz with fb GHz with fb/80 GHz		
C/ 176E SC 176E.5.2	P633	L 52	# 438	Proposed Respon	se Respo	onse Status W		
Li. Tobev	MediaTek	-		PROPOSED A	ACCEPT IN PRIN	CIPLE.		and a survey and by the
Comment Type TR Single-ended reference	Comment Status D resistance R0 value in Table	e 176Eû7 is TBD	R_0	comment reso For CRG discu	eral comments or lution slide deck ussion.	URL/ran_3dj_01_240)6.	bared a proposal in the
SuggestedRemedy				C/ 176E SC 1	176E.5.2	P 634	L 43	# 441
Replace TBD with 50 Of	ım			Li, Tobey		MediaTek		
Proposed Response PROPOSED ACCEPT II	Response Status W N PRINCIPLE.			<i>Comment Type</i> Transmitter tra	TR Comi	<i>ment Status</i> D alue in Table 176Eû7	is TBD	COM T_r
Resolve using the respo	nse to comment #35.			SuggestedRemed	y			
				Replace TBD	with Tr = 4 ps			
				Proposed Respon	se Respo	onse Status W		
				PROPOSED A	ACCEPT IN PRIN	CIPLE.		
				Resolve using	the response to a	comment #39.		

Cl 176E SC 176E.5.2 Li, Tobey Comment Type TR Commen Level separation mismatch ratio RL SuggestedRemedy Replace TBD with 0.95 Proposed Response Response PROPOSED ACCEPT IN PRINCIP Resolve using the response to com	P634 MediaTek <i>t Status</i> D M in Table 176Eû7 is <i>e Status</i> W LE. ment #273.	L 53 # 442 R_LM	Cl 116 SC 116 P92 L 40 # 445 Simms, William NVIDIA Comment Type E Comment Status D (editorial) spacing of text on line 40 is different than spacing of the same text in lin 38 SuggestedRemedy make spacing the same Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.
Cl 176E SC 176E.5.2 Li, Tobey Comment Type TR Comment Number of samples per unit interva SuggestedRemedy Replace TBD with 32 Proposed Response Response PROPOSED ACCEPT IN PRINCIP Resolve using the response to com	P635 MediaTek <i>t Status</i> D I in Table 176Eû7 is Ti <i>e Status</i> W LE. ment #360.	L 5 # 443 COM methodology BD	C/ 176A SC 176A P 555 L 29 # 446 Simms, William NVIDIA Comment Type E Comment Status D (editorial) 3 states of Coefficient select echo are undefined (editorial) (editorial) SuggestedRemedy note in table 176A-3 that 010, 011, 100 are undefined/invalid Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. Implement with editorial license Implement
Cl 176E SC 176E.5.2 Li, Tobey Comment Type TR Comment "Dp equal to 3" is not right as there SuggestedRemedy Change "Dp equal to 3" to "Dp equa Proposed Response Response PROPOSED ACCEPT IN PRINCIP Resolve using the response to #30.	P635 MediaTek t Status D are 3 pre-taps for the al to 4" e Status W LE.	L 35 # 444 Linear fit	C/ 176A SC 176A.4.1+ P555 L46 # 447 Simms, William NVIDIA Comment Type E Comment Status D (editorial) Should the status field name be uniquified? The field name in the text of the table and text sections below the table do not clearly identify text as a field. SuggestedRemedy Change Receiver ready to RECEIVER_READY or at maybe receiver_ready and use the same in the text below the table 176A-3- Status field structure. Pertains to all field names. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.

C/ 176A	SC 176A.6.4	P 558	L 54	# 448	C/ 176D SC 176D.3	.4.4 P603	L 31	# 451
Simms, Willia	am	NVIDIA			Simms, William	NVIDIA		
Comment Typ	be E	Comment Status D		(editorial)	Comment Type TR	Comment Status D		(bucket)
It took me	e longer than ι	usual to realize the algorithm of	continues on pa	ge 559	Moot point maybe gi	ven table is all TBD, but the	frequency should	be 53.125GHz
SuggestedRe Maybe pu with IEEE	emedy ut a 'continue = style	ed' at the last line of page 5	58. Disregard i	f this is inconsistent	SuggestedRemedy change to 53.125GH	Iz		
Proposed Res PROPOS Implement	sponse SED ACCEPT nt with editoria	Response Status W IN PRINCIPLE. I license and discretion.			Proposed Response PROPOSED ACCER Resolve using the re	Response Status W PT IN PRINCIPLE. sponse to comment #426.		
0. 4704	00 4704 0	D 500	1.04	"	C/ 178 SC 178.9.2	2 P 276	L18	# 452
C/ 176A	SC 176A-6	P 568	L 21	# 449	Simms, William	NVIDIA		
Simms, Willia	am	NVIDIA			Comment Type T	Comment Status D		TX AC CM (bucket)
Comment Typ Figure 17	be ER '6A-6 has an e	Comment Status D extraneous < in the name 'loca	I_tf_lock<*'	(editorial)	SCMR may need to band Vcm noise of 8	be relaxed for 200Gb/s. Mea 0mVpp at TP2.	asure of 15dB full	band at TP0v given full
SuggestedRe	emedy				SuggestedRemedy			
change to	o 'local_tf_lock	*!			Likely need to tighter	n 80mV Vcm in table 179-7 f	or 200Gb/s	
Proposed Rea	sponse	Response Status W			Proposed Response	Response Status W		
PROPOS Implemer	SED ACCEPT nt with editoria	IN PRINCIPLE.			PROPOSED REJEC The suggested reme	T. dy does not propose an action is not a valid request	onable (within the	draft) remedy. A
C/ 176D	SC 176D.3.3	P 598	L 16	# 450	question of call to ac			
Simms, Willia	am	NVIDIA						
Comment Typ Where do	be E bes the value f	Comment Status D or SNDR of 32.5dB come fror	n?	(editorial)				
SuggestedRe No chang	emedy ge suggested,	looking for source material						
Proposed Rea	sponse	Response Status W						
PROPOS	SED ACCEPT	IN PRINCIPLE.						

(bucket)

C/ 175	SC 175.2.4.6	P175	L 22	# 453

Opsasnick, Eugene	e	Broadcom
Comment Type	т	Comment Status D

Sub-clause 172.2.4.6 has a reference to a text file containing the 800GBASE-R alignment marker values. CL 175 should add a similar note with a corresponding text file for the 1.6TBASE-R alignment markers.

SuggestedRemedy

Add text near line 22: "NOTEùA text file containing the alignment marker patterns, as shown in Table 175û1 is available at https://standards.ieee.org/downloads/802.3/."

A presentation will be submited with a corresponding text file containing the 1.6TBASE-R AM values.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Add note as suggested with additional reference to the text file from the May interim (https://www.ieee802.org/3/dj/public/24_05/opsasnick_3dj_02_2405.txt) as presented in https://www.ieee802.org/3/dj/public/24_05/opsasnick_3dj_01_2405.pdf Implement with editorial license.

C/ 175	SC 175.2.4.5	P 174	L 3	# 454
Opsasnick	k, Eugene	Broadcom		
Comment	Type T	Comment Status D		Scrambler seeds (bucket)

The Editor's note at the end of subclause 175.2.4.5 "Scrambler" states that there are no requirements or restrictions in the 1.6TE PCS baselines for the scrambler seeds for each flow. The note also mentions that the corresponding sub-clause in 802.3df for 800GE PCS states that the two flows would have identical outputs if the seeds are identical and the data input is identical (such as after reset). The 1.6TE PCS does not have two separate sets of PCSLs like 800GE PCS, but the PCSL formation could have back-to-back repeating RS-symbol values if identical seeds are used. Suggest to require different seeds after reset in the scramblers of each flow as written in the paragraph above the editor's note.

SuggestedRemedy

Remove the editor's note at the top of page 174, and leave the wording in 175.2.4.5 as-is with the requirement that the two scrambers are initialized with different seeds.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Comment #331 notes that the 1.6T PCS lanes are never bit-muxed so different seeds may not be necessary. While the effect of identical scrambler seeds is worse with bit-muxing than symbol-muxing, there may still be some determental effects with symbol muxing. If there are identical seeds and identical data, then the FEC-A and FEC-B codewords would be identical to the FEC-C and FEC-D codewords, respectively. With symbol muxing, the resulting data on a output lane would be symbols {A, B, C, D} where A=C and B=D. In general, it is safer to require different seeds to avoid any potential side-affect. As the comment #331 points out, it doesn't hurt to have the scramblers seeded differently.

Delete the editor's note near top of page 174.

C/ 175A SC 175A	P 539	L 8	# 455
Opsasnick, Eugene	Broadcom		
Comment Type T	Comment Status D		(bucket)

Annex 175A contains tabular data for an example created by the 1.6TBASE-R PCS TX functions, including the scrambler output, RS-FEC codeword generation, and PCS lane interleaving. The editor's note on page 539 has a placeholder for a link to a text file that has the machine readable text data. That data file needs to be created.

SuggestedRemedy

A presentation is planned to submit a data file which corresponds to the Annex 176A example and can be referenced in the editor's note

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Update the Editor's note with link to the text file

(https://www.ieee802.org/3/dj/public/24_05/opsasnick_3dj_03_2405.txt) as presented in https://www.ieee802.org/3/dj/public/24_05/opsasnick_3dj_01_2405.pdf at the May interim. Implement with editorial license.

Comment ID 455

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C/ 90A	SC 90A	P 519	L 43	# 456	C/ 176A	SC 176A.1	0.4	P 566	L 46	# 458
Opsasnick	, Eugene	Broadcom			Opsasnick,	Eugene	E	Broadcom		
Comment	Туре т	Comment Status D		(bucket)	Comment	Туре Т	Comment S	atus D		ILT Diagran
In tabl has a data ra vs 250 The va MII tim 50G, a 5.12ns	e 90A-1, the colu value of 2.56ns fr ate) of one Alignr 5 for slower spee alue for the 1.6T he = 8 * 256 / 160 and 100G. Howev s and should also	Imn titled "Alignment marker/ or 1.6T in the last row. This van nent marker block. The 1.6TE ds, so this number does not s row should be 1.28ns (a full Al 00 = 1.28ns). Note that this co ver, the value listed for 200G, be fixed in maintenance.	codeword mark alue should be E PCS lanes are cale directly fro M group = 8 250 lumn has correct 400G and 800G	er insertion/removal" the xMII time (at MAC e now running at 100G m the other entries. 6b/257b blocks, so the ct values for 25G, 40G, 6 of 2.56ns should be	The sta and Fig diagran rename Suggested Remov	ate diagram sh gure 176A-9 "(ns of the sam ed from "mr_re <i>Remedy</i> ve Figure 176A	nown in Figure176 Coefficient update e names in Figure estart_training" to A-8 and Figure 176	A-8 "Training state diagrau 136-8 and F "mr_restart". SA-9.	g frame lock state m" are exactly the Figure 136-9. Only	diagram" on page 570 same as the state the reset signal is
Suggested	Remedy				Chang 21.	e "mr_restart"	to "mr_restart_tra	inging" in su	Ibclause 176A.10.	2.1 on page 564, line
Chang Table Proposed	ge the accuracy ir 90A-1. <i>Response</i>	npairment value of 2.56 ns to <i>Response Status</i> W	1.28 ns for the	1.6T Ethernet rate in	Chang clause	e the text at th 136 instead o	ne bottom of page f the removed figu	566 to refer t res (with edi	to the equivilent s itorial license).	tate diagrams in
PROP	OSED ACCEPT.				Any va diagrar	riables define ms can also be	d in subclause 176 e removed.	3A.10.3.1 wh	nich are only used	in the removed state
C/ 176A	SC 176A.6.4	P 558	L17	# 457	Proposed I	Response	Response St	atus W		
Opsasnick	, Eugene	Broadcom			PROP	OSED REJEC	T.			
Comment	Туре Т	Comment Status D		ILT Coefficients	Resolv	e using the re	sponse to comme	nt #457		
This th subcla to the subcla	ne entire block of ause 136.8.11.4.4 k_list. I suggest ause 136.8.11.4.4	pseudo-code in this subclaus and the entire subcluse only replacing the text of the entire	e is exactly the differs by addir subclause with	same as the code in ng one coefficient (-3) n a refernece to	C/ 176 Opsasnick	SC 176.7.1 Eugene	. 2.2 	P223 Broadcom	L 39	# 459
Suggested	Remedy				In Figu	rype 1 Ire 176-16 and	Figure 176-17 or	atus D the followir	na nage the symb	nguies (bucke
New te "The h	ext for this subcla andling of incom	use: ing requests is specified by th	e coefficient up	date state diagram	PCSLs	in the upper I I patterns if the	half (PCSL 16-31) e figures included	is not shown at least one	n. It would be eas even PCSL in the	ier to see the RS range of 16-31.
(i iguit	e 130- <i>3)</i> .				Suggested	Remedy				
The be in 136	ehavior of the UP .8.11.4.4 with one	DATE_C(k) function shall be one execption:	consistent with	the algorithm specified	These pattern	two figures sh for lanes 0,1,	iow PCSLs for lan à15, 16, 17,à31.	es 0,1, and 3	31. Suggest to sh	ow the PCSL sybol
- T	The set of of valid	equalizer coefficient indices,	k_list, is expand	ded by one from {-2, -1,	Proposed I	Response	Response St	atus W		
Proposed	Response	Response Status W			PROP Implen	OSED ACCEF	PT IN PRINCIPLE. ested remedy with	editorial lice	ense.	
PROP	OSED REJECT.									
Annex and po	176A is intended otentially higher s	d to be the specification for lin ignaling rate PMDs.	k training for 20	0 Gb/s per lane PMDs						
Althou clause	igh referencing th may inadvertant	e older subclause is an optior ly affect these new signaling r	n, any future cha ate PMDs.	anges to that older						
TYPE: TR	/technical require	d ER/editorial required GR/g	eneral required	T/technical E/editorial G/g	general ritten C/closed	Z/withdrawn		Comm	nent ID 459	Page 100 of 1

SORT ORDER: Comment ID

Figures (bucket)

ILT Diagrams

CI 73	SC 73	P83	L1	# 460	C/ 171 SC 17
Slavick, J	eff	Broadcom			Slavick, Jeff
Comment We a when arran how I	t <i>Type</i> T re now using Next Pages ging the orde Next Pages a	Comment Status D a Next Page to advertise IEEE de are introduced, defined and then u r in which AN is specified would he re defined, how to use them and w	fined PHYs. F sed is a bit out elp readers to b hen to use the	<i>(bucket</i> lowever the order of of order. So re- etter understand what m.) Comment Type The MDIO map Clause 175 is us SuggestedRemedy
Suggeste	dRemedy				Have Tables 17
Prese	entation will b	e provided.			Proposed Response
Proposed	l Response	Response Status W			PROPOSED RE
PRO	POSED ACC	EPT IN PRINCIPLE.	Odi taalu farraa a	t the Mary latering	This comment w
https: Imple appro	ing. //www.ieee8(ement the cha opriate editing	02.org/3/dj/public/24_05/slavick_3c anges proposed in slavick_3dj_01_ g instructions.	dj_01_2405.pdf 2405 with edito	trial licence and using	Slavick, Jeff Comment Type
Slavick I	off	Readcom	L 12	# 401	really make a flo
Comment The t	t <i>Type</i> T itle of Clause	Comment Status D 173 does include BM.		(bucket	Change the last tx_xcoded_f0<2
Suggeste	dRemedy				Proposed Response
Remo	ove the BM- f	rom Table 171-1 for the Clause 17	3 entry and foo	otnote A	PROPOSED AC
Proposed	Response	Response Status W			Implement the f
The t BM a PMA: and 1 This i "Whe types Claus to the	erm BM-PMA nd SM PMAs s explicitly. Ti 83-1. s explained in necessary defined in th se 176, the te BM-PMA."	A is used in Table 171-1, because s, and the convention we agreed o he same convention is used in tabl n 173.1.1 as follows: for disambiguation, to differentiate is clause from the symbol-multiple rm BM-PMA is used. Within this cl	this table inclu n was in such o es 178-1, 179- the bit-multiple xing PMA (SM- ause the term	des reference to both cases to call out both 1, 180-1, 181-1, 182-1 exing PMA (BM-PMA) ·PMA) types defined in PMA refers specifically	Change: "This creates tv tx_xcoded_f1<2 to: "This creates tw tx_xcoded_f1<2

C/ 171	SC 171.8	P145	L 6	# 462
Slavick, Je	eff	Broadcom		
Comment	Туре Т	Comment Status D		(withdrawn)
The M Clause	DIO mapping e 175 is using.	table is different from Clause 1	75, it should us	e the new form that
Suggested	IRemedy			
Have ⁻	Tables 171-5a	through 171-5d use the same	format as Claus	e 175
Proposed	Response	Response Status Z		
PROP	OSED REJEC	ЭΤ.		
This c	omment was V	VITHDRAWN by the commenter	er.	
C/ 175	SC 175.2.4	I.4 P173	L 4 1	# 463
Slavick, Je	eff	Broadcom		
Comment	Туре Т	Comment Status D		(bucket)
The la really	st sentence is make a flow of	giving the tranccoded blocks s blocks. If anything it's making	ent to each flow a series or stre	a name. So it's not am of blocks.
Suggested	IRemedy			
Chang tx_xco	e the last sent ded_f0<256:0	ence to read: "The transcoded > and the ones sent to flow 1 a	blocks sent to f s tx_xcoded_f1	flow 0 are referred to as <256:0>."
Proposed	Response	Response Status W		
PROP	OSED ACCEF	PT IN PRINCIPLE.		
Impler	nent the follow	ing with editorial license.		
Chang "This tx_xco	je: creates two flo ded_f1<256:0	ows of transcoded blocks, tx_xc > to flow 1."	coded_f0<256:0	> to flow 0, and
to: "This o tx_xco	creates two str ded_f1<256:0	eams of transcoded blocks, tx_ > to flow 1."	_xcoded_f0<256	6:0> to flow 0, and

C/ 175	SC 17	75.2.4.6	P174	L 42	# 464	C/ 175	SC	175.2.4.6	P176	L 25	# 466
Slavick, J	eff		Broadcom			Slavick, Je	eff		Broadcom		
Comment	Туре	т	Comment Status D		(bucket)	Comment	Туре	т	Comment Status D		(bucket)
tx_am	n_sf doesr	n't allow b	ut provides a way to commu	unicate the man	datory degrade status.	am_m	apped_	f0 and am	_mapped_f1 contain data th	nat is sent into fl	ow 0/1 and through
Suggeste	dRemedy					codew	ords AE	B and CD.			
Chan the re PCS"	ge "allows mote PCS	the local S" to "con	PCS to communicate the s municates the local PCS F	tatus of the FE0 EC degraded st	C degraded feature to atus to the remote	Suggested Chang ôNote	<i>Remea</i> je: that arr	<i>ly</i> n_mapped_	f0 contains the 10-bit symbols	ools of FEC cod	ewords A and B, and
Proposed	Response	е	Response Status W			am_m To:	apped_	T1 contains	the 10-bit symbols of FEC	codewords C a	ina D. o
PROF The d	POSED R	EJECT. rect as wi	itten, and the proposed cha	inge does not in	nprove clarity.	ôNote am_m	that am apped_	n_mapped_ _f1 is sent t	f0 is sent to flow 0 which p o flow 1 which produces FE	roduces FEC co C codewords C	odewords A and B, and and D.ö
C/ 175	SC 17	75.2.4.6	P176	L 5	# 465	Proposed	Respon	ise	Response Status W		
Slavick, J	eff		Broadcom			PROP Impler	OSED anent the	ACCEPT II e suggeste	N PRINCIPLE. d remedy with editorial licer	nse.	
Comment	Туре	т	Comment Status D		(bucket)						
am_n never	napped_f0 talk abou) and am_ t how this	_mapped_f1 aren't solely ba s two variables are us splittir	sed on the 10b ng the alingmen	distribution and we t marker group up.	C/ 175 Slavick, Je	SC *	175.2.4.6.2	Broadcom	L6	# 467
Suggeste	dRemedy					Comment	Туре	т	Comment Status D		(bucket)
Chan	ge:					Add a	intro to	what tx_so	rambled is.		
öThe interle	variables eaving the	am_map group of	ped_f0 and am_mapped_f1 16 alignment markers, am_	are then derive x, using the foll	d from 10-bit owing procedureö	Suggested	Remea	ły			
îo: ôThe am_n am_x	alignment napped_f1 , is done u	t marker of as follow using the	group is mapped into variabl vs. First a 10-bit interleaving following procedure ô	les am_mapped g the group of 1	_f0 and 6 alignment markers,	Chang "The v tx_scra To:	je: ariables ambled	s tx_scram _am_f1<10	bled_am_f0<10279:0> and 279:0> are constructed in t	one of two ways	."
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.							"In each flow a 10280-bit block of data is formed with two FEC codewords worth of message data, tx_scrambled_am_f0<10279:0> in flow 0 and tx_scrambled_am_f1<10279:0> in flow 1 and they are constructed in one of two ways. "				
imple	ment the s	suyyeste		30.		Proposed	Respon	nse	Response Status W		
						PROP Impler	OSED anent the	ACCEPT II	N PRINCIPLE. d remedy with editorial licer	nse.	

C/ 175	SC 175.2.5.3	P181	L 40	# 468	C/ 119	SC 119.2.5.	B <i>P</i> 112	L 27	# 470		
Slavick, Je	əff	Broadcom			Slavick, Je	ff	Broadcom				
Comment The co	<i>Type</i> T ounters for correct unter and bin cou	Comment Status D otd, uncorrected and error have noters have been optional. So	ve always been o Should is not	FEC error counters mandatory, while the appropiate.	Comment Type E Comment Status D (edito Extranious "either"						
Suggested Chang "The f the lin To: "The F	dRemedy ge: ollowing counters k quality. " PCS provides the	s should be implemented to a	id a network op	erator in determining	SuggestedRemedy remove the word "either" Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion						
Proposed PROF	Response	Response Status W IN PRINCIPLE.			<i>Cl</i> 176 Slavick, Je	SC 176.2	P 196 Broadcom	L 46	# 471		
There is a list of 5 FEC counters in 175.2.5.3. The first three are definitely required (as they were also required in CL 91, 108, 119, 134, and 172) which makes the "should" wording incorrect. (FEC_corrected_cw_counter, FEC_uncorrected_cw_counter, and FEC_symbol_error_counter_i) The 4th and 5th counters (FEC_cw_counter and FEC_codeword_error_bin_i) are explicitly "optional" in 161.6.21, 172.3.5 and 172.3.6. The importance of these counters is well recognized in the industry so should be mandatory for the 1.6TBASE-R PCS Make all 5 counters required for the 1.6TBASE-R PCS.						Comment Type E Comment Status D () Is respectively necessary here? X is just a list of different rates. SuggestedRemedy () remoe the ", repsectively," Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.					
Pendi	ng CRG discussio	on.			Slavick, Je	ff	Broadcom	233	<i>π</i> 472		
Cl 175 Slavick, Je	SC 175.2.5.3	P 182 Broadcom	L 9	# 469	Comment Is resp	<i>Type</i> E ectively necess	Comment Status D ary here? X is just a list of diffe	erent rates.	(editorial)		
<i>Comment</i> The N	<i>Type</i> T ote about tracking	Comment Status D g statistics across all 4 decor	lers is missing	<i>(bucket)</i> from the bin counter.	Suggested remoe	<i>Remedy</i> the ", repsectiv	ely"				
Suggested Add th "Note	dRemedy his to the definition that this counter	n of the FEC_codeword_erro tracks codewords with errors	r_bin_i across all four	codewords."	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.						
Proposed PROF Impler	Response POSED ACCEPT ment the suggest	Response Status W IN PRINCIPLE. ed remedy with editorial licen	se.								

C/ 176	SC 176.2	P197	L 3	# 473	C/ 176 SC 17	6.5.1.3.5	P 203	L 25	# 476
Slavick, Je	eff	Broadcom			Slavick, Jeff		Broadcom		
Comment	Type E	Comment Status D		(editorial)	Comment Type	E Comi	ment Status D		(editorial)
ls resp	pectively necess	ary here? X is just a list of diffe	erent rates.		lt's a multiplexo	r or a multiplexir	ng function		
Suggested	Remedy				SuggestedRemedy				
remoe	the ", repsective	ely"			add the word fu	nction after mult	tiplexing		
Proposed PROP Impler	Response OSED ACCEPT ment with editoria	Response Status W IN PRINCIPLE. al license and discretion.			Proposed Response PROPOSED A0 Implement with	e Respo CCEPT IN PRIN editorial license	onse Status W ICIPLE. and discretion.		
C/ 176	SC 176.5.1.6	5.4 P 206	L38	# 474	C/ 176 SC 17	6.5.1.6.5	P 206	L 48	# 477
Slavick, Je	eff	Broadcom			Slavick, Jeff		Broadcom		
Comment	Туре Т	Comment Status D		(bucket)	Comment Type	T Com	ment Status D		(bucket)
Figure be use	e 119-12 uses fur ed, just that resta	nctions and variables defined i art_lock_mux is used to replac	n CL119 but the e restart_lock	ose aren't called out to	Figure 119-12 u be used, just the	ises functions ar at restart_lock_r	nd variables defined mux is used to replac	in CL119 but the ce restart_lock	ose aren't called out to
Suggested	Remedy				SuggestedRemedy				
add "u	ising the state va	ariables defined in 119.2.6.2" a	after Table 119-	1 with edtiorial license	add "using the s	state variables d	lefined in 119.2.6.2" a	after Table 119-	1 with edtiorial license
Proposed	Response	Response Status W			Proposed Response	e Respo	onse Status W		
PROP	OSED ACCEPT	IN PRINCIPLE.			PROPOSED AC	CCEPT IN PRIN	ICIPLE.		
Impler	nent the sugges	ted remedy with editorial licens	se.			jested remedy v	vith editorial license.		
C/ 176	SC 176.5.1.3	B.1 P 201	L 29	# 475	C/ 176 SC 17	6.5.1.1	P 200	L 35	# 478
Slavick, Je	eff	Broadcom			Slavick, Jeff		Broadcom		
Comment	Туре Т	Comment Status D		(bucket)	Comment Type	E Comi	ment Status D		(editorial)
There	is more details t	o the AM lock function add a r	eference		test pattern gen	erate is overlap	ping with the IS_SIG	NAL_requst line	in Figure 176-2
Suggested	Remedy				SuggestedRemedy				
add a	"(see 175.5.1.6.4	4)" after Table 119-1			Move "test patte	ern genrate" to n	not overlap with the ir	nst.IS_SIGNAL.i	request line
Proposed	Response	Response Status W			Same in Figure	176-9,10,13,14	,15,19,20,24,25,26		
PROP	OSED ACCEPT	, IN PRINCIPLE.			Proposed Response	e Respo	onse Status W		
Resol	ve using the resp	oonse to comment #534.			PROPOSED AC Implement with	CCEPT IN PRIN editorial license	CIPLE. and discretion.		
[Edito	r's note: Change	d clause, subclause from 175	, 175.5.1.3.1 to	176, 176.5.1.3.1]					

C/ 176	SC 176.5.1.1	P 200	L 35	# 479	C/ 176	SC 176.5.1.6.	5 P 208	L11	# 482
Slavick, Je	ff	Broadcom			Slavick, Je	eff	Broadcom		
Comment	Туре Е	Comment Status D		(editorial)	Comment	Туре Т	Comment Status D		(bucket)
test pa	ttern generate is	overlapping with the IS_SIGN	IAL_requst line	in Figure 176-2	Count	er _done needs to	be at the end of the counter	er name.	
Suggested	Remedy				Suggested	Remedy			
Move ' Same	test pattern genra in Figure 176-9,10	ate" to not overlap with the in: 0,13,14,15,19,20,24,25,26	st.IS_SIGNAL.r	equest/indication line	Chang symbo	ge symbol_pair_lo bl_pair+lock_coun	ck_counter_done_demux to ter_demux_done)	
Proposed	Response	Response Status W			Proposed	Response	Response Status W		
PROPOSED ACCEPT IN PRINCIPLE.						OSED ACCEPT I 176-8, change "sv	IN PRINCIPLE. ymbol pair lock counter d	one demux" to	
C/ 176	SC 176 8 1 1	P231	/ 14	# 480	"symb	ol_pair_lock_cour	nter_demux_done". Remove	e the definition of	the variable
Slovick Io	"	Broadcom	214	# 1 00	license	e.			
Comment	Type F	Comment Status D		(editorial)	C/ 176	SC 176 5 1 6	5 P208	/ 9	# 483
test pa	ttern check is ove	eralpping with IS SIGNAL.red	quest	(canonal)	Slavick le	off 0.0.1.0.	Broadcom	23	# 405
Suggested	Remedy				Comment	Type F	Comment Status D		(editorial)
Move '	test pattern check	k" to no overlap withPMA.IS	SIGNAL.reque	st in Figure 176-21	I think	it's best if the Sta	art of the counter is the last	thing in the Box	(cuitonal)
Proposed	Response	Response Status W		Ū	Sugaester	Remedy		3	
PROP	OSED ACCEPT I	N PRINCIPLE.			Move	"Start symbol pai	ir lock counter demux" to t	be the last thing i	'n
Implen	nent with editorial	license and discretion.			LOSS	_OF_SYMBOL_P	PAIR_LOCK box	3	
C/ 175	SC 175.2.4.2	P173	L 26	# 481	Proposed	Response	Response Status W		
Slavick, Je	ff	Broadcom			PROP	OSED ACCEPT	IN PRINCIPLE.		
Comment	 Tvpe T	Comment Status D		timesvnc (bucket)	Impier	nent with editorial	license and discretion.		
A note	that modifying th	e data stream could affect Ti	meSync would	be useful.	C/ 176	SC 176.5.1.5	P 205	L 20	# 484
Suggested	Remedy				Slavick, Je	eff	Broadcom		
Add th	e following note:				Comment	Type E	Comment Status D		(editorial)
"NOTE	Insertion or re	moval of characters may affe	ct protocols like	e times synchronization	Detaile	ed functions and s	state diagrams has no conte	ent	
(see 9	0.4.1.2)"				Suggested	Remedy			
Proposed	Response	Response Status W			Chang	ge 176.5.1.6 to be	a sub-heading of 176.5.1.5	(4th tier I think).	
PROP	OSED REJECT.	le notes related to time synch	pronization thro	undout the various	Proposed	Response	Response Status W		
sublay	er clauses; this w	as not done in previous claus	ses/projects. Ra	ather it would be	PROP	OSED ACCEPT	, IN PRINCIPLE.		
prefera	able to add the ne	cessary text into Clause 90/A	nnex 90A. A co	onsensus presentation	Impler	ment with editorial	license and discretion.		
with a	complete proposa	a is encourageo.							

Broadcom <i>Comment Status</i> D so using the same state mad bol_pair_lock_demux have a l_pair_lock_demux definition mbol_pair_lock_demux <y> t <i>Response Status</i> W PT IN PRINCIPLE. esponse to comment # 80. 1 P252</y>	n chines we need to n a <y> in it. n and in Figure 176- to have a range of c <i>L</i>19</y>	Reorg nake Figure 176-8 and 8. Upate the definition of y=0
Comment Status D so using the same state made bol_pair_lock_demux have a ul_pair_lock_demux definition mbol_pair_lock_demux <y> to Response Status PT IN PRINCIPLE. esponse to comment # 80. 1 P252 Drandoom</y>	chines we need to n a <y> in it. n and in Figure 176- to have a range of c</y>	Reorg make Figure 176-8 and 8. Upate the definition of y=0
so using the same state mad bol_pair_lock_demux have a l_pair_lock_demux definition mbol_pair_lock_demux <y> t <i>Response Status</i> W PT IN PRINCIPLE. esponse to comment # 80. 1 P252</y>	chines we need to n a <y> in it. n and in Figure 176- to have a range of c <i>L</i>19</y>	nake Figure 176-8 and -8. Upate the definition of y=0
I_pair_lock_demux definition mbol_pair_lock_demux <y> t <i>Response Status</i> W PT IN PRINCIPLE. esponse to comment # 80. 1 <i>P</i>252</y>	n and in Figure 176- to have a range of c	 B. Upate the definition of y=0
I_pair_lock_demux definition mbol_pair_lock_demux <y> t <i>Response Status</i> W PT IN PRINCIPLE. esponse to comment # 80.</y>	n and in Figure 176- to have a range of c	-8. Upate the definition of y=0
Response Status W PT IN PRINCIPLE. esponse to comment # 80.	<i>L</i> 19	
PT IN PRINCIPLE. esponse to comment # 80. 1 P252	L 19	
1 P 252	L19	
Draadaam		# 488
Broadcon	ı	
Comment Status D		Cl (bucket)
177 starts with feeding data line with the shortest delay.	into the longest del	lay line while Cl184
ve the Delay Line 0 be the n	ninimal delay and th	ne Delay Line 2 to be
Response Status W		
CT.		
th the adopted baseline. It is	s correct as docume	ented.
6 P 254	L 44	# 489
Broadcom	ı	
Comment Status D		pad insertion (bucket)
describing options for how th	ne pad insertion cou	uld be done is
equirement that it ocurs eve	ry 8704 CW and fol	llows the Figure 177-6 is
agraph of 177.4.6	license.	
י (r ר	a describing options for how the requirement that it ocurs even aragraph of 177.4.6 <i>Response Status</i> W EPT IN PRINCIPLE. ggested remedy with editorial	a describing options for how the pad insertion cou requirement that it ocurs every 8704 CW and fo aragraph of 177.4.6 <i>Response Status</i> W EPT IN PRINCIPLE. ggested remedy with editorial license.

C/ 177	SC 177.5.1	P 256	L 50	# 490	C/ 177	SC 177.5.3.	1 P 257	L 45	# 493
Slavick, J	eff	Broadcom			Slavick, Jef	f	Broadcom		
Comment	Туре Т	Comment Status D		Inner FEC Sync (bucket)	Comment 7	<i>уре</i> т	Comment Status D		Inner FEC decode (bucket)
Monit diagra for it t	or and drop says y am. So is each Flo to span across all f	you monitor on all flows. But ow checking for 140 bad out flows evenly.	Figure 177-7 of 150? And	7 is a per flow state 150 is not a multiple of 8	Definin Suggestedl	g how a miscro Re <i>medy</i>	rected codeword can occur	could be phrase	ed more clearly.
Suggeste Chan "keep invalid To: "each 150 c step a	dRemedy ge: is monitoring 150 c d, drop sync and re i flow counts the nu odeword windows, a). "	consecutive codewords on al estart from step a). " umber of invalid codewords s if at least 140 codewords ar	l flows, if at le seen in conse re invalid, dro	east 140 codewords are ecutive non-overlapping op sync and restart from	Change ôNote t bit erro happer To: ôNote t soft der Proposed F	: hat for soft-dec r in a codeword .ô hat when there cision decoder Response	ision decoded Inner FEC co I, there is always a non-zero is more than one bit error in could miscorrect the codewo <i>Response Status</i> W	dewords, when chance that mi a codeword th ord.ô	there is more than one scorrection could ere is a chance that the
Proposed	Response	Response Status W			Implem	ent the sugges	ted remedy with editorial lice	ense.	
Imple	ment the suggest	remedy with editorial license			C/ 176A	SC 176A.2.3	8.2 P552	L 26	# 494
C/ 177	SC 177.6.3	P262	L 8	# 491	Slavick, Jef	f	Broadcom		
Slavick, J	eff	Broadcom			Comment 7	<i>уре</i> т	Comment Status D		ILT Pattern (Bucket)
Comment	Type F	Comment Status D		(editorial)	The PR	BS gen should	I "stop" if trainng stops.		
In Fig	ure 177-8 the wror	ng character is showing up fo	or the <= sym	ibol	Suggestedl	Remedy			
Suggeste	dRemedv		·		Add "w	hile training is i	n progress while this mode is	s selected" afte	r "is not stopped or reset".
Fix <=	= symbol in Figure	177-8			Proposed F	Response	Response Status W		
Proposed PROF Imple	Response POSED ACCEPT I ment with editorial	Response Status W N PRINCIPLE. license and discretion.			PROPO Implem Add "w	OSED ACCEPT ent the followir hile training is i	IN PRINCIPLE. ng with editorial license. n progress and this mode is	selected" after	"is not stopped or reset".
CL 177	SC 177 6 2 1	P258	/ 52	# 402	C/ 176A	SC 176A.2.3	B.3 P552	L 43	# 495
Slovick I	off	Broadcom	L JZ	# 492	Slavick, Jef	f	Broadcom		
Comment		Comment Status D		Inner FEC, Sync (bucket)	Comment 7	ype T	Comment Status D		ILT Pattern (Bucket)
Coun fc_cn	tes automagically l t_done	have a _done variable create	ed for them, s	so no need to define	The PR Suggested	BS gen should Remedy	l "stop" if trainng stops.		
Suggeste	dRemedy				Add "w	hile training is i	n progress while this mode is	s selected" afte	r "is not stopped or reset".
Remo	ove fc_cnt_done de	efinition			Proposed F	Response	Response Status W		
Proposed PROF	Response POSED ACCEPT.	Response Status W			PROPO Implem Add "w	OSED ACCEPT ent the followir hile training is i	NPRINCIPLE. ng with editorial license. n progress and this mode is	selected" after	"is not stopped or reset".

Comment ID 495

CL 176A	SC 1764 0 0 0	DEED	1 44	# 106		SC 1764 0 4	DEED	AE	# 400			
Slovick Lot	GC 170A.2.3.3	Proodoom	L 4 I	# 490	Slovick	90 170A.3.1	Proodeer	∠4 3	# 499			
Commont 7				II T Dottorn	Commont 7		Commont Status	п	II T Coofficients (Bucket)			
	3 free-rupping ca	comment status D	not have a sel	ILI Pattern	Remov	rype I	of how many presets ther	e are	ILI Coemcients (Bucket)			
with pre	ecode while PRB	S31 does have those options	s. So how can	we refer to PRBS13			or now many presets the	e ale.				
free rur	nning for how to n	nap the PRBS data to trainin	g pattern.		Suggestea	Remeay 						
Suggested	Remedy				ôThe ir	e. nitial condition r	equest bits are used to se	elect one of the fi	ve predefined transmitter			
Split th	e 2nd paragraph	of 176A.2.3.3 into 3 paragrap	ohs tha defines	how the pattern for	equaliz	er configuration	ns (presets) specified in the	ne AUI or PMD c	auses. ô			
Proposed P		Poppono Status M	III 170A.2.3.1		ôThe ir	nitial condition r	equest bits are used to se	elect a predefined	d transmitter equalizer			
PROP	OSED ACCEPT I				configurations (presets) specified in the AUI or PMD clauses. ô							
Resolv	e using the respo	nse to comment #358			Proposed F	Response	Response Status W					
CL 176A	SC 176A 2 2 2	D552	/ 21	# 407	PROP	OSED ACCEPT	IN PRINCIPLE.					
Clavial Int	30 17 0A.2.3.2	. F JJZ	LJI	# 497	Change	e: "The initial co	ondition request bits are u	used to select one	e of the five predefined			
Commont 7				II T Pattorn	transm	itter equalizer o	configurations (presets) sp	pecified in the AL	II or PMD clauses." to:			
There i	s only 1 mode of	operation for PRBS13 free-ru	unning, PAM4.	We do have 1 free	transm	ittal condition re	equest bits are used to se configurations (presets) st	pect one of the up	b to five predefined			
mode.	e e, i mede e.											
Suggested	Remedy				C/ 176A	SC 176A.6.2	2 P 5 57	L 53	# 500			
Add PF	RBS13-free runnir	ng with precode as an option	for a training p	battern.	Slavick, Jet	ff	Broadcor	n				
Proposed F	Response	Response Status W			Comment 1	Type T	Comment Status D					
PROPO	OSED ACCEPT I	N PRINCIPLE.			define	a behavior in th	Ds only providing a subse lat scenario	et of the available	PRESETS we should			
Resolv	e using the respo	nse to comment #358			Suaaested	Remedv						
C/ 176A	SC 176A.2.3.3	P552	L 46	# 498	Add a s	statement that i	f the AUI or PMD does no	ot specify coeffici	ent values for a given			
Slavick, Jef	if	Broadcom			preset	setting then no	change is made to the ex	kistings settings a	and ic_sts response of			
Comment 7	Гуре Т	Comment Status D		ILT Pattern	update	a is provided.						
There i	s no zero pad for	PRBS31 free-running. This	means we cou	ld have a run length of	Proposed r	Response						
31 3's i The Ze	n a row when the ro pad is really pa	maximal run length of the P art of the Framer Marker ens	RBS pattern ru uring there is a	Ins Into Frame Marker.	Impler	nent the followir	ng with editorial license.					
16 UI r	un 3's for the star	t of the frame marker.			At the	end of section 1	76A.6.2. add the followin	g statement: "If t	he AUI or PMD does not			
Suggested	Remedy				speciry	s and the ic sts	s response of updated is r	ling then no chan provided."	ige is made to the existings			
Bring th	ne zero-pad back	into the definition of the train	ning frame. St	ating that it is	5	_						
pattern	ately precedes tr	of the next training frame marker to p	rovide a disticr	it transition from training								
Proposed F	Response	Response Status W										
PROPO	OSED REJECT.											
The ac	tual specification	is not broken, it is not clear t	hat this is requ	ired.								
For CR	G discussion.											
CI 176A	SC 1764 4	P555	/ 27	# 501	C/ 176D	SC 176D /	1	P605	/ 35	# 504		
------------------------------	---	--	------------------------------------	--	---	---	--	------------------------------	---------------------------------	---------------------------		
Slovick lo	.#	Broadcom	L Z I	# <u>501</u>	Howard Hor		 Ir	ntol Corporati	LJJ	# 304		
Commont		Commont Statua D		II T Frama (Dualiat)		-n 	II Commont St			Multiple COM perometers		
Vou br	<i>Type</i>	comment Status D	don't have ver	ILT Frame (Buckel)	We peo	ype i d to fill in volu	Comment St		co 8 pockogo r	multiple COM parameters		
missio	n data yet.	ed data you're sending but you	don't nave you	ar sen setup to seria	176D-6a	and COM par	rameters in Table 1	176D-7.	ce a package p			
Suggested	lRemedy				SuggestedF	Remedy						
Remov	ve the "No data	is available," from the option 1	of Extend trair	ning bit	Adopt th	ne values pro	posed below for Al	UI C2C:				
Proposed I PROP Implen	Response OSED ACCEPT nent suggested	Response Status W IN PRINCIPLE. remedy with editorial license.			Table 1 R_0 = 5 Table 1 fr,= 0	76D-6: 0 ohms, R_d 76D-7: .75* f_b , A_v	I, = 50 ohms, v = 0.413 V, A_fe =	= 0.413 V, A_	_ne = 0.608 V, S	SNR_Tx = 33 dB, A_dd		
C/ 183	SC 183.6.3	P 428	L 51	# 502	0.02,R_ d_w = 4	$N_{fix} = 0.95, e$	$N_g = 0, N_f = NA$	1/GHZ, M = 32 , N_max = N	∠, A,, sigma_RJ =	= 0.01.		
Rodes, Ro	berto	Coherent			j W_mir	n(j) W_max(j)						
Comment	Туре Т	Comment Status D		power budget	-4 0 0.5 -3 -0.15	0						
Adding	g explanation on	allocation for penalties calcula	tion.		-2 0 0.4	-						
Suggested	IRemedy				-1 -0.7 ()						
Use sa text:"A and 0.4	ame approach th Ilocation for per 4dB from MPI"	nan for the inserion loss adding alties is calculated using an ad	a note in the l ditional penalt	R4 value with the y of 0.7dB from DGD,	2 -0.8 0.6 3-4 -0.2	0.3						
Proposed I	Response	Response Status W			5-8 -0.1	5 0.15						
PROP	OSED ACCEPT				9-28-0. A prese supporti	05 0.05 ntation is pla the proposed	nned for the May 2 values.	:024 interim i	n which we will	provide analysis to		
C/ 183	SC 183.6.1	P 425	L 27	# 503	Proposed R	esponse	Response Sta	atus W				
Rodes, Ro	berto	Coherent			PROPC	SED ACCEF	PT IN PRINCIPLE.					
Comment Chang	<i>Type</i> T le spec format c	Comment Status D onsistent with FR4		TX specs	The follo https://v The con	owing presen /ww.ieee802.	tation was reviewe .org/3/dj/public/24_	d by the task 05/heck_3dj	force at the M _01b_2405.pdf	lay 2024 interim meeting:		
Suggested Replac	Remedy ce 0.5+TDECQ	by 0.5+Max(TECQ,TDECQ)			propose This cor	d values and	l consensus may n ses a large set of (ot be obvious	s. eter values toge	ether, while other		
Proposed I PROP Resolv	Response OSED ACCEPT ve using the resp	Response Status W IN PRINCIPLE. ponse to comment #12			The edit ran_3dj For CR0	orial team pr _01_2406cc G discussion.	repared a proposal omment_resolution	in the comm electrical.	ent resolution s	slide deck		

C/ 177	SC 177.6	P 262	L5	# 505	C/ 1	SC	1.3		P46	L 33	# 506
Ren, Hao		Huawei			Dawe, Pi	iers			Nvidia		
Comment	t Type TR	Comment Status D		Inner FEC Sync	Commer	nt Type	TR	Commer	t Status D		MDI references (bucket)
In Fig FS lo	jure 177—8, the i ck error.	nput variable of state FS_LO	CK_INIT is not c	orrect. It would cause a	Add SFF	and upda -8402, R	ate conne ev 1.1, S	ector reference eptember 13,	es as necessar 2014, Specifica	y. This is wha ation for SFP+	it is in 1.3: 1X 28 Gb/s Pluggable
Suggeste FS_L codev Propo	dRemedy OCK_INIT states word boundaries a ose change:	should be entered after all the and inner FEC flow 0 is ident	e 8 flows obtain t ified, when fs_lo	their inner FEC ck is false.	Tran SFF- SFF- Tran SFF- Tran	sceiver \$ -8432, R -8436, R sceiver. -8665, R sceiver \$	Solution (ev 5.1, A ev 4.8, O ev 1.9, Ju Solution (SFP28). ugust 8, 2012 ctober 31, 20 une 29, 2015, QSFP28).	2, Specification 1 13, Specificatio Specification fo	for SFP+ Modu n for QSFP+ 1 or QSFP+ 28 (ule and Cage. I0 Gb/s 4X Pluggable Gb/s 4X Pluggable
Unan	ge the liput valia	bie nom all_synced to a			Suggeste	edReme	dy				
Chan from 'A Bo set to 'A Bo when (in pa <i>Proposed</i> PROF Chan "A Bo	ge the definition of olean variable tha false when sync olean variable tha sync_flow <x> is ge 258 line 48-50 <i>I Response</i> POSED ACCEPT ge the condition f ge the definition of polean variable tha</x>	of all_synced at is set to true when sync_flo _flow <x> is false for any x.' at is set to true when inner FE false for any x.')) <i>Response Status</i> W 'IN PRINCIPLE. for FS_LOCK_INIT state from of variable "all_synced" from: at is set to true when sync_flo</x>	ow <x> is true for EC flow 0 is iden n "!all_synced" to ow<x> is true for</x></x>	all eight flows and is tified and is set to false o "all_synced*!fs_lock" all eight flows and is	Use OSF QSF 8x P SFF- SFF- Mod SFF- https: Refe Propose PRC Imple	these for P Octal S P-DD/QS luggable -8665 Re -TA-1011 ules -TA-1027 -TA-10	r now (mo Small For SFP-DD8 Transcei ev 1.9.4, 2 I Rev 1.0 I, Rev 1.0 I, Rev 1.0 Sa.org/sp sfp-dd.cor e docume nse ACCEPT uggested	ost will be upd m Factor Plu 00/QSFP-DE vers, Rev 7.0 2022-04-01, (, 2024-04-19) 0, 2024-04-16 0, 2023-06-11 recification.ht m/specification ents from 179 <i>Response</i> IN PRINCIP remedy with	dated before this ggable Module, 1600 Hardware September 29 2SFP+ 4X Pluge, Cross Referen G, QSFP2 Conne , SFP2 Cage, C ml on/ SC. Status W LE. editorial license	s project is dor Rev 5.0, Octo Specification 0, 2023 gable Transce ce to Select S ector, Cage, & Connector, & M	ne): ober 2, 2022 for QSFP Double Density iver Solutions FF Connectors and Module Specification fodule Specification
set to to:	false when sync	_flow <x> is false for any x."</x>			C/ 45	SC	45.2.1.60)b	P65	L17	# 507
" A Be	oolean variable th FEC flow 0 is ide	nat is set to true when sync_f ntified, and is set to false wh	low <x> is true fo en sync_flow<x></x></x>	r all eight flows AND • is false for any x."	Dawe, Pi	iers			Nvidia		
					Commer Shou coun	<i>at Type</i> uldn't LR ating the	T 4 come b bits forwa	Commer efore LR1 (sa ard	nt Status D ame reach, narr	ower) and the	<i>(bucket)</i> order goes up the page,
					Suggeste	edReme	dy				
					Swa	p 800GB	ASE-LR4	and 800GB	ASE-LR1		

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 45 SC 45.2.1.60b P65 L 24 # 508 Dawe, Piers Nvidia Cl 179 SC 179.9.4 P 309 L 44 # 511 Dawe, Piers Nvidia (bucket) SoogBASE-DR4-2 has longer reach than 800GBASE-FR4-500 (bucket) Dawe, Piers Nvidia NVidia T Comment Status D TX AC CM (bucket) SuggestedRemedy Swap them Response Response Status W Reduce both AC common-mode voltage limits for CR, KR, C2C and C2M. Proposed Response Response Status W Proposed Response Response Status W Proposed Response Response Status W PROPOSED REJECT. The suggested remedy does not propose an action is not valid. Proposed Response and color is not valid. Cl 179 SC 179.9.4 P 309 L 46 # 512									
Dawe, Piers Nvidia Dawe, Piers Nvidia Comment Type T Comment Status D TX AC CM (bucket) 800GBASE-DR4-2 has longer reach than 800GBASE-FR4-500 (bucket) Comment Type T Comment Status D TX AC CM (bucket) Suggested Remedy Swap them Swap them Reduce both AC common-mode voltages are not as large as this in practice, even at 200G/lane Suggested Remedy Proposed Response Response Status W Reduce both AC common-mode voltage limits for CR, KR, C2C and C2M. PROPOSED ACCEPT. P67 L21 # 509 Dawe, Piers Nvidia C/ 179 SC 179.9.4 P309 L46 # 512	C/ 45 SC 45.2.1.6	60b P65	L 24	# 508	C/ 179	SC 179.9.4	P309	L 44	# 511
Comment Type T Comment Status D TX AC CM (bucket) 800GBASE-DR4-2 has longer reach than 800GBASE-FR4-500 (bucket) Comment Type T Comment Status D TX AC CM (bucket) SuggestedRemedy Swap them Swap them SuggestedRemedy Response Status W Reduce both AC common-mode voltages are not as large as this in practice, even at 200G/lane Proposed Response Response Status W Proposed Response Response Status W CI 45 SC 45.2.1.60c P67 L21 # 509 Proposed freemedy does not propose an actionable (within the draft) remedy. A question or call to action is not valid. C/ 179 SC 179.9.4 P309 L46 # 512	Dawe, Piers	Nvidia			Dawe, Pier	5	Nvidia		
800GBASE-DR4-2 has longer reach than 800GBASE-FR4-500 AC common-mode voltages are not as large as this in practice, even at 200G/lane SuggestedRemedy Swap them Swap them SuggestedRemedy Reduce both AC common-mode voltage limits for CR, KR, C2C and C2M. Proposed Response Response Status W PROPOSED ACCEPT. P67 L 21 # 509 Dawe, Piers Nvidia C/ 179 SC 179.9.4 P 309 L 46 # 512	Comment Type T	Comment Status D		(bucket)	Comment	Гуре Т	Comment Status D		TX AC CM (bucket)
SuggestedRemedy SuggestedRemedy Reduce both AC common-mode voltage limits for CR, KR, C2C and C2M. Proposed Response Response Status W Proposed Response Response Status W PROPOSED ACCEPT. P67 L21 # 509 Dawe, Piers Nvidia P309 L46 # 512	800GBASE-DR4-2 ha	as longer reach than 800GBAS	SE-FR4-500		AC cor	nmon-mode vo	Itages are not as large as this	in practice, eve	en at 200G/lane
Swap them Reduce both AC common-mode voltage limits for CR, KR, C2C and C2M. Proposed Response Response Status W PROPOSED ACCEPT. Proposed Response Cl 45 SC 45.2.1.60c P67 L 21 Dawe, Piers Nvidia Dawe, Piers Nvidia	SuggestedRemedy				Suggested	Remedy			
Proposed Response Response Status W PROPOSED ACCEPT. P67 L 21 # 509 Dawe, Piers Nvidia P67 L 21 # 509 Land Land Land Land Land Land Land Land Land Land Land Land Land Land Land <t< td=""><td>Swap them</td><td></td><td></td><td></td><td>Reduce</td><td>e both AC comr</td><td>non-mode voltage limits for C</td><td>R, KR, C2C and</td><td>d C2M.</td></t<>	Swap them				Reduce	e both AC comr	non-mode voltage limits for C	R, KR, C2C and	d C2M.
PROPOSED ACCEPT. PROPOSED REJECT. Cl 45 SC 45.2.1.60c P67 L 21 # 509 Dawe, Piers Nvidia Vidia Cl 179 SC 179.9.4 P309 L 46 # 512	Proposed Response	Response Status W			Proposed I	Response	Response Status W		
C/ 45 SC 45.2.1.60c P 67 L 21 # 509 Dawe, Piers Nvidia C/ 179 SC 179.9.4 P 309 L 46 # 512	PROPOSED ACCEP	Т.			PROP	DSED REJECT	. doog not proposo on action	able (within the	draft) ramady A
Dawe, Piers Nvidia C/ 179 SC 179.9.4 P 309 L 46 # 512	C/ 45 SC 45.2.1.6	60c P67	L 21	# 509	questic	n or call to action	on is not valid.		dian) remedy. A
	Dawe, Piers	Nvidia			C/ 179	SC 179.9.4	P 309	L 46	# 512
Comment Type T Comment Status D (bucket) Dawe, Piers Nvidia	Comment Type T	Comment Status D		(bucket)	Dawe, Pier	6	Nvidia		
It's unfortunate that 800GBASE-ER1 and 800GBASE-ER1-20 are in different registers, and Comment Type TR Comment Status D Tx swing (bucket	It's unfortunate that 8	00GBASE-ER1 and 800GBAS	E-ER1-20 are in	different registers, and	Comment	ype TR	Comment Status D		Tx swing (bucket)
Supply voltages and voltage swing trend downwards over the years. This 1200 mV max	000GDASE-ER1-20, 1	naving less reach, should com	ie ilist		Supply	voltages and v	oltage swing trend downward	s over the years	s. This 1200 mV max
SuggestedRemedy has not changed since 10GBASE-KR, a long time ago. C2M has 750 mV.	SuggestedRemedy			was a second as a second se	has no	changed since	e 10GBASE-KR, a long time a	ago. C2M has 7	′50 mV.
can be used for 800GBASE-LR20-1 ;) Suggested Remedy	can be used for 800G	BASE-LR20-1 ;)	5.14 goes back it	reserved - maybe it	Suggested	Remedy			
Proposed Response Response Response Status W Reduce 1200 mV to e.g. 1000 mV, here, in the receiver Table 179-10 and in the text in	Proposed Response	Response Status W			Reduce	1200 mV to e	.g. 1000 mV, here, in the rece	viver Table 179-	10 and in the text in
PROPOSED ACCEPT. and C2C.	PROPOSED ACCEP	т.			and C2	C.	e steady-state voltage vi max		
C/ 116 SC 116.5 P107 L46 # 510 Proposed Response Response Status W	C/ 116 SC 116.5	P 107	L 46	# 510	Proposed I	Response	Response Status W		
Dawe, Piers Nvidia PROPOSED REJECT. The comment does not provide sufficient justification to support the suggested remedy.	Dawe, Piers	Nvidia			The co	mment does no	ot provide sufficient justificatio	n to support the	e suggested remedy.
Comment Type T Comment Status D (bucket) Specifically, no issue was identified with allowing a device to have Vdpp of 1200 mV.	Comment Type T	Comment Status D		(bucket)	Specifi	cally, no issue v	was identified with allowing a	device to have V	Vdpp of 1200 mV.
A new footnote has appeared "At the PCS receive input, 1 UI is equivalent to 1 bit." attached to an unchanged number. There is no equivalent footnote for Table 116-8. In 802.3, "bit" means MAC bit. I don't know what point the footnote is making - that PCS lanes use binary signalling not PAM4? Nor why it is here. If it were kept, it should say "1 bit on a PCS lane" or similar.	A new footnote has a attached to an unchar 802.3, "bit" means M/ lanes use binary sign on a PCS lane" or sin	ppeared "At the PCS receive in nged number. There is no equ AC bit. I don't know what point alling not PAM4? Nor why it is nilar.	nput, 1 UI is equi uivalent footnote t the footnote is r s here. If it were l	valent to 1 bit." for Table 116-8. In naking - that PCS kept, it should say "1 bit					
SuggestedRemedy Delete footnote f	SuggestedRemedy								
Pronosed Response Status W	Proposed Response	Response Status M							

PROPOSED REJECT.

The interface between the PMA and the PCS is an abstract interface. UI interval is the time span of a symbol. Since there there is no physical signal here, only bits are exchanged. The note clarifies that for this interface 1 UI is equivalent to 1 bit being transferred.

-										
C/ 179	SC 179.9	.4 P310	L 27	# 513	C/ 179	SC	179.9.4.7	P 315	L 24	# 515
Dawe, Pie	rs	Nvidia			Dawe, Pier	rs		Nvidia		
Comment	Type TR	Comment Status D	7	x jitter, Tx SNDR (bucket)	Comment	Туре	TR	Comment Status D		Tx jitter (bucket)
Our wa 3ck. li correc togeth	ay of measuri t is not clear t tly over host l er to degrade	ing jitter doesn't work well enoug that it can or should be fixed. C loss either. This can be fixed, b BER: more of one goes with le	gh with the incre ur way of definin ut "vertical and ss of the other.	ased max host loss over ng SNDR doesn't work horizontal noise" act	Measu than w <i>Suggested</i>	uring jitt ve have dRemed	ter separate at the obso dy	ely to other impairments relie ervation point, and better the	es on a bette an what is ne	er slew rate to noise ratio eeded to make good links.
Suggested	lRemedy				Delete	e the jitt	ter section. eiver which	Add a VEC-like, TDECQ-lik	ke spec usin cope. Simila	ig this clause's COM arly for KR and C2C.
Delete COM I	the SNDR a reference rec	nd jitter specs. Add a VEC-like eiver which can be implemented	TDECQ-like sp I in a scope. Si	ec using this clause's milarly for KR and C2C.	Proposed	Respor	nse	Response Status W		
PROP The su questii In add substa https:/ pdf.	OSED REJE Jggested rem on or call to a ition, the com Intiated and is /www.ieee802	CT. edy does not propose an actior iction is not valid. iment includes a claim that mea s contrasted by existing contribu 2.org/3/dj/public/adhoc/electrica	able (within the surements are itions, e.g. l/24_0104/calvir	draft) remedy. A not feasible, which is not n_3dj_elec_01a_240104.	questi questi In add substa https:// pdf. Note tl addres	an or ca ition, th antiated /www.ie hat the ssed in	all to action the commen and is con eee802.org importance https://www	toes not propose an actiona is not valid. t includes a claim that meas trasted by existing contribut /3/dj/public/adhoc/electrical/ e of contorlling jitter separate v.ieee802.org/3/dj/public/24.	urements a ions, e.g. 24_0104/ca ely from othe _05/ran_3dj	ne draft) remedy. A re not feasible, which is not lvin_3dj_elec_01a_240104. er impairment has been _03_2405.pdf.
C/ 179	SC 179.9	.4.6 <i>P</i> 315	L15	# 514	C/ 179	SC	179.11.1	P 326	L 27	# 516
Dawe, Pie	rs	Nvidia			Dawe, Pier	rs		Nvidia		
Comment	Type TR	Comment Status D	7	x jitter, Tx SNDR (bucket)	Comment	Туре	т	Comment Status D		Nominal impedance (bucket)
As exp spec to jitter a table".	blained in othe o protect the t today's spee	er comments, up to 3ck the SNI link performance - but we don't eds and losses, and separating	DR spec acted t have a satisfact the two things o	ogether with the jitter ory way of measuring ut "leaves margin on the	"Nominal impedance" is something for a datasheet not a spec. If someone wants to build a cable assembly with 95 ohm bulk cable and it passes the spec - that's OK. SuggestedRemedy					
Suggested	lRemedy				Delete [ohm]"	e "The r '. Move	nominal diff	erential characteristic impedemaining sentence into 179.	lance of the	cable assembly is 100
Delete the SNDR section. Add a VEC-like, TDECQ-like spec using this clause's COM reference receiver which can be implemented in a scope. Similarly for KR and C2C.						Respor	nse	Response Status W		
Proposed PROP	Response OSED REJE	Response Status W			PROP Resolv	OSED /e usin	ACCEPT II g the respo	N PRINCIPLE. nse to comment #216.		
The su questi	uggested rem	edy does not propose an actior action	able (within the	draft) remedy. A						
In add	ition, the corr	ment includes a claim that mea	surements are	not feasible, which is not						

substantiated and is contrasted by existing contributions, e.g. https://www.ieee802.org/3/dj/public/adhoc/electrical/24_0104/calvin_3dj_elec_01a_240104. pdf.

C/ 180	SC 180.6.2	P354	L35	# 517	C/ 180	SC 180.8.13
Dawe, Piers	3	Nvidia			Dawe, Pier	S
Comment 7	Гуре Т	Comment Status D		RX specs	Comment	Туре Т
In 802.	3db we acknowle	edged that single-lane PMDs	are often packa	iged in multilane	More e	exceptions - I four
module	es, and subject to	much the same crosstalk a	s multilane PML	IS.	Suggested	Remedy
Suggested	Remedy				The ap	plied sinusoidal ji
Delete	footnote e, "No a	ggressors needed for 200G	BASE-DR1." In	180.8.13 Stressed	The va	lues of overshoot
addres	sor lanes is speci	ified in Table 180-8."	e device, the ON	NA OULER OF LINE	receive For a r	econformance si
Proposed P	Pesnonse	Posponso Status W			Table	180-8.
The co	ncern raised by t	he comment is relevant to m	odules with para	allel-fiber connectors.	Add a	sinusoidal jitter se
Implem	ent the suggeste	ed remedy with editorial licen	ise.		Proposed I	Response
For CR	G discussion.				PROP	OSED REJECT.
C/ 180	SC 180.8.11	P365	L51	# 518		mment does not
Dawe Pier	3	Nvidia			C/ 180	SC 180.8.13
Comment 1	vne T	Comment Status D		RIN-OMA	Dawe, Pier	S
"The ur	oper -3 dB limit of	f the measurement apparatu	is is to be appro	ximately equal to the	Comment	Туре т
signalir	ng rate": I believe	this dates back at least to the	he first Fibre Ch	annel, ~1 Gb/s, long	If the r	ising LF jitter slop
before	adaptive equalise	ers that optimise the receive	r bandwidth. W	e have a RIN spec to	slope f	or 106.25 GBd m
Gigabit	E accuracy of the	es 937 5 MHz 75% of the s	actual assessmi ignalling rate N	ent of signal quality. Jeasuring a peaky	unboui	nded buffering red
noise s	pectrum in too m	uch bandwidth gives a flatte	ring average, wl	nich is not what we	Suggested	Remedy
want.		-			In the	FECi clauses, ins
Suggested	Remedy				other r	ion-FECI PMD an
Change	e the bandwidth f	or RIN measurement to be t	he same as the	TDECQ receiver's BT4	Proposed I	Response
filter (5	0% of signalling r	rate ~ 53.1 GHz) or 75%, or	something in be	tween.	PROP	OSED REJECT.
Proposed F	Response	Response Status W			The su	apparent where
PROP	OSED ACCEPT I	N PRINCIPLE.				33
The fol	lowing presentati	on was reviewed by the 802	.3dj task force a	t the May Interim	C/ 180	SC 180.10
https://	y. www.ieee802.org	1/3/dj/public/24 05/johnson	3dj 03a 2405.p	df	Dawe, Pier	S
Implem	ent suggested re	emedy stated in the presenta	ation with editoria	al license.	Comment	Туре т
					Bit nur	nber should matc
					Suggested	Remedy
					Chang	e 1.9.4 to 1.9.n.
					Proposed I	Response
					PROP	OSED ACCEPT I
					Implen	nent the suggeste

80 S	SC 180.8.13	P366	L 25	# 519
e, Piers		Nvidia		
nment Type	e T	Comment Status D		Jitter

nd these in 167.8.14

itter is specified in 180.8.13.1.

t/undershoot and transmitter power excursion of the stressed ignal are within the limits specified in Table 180-7. lane device, the OMA outer of the aggressor lanes is specified in

ection following 167.8.14.1 (but see next comment).

Response Status W

provide sufficient justification to support the suggested remedy.

C/ 180	SC 180.8.13	P 366	L 26	# 520
Dawe, Piers		Nvidia		
Comment Ty	pe T	Comment Status D		Jitter

be for 113.4375 GBd is based on 4 MHz, 0.05 UI pk-pk, the LF jitter nust match in absolute time units (not UI) so that there is not an quirement (or one jitter slope can be modified in shape).

stead of 2e5/f, 0.05 UI, use 2.13e5/f, 0.053 UI. Or, here and in the nd PMA clauses, use 1.875e5/f, 0.047 UI.

Response Status W

to apply the proposed changes in the suggested remedy. does not provide sufficient detail to implement.

C/ 180	SC	180.10	P36	68	L11	# <u>5</u> 21
Dawe, Piers			Nvidia			
Comment Ty	pe	т	Comment Status	D		bit number (bucket)
Bit numb	er sl	hould mate	h number of lanes			

Below, change 1.10.4 to 1.10.n. Similarly in other clauses.

Response Status W

IN PRINCIPLE.

ed remedy with editorial license.

Comment ID 521

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-					-				
C/ 176E	SC 176E.5.2	P633	L33	# 522	C/ 179A	SC 179A.4	P663	L 50	# 524
Dawe, Pie	rs	Nvidia			Dawe, Pier	rs	Nvidia		
Comment	Туре Т	Comment Status D		C2M output	Comment	Туре Т	Comment Status D		Channel ILdd
decisi	on-feedback equa	alizer? The table mentions "fe	eed-forward coe	fficient"	Definir	s out the connector, is not			
Suggested	dRemedy				helpful	I. The connecto	r is part of the host and its los	s is significan	it.
Updat	e this text				Suggested	lRemedy			
Proposed	Response	Response Status W			Define	the recommend	ded channel either from pad T	POd to the ou	tside of the connector, or
PROP	OSED ACCEPT	IN PRINCIPLE.			loss wi	hich will be well	defined)		
Comm	nents #186 throug	h #189 suggest using the CR	R methodology f	or transmitter and	Proposed I	Response	Response Status W		
receiv table r	er specifications.	based on resolution of these	comments, the	reference receiver	PROP	OSED REJECT			
For Cl	RG discussion af	ter resolution of #186-#189.			What i	s defined is the	recommended minimum and	maximum diff	erential insertion loss of
	SC 4705 5 0	Deac	1 40	# 500	the cor device	ntrolled impedai	ice PCB, device package, and ecenticle/plug) The connecto	d host connec or II, is only de	tor footprints (looking into fined in "mated state":
C/ 1/0E	30 176E.3.2	~ 030	L 49	# 523	both pl	lug and receptic	le.		
Dawe, Pie	rs	Nvidia		<i>(</i> ())	The he		ad are these of		
Comment	lype TR	Comment Status D		(bucket)	https://	/www.ieee802.o	rg/3/di/public/23 11/tracv 3di	01a 2311.pd	df. slide 12. This slide
weight	the time interval	t_s +/-0.05 UI and with accur	mulated probab	lility for each sample	explicit	tly refers to "De	vice Package + Host PCB", w	hich does not	extend to TP2.
too tol	erant to jitter.				Tholou	agostod chong	to define the recommended	channal un ta	TP2 is not usoful for host
Suggested	dRemedy				design	purposes, sinc	e the text fixture is not owned	by the host de	esign and is unknown at
Remo	ve the Gaussian	weighting function w(t), increa	ase +/-0.05 to +,	/-0.07, same as	design	time.			-
TDEC	Q. This will make	e VEC look worse, but will be	a better measu	rement to protect the	C/ 179C	SC 179C 1	P680	/ 15	# 525
approj	priate.	or CR also, with software cha	annei (Tarenu	eye measurement) as	Dawe Pier	re	Nvidia		11 020
Proposed	Response	Response Status W			Comment		Comment Status D		MDI references (hucket)
PROP	OSED REJECT.				MDIs a	are mechanical	entities For 106 25 GBd one	ration there a	re SEP2 (SEE-TA-1031)
-					and Q	SFP2 (SFF-TA-	1027). Any "SFP224" would b	be an SFP2 m	odule or cable end with
The co	omment does not	provide sufficient justification	to support the	suggested remedy.	200G-0	capable circuitry	. But this annex is for the MD	I, not the circu	uitry. Similarly for
THE SU	uggested remedy	does not provide sufficient de		п.	"QSFP	224" and QSFF	2.		
					Suggested	Remedy		A sub-lab as late	
					Correc for the	SNIA-SEE mod	dd references to SFF-TA-101	1 which relate	s the names and specs
					"solutio	on".			
					Proposed I	Response	Response Status W		
					PROP	OSED ACCEPT	IN PRINCIPLE.		
					There	was broad cons	ensus to use names of MDI ty	ypes (part of b	paseline proposal)
					Current OSFP	tiy in the draft as 1600.	s tollows: SEP224, SEP-DD22	24,QSEP224,	QSFP-DD1600,
					Resolv	/e using the res	oonse to comment #506, whic	h addresses t	the normative references.

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Cl 179C	SC 179C.1	P 680	L17	# 526	C/ 179C	SC 179C.2.5	P 690	L 21	# 529
Dawe, Pier	s	Nvidia			Dawe, Piers	3	Nvidia		
Comment	Type TR	Comment Status D		MDI references (bucket)	Comment 7	<i>уре</i> т	Comment Status D		MDI references (bucket)
Refer t See ar	to the specificat nother comment	ion for each connector type wh t against 1.3 for the reference	nere each is f docs.	irst mentioned.	There i MSA de	s no OSFP1600 ocument, partic) TBD MSA document. OSFF ularly section 4.	P1600 is define	ed in the singular OSFP
Suggested	Remedy				Suggested	Remedy			
Per co	mment				Change	e "the OSFP160	00 TBD MSA" to "the OSFP C	ctal Small For	m Factor Pluggable
Proposed I	Response	Response Status W			Module	specification" of specification	or "section 4 of the OSFP Oct	al Small Form	Factor Pluggable
PROP	OSED ACCEPT	T IN PRINCIPLE.			Proposed B		Poononoo Statua M		
Resolv	ve using the res	ponse to comment #506.			PROP				
C/ 179C	SC 179C.2.3	3 P688	L 35	# 527	Resolv	e using the resp	oonse to comment #506.		
Dawe, Pier	S	Nvidia			C/ 116	SC 116.1.4	P 94	L 6	# 530
Comment	Туре Т	Comment Status D		MDI references (bucket)	Rechtman.	Zvi	Nvidia		
This sa a stand	ays "the mecha dard, not an MS	nical interface". The mechanic SA.	cal spec is SF	F-TA-1027, QSFP2. It is	Comment 7	ype T	Comment Status D		Conditional PMA (bucket)
Suggested	Remedy				The co	mment refers to 1 PMA and BM	PMA introduce a new case of	of optional PM	A implementation For
Chang	e " the TBD MS	SA" to "SFF-TA-1027".			instanc	e 200GBASE-K	R2 PHY cannot implement S	SM_PMA with	out implementing
Proposed I	Response	Response Status W			200GA	UI-1 C2C interfa	ace. dd a noto about the condition	e which allow/	require implementation of
PROP	OSED ACCEPT	T IN PRINCIPLE.			BM_PN	A and SM_PM	A		require implementation of
Resolv	ve using the res	ponse to comment #506.			Same a	apply to Table 1	16û3a, Table 116û4, Table 1	69û2	
C/ 179C	SC 179C.2.4	4 P689	L35	# 528	Suggested	Remedy			
Dawe. Pier	S	Nvidia			Add a f	ootnote labeled	æbÆ next to the æOÆ mark	king for 200GE	ASE-R SM-PMA in the
Comment	Tvpe T	Comment Status D		MDI references (bucket)	footnot	e æbÆ should s	state: æApplicable only when	200GAUI-1 (200GBASE-CR4. The
There	is no QSFP-DD	1600 TBD MSA document. Q	SFP-DD1600	is defined in the singular	within t	he PHY			
QSFP-	DD MSA docur	ment		ů –	Proposed F	Response	Response Status W		
Suggested	Remedy				PROPO	OSED ACCEPT	IN PRINCIPLE.		
Chang Hardw	e "the QSFP-DI are Specificatio	D1600 TBD MSA" to "the QSF n".	P-DD/QSFP-	DD800/QSFP-DD1600	Resolv	e using the resp	oonse to comment #312.		
Proposed I	Response	Response Status W							
PROP Resolv	OSED ACCEPT	T IN PRINCIPLE. ponse to comment #506.							

C/ 116	SC 116.5	P1	06	L 5	# 531
Rechtman	, Zvi	Nvidia	а		
Comment	Type TR	Comment Status	D		Skew
The co There BM_P budge	omment refers is an addition MA of 2 RS-F t calculations	to Table 116û8. al logical skew present EC CWs. These skew v for this table. To prever	in the value nt mis	e 200GBASE-R and s should not be inclu sinterpretations, an e	400GBASE-R2 ded in the skew explicit note is required
Suggested	lRemedy				
Insert clause skew I	a note in Tab 176 BM_PM oudget calcula	e 116û8 that states: æī IA for 200GBASE-R and ations for this table	The a d 400	dditional 2 RS-FEC GBASE-R should no	CWs logical skew in to be factored in the
Proposed	Response	Response Status	w		
Cl 160	s of the delay with Skew spe /e using the re- t's note: CC 1	would be better specifie ecifications in a broader esponse to comment #1 16, 176]	20 in 6 cont 81.	each sublayer clause	*. Comment #181
C/ 169	30 169.4	P1	23	Lo	# 532
Rechtman	, ZVI Tana TD	Nvidia	a -		
The control The In	ner-FEC dela	to Table 169û4. y appears to be missing	D fron	n the table	(bucket)
Suggested	IRemedy				
add 80	00GBASE-R i	nner FEC (values are TI	BDs)		
Proposed	Response	Response Status	w		
PROP	OSED ACCE	PT IN PRINCIPLE.	orial I	icense.	

C/ 176	SC 176.5.1.1	P 200	L1	# 533
Rechtman, Z	vi	Nvidia		
Comment Ty	pe TR	Comment Status D		DelayOddPCSLs (bucket)

The comment refers to Figure 176û2.

The functions of "Delay odd PCSLs

by 2 RS-FEC codewords" on Tx path and "Delay even PCSLs by 2 RS-FEC codewords" can be misleading, as they could be interpreted as a delay by 10,880 symbols. The intention is to delay the odd (Tx) and even (Rx) PCSLs by 136 symbols in order to get multiplex and demultiplex symbols from different 2 RS-FEC CWs. Same apply to Figure 176û9

SuggestedRemedy

Modify the description in the Tx path box from "Delay odd PCSLs by 2 RS-FEC codewords" to "Delay odd PCSLs by 136 symbols" and in the Rx path box from "Delay even PCSLs by 2 RS-FEC codewords" to "Delay even PCSLs by 136 symbols"

Proposed Response Response Status W

PROPOSED REJECT.

The function in Fig 176-2 uses the words "2 RS-FEC codewords" as opposed to "136 RS-FEC symbols" because the function aims to align the 2 codewords on even lanes with 2 different codewords on odd lanes by delaying odd lanes by 2 codewords. This enables symbol multiplexing across 4 codewords. Same applies to Fig 176-9, 176-11 and 176-13. While it is not inaccurate to call it a "136 symbol delay", an advantage of using "2 RS-FEC codewords" as opposed to "136 symbols" is that the function name is equally applicable to both 200GE and 400GE SM-PMAs. Moreover, the first line of subclause 176.5.1.3.4 clearly specifies the delay as being 136 RS-FEC symbols, and the subsequent line shows this mathematically as "2 codewords x 544 symbols per codeword / 8 PCS lanes = 136 symbols." Similarly, subclause 176.6.1.2.4 (400GE 16:2 PMA) specifies the delay to be 68 symbols. Hence, the delay value is clearly specified and there is no room for misinterpreration.

The comment proposes an alternate description which is technically correct but does not improve the accuracy or readability of the standard.

-										
C/ 176	SC 176.5.1.3.1	P 201	L 28	# 534	C/ 176	SC	176.5.1.3.4	P203	L 45	# 536
Rechtmar	n, Zvi	Nvidia			Rechtmar	ı, Zvi		Nvidia		
Comment	Туре Т	Comment Status D		(bucket)	Comment	Туре	т	Comment Status D		Figures (bucket)
There excep It can and th	e is reference in the bitions to Figure 119- be beneficial to refe ne list of exceptions	text to lock process in Figu 12 as outlined in 176.5.1.6 er to 176.5.1.6 which includ list	ire 119-12. How 3. de both the refer	ever, there are ence to Figure 119-12	The c The c abser the fir additi	ommen iagram ice of sl st symb onal one	t refers to F represents kew betwee ool of A' of t e symbol de	Gure 176-5 a specific skew case bet on the PCS lanes in the F he odd PCS lane should alay prior to the 136 symt	ween PCS lanes. MA:IS_UNITDAT. be marked as A" pols delay	For instance in the A_0:7.request primitive, because of the
Suggeste	aRemeay	1.6 instead of Figure 110	10		Suaaeste	dReme	y dv	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	
Add a			12		Optio	n1:	-)			
Proposed	Response	Response Status W			Modif	y only tł	ne first A' sy	mbol of the odd PCS lar	ies to be A".	
Add r	mote in parenthesis "	(see 176.5.1.6.4)" after Fig icense.	ı 119-12.		Optio Split t index This c conte	n2: he draw number could ma xt.	ving into two rs to the A, ake it easie	b: one for 200GBASE-R a B and A', B' symbols. r to understand the drawi	and another for 40 ngs and the roles	0GBASE-R. Then, add of the symbols in each
C/ 176	SC 176.5.1.3.3	P 202	L 45	# 535	Proposed	 Respoi	nse	Response Status W		
Rechtmar	n, Zvi	Nvidia			PRO	POSED	ACCEPT I	N PRINCIPLE.		
Comment	Туре Т	Comment Status D		(bucket)	Reso	ve usin	g the respo	nse to comment # 293		
The c The c abser differe	comment refers to Fi liagram represent a nce of skew betweer ent A codeword white	gure 176-4 specific skew case betwee n the original PCS lanes, th ch should be denote by A'.	en PCS lane, for ne "first" symbol	instance in the A might be created by						
Suggeste	dRemedy									
Optio Modif Optio Split t	n1: y only the first A syr n2: he drawing into two	nbol of the odd PCS lanes : one for 200GBASE-R and	to be A'. d another for 400	OGBASE-R. Then, add						
index This c conte	numbers to the A, E could make it easier xt.	3 symbols. to understand the drawing	s and the roles	of the symbols in each						
Proposed	Response	Response Status W								
PRO	POSED ACCEPT IN	PRINCIPLE.								
Upda state could	te the text referencing that the RS-FEC sy be from the same c	ng ⊢ig 176-4 (in 176.5.1.3.) mbols A and B belong to F or different FEC-A codewor	3) and Fig 176-3 EC-A and FEC- ds and the "B" s	(in 176.5.1.3.2) to B. The "A" symbols symbols could be from						

the same or different FEC-B codewords.

Implement with editorial license.

CL 476	SC 476 E 4 2	A D202	1 54	# [527]	CI 476	50	476 E 4 6	C D200	1.24	# [500
C/ 1/0	30 170.5.1.3.4		201	# 537	C/ 1/0	30	1/0.5.1.0		L 34	# 538
Rechtman,					Rechtman,	, ZVI Tumo	TD			Deare
The se lanes (can be 136 syn codewo	ntence "This is en 2 codewords Î 54 misinterpreted: mbol delay x 4 oc ords delay)	quivalent to adding a delay 4 symbols per codeword / 8 dd PCS lanes = 544 symbol	of 2 RS-FEC 3 PCS lanes = s delay in tota	codewords to the odd PCS 136 symbols)." al (not 2 RS-FEC	The co The st PMA la require lanes o bit bou	ommen ate dia ane ma ements of that	nt refers to Igram is de ay have a per PMA lane are lo s)therefor	Figure 176û8ùPMA receiv efined as single state mach different reference skew, le lane (e.g. one PMA lane d ocked, but other PMA lane	e symbol-pair loc ine per the entire ading to varying oesn't require SL still need to skev be define per PN	ck state diagram e PMA. However, each SLIP operation LIP because all PCS w to find the 20 symbol MA lane and not for per
Suggested	Remedy				PMA.	induno		o the otato alagram onoura		in that is and not for por
Remov	e "This is equival 2 codewords 1 54	lent to adding a delay of 2 F 4 symbols per codeword / 8	RS-FEC code	words to the odd PCS	Suggested	Reme	dy			
Modify: four co symbol To: "Ac consec multiple	"Adding the two nsecutive RSFEC multiplexer." Iding the 136 syn utive RSFEC syr exer."	codeword delay to odd nun C symbols from four differer nbol delay to odd numbered nbols from four different co	nbered lanes ht codewords l lanes enable dewords at the	enables the multiplexing of at the output of the 8:1 es the multiplexing of four e output of the 8:1 symbol	Modify variabl restart symbo start s symbo	the st les to b lock_ l_pair_ ymbol_ l_pair_	ate diagra be defined demux <y> _lock_dem _pair_lock _lock_dem</y>	m per PMA lane and not p per <y>: ux<y> _counter_demux<y> ux<y></y></y></y></y>	er PMA, this inclu	ude change in the
Proposed F	Response	Response Status W			Fioposed	nespoi Acro				
PROP	OSED REJECT.	, 170 5 4 0 4 de adu ara a'	"	ddlawaa am dalaa dha	Resolv	ve usin	g the resp	onse to comment # 80.		
136 RS	FEC symbols, a	and the subsequent line des	cribes mathe	matically that this (136	C/ 176	SC	176.6.1	P 214	L 53	# 539
symbol that "2	delay) is equival	ent to adding a delay of 2 c symbols per codeword / 8	odewords to t PCS lanes =	the odd lanes by showing 136 symbols" There is	Rechtman,	, Zvi		Nvidia		
little ro	om left for misinte	erpretation, since the delay	in symbols is	stated upfront.	Comment	Туре	TR	Comment Status D		DelayOddPCSLs (bucket)
					The cc The fu by 2 R can be The in multipl Same	ommen nctions S-FEC e mislea tention lex and apply 1	at refers to s of "Delay codeword ading, as i is to dela d demultipl to Figure 1	Figure 176û11. y odd PCSLs ds" on Tx path and "Delay they could be interpreted a y the odd (Tx) and even (R lex symbols from different 2 176û13	even PCSLs by 2 s a delay by 10,8 x) PCSLs by 68 2 RS-FEC CWs.	2 RS-FEC codewords" 380 symbols. symbols in order to get
					Suggested	Reme	dy			
					Modify to "Del RS-FE	the de lay odd C code	escription i d PCSLs b ewords" to	in the Tx path box from "De by 68 symbols" and in the F o "Delay even PCSLs by 68	elay odd PCSLs I x path box from s symbols"	by 2 RS-FEC codewords" "Delay even PCSLs by 2
					Proposed	Respo	nse	Response Status W		
					PROP Resolv	OSED /e usin	REJECT. g the resp	onse to comment #533.		

C/ 176	SC 176.9.1.2	2 P 242	L12	# 540	C/ 176A	SC 176A.1	0.4	P 566	L 54	# 542
Rechtman	, Zvi	Nvidia			Rechtman,	, Zvi		Nvidia		
Comment	Type TR	Comment Status D		Precoding	Comment	Type TR	Comment	Status D		ILT Diagrams (Bucket)
The te	ext currently refer	rs to xAUI-n C2C. However, th	ne adopted PMA	baseline proposal	The op	peration of pre	coding after the	completion of	the start-up prote	ocol is missing
stated æTx:r also e	I that the oPreco equired, Rx:optic ncompass xAUI-	ding capability in all physically onalÆö (per ran_3dj_01a_230 -n C2M.	/ instantiated int)3 slide 10). This	erfaces is specification should	Suggested Add th	Remedy e following tex	ct:			
Suggestee	dRemedy				"If the then th	LINK_READY	state is entered	with local_tp_	mode set to oPA	AM4 with precodingo,
Add x	AUI-n C2M				(see					ing lane with precoding
Proposed	Response	Response Status W			176.9.	1.2).				
PROF	POSED ACCEPT	IN PRINCIPLE.			then the precod	tink_READY ne PMA shall s ding (see 176.9	state is entered subsequently rec 9.1.2)"	eived data on	the correspondir	ng lane includes
C/ 176	SC 176.9.1.2	2 P 242	L23	# 541	Proposed	Response	Response S	Status W		
Rechtman	. Zvi	Nvidia			PROP	OSED ACCEF	PT IN PRINCIPL	E.		
Comment	, Туре Т	Comment Status D		Precodina	Implen	nent the follow	ving with editorial	license		
The p	aragraph refers of	only to the case of PMD contr	ol function opera	ation, need to refer to	mpion		ing min ballona			
Annex	176A for all ele	ctrical interfaces		,	After the	he first paragra	aph of 176A.10, a	add the follow	ing text:	
Suggested	dRemedy				entere	d with local to	mode set to "P	AM4 with prec	ate diagram (see	PMD or AUI shall cause
Repla	ce:				the adj	jacent PMA to	transmit all subs	sequent data d	on the correspon	ding lane with precoding
"If the	PMA is connect	ed to the service interface of	an xBASE-CRn	or xBASE-KRn PMD	(see 1	76.9.1.2).			· ······	DANA with one codine"
and tra recode	aining is enabled er tx out enable	by the management variable	e mr_training_en e i shall be set a	able (see 136.7), then	then th	he PMD or AU	state is entered is	adiacent PM	A that all subseq	uently received data on
PMD	control function i	n the LINK_READY state on I	ane i (see 136.8	.11.7.5 and Figure	the con	rresponding la	ne includes prec	oding (see 17	6.9.1.2).	,,
136ü7 impler). The method by mentation depen	y which the MD control function dent."	on affects these	variables is	C/ 177	SC 177.1.4	4	P 250	L 32	# 543
With					Rechtman,	, Zvi		Nvidia		
"If the	PMA support the	e Control function and start-u	protocol for ele	ectrical interfaces and	Comment	Туре Т	Comment	Status D		PAM4 decoding (bucket)
trainin	g is enabled by t	the management variable mr_	training_enable	(see Annex 176A),	The co	omment refers	to Figure 177û2	2.		
then p	orecoder_tx_out_ der rx in enable	enable_I and i shall be set as determined	by the control f	inction in the	There	is a footnote the	hat PAM4 decod	ing is optional	in case of soft c	decoding.
LINK_	_READY state or	a lane i (see 176A.10.4 and F	igure 176Aû6).	The method by which	FEC:IS	er, the DataPa	i.indication prim	ing bit streams	s, also the value of 0 or 1.1	therefore PAM4
the PI	MA control functi	on affects these		·	decodi	ing must to tak	ke place			
variab	les is implement	ation dependent"			Suggested	IRemedy				
Proposed	Response	Response Status W			Either	remove the fo	otnote, or elabor	ate on the inte	ention of this foot	tnote.
PROF	OSED ACCEPT	IN PRINCIPLE.			Proposed	Response	Response S	Status W		
10301					PROP	OSED ACCEF	PT IN PRINCIPL	E.		

Resolve using the response to comment # 83.

-											
C/ 177	SC	177.4.1	P 251	L 51	# 544	C/ 177	SC 177.4	.1	P 256	L 50	# 545
Rechtma	n, Zvi		Nvidia			Rechtman	, Zvi	N	vidia		
Commen	t Type	TR	Comment Status D		Cl (bucket)	Comment	Type TR	Comment Sta	ntus D		CI - Editorial (bucket)
The v matc The v 2003 4003 8003 1.6T Suggeste 4003 8003 1.6T Proposed PRO Reso	values of h the ad- values sh BASE-1 BASE-8 BASE-8 BASE-8 BASE-1 BASE-1 BASE-1 BASE-1 BASE-7 CARespor POSED	Q and the opted value nould be: R: Q = 192 R: Q = 96 R: Q = 48 : Q = 24 dy values to: R: Q = 192 R: Q = 96 R: Q = 48 : Q = 24 se ACCEPT IN g the respor	description of the Convoluti s in he_3dj_01_2307.pdf <i>Response Status</i> W I PRINCIPLE. Ise to comment #366.	onal interleaver	functionality doesnÆt	The de first de codew Seems Suggestea Modify "The c For 20 Symbo (line3) For 40 Symbo adds r For 80 Symbo adds r For 1.6 Symbo	escription in " elays the PHY ords and the s to represent <i>Remedy</i> to: onvolutional i 00GBASE-R t 00GBASE-R t 00GBASE-R t 00GBASE-R t 00GBASE-R th 00GBASE-R th 00GBASE-R th 00GBASE-R th 00GBASE-R th 00GBASE-R th 00GBASE-R th	The convolutional inf 's data by eight RS-F last adds no delay" t block interleave and interleaver is composi- he first line (line0) de id line (line1) by 4x13 he first line (line0) de id line (line1) by 4x13 he first line (line0) de id line (line1) by 4x13 e first line (line0) del id line (line1) by 4x13	terleaver is FEC codev d not convolution sed of 3 de elays the P x(192 = 768) elays the P x(48 = 192) ays the PH x(48 = 192)	s composed of 3 words, the secor olutional interlea elay lines. HYs data by 4x3 RS-FEC symbol HYs data by 4x2 RS-FEC symbol HYs data by 4x2 RS-FEC symbol	delay lines where the d by four RS-FEC we. 2x192 = 1,536 RS-FEC ols and the last line 2x96 = 768 RS-FEC is and the last line (line3) 2x48 = 384 RS-FEC is and the last line (line3) x24= 192 RS-FEC is and the last line (line3)
						adds r Proposed	io delay. Response	Response Sta	tus W		
						PROP	OSED ACCE	PT IN PRINCIPLE.			

Implement the suggest remedy with editorial license.

C/ 177	SC 177.4.1	P 256	L 53	# 546	CI 176A SC 176A.
Rechtman,	Zvi	Nvidia			Rechtman, Zvi
Comment	Туре Т	Comment Status D		CI - Editorial (bucket)	Comment Type TR
The inp of each definiti	out and output ro n lane. However, on.	ound-robin operation is define there are lines index that rep	d relatively to resent the del	the delay/buffering size ay and simplify the	In the case of multi- use the same PRB potential issue need
Suggested	Remedy				SuggestedRemedy
Chang	e:				Explicitly define that
"The ir FEC do the cor FEC sy	nput data round-r elay line, then th nvolutional interle ymbol-quartet fro	obins between the three dela e four RS-FEC delay line and eaver round-robins between the om each at a time beginning v and lostly the zero delay line"	y lines beginn lastly the zero he three delay vith the eight F	ing with the eight RS- o delay line. The output of lines receiving one RS- RS-FEC delay line, then	Proposed Response PROPOSED ACCE Resolve using the r
	5-1 C delay lifte,				CI 176A SC 176A.
To:	and data round i	rahing batwaan the three dala	u linee healan	ing with the line (then	Rechtman, Zvi
line1 d	elav line and las	tlv line2. The output of	y lines beginn	ing with the lineo, then	Comment Type T
the cor FEC s lastly	nvolutional interle ymbol-quartet (4 line2"	eaver round-robins between the symbols) from each at a time	ne three delay beginning wit	lines receiving one RS- th line0, then line1, and	The comment reference of the field in bit 14 - support of the newly
Proposed I	Response	Response Status W			SuggestedRemedy
PROP	OSED ACCEPT	IN PRINCIPLE.			Define the purpose
Implen	nent the suggest	remedy with editorial license	•		Proposed Response
C/ 177	SC 177.4.7.2	P 256	L12	# 547	PROPOSED ACCE
Rechtman,	Zvi	Nvidia			Implement the follo
Comment	Type TR	Comment Status D		precoding	Add new section af
The 12	8,120 Hamming	code is very sensitive to erro	r propagation	since it can correct up to	"176A.4.2 One
one er	ror in hard decod	ding and three errors in soft de	ecoding. Henc	e, precoding is required	segment control fur
Suggested	Remedy				eegeen een ee
Add pr	ecoding, and us	e the same definition of preco	oding similar to	0 176.9.1.2.	Note that comment
Proposed I	Response	Response Status W			"inter-sublayer link i
PROP Backgi editoria URL/b	OSED ACCEPT round and propo al presentation for rown_3dj_02_24	IN PRINCIPLE. sed changes are provided in t or CRG review. 06	the the "Preco	ding" slides in following	Address this comm

C/ 176A	SC	176A.2.3.3	P5	52	L 34	# 548
Rechtman,	Zvi		Nvidia	ı		
Comment 7	Гуре	TR	Comment Status	D		ILT Pattern
In the c use the potentia	ase of same al issue	multi-lane of PRBS31 in ended to be	operation, if all lane itial seed, there wil be addressed	es ex I be a	its the QUIET state an undesired crossta	simultaneously and alk effect. This
Suggestedl	Remea	ly				
Explicit	ly defir	ne that each	lane must use diff	eren	t initial seed.	
Proposed F PROPO Resolve	Respor DSED e using	ose ACCEPT IN g the respon	Response Status I PRINCIPLE. se to comment #3	W 58		
C/ 176A	SC	176A.4	P5:	55	L10	# 549
Rechtman,	Zvi		Nvidia	ı		
Comment 7	Гуре	т	Comment Status	D		ILT Frame (Bucket)
The co The fiel support	mment Id in bi t of the	t refers to Ta t 14 - "One" e newly adop	able 176Aû3ùStatu require some expl oted test patterns, t	s fiel anati he si	d structure. on. ItÆs unclear wh upport of multi-segm	ether it refers to the nent operation, or both.

of this bit

roposed Response	Response Status	W
	1.00000.000 0.0000	

EPT IN PRINCIPLE.

wing with editorial license. ter the Rceiver Ready section:

o 1 to signal the local receiver that the link partner supports the multinction."

t #196 proposes to change "multi-segment control function" to training", which may change the response text above.

nent have comment #196 is closed.

C/ 176A	SC 176A	.10.4	P 568	L 48	# 550	C/ 176A	SC	176A.10.4	P568	L 20	# 551
Rechtman,	, Zvi		Nvidia			Law, David			HPE		
Comment	Туре Т	Commen	t Status D		ILT Diagrams	Comment 7	Гуре	т	Comment Status)	ILT Diagrams (Bucket)
The co The RI in iden betwee	omment references of the second secon	rs to Figure 1764 tate coupled with nal performance OCAL/TRAIN_R	hû6ùInterface con n the absence of f cases. These ca EMOTE/SEGMEN	ntrol state diagram. timeouts, introduce lses may lead to re NT_READY state to	s a new challenge peated transitions o/from RECOVERY	There i state T Suggestedl	s a sp RAIN_ Reme	ourious '<' wi _REMOTE. dy	thing the transition co	ondition from the	state TRAIN_LOCAL to the
state ir A poss the nu	n scenarios of sible solution mber of trar	of alternating location is to limit the nutricities to limit the nutricitions to the RE	al_tf_lock. mber of RECOVE COVERY state.	ERY events by cou	nting and limiting	Sugges Proposed F PROP(st that R <i>espol</i> DSED	'local_tf_loc nse ACCEPT.	k<* local_rx_ready' s Response Status	hould read 'local <u></u> V	_tf_lock * local_rx_ready'.
Suggested	iRemeay				ta a a da Cara da a						
control	a new coun I state diagra	ter: orecovery_e am transitions int	o the RECOVER	s counter increment Y state.	ts each time the	C/ 176A Law, David	SC	176A.10.4	Р 568 НРЕ	L 20	# 552
Effects The ôr Upon e	s on the state ecovery_eve entering the	e diagram: ent_countö shoul RECOVERY sta	d be initialized to te, the ôrecovery_	0 in the ôSEND_T _event_countö sho	RAININGö state. uld be incremented	Comment 7 There s	<i>Type</i> should Romo	T I be an unde	Comment Status erscore between the t) imer name and 'd	ILT Diagrams (Bucket) lone'.
by 1. State o The tra as follo Chang	diagram tran ansition conc ows: je ôrecovery	sition change: lition from the RI _timer doneö to o	ECOVERY state t	to the FAIL state ne	eeds to be modified ent_count > Xö,	Suggesteal Sugges Proposed F PROPC	Reme st that Respo DSED	ay 'recovery_ti nse ACCEPT.	mer done' should be Response Status	changed to read V	'recovery_timer_done'.
where	X is 5 (or to	be determined).				C/ 176A	SC	176A.10.1	P 56 2	L 53	# 553
Proposed I	Response	Response	e Status W			Law, David			HPE		
PROP	OSED ACCI	EPT IN PRINCIP	LE.			Comment 7	Гуре	т	Comment Status)	ILT Diagrams (Bucket)
Implen	nent the follo	owing with editori	al license.			Subcla diagran	use 17 ns foll on of t	76A.10.1 'St ows the con timers.	ate diagram conventi ventions of 21.5.', ho	ons' says that 'Th wever subclause	ne notation used in the state 21.5 does not address the
"recove	ery event c	ount. This counter	er increments eac	ch time the control	state diagram (see	Suggested	Reme	dv			
Figure	176A-6) trai	nsitions into the l	RECOVERY state	9."		Sugges as the	st that	the text 'All econd sente	timers operate in the	manner describe	ed in 14.2.3.2.' be inserted ause 176A.10.1.
Initializ	ze "recovery	event count" to	0 in the "SEND	TRAINING" state.		Proposed F	Respo	nse	Response Status	v	
In the	RECOVERY the transition	state increment n condition from timer done"	the "recovery_ev the RECOVERY	vent_count" by 1. state to the FAIL s	tate as follows…	PROPO Implem Insert t	OSED nent th he tex	ACCEPT IN the following the form clause	N PRINCIPLE. with editorial license. a 136.8.11.7.5: "State	diagram timers f	ollow the conventions of

C/ 176A	SC 176A.9.2	P562	L 22	# 554
Law, David	I	HPE		
Comment	Туре Т	Comment Status D		ILT (Bucket)
The ar 'CDR' I	row pointing to the	e Interface A 'Driver' block a to be pointing in the wrong o	and arrow point-i direction.	ng from the Interface B
Suggested	Remedy			
Revers	se the direction of	both arrows.		
Proposed I	Response	Response Status W		
PROP	OSED ACCEPT.			
C/ 176A	SC 176A.9.2	P 562	L14	# 555
Law, David	l	HPE		
Comment	Туре т	Comment Status D		ILT (Bucket)
value, tx_moo tx_moo	with the multiplex de = data. Subcla de, training, local_	or select set to 0 when tx_n use 176A.10.2.1 'Variables' pattern and data. Figure 17	node = training a , however, defin 76Aû5, therefore	ind set to 1 when es three values for , does not define the
multipl	exor select value	for when tx_mode = local_p	battern.	
multipl Suggested	exor select value Remedy	for when tx_mode = local_p	battern.	
multipl Suggested Update each ir	exor select value <i>Remedy</i> e the figure to reflenterface.	for when tx_mode = local_p ect the third value of tx_mod	battern. de and the local	pattern generator for
multipl Suggested Update each ir Proposed I	exor select value Remedy the figure to reflenterface. Response	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W	battern. de and the local	pattern generator for
multipl Suggested Update each ir Proposed I PROP Implen Add th	exor select value Remedy e the figure to reflect therface. Response OSED ACCEPT I ment the following e local pattern or	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. bion to the data selector	battern. de and the local	pattern generator for
multipl Suggested Update each ir Proposed I PROP Implen Add th Add a	exor select value Remedy the figure to reflect therface. Response OSED ACCEPT I nent the following e local_pattern op Local pattern box	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. otion to the data selector. as an input to the data select	battern. de and the local	pattern generator for
multipl Suggested Update each ir Proposed I PROPu Implen Add th Add a CI 176A	exor select value Remedy the figure to reflect the figure to reflect Response OSED ACCEPT I nent the following e local_pattern op Local pattern box SC 176A.10.4	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. otion to the data selector. as an input to the data selector. <i>P</i> 569	battern. de and the local ector.	pattern generator for
multipl Suggested Update each ir Proposed I PROPU Implen Add th Add a Cl 176A Law, David	exor select value Remedy the figure to reflected Response OSED ACCEPT I nent the following e local_pattern op Local pattern box SC 176A.10.4	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. otion to the data selector. as an input to the data selector. <i>P</i> 569 HPE	battern. de and the local ector. L 17	pattern generator for # 556
multipl Suggested Update each ir Proposed I PROPU Implen Add th Add a Cl 176A Law, David Comment	exor select value Remedy e the figure to reflect therface. Response OSED ACCEPT I nent the following e local_pattern op Local pattern box SC 176A.10.4	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. bion to the data selector. as an input to the data selector. <i>P</i> 569 HPE <i>Comment Status</i> D	battern. de and the local ector. <i>L</i> 17	pattern generator for # <u>556</u> ILT Diagrams (Bucket)
multipl Suggested Update each ir Proposed I PROPU Implen Add th Add a C/ 176A Law, David Comment ⁻ The W mr_tra mr_tra	exor select value Remedy the the figure to reflect therface. Response OSED ACCEPT I ment the following the local_pattern op Local pattern box SC 176A.10.4 Type T AIT_ADJACENT ining_enabled, hot ining_enable, not	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. bition to the data selector. as an input to the data selector. as an input to the data selector. P569 HPE <i>Comment Status</i> D to SWITCH_CLOCK transit wever subclause 176A.10.2 mr_training_enabled.	battern. de and the local ector. <i>L</i> 17 tion condition us 2.1 'Variables' de	pattern generator for # <u>556</u> <i>ILT Diagrams (Bucket)</i> es the variable efines the variable
multipl Suggested Update each ir Proposed I PROPU Implen Add th Add a CI 176A Law, David Comment ⁷ The W mr_tra Suggested	exor select value Remedy the figure to reflect Response OSED ACCEPT I ment the following e local_pattern op Local pattern box SC 176A.10.4 Type T AIT_ADJACENT ining_enabled, hot Remedy	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. otion to the data selector. as an input to the data selector. as an input to the data selector. P569 HPE <i>Comment Status</i> D to SWITCH_CLOCK transit owever subclause 176A.10.2 mr_training_enabled.	ector. L 17 Lon condition us 2.1 'Variables' de	pattern generator for # <u>556</u> <i>ILT Diagrams (Bucket)</i> es the variable efines the variable
multipl Suggested Update each ir Proposed I PROPUIMPIEN Add th Add a CI 176A Law, David Comment T The W mr_tra mr_tra Suggested Chang (!mr_tr	exor select value Remedy the the figure to reflect the face. Response OSED ACCEPT I ment the following the local_pattern op Local pattern box SC 176A.10.4 I Type T AIT_ADJACENT ining_enabled, hot ining_enabled, not Remedy the transition co aning_enable + state aning_enable + state aning_e	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. otion to the data selector. as an input to the data selector. P569 HPE <i>Comment Status</i> D to SWITCH_CLOCK transit wever subclause 176A.10.2 mr_training_enabled.	battern. de and the local ector. L 17 dion condition us 2.1 'Variables' de pled + segment_	pattern generator for # 556 <i>ILT Diagrams (Bucket)</i> es the variable efines the variable ready) *' to read '
multipl Suggested Update each ir Proposed I PROPO Implen Add th Add a C/ 176A Law, David Comment The W mr_tra Suggested Chang (!mr_tr Proposed I	exor select value Remedy the the figure to reflect the the figure to reflect the the following e local_pattern op Local pattern box SC 176A.10.4 Type T AIT_ADJACENT ining_enabled, hot ining_enabled, not Remedy the the transition co caining_enable + s Response	for when tx_mode = local_p ect the third value of tx_mod <i>Response Status</i> W N PRINCIPLE. with editorial license. bition to the data selector. as an input to the data selector. as an input to the data selector. P569 HPE <i>Comment Status</i> D to SWITCH_CLOCK transit wever subclause 176A.10.2 mr_training_enabled. pndition ' (!mr_training_enabled. pndition ' (!mr_training_enabled.	battern. de and the local ector. <i>L</i> 17 de condition us 2.1 'Variables' de bled + segment_	pattern generator for # 556 <i>ILT Diagrams (Bucket)</i> es the variable efines the variable ready) *' to read '

Law, David HPE Comment Type E Comment Status D (ex Subclause 176A.10.1 'State diagram conventions' says that 'The notation used in the diagrams follows the conventions of 21.5.'. Subclause 21.5.3 'State transitions' says 'T following terms are valid transition qualifiers:' and item d) says 'An unconditional trans UCT'. As a result, it is not necessary to expand UCT on it's first use in Annex 176A. SuggestedRemedy Change the text 'UCT (unconditional transition)' to read 'UCT'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. C/ 184 SC 184.6.5 P463 L6 # 558 Law, David HPE Comment Type E Comment Status D (ex The variable 'alignment_status' used in the LOSS_OF_ALIGNMENT and ALIGNMENT_ACQUIRED states is misspelt. SuggestedRemedy Suggest that 'alignment_status' should read 'alignment_status'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. C/ 184 SC 184.6.5 P462 L9 # 559 Law, David HPE Comment Type T Comment Status D Diagrams (E The LOCK_INIT state in Figure 18409 'DSP lock state diagram' includes the action 'test_sym <= false', however the test_sym variable ian't defined in subclause 184.6.2 'Variables' and isn't used anywhere else in Figure 18409. á It seems that this should have been 'test_ps <= false' as the test_ps variable isn't initit during reset in the LOCK_INIT state but used to control the GET_SYMBOL to FIND_1 transition below. SuggestedRemedy Change 'test_sym <= false' to read 'test_ps <= false'. Proposed Response Response Response Status W PROPOSED ACCEPT	C/ 176A	SC	176A.10.4	P5	70	L 9	# 557
Comment Type E Comment Status D (ext Subclause 176A.10.1 'State diagram conventions' says that 'The notation used in the diagrams follows the conventions of 21.5.'. Subclause 21.5.3 'State transitions' says 'The orditional trans UCT'. As a result, it is not necessary to expand UCT on it's first use in Annex 176A. SuggestedRemedy Change the text 'UCT (unconditional transition)' to read 'UCT'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. (ext Cl 184 SC 184.6.5 P463 L6 # [558] Law, David HPE (ext The variable 'alignment_status' used in the LOSS_OF_ALIGNMENT and ALIGNMENT_ACQUIRED states is misspelt. (ext Suggest that 'alignment_status' should read 'alignment_status'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. (ext The variable 'alignment_status' should read 'alignment_status'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. Ext Diagrams (E Cl 184 SC 184.6.5 P462 L9 # [559] Law, David <t< td=""><td>Law, David</td><td></td><td></td><td>HPE</td><td></td><td></td><td></td></t<>	Law, David			HPE			
Subclause 176A.10.1 'State diagram conventions' says that 'The notation used in the diagrams follows the conventions of 21.5.'. Subclause 21.5.3 'State transitions' says 'The lock is a valid transition qualifiers' and item d) says 'An unconditional transu UCT'. As a result, it is not necessary to expand UCT on it's first use in Annex 176A. SuggestedRemedy Change the text 'UCT (unconditional transition)' to read 'UCT'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. C/ 184 SC 184.6.5 P463 L6 # 558 Law, David HPE Comment Type E Comment Status D (extended to the VCT'). Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. SuggestedRemedy Suggest that 'alignnment_status' used in the LOSS_OF_ALIGNMENT and ALIGNMENT_ACQUIRED states is misspelt. SuggestedRemedy Suggest that 'alignnment_status' should read 'alignment_status'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. C/ 184 SC 184.6.5 P462 L9 # 559 Law, David HPE Comment Type T Comment Status D Diagrams (E The LOCK_INIT state in Figure 184û9 'DSP lock state diagram' includes the action 'test_sym <= false', however the test_sym variable isn't defined in subclause 184.6.2 'Variables' and isn't used anywhere else in Figure 184û9. a' It seems that this should have been 'test_ps <= false' as the test_ps variable isn't initia during reset in the LOCK_INIT state but used to control the GET_SYMBOL to FIND_1 transition below. SuggestedRemedy Change 'test_sym <= false' to read 'test_ps <= false'. Proposed Response Response Status W PROPOSED ACCEPT	Comment T	уре	Е	Comment Status	D		(editorial)
SuggestedRemedy Change the text 'UCT (unconditional transition)' to read 'UCT'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. Implement with editorial license and discretion. CI 184 SC 184.6.5 P 463 L 6 # 558 Law, David HPE Implement with editorial license and discretion. Implement with editorial license and the LOSS_OF_ALIGNMENT and ALIGNMENT_ACQUIRED states is misspelt. Suggest that 'alignnment_status' used in the LOSS_OF_ALIGNMENT and ALIGNMENT_ACQUIRED states is misspelt. Suggest that 'alignnment_status' should read 'alignment_status'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. CI 184 SC 184.6.5 P 462 L 9 # 559 Law, David HPE Diagrams (E Comment Type T Comment Status D Diagrams (E The LOCK_INIT state in Figure 18409 'D Diagrams (E 'Variables' and isn't used anywhere else in Figure 18409. á It seems that this should have been 'test_ps <= false' as the test_ps variable isn't initia during reset in the LOCK_INIT state but used to control the GET_SYMBOL to FIND_1 tra	Subclau diagram followin UCT'. A	use 17 ns follo g term s a re	6A.10.1 'Sta ows the con is are valid sult, it is no	ate diagram conver- ventions of 21.5.'. transition qualifiers t necessary to expanded	ntior Subo ::' an and	s' says that 'The not clause 21.5.3 'State t d item d) says 'An ur UCT on it's first use i	ation used in the state ransitions' says 'The nconditional transition: n Annex 176A.
Change the text 'UCT (unconditional transition)' to read 'UCT'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. CI 184 SC 184.6.5 P463 L6 # 558 Law, David HPE Comment Type E Comment Status D (ecc The variable 'alignnment_status' used in the LOSS_OF_ALIGNMENT and ALIGNMENT_ACQUIRED states is misspelt. SuggestedRemedy Suggest that 'alignnment_status' should read 'alignment_status'. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. CI 184 SC 184.6.5 P462 L9 # 559 Law, David HPE Comment Type T Comment Status D Diagrams (E The LOCK_INIT state in Figure 184û9 'DSP lock state diagram' includes the action 'test_sym <= false', however the test_sym variable isn't defined in subclause 184.6.2 'Variables' and isn't used anywhere else in Figure 184û9. á It seems that this should have been 'test_ps <= false' as the test_ps variable isn't initia during reset in the LOCK_INIT state but used to control the GET_SYMBOL to FIND_1 transition below. SuggestedRemedy Change 'test_sym <= false' to read 'test_ps <= false'. Proposed Response Response Status W PROPOSED ACCEPT	SuggestedF	Remea	ly				
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The LOCK_INIT state in Figure 184û9 'DSP lock state diagram' includes the action 'test_sym <= false', however the test_sym variable isn't defined in subclause 184.6.2 'Variables' and isn't used anywhere else in Figure 184û9. á It seems that this should have been 'test_ps <= false' as the test_ps variable isn't initia during reset in the LOCK_INIT state but used to control the GET_SYMBOL to FIND_1 transition below. SuggestedRemedy Change 'test_sym <= false' to read 'test_ps <= false'. Proposed Response Response Status W PROPOSED ACCEPT	Comment T	уре	т	Comment Status	D		Diagrams (Bucket
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SuggestedRemedy Change 'test_sym <= false' to read 'test_ps <= false'.	It seem during r transitic	s that eset ir on belo	this should the LOCK	have been 'test_ps _INIT state but use	s <= ed to	false' as the test_ps control the GET_SY	variable isn't initialised MBOL to FIND_1ST
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Proposed Response Response Status W	Change	e 'test_	sym <= fals	se' to read 'test_ps	<= f	alse'.	
	Proposed R PROPC	Resport DSED	ose ACCEPT.	Response Status	w		

C/ 184	SC 184.6.5	P 462	L 22	# 560	C/ 176A	SC 176	A.2.2	P 549	L 9	# 561
Law, David	I	HPE			Law, David			HPE		
Comment	Туре т	Comment Status D		Diagrams	Comment	Туре Т		Comment Status D		ILT Frame
N (the polariz symbo frame	number of conse ation stream req Is that don't mat lock) used in Fig	ecutive PS symbols matching quired to enter frame lock), an ch the expected value for a gi gure 18409 'DSP lock state dia	the expected van d M (the number iven polarization agram' aren't de	alue for a given r of consecutive PS stream required to exit fined in subclause	Subcla with th shows compr	use 176A. e structure the contro sed of 16	2.2 'Co defined I field co cells that	ntrol and status fields' says d in 176A.3.', yet figure 176 omprising of 16 cells. It, the at convey 16 bits.	that 'The cont Aû1 'Training f refore, appear	rol field comprises 16 bits frame structure' above s that the field is
184.6 á	Inner FEC state	diagrams or its subclauses.			Suggested	Remedy				
Sugge 'DSP fi M are	st that these valu rame synchroniz TBD.), with a po	ues should be defined in one cation and pilot removal' which inter to this subclause elsewh	place (I assume includes the te ere.	in subclause 184.5.4 xt 'The values of N and	[1] Cha which cells w	ange the fin convey 16 hich conve	st para bits wit y 16 bi	graph of 176A.2.2 to read ' h the structure defined in 17 ts with the structure defined	The control fiel 76A.3. The sta 1 in 176A.4.	d is comprised of 16 cells tus is comprised of 16
Suggested [1] Inse subcla	<i>Remedy</i> ert a new subcla use.	use 184.6.5 'Constants' as fo	llows, renumber	ing the following	[2] Cha field, th respec	ange the la ne order of tively.'.	st sente transm	ence of the penultimate par ission is from bit 15 to bit 0	agraph of 176/ , conveyed by	A.2.2 to read 'Within each cell 15 to cell 0
á 18464	5 Constants				Proposed	Response		Response Status W		
то <u>4.</u> 0 М	5 Constants				PROP	OSED RE.	JECT.			
The nu polariz N	umber of consec ation stream req	utive PS symbols that fail to r quired to exit frame lock (see	natch the expec 184.5.4).	ted value for a given	The ce	I concept al to the te	is desc xt in 13	ribed in detail in the followir 6.8.11.1.2.	ig paragraph. I	Note that the text is
The nu polariz	umber of consec ation stream req	utive PS symbols matching th quired to enter frame lock (see	ne expected value 184.5.4).	e for a given	Text is	correct as	written	, proposed remedy does no	t improve the	clarity of the draft.
a {2] In s ' to re	subclause 184.6. ead 'It is set to tr	.2 'Variables', change the text rue when M PS symbols' in	'It is set to true the variable 're	when TBD PS symbols start_lock' description.	C/ 176A	SC 176	A.2.2	P 549	L 25	# 562
Proposed I	Response	Response Status W			Commont			Commont Status D		II T Eromo
PROP In the t Add su	OSED ACCEPT first paragraph o lbclause: "184.6	f clause 184.5.4 remove: "The 5 Constants	e values of N ar	d M are TBD."	Subcla contro is requ	iuse 176A. field or the irement, s	2.2 say e status uggest i	s ' if a violation of the DM field, the contents of both it should be stated using a '	E encoding rul fields in that fra shall' stateme	les is detected within the ame are ignored.'. If this nt.
The nu	umber of consec	utive PS symbols that fail to r	natch the expec	ted value for a given	Suggested	Remedy				
polariz N	ation stream req	quired to exit frame lock (see	184.5.4).		Chang both fi	e ' the co elds in that	ontents frame	of both fields in that frame a shall be ignored.'.	are ignored.' to	o read ' the contents of
The nu	Imber of consec	utive PS symbols matching th	e expected valu	e for a given	Proposed	Response		Response Status W		
Assum	ning comment #3	307 is accepted, add values of	f M and N.		PROP	OSED RE.	JECT.			
In subo when T	clause 184.6.2 '\ FBD PS symbols	/ariables', change the text for s" to: "It is set to true when	"restart_lock" fr M PS symbols	om: "It is set to true "	Note th	nat this tex	t is ider	tical to the text in 136.8.11	1.2.	
					Text is	correct as	written	, proposed remedy does no	t improve the	clarity of the draft.

		-				
CI 176A SC 176A.2.1 P547 L3	# 563	C/ 176A	SC 176A.6.4	P 558	L 21	# 565
_aw, David HPE		Law, David		HPE		
Comment Type T Comment Status D	ILT PICS (Bucket)	Comment Ty	pe E	Comment Status D		(ed
 The first 'shall' statement in Annex 176A (normative) 'Control funct for electrical interfaces' is in 176A.2.3.1 'PRBS13 function'. It seen should be 'shall' statements in relation to the entire Training frame <i>SuggestedRemedy</i> [1] In subclause 176A.2.1, change 'The training frame marker is a training frame marker shall be a run'. [2] In subclause 176A.2.2, change 'The control field comprises' field shall be comprised of'. [3] In subclause 176A.2.2, change 'The status field comprises' t shall be comprised of'. [4] In subclause 176A.2.3, change 'The training pattern is the resu 	tion and start-up protocol ns, however, that there structure. run' to read 'The to read ' The control o read ' The status field It of a' to read 'The	176A.6.4 however, coefficier 176A.10, AT LIMIT SuggestedRe The form 176A.6.4 Proposed Re PROPOS	says that 'Th 176A.10.3.1 ht at limit and 3.1 uses all u AND EQUAL emedy atting of the v should match esponse SED ACCEPT	e variables coef_req, coef_s Variables' uses all lowercas equalization limit) and coef_ opercase for the coef_sts va IZATION LIMIT) and coef_r ariable values defined in 170 <i>Response Status</i> W IN PRINCIPLE.	ets, and k are defi e for the coef_sts req (e.g, decreme alues (e.g., UPDA eq (e.g., DECRE 6A.10.3.1 'Variab	ned in 176A.10.3.1 s values (e.g., upda ent, increment) who TED, COEFFICIE! MENT, INCREMEN les' and used in
training pattern shall be the result of a'.		Impleme	nt with editoria	al license and discretion.		
PROPOSED ACCEPT IN PRINCIPLE. Implement suggeted remedy with editorial license.						
C/ 176A SC 176A.4.8 P556 L37	# 564					
.aw, David HPE						
Comment Type T Comment Status D	ILT Frame (Bucket)					
176A.4.8 'Coefficient status' says that 'The acknowledge reflects the resulting from the procedure described in 176A.6.3.'. I don't see a coef_sts in 176A.6.3, but there is one in 176A.6.4. With that said, it this procedure that sets coef_sts? On review of Figure 176Aû9 'Coediagram', I see it directly sets coef_sts to 'not_upd' in the OUT_OF indirectly sets coef_sts using the procedure described in 176A.6.4 UPDATE_C(k) function in the NEW_REQUEST state. This seems first paragraph of 176A.6.4 which says 'The handling of incoming r the coefficient update state diagram (Figure 176Aû9). The behavic function shall be consistent with the following algorithm.'.	he value of coef_sts procedure that sets is it correct that it is just pefficient update state F_SYNC state and through calls to the to be confirmed by the requests is specified by or of the UPDATE_C(k)					
SugaestedRemedy						
Change 'The colongulades reflects the value of coof, etc resulting	from the procedure					

variable generated by the coefficient update state diagram (Figure 176Aû9).'. Proposed Response Response Status W PROPOSED ACCEPT.

described in 176A.6.3.' to read 'The coefficient status bits reflect the value of coef_sts

Comment ID 565

C/ 176A	SC 176A.10.2.1	P 563	L 44	# 566	C/ 176A	SC 176A.1	0.2.1	P 563	L 44	# 567
Law, David		HPE			Law, David			HPE		
Comment T	Туре Т	Comment Status D		ILT Diagrams (Bucket)	Comment 7	⁻ уре т	Commer	nt Status D		ILT Diagrams (Bucket)
The las is disat	st sentence of the pled.'. Is this corre	tx_disable variable descr ct, the first sentence says	iption says that the that the that the transformed by the termination of term	he ' output on the lane ' controls the	Sugges added	a description to the variable	n of what happ description.	pens when the tx	_disable variable	eáis set to false is
transm 'Por int	itter's output on the	e interface.' and tx_disab	le is defined und	er subclause 176A.10.2	Suggestedl	Remedy				
change the sec	ed to 'interface', or gment_ready varial	use 'all lanes of the inter ble description immediate	face' in the varial ely above.	ble description to reflect	[1] Add interfac	'When it is fa e.' or 'When it	lse, tx_mode o t is false, tx_m	controls the cont ode controls the	ent of the transmerce content of the transmerce	nitter's output on the ansmitter's output on
Suggested	Remedy				the tx_	disable variab	le description.	ig on the respon	se to my other c	omment, to the end of
á Either á	á Éither á			[2] Change the text ' of the interface.' in the first sentence of the tx_mode variable description to read ' of the interface when tx_disable is false.'.				_mode variable		
[a] Cha	ange the text ' ou	tput on the lane is disabl	ed.' in the last se	ntence of the tx_disable	Proposed F	Response	Response	e Status W		
á	e description to rea		ace is disabled		PROPOSED ACCEPT IN PRINCIPLE.					
or á					Implem	ent the follow	ing with editori	ial license.		
[b] Change [1] the text ' the transmitter's output on the interface.' in the first sentence of both the tx_disable and tx_mode variable descriptions to read ' the transmitter output on all lanes of the interface.'; and [2] the text ' output on the lane is disabled.' in the last sentence of the tx_disable variable description to read ' output on all lanes of the			Add the following sentence at the end of the tx_disable definition: "When it is false, tx_mode controls the content of the transmitter's output on the lane."							
interfac	ce is disabled.'.				from: "I	Enumerated v	ariable that co	ntrols the conter	nt of the transmit	ter's output of the
Proposed F	Response	Response Status W			interfac	e."			5 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
PROPO	USED ACCEPT IN	I PRINCIPLE.			to: "Eni when to	umerated variated variated variated variated variated ware of the content of the	able that contr lse."	ols the content of	of the transmitter	's output of the lane
tx_disa	ible is a per lane v	ariable.								
Implem	ent the following y	with editorial license			C/ 176A	SC 176A.6	.4	P 558	L 46	# 568
Move t	he definition of tx_	disable to 176A.10.3.			Law, David			HPE		
Change	ange the first sentence of the definition			Comment Type E Comment Status D (editorial						
from: "Boolean variable that controls the transmitter's output on the interface." to: "Boolean variable that controls the transmitter's output on the lane."			Change 'COEFI	e 'coef_sts = 0 FICIENT AT L	COEFFICENT IMIT'	AT LIMIT' (COE	FFICIENT miss	pelt) to read		
				Suggestedl	Remedy					
					See co	mment.				

Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.

Implement with editorial license and discretion.

C/ 176A	SC 176A.10.3	B.3 P56	6 L21	#	569
Law, David		HPE			
Comment Ty	pe T	Comment Status	D		ILT Diagrams

176A.10.3.3 'Timers' is a subclause of 176A.10.3 'Per-lane variables, functions, timers and counters', yet the three times listed, quiet_timer, propagation_timer and recovery_timer are all used by the interface control state diagram. 176A.10.2 'Per-interface variables, functions and timers' says 'A device implements one instance of each of the interface control state diagrams, and the set of associated variables, functions, counters and timers defined in this subclause, independently for each of its interface(see 176A.9).' As a result, it seems these timers should be moved to 176A.10.2.3 'Timers' and the descriptions should be updated to reflect that they operate on a per-interface basis.

SuggestedRemedy

[1] Move the quiet_timer, propagation_timer and recovery_timer definitions to 176A.10.2.3 'Timers' and delete 176A.10.3.3 'Timers'.

[2] Change the text '... the interface control state diagram on a lane enters the ...' in the description of quiet_timer, propagation_timer and recovery_timer to read '... the interface control state diagram on an interface enters the ...'.

Proposed R	esponse	Response Status	w		
PROPO Resolve	SED REJECT. using the respo	nse to comment #5	72		
C/ 176A	SC 176A.10.4	P5	66	L 52	
Law. David		HPE			

Comment Type	т	Comment Status	D

ILT Diagrams

570

176A.10.2 'Per-interface variables, functions and timers' says 'A device implements one instance of each of the interface control state diagrams independently for each of its interfaces (see 176A.9).' and 176A.10.4 'State diagrams' says 'The interface control state diagram (Figure 176Aû6) defines the operation of the startup protocol for AUIs and PMDs'. 176A.10.4 'State diagrams', however, goes on to say, 'The interface control, frame lock and coefficient update state diagrams shall be implemented for each lane.'. This doesn't seem to be in alignment with the prior text and doesn't seem to be correct.

SuggestedRemedy

Change the last paragraph of 176A.10.4 to read 'The interface control and RTS update state diagrams shall be implemented for each interface of a device. The frame lock and coefficient update state diagrams shall be implemented for each lane of each interface of a device.'.

Proposed Response Response Status W

PROPOSED REJECT.

Resolve using the response to comment #572.

C/ 176A	SC 176A.10.3	P56	54 L'	16 #	571
Law, David		HPE			
Comment Ty	pe T	Comment Status	D		ILT Diagrams

176A.10.3 'Per-lane variables, functions, timers and counters' says 'The device implements one instance of each of the interface control state diagrams, and the set of associated ... for each of the n physical lanes on each of its interfaces (see 176A.9)'. I don't think this is correct as I believe that the interface control state diagram is one for each interface of a device (see 176A.10.2), and it is the frame lock and coefficient update state diagrams that are one for each lane of each interface of a device.

SuggestedRemedy

Change "The device implements one instance of each of the interface control state diagrams ...' to read 'The device implements one instance of each of the frame lock and coefficient update state diagrams ...'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The Interface control state diagram in Figure 176A-6 is implemented per lane, only the RTS update state diagram in Figure 176A-7 is implemented per interface.

Implement the following with editorial license.

Change the first sentence of 176A.10.2...

from: "A device implements one instance of each of the interface control state diagrams" to: "A device implements one instance of the RTS update state diagram"

C/ 176A	SC 176A.10.3.	1 P56	65	L 5	#	572
Law, David		HPE				
Comment Typ	pe T	Comment Status	D			ILT Diagrams

The variables local_tf_lock, remote_tf_lock, local_rx_ready and remote_rx_ready are all defined in 176A.10.3 'Per-lane variables, functions, timers and counters' and are related to a lane, yet they are used by figure 176A-6 'Interface control state diagram'. 176A.10.2 'Per-interface variables, functions and timers' says 'A device implements one instance of each of the interface control state diagrams independently for each of its interfaces (see 176A.9).'.

SuggestedRemedy

Perhaps figure 176A-6 'Interface control state diagram' should use a 'interface' version of each of these variables that are a logical AND of the respective lane variable in the case of a multi-lane interface.

Proposed Response Response Status W

PROPOSED REJECT.

Resolve using the responses to comments #566, #567 and #571.

Comment ID 572

C/ 176A	SC 176A.10.	3.1 P 565	L 7	# 573
Law, David		HPE		
Comment Typ	pe T	Comment Status D		ILT Diagrams (Bucket)

The description of the local_tf_lock variable in 176A.10.3.1 says that 'The value of this variable is encoded as the "training lock" bit in the status field of transmitted training frames.', however, there isn't a "training lock" bit defined for the training frames. Since 176A.4.3 'Receiver frame lock' says 'Receiver frame lock ... is not set to 1 until training and local_tf_lock are both true.' it seems that local_tf_lock is encoded in the 'Receiver frame lock' bit.

SuggestedRemedy

Change the text '... is encoded as the "training lock" bit ...' in the local_tf_lock variable description to read '.... is encoded in the "Receiver frame lock" bit ...'.

Proposed Response	Response Status	w
· · · · · · · · · · · · · · · · · · ·		

PROPOSED ACCEPT.

C/ 176A	SC 176A.4.3	P 556	L 4	# 574
Law, David		HPE		
Comment Ty	pe T	Comment Status D		ILT Frame (Bucket)

176A.4.3 'Receiver frame lock' says that 'When the receiver frame lock bit is set to 1, the receiver is indicating that it has identified training frame marker positions and is in a state where the response time requirements specified in 176A.10 are met.'. It then goes on to say 'Receiver frame lock ... is not set to 1 until training and local_tf_lock are both true.'. á

176A.10 is 'Variables, functions, timers, counters, and state diagrams', so I wonder if the reference should be to 176A.8 'Handshake timing'? In addition, I don't believe the variables training and local_tf_lock are conditioned on the response time requirements specified in 176A.10 being met, at least I didn't see it in their descriptions.

SuggestedRemedy

In 176A.4.3 change the text '... response time requirements specified in 176A.10 are met.' to read '... response time requirements specified in 176A.8 are met.' and the text '... and is not set to 1 until training and local_tf_lock are both true.' To read '... and is not set to 1 until training and local_tf_lock are both true and the response time requirements specified in 176A.10 can be met.'

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. Change: "... response time requirements specified in 176A.10 are met." To: "... response time requirements specified in 176A.8 are met." Change: "... and is not set to 1 until training and local_tf_lock are both true." To: "... and is not set to 1 until training and local_tf_lock are both true and the response time requirements specified in 176A.8 can be met."

C/ 176A	SC 176A.10.4	P57	71 L9	#	575
Law, David		HPE			
Comment Ty	be T	Comment Status	D		ILT Diagrams

The UPDATE_IC function is called in the OUT_OF_SYNC state of the Figure 176Aû9 Coefficient update state diagram. The UPDATE_IC function uses the ic_req variable to set the coefficients (see 176A.6.2), and the ic_req variable is derived from the 'initial condition request' bits from the control field of the received training frames (see 176A.10.3.1).

Since, however, the OUT_OF_SYNC state is entered during reset (reset or mr_restart set true), it would seem unlikely that training frames are being received. If that is the case, it isn't clear what the value of the ic_req variable is, and therefore what the coefficients should be set to.

á

176A.6.2 says that 'The transmitter equalizer is set to preset 1 upon entry to the QUIET state of the interface control state diagram.'. Since the QUIET state of the Interface control state diagram is also entered during reset, it seems the coefficients should be set to preset 1 when the Coefficient update state diagram is in the OUT_OF_SYNC state.

SuggestedRemedy

[1] Delete the first sentence of the ic_req definition in 176A.10.3.1.

[2] Add the text 'If the Coefficient update state diagram is in the OUT_OF_SYNC state ic_req is set to preset 1. Otherwise, it is derived from the "initial condition request" bit of the control field of received training frames on the correspondent lane of the interface.' to the end of the ic_req definition in 176A.10.3.1.

Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.

Implement the following with editorial license.

The editorial team prepared a proposal in the comment resolution slide deck URL/brown_3dj_02_2406. For CRG discussion.

C/ 176A	SC 176A.4.8	P556	L 37	# 576
Law, David		HPE		
Comment Typ	pe T	Comment Status)	ILT Frame (Bucket)

176A.4.8 'Coefficient status' says 'The acknowledge reflects the value of coef_sts resulting from the procedure described in 176A.6.3.'. While it is correct that the coef_sts variable is updated by the UPDATE_C(k) function in 176A.6.3, I believe the OUT_OF_SYNC, NEW_INDEX, and WAIT states of the Coefficient update state diagram also update the coef_sts variable. Further, 176A.10.3.2 says that the ENCODE_STS function 'Encodes portions of the status field of transmitted training frames.' and that '... coef_sts is mapped to the coefficient status bits ...'.

SuggestedRemedy

Since calls of the UPDATE_C(k) function and direct updates of the coef_sts variable all occur in the Coefficient update state diagram, suggest that 'The acknowledge reflects the value of coef_sts resulting from the procedure described in 176A.6.3.' in 176A.4.8 should be changed to just read 'The acknowledge reflects the value of coef_sts generated by the Coefficient update state diagram '.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

This comment appears to address the same concern expressed in comment #564. Resolve using the response to comment #564.

C/ 176A	SC 176A.1	P 548	L12	# 577
Law, David		HPE		
Comment Tv	pe TR	Comment Status D		ll T General

Type TR Comment Status D ILT General

The use of the terms 'segment' and 'link' in Annexe 176A, for example in 176A.1 where it says, 'in single-segment or multiple-segment links', are problematic.

IEEE Std 802.3 subclause 1.4.505 'segment' defines it as 'The medium connection, including connectors, between Medium Dependent Interfaces (MDIs) in a CSMA/CD local area network.'. Subclause 1.4.372 'link' defines it as 'The transmission path between any two interfaces of generic cabling. (From ISO/IEC 11801.)'.

As a result, I believe it would only be correct to call an electrical channel between two PMD sublayers a 'segment'. I do not believe that the electrical achannel between any other combinations of sublayers is a 'segment'.

SuggestedRemedy

I would suggest 'section' as an alternate to 'segment', but that was used for 'The portion of the link between the PSE Power Interface (PI) and the PD PI.' (see 1.4.378) when PoE had a similar definition problem. Alternatives, therefore, might be 'Division' and 'Sector'.

As another approach, the following is a rewording of 176A.1 to avoid the use of the terms 'segment' and 'link' without the use of a new term. I acknowledge, however, that such an approach would require a significant rewrite of the Annexxe.

The start-up protocol facilitates timing recovery and equalization of the electrical channel between adjacent sublayers, or chains of multiple adjacent sublayers while providing a mechanism through which the receiver can configure the transmitter to optimize performance. The protocol supports these functions through the continuous exchange of fixed-length training frames across the electrical channel between adjacent sublayers and the transport of end-to-end indications across chains of multiple adjacent sublayers.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The following contribution was reviewed by the 802.3dj Task Force during the May 2024 Interim meeting https://www.ieee802.org/3/dj/public/24_05/law_3dj_01_2405.pdf Implement the following with editorial license. Replace "segment" with "section" and "link" with "path"

C/ 185	SC 1	185.5.1	P 477	L12	# 578	C/ 185	SC 185.5.2	. P4
Kota, Kish	ore		Marvell Semi	conductor		Kota, Kish	nore	Marv
Comment	Туре	TR	Comment Status D		(withdrawn)	Comment	Type TR	Comment Status
Minim has be other	um trans een defir coherent	smit powe ned in the t physical	r specification has a big imp initial proposals as a specif layer specifications defined	bact on coherent ication on the av for DWDM syste	module designs. This erage power following ms. However, there is	Avera be tie other	ige receiver pou d to an appropr IMDD clauses	ver (min) and the per-l iate transmit quality m
opport transn	tunity for	a 800GB.	ASE-LR1 PMD to change the second se	nis in a way whic	h can relax module	Suggestee	dRemedy	
Suggested Define See h initial	dRemedy the mir ttps://gro proposal	/ himum trar puper.ieee I based on	nsmit power specification to .org/groups/802/3/dj/public/ this concept. Defining the	be defined per l 23_11/kota_3dj_ power per lane p	ane instead of average. 01a_2311.pdf for an rovides an opportunity	See h https:/ propo quality to sim	attps://grouper.ie //grouper.ieee.or sals on how to y metric. This p aplify designs in	eee.org/groups/802/3/d org/groups/802/3/dj/pul tie the RX sensitivity a rovides flexibility to all ways which can bene
to rela	ix lane m	nismatch s	pecs.			Proposed	Response	Response Status
Proposed	Respon	se	Response Status Z			PROF	POSED REJEC	т.
PROF	OSED F	REJECT.				This c	comment was V	VITHDRAWN by the c
This c	omment	was WITI	HDRAWN by the commenter	er.			SC 0	
C/ 185	SC 1	85.5.1	P 477	L15	# 579		SC U	Pl
Kota, Kish	ore		Marvell Semi	conductor		Brown, Ma	att	Alpha
Comment	Type	TR	Comment Status D		(withdrawn)	Comment	Type I	Comment Status
The d Howe can re	raft conta ver, there lax mod	ains separ e is an opp ule transm	rate specifications of X-Y po portunity for a 800GBASE-L nit specifications	ower imbalances R1 PMD to char	and I-Q imbalance. age this in a way which	Given that w getting	that the PMA r have switche g more complic	nultiplexing methods v d to a different PMA n ated.
Suggested	dRemedy	y				Suggestee	dRemedy	

For each PHY new 200 Gb/s per lane or higher PHY type, include only one or two previous generations of AUI. Specifically, the new PHY types defined in 802.3dj indication only 100 Gb/s per lane and 200 Gb/s per lane AUIs as being optional within a PHY. Perhaps, also include 50 Gb/s per lane AUIs as well.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

For the new 200GBASE-R and 400GBASE-R PMDs defined in 802.3dj, only specify support only 50 Gb/s, 100 Gb/s, and 200 Gb/s per lane AUIs. Pending CRG discussion.

Proposed Response

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

C/ 185	SC 185.5.2	P 478	L15	# 580
Kota, Kisho	re	Marvell Semico	onductor	
Comment T	ype TR	Comment Status D		(withdrawn)

ane transmit power (min) specifications should etric similar to the TDECQ specifications in

dj/public/24_01/kota_3dj_01a_2401.pdf and blic/23 11/kota 3dj 01a 2311.pdf for initial nd TX power specifications with a transmit ow module designers to explore design tradeoffs fit end users.

z

ommenter.

C/ 00 SC 0	P 0	LO	# 581
Brown, Matt	Alphawave Ser	ni	
Comment Type T	Comment Status D		AUI Generations

defined AUI for each new PHY type defined.

vere consistent this was simple to support. Now nuttiplexing method (RS-FEC symbol) things are

Having a separate X-Y and I-Q imbalance specification splits the imbalance power budget and results in a tighter specification than necessary. These specifications should be

combined into a single lane-to-lane imbalance specification. See

https://grouper.ieee.org/groups/802/3/dj/public/23 11/kota 3dj 01a 2311.pdf for an initial specification methodology proposal.

Response Status Z

C/ 177	SC 177.4.7.2	P 256	L13	# 582	C/ 179A	SC 179A.4	P663	L 44	# 585	
Ghiasi, Ali		Ghiasi Quant	um/Marvell		Ghiasi, Ali		Ghiasi Quar	tum/Marvell		
Comment	Туре Т	Comment Status D		precoding	Comment T	Туре Т	Comment Status D		Channel ILdd	
Pre-co pre-co	ding was shown o ding is essential fo	on riani_3dj_01a_2303 FEC or FECi PMDs	l baseline that	when was adopted, and	Host de	esignated loss	es of 6.5, 11.5, and 16.5 are t	for TP0d to TP2		
Suggested	- Remedy				Suggested	Remedy	a TD0d to TD2 column			
Please 173.5.7	insert text for pre 7.2, 6 and 176.9.1	e-coder in this sub-clause. a I.2, that may be enabled or	as specified in disabled as ne	135.5.7.2, 120.5.7.2, and eded with OLT, without	Min host loss is the MCB loss of 2.8 dB Max loss is dependent on actual package loss and should be removed					
OLI th See Gl	e optical transmit niasi/Riani Mav-24	ter should enable 1/(1+D) n 4 presentation on the need t	10d 4 precodin for pre-coder	g to mitigate burst error.	Proposed F	Response	Response Status W			
Proposed I PROP Resolv	Response OSED ACCEPT I e using response	Response Status W N PRINCIPLE. to comment #547			PROP(The ho https:// This sli	OSED REJEC ost losses adop www.ieee802. ide explicitly re	T. ted are those of org/3/dj/public/23_11/tracy_3 fers to "Device Package + Ho	dj_01a_2311.pdi ost PCB", which	f, slide 12. does not extend to TP2.	
C/ 176D	SC 176D.2	P 596	L 32	# 583	C/ 179A	SC 179A.5	P667	L 32	# 586	
Ghiasi, Ali		Ghiasi Quant	um/Marvell		Ghiasi, Ali		Ghiasi Quan	tum/Marvell		
Comment 7 Functio	<i>Type</i> T onal block diagrar	Comment Status D n shown for C2C indicate ba	all-ball specific	<i>(bucket)</i> ations	Comment T MCB vi	<i>Type</i> T ia allowance a	Comment Status D nd HCB are TBD		HCB and MCB	
Suggested C2C co TP5d	<i>Remedy</i> omponent should	be called C2C device and c	hange the TP) to TP0d and TP5 to	Suggested See Gl MCB vi	<i>Remedy</i> hiasi C2M May ia = 0.8 dB	-24 presentation			
Proposed I	Response	Response Status W			HCB=3	3.8 dB to allow	practical implementations			
Cl 176D Ghiasi, Ali Comment T C2C lo	SC 176D.1 SC 176D.1 Type T ss is TBD	P 595 Ghiasi Quant Comment Status D	L 16 um/Marvell	# 584 Channel ILdd (bucket)	PROP(The fol https:// The co conser For CR	OSED ACCEP lowing present www.ieee802. mment addres isus is not obv G discussion.	T IN PRINCIPLE. ation was reviewed by the tac org/3/dj/public/24_05/ghiasi_3 ses an open TBD and the su ious.	sk force in the M 3dj_02a_2405.pc ggested remedy	ay 2024 interim meeting: df seems reasonable, but	
Suggested	Remedy				C/ 182	SC 182.7.3	.1.1 P407	L11	# 587	
Assum	ing 28 dB budget	and package A length ~30) mm and ~12	5 mm for package B	Ghiasi, Ali		Ghiasi Quan	tum/Marvell		
Proposed F PROP The co	Response OSED REJECT. mment addresse	Response Status W s an open TBD, but the sug	gested remedy	is unclear.	Comment T To sup	<i>Type</i> T port breakout,	Comment Status D loopback, and OAN/OLT con	nectro should be	Connector labeling e labled	
Also, tł been s	ne suggested rem hown.	nedy assumes the budget is	28 dB, but cor	nsensus on that has not	DR2-2	connector sho	uld be labled as Tx1Tx2	Rx2Rx1		
					PROP Resolv	OSED ACCEP	T IN PRINCIPLE.			

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: Comment ID

Comment ID 587

C/ 182	SC 182.7.3.1.2	P 407	L 27	# 588	C/ 180	SC 180.7.3	1.2	P 260	L 27	# 591
Ghiasi, Al	i	Ghiasi Quanti	um/Marvell		Ghiasi, Ali			Ghiasi Quant	um/Marvell	
Comment To su	t <i>Type</i> T Comn	nent Status D and OAN/OLT conn	ectro should be	Connector labeling labled	Comment To sup	<i>Type</i> T port breakout,	Comn loopback, a	nent Status D and OAN/OLT conr	nectro should be	Connector labeling
Suggeste DR2-	<i>dRemedy</i> 4 connector should be lable	ed as Tx1Tx2Tx3Tx	4 Rx4Rx3F	Rx2Rx1	Suggested DR2-4	Remedy connector sho	uld be lable	ed as Tx1Tx2Tx3Tx	(4 Rx4Rx3F	Rx2Rx1
Proposed PROI Reso	Response Response POSED ACCEPT IN PRINC lve using the response to c	nse Status W CIPLE. omment #590.			Proposed I PROP Resolv	Response OSED ACCEP ve using the res	Respor T IN PRINC ponse to c	nse Status W CIPLE. omment #590.		
C/ 182	SC 182.7.3.1.3	P 408	L15	# 589	C/ 180	SC 180.7.3	1.3	P 361	L 46	# 592
Ghiasi, Al	i	Ghiasi Quant	um/Marvell		Ghiasi, Ali			Ghiasi Quant	um/Marvell	
Comment	t Type T Comn	nent Status D		Connector labeling	Comment	Туре Т	Comn	nent Status D		Connector labeling
To su	pport breakout, loopback, a	and OAN/OLT conn	ectro should be	labled	To sup	port breakout,	loopback, a	and OAN/OLT conr	nectro should be	abled
Suggeste	dRemedy				Suggested	Remedy				
DR2- Rx8R	8 connector should be lable x7Rx6Rx5Rx4Rx3Rx2Rx1	ed as Tx1Tx2Tx3Tx	4Tx5Tx6Tx7Tx8	i	DR2-8 Rx8Rx	connector sho 7Rx6Rx5Rx4R	uld be lable x3Rx2Rx1	ed as Tx1Tx2Tx3Tx	4Tx5Tx6Tx7Tx8	3
Proposed PROI Reso	I Response Response Response POSED ACCEPT IN PRINC Ive using the response to c	nse Status W CIPLE. omment #590.			Proposed I PROP Resolv	Response OSED ACCEP ve using the res	Respoi T IN PRINC ponse to c	nse Status W CIPLE. omment #590.		
C/ 180	SC 180.7.3.1.1	P 360	L11	# 590						
Ghiasi, Al	i	Ghiasi Quanti	um/Marvell							
Comment To su	<i>Type</i> T Comn	nent Status D and OAN/OLT conn	ectro should be	Connector labeling labled						
Suggeste	dRemedy									
DR2-	2 connector should be lable	ed as Tx1Tx2 I	Rx2Rx1							
Proposed PROI While for Op Imple	Response Respon POSED ACCEPT IN PRING the labeling modification a potical Link Training "OLT", i ment suggested remedy w	nse Status W CIPLE. Is proposed was no t is necessary to su ith editorial license.	t part of the ado pport the adopte	pted Baseline Proposal ed baseline.						

Cl 176	SC 176.7.1.2	.2 P223	L 52	# 593	C/ 176	SC 176.5.1.4.2	P 204	L 42	# 595	
de Koos, A	Indras	Microchip T	echnology		de Koos, /	Andras	Microchip Tec	hnology		
Comment	Туре Т	Comment Status D		Figures (bucket)	Comment	Туре Т	Comment Status D		Deskew (bucket)	
The 80 use C, used in with th	DOGBASE-R PCS D to illustrate the n 200GBASE-R e 2CW delay.	S has 4 FEC engines, so fig symbols on PCSLs 16-31 and 400GBASE-R figures t	gures 176û16, 17 , rather than A',B o denote CWs fro	6û17, 176û18 should '. The A',B' notation is om engines A and B but	Is there anything preventing an implementation from performing a full deskew at the F PMA? It is not technically required, but does not cause any adverse functional effects A full deskew at the Rx SM-PMA would NOT change end-to-end latency, since the sk all untimately undone at the Rx PCS. A deskew upstream would simply offload the d					
Suggested	Remedy				Imple	mentations with a SM	M-PMA attached to an RxF	CS will undou	btedly perform the	
Amme	nd Figures 1760	16, 176017, 176018 to avo	id the A',B' notati	on	Alignr	nent marker lock onl	ly once (not once in the PI	MA and again ir	n the PCS). AM-lock	
Proposed	Response	Response Status W			pius u	eskew is a very flatt	arai coupiing or functions.			
Clause (800G 1.6TB/ Howey	OSED ACCEPT 176 avoids usir BASE-R PCS) d ASE-R PMAs be ver, the clarity of 5 in 176 16 176	IN PRINCIPLE. IN TRINCIPLE. IN TRI	E-R PMAs becaus C-D. Whereas, "(SE-R PCS) uses y defining what A	se Clause 172 C" and "D" are used in FEC-C and FEC-D. ,, B, A', B' are in the	Consi 176.6 After t deske	der adding the follow 1.3.2, 176.7.1.3.2, 1 he Alignment Marke wing the PCSLs bef	ving note to the Rx Alignm 176.8.1.3.2): er lock, no deskew of the P fore the would not have an	ent marker lock PCSLs is require d adverse func	k clauses (176.5.1.4.2, ed. However, tional effects.	
Theref	ore, implement t	he following:			Proposed	Response I	Response Status W			
Update state t R PCS Impler	e the text referen he RS-FEC sym 5, while the RS-F nent with editoria	cing figures Fig 176-16, Fig bols A and B are from FEC EC symbols A' and B' are f Il license.	g 176-17 and 176 -A and FEC-B in from flow 1 of the	-18 (in 176.7.1.2) to flow 0 of the 800GBASE- 800GBASE-R PCS.	PROF An im the cc out in	OSED REJECT. olementation of the l mment suggests). H the standard.	PMA Rx could deskew the lowever this is an impleme	PCS lanes du ention choice, a	ring alignment lock (as and should not be called	
C/ 176	SC 176.5.1.3	.1 P201	L 24	# 594						
de Koos, A	Indras	Microchip T	echnology							
Comment	Туре Т	Comment Status D		Deskew						
Function instead A full of untima Keepir implen should	onally, is there a d of only to 20/40 deskew at the SM ttely undone at th g the PMA as lig nentation choose l be allowed for b	nything preventing the SM-)-bit boundaries? /I-PMA would NOT change he Rx PCS. ght as possible (less bufferi is to do so, performing a fu oth Rx and Tx.	PMAs from perfo end-to-end lateno ng required) is O Il deskew (i.e. to	rming a full deskew cy, since the skew is all K, but if an AMs, or CW boundaries)						
Suggested	lRemedy									
Add th 176.8. Full de transm	e following note 1.2.1): eskew (to AM bount hit function.	the 20/40 bit deskew claus udaries) of PCSLs may opti	es (176.5.1.3.1, 1 ioanlly be perform	76.6.1.2.1, 176.7.1.2.1, ned by the SM-PMA						
Proposed	Response	Response Status W								
PROP Remov Remov Impler	OSED ACCEPT ve the text "(up to ve the text "(up to nent with editoria	IN PRINCIPLE. 19 bits on any given lane) 39 bits on any given lane) I license.	" from 176.5.1.3. " from 176.8.1.2.	1. 1.						

C/ 176	SC 176.5.1.3.1	P 201	L 24	# 596
de Koos, And	dras	Microchip Tec	hnology	
Comment Tv	rpe T	Comment Status D		Deskew

In the AM lock and deskew clauses, is a full deskew not necessary? The goal of the Clause 176 PMA, if I understand correctly, is that at the output lane(s), each set of 4 consecutive 10-bit symbols must come from 4 different RS-FEC codewords. In the current draft, this is not achieved.

Without skew, everything works because the symbol delay is in the same direction as the FEC CW delay. But with n*20b of skew, where some odd PCSLs arrive before even PCSLs, after the 10bit delay on odd PCSLs, (Clause 176.5.1.3.4) and the 2 CW delay (Clause 176.5.1.3.4), there will still be a period of overlap where symbols from the same FEC codeword appear at the same time. Symbols from the same RS_FEC CW can thus appear within 2 symbols after the output mux.

Before skew (showing boundary between FEC words 1 and 2):PCSL0:B2 A2 B1 A1 B1 A1PCSL1:A2 B2 A1 B1 A1 B1

20-bit skew : PCSL1 arrives before PCSL0 (when PCSL0 is finishing A1/B1, PCSL1 has
already started A2/B2)PCSL0:B2 A2 B1 A1 B1 A1
PCSL1:PCSL1:A2 B2 A1 B1 A1 B1

 10-bit delay on odd lane (Clause 176.5.1.3.4):

 PCSL0:
 B2 A2 B1 A1 B1 A1

 PCSL1:
 A2 B2 A1 B1 A1 B1

2 FEC CW delay on odd lane (Clause 176.5.1.3.4):PCSL0:B2 A2 B1 A1 B1 A1PCSL1:A1 B1 A0 B0 A0 B0-> B1s line up on PCSL 0 and 1 for one 8:1 two-symbol mux cycle.

with more than 20 bits of skew, there will be more "codeword overlap".

Adding a "full deskew" may not be too costly. Or, is this potential overlap due to skew understood and planned for in the AUI/PMD loss budgets?

SuggestedRemedy

Consider requiring a full deskew instead of the 20/40 bit deskew in clauses (176.5.1.3.1, 176.6.1.2.1, 176.7.1.2.1, 176.8.1.2.1).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The proposed response to comments # 368, which changes the deskew function to deskew to codeword boundaries addresses the concern outlined in this comment for the 200GBASE-R and 400GBASE-R SM-PMAs.

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: Comment ID

For the 800GBASE-R and 1.6TBASE-R PMAs, the 20bit and 40bit deskew provides sufficient alignment to ensure 4 Codeword interleaving on output lane of the PMAs and therefore no changes to the deskew function are required. Resolve using the response to comment #368

C/ 176	SC 176	P 195	L1	# 597
de Koos,	Andras	Microchip Tech	nnology	
Comment	t Type T	Comment Status D		timesync (bucket)

Has any thought been put into how to calculate the path data delay values (MII-MDI latencies for timestamping) for the SM-PMAs? For bit-mux PMAs, it is very simple - i.e. it is all implementation delay, since the intrinsic delay from bit muxing/demultiplexing is negligible. But at first glance, determining the latency across the Clause 176 PMA looks like more of a challenge.

a. I don't believe that the intrinsic (i.e. non-implementation) delay is deterministic, due to the partial deskew.

b. But apart from the partial deskew, the latency across the SM-PMA should be deterministic using the principles in Annex 90A.7 (max latency value used for Tx path data delay, min latency value used for Rx path data delay).

c. Traditionally, how to calculate the delays through the PHY layers has been an implementation concern, but this is because the calculation was straightforward at lower rates. At 200Gbps lanes, the standard does not have the luxury of being able to ignore this. If it is overly complicated or ambiguous, and opposite ends of a link do not implement it in the same fashion, the system Time Synchronization will be impaired.

SuggestedRemedy

Consider a note in Clause 176 (or next to the PMA path data delay MDIO registers - 45.2.1.176, 45.2.1.177) that the path data delay values for the SM-PMA should be calculated via the method in Annex 90A.7.

I don't think it is necessary, but if a more detailed explanation is deemed useful, then a subclause could be added to Clause 90.7 spelling out explicitly how the path data delay values should be calculated for the SM-PMA.

Proposed Response Response Status W

PROPOSED REJECT.

It is not helpful to sprinkle notes related to time synchronization throughout the various sublayer clauses; this was not done in previous clauses/projects. Rather it would be preferable to add the necessary text into Clause 90/Annex 90A. A consensus presentation with a complete proposal is encouraged.

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C/ 176 S	C 176.5.1.3.1	P 201	L 24	# 598	C/ 176	SC	176.6	P 213	L1	# 600
de Koos, Andra	as	Microchip Teo	hnology		de Koos, A	Andras		Microchip Tec	hnology	
Comment Type	T (Comment Status D		Deskew	Comment	Туре	Е	Comment Status D		(editori
Skew in se accurate particular Towards the skew introo In the Rx d then the re example) a Adding an be a way to the PHY la This is a lo	ries within the P ath data delay ca n. Me MDI, the trans duced by the Tx lirection, the sam maining skew, ir and from the med option for the SN o allow implemen yers.	HY sub-layers may not h alculation impossible. Se mit SM-PMA function sh PCS layer and AUI links. the problem exists. If the the series with skew from o dium, will have a non-deter A-PMA to do a full desker thations to avoid the Time	ave deterministi e Annex 90A.6 ould thus have t (i.e. do a full de SM-PMA does r ther layers in the erministic sum. w (not just a 20/ eSync impairme ere if leadersbir	c sum, making for a more detailed he option to undo any skew). tot do a full deskew, e PHY (from AUIs, for 40-bit deskew) would nt due to skew between	Would repeat Even t have a Suggested Consid Proposed PROP Impler	I it not b ting eve the figure a genera dRemec der mer Respor POSED ment wi	e possibl rything is res for 20 al form wi ly ging subc use ACCEPT th editoria	le to merge Clause 176.5 and hardly necessary. 0GBASE-R SM-PMA (Figure th a variable number of PCSL clauses 176.5 and 176.6 <i>Response Status</i> W IN PRINCIPLE. al license and discretion.	176.6? They 176û3, Figure .s that are suita	are 95% similar, so 176û4, Figure 176û5) able for 400GBASE-R
worthwhile		process are reaccoming in			C/ 176	SC	176.5.2	P 208	L 40	# 601
SuggestedRen	nedy				de Koos, A	Andras		Microchip Tec	hnology	
Consider re in clauses Proposed Resp PROPOSE Resolve us	equiring (or allow (176.5.1.3.1, 176 conse R ED ACCEPT IN F sing the response	ving as an option) a full d 5.6.1.2.1, 176.7.1.2.1, 17 esponse Status W PRINCIPLE. e to comment #594.	eskew instead c 6.8.1.2.1).	f the 20/40 bit deskew	Comment Is spe the lat 400G, Altern and re PMD-I	(editori /ers it attaches to and ing for 16:2 vs 2:16 for an specifying transmit nd 1:8 would specify the				
C/ 176 S	C 176.5.1.3.4	P202 Microchip Toc	L 48	# 599	Having	g so ma sion	ny sub-cl	lauses that just point to other	sub-clauses is	an easy way to cause
Comment Type	аз с. т (Comment Status D	lillology	(bucket)	Suggester	dRemer	lv.			
The SM-PM	A adds a lot of	latency due to the 2x RS	-FFC CW delay	in the 8:1 and 16:2 SM-	Consi	der spe	; cifvina the	e 1:8 and 8:1 (and equivalent	SM-PMAs for	other rates) together.
PMAs, as of For setups between th to use 1000 of 200Gbp The latency 176.6.1.2.4	compared to the with an MII-Exte be DTE_XS and I Gbps links for th s links! y penalty for the 4.	bit-mux PMAs ender it is actually worse, PHY_XS. If latency is a of e DTE_XS <-> PHY_XS 8:1 and 16:2 PMAs shou	since the penal concern, it actua AUI interface, n Id be noted in C	ty would also exist ally becomes preferable egating the advantages clauses 176.5.1.3.4 and	Proposed PROF Impler	Respor POSED ment wi	ACCEPT	Response Status W IN PRINCIPLE. al license and discretion.		
SuggestedRem	nedy									
Add the fol Note that th causes an	lowing note to th he delay added t end-to-end laten	e 2xFEC CW delay sub- o the odd PCSLs (and to cy increase of 51.4ns as	clauses (176.5. the even PCSL compared to Bl	I.3.4 and 176.6.1.2.4): s at the far-end) M-PMAs.						
Proposed Resp	oonse R	esponse Status W								
PROPOSE The standa case the la	D REJECT. ard is not expectent atency of SM-PM	ed to note pros and cons A versus a BM-PMA).	of one PMA ver	sus another (in this						

The comment proposes a change that does not improve the clarity or accuracy of the draft.

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: Comment ID

Comment ID 601

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(editorial)

(editorial)

C/ 176	SC 176.6.1	P 213	L 4	# 602	C/ 177	SC 177.4.6	P 254	L31	# 604		
de Koos,	Andras	Microchip Te	echnology		de Koos,	Andras	Microchip Teo	chnology			
Commen	t Type E	Comment Status D		(editorial)	Comment	Туре Т	Comment Status D		timesync(bucket)		
Claus exist in ea Suggeste	ses 176.6, 176.7 in Clause 176.5 ch PMA sub-clau edRemedy	and 176.8 are missing the 'o (e.g. 176.5.1.1). The equival ise (e.g. 176.6.1)	verview' sub-cla ent content is th	auses (with tables) that here but is placed directly	 Phase of inner FEC pad bits vs outer FEC parity bits: An inaccuracy in the path data delay of up to 12ps due to arbitrary phase between the output FEC parity bits and the inner FEC pad bits of the phase is not accounted for. This arbitrary phase would affect the path data delay values. Almost negligible, if my math is correct. 						
8000	BASE-R, 1.6TB	ASE-R.	IGDAGE-R anu	400GBA3E-R,	Suggeste	dRemedy					
Proposed PRO Imple	d Response POSED ACCEP ⁻ ement with editor	Response Status W T IN PRINCIPLE. ial license and discretion.			3 possible ways to address: a. Impose a phase relationship between the RS FEC code word boundaries and the inner FEC pad bits, which would mean large-scale changes to the draft. b. Specify (in clause 90, perhaps) that the path data delay contribution through the inner						
CI 45	SC 45	P 57	L1	# 603	and P	MA layers.			· · · · · · · · · · · · · · · · · · ·		
de Koos,	Andras	Microchip Te	echnology		c. ign "Whe	ore. Based on 90. ther the potential of	A.7, the effect here is small delay difference between the	enougn to not addredated (delay and the sum of the		
Comment Type T Comment Status D timesync(bucket) Inner FEC (Clause 177 or Clause 184) needs MDIO registers for TimeSync. They should look like the PMA/PMD clause registers.						individual function delays is small enough to satisfy the timing requirements is up to the individual application." I prefer option (c). It should not be necessary to add specific text or impose new logical rules to the Inner FEC pad bits to address a potential 12ps path data delay impairment.					
Add PMA - Tim - Tim - Tim	the following MDI /PMD MDIO regises aeSync capability aeSync transmit p aeSync receive page	O registers for the Inner FEC sters bath data delay register ath data delay register	c, in the same s	tyle as the equivalent	Proposed Response Response Status W PROPOSED REJECT. The following related presentation was reviewed by the 802.3dj task force at the May Interim meeting. https://www.jeee802.org/3/di/public/24_05/be_3dj_01a_2405.pdf						
Proposed	d Response	Response Status W			It app	eared that there w	as no consensus to make a	ny related cha	anges to the draft.		
PRO The f Interi https	POSED ACCEP following related im meeting: ://www.ieee802.c	T IN PRINCIPLE. presentation was reviewed by prg/3/dj/public/24_05/he_3dj_	γ the 802.3dj ta: 01_2405.pdf	sk force during the May							
The exce capa locat	register bits and r ption that the abi bility (Register 1. ion 1.1820 onwar	names described on page 8 d ity bits will be added to exam 1800)" and the new delay reg rds.	of the presentat pple register "Tin gisters will be ad	ion will be used with the meSync PMA/PMD dded to MMD 1 from							
Imple the e capa locat	ement the registe exception that the bility (Register 1. ion 1.1820 onwar	r bits and names described of ability bits will be added to e 1800)" and the new delay reg ds.	on page 8 of the xample register gisters will be ad	e presentation and with "TimeSync PMA/PMD dded to MMD 1 from							

Implement with editorial licence.

C/ 177	SC	177.4.1	P 251	L 36	# 605	C/ 177
de Koos,	Andras		Microchip Tec	hnology		de Koos, Andr
Comment	Туре	т	Comment Status D		timesync (bucket)	Comment Typ
Due p input- methe expla PCS-	orimarily to-outpu od to pro ined in (lane dis	to the cor ut latency operly calc Clause 90, tribution in	volutional interleaver/deinter of the Inner FEC sublayer. A sulate the path data delay for similarly to what is done for a clause 90.7.1.	leaver, there is a such, there is the Inner FEC s the variation fro	a large variation in the concern that the sublayer should be m FEC codewords and	I'm not co pairs belo Without th RS-FEC c not?
Suggeste Do no	<i>dReme</i> o thing.	dy				So is the or all land or showing th
Using	the gen	neral meth	od in Clause 90A, allocating	the maximum va	alue of the intrinsic	SuaaestedRei
there	is no ar	nbiguity.	Tr and the minimum value o	i the intrinsic de	lay to the receive PHY,	Consider
So it :	should r	not be nec	essary to add to Clause 90 fo	or every new PH	Y type. The principles	Proposed Res
If any regist shoul	se 45 with the MDIO data delay values the maximum latency	PROPOS This is con justificatio				
data d	delay.		path data delay, and the mil	limum latency v		C/ 177
Proposed	Respo	nse	Response Status W			de Koos, Andr
PROF The s	Comment Typ Was there					
subla	yer clau	ses; this v	vas not done in previous clau	ises/projects. Ra	ather it would be	SuggestedRei

preferable to add the necessary text into Clause 90/Annex 90A. A consensus presentation with a complete proposal is encouraged.

princed that the circular shift really adds any robustness. Yes, it distances bitonging to the same RS-FEC codeword, butà

he shift, the consecutive bit pairs (after 8:1 multiplexing) belonging to the same code words would each protected by different Inner FEC code words, would they

circular shift just protecting against uncorrected inner-FEC codewords that would n the same RS-FEC codeword? Seems overkill. Are there simulations/models he benefit of including circular shift?

medv

removing the circular shift if it does not offer any worthwhile benefit.

sponse Response Status W

ED REJECT.

insistent with the baseline adopted. The comment does not provide sufficient on to support the suggested remedy.

C/ 177	SC 177.4.3	P 252	L 37	# 607
de Koos, And	dras	Microchip Teo	chnology	
Comment Ty	rpe T	Comment Status D		Circular Shift (bucket)

e not a proposal to make the circular shift optional, in order to minimize latency?

medy

Consider removing the circular shift if it does offer not any worthwhile benefit.

Proposed Response Response Status W

PROPOSED REJECT.

This is consistent with the baseline adopted. The comment does not provide sufficient justification to support the suggested remedy.

C/ 177	SC 177.4.6	P 254	L	# 608	C/ 177	SC ·	177.4.1	P 251	L 50	# 610				
de Koos,	Andras	Microchip Te	chnology		Huang, Ke	echao		Huawei Techr	nologies Co., Lt	d.				
Comment	Туре Т	Comment Status D		pad insertion (bucket)	Comment	Туре	т	Comment Status D		Cl (bucket)				
A figure illustrating the pad bits and their interval for each inner FEC flow would be useful. I always find myself referring to the equivalent RS-FEC Figures (Figure 119û6 and Figure 119û8)						"The convolutional interleaver is composed of 3 delay lines where the first delays the PHYs data by eight RS-FEC codewords, the second by four RS-FEC codewords and the last adds no delay" is								
Suggeste	dRemedy				correction	s should	the Q val be 192/9	ues are 544/272/136/68 for 2 6/48/24 as shown in slides 6	-11 of he 3di (G/1.61. However, the Q				
Consi Figure	ider adding a figu e 119-6	re illustrating the pad insertion	on and interva	II, in the same style as	2006/800G/1.6TbE.									
Proposed PROF Imple	Response POSED ACCEPT ment the sugges	Response Status W IN PRINCIPLE. t remedy with editorial license	9.	# 000	Suggestee Sugge The c as illu bits. F	est to mo onvolutio strated i from one	y odify Line onal interl n Figure e delay lin	50-51 in page 251 as follows eaver is composed of three p 177û3. Each delay operator ô e to the next higher delay lin	s: barallel delay lir bDö represents e, Q delay oper	nes (numbered 0 to 2), a storage element of 40 rators are deleted.				
C/ 1//	SC 177.5.1	P257	<i>L</i> 1	# 609	Modify	y the Q v	alues to	192/96/48/24 for 200G/400G	/800G/1.6T					
de Koos, Andras Microchip Technology						Respon	se	Response Status W						
Comment Type T Comment Status D Inner FEC Sync (bucket) A figure illustrating the possible one bit-pair of skew and the relationship to the Inner FEC Fec Fec						PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #366.								
flows prese	would be very he ntations!	elpful here. I only understand	because I re	call the Task Force	C/ 177	SC ·	177.4.4	P 253	L 48	# 611				
Suggeste	dRemedy				Huang, Ke	echao		Huawei Techr	nologies Co., Lt	d.				
Consider adding a figure illustrating how the position of the 1 bit-pair of skew determines the Inner FEC flow number.						Comment TypeTComment StatusDInner FEC code(bucket)The systematic Hamming code is most naturally defined in terms of its parity-check matrix,								
Proposed	Response	Response Status W			as pointed out in many textbooks and standard documents. One famous example is the systematic double-extended Hamming(128,119) code in OIF-400ZR and ITU-T G.709.3.									
Imple	ment the sugges	t remedy with editorial license	ə.		Suggestee	dRemed	y							
			Suggest to include the construction process and parity-check matrix of Hamming(68,60) code to enhance the completeness of the document. Presentation will be provided.					x of the adopted ent. A Supporting						
					Proposed	Respon	se	Response Status W						

PROPOSED ACCEPT IN PRINCIPLE.

The following presentation was reviewed by the 802.3dj task force at the May Interim meeting.

https://www.ieee802.org/3/dj/public/24_05/huang_3dj_01a_2405.pdf Implement the suggested remedy with editorial license.

C/ 177	SC	177.4.4	P 253	L 48	# 612			
Huang, Ke	echao		Huawei Technologies Co., Ltd.					
Comment Type T			Comment Status D	Inner FEC code (bucket)				
"The (Table with 6	generat 177— 0 rows	ion matrix 1" is not ac and 68 co	G(60,8) for the Hamming(68, curate. The generation matri lumns, where the most-left 60	60) encoder x for the Ham) columns is t	is given in Iming(68,60) should be the indentity matrix.			
Suggestee	dReme	dy						
Sugge G=[I_ matrix Table	est to c 60 ;G c used t 177-1.	hange the _(60x8)],w to generate	sentence to "The generator r here I_60 is the 60x60 identi the 8 parity bits given in	natrix of the H ty matrix, and	Hamming(68,60) code is I G_(60x8) is a 60x8			
Proposed	Respo	nse	Response Status W					
The for meetin https:// Implei	ollowing ng. //www.i ment th	eee802.org	g/3/dj/public/24_05/huang_3c ed remedy with editorial licen	3dj task force lj_01a_2405. se.	e at the May Interim pdf			
C/ 184	SC	184.4.4	P 448	L 5	# 613			
Huang, Ke	echao		Huawei Techr	ologies Co.,	Ltd.			
Comment	Туре	т	Comment Status D		Algorithm			
For pe negati	ermo[p. ive valu	40x(i-18x ie	i mod 3)+j], the column index	(40x(i-18x i n	nod 3)+j may be a			
Suggestee	dReme	dy						
Sugge 40x(i- interle	est to a 18x i m eaver.	dd one ser od 3)+j] wi	ntence after Line 9: When 40: Il be undetermined value from	x(i-18x i mod n initial buffer	3)+j is negative, permo[p, of the convolutional			
Proposed	Respo	nse	Response Status W					
PROF Impler Add th undefi	POSED ment th he follo ined."	ACCEPT the following wing sente	IN PRINCIPLE. 9 with editorial license. nce after Line 9: "When 40x(i-18x i mod 3)+j is negative, permo is			