Intel ER Comment Status D 100GBASE-P" is now used in 13 separate instances the draft. However, it is e, Clause 30 uses the term in the PhyType and MAUType fields as valid syr atters worse, Clause 80.1.4 Nomenclature now states "40GBASE-R or F-R represents a family of Physical Layer devices using the Clause 82 Physic layer a physical coding sublayer and a PMD implementing 2-level pulse	; not itax.
<b>ER</b> Comment Status <b>D</b> 100GBASE-P" is now used in 13 separate instances the draft. However, it is e, Clause 30 uses the term in the PhyType and MAUType fields as valid syn atters worse, Clause 80.1.4 Nomenclature now states "40GBASE-R or i-R represents a family of Physical Layer devices using the Clause 82 Physic layer a physical coding sublayer and a PMD implementing 2-level pulse	i not itax.
e, Clause 30 uses the term in the PhyType and MAUType fields as valid syr atters worse, Clause 80.1.4 Nomenclature now states "40GBASE-R or -R represents a family of Physical Layer devices using the Clause 82 Physical player a physical coding sublayer and a PMD implementing 2-level pulse	itax.
Indulation (PAM)." Then it states "100GBASE-P represents Physical Layer ng the Clause 82 Physical Coding Sublayer for 100 Gb/s operation over mul (see Clause 82) and a PMD implementing more than 2-level pulse amplitud (PAM)." says that 100GBASE-KP4 is a "100 Gb/s PHY using 100GBASE-P ." Why call it out as using BASE-P encoding? All of the other Table 80-1 he base standard imply encoding to be the PCS. mm sneaks into Table 82-5 and attempts to camoflages itself in the PCS colu- s! There is no 100GBASE-P PCS. e, the IEEE 802.3bh Draft 3.1 standard defines "100GBASE-R" as "An IEEE y of Physical Layer devices using the physical coding sublayer defined in Cl- Gb/s operation. (See IEEE Std 802.3, Clause 82.)" edy dding a "100GBASE-P" to the Definitions section or strike 100GBASE-P from ent. <i>Bonse Response Status</i> <b>W</b> D ACCEPT IN PRINCIPLE.	cal tiple aumn ause
sa " e m s! e, ( G t d d e D o E- fil itu	<pre>invs that 100GBASE-KP4 is a "100 Gb/s PHY using 100GBASE-P Why call it out as using BASE-P encoding? All of the other Table 80-1 base standard imply encoding to be the PCS. In sneaks into Table 82-5 and attempts to camoflages itself in the PCS colu There is no 100GBASE-P PCS. the IEEE 802.3bh Draft 3.1 standard defines "100GBASE-R" as "An IEEE of Physical Layer devices using the physical coding sublayer defined in Cla b/s operation. (See IEEE Std 802.3, Clause 82.)" ify ling a "100GBASE-P" to the Definitions section or strike 100GBASE-P from t. ise Response Status W ACCEPT IN PRINCIPLE. wing definition to 1.4: P: An IEEE 802.3 family of Physical Layer devices using the physical codi ined in Clause 82 and a physical medium dependent sublayer that employs ide modulation with more than 2 levels for 100 Gb/s operation. (See IEEE is a state in the interval is a state in the physical code in the physical code in the physical code in Clause 82 and a physical medium dependent sublayer that employs ide modulation with more than 2 levels for 100 Gb/s operation. (See IEEE is a state in the physical code in the</pre>

C/ 00 SC 0

C/ 00	SC 0	Р	L	# 350	CI 30	SC 30.1.1.1	5 P <b>2</b> 3	L19	# 93
Anslow, Pete	)	Ciena			Sela, Oren		Mellanox Te	echnologies	
Comment Typ Commen Now that reflect 20	pe <b>E</b> ht #172 against t IEEE Std 802. 012.	Comment Status <b>D</b> D 1.1 was accepted, but not 3-2012 has been approved, i	fully implemen update all refer	<i>bucket</i> ted. ences in the draft to	Comment 1 aFECa Suggestedl	Type <b>T</b> bility - CL91 FE Remedy	Comment Status D C is not optional		FEC mgmt
This has SuggestedRe Update th 802.3-20 Proposed Re	not been done emedy he all of the pag 12" esponse	in the page headers. ge headers for the clauses fro <i>Response Status</i> <b>W</b>	om the TOC or	wards to say "IEEE Std	Change A read- sublaye 91). To: A read- sublaye	e: only value that er for forward e only value that er for forward e	indicates if the PHY suppor rror correction (see 65.2, an indicates if the PHY suppor rror correction (see 65.2, an	rts an optional FE d Clause 74, and rts an optional FE d Clause 74) or si	C Clause C upport
C/ 01 Anslow, Pete	SC 1.4.53a	P <b>21</b> Ciena	L15	# 353	of the C Proposed F PROPC	Clause 91 mano Response DSED ACCEP1	datory FEC. Response Status W Γ.		
Comment Typ This says As stated	pe <b>E</b> s "insertion loss d in 1.2.6, the tr	Comment Status <b>D</b> s up to 33 dB at 7.0 GHz" railing zeros have no significa	ance, so this sh	<i>bucket</i> ould be shown as	<i>Cl</i> <b>30</b> Sela, Oren	SC 30.1.1.1	6 P23 Mellanox Te	L 25 echnologies	# 94
simply "7 SuggestedRe Change: "insertion	7 GHz" emedy h loss up to 33 (	dB at 7.0 GHz" to:			Comment 1 aFECm Suggestedl There a	ype <b>T</b> ode - Clause S Remedy are 3 possible v	Comment Status D 11 FEC is mandatory so it sh vays to handles this:	nouldn't be enable	FEC mgmt ed or disabled
Proposed Re PROPOS	seponse SED ACCEPT.	Response Status W			1. remo 2. Make 3. Use side	the FEC 91 v the FEC 91 v this verible to e	from the text alue as RO enabled enable or disable the FEC co	prrection at the re-	ceive
Check re the accor	emainder of the rdingly.	draft for other instances whe	ere this definitio	n is used and modify	Proposed F PROPC	Response DSED ACCEPT	Response Status W		
					Option	#1, also sugge	sted by comment #367		

C/ 30 SC 30.1.1.16

C/ 30	SC 30.3.2.1.2	Р	L	# 354	CI 30	SC 30.	5.1.1.16	P <b>23</b>	L <b>38</b>	# 356
Anslow, P	ete	Ciena			Anslow, P	ete		Ciena		
Comment	Type E	Comment Status D		Bucket	Comment	Туре Е	(	Comment Status D		Bucket
"100 ( PAM Same	Gb/s multi-PCS lar and something els e issue in 30.3.2.1.	ne using more than 2-level F e. 3	PAM" could be taken	to mean 2-level	The te The te but is	ext ", and C ext "or FEC not in unde	lause 91" enable bi rline font.	has been added, but is n t in RS-FEC control regis	ot in underline f ter (see 45.2.1.9	ont. 93a)" has been added,
Suggeste	dRemedy				Suggeste	dRemedy				
Use ti Chan	he format from aM ge:	AUType below:			Show	the inserte	d text ", ai	nd Clause 91" in underlin	e font.	
"100 ( "100 (	Ğb/s multi-PCS lar Gb/s multi-PCS lar	ne using more than 2-level F ne using >2-level PAM"	PAM" to:		Show under	the inserte line font.	d text "or I	FEC enable bit in RS-FE	C control registe	er (see 45.2.1.93a)" in
Make	the same change	in 30.3.2.1.3			Note: disabl	this comme ed.	ent may b	e OBE due to a companio	on comment tha	t RS-FEC cannot be
PROF	POSED ACCEPT.				Proposed	Response	F	Response Status W		
					PROF	POSED AC	CEPT.			
Cl 30 Anslow, P	SC 30.5.1.1.1	5 P23 Ciena	L <b>20</b>	# 355	The te	ext will be u	nderline w	hether deleted or not.		
Comment	Type E	Comment Status D		Bucket	CI 30	SC 30.	5.1.1.16	P <b>23</b>	L <b>47</b>	# 367
The te	ext ", and Clause 9	1" has been added, but is n	ot in underline font.		Anslow, P	ete		Ciena		
Suggeste	dRemedy				Comment	Туре Т		Comment Status D		FEC mgmt
Show	the inserted text "	, and Clause 91" in underlin	e font.		This t Howe	ext says "or	FEC ena	ble bit in RS-FEC control	register (see 4	5.2.1.93a)". or (Register 1 200) in
Proposed		Response Status W			45.2.1	.93a only "	FEC enab	le error indication" which	is quite differen	it.
T KO					BASE appro	-R FEC is opriate.	optional, b	out I understood RS-FEC	is not and henc	e a "FEC enable" isn't
					Amlı	nissing sor	nething?			
					Suggeste	dRemedy				
					Make	no change	to 30.5.1.	1.16 since RS-FEC cann	ot be disabled.	
					Proposed PROF	Response POSED AC	F CEPT.	Response Status W		

C/ 30 SC 30.5.1.1.16

C/ 30 SC 30.5.1.1.1 Dawe. Piers	7 P23 IPtronics	L <b>53</b>	# 382	C/ <b>30</b> Dudek, Mike	SC 30.5.1.1.	17 P24 QLogic	L <b>7</b>	# 301
Comment Type E nonresetable	Comment Status D		Bucket	Comment Ty Does it n	<i>pe</i> <b>T</b> nake sense to	Comment Status D	rs per PCS lane wh	FEC mgmt en the FEC is not
SuggestedRemedy nonresettable, as in bas Proposed Response PROPOSED ACCEPT.	se document. Two places. Response Status W			operating SuggestedR Add afte Do the s	g on a per PC <i>emedy</i> r "do not use l ame for 30.5. <sup>,</sup>	S lane basis? PCS lanes"  "or use the R: 1.1.18	S-FEC described in	clause 91.
C/ 30 SC 30.5.1.1.1 Anslow, Pete	7 P24 Ciena	L <b>4</b>	# 357	Proposed Re PROPOS	esponse SED ACCEPT	Response Status W		
Comment Type E The base text for 30.5.1	Comment Status D .1.17 is different from the in-	force standard	Bucket	Change Cl 30	"PCS lanes" to SC <b>30.5.1.1.</b>	o "PCS lanes or FEC lane <b>18</b> <i>P</i> <b>24</b>	s" throughout both	subclauses. # <mark>358</mark>
Show the changes to 30 The first sentence of BE "For 1000BASE-PX, 10, The last sentence is: "If a Clause 45 MDIO In corrected blocks counter Show changes with resp	0.5.1.1.17 with respect to the EHAVIOUR DEFINED AS: in /40/100GBASE-R PHYs, an atterface to the PCS is presen er(s) (see 45.2.8.5, 45.2.1.91 pect to this text with underline	version in the F D 3.2 was: array of correcte t, then this attrik , and 45.2.1.93) e and strikethroo	Revision project D 3.2. ed FEC block counters." pute maps to the FEC ;"	Comment Ty In "an ar with strik At the er SuggestedRe Delete th	rpe E ray of uncorre tethrough font ad in "(see 45. emedy he strikethroug comma after '	Comment Status D ctable FEC blocks counte , but it should not be there 2.8.6, 45.2.1.92 and 45.2.	rs" the "s" at the en at all. 1.94" there is a cor s".	Bucket d of "blocks" is shown nma missing.
Proposed Response PROPOSED ACCEPT.	Response Status W			Proposed Re PROPO	esponse SED ACCEPT	Response Status W		
C/ 30 SC 30.5.1.1.1 Dudek, Mike	7 P24 QLogic	L <b>5</b>	# 300					
Comment Type <b>T</b> We should have error c	Comment Status D ounters for 100GBASE-KP4	as well	FEC mgmt					
SuggestedRemedy Add 100GBase-P Phys	to this list. Also to 30.5.1.1.	18						
Proposed Response PROPOSED ACCEPT.	Response Status W							

C/ 30 SC 30.5.1.1.18

C/ 30 SC 30.6.1.1.5 Dawe, Piers	P <b>25</b> IPtronics	L <b>22</b>	# 384	<i>CI</i> <b>45</b> Dudek, Mi	SC <b>45.2.</b> 1 ke	1.8	P <b>29</b> QLogic	L <b>44</b>	# 297
Comment Type ER Order of PHY types.	Comment Status D		PHY order	<i>Comment</i> This is	<i>Type</i> <b>E</b> a very long	<i>Commei</i> list contained in	nt Status <b>D</b> Text it would be	better to use a t	Style
SuggestedRemedy Use the order chosen for or (reversed) in p50 73. narrow, high power or si 45.2.1.7.4 Proposed Response PROPOSED ACCEPT I	or p48 line 42 73.6.4 Table 7 7.6 Table 73-5-Priority Reso hort reach to low power or lo <i>Response Status</i> <b>W</b> IN PRINCIPLE.	3-4-Technology lution. That is: s ng reach. Also	Ability Field encoding slow to fast, wide to in 45.2.1.6 and	Suggested Create Proposed PROP There inserte	Remedy a table for T Response OSED ACCE is no compel ed text must b	ransmit disable <i>Respons</i> EPT IN PRINCIF Iling reason to n be underlined.	description and e <i>Status</i> <b>W</b> PLE. nake such a chai	point to it from h nge to the base t	ere. ext. However, the
The inserted items are i	n priority resolution order in	30.6.1.1.5.		Cl <b>45</b> Anslow, Pe	SC 45.2.1 ete	1.8	P <b>29</b> Ciena	L <b>53</b>	# 359
Cl 45 SC 45.2.1.6 Sela, Oren	P28 Mellanox Tec	L hnologies	# 90	Comment The ad Suggested	<i>Type</i> <b>E</b> dditions to 45 <i>Remedy</i>	Commei 5.2.1.8 are not si	nt Status <b>D</b> hown with underl	ine font	Bucket
Comment Type E For consistancy PHYs s Technology ability field be listed below 100GBA	Comment Status <b>D</b> should be listed in the same and the priority resolution so SE-KR4	order as they ar 100GBASE-KP	<i>PHY order</i> e in the 4 should	Show Proposed PROP	the additions Response OSED ACCE	with underline f Response EPT.	font e <i>Statu</i> s W		
SuggestedRemedy per comment				<i>CI</i> <b>45</b> Dudek, Mi	SC <b>45.2.</b> 1 ke	1.81	P <b>31</b> QLogic	L <b>6</b>	# 302
Proposed Response PROPOSED ACCEPT.	Response Status W			<i>Comment</i> Consid inform	<i>Type</i> <b>T</b> der whether it ation to that	<i>Commei</i> t would be usefu contained in 45.	nt Status <b>D</b> Il for the 100GB/ 2.1.81 to 45.2.1.	ASE-KP4 to prov 84	<i>Training mgmt</i> ide equivalent
Table 45-7 - reverse KR	84 & KP4			Suggested Either Base-	<i>IRemedy</i> reword this to P	o be BASE-R ai	nd Base-P or cre	ate equivalent a	dditional registers for
				Proposed PROP	Response OSED ACCE	Respons EPT IN PRINCIF	e Status W PLE.		
				Regist 1.1400	ers 1.150 thr 0-1.1403 are	ough 1.155 and all used by Clau	similarly 1.1100 use 94.	-1.1103; 1.1200-	1.1203; 1.1300-1.1303;
				Updat	e the wording	g in these registe	er descriptions. N	Make references	clear in Clause 94.

C/ 45 SC 45.2.1.81

C/ 45	SC 45.2.1.93	P <b>32</b>	L <b>4</b>	# 120	C/ 45	SC 45.2.1.9	3f P34	L <b>21</b>	# 186
Sela, Ore	n	Mellanox Tec	hnologies		Slavick, Jo	əff	Avago Tech	nnologies	
Comment when	<i>Type</i> <b>T</b> FEC bypass is not	Comment Status <b>D</b> supported the FEC bypass	should be read	FEC mgmt I only 0	<i>Comment</i> regis	<i>Type</i> <b>E</b> ter bits 15:0" ma	Comment Status D y cause confusion regarding	g the size of the	Style error counter register.
Suggeste add th Write not ha Proposed PROF	dRemedy ne folowing text: s to this bit are igno ave the ability to by Response POSED ACCEPT.	ored and reads return a zero pass correction (see 91.5.3 <i>Response Status</i> <b>W</b>	o if the RS-FEC .3).	does	Suggester Chang the co to "Error Proposed PROF	dRemedy ge "Errors detect prresponding regi s detected in eac Response 20SED ACCEPT	red in each FEC lane are co ister." ch FEC lane are counted ar <i>Response Status</i> <b>W</b>	unted and show	n in register bits 15:0 in corresponding register."
CI <b>45</b>	SC 45.2.1.93a	P <b>31</b>	L <b>37</b>	# 360			· ·		
Anslow, P	Pete	Ciena		Bucket	C/ <b>45</b> Slavick, Je	SC 45.2.1.93 eff	3f P34 Avago Tech	L23 nnologies	# 187
The a Wher subcl: subcl: numb For e: 43.2.3 and 4 43.2.3 The e "Inser follow	greed convention of e a subclause is in ause - one level].[a ause - assuming it ver][a through z]. xample to insert two a and 43.2.b. Two s 3.2.1b. Two subcla 3 and 43.2.4. editing instruction: rt 45.2.1.93a throug this	on inserted clause numberin serted prior to the existing f through z]. Where a subcla is not the last - the new sub o subclauses before 43.2.1 subclauses between 43.2.1 uses added after the last so of 45.2.1.93f before 45.2.1.	ng is: irst subclause it ause is inserted oclause it is labe the subclauses and 43.2.2 wou ubclause 43.2.2 93 for RS-FEC	is labelled [existing after an existing elled [subclause would be numbered Id be numbered 43.2.1a would be numbered	Comment Typo Suggester Chan FEC I to "FEC 3, upp Proposed PROF	Type <b>E</b> on the ending FE dRemedy ge "FEC lane 2, I ane 1, upper 16 lane 2, lower 16 ber 16 bits." Response POSED ACCEPT	Comment Status D EC lane number. lower 16 bits are shown in re bits." bits are shown in register 1 <i>Response Status</i> W	egister 1.213; th .214; through re	Bucket rough register 1.217 for gister 1.217 for FEC lane
Also,	there are additions	of subclauses a through h			<i>CI</i> <b>45</b> Kvist, Ben	SC <b>45.2.1.9</b> 3 gt	3f P34 Ericsson AB	L <b>24</b> B	# 373
Suggeste Chan "Inser Chan Proposed PROF	dRemedy ge to: rt 45.2.1.92a throug ge subclause numb <i>Response</i> POSED ACCEPT.	yh 45.2.1.92h before 45.2.1 bers accordingly. <i>Response Status</i> <b>W</b>	.93 for RS-FEC	registers as follows:"	Comment FEC I for FE Suggester for FE Proposed PROF	Type <b>T</b> ane 1 indicated f C lane 1, upper dRemedy C lane 3, upper Response POSED ACCEPT	Comment Status D for register 1.217, should be 16 bits. 16 bits. <i>Response Status</i> W	⊧ lane 3	Bucket

C/ 45 SC 45.2.1.93g Anslow, Pete	Р <b>34</b> Ciena	L <b>39</b>	# 368	C/ <b>45</b> SC <b>45.2</b> Sela, Oren	.3.9	P <b>36</b> Mellanox Tech	L <b>21</b> nologies	# 121
Comment Type T In Table 45-72f the "Bit(s	Comment Status <b>D</b> s) cell should be "1.230.1	5:0" rather than "3	Bucket 200.15:0"	Comment Type <b>T</b> As LPI FW is ma	Co ndatory and	omment Status <b>D</b> normal mode is not this	register shou	<i>FW mgmt</i> Id change to
SuggestedRemedy Change "3.200.15:0" to "	'1.230.15:0"			SuggestedRemedy				
Proposed Response PROPOSED ACCEPT.	Response Status W			change in table 4 Replave LPI_FW in the description	5-105 3.20.0 with LPI bo replace:	0 in the folwoing way: th mode supported.		
C/ 45 SC 45.2.1.93g Slavick, Jeff	P <b>34</b> Avago Tech	L <b>39</b> Inologies	# 192	0 = only Fast Wa Replace in 45.2.3 LPI normal mode	ke is support .9.6 the tex (3.20.0)	rted t with:		
Comment Type <b>T</b> Register number is incor	Comment Status <b>D</b> rect in the table.		Bucket	If this bit is read a FW and normal n If this bit is set to	is 1 the dev node. 0 device su	ice support both modes	for PHYs with	the LPI
SuggestedRemedy Change 3.200.15:0 to 1.2	230.15:0			Proposed Response		sponse Status W		
Proposed Response PROPOSED ACCEPT.	Response Status W			This bit is a contr is also required. Add bit 3.20.9 - L 1=FW only; 0 = b (not valid for PHY	DI bit not a s PI modes so oth FW and s <40G, ret	status bit, it must select upported: normal. urns 0).	one or the oth	er. However, a status bit
				C/ <b>45</b> SC <b>45.2</b> Anslow. Pete	.3.9.6	Р <b>36</b> Ciena	L19	# 362
				Comment Type E The editing instru	Cc ction says "	omment Status D	clause after 45	Bucket
				Firstly, this should Secondly, 45.2.3.	l be 45.2.3. 9.6 already	9.5 exists for bit 3.20.1		
				SuggestedRemedy				
				Change editing in renumber text for	struction to bit 3.20.0 to	"Insert the following sub 0 45.2.3.9.7	oclause after 4	5.2.1.9.6:" and
				Proposed Response PROPOSED ACC	Res CEPT.	sponse Status W		

C/ 45 SC 45.2.3.9.6

Cl 45	SC 45.2.3.9.a	P <b>35</b>	L <b>46</b>	# 361	C/ 72	SC 72.6.10	).2.4	P476	L <b>34</b>	# 125
Comment The ed	<i>Type</i> <b>E</b> liting instruction s be 45.2.3.9.1	Comment Status D ays "Insert the following sub	oclauses before	<i>Bucket</i> 45.2.1.9.1:" but this	Comment In Cla (rathe	<i>Type</i> <b>E</b> use 72 of 802. r than 72.6.10.	<i>Comn</i> 3bh in sub-c 2.4.1).	nent Status D Slause 72.6.10.2.4, t	the first sub-sub	bucket -clause is 72.6.10.2.4.4
Suggested Chang Proposed I	Remedy e "45.2.1.9.1:" to Response	"45.2.3.9.1:" Response Status W			Suggester Fix he Proposed	dRemedy ading numberi Response	ng so that th Respo	ne first sub-sub-clau nse Status W	use under 72.6.1	0.2.4 is 72.6.10.2.4.1.
PROP C/ <b>45</b> Slavick, Je	OSED ACCEPT. SC <b>45.2.7.13</b> a	a P <b>39</b> Avago Techn	L <b>43</b> ologies	# 193	PROF Before publis	POSED REJEC e such a chang hed version of	T. e can be co IEEE Std 80	onsidered, it must fir 02.3-2012.	st be verified th	at the error exists in the
Comment Both is	Type <b>T</b> s not the best tern	Comment Status <b>D</b> n to use for descriping supp	ort of Normal an	<i>FW mgmt</i> d Fast Wake options.	C/ <b>73</b> Slavick, Je	SC 6.10		P <b>49</b> Avago Techno	L15 ologies	# 194
Suggested Chang	<i>Remedy</i> e "Both EEE mod	les" to be "Quiescent EEE r	node support" fo	or Tables 45-190, 45-191	Comment The tr	<i>Type</i> <b>T</b> ansmit switch	<i>Comn</i> function is o	nent Status <b>D</b> nly applicable durin	g Auto-Negotiat	ion.
Proposed I PROP Chang FW on Make a	Response OSED ACCEPT I e the sense to m Ily - 1=FW only, 0 appropriate chang	Response Status W IN PRINCIPLE. atch register 3.20.9 (propose both EEE modes (not vali ges in 45-190 & 45-191.	ed). d for PHYs <40	G, always reads 0).	Suggester Chan shall o MDI." to: "Durir Switcl	dRemedy ge "Prior to ent connect only th og Auto Negotia n function shall	ry into the A e DME page ation and pri connect on	N_GOOD_CHECK e generator controllo or to entry into the <i>i</i> ly the DME page ge	state, the Trans ed by the Trans AN_GOOD_CH enerator controll	smit Switch function mit State Diagram to the ECK state, the Transmit ed by the Transmit
CI <b>45</b> Sela, Oren Comment T for the	SC <b>45-72a</b> Type <b>E</b> FEC enable erro	P <b>31</b> Mellanox Tec <i>Comment Status</i> <b>D</b> r indication field it will be bei	<i>L</i> hnologies tter if the case o	# 9 <u>1</u> <i>Bucket</i> f 0	Proposed PROF The T the M	Diagram to the Response POSED REJEC ransmit Switch DI after the cor	Respon T. function co npletion of <i>l</i>	nse Status W ntinues to connect f Auto-Negotiation.	the transmit pat	h of the HCD PHY to
Suggested change 0 = FE To: 0 = FE Proposed I	IRemedy e: IC decoder does I Response	not indicate errors not indicate errors to the PC Response Status W	S							

C/ 73 SC 6.10

P <b>50</b>	L <b>1</b>	# 195	CI 73	SC 73.11	P <b>52</b>	L19	# 12
Avago Technol	ogies		D'Ambrosi	a, John	Dell		
Comment Status D	auto-negotiatio	on.	Comment LE17	<i>Type</i> <b>TR</b> is in regards to	Comment Status D "Incompatible abilities" and	per Rev. D3.1, is	<i>bucket</i> specific to 40GBASE-
the AN_GOOD_CHECK s ceiver to the MDI." and prior to entry into the Al lect the DME page receiver <i>Response Status</i> <b>W</b>	tate, the Rece N_GOOD_CHI to the MDI."	eive Switch function shall	CR4 a and ca Suggested Add L Chang "PHYs advert Proposed	Ind 40GBASE-I able PHYs, but <i>Remedy</i> E17 modification ge value / common s for operation of ised simultaneon <i>Response</i>	KR4. 802.3bj D1.2 adds tex PIC LE17 has not been more on to 73.11.4.3 ment to over electrical backplane and ously." Response Status W	t to address variou dified to reflect this d copper cable as:	us rates of backplane s. sembly shall not be
of Auto-Negotiation.	e receive path	or the HCD PHY to the	PROP	OSED ACCEP	T IN PRINCIPLE.		
P <b>51</b> Mellanox Techr	L <b>25</b> nologies	# 83	Chang "PHYs for ope	ge Value/Comm for operation operation operation	nent for LE17 to: over electrical backplane are oper cable"	e not simultaneous	sly advertised with PHYs
Comment Status <b>D</b> Id have the PHY order in the J priority resolution - switch 24	e same order a the order of th	as in the le	CI 73 Sela, Orer Comment The P field a 100GF	SC 73.3 Type E HYs are listed i nd the priority r BASE-KR4	P <b>48</b> Mellanox T <i>Comment Status</i> <b>D</b> in the same order as they ar esolution so 100GBASE-KP	L17 echnologies re in the Technolog 24 should be listed	# 82 gy ability before
Response Status W			Suggested chang includ 100GF to: includ 100GF	<i>IRemedy</i> e: e 1000BASE-K 3ASE-CR10, 10 e 1000BASE-K 3ASE-CR10, 10	X, 10GBASE-KX4, 10GBAS D0GBASE-KR4, 100GBASE X, 10GBASE-KX4, 10GBAS D0GBASE-KP4, 100GBASE	E-KR, 40GBASE- -KP4, and 100GB E-KR, 40GBASE- -KR4, and 100GB	KR4, 40GBASE-CR4, ASE-CR4 KR4, 40GBASE-CR4, ASE-CR4
			Proposed PROP Also c Page Page	Response OSED ACCEP hange order or 48, Line 52. 49, Line 38.	Response Status <b>W</b> T.		
	P50 Avago Technol Comment Status D n is only applicable during a o the AN_GOOD_CHECK s ceiver to the MDI." and prior to entry into the AI ect the DME page receiver Response Status W oon continues to connect the of Auto-Negotiation. P51 Mellanox Techn Comment Status D Id have the PHY order in the opriority resolution - switch 4 Response Status W	P50       L1         Avago Technologies         Comment Status       D         n is only applicable during auto-negotiation         o the AN_GOOD_CHECK state, the Recent ceiver to the MDI."         and prior to entry into the AN_GOOD_CHeck state, the Recent ceiver to the MDI."         Response Status       W         and continues to connect the receive path of Auto-Negotiation.         P51       L25         Mellanox Technologies         Comment Status       D         Id have the PHY order in the same order of the priority resolution - switch the order of the test.         Response Status       W	P50       L1       # 195         Avago Technologies       Comment Status       D         n is only applicable during auto-negotiation.       D       D         a deprior to entry into the AN_GOOD_CHECK state, the Receive ect the DME page receiver to the MDI."       Response Status       W         and prior to entry into the AN_GOOD_CHECK state, the Receive ect the DME page receiver to the MDI."       PS1       L25       # 83         Concordinues to connect the receive path of the HCD PHY to the for Auto-Negotiation.       PS1       L25       # 83         Mellanox Technologies       Comment Status       D       N       N         Response Status       W       N       N       N         Response Status       W       N       N       N         Mellanox Technologies       N       N       N       N         Response Status       N       N       N       N         Response Status       W       N       N       N       N	P50       L1       # 195       C/ 73         Avago Technologies       D'Ambrosi         Comment Status D       D         n is only applicable during auto-negotiation.       Certain         D the AN_GOOD_CHECK state, the Receive Switch function shall ceiver to the MDI."       Suggested and Certain         and prior to entry into the AN_GOOD_CHECK state, the Receive ect the DME page receiver to the MDI."       Change "PHYs advert"         Response Status W       "PHYs advert"         Of Auto-Negotiation.       P51       L25       # 83         Change "PHYs advert"       Change "PHYs for op-THYs of proposed"       PROP         Mellanox Technologies       Change "PHYs for op-THYs advert"       The P         Comment Status D       Change "PHYs for op-THYs advert"       Sela, Orer         Id have the PHY order in the same order as in the 1 priority resolution - switch the order of the 84       Suggested change include 100GE 1000GE         Response Status W       Suggested change include 100GE 1000GE       The P         Also c       Page - Page	P50       L1       # 195       Cl 73       SC 73.11         Avago Technologies       D       D       D       D         Comment Status       D       D       D       D       D         n is only applicable during auto-negotiation.       Cl 73       SC 73.11       D'Ambrosia, John         D the AN_GOOD_CHECK state, the Receive Switch function shall ceiver to the MDI."       Comment Type       TR       LE17 is in regards to CR4 and 40GBASE-I and cable PHYs, but         and prior to entry into the AN_GOOD_CHECK state, the Receive ect the DME page receiver to the MDI."       SuggestedRemedy       Add LE17 modificatic         Change value / comment status       W       P51       L25       # 83       PROPOSED ACCEP         Mellanox Technologies       Comment Status       D       Change Value/Comment 'PHY's for operation or for operation or or operation or operation or or operation or or operation or ope	P50       L1       # 195         Avage Technologies       C/ 73       SC 73.11       P52         Comment Status       D	P50       L1       # 195         Avago Technologies       C/73       SC 73.11       P52       L19         Comment Status D       is only applicable during auto-negotilation.       D       D       D         is only applicable during auto-negotilation.       E171 is in regards to "Incompatible abilities" and per Rev. D3.1, is regard a late the seme order as in the ta priority resolution

 C/
 73
 Page 9 of 99

 SC
 73.3
 11/9/2012 3:04:06 PM

CI 73 SC 73.6.4 P49 L3 # 13 CI 78 SC 78.1 P53 L32 # 92 D'Ambrosia. John Dell Sela, Oren Mellanox Technologies Comment Type **TR** Comment Status D bucket Comment Type T Comment Status D Bucket Statement "Reserved fields shall be sent as zero and ignored on receive." does not have a Typo - replace 40GBASECR10 with 40GBASE-CR4 corresponding PIC. SuggestedRemedy SuggestedRemedy Per comment add PIC Proposed Response Response Status W Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT. Nb comment #7 deletes this text. Add item LE8a as follows. Feature: Technology ability reserved fields C/ 78 SC 78.1.4 P54 / 1 # 363 Subclause: 73.6.4 Anslow. Pete Ciena Value/Comment: Sent as zero and ignored by the receiver Comment Type Comment Status D Status: M Е Bucket The title of 78.1.4 seems to have been changed without this being indicated in the draft CI 78 SC 78.1 P53 L30 # 7 SuggestedRemedy D'Ambrosia. John Dell Add an editing instruction for the title of 78.1.4 and show the changes with underline and Comment Type E Comment Status D Style strikethrough font Avoid listings of PHYs Proposed Response Response Status W SuggestedRemedy PROPOSED ACCEPT. Table 78-1 specifies clauses for EEE operation over twisted-pair cabling systems, electrical backplanes, XGMII extension using the XGXS for 10 Gb/s PHYs and and inter-sub layer CI 78 SC 78.2 P55 L**5** # 348 service interfaces using the XLAUI for 40 Gb/s PHYs and CAUI for 100 Gb/s PHYs Anslow, Pete Ciena Comment Type E Comment Status D Bucket Proposed Response Response Status W Comment #22 against D 1.1 changed the left hand column heading in both tables 78-2 and PROPOSED ACCEPT IN PRINCIPLE. 78-4 to "PHY or interface type" However, in D 1.2 it has been changed to "PHY or interface Type" in both cases (with a Some information is missing in the suggested remedy. Change paragraph to: spurious capital T in "Type" Table 78-1 specifies clauses for EEE operation over twisted-pair cabling systems, twinax SugaestedRemedv cable, and electrical backplanes; for XGMII extension using the XGXS for 10 Gb/s PHYs; Change "Type" to "type" in the left hand column heading in both tables and for inter-sub laver service interfaces using the XLAUI for 40 Gb/s PHYs and CAUI for Proposed Response Response Status W 100 Gb/s PHYs. PROPOSED ACCEPT.

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

CI 78 SC 78.2 Page 10 of 99 11/9/2012 3:04:06 PM

				-					
CI 78 SC 78.5	P <b>54</b>	L <b>47</b>	# 250	CI 78	SC	78.5	P <b>55</b>	L	# 96
I rowbridge, Steve	Alcatel-Lucent			Sela, Ore	n		Mellanox Tec	nnologies	
Comment Type T "Fast Wake" is not a g more a different type faster. Figure 78-3 of of sleep works.	Comment Status D good or accurate term for the se of sleep which, by not turning of the base document does not ac	econd mode o If the transmit ccurately show	Terms f operation for EEE. It is ter, is able to wake of the way this new kind	Comment In tab mode CL74	Type le 78-4   - case FEC	T PHYs wit 1 and cas	Comment Status <b>D</b> h the CL74 FEC should have se 2 when case 1 is without C	2 rows under L74 FEC and	<i>Timing</i> the normal case 2 is with
SuggestedRemedy Come up with a term 3) to show the operati trowbridge_01 Proposed Response PROPOSED ACCEP Add a figure that illust	to better characterize the type of ion of this new type of EEE ope <i>Response Status</i> <b>W</b> T IN PRINCIPLE. trates Fast Wake operation.	of sleep. Add a ration. See su	a new figure (besides 78- pporting presentation	for the into 2 in 78. Case 10GE To: Case applie 40GE	e 40GB/ rows - c 5 chang -1 of the ASE-KF -1 of the es to PH GASE-CF	ASE-CR4 case 1 an e: 10GBAS PHY ap 10GBAS Ys withou R4, and 1	, 40GBASE-KR4 and 100GB d case 2. E-KR PHY applies to PHYs i plies to PHYs with FEC. E-KR, 40GBASE-KR4, 40GB It FEC. Case-2 of the 10GBA 00GBASE-CR10 PHYs appli	ASE-CR10 spl without FEC. C BASE-CR4, an \SE-KR, 40GB es to PHYs wit	lit the normal mode Case-2 of the d 100GBASE-CR10 PHYs ASE-KR4, th FEC.
Discussion regarding Cl 78 SC 78.5 Sela, Oren	terminology may result in a mon P <b>54</b> Mellanox Techn	re acceptable <i>L</i> 48 nologies	nomenclature # 95	Proposed PROI See a	<i>Respor</i> POSED also com	nse ACCEPT ment #40	Response Status W		
Comment Type <b>T</b> The text is:Fast wake	Comment Status D is mandatory for PHYs that imp	plement EEE;	Style	<i>Cl</i> <b>78</b> Barrass, I	SC Hugh	78.5	P <b>55</b> Cisco	L <b>20</b>	# 38
is an additional option PHYs that support EE SuggestedRemedy options 1: change the text to - F implement EEE; norm Option 2: Fast wake is mandato Clause 82 PCS; norm Proposed Response	ast wake is mandatory for 40Gb ast wake is mandatory for 40Gb al wake is an additional option by for PHYs that implement EE al wake is an additional option <i>Response Status</i> <b>W</b>	he 40G and 1 b/s and 100Gb for those PHY E and are con for those PHY	oog /s PHYs that /s nnected to /s	Comment The e made Suggeste Delet Proposed PROI	t Type editor's n for othe <i>dRemec</i> e the ed <i>Respor</i> POSED	E ote is no er comme ly itor's note ase ACCEPT	Comment Status D longer needed - the decision onts, but either way the note of e. Response Status W	regarding scra can be deleted.	<i>Bucket</i> ambler bypass will be
PROPOSED ACCEP Use suggested option	T IN PRINCIPLE.								

C/ 78 SC 78.5

C/ 78 SC 78.5	P <b>55</b>	L <b>32</b>	# 42	CI 78 SC 78.5	P <b>55</b>	L <b>34</b>	# 34
Barrass, Hugh	Cisco			Barrass, Hugh	Cisco		
Comment Type <b>T</b> The values in Table 78-	Comment Status <b>D</b> 4 have been proposed and	discussed, these	Timing can now be inserted.	Comment Type <b>T</b> The values in Table 7	Comment Status <b>D</b> '8-4 have been proposed and	discussed, these	Timing can now be inserted.
SuggestedRemedy change Tw_sys_rx as for Normal wake - 1.2uS for Fast Wake - 0.25uS for Proposed Response	ollows: or 40G, 1.0uS for 100G r all PHYs <i>Response Status</i> <b>W</b>			SuggestedRemedy Change Tphy_shrink Change Tphy_shrink Change Tphy_shrink Change Tphy_shrink Proposed Response	_tx to 2uS for Normal mode, a _rx to 3uS for Normal mode, a _tx to 0uS for Fast Wake mod _rx to 0uS for Fast Wake mod <i>Response Status</i> <b>W</b>	ll PHYs Il PHYs e, all PHYs e, all PHYs	
PROPOSED ACCEPT.				PROPOSED ACCEP	Т.		
Cl 78 SC 78.5 Barrass, Hugh	P <b>55</b> Cisco	L <b>32</b>	# 40	C/ 78 SC 78.5 Barrass, Hugh	P <b>55</b> Cisco	L <b>35</b>	# 35
Comment Type <b>T</b> With the addition of scr	Comment Status D ambler bypass, rows need to	o be added to tab	Timing le 78-4.	Comment Type <b>T</b> The values in Table 7	Comment Status D '8-4 have been proposed and	discussed, these	Timing can now be inserted.
SuggestedRemedy Add rows for 40GBASE Fast Wake with values corresponding values for Proposed Response	-CR4, 40GBASE-KP4 and 1 of Tw_sys_tx, Tw_phy and or "Normal." <i>Response Status</i> <b>W</b>	100GBASE-CR10 Tphy_shrink_rx a	) between Normal and all 2uS larger than the	SuggestedRemedy Change Tw_sys_tx to Proposed Response PROPOSED ACCEF	5.5uS for Normal mode, all F <i>Response Status</i> <b>W</b> T.	PHYs; 0.34uS for	Fast Wake, all PHYs.
PROPOSED ACCEPT.	,			CI <b>78</b> SC <b>78.5</b> Barrass, Hugh	P <b>55</b> Cisco	L <b>8</b>	# 41
Cl 78 SC 78.5 Barrass, Hugh	P <b>55</b> Cisco	L <b>33</b>	# 43	Comment Type <b>T</b> The timing values for presentation).	Comment Status <b>D</b> Table 78-2 have been presen	ted and discusse	<i>Timing</i> ed (see separate
Comment Type <b>T</b> The values in Table 78-	Comment Status <b>D</b> 4 have been proposed and	discussed, these	<i>Timing</i> can now be inserted.	SuggestedRemedy Insert the following va	alues in every row:		
SuggestedRemedy Change Tw_phy to 5.5u Proposed Response PROPOSED ACCEPT.	uS Normal; 0.30uS Fast Wa Response Status W	ke		Ts = 0.9/1.1 uS Tq = 1700/1800 uS Tr = 5.9/6.5 uS 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: Clause, Subclause, page, line

C/ 78 Pag SC 78.5 11/9

Page 12 of 99 11/9/2012 3:04:07 PM

CI 78 SC 78.5.2	P56	L13	# 197		Cl 80	SC 80.1.2		P <b>58</b>	L <b>29</b>	# 251
Comment Type T PIASE MDIO register bi SuggestedRemedy	Comment Status D	ologies		Bucket	Comment Conce does i and th	<i>Type</i> <b>T</b> rning the delent not have this c e mechanism	Comment Si ted objective "Prov bjective, it touches proposed for EEE	tatus <b>D</b> vide Appropriat three interfac does not pres	te Support for ses from the 80 erve the OTN	OTN OTN", while P802.3bj )2.3ba project which do, mapping.
Change 1.n.n to 1.7.9 Proposed Response PROPOSED ACCEPT.	Response Status W				Suggested Add, i should Modify	<i>Remedy</i> n an appropria I not be used to the operation	te place, a warning for an interface tha of the "fast wake"	g note about th t is transparer mode so that	ne fact that "no htly carried ove LPI indication	rmal wake" operation r an OTN network. can be carried
CI 78 SC 78.5.2	P <b>56</b>	L <b>8</b>	# 196		transp	arently throug	h the OTN mapper	. See supporti	ing presentatio	n trowbridge_01
Comment Type T Regiset bits for PEASE	Comment Status D have been defined.	ologies		Bucket	Proposed PROF	Response OSED REJE(	Response St	atus <b>W</b>		
SuggestedRemedy Change 1.n.n to 1.7.8 Proposed Response PROPOSED ACCEPT.	Response Status W				The c interfa auton suppo the us	urrent draft do ces. In order t egotiation link rted over OTN e of optional E	es not pose any pr to connect to OTN partner and can co I (e.g. optional FEC EEE if the capabilit	oblems with ap transport, a de ontrol and term C as defined in y is not adequ	ppropriate supported with the support of the suppor	port for OTN for copper used that can act as an tions that would not be ch a device can decline d.
C/ 79 SC 79.4 Barrass, Hugh	P58 Cisco	L1	# 36		lf, at s to mal	ome time in th ke a number o	ne future, an optica f choices regarding	I project shoul g OTN. The op	d choose to de peration of EEE	efine EEE it would need E Fast Wake might be
LLDP definitions are rec SuggestedRemedy	quired for the exchange and	negotiation o	of Fast Wake.	LLDP	<i>Cl</i> <b>80</b> Dudek, Mi	SC 80.1.3	(	P <b>58</b> QLogic	L48	# 303
Bring Clause 79 into the	e draft & make the changes	included in th	ne separate submiss	sion.	Comment	Туре Т	Comment S	tatus D		MDI
Proposed Response PROPOSED ACCEPT.	Response Status W				It state the M	es at the top o DI for bakplan	f the next page tha e Physical lanes	t there is no e	lectrical or mee	chanical specification of
See barrass_nn_1011					Suggested Delete	<i>lRemedy</i> e "in Clause 84	for 40GBASE-KR	.4,"		
					Proposed PROF	Response OSED ACCE	Response St PT.	atus <b>W</b>		
					Note t	hat this is a ch	nange to the base s	standard.		

C/ 80 SC 80.1.3

C/ 80 SC 80.1.3 P58 L49 # 97	C/ 80 SC 80.1.4 P59 L50 # 98
Sela, Oren Mellanox Technologies	Sela, Oren Mellanox Technologies
Comment Type T Comment Status D MDI	Comment Type T Comment Status D Style
bullet g and h are wrong - 40GBASE-LR4, 100GBASE-LR4 and 100GBASE-ER4 are single lane MDI and not 4 lanes	if we state that some 100GBASE-R PHYs use CL91 FEC we should also state that some 40GBASE-R and 100GBASE-R may use CL74 FEC
SuggestedRemedy	SuggestedRemedy
g) The MDIs as specified in Clause 89 for 40GBASE-FR, in Clause 87 for 40GBASE-LR4, in Clause 88 for 100GBASE-LR4 and 100GBASE-ER4 all uses a	after - "Layer devices also use the transcoding and FEC of Clause 91." add "Some 40GBASE-R and 100GBASE-R also may use FEC of caluse 74"
single lane data path. h) The MDIs as specified in Clause 84 for 40GBASE-KR4, in Clause 85 for	Proposed Response Response Status W
40GBASE-CR4, in Clause 86 for 40GBASE-SR4, and in Clause 92 for GBASE-CR4 all use a 4 lane data path	FROFUSED ACCEFT.
Pronosed Response Response Status W	C/ 80 SC 80.1.5 P61 L37 # 351
PROPOSED REJECT	Anslow, Pete Ciena
	Comment Type E Comment Status D Bucke
Although they use 1 fiber, there are 4 lanes of data using 4 wavelengths.	Comment #175 against D 1.1 changed the nomenclature column of Table 80-2a under
C/ 80 SC 80.1.3 P59 / 33 # 406	Clause 91 to "RS-FEC", however the hyphen is missing.
Dawe, Piers IPtronics	SuggestedRemedy
Comment Type T Comment Status D late, Style	Change the nomenclature column of Table 80-2a under Clause 91 from "RS FEC" to "RS-FEC"
This says "CONDITIONAL BASED ON PHY TYPE" but for some PHY types it's not conditional: 74.1 "The 40GBASE-CR4 and 100GBASE-CR10 PHYs described in Clause 85 optionally use the FEC sublayer".	Proposed Response Response Status W PROPOSED ACCEPT.
SuggestedRemedy	C/ 80 SC 80.2.2 P L # 366
Change to "DEPENDING ON PHY TYPE". Also Figure 80-3b.	Anslow, Pete Ciena
Proposed Response Response Status W	Comment Type E Comment Status D Bucke
	"and the PMA specifications defined in Clause 83 and Clause 94" would be better as "and the PMA specifications defined in Clause 83 or Clause 94"
"CONDITIONAL BASED ON PHY TYPE" and "DEPENDING ON PHY TYPE" have identical meaning in the English language	SuagestedRemedy
	Change " in Clause 83 and Clause 94" to "in Clause 83 or Clause 94"
	Proposed Response Response Status W
	PROPOSED ACCEPT

CI 80 SC 80.2.2

C/ 80 SC 80.2.2 Dudek, Mike	P <b>62</b> QLogic	L <b>5</b>	# 304		<i>Cl</i> <b>80</b> Sela, Oren	SC 80.3.1	P <b>62</b> Mellanox Teo	L <b>51</b> chnologies	# 99
Comment Type T Clause 94 does not be	Comment Status D long in this section unless the	ere is also some	e description of	Style	Comment There	<i>Type</i> <b>T</b> are 4 aditional p	Comment Status D	J	Bucket
SuggestedRemedy Add 100GBASE-P to t Do so also in Clause 8 Proposed Response PROPOSED ACCEPT Change the beginning	ne list of Phy types on line 5. 0.2.5 on line 35 <i>Response Status</i> <b>W</b> IN PRINCIPLE. of the clause to:				Suggested change subla follows To: subla follows Proposed a PROP	Remedy e: ayer service inte ayer service inte Response OSED ACCEP1	rface includes two additional rface includes four additiona <i>Response Status</i> <b>W</b>	primitives defin	ed as red as
"The terms 40GBASE On line 7 change "40G Change the beginning	R, 100GBASE-R and 100GE BASE-R and 100GBASE-R I of 80.2.5 as 80.2.2	ASE-P refer ." PCSs" to "Claus	e 82 PCSs"		Cl <b>80</b> Anslow, Pe Comment	SC 80.3.1 ete Type E	P62 Ciena Comment Status D	L 51	# 364 Bucket
C/ 80 SC 80.2.6 Sela, Oren Comment Type E For consistancy PHYs Technology ability field	P62 Mellanox Tec Comment Status D should be listed in the same and the priority resolution so	L43 hnologies order as they a 0100GBASE-KI	# <u>85</u> <i>PF</i> re in the P4 should	IY order	are fou Suggested Chang Proposed I PROP	r. <i>Remedy</i> e to "the inter-s <i>Response</i> OSED ACCEP1	ublayer service interface incl Response Status W	udes four additic	onal primitives"
SuggestedRemedy per comment Proposed Response PROPOSED ACCEPT	Response Status W				C/ 80 Dawe, Pier Comment Draft p COND below Suggested Don't c change Proposed I PROP "CONI TYPE"	SC 80.3.2 s Type T roposes changi ITIONAL BASE FEC. In general Remedy to proposed cha e is appropriate Response OSED REJECT DITIONAL BASE	P63 IPtronics Comment Status D ng OPTIONAL OR OMITTED D ON PHY TYPE in Figure 8 , these can mix up the lanes use just "DEPENDING ON Response Status W ED ON PHY TYPE" means th	L31 D DEPENDING ( 0-3. Yet figure s so are not allow so are not allow st to Figure 80-4 PHY TYPE". ne same as "DEF	# 407 <i>late, Style</i> DN PHY TYPE to shows 10-lane PMAs red with Clause 91 FEC. , Figure 80-5. But if a PENDING ON PHY

Page 15 of 99

11/9/2012 3:04:07 PM

<i>Cl</i> <b>80</b> SC <b>8</b> Nicholl, Gary	0.3.2	P <b>63</b> Cisco	L <b>32</b>	# 335	C/ <b>80</b> Nicholl, Ga	SC <b>80.3</b> ary	.2	Р <b>63</b> Cisco	L <b>32</b>	# 329
Comment Type I would like to s	ER C see another fi	Comment Status <b>D</b> igure added similar to Fig	g 80-3a, but sho	Style	<i>Comment</i> Comn	<i>Type</i> <b>TF</b> nent against	Fig 8	Comment Status D 30-3b (physically located on p	oage 65).	Sty
I think it is imported to the RS-I where the RS-I must be, support	ortant to inclu FEC is impler orted.	Ide this example, as it m metned in a separate sta	nakes it very cle ndalone PHY cl	ar that applications hip can be, and in fact	The fi layer. below muxin	gure shows It is my unc a Clause 9 g below the	a PM ersta I RS- RS-F	A (20:10) and a PMA (10:n) nding that the only PMA laye FEC layer is a PMA (4:4), i.e EC layer.	layer implemer er that is allowed e. you are not al	nted below a RS-FEC I to be implemented lowed to do any lane bit
I am considere some subtle in	d that if we deter-layer com	o not include this examp munication that is requir	le in the docum ed to support th	ent we may overlook is critical application.	Suggested Please	<i>dRemedy</i> e correct fig	ure a	ccordingly.		
					Proposed PROF	<i>Response</i> POSED REJ	ECT.	Response Status W		
to shown an e S <i>uggestedRemedy</i> Add figure add	xample where , ed similar to l	e the FEC Fig 80-3a, but showing a	n example whe	re the RS-FEC layer is	The findica indica type. s into pr	gure shows tes that eith Since the pu recise detail	a PM er typ rpose on th	A (4:4) and a PMA (4:4) belo e of PMA may be appropriat e of this figure is to show EE e options that are already sh	ow a RS-FEC la e - depending c E primitives it is nown in the othe	yer also. The use of "or" n PHY speed and FEC not necessary to go r diagrams.
separated from Proposed Respons	the 100GBA	ASE-R PCS block by a P esponse Status W	MA layer.		<i>Cl</i> <b>80</b> Sela, Orer	SC 80.3	.3.4	P <b>63</b> Mellanox Tec	L <b>51</b> hnologies	# <u>1</u> 00
Figure 83C-2a	should be su	ifficient.			Comment Per ch	<i>Type</i> <b>T</b> nanges to th	e LPI	Comment Status <b>D</b> transnit state diagram (Figu	re 82-16) this sl	scr bypas nould be
CI 80 SC 8 Nicholl, Gary	0.3.2	P <b>63</b> Cisco	L <b>32</b>	# 332	Suggestee	eu dRemedy				
Comment Type Figure 80-3b is 80.3.3.4.3. on   all of the differe the sections de	E C s referenced in page 65 . Wh ent primitaves escribing the	Comment Status <b>D</b> n this section, but is phy ny ? I actually found it co s defined in 80.3.3.4 thro primatives.	sically located i nfusing that Fig ugh 80.3.3.7 is	<i>Bucket</i> in the middle of section ure 80-3b which shows stuck in the middle of	chang The tx QUIE <sup>-</sup> To: The tx FW, A	e: _mode para T, FW, ALE _mode para LERT or B`	imete RT, R imete ′PAS	er takes on one of up to eight F_ALERT, WAKE or RF_W er takes on one of up to six v S.	: values: DATA, AKE. alues: DATA, S	SLEEP, LEEP, QUIET,
SuggestedRemedy	/	F			Proposed	Response		Response Status W		
Propose repos	itioning Fig 8	30-3a and Fig 80-3b und	er section 80.3.2	2 where they belong.	PROF	OSED ACC	EPT.			
Proposed Respons PROPOSED A	e Re CCEPT IN P	esponse Status W RINCIPLE.								
The style guide adjust text and	e requires tha whitespace t	at figures are left to float i to improve the placemen	n the draft but t t of these figure	he editor will attempt to s.						

C/ 80 SC 80.3.3.4 scr bypass

Style

C/ <b>80</b> Slavick, Je	SC 80.3.3.4.1 eff	P <b>63</b> Avago Techr	L <b>52</b> nologies	# 198	<i>Cl</i> <b>80</b> Nicholl, G	SC 80.3.3.7	Р <b>66</b> Сіsco	L <b>34</b>	# 338
Comment	Type <b>T</b> Con	nment Status D	-	scr bypass	Comment	t Type <b>T</b>	Comment Status D		Primitives
WAK	E, RF_ALERT and RF_W	AKE no longer exist	as tx_mode valu	Jes.	Does	this primitive hav	e to be invoked in the case	of fast wake EEI	Ε?
Suggester Chang	dRemedy ge "The tx_mode parame	ter takes on one of u	up to eight values	s: DATA, SLEEP,	Do we	e need to clarify th when EEE fast w	nat the IS_ENERY_DETEC <sup>®</sup> ake mode is active?	T primitive is nev	ver invoked and has no
QUIE to	T, FW, ALERT, RF_ALE	RT, WAKE or RF_W	AKE."		Suggeste	dRemedy			
"The t ALER	tx_mode parameter takes T."	s on one of up to five	values: DATA, S	SLEEP, QUIET, FW or	I think case incorr	<ul> <li>we should clarif on no EEE cappa rect sa I still don't</li> </ul>	y that this primitive is never bility or fast wake EEE capa fully understand fast wake F	invoked and has ability ? However FFF :)	s no effect both for the r this comment could be
Proposed	Response Resp	onse Status W			Proposed	l Response	Response Status W		
- 1101	OSED ACCELLT.				PROF	POSED ACCEPT	IN PRINCIPLE.		
<i>CI</i> <b>80</b> Nicholl, G	SC 80.3.3.6.1 ary	P <b>66</b> Cisco	L15	# 337	This i	s made clear in th	e PMD clauses, but needs	to be clarified he	ere.
Comment How o FEC I	<i>Type</i> <b>T</b> Conducts this work if there is a ayer, i.e. how is the IS_R	nment Status <b>D</b> a intermediate PMA X_LPI_Active.reque	layer between the st primitive trans	<i>Primitives</i> e PCS layer and the parently passed through	For al Energ (4 ins	II of the EEE prim gy Efficient Ethern tances)	tives, add "with the normal et (EEE) capability" (1 insta	wake mode option (nce) and after "\	on" after "optional Without EEE capability"
the PI	MA layer than may reside	between PCS and	FEC layers ?		C/ 80	SC 80.4	P <b>67</b>	L14	# 339
The d	lescription fo this primitive	e seems a little differ	ent than the othe	ers as the effect of	Nicholl, G	iary	Cisco		
receip sectio	ot is defined specifically b on the effect of receipt is (	y the FEC sublayer defined by the sublay	whereas for the c /er which receive	other primitives in this is it (which in practive	Comment Does	t <i>Type</i> <b>T</b> the first row of Ta	Comment Status <b>D</b> ble 80-3 have any aimplica	ations for suppor	Delays
Suggester	dRemedy				imple	mentation on a 80	2.3ba host line card not orig	ginally designed	for supporting RS-FEC.
Pleas layer IS_R> surrou	e add some further clarifi between the PCS and the X_LPI_Active.request prir unding section, IS_TX_M	cation around how the FEC, and whether nitive should be trate ODE, IS_RX_MODE	his operates with the intent was in ed different to the , etc	an intermediate PMA fact that other primitives in the	An ex the ne existin wond 802.3	cample here would ew 100GBASE-SF ng 802.3ba host li ering if the additic aba host, for exam	I be the inclusion of the RS- R4 PMD being developed wi ne card. It is critical that this nal delay of the RS-FEC lay ole with PAUSE buffering	FEC into an op ithin 802.3bm, a s application can yer would break ?	tical module supporting nd plugged into an l be supported so I am anything on an existing
Proposed	Response Resp	onse Status W			Suggeste	dRemedv	g		
PROF	POSED ACCEPT IN PRI	NCIPLE.			More	of a question for	clarification, so no propose	ed remedy just ye	et.
In the IS_R>	case where there is a PI K_LPI_Active.request mu	MA sublayer (or subl st be passed throug	ayers) between t h the PMA.	he PCS and the FEC	Proposed	Response	Response Status W		
Add a	oppropriate text in Clause	80.3.3.6 to describe	this.			OOLD RESEOT.			
Add th	he following sentence after	er "communicates to	the FEC that the	PCS LPI receive	The d imple	lesign of pause bu menters. The dela	iffers (and the control of late ays in this table are intended	ency, generally) d to help interope	is a matter for system erability.
"This	primitive may be passed	through a PMA subl	ayer but has no e	effect on that sublayer."	It sho speci will co of a s	ould be noted that fied for BASE-R F ope with the newly imilar magnitude	the delay specified for RS-F EC in 802.3ba, so any syster specified FEC. Furthermor to the media delay from 100	EC is significan em designed to re, the delay of th Om of fiber.	tly less than that tolerate the existing FEC he RS-FEC sublayer is
TYPE: TR	k/technical required ER/e	ditorial required GR	/general required	d T/technical E/editorial G/o	general		C/ 8	0	Page 17 of 99

SC 80.4

11/9/2012 3:04:07 PM

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

CI 90	SC 90 4	D <b>67</b>	/ 20	# 252	CL 90	SC 90 E	D <b>70</b>	/ 11	# 295
Anslow, F	Pete	Ciena	L <b>20</b>	# 352	Dawe, Pie	ers	IPtronics	LII	# 305
Comment Comr not be	<i>t Type</i> <b>E</b> ment #178 agains een preserved.	Comment Status D at D 1.1 was accepted but not	t fully implement	PHY order ted. Reach order has	Comment The S there	<i>Type</i> <b>T</b> Skew and partic can be no more	Comment Status <b>D</b> ularly, Skew Variation allocation e than 4 lanes, trace length mis	ns were develop smatch will be re	Delay bed for 10 lanes. When educed, so these limits
Suggeste Chan 100G 100G 100G 100G In oth	dRemedy ge the order of th BASE-R RS-FEC BASE-KR4 BASE-KP4 BASE-CR4 ier words, move t	e additional rows shown in T	able 80-3 to be:		Suggested Revie 10 Ian Proposed PROF	dRemedy w the Skew and hes and 4. Response POSED REJEC	d Skew Variation allocations, b <i>Response Status</i> <b>W</b> T.	earing in mind t	he difference between
Proposed PROI	I Response POSED ACCEPT	Response Status W			In pro the sa overtu	ject .3ba it was ame skew (in te urn that conclus	concluded that 4 lane and 10 l rms of time). There has been n sion.	lane inplementa no evidence pre	tions could suffer from sented in this project to
Cl 80 Nicholl, G	SC <b>80.5</b> Gary	P <b>67</b> Cisco	L <b>44</b>	# <u>3</u> 33	C/ <b>80</b> Slavick, Je	SC 80.5	P <b>70</b> Avago Techn	L <b>23</b> ologies	# 199
Comment Do we CAUI is not Figure	t Type E e need to add an 4 interfacae betw required if the sk e 80-5a ?	Comment Status D additional figure (say Figure een the 100GBASE-R PCS I tew points and skew values v	80-5b), showing ayer and RS-FE vould be identica	<i>Style</i> an example with a C layer ? Perhaps this al to those shown in	Comment Table PMA( Suggested	<i>Type</i> <b>T</b> 80-5 states tha 4:4) for a 100G	Comment Status D at SP6 is N/A for 25G rates, but BASE-R PHY stackup which w	t Figure 80-5a s rould be a 25G s	<i>Timing</i> hows it coming out of a signaling location.
S <i>uggeste</i> If you	dRemedy agree with the co	omment then add a new figur	e as described	above. If not then don't.	Chang Proposed	ge the N/A for S Response	SP6 in Table 80-5 to~98		
Proposed PROI	Response	Response Status W			PROF	POSED ACCEF	PT.		
There	e is no CAUI-4 de	fined in this project, however	the skew points	defined (SP0/SP7)					

should remain the same for either CAUI-10 or CAUI-4. If a future project should see fit to define an interface for CAUI-4 then the diagram could be updated to include the appropriate labeling for both PMA SERVICE INTERFACE instances (and adjacent PMAs).

C/ 80 SC 80.5

C/ 80	S	C 80-3b	P <b>65</b>	L	# 87		CI 80	SC 80	0-4	P <b>69</b>	L	# 111	
Sela, Ore	en		Mellanox Te	chnologies			Sela, Oren			Mellanox Teo	hnologies:		
Commen	t Type	Е	Comment Status D			Style	Comment	Туре	т	Comment Status D			Delay
Figur confu	e 80-3 using n	b Optional in eed to calrif	nter-sublayer service interfa y and split into 2 figures	ace for EEE sup	port is		Table 8 The PC	30-4 CS lane t	o lane	skew should not be applicab	e for the		
Suggeste	edRem	edy					100GE	BASE-CR	4/KR4	KP4. Those number include	significant ske Lit also has si	ew components that	
1) ad	ld a co	mment that	this figure only has the add	litional signals o	n top of		PMA s	kew that	is too	high for a 4:4 PMA	, 11 4100 1140 01	gimouri	
those 2) the	e in Fig e PMA	grue 80-3a. attached be	low an RS-FFC sublaver c	an only be a 4.4	because the		Suggested	Remedy					
figure	e has t	ooth the RS-	FEC and CL74 FEC in the	same figure it lo	oks like a		Split th	e table ir	nto 2 ta	able. Table 1 should remain th	ne same as tal	ble 80-4	
4:n o	ra 10:	n or a 20:10 s into 2 Eigu	PMA can be attached to th	he RS-FEC subl	ayer.		in 802.	3-2012.	o shou	Ild only have the 100C skew	and should be	applicable to	
the m	nadato	ry RS-FEC \	will make this more clear				the new	N PHYs.	6 31100	and only have the 1000 skews			
Proposed	d Resp	onse	Response Status W				For the	e new tab	le SP(	) should remain 29ns, SP1 ca	in be 29ns, SF	2 should be	
PRO	POSE	D ACCEPT	IN PRINCIPLE.				~36ns. should	be~65ns	s and S	SP6 should be~73ns. SP7 sh	ould still be 29	niy), SPS ns.	
Т							as a re	sult the l	atency	at the FEC receive should cl	nange from 18	0ns to~90ns	
TO re	eauce o	confusion:					this sh	ould also	o effect	t 91.5.3.1 on page 124 line 41			
Add t	text to	the diagram	stating that this is only the	additional signa	als for optional EE	E.	Proposed I	Response	е	Response Status W			
Dolot	to the	ana aifian far	the DMA aubleware (20.10	ata ) and add a	DMA botwoon the		PROP	OSED RI	EJECT	Г.			
the F	EC (is	sue highligh	ted by comment #337 )	etc., and add a			The sk usage manne advant	ew budg of sublay r. A syste age of re	eting n /ers. It em imp educed	nechanism in 40/100G Etherr is likely that future projects w plementer who configures sul l skew budgets according to t	net is based an vill continue to players in a fixe ne specific cor	ound interchangeabluse sublayers in that ed manner may take nfiguration.	e t

CI 80 SC 80-4

C/ 81	SC 81.1.7	P <b>72</b>	L <b>43</b>	# 14	C/ 81	SC 81.3.1.5	P <b>73</b>	L <b>45</b>	# 101
D'Ambros	sia, John	Dell			Sela, Oren		Mellanox T	echnologies	
Commen Follo	t Type <b>TR</b> wing sentence	Comment Status D		PICS	<i>Comment Ty</i> Might be	pe <b>T</b> good to calrif	Comment Status D y that the time in this state	ment is Tw_sys_t	Timing
"EEE opera	capability require ation (with"	es the use of the MAC define	d in Annex 4A fo	r simplified full duplex	SuggestedRe	emedy o:			
state	s a requirement, b	out there is associated SHAL	L statement		The RS s	should not pre	esent a start code for valid t	transmit data until	after
Suggeste	edRemedy				the wake	up time spec 78-4	cified for the PHY (Tw_sys_	tx). The wake tim	es are shown
Char "EEE 4A fo	ige sentence to capability shall u or simplified full du	se the MAC defined in Annex uplex operation (with"	<		Proposed Re PROPOS	sponse SED ACCEPT	Response Status W		
Add	corresponding PIC	2			C/ 81	SC 81.3.2.4	P <b>74</b>	L <b>41</b>	# 340
Proposed	l Response	Response Status W			Nicholl, Gary		Cisco		
PRO	POSED REJECT				Comment Ty	pe T	Comment Status D		Style
Addir only other	ng a "shall" and as be satisfied in a d RS clauses	ssociated PIC would create a ifferent clause. The statemer	requirement in out as written mate	one clause that could ches those used in	This sect RXD to 0 i.e. RXD	ion indicates 0x06 (on all lar <7:0> is set to	that the PHY signals LPI to nes). However Figure 81-8a ) 0x06.	o the RS by assert a gives the impres	ting RXC and setting sign that only lane 0 ,
		0.70	1.40	// <b>DO</b> /	SuggestedRe	emedy			
Ci 81 Nicholl, G	SC 81.3.1.5 Bary	Cisco	L <b>40</b>	# 334	Propose clear tha	modfiying the t all lanes are	table to show that all RXD set and that only lane 0 is	lanes are set to ( shown in the diag	0x06, or at least make it ram for clarity.
Commen	t Type E	Comment Status D		Style	Proposed Re	sponse	Response Status W		
This all la	line states that LF	I is requested by the RS aas	serting TXC and	setting TXD to 0x06 (in solv	PROPOS	SED REJECT			
sent	on lane 0 , i.e. TX	D <7:0>.	gives the impre		The note	in this figure	states:		
Suggeste	edRemedy				Note: RX	C and RXD a	re shown for one lane, all 8	3 lanes behave ide	entically during LPI
Modi (TXD	fy Fig 81-6a to sh <7:0>).	ow that LPI is signalled as 0x	:06 on all lanes a	and not just on lane 0					, ,
Proposed PRO	<i>l Response</i> POSED REJECT	Response Status W							
The	note in this figure	states:							
Note	TXC and TXD ar	e shown for one lane, all 8 la	nes behave ider	tically during LPI					

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

C/ 81 SC 81.3.2.4

C/ 81	SC 81.3.4	P <b>75</b>	L <b>31</b>	# 341
Nicholl, Gary		Cisco		
Comment Ty	pe <b>T</b>	Comment Status D		Style

This section states:

"Sublayers within the PHY are capable of detecting faults that render a link unreliable for communication. Upon recognition of a fault condition, a PHY sublayer indicates Local Fault status on the data path."

The term "unreliable for communication" is very vague and not clearly defined.

Now that were are moving to these higher speed ethernet links customers are starting to take link fault signalling more seriously (and see more value in it), I am getting increasing guestions from the field where a customer see a LF condition and wants to know what caused it This is always a difficult question to answer as it is not clearly defined in the stadnard.

### SugaestedRemedv

I tihnk we should clearly define in the standard as to which alarm conditions generate a Local Fault (LF). I don't think this is that difficult and the list would be something like PMD:LOS, PMA:LOL, PCS:Loss-of-block-lock: PCS: HI-BER .. basically the basic PHY alarms reported in the MDIO section.

I think standrdizing this would be a great service to the industry.

This is really no different to what has been done in the past for SONET and OTN equipment where the alarm conditions which generate AIS (SONET/OTN equivalent of LF) are clearly defined and implemented consistently across equipment from multiple vendors.

Proposed Response Response Status W

PROPOSED REJECT.

This is the text that was agreed during 802.3ba. This is simple descriptive text, it is unnecessary to go into details regarding other clauses.

C/ 81	SC 81.3a	P <b>76</b>	L1	# 327
Nicholl, Gary	/	Cisco		
Comment T	vpe T	Comment Status D		Stvle

#### Comment Type T Comment Status D

What appears to be missing in this section (and in Figure 91-9a) is a description of whether this LPI assertion and detection functional block and associated state machines is implemeted upstream or downstream from the link fault singaling functional block (described in section 81.3.4).

I believe it must be implemented upstream (above) the link fault signalling block as when a Local Fault is received by the RS from the PHY layer, then the trasnmit RS stops sending either MAC date or LPI and instead sends continuous Remote Fault towards the PHY.

### SuggestedRemedy

Please clarify where in the data path this function is to be included, with respect to link fault signalling. If the convention is that this is implicitely defined by the fact that this section (81.3a) occurs before the link fault signalling section (81.4) then you can ignore this comment.

Proposed Response Response Status W

PROPOSED REJECT.

The position of the LPI assertion and detection mechanism is immaterial. The behavioral definition of the link fault signaling makes it clear that link fault overrides LPI.

C/ 81 SC 81.3a

C/ 81	SC 81.3a	P <b>76</b>	L <b>35</b>	# 330	C/ 81	SC <b>81.3a</b>	P <b>77</b>	L11	# 15
	Ture TD			Ct	D AIIIDIUS				Ducket
"The	definition of TXC<7	7:0> and TXD<63:0> is deri	ved from the stat	e of	e Comment Wake	up time / Trans	mit LPI state diagram has	shall statement wit	h no correspondina PIC
In the PLS_ LP_IC Is this In the LP_IC	DATA.request (81) DLE.request." a actually ture ? case of a Remote DLE.request ultima	E Fault condtion aren't both tely overwritten by the asse	ridden by an ass ridden by an ass the state of PLS_ rtion of Remote	_DATA.request and Fault.	Suggeste add F Featu subcl Value Proposed	dRemedy IC table for LPI re > Wake up tir ause > 81.3.a.2 - Per Transmit I Response	Assertion and Detection me LPI state diagram 81-10a <i>Response Status</i> W	shan statement wit	The corresponding Pic
The d priorit	lefinition of TXC<7 y order:	:0> and TXD<63:0> is deriv	ed from the state	e of the follwoing in			1 D <b>7</b> 0	/ 31	# 46
1. Re	mote Fault				D'Ambros	ia. John	Dell	231	# 16
2. LP 3. PL	_IDLE.request S_DATA.request				Comment	<i>Type</i> <b>TR</b>	Comment Status D	o corresponding DI	Bucket
Suggeste	dRemedy				KS M		has shall statement with h	o corresponding Pr	C
PROF Chan LP_IE	POSED ACCEPT I ge: "an assertion o DLE.request"	N PRINCIPLE. of LP_IDLE.request" to "an a	assertion of Rem	ote Fault or	subcl. Value LP_IC 	ause > 81.3.a.3. - "signal DATA_ DLE on the XLGM <i>Response</i>	I I NOT_VALID on PLS_DAT WII and CGMII." Response Status W	A_VALID.indicatio	n while it is detecting
Anslow, P	Pete	Ciena	L 33	# 365	PROF	OSED ACCEP	1.		
Comment Comr The fo	<i>Type</i> <b>E</b> nent #11 against D ormatting of the tex	Comment Status <b>D</b> 0 1.1 was accepted, but not xt below Figure 81-9a is not	implemented. usual (the left m	Bucke argin is indented)	et Cl 82 Slavick, J Comment Note	SC 82.1.3 eff <i>Type</i> E 1 & 2 now state	P80 Avago Teo <i>Comment Status</i> D the same thing.	L <b>27</b> chnologies	# <u>188</u> <i>Style</i>
Suggester Corre Proposed	dRemedy ct the formatting Response	Response Status W			Suggeste Remo (the tr	dRemedy we NOTE 2 from wo instances of <i>J</i>	n Figure 82-1 and change a AN2) to reference NOTE 1	all references in the	diagram for NOTE 2
PROF	POSED ACCEPT.				Proposed PROF	Response POSED REJECT	Response Status <b>W</b> Γ.		
					This v	vas addressed b	by comment #337 on draft ?	1.1.	
					Althorachie	ugh the commer ved during the re	nt is correct, the consolidati evision.	on of the 2 notes n	nay be more easily
	to chaical raginize	L ED/aditatial required CD	ann an tar					00	

TTL. Inviechnical required Envedicinal required Onvgener	a required Triedinical Ereditorial Orgeneral	01 82	1 age 22 01 33
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 82.1.3	11/9/2012 3:04:07 PM
SORT ORDER: Clause, Subclause, page, line			

C/ 82 SC	82.1.4	P <b>80</b> Cisco	L <b>36</b>	# 328		C/ <b>82</b> Sela Oren	SC	82.2.18.2	P87 Mellar	7 Dox Techr	L <b>9</b>	# 103	
Comment Type	т	Comment Status D			Stulo	Comment 7	Īvno	т	Comment Status		lologics		Control
"For Physical CAUI, is not i	Layers that	use Clause 91 RS-FEC, if d directly below the PCS su	an optional phy ublayer, then the	sical instantiatior lower interface	n, i.e.	LPI sho	ould no enabl	ot be transn led.	nitted or received wi	nen EEE i	is not supporte	ed or when	Control
connects to the	he FEC sub	layer."				Suggested	Remed	dy					
I want to mak electrical inte sublayer.	ke sure that erface) being	this text does not preclude implemented between the	a CAUI-4 (i.e. o PCS sublayer a	ptionaly 4 lane and the RS-FEC		change Note: A more /I To:	: PCS .I/ con	that does r trol charact	ot support EEE clas ers as type E	ssifies veo	ctors containin	g one or	
Perhaps this i in 802.3bm. I (FR4,KP4) w	is somethin do see app ould be con	g that should be punted un lcations however where a s nected to an existing 8023.	til we add an op standalone back ba MAC ASIC v	tional CAUI4 inte plane PHY chip ia a 4x25G (CAU	rface II4)	Note: A is disat charac	PCS pleed c ers as	that does r classifies ve s type E	ot support EEE or a ectors containing on	e or more	at does suppor e /LI/ control	t EEE but EEE	
electrical inte	erface.					Proposed F	Respor	nse	Response Status	w			
SuggestedRemec	dy					PROP	DSED	REJECT.					
More of a que against a futu	ure 802.3bm	draft.	red may be punt	ed to a comment		There i	s no "o	disable" for	EEE.				
Proposed Respor	nse	Response Status W				CI 82	SC	82.2.18.2.2	P8	3	L	# 37	
PROPOSED	REJECT.					Barrass, Hu	ıgh		Cisco				
This sentence directly to the to the sense	e describes e FEC. The e of this section	the simple fact that the PC existence, or otherwise of a on.	S may or may n a 4-lane CAUI we	ot be connected ould make no diff	erence	Comment T The de Suggested	<i>ype</i> finition Remed	E n for scr_by dy	Comment Status pass_enable should	D be under	rlined		Bucket
C/ 82 SC	82.2.18.2	P <b>87</b>	L <b>50</b>	# <u>1</u> 04		Underli	ne it.						
Seia, Oren	_		nnologies			Proposed F	Respor	nse	Response Status	w			
Comment Type	I ange the RA	Comment Status D Ms should be sent every 1	5 blocks for 400		Bucket	PROP	DSED	ACCEPT.					
SuggestedReme	dy					C/ <b>82</b> D'Ambrosia	SC , John	82.2.18.2.5	5 P88 Dell	3	L <b>25</b>	# 18	
This counter alignment ma	counts 1638 arkers for no	33 66-bit blocks that separa rmal alignment markers or	ate two consecut 7 66-bit blocks	ive for rapid		Comment 7 rx_tq_t	<i>ype</i> mer S	<b>TR</b> HALL state	Comment Status ment does not have	D a corres	ponding PIC s	tatement	Bucket
To: This counter	counts 1638	e optional EEE capability	ate two consecut	ive		Suggested Add Pl	Remed	dy					
alignment ma	arkers for no	rmal alignment markers. T	his counter cour	nts 7 66-bit		Proposed F	- Resnor	nse	Response Status	w			
seperate two	CONSECUTIVE	PCS of 15 66-bit blocks to e rapid alignment markers t	for optional EEE	capability		PROP	DSED	ACCEPT II	N PRINCIPLE.	••			
Proposed Respor PROPOSED	nse ACCEPT.	Response Status W				There i match	s alrea he oth	ady an over hers in the s	arching PICS item f	or timers.	Change the w	ording for this ti	mer to
						"The tir	ner tei	rminal coun	t is set to Twr."				
TYPE: TR/technic COMMENT STA7	cal required TUS: D/dispa	ER/editorial required GR/ atched A/accepted R/reje	general required	I T/technical E/e	editorial G/g /open W/wr	jeneral itten C/closed	Z/witł	hdrawn		CI 82 SC 82.2	2.18.2.5	Page 2 11/9/20	3 of 99 12 3:04:07 P

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

C/         82         SC         82.2.18.2.5         P 88         L 41         # 201           Slavick, Jeff         Avago Technologies         Avago Technologie	C/ 82 SC 82.2.18.3.1 P89 L18 # 283 Barrass, Hugh Cisco
Comment Type         T         Comment Status         D         scr bypass           The state TX_RF_WAKE has been removed.         Scr bypass         Scr bypass	Comment Type T Comment Status D scr bypass LPI Tx state diagram needs to change to support scrambler bypass. State TX_RF_ALERT is being deleted
SuggestedRemedy Remove the "or TX_RF_WAKE" from the tx_tw_timer definition. Proposed Response Response Status W PROPOSED ACCEPT.	SuggestedRemedy Delete references to state TX_RF_ALERT. Proposed Response Response Status W PROPOSED ACCEPT
C/         82         SC         82.2.18.3.1         P 88         L 33         # 39           Barrass, Hugh         Cisco         Cisco         Timing	C/ 82 SC 82.2.18.3.1 P89 L20 # 282 Barrass, Hugh Cisco
Comment Type     I     Comment Status     D     Timing       Scrambler bypass will require extra time for the wake.     SuggestedRemedy     Change Table 82-5b:       Add a row:     Add a row:	Comment Type       T       Comment Status       D       Timing         LPI Tx state diagram needs to change to support scrambler bypass. In support of this Twl needs to be set for the cases of scr_bypass_enable = TRUE or FALSE.       SuggestedRemedy         Duplicate the row with Twl & LPI_FW = FALSE, the two rows consisting of:       Timing
Twr   Time the receiver waits in the RX_WAKE state before indicating a wake time fault,         LPI_FW = FALSE & scr_bypass = TRUE   -   6.5   uS         Add "& scr_bypass = TRUE" to other row with LPI_FW = FALSE         Proposed Response       Response Status         W         PROPOSED ACCEPT.         See also comment #202	Twl   Time spent in the TX_WAKE states, LPI_FW = FALSE & scr_bypass = FALSE           3.9   4.1   uS         Twl   Time spent in the TX_WAKE states, LPI_FW = FALSE & scr_bypass = TRUE   2.4           2.6   uS         Proposed Response       Response Status         W         PROPOSED ACCEPT.         C/ 82       SC 82 2 18 3 1         P97       / 1
C/ 82         SC 82.2.18.3.1         P 89         L 12         # 202           Slavick, Jeff         Avago Technologies	Barrass, Hugh Cisco
Comment Type <b>T</b> Comment Status <b>D</b> Timing Tx LPI Transmit state machine needs update to support scrambler bypass modes and such. Changes for Table 82-5a and 82-5b are also needed to support the changes to state machine diagram.	Comment Type       T       Comment Status       D       scr bypass         LPI Tx state diagram needs to change to support scrambler bypass.       SuggestedRemedy       Replace Fig 82-16 with the version supplied in a separate submission.
SuggestedRemedy See slavick_3bj_01_1112.pdf	Proposed Response Response Status W PROPOSED ACCEPT.
Proposed Response Response Status W PROPOSED ACCEPT.	See also comment #202
See also comment #39	
TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/g	eneral <i>Cl</i> 82 Page 24 of 99

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SC 82.2.18.3.1 11/9/2012 3:04:07 PM SORT ORDER: Clause, Subclause, page, line

C/ 82 SC 82.2.3 D'Ambrosia, John	.4 P81 Dell	L <b>19</b>	# 6	C/ <b>82</b> Nicholl, G	SC <b>82.</b> : ary	2.3.6	P <b>82</b> Cisco	L <b>52</b>	# 336
Comment Type <b>T</b> This subclause calls control characters a for this in the text. T	Comment Status <b>D</b> sout the control codes. THe pi re transmitted), however there the included SHALL statement	ics in 82.7.4.1 call isn't a correspond s address NOT tr	PICS out c5 (only valid ling SHALL statement ansmitting values only.	Comment "/Ll/s What	<i>Type</i> E may only b does this m	R e insert iean ?	Comment Status D ed following other LPI char How would you ever transm	acters." nit the first /LI/ th	Bucket
SuggestedRemedy modify PIC stateme	nt to properly address codes to	be transmitted a	nd not transmitted.	were it CG	inserted wh MII.	en the	appropriate LPI control cha	racters were rec	evied from the XLGMII
Proposed Response PROPOSED REJEC	Response Status W			l gue subla	ss what is b yer itself , a	eing rei s need	ferred to here is the local in ed to adapt between clockc	sertion of addito rates ?	nal /LI/s by the PCS
There are "shall" sta	tements in the base standard	for both C5 and C	6 in Table 82.7.4.1.	Is the adap	re any simil ation ?	ar requ	ired for the deletion of /LI/s	by the PCS sub	layer , again for clock
				Suggeste	dRemedy				
[Set CommentType	to T (not specified by commen	iter).]	# 400	Sugg to the	estion using local insert	somet ion of /	hing like the text above to r Ll/s by the PCS layer for cl	make it crystal cl ock rate comper	ear that we are referring sation.
Sela, Oren	.4 P81 Mellanox Te	L 31 chnologies	# 102	Proposed	Response		Response Status W		
Comment Type T LPI should not be tra it is not enabled.	Comment Status D ansmitted or received when EE	E is not supporte	<i>Control</i> d or when	Chan chara	ge to "inser cters."	ed for	clock compensation /LI/s m	ay only be inser	ted following other LPI
SuggestedRemedy Change:	ted I PI shall not be transmitte	d and shall he tre	ated as	C/ <b>82</b> D'Ambros	SC <b>82.</b> : iia, John	2.8a	P <b>83</b> Dell	L10	# 17
an error if received. To: If EEE is not suppor	ted or EEE is supported but no	ot enabled LPI sha	all not be	Comment NO P Line	<i>Type</i> <b>T</b> IC statement 10, Line 15,	<b>R</b> hts for d Line 17	Comment Status D corresponding shall stateme 7, Line 50	ents in this subcl	<i>Bucket</i> ause on this page.
Proposed Response	Response Status W	ved.		Suggeste Add o	dRemedy correspondir	ng PIC	statement or statements.		
There is no "enable' send LPI according	' for EEE. The onus is on the L to ability, negotiation or system	PI Client (See Cla n preferences.	ause 81) to send or not	Proposed PRO Add I	Response POSED AC PICS item:	CEPT I	Response Status W N PRINCIPLE.		
				LP-03 RAM 82.2. Inser	3 insertion 3a tion of Rapie	I Alignr	nent Markers meets the rec	quirements of 82	.2.8a

C/ 82 SC 82.2.8a

C/ 82 Nicholl, C	SC <b>82.2.8a</b> Gary	P <b>83</b> Cisco	L <b>2</b>	# 331		<i>CI</i> 82 Trowbridge	SC 8 , Steve	82.2.8a	P83 Alcatel-Lucent	L <b>294</b>	# 249
Commen Rapio The p no ba	<i>t Type</i> <b>TR</b> d alignment marke primary ethernet F ackplane or coppe	Comment Status <b>D</b> ers cause issues when runnir PMDs used to connect to OTI er).	ng over OTN equ N equipment are	uipment. Hikely to be optica	OTN II (i.e.	Comment Rapid frame mode alignm	<i>Type</i> alignme the refr of opera ent.	T ent marke esh or wa ation, LPI	Comment Status <b>D</b> rs are only needed for the "No ke signal after turning back on control characters should be s	rmal Wake" m the transmitte sent while mair	OT/ ode of EEE to rapidly r. For the "fast wake" taining normal lane
For c mode For E reaso	optical PMDs I bel e. EEE fast wake mo on or value in swit	ieve the proposal is to only de de, where the PCS, PMA and ching to rapid alignment mark	efine support for d PMD are neve kers.	the EEE fast wak	e	Suggested For "fa charac This pi and ma trowbri	Remed st wake ters are ovides aintain dge_01	ly e", LPI sho e changeo a simpler OTN com I.	ould be signaled while maintain I to Idle characters Tw prior to method of "fast wake" operati patibility for those interfaces. S	ning lane align resuming trans on that could b See supporting	ment. LPI control smission of MAC data. ve reused for P802.3bm presentation
For E and t	EEE fast wake mo this resolves the is	de I would propose to continu ssue with interop over OTN e	ue using standaı quipment.	rd alignment mark	ers,	Proposed PROP	Respon OSED I	se REJECT.	Response Status W		
Suggeste Prope they be us	edRemedy ose that rapid alig are needed and a sed for EEE fast w	nment makers are only used dd value), whereas standard vake mode.	for EEE normal alignment make	wake mode (when ers should continue	re e to	See co [Comn	omment nentTyp	t #251, 33 be set to T	1 (commenter did not specify).]	l	
Proposed PRO See a	d Response POSED REJECT also #251, 249	Response Status W				The ch and dis on a po project OTN.	oice of scussio ossible should The ope	the curre ns in the requirement choose t eration of	nt mechanism for Fast Wake v Task Force. It would be prema ent from another project. If, at o define EEE it would need to EEE Fast Wake might be rede	was based on r ture to make a some time in tl make a numbe fined (in a num	multiple presentations drastic change based he future, an optical er of choices regarding hber of different ways)
There a dra the fu	e is currently no o istic change based uture, an optical p	bjective for EEE for optical in d on a possible requirement f roject should choose to defin	iterfaces. It woul from another pro e EEE it would r	d be premature to ject. If, at some tir need to make a nu	make me in Imber	if such the me	choice chanisi	s were ma m.	ade and the copper Task Force	e can define th	e optimal changes to

of choices regarding OTN. The operation of EEE Fast Wake might be redefined (in a number of different ways) if such choices were made and the copper Task Force can

define the optimal changes to the mechanism.

CI 82 SC 82.2.8a OTN

C/ 82 SC 82.2.8a	P <b>83</b>	L <b>49</b>	# 75	CI 82 SC 82.6	P <b>92</b>	L <b>38</b>	# 77
Wong, Don	Cisco System	S		Wong, Don	Cisco System	ns	
Comment Type <b>T</b> The current propose n marker relies upon the RAM or alignment ma	Comment Status <b>D</b> nethod of distinguishing betwe e replacement of the bip fields rker, it's hard to tell if a bip3 or	en RAM versus with the CD. U CD field is pre	RAM s existing alignment lpon sampling single a sent.	Comment Type <b>T</b> Fig 82-11. When tra blocks (83.8 msec)	Comment Status <b>D</b> ansiting from align marker to ra to lose alignment lock. 83.8 ms	pid alignment m sec seems like a	RAM arker, will take 64K I long time.
SuggestedRemedy				ouggoolourtomouy			
The current propose n marker relies upon the RAM or alignment ma	nethod of distinguishing betwe e replacement of the bip fields rker, it's hard to tell if a bip3 or	en RAM versus with the CD. U CD field is pre	s existing alignment Ipon sampling single a sent.	Proposed Response PROPOSED REJEC	Response Status W		
Proposed Response PROPOSED ACCEPT There should be a foo that the bit fields for M some discussion.	Response Status W F IN PRINCIPLE. Iproof way of distinguishing be I4, M5, M6 should be reversed	tween the two. I for RAMs. How	The editor proposes wever this topic needs	When transitioning t will fail - which caus Fast Wake mode, th only 8 or 16 blocks a then the example. V alignment is 83.8 m	to RAMs for normal mode, the l es an immediate loss of alignm ne alignment is checked much r apart - therefore the alignment l Vhen transitioning back to norm sec which is a long time but is t	P will stop trans ent_lock. When nore frequently l loss would be 10 al alignment ma the same for all	smitting and block_lock transitioning to RAMs in because the RAMs are 000 or 2000 times faster irkers, the time to lose 100G PHYs.
Note also that some s may involve changing ordered sets).	olutions for the OTN compatib RAMs to a form that might be	ility issue (see carried over O	comment #251, #331) TN (e.g. sequence	C/ 82 SC 82.6 Wong, Don	P <b>92</b> Cisco System	L <b>38</b> ns	# 76
C/ 82 SC 82.2.8a Slavick, Jeff	P <b>83</b> Avago Techno	L <b>5</b> blogies	# 200	Figure 82-11. When guidance on when the	transiting from alignment mark he am_counter terminal count of	er to rapid align changes from 16	RAM ment marker, there is no K to 8/16 blocks.
Comment Type <b>T</b>	Comment Status D		Bucket	SuggestedRemedy			
RAMs are used for alig we're in standard oper SuggestedRemedy Change "For the optio to For the optional EEE f the low power state. Proposed Response PROPOSED ACCEPT	gnment process when we're in rating mode. nal EEE function, an alternate function, an alternate method o <i>Response Status</i> <b>W</b> Г.	a lower power method of alig	state and not when nment is used." used when operating in	Proposed Response PROPOSED REJEC There is no precise than the 4-block bou added but there has system implemente 8/16 block rule is ob	Response Status W CT. requirement for positioning of th undary rule - 82.2.8a). If such a been no justification for such a r to decide exactly when the ter pserved.	ne first RAM afte requirement is r a restriction. The minal count char	er transitioning (other necessary it could be refore it is left to the nges, provided that the

C/ 82 SC 82.6

C/ 83 SC 83.3 Sela, Oren	P <b>101</b> Mellanox Techr	L <b>43</b> nologies	# 86		C/ <b>83</b> D'Ambrosia	SC <b>83.5.8</b> a, John	P <b>27</b> Dell	L <b>28</b>	# 19
Comment Type E Replace 100GBASE-R SuggestedRemedy per comment	Comment Status D FEC with 100GBASE-R RS-FI	EC		Bucket	Comment THere KR4 a to the	Type TR is a shall statem nd 100GBASE-C PIC in 83.7.3 for	Comment Status <b>D</b> ent for the PMA adjacne to R4 have been added. How Item *KRCR	the PMD sublaye ever, these PHY	Bucket er, where 100GBASE- s have not been added
Proposed Response PROPOSED ACCEPT.	Response Status W				add in Proposed I	Remedy Item *KRCR und Response	ler Feature - 100GBASE-K Response Status W	R4 and 100GBAS	SE-CR4
Cl 83 SC 83.3 Slavick, Jeff Comment Type E There are 3 additional p SuggestedRemedy Change "two" to "three" Proposed Response PROPOSED ACCEPT.	P102 Avago Technolo Comment Status D vrimitives added by EEE to the Response Status W	L <b>50</b> ogies PMA sub-clause	# 189	Bucket	CI 83A Barrass, H Comment The XI as it is Suggested If the E	OSED ACCEPT. SC 83A.3.2a ugh Type T AUI/CAUI EEE I a similar 10Gbp: Remedy EEE capability ind	P269 Cisco Comment Status D behavior can be defined in s interface.	L33 the same way as wn (see 78.5.2) th	# 286 AUI 40GBASE-CR4 (etc.) hen when tx mode is
Cl 83 SC 83.3 Kvist, Bengt Comment Type E Text talks about two prin interface includes two a SuggestedRemedy	P102 Ericsson AB Comment Status D mitives then lists and defines t dditional primitives defined as	L50 hree on next page	# <u>372</u>	Bucket	set to <i>J</i> 0xFF0 transm when repeat When disable <i>Proposed J</i> PROP	ALERT, the trans 0 which is transmit direction XLAL the received tx_r ing 16-bit pattern the received tx_r ed as specified in <i>Response</i> OSED ACCEPT.	mit direction sublayer send nitted across the XLAUI/CA JI/CAUI transmitter is disab node is set to ALERT, the , hexadecimal 0xFF00 which node is QUIET, the receive 83A.3.3.1.1. <i>Response Status</i> <b>W</b>	Is a repeating 16- UI. When tx_mod led as specified in receive direction s ch is transmitted a direction XLAUI/	bit pattern, hexadecimal le is QUIET, the n 83A.3.3.1.1. Similarly sublayer sends a across the XLAUI/CAUI. 'CAUI transmitter is
interface includes three Proposed Response PROPOSED ACCEPT.	additional primitives defined a <i>Response Status</i> <b>W</b>	15			Cl 83A Barrass, H Comment The ch clause Suggested Chang Proposed I PROP	SC 83A.3.2a ugh Type T hanges for rx_mo <i>Remedy</i> e "two additional Response OSED ACCEPT.	P270 Cisco Comment Status D de operation from draft 1.1 primitives" to "four additior Response Status W	L30 to draft 1.2 were	# 285 Bucket not reflected in this

C/ 83A SC 83A.3.2a

CI 83A SC 83/ Barrass, Hugh	A.3.2a	P <b>270</b> Cisco	L <b>33</b>	# 281	<i>Cl</i> 83A Barrass, H	SC 83A.3.3.6 ugh	P <b>270</b> Cisco	L <b>24</b>	# 290
Comment Type E The editor's note	Con is no longer i	<i>mment Status</i> <b>D</b> relevant.		Bucket	Comment The rx	<i>Type</i> <b>T</b> _mode changes	Comment Status D need to be reflected in this	paragraph.	Bucket
SuggestedRemedy Delete the editor	s note.				Suggested On line	<i>Remedy</i> e 24, change "rx_	mode is QUIET" to "the re	ceived tx_mode is	SQUIET"
Proposed Response PROPOSED AC	Resµ CEPT.	oonse Status W			on line tx_mo	25, change "tx_i de"	mode or rx_mode (as appr	opriate)" to "the a	ppropriate direction
C/ 83A SC 83/ Barrass, Hugh	A.3.3.1.1	Р <b>270</b> Cisco	L <b>52</b>	# 287	Proposed PROP	Response OSED ACCEPT.	Response Status W		
Comment Type T The XLAUI/CAU as it is a similar SuggestedRemedy Delete the editor Change the clau For EEE capabili differential peak- changing to QUI differential peak- tx_mode ceasing Proposed Response PROPOSED AC	Con EEE behavio 10Gbps interfa 's note. se to read: ty with XLAUI to-peak outpu ET in the relev to-peak outpu to be QUIET Resp CEPT.	mment Status <b>D</b> or can be defined in th ace. I/CAUI shutdown, the it voltage shall be less vant direction. Further it voltage shall be great in the relevant direction conse Status <b>W</b>	e same way as XLAUI/CAUI trans than 30mV with more, the CAUI ater than 720mV on.	AUI 40GBASE-CR4 (etc.) hsmitter lane's hin 500ns of tx_mode transmitter lane's within 500ns of	Cl 83A Barrass, H Comment The rx Suggested Chang direction SIGNA QUIET followin from th from F Proposed I	SC 83A.3.3.6 ugh <i>Type</i> <b>T</b> _mode changes <i>Remedy</i> e the paragraph on" to: NL_DETECT is se . When rx_mode ing the application the ALAUI/CAUI li AIL to OK only a <i>Response</i>	P270 Cisco Comment Status D need to be reflected in this after "If no energy is being et to FAIL following a transis = QUIET, SIGNAL_DETE n of a signal at the receiver nk partner. While rx_mode fter the valid ALERT signal Response Status W	L 35 paragraph. received on the C tion from rx_mod CT shall be set to input detects an = QUIET, SIGNA is applied to the	# 291 rx_mode CAUI for the ingress e = DATA to rx_mode = o OK within 500 ns ALERT signal driven AL_DETECT changes channel.
Cl 83A SC 83/ Barrass, Hugh Comment Type T Some instances SuggestedRemedy Change CAUI to Proposed Response PROPOSED AC	A.3.3.6 Cor. of CAUI need XLAUI/CAUI <i>Resp</i> CEPT.	P270 Cisco mment Status D d to be changed - 2 instances. ponse Status W	L <b>22</b>	# 288 Bucket	PROP C/ 83A Barrass, H Comment Some Suggested Chang Proposed I PROP	OSED ACCEPT. SC 83A.3.4.7 ugh Type T instances of CAL Remedy e CAUI to XLAU Response OSED ACCEPT.	P27 Cisco Comment Status D JI need to be changed I/CAUI - 2 instances. Response Status W	L 36	# 289 Bucket

C/ 83A SC 83A.3.4.7 Page 29 of 99 11/9/2012 3:04:07 PM

C/ 83A SC 83A.4 Barrass, Hugh	P <b>271</b> Cisco	L1	# 292	C/ 84 SC 84.2 D'Ambrosia, John	P <b>106</b> Dell	L <b>43</b>	# 20
Comment Type <b>T</b> PICS items need to be a	Comment Status D added.		Bucket	Comment Type TR PIC statement for LF	Comment Status D	L statement	PICS
SuggestedRemedy Add PICS items for:				SuggestedRemedy add SHALL statemer	nt		
83A.3.2a - Support for X	(LAUI/CAUI shutdown			Proposed Response PROPOSED ACCEF	Response Status W PT IN PRINCIPLE.		
83A.3.3.1.1 - Amplitude 83A.3.3.6 - transmit disa	& swing for XLAUI/CAUI shu able for XLAUI/CAUI shutdow	utdown vn		The PICS item is for not correspond to a '	the major capability that is refe shall" - compare this to XLAUI	ernced by other	PICS items. This does
83A.3.4.7 - signal detect Proposed Response	t for XLAUI/CAUI shutdown Response Status W			However, the reference capabilities.	ce should be to 84.1 as that is	the overall desc	cription of major
	2074	1.0	"	C/ 84 SC 84.2 Slavick, Jeff	P <b>106</b> Avago Techn	L <b>50</b> nologies	# 203
Healey, Adam	LSI Corporatio	2.6 In	# <u>169</u>	Comment Type <b>T</b> RF_ALERT, WAKE	Comment Status D	valid settings for	scr bypass tx_mode.
The editor's note indicat clause stabilizes. The co	es that the PICS proforma w pontents appear to be stable e	ill be updated enough to com	Bucket when the content of this plete this section.	SuggestedRemedy Remove the reference number of valid value	es in 84.2 to RF_ALERT, WAI to be five. Also fix section 8	KE and RF_WA 35.2	KE and update the
Update the PICS proform	ma for Annex 83A.			Proposed Response	Response Status W		
Proposed Response PROPOSED ACCEPT I	Response Status W N PRINCIPLE.			Comment #106 mak	es the change in 84.2.		
See comment #292, del	ete editor's note.			Make the same char	ge in 85.2.		

C/ 84 SC 84.2

Cl 84 Sela, Oren	SC 84.2	P <b>106</b> Mellanox Tech	L <b>54</b> nologies	# 106	C/ 84 D'Ambros	SC <b>84.7.2</b> sia, John	P <b>106</b> Dell	L10	# 21
Comment 7	vpe T	Comment Status D		scr bypa	s Commen	t Type <b>TR</b>	Comment Status D		PICS
per late change	st change to the	LPI transmit state diagram T	X_MODE values	should	lt wo PICS	uld seem that the missing as well	ere should be some SHAL	L statements in he	re.
Suggestedl	Remedy				Suggeste	dRemedy			
change The tx_ QUIET, To: The tx_ FW, AL	: mode paramete FW, ALERT, R mode paramete ERT or BYPAS	r takes on one of up to eight v F_ALERT, WAKE or RF_WA r takes on one of up to six val S.	values: DATA, SI KE. ues: DATA, SLE	LEEP, EP, QUIET,	chan Whe spec to Whe spec	ge n tx_mode is ALE fied in 72.6.10.2 n tx_mode is ALE fied in 72.6.10.2	ERT, the transmitter equal .3.1. ERT, the transmitter equal .3.1.	izer taps are set to izer taps shall be s	the preset state et to the preset state
Proposed F	Response	Response Status W			add I	PIC			
	JOED ACCELLT.				Char Whe 84.7. to	ge n tx_mode is QU 6	IET, the transmitter is disa	abled as specified in	n
					When 84.7. add F	n tx_mode is QU 6 PIC	IET, the transmitter SHAL	L be disabled as sp	pecified in
					Proposed PRO	Response	Response Status W		
					Make	the suggested of	changes to 84.7.2, add 1 F	PICS item:	
					FS13	- Transmit funct	tion for EEE - Transmitter	behavior during AL	ERT and QUIET
					C/ <b>84</b> D'Ambros	SC <b>84.7.2</b> sia, John	P <b>107</b> Dell	L <b>6</b>	# 8
					Commen subc	t <i>Type</i> <b>E</b> ause numbering	Comment Status D is incorect		Bucket
					Suggeste 84.7.	dRemedy 2, 84.7.4, 84.7.6	should not be subclauses	under 84.2.	
					Proposed PRO	l Response POSED ACCEP	Response Status W		
					Add	oaragraph heade	er for 84.7		
							~		5

TYPE: TR/technical required ER/editorial required GR/generation	al required T/technical E/editorial G/general	C/ 84	Page 31 of 99
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 84.7.2	11/9/2012 3:04:07 PM
SORT ORDER: Clause, Subclause, page, line			

Comment Type T Comment Status D Status V Comment Status D Status V Comment Type T Comment Status D Status V Comment Status S D S	C/ 84	SC 84.7.4	P	L	# 22	C/ <b>84</b> Dudek Mil	SC 84.7.4	P <b>107</b>	L <b>35</b>	# <u>305</u>
Comment Type       T       Comment Status       D         Comment Type       T       Comment Status       D         Suggested/Remody       Suggested/Remody       State the signal detect function for EEE.       Change the synaphic detect during LPU and PS14 (signal detect function for EEE.         C add so Comment Type       T       Comment Type       T       Comment Type       Response Status       W         PROPOSED ACCEPT IN PRINCIPLE.       T       Comment Type       T       Comment Status       D       Bucket         Suggested/Remody       State the signal detect function for EEE.       Change the sortence to read:       "When the FINY supports the optional EEE capability. PMD_SIGNAL.indication is to the beginning of a refresh or a wake       D       Bucket         Suggested/Remody       Camment Type       T       Comment Type       TR       Comment Type         Viben the FNY supports the optional EEE capability, with the normal wake mode, PMD_SIGNAL.indication is a bus det to indicate when the ALERT signal is detected, which corresponds to a wake       D       Eee the sortence to read:         PROPOSED ACCEPT.       Ceater the optional EEE capability, transmit disable Shall statement with no corresponding PIC       Comment Type       TR       Comment Type	Comment	Type <b>TP</b>	Comment Status D		Bucket	Commont		Comment Status D		Stude
SuggestedRemedy       add appropriate shall statement (believe it is for LPI)         Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE.       Combine to 1 item: signal detect function for EEE.         C1 84       SC 84.7.4       P107       L21       # 107         Sela, Oren       Mellanox Technologies       W       PROPOSED ACCEPT IN PRINCIPLE.       Comment Status D       Bucket         SuggestedRemedy       Comment Status D       Bucket       SuggestedRemedy       Change:       When nx, mode = OUIET, SIGNAL DETECT shall be set to OK within 500ns following the apolication of indicate when the ALERT signal is detected, which corresponds to an ALERT transmission (see 85.7.2) from the link partner.*         SuggestedRemedy       Change:       P106       L50       # 23         When the PHY supports the optional EEE capability, WhD, SIGNAL indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refersh or a wake       Pin         Proposed Response       Response Status W       Pin       Comment Type T       Comment Type T       Comment Type T       Comment Status D       Bucket         Sea also comment Type T       Comment Type T       Comment Type T       Image: Status W       Pin         Proposed Response       Response Status W       Pin       Sea also comment #306       Pin         Comment	two pic only or	statements FS1	13 (signal detect during LPI) a	and FS14 (signa	al detect for EEE) but	Once not be	trained the pk-pk 720mV.	output of the channel even v	with a 16 unit int	erval square wave will
add appropriate shall statement (believe it is for LPI)         Proposed Response       Response Status         W       PROPOSED ACCEPT IN PRINCIPLE.         Combine to 1 tem: signal detect function for EEE.       Mellanox Technologies         C1 84       SC 84.7.4       P107       L21       # 107         Sela, Oren       Mellanox Technologies       Bucket         Comment Type       Comment Status       D       Bucket         SuggestadRemedy       change:       When the detect is only needed if normal mode is supported       Bucket         SuggestadRemedy       change:       P107       L31       # 107         Change:       When the detect is only needed if normal mode is supported       Bucket         SuggestadRemedy       Change:       P106       L50       # 23         Change:       When the PHY supports the optional EEE capability, PMD, SIGNAL indication is at the beginning of a refresh or a wake       PinD       Comment Type       T       Comment Status       D       PinD         Proposed Response       Response Status       W       PROPOSED ACCEPT:       P106       L50       # 23         C1 84       SC 84.7.4       P107       L31       # 105       Bucket       Proposed Response       Response Status       W <t< td=""><td>Suggested</td><td>Remedy</td><td></td><td></td><td></td><td>Suggested</td><td>Remedy</td><td></td><td></td><td></td></t<>	Suggested	Remedy				Suggested	Remedy			
Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE.         Combine to 1 item: signal detect function for EEE.         C/ 84       SC 84.7.4         P107       L21       # [107]         Sela, Oren       Mellanox Technologies         Comment Type T       Comment Status D       Bucket         The Alert detect is only needed if normal mode is supported       SuggestedRemedy         Change:       When the PHY supports the optional EEE capability, PMD_SIGNAL indication is also used to indicate when the ALERT signal is detected, which corresponds to an akLERT signal is detected, which corresponds to the beginning of a refresh or a wake         PROPOSED ACCEPT.       P106       L50       # 23         Ci 84       SC 84.7.4       P107       L31       # [105]         Sela, Oren       Mellanox Technologies       Proposed Response       Response Status W         PROPOSED ACCEPT.       Ci 84       SC 84.7.4       P107       L31       # [105]         Sela, Oren       Mellanox Technologies       Bucket       SuggestedRemedy       Response Status W         Comment Type T       Comment Type T       Comment Type T       Comment Type T       P107       L31       # [105]         Sela, Oren       Mellanox Technologies       Bucket       SuggestedRemedy       <	add ap	propriate shall s	tatement (believe it is for LPI	)		State	that the signal de	etect should be set to OK with	nin 500ns of rece	eiving a signal that is
PROPOSED ACCEPT IN PRINCIPLE.         Combine to 1 liter: signal detect function for EEE.         C/l 84       SC 84.7.4       P107       L 21       # 107         Sela, Oren       Mellanox Technologies       Bucket         The Alert detect is only needed if normal mode is supported       SuggestedRemedy       Change:       When the PHY supports the optional EEE capability. PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to in ALERT signal is detected, which corresponds to in a detected, which corresponds to the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake       Proposed Response       Response Status       W         PROPOSED ACCEPT.       P107       L31       # 105       Signal at the receiver input that corresponding PIC         Seta, Oren       Mellanox Technologies       When the PHY supports the optional EEE capability with the normal wake mode, Proposed Response Status D       Pito       L31       # 105         Seta, Oren       Mellanox Technologies       Bucket       The Alert detect is only needed if normal mode is supported       SuggestedRemedy       Response Status W       PROPOSED REVECT.         Cit & A       SC 84.7.4       P107       L31       # 105       The base standard covers this with item FS9.	Proposed	Response	Response Status W			slightly Remo	y larger than the ve the words abc	Transmitter Off amplitude (35 out interference tolerance test	5mV). 40mV wo t channels etc.	ould be a good value.
Combine to 1 item: signal detect function for EEE.         Cl 84       SC 84.7.4       P107       L21       # 107         Sela, Oren       Mellanox Technologies       ************************************	PROP	OSED ACCEPT	IN PRINCIPLE.			Proposed	Response	Response Status W		
Cl 84       SC 84.7.4       P107       L21       # 107         Sela, Oren       Mellanox Technologies       # 107         The Alert detect is only needed if normal mode is supported       Bucket         SuggestedRemedy       Change:       When the PHY supports the optional EEE capability, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake       Dell         Proposed Response       Response Status W       Proposed Response       Response Status W         PROPOSED ACCEPT.       Mellanox Technologies       Bucket         Cl 84       SC 84.7.4       P107       L31       # 105         Sela, Oren       Mellanox Technologies       Bucket       The Alert detect is only needed if normal mode is supported       SuggestedRemedy         Cl 84       SC 84.7.4       P107       L31       # 105         Sela, Oren       Mellanox Technologies       Bucket       The Alert detect is only needed if normal mode is supported         SuggestedRemedy       Change:       When the PHY supports the EEE capability, with the normal wake mode,       Proposed Response       Response Status W         PROPOSED ACCEPT.       C       F107       L31       # 105       The base standard covers this with item FS9.         SuggestedRemedy       Change the sentence to read: </td <td>Combi</td> <td>ne to 1 item: sigr</td> <td>nal detect function for EEE.</td> <td></td> <td></td> <td>PROP</td> <td>OSED ACCEPT</td> <td>IN PRINCIPLE.</td> <td></td> <td></td>	Combi	ne to 1 item: sigr	nal detect function for EEE.			PROP	OSED ACCEPT	IN PRINCIPLE.		
Comment Type       T       Comment Status       D       Bucket         The Alert detect is only needed if normal mode is supported       Bucket       Bucket       Bucket         Suggested/Remedy       Change:       When the PHY supports the optional EEE capability, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to a vake       See also comment #306         To:       When the PHY supports the optional EEE capability with the normal wake mode, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake       Pio       Comment Type       T       Comment Status       D       Pio         VMont the PHY supports the optional EEE capability with the normal wake mode, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake       Pio       Comment Type       T       Comment Status       D       Pio         VBROPOSED ACCEPT.       Viet A SC 84.7.4       P107       L31       # 105       Eucket       See also corment status       N       PROPOSED REJECT.       The base standard covers this with item FS9.       The base standard covers this with item FS9.       Suggested/Remedy       add pic to address       Proposed Response       Response Status       N       PROPOSED REJECT.       The base standard covers this with item FS9.       The base standard covers this with item FS9. <td< td=""><td>Cl 84 Sela, Oren</td><td>SC 84.7.4</td><td>P<b>107</b> Mellanox Tech</td><td>L<b>21</b> nnologies</td><td># 107</td><td>Chang</td><td>ge the sentence t</td><td>o read:</td><td></td><td></td></td<>	Cl 84 Sela, Oren	SC 84.7.4	P <b>107</b> Mellanox Tech	L <b>21</b> nnologies	# 107	Chang	ge the sentence t	o read:		
SuggestedRemedy         change:         When the PHY supports the optional EEE capability, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake         To:         When the PHY supports the optional EEE capability with the normal wake mode, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake         PROPOSED ACCEPT.         Cl 84       SC 84.7.6       P106       L50       # [23]         PROPOSED ACCEPT.         Cl 84       SC 84.7.6       P106       L50       # [23]         Very prophysic Mesoprise       Response Status       W       PROPOSED ACCEPT.       Comment Type       T       Comment Status       D       PROPOSED REJECT.         Camment Type       T       Comment Status       D       Bucket       PROPOSED REJECT.       The base standard covers this with item FS9.         SuggestedRemedy       change:       When the PHY supports the EEE capability with the normal wake mode,       Proposed Response       Response Status       W         Proposed Response       Response Status       W       PROPOSED ACCEPT.       The base standard covers this with item FS9.         SuggestedRemedy       Comment Status       D       PROPOSED ACCEPT.       The base standard covers thi	Comment The Al	<i>Type</i> <b>T</b> ert detect is only	Comment Status D needed if normal mode is su	pported	Bucket	"Wher applic (see 8	n rx_mode = QUI ation of a signal a 5.7.2) from the li	ET, SIGNAL_DETECT shall at the receiver input that corre nk partner."	be set to OK wit esponds to an A	hin 500ns following the LERT transmission
change:       When the PHY supports the optional EEE capability, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake       CI 84 SC 84.7.6       P106       L50       # [23]         When the PHY supports the optional EEE capability with the normal wake mode, PMD_SIGNAL.indication is also used to indicate when the ALERT signal is detected, which corresponds to the beginning of a refresh or a wake       Dambrosia, John       Dell         Proposed Response       Response Status W       PROPOSED ACCEPT.       Proposed Response Status W       PROPOSED ACCEPT.         Cl       84       SC 84.7.4       P107       L31       # 105         Sela, Oren       Mellanox Technologies       Bucket         Comment Type       T       Comment Status       D         SuggestedRemedy       Bucket       The Alert detect is only needed if normal mode is supported       Bucket         SuggestedRemedy       Change:       When the PHY supports the EEE capability with the normal wake mode,       Proposed Response       Response Status W         Proposed Response       Response Status W       PROPOSED ACCEPT.       The base standard covers this with item FS9.	Suggested	Remedy				See a	lso comment #30	6		
PROPOSED ACCEPT.       PROPOSED ACCEPT.         Cl 84       SC 84.7.4       P107       L 31       # 105         Sela, Oren       Mellanox Technologies       PROPOSED REJECT.       The base standard covers this with item FS9.         Comment Type       T       Comment Status       D       Bucket         The Alert detect is only needed if normal mode is supported       SuggestedRemedy       The base standard covers this with item FS9.         SuggestedRemedy       Change:       When the PHY supports the EEE capability, To:       The base standard covers this with item FS9.         Proposed Response       Response Status       W         PROPOSED ACCEPT.       The base standard covers this with item FS9.	chang When also us to the To: When PMD_ detect Proposed	e: the PHY support sed to indicate wi beginning of a re the PHY support SIGNAL.indicatic ed, which corresp <i>Response</i>	ts the optional EEE capability hen the ALERT signal is deter fresh or a wake is the optional EEE capability on is also used to indicate wh ponds to the beginning of a re <i>Response Status</i> <b>W</b>	, PMD_SIGNAI ected, which con with the normation en the ALERT efresh or a wake	indication is rresponds al wake mode, signal is e	Cl 84 D'Ambrosi Comment Loopb Suggestee add pi Proposed	SC 84.7.6 a, John <i>Type</i> <b>TR</b> ack during bloga <i>IRemedy</i> c to address <i>Response</i>	P106 Dell Comment Status D I_PMD_transmit_disable Sha Response Status W	L <b>50</b> all statement with	# 2 <u>3</u> PICS h no corresponding PIC
Sela, Oren Mellanox Technologies   Comment Type T Comment Status D Bucket The Alert detect is only needed if normal mode is supported SuggestedRemedy change: When the PHY supports the EEE capability, To: When the PHY supports the EEE capability with the normal wake mode, Proposed Response Response Status W PROPOSED ACCEPT.	C/ 84	SC 84.7.4	P107	L <b>3</b> 1	# 105	PROP	OSED REJECT.			
Comment Type T Comment Status D Bucket   The Alert detect is only needed if normal mode is supported Bucket   SuggestedRemedy change: When the PHY supports the EEE capability, To: When the PHY supports the EEE capability with the normal wake mode, Proposed Response Response Status W PROPOSED ACCEPT.	Sela, Oren		Mellanox Tech	nnologies		The ba	ase standard cov	ers this with item FS9.		
SuggestedRemedy change: When the PHY supports the EEE capability, To: When the PHY supports the EEE capability with the normal wake mode, Proposed Response Response Status W PROPOSED ACCEPT.	Comment The Al	<i>Type</i> <b>T</b> ert detect is only	Comment Status <b>D</b> needed if normal mode is su	ipported	Bucket					
Proposed Response Response Status W PROPOSED ACCEPT.	Suggested chang When To: When	Remedy e: the PHY support the PHY support	ts the EEE capability,	normal wake n	node.					
	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: Clause, Subclause, page, line

C/ 84 SC 84.7.6

Cl 85 Sela, Oren	SC 85.7.4	P <b>111</b> Mellanox Tech	L <b>19</b> Inologies	# 108	C/ <b>85</b> D'Ambros	SC <b>85.7.6</b> ia, John	<b>P110</b> Dell	L <b>49</b>	# 24				
Comment The Al	<i>Type</i> <b>T</b> lert detect is only i	Comment Status <b>D</b> needed if normal mode is su	pported	Bucket	Comment THis	<i>Type</i> <b>TR</b> shall statement	Comment Status D	ad by Clabal DMD tra	nomit diaal	PICS			
Suggested change When	<i>IRemedy</i> e: the PHY supports	the EEE capability,			Loopi has n	o PIC	a in 85.7.8, shali not de affect	ed by Global_PMD_tra	nsmit_disat	oie.			
To: When	the PHV supports	the EEE canability with the	normal wake m	ode	Suggeste add F	dRemedy NC							
Proposed PROP	Response OSED ACCEPT.	Response Status W		lue,	Proposea PROI	Response POSED REJEC	Response Status W						
CI 85	SC 85.7.4	P111	L <b>31</b>	# 306	Yes it	does. PF12.							
Dudek, Mil	ke Type <b>T</b>	QLogic Comment Status D		Style	C/ <b>85</b> D'Ambros	SC 85.7.6	P110 Dell	L <b>50</b>	# 25				
Once t not be	trained the pk-pk of 720mV.	output of the channel even w	ith a 16 unit inte	erval square wave will	Comment	Type TR	Comment Status D			PICS			
Suggested	lRemedy				Simila	ar to TC3 and T	I voltage and Output Amplitud	g					
State t slightly Remov	that the signal det arger than the T the words about	ect should be set to OK with ransmitter Off amplitude (30 it interference tolerance test	in 500ns of rece mV). 40mV wo channels etc.	eiving a signal that is uld be a good value.	S <i>uggeste</i> add F	dRemedy IICs							
Proposed PROP	Response OSED ACCEPT I	Response Status W N PRINCIPLE.			Proposea PROI	Response POSED REJEC	Response Status W						
Chang	e the sentence to	read:			See F	PICS items DS6	6, DS7						
"When applica	n rx_mode = QUIE ation of a signal at	T, SIGNAL_DETECT shall the receiver input that corre	be set to OK wit esponds to an A	hin 500ns following the LERT transmission	<i>Cl</i> <b>85</b> Sela, Ore	SC <b>85.7.6</b>	P <b>111</b> Mellanox Te	L <b>29</b> chnologies	# 109				
(see 85.7.2) from the link partner." See also comment #305						Comment Type         T         Comment Status         D         Bucket           The Alert detect is only needed if normal mode is supported         Image: Comment Status         D         D         Image: Comment Status         D							
					Suggeste chang Wher To: Wher								
					Proposed PROI	Response	Response Status W						
					To: Wher <i>Proposea</i> PROI	the PHY supp Response POSED ACCEF	oorts the EEE capability with th <i>Response Status</i> <b>W</b> PT.	e normal wake mode,					

C/ 85 SC 85.7.6

C/ 91	SC	P <b>118</b>	L14	# 67	C/ 91	SC 3		P116	L <b>37</b>	# 295	
Pillai, Vel	u	Broadcom			Ofelt, Dav	/id		Juniper Netw	orks		
Comment	tType E	Comment Status D			Comment	t Type TR	Com	ment Status D			
Fig 91-2 does not show the BER Monitor in the transmit path.					The current draft indicates that the RS FEC is only supported on services interfaces with						
Suggeste	dRemedy				width	(p) of 4.					
Add a	a block to show	the BER Monitor attached to the	and deskew.	This is overly restrictive and ensures that when we develop 2 and 1 physical lane interfaces that we'll need to rework this part of the standard. It is possible to bit-interleave the four lanes into two or one, but the result does not handle burst errors well. An argument that							
Proposed	l Response	Response Status W									

PROPOSED REJECT.

The BER monitor is not required by the "Lane block synchronization" or "Alignment lock and deskew" functions. In the Clause 82 PCS, its function is to inhibit the operation of the PCS Receive state diagram when the BER is to large to reliably determine synchronization. It therefore has no function in the Clause 91 RS-FEC sublayer. comes up is that "we'll only support muxing for interfaces that are more unlikely to have burst errors (e.g. no DFE)". This is unsatisfying to me- we have an architecture from .3ba that handles a large variety of interface structures and then we follow it with the next rev of the PCS where we remove all that good flexibility or we can support it for a subset of the interface schemes.

#### SuggestedRemedy

Add text to 91.3 indicating something like:

"If a PMA wants to multiplex the four FEC lanes into two or one lanes, then the multiplexing shall be done at a Reed-Solomon codeword boundary"

I believe this is the necessary requirement to make FEC work properly once multiplexed.

With this change, we should have the features needed to implement all optics variety being discussed in .3bm.

Proposed Response Response Status W

PROPOSED REJECT.

1. It is not clear what it means to multiplex "at a Reed-Solomon codeword boundary."

2. The requirement is incomplete because it requires that the PMA also identify "codeword boundaries" to correctly demultiplex them for presentation to the RS-FEC sublayer. This is a non-trivial function, as can be seen by the mechanism Clause 91 uses for this purpose, but is omitted from the proposed requirement.

3. The proposed normative requirement applies to a PMA and such requirements should appear in the PMA clause.

4. There is no Physical Layer defined in P802.3bj that requires this feature.

While this feature could extend the applicability of the RS-FEC sublayer to a PHY, yet to be defined, based on less than 4 physical lanes, the suggested remedy is not complete and perhaps misplaced. It seems that the objective of the proposal is to add a new PMA that multiplexes 10-bit Reed-Solomon symbols rather than bits which could be done in the context of that new PHY.

C/ 91 SC 91.5.2.5 Sela, Oren	P <b>119</b> Mellanox Tec	L <b>19</b> hnologies	# 88	<i>Cl</i> <b>91</b> Se Pillai, Velu	C 91.5.2.6	P <b>120</b> Broadcom	L <b>28</b>	# 69			
Comment Type <b>E</b> In bullet c) there is a red all synch header are vali and c<1> = 0 it is enoug	Comment Status <b>D</b> undent statement. In line 14 d so there is no need to sta h to say that c<0> = 1	4 we establisth t te that both c<0	hat  > = 1	Comment Type ER Comment Status D but payloads corresponding to PCS lanes 1, 5, 6, 13, and 17 are is not correct							
<i>SuggestedRemedy</i> change: Let c be the smallest val	ue of j such that tx_coded_	c<0>=1 and		SuggestedRem It needs to	<i>edy</i> be						
tx_coded_c<1>=0. In oth block that was received To: Let c be the smallest val tx_coded_c is the first 60	ner words, tx_coded_c is the in the current group of four ue of j such that tx_coded_ 6-bit control block that was	e first 66-bit con blocks. c<0>=1. In othe received in the	trol r words,	payloads corresponding to PCS lanes 1, 5, 9, 13, and 17 are Proposed Response Response Status W PROPOSED ACCEPT. C/ 91 SC 91.5.2.6 P122 L19 # 72 Pillai, Velu Broadcom Comment Type T Comment Status D							
Proposed Response PROPOSED ACCEPT.	Response Status W										
C/ 91 SC 91.5.2.5 Sela, Oren Comment Type E	P119 Mellanox Tec Comment Status D	L <b>31</b> hnologies	# 89	Text talks about bit error monitoring, but there are no counters attached to this statment. Either we should add error counters or remove this line. SuggestedRemedy							
bullet b) - change to tx_> SuggestedRemedy	coded<4:0>=1111			Proposed Response Response Status W PROPOSED REJECT.							
Proposed Response PROPOSED REJECT. The text is correct as wr	Response Status W			BIP errors are monitored by the alignment marker removal function and the corresponding counters are cited there (see 91.5.2.4). The paragraph in 91.5.2.6 is an advisory to the user that, while the BIP fields are preserver by the mapping function defined in that subclause, they should NOT be used to monitor errors over the FEC-protected link.							

C/ 91 SC 91.5.2.6

<i>Cl</i> <b>91</b> Sela, Orer	SC 91.5.2.6	P <b>122</b> Mellanox Tech	L <b>28</b> nologies	# 110	<i>Cl</i> <b>91</b> Cideciyan	SC <b>91.5.3.3</b> , Roy	Р <b>126</b> ІВМ	L16	# 376			
Comment Type T Comment Status D The tx_lpi_active reference to 82.2.7a is no loger correct and should be referenced to the new figure 91-10 SuggestedRemedy per comment						Comment Type         TR         Comment Status         D           MTTFPA computations in cideciyan_01_0512.pdf always assume that RS decoder reports (indicates) errors to PCS layer whenever there is an uncorrectable code word (error correction mode) or code word contains errors (error detection mode). Therefore, indication of errors to the PCS sublayer is not an option but a mandatory feature of the RS decoder in order to have satisfactory MTTFPA.						
Proposed Response       Response Status       W         PROPOSED ACCEPT IN PRINCIPLE.       The reference to 82.2.7a should have been 82.2.8a and pertain to the definition of Rapid Alignment Markers.						SuggestedRemedy Replace "The Reed-Solomon decoder may optionally provide" by "The Reed-Solomon decoder shall provide"						
						Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.						
tx_ipi_ Corre	_active is set by the	e Transmit LPI state diagram	i în Figure 91-1	J.	See o	comment #369.						
C/ <b>91</b> Cideciyan	SC <b>91.5.2.7</b> , Roy	<b>Р123</b> IBM	L <b>34</b>	# 374								
Comment Figure improv	<i>Type</i> <b>ER</b> 91-5 states "syml ved.	Comment Status <b>D</b> bol delay element, holds 1 10	)-bit symbol". T	<i>bucket</i> he formulation can be								
Suggestee Repla 10-bit Proposed PROF	dRemedy ce "symbol delay e symbol" Response POSED ACCEPT I	element, holds 1 10-bit symb <i>Response Status</i> <b>W</b> N PRINCIPLE.	ol" by "symbol o	delay element, holds a								

Reduces the risk the someone could interpret it read "holds 110-bit symbol".

C/ 91 SC 91.5.3.3
C/ 91	SC 91.5.3.3	P <b>126</b>	L16	# 369
Anslow, Pete	9	Ciena		

Comment Type TR Comment Status D

This says that the indication of uncorrected errors to the PCS is optional. But if uncorrected errors are not indicated, the MTTFPA will be poor because any FEC frame with uncorrected errors will contain at least 8 or 16 errored symbols.

Doing a simple minded calculation:

If the errors turn up in bursts of 8, then a BER of 1E-12 is a block of errors every 80 seconds. The only thing stopping this from being accepted as a good packet is the CRC. This fails with a probability of 2.3E-10 which is a false packet every 10,000 years.

If the BER falls to 1E-6, this is a false packet every 4 days.

I think Roy Cideciyan has shown that reporting errors with FEC enabled gives a MTTFPA of better than 10,000 years at 1E-6.

This is a huge improvement in performance, so marking uncorrected errors should be mandatory.

### SuggestedRemedy

Make the indication of uncorrected errors mandatory in Clause 91. Make the appropriate changes to the other clauses e.g. Clause 45

Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.

Change the fourth paragraph of 91.5.3.3 as follows and consolidate it with the last paragraph.

"The Reed-Solomon decoder shall indicate errors to the PCS sublayer by intentionally corrupting 66-bit block synchronization headers."

Change the first sentence of the last paragraph of 91.5.3.3 to: "When the decoder determines."

Remove the "FEC error indication enable" variable from Table 91-2 as well as 91.6.2.

Remove the "FEC error indication ability" variable from Table 91-3 as well as 91.6.4.

Update Clause 45 management and the Clause 91 PICS accordingly.

C/ 91	SC 91.5.3.3	P126	L17	# 377
Cideciyan, R	оу	IBM		

### Comment Type **TR** Comment Status **D**

MTTFPA computations in cideciyan\_01\_0512.pdf always assume that RS decoder reports (indicates) errors to PCS layer whenever there is an uncorrectable code word (error correction mode) or code word contains errors (error detection mode). Therefore, indication of errors to the PCS sublayer is not an option but a mandatory feature of the RS decoder in order to have satisfactory MTTFPA.

#### SuggestedRemedy

Omit the following two sentences: "The presence of this option is indicated by the assertion ... (see 91.6.4). When the option is provided, it is enabled ... (see 91.6.2).

Proposed Response	Response Status	W
PROPOSED ACCEPT.		

See comment #369.

C/ 91	SC 91.5.3.3	P126	L <b>21</b>	# 378
Cideciyan, R	оу	IBM		

### Comment Type **TR** Comment Status **D**

MTTFPA computations in cideciyan\_01\_0512.pdf always assume that RS decoder reports (indicates) errors to PCS layer whenever there is an uncorrectable code word (error correction mode) or code word contains errors (error detection mode). Therefore, indication of errors to the PCS sublayer is not an option but a mandatory feature of the RS decoder in order to have satisfactory MTTFPA.

#### SuggestedRemedy

Replace "When the error indication function is enabled and the decoder determines that a code word ..." by "When the decoder determines that a code word ..."

Proposed Response Response Status W

PROPOSED ACCEPT.

See comment #369.

C/ 91 SC 91.5.3.3 Page 37 of 99 11/9/2012 3:04:07 PM

C/ 91 SC 91.5.3.3 P126 L22 # 3	C/ 91 SC 91.5.3.3 P126 L23 # 113
Szczepanek, Andre Inphi	Sela, Oren Mellanox Technologies
Comment Type TR Comment Status D "or is uncorrectable" See previous comment related to line 9 on the same page.	Comment Type <b>T</b> Comment Status <b>D</b> Should allow an implementation to nullify more than one 64/66 block in every other transcoding block - for example an implementation should be able to nullify all blocks
Replace "or is uncorrectable" with "or contains errors and has not been corrected" Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. [changed Sublause to 91.5.3.3 for consistent sorting.] Change the beginning of the first sentence of the last paragraph of 91.5.3.3 to: "When the error indication function is enabled and the decoder determines that a codeword contains errors (when the bypass correction feature is enabled) or contains errors but was not corrected (when the bypass correction feature is not supported or not enabled)." See also comment #375.	SuggestedRemedy         change to:        it shall ensure that, at least for every other 257-bit block within the codeword starting with the first (1st, 3rd, 5th, etc.), the synchronization header for the first 66-bit block at the output of the 256B/267B to 64B/66B transcoder, rx_coded_0<1:0>, is set to 11. In addition, it shall ensure rx_coded_3<1:0> corresponding to the last (20th) 257-bit block in the codeword is set to 11. This will cause the PCS to discard all frames 64 bytes and larger that are fully or partially within the codeword. The decoder may set rx_coded_j<1:0> to 11 and thus nullify more 66-bit blocks at the PCS.         Proposed Response       Response Status W         PROPOSED REJECT.       If an implementation were to invalidate the synchronization headers of all 66-bit blocks included in a codeword, the PCS would lose block lock and this would result in an extended loss of data.         The synchronization header error pattern was chosen to ensure no packet could be incorrectly accepted while maintaining block lock.
	Cl 91       SC 91.5.3.3       P126       L 23       # 375         Cideciyan, Roy       IBM         Comment Type       T       Comment Status       D       bucket         The formulation " not supported or enabled" does not seem to be clear.       SuggestedRemedy         Replace " not supported or enabled)," by " not supported or not enabled),"       Proposed Response         Proposed Response       Response Status       W         PROPOSED ACCEPT.       PROPOSED ACCEPT.

C/ 91 SC 91.5.3.3

C/ 91 SC 91.5.3.3 Cideciyan, Roy	Р <b>126</b> ІВМ	L <b>25</b>	# 379	C/ <b>91</b> SC Sela, Oren	91.5.3.3	P <b>126</b> Mellanox Tec	L <b>9</b> hnologies	# 112
Comment Type <b>TR</b> Transcoder in the receiv	Comment Status D ver is 256B/257B to 64B/66B	transcoder.	bucket	Comment Type The RS-FEC	T can't detect	Comment Status D all the uncorrectable code	words	
SuggestedRemedy Replace "256B/267B to Proposed Response PROPOSED ACCEPT.	64B/66B transcoder" by "25 Response Status W	6B/257B to 64E	/66B transcoder"	SuggestedReme change: The RS-FEC codewords To: The RS-FEC	dy sublayer sha	all also be capable of dete	cting uncorrecta	able
Cl 91 SC 91.5.3.3 Pillai, Velu Comment Type E	P126 Broadcom Comment Status D	L <b>25</b>	# 68 bucket	Proposed Respo PROPOSED	e codewords nse ACCEPT IN	Response Status W PRINCIPLE.		IE
256B/267B to 64B/66B t SuggestedRemedy Needs to be	transcoder, rx_coded_0<1:0	>		Change the I "The RS-FEC not corrected	ast sentence C sublayer sh I."	of the second paragraph all also be capable of indi	of 91.5.3.3 to: cating when an	errored codeword was
256B/257B to 64B/66B to Proposed Response PROPOSED ACCEPT. [Changed Subcl from 91	transcoder, rx_coded_0<1:0 Response Status W	>, is s		Cl 91 SC Szczepanek, And Comment Type "The RS-FEC It is not theor	91.5.3.3 Ire TR C sublayer sh retically poss	P126 Inphi Comment Status D all also be capable of deteible to detect all possible u	L9 ecting uncorrect uncorrectable co	# 2
Cl 91 SC 91.5.3.3 Sela, Oren Comment Type T	P126 Mellanox Tech Comment Status D	L <b>25</b> anologies	# 117 bucket	The text in al 74 and use th terminology v block and foo block.	most all of the ne termininological vas adopted cus instead o	the rest of the clause has b ogy "corrected" and "unco for Clause 74 to avoid the n what the sublayer actua	er valid codewo een altered to b rrected" codewo issue of what is lly does : correc	ru. e consistent with clause ords/blocks. This s and isn't a correctable ct, or fail to correct a
SuggestedRemedy per comment	Basponsa Status W			SuggestedReme Delete sente codewords" a Proposed Respo	dy nce "The RS as it includes nse	-FEC sublayer shall also b a "shall" that isn't achieva Response Status W	be capable of de ble or verifiable	etecting uncorrectable
PROPOSED ACCEPT. See comment #379.				PROPOSED [changed Sul	ACCEPT IN blause to 91.	PRINCIPLE.	g.]	

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

C/ 91 SC 91.5.3.3 Page 39 of 99 11/9/2012 3:04:07 PM C/ 91 SC 91.5.3.4 P126 L38 # 190 C/ 91 SC 91.5.3.5 P127 L6 # 74 Slavick. Jeff Avago Technologies Pillai. Velu Broadcom Comment Type E Comment Status D bucket Comment Type **TR** Comment Status D bucket If rx\_lpi\_active is asserted, then the Rx will see RAMs every other codeword. If rx\_xcoded<0> is 0 and any rx\_coded<j+1>=1 is not correct SuggestedRemedy SuggestedRemedy Change "The rx\_lpi\_active is true" It needs to be to "When rx\_lpi\_active is true" If rx\_xcoded<0> is 0 and any rx\_xcoded<j+1>=0 Proposed Response Response Status W Proposed Response Response Status W PROPOSED ACCEPT. PROPOSED ACCEPT. [Changed Subcl to 91.5.3.4 for consistent sorting.] P130 C/ 91 SC 91.5.4.2 / 36 # 115 In addition, change Page 126, Line 36 to: Sela. Oren Mellanox Technologies "...result in changes in the relative position." Comment Status D Comment Type **T** C/ 91 SC 91.5.3.5 P127 / 31 # 73 When EEE is supported lanes 16,17,18 and 19 should only be compared when Pillai. Velu Broadcom rx lpi active is true - this is because in the next state the amp counter counts lower only when the rx\_lpi\_active is true. It is not broken as EEE Comment Type TR Comment Status D bucket capble device when rx\_lpi\_active false and first\_pcsl is 16,17,18 or 19 then If rx xcoded<0> is 0 and all rx coded<i+1>=1 4096 FEC code word later there should be lane 16, 17, 18 or 19 in the same is not correct. possision but this was not the intent SugaestedRemedv SuggestedRemedy It needs to be change: For the optional EEE capability, each FEC lane also compares the candidate If rx xcoded<0> is 0 and all rx xcoded<j+1>=1 block to the alignment marker payload for PCS lanes 16, 17, 18, and 19 To: Proposed Response Response Status W For the optional EEE capability, when rx\_lpi\_active is true each FEC lane PROPOSED ACCEPT. also compares the candidate block to the alignment marker payload for PCS lanes 16, 17, 18, and 19 C/ 91 P127 # 71 SC 91.5.3.5 L34 Proposed Response Response Status W Pillai, Velu Broadcom PROPOSED ACCEPT IN PRINCIPLE. Comment Type T Comment Status D bucket a)Set c = 1 and h<3:0> = 0000. See comment #207. The variable c is set to 1: On the transcoding side for the case of invalid sync header, c is set to 0 SuggestedRemedy For consistency sake C should be set to 0 Proposed Response Response Status W PROPOSED ACCEPT.

IEEE P802.3bj D1.2 100 Gb/s Backplane and Copper Cable 3rd Task Force review comments

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

C/ 91 SC 91.5.4.2 Page 40 of 99 11/9/2012 3:04:07 PM

C/ 91 SC 91.5.4.2.1 Slavick leff	P <b>130</b> Avago Technol	L16	# 205	C/ 91 Healey Ac	SC 91.5.4.2.1	P130	L <b>39</b>	# 212
Comment Type T Comm	nent Status D	ogica		Comment	Type <b>T</b>	Comment Status D		
With the inclusion of EEE into cl then align_status. Other text in ( EEE is not supported. However,	uase 82, Figure 82-1 Clause 82 states that Clause 91 just refere	2 now sets rx_ align_status = ences Figure 8	align_status rather rx_align_status when 2-12.	Editor 100GE	s note states the m BASE-KP4 PHY.	aximum distance of 3 nib	bles may not be	suitable for a
SuggestedRemedy Change align_status variable nai Change Figure 91-10 to use rx_a Change tx_quiet_timer to refer to Proposed Response Respon PROPOSED ACCEPT.	me to be rx_align_sta align_status rather the o rx_align_status ose Status W	atus en align_status		Howey 1. Esti 100GE 2. The greate 3. This FEC c 100GE	rer, the following arg mates of the net co BASE-KP4 FEC. refore roughly assu r than for 100GBAS implies, for the wo odewords on an ave BASE-KR4.	gument has been sugges ding gain imply about 0.4 me the uncorrected error SE-KR4. rst-case scenario, the me erage of once every 1E7	ted (by Zhongfer dB additional co ratio for 100GBA echanisn would fa years rather than	ng Wang): ding gain for ASE-KP4 could be 10x ail to lock with 6 RS- 1E9 years for
[Changed Subcl to 91.5.4.2.1 for C/ 91 SC 91.5.4.2.1 Slavick, Jeff	P130 Avago Technolo	ting.] <i>L</i> 36 ogies	# 207	If this i reasor <i>Suggestea</i>	s the case, the like to modify the sync Remedy	ihood of failure is very sn hronization mechanism fo	nall and thus the or 100GBASE-KI	re is no compelling ⊃4.
Comment Type <b>T</b> Comm Setting amp_valid true by compa valid when we're receiving RAMs	nent Status <b>D</b> aring alignment marke s.	ers to PCS lane	es 16,17,18,19 is only	Proposed PROP	Response OSED ACCEPT.	Response Status W		
SuggestedRemedy Change "For the optional EEE ca block to the alignment marker pa to: "For the optional EEE capability, alignment marker payload for PC	apability, each FEC la lyload for PCS lanes each FEC lane also	ane also compa 16, 17, 18, and compares the and 19 when ry	ares the candidate d 19." candidate block to the	C/ <b>91</b> Slavick, Je Comment ram_va	SC <b>91.5.4.2.1</b> ff <i>Type</i> <b>T</b> alid and ramps_vali	P131 Avago Techr <i>Comment Status</i> D d are testing for valid Rap	L <b>50</b> nologies bid Alignment Ma	# 2 <u>06</u>
Proposed Response Respon PROPOSED ACCEPT.	nse Status W			<i>Suggested</i> Chang and ra	<i>Remedy</i> e "valid alignment r mps_valid variables	narkers" to "valid Rapid A S.	lignment Marker	s" for both ram_valid
[Changed Subcl to 91.5.4.2.1 for	more consistent sort	ting.]		Proposed PROP [Chang Strictly heade	Response OSED ACCEPT IN ged Subcl to 91.5.4 r speaking, ramps_ r bits are discarded	Response Status W PRINCIPLE. 2.1 for more consistent s valid tests for valid Rapid in the mapping process.	orting.] Alignment Marke	er payloads as the
				Chang "are See #2	e the end of the de valid Rapid Alignme 210 for the definition	finition of ram_valid to: ent Markers and is set to n of ramps_valid.	false otherwise."	

C/ 91 SC 91.5.4.2.1 Page 41 of 99 11/9/2012 3:04:08 PM

C/ 91 SC 91.5.4.2.1 Healey, Adam	P131 LSI Corporation	L <b>51</b>	# 209	C/ 91 SC 91.5.4.2 Healey. Adam	.1 P132 LSI Corpora	L <b>2</b> ation	# 210
Comment Type T ( The bit error ratio of a CAU to be low (less than 1E-12) valid alignment marker in ra Therefore, it is not necessa actual number to be checke SuggestedRemedy For ram_valid, set TBD to 2 Proposed Response R	Comment Status D If that separates the PCS from the PCS f	om the RS-F (on the order or rapid align	EC sublayer is expected of 1/2^50) to detect a ment markers. The	Comment Type T The variable ramps_v FEC lanes. Since FEC codeword could be used as the If correction is not by random data. Therefor on any 2 FEC lanes of to that lane.	Comment Status D ralid checks for "rapid" alignr boundaries are known durin subject of the search (unless passed, it is unlikely that the re, it should be sufficient to orresponds to the first rapid	nent marker payl g this search, the s correction is by RAM payload pa check that a 64-t alignment marke	oad sequences on the e corrected message passed). Itterns would appear in bit block marker payload er payload corresponding
PROPOSED ACCEPT.	P131	L <b>8</b>	# 70	If the mechanism is in analysis of the approproproproproproproproproces and the performance of the second	ntended to be operated with priate distance between the r rmed.	correction bypass reference pattern	sed, a more complicated and the observed
Pillai, Velu Comment Type T ( fec_alignment_valid variable lock to a unique AM. This u in CL82.2.18.2.2	Broadcom Comment Status <b>D</b> le description needs to indic inique requirement is in the	cate that eacl alignment_v	n FEC lane needs to alid variable description	SuggestedRemedy Update the definition Proposed Response PROPOSED ACCEP	of ramps_valid accordingly. <i>Response Status</i> <b>W</b> T IN PRINCIPLE.		
SuggestedRemedy Proposed Response R PROPOSED ACCEPT IN F Note that the lane mapping Change the definition of fee "Boolean variable that is se to be aligned when amps_l alignment marker payload s Otherwise, this variable is s	Pesponse Status W PRINCIPLE. a assignment is added by co c_alignment_valid to: to true if all FEC lanes are ock <x> is true for all x, each sequence (see 91.5.2.6), ar set to false."</x>	omment #183 e aligned. FE h FEC lane is nd the FEC la	C lanes are considered locked to a unique nes are deskewed.	If correction is bypass error in the Rapid Alig is not bypassed, the of be examined with a lo Given these assumpt "Boolean variable tha least 2 FEC lanes are	eed, it seems likely that the e inment Marker payload sequ corrected Rapid Alignment M w likelihood of error. ions, change the definition o t is set to true if the received valid Rapid Alignment Mark	error probability is lence would be v farker payload se f ramps_valid to: I 64-bit blocks co ker payloads and	s sufficiently low that an ery unlikely. If correction equences are available to ncurrently received on at is set to false otherwise."

C/ 91 SC 91.5.4.2.1

C/ 91 SC 91.5.4.2.1	P133	L17	# 208	C/ 91	SC 91.5.4.	3 <i>P</i> 1	36 L34	# 114
Slavick, Jeff	Avago Techn	ologies		Sela, Oren		Mella	nox Technologies	
Comment Type <b>T</b> C TBDs are in place for the qu	<i>Comment Status</i> <b>D</b> uiet timers for Clause 91			<i>Comment</i> When not be	<i>Type</i> <b>T</b> only FW EEE taken	Comment Status is supported the arch f	D rom TX_TEST_NE	EXT to TX_QUITE should
see slavick_3bj_01_1112.p	df			Suggested	Remedy			
Proposed Response R PROPOSED ACCEPT IN P	esponse Status W RINCIPLE.			Add pa Figrue LPI_F <sup>\</sup> !LPI_F	aramter called 91-10 - on the N*(false!align_ W*(false!align	LPI_FW - true in FW r arch from TX_TEST_ status + !ram_valid). status + !ram_valid) 1	node false in norm NEXT to TX_QUIT And add an arch from TX_TEST_NE	al wake modei n 'E add EXT to TX_FAULT
[Changed Subcl to 91.5.4.2	.1 for more consistent some to be between 1.8	orting.] and 2 ms.		Proposed PROP	Response OSED ACCEF	Response Status PT IN PRINCIPLE.	w	
Specify the value of rx_tq_t	imer to be between 2 an	d 2.8 ms.		[Chang	ged Subcl from	n 91-10 to 91.5.4.3 for	consistent sorting.	Added Line 34.]
C/ 91 SC 91.5.4.2.3 Healey, Adam	P <b>133</b> LSI Corporati	L <b>17</b> on	# 211	It is tru fault a	e that a loss o	f alignment in the "fast	wake" mode shou	Ild should be considered a
Comment Type <b>T</b> C The counters rx_quiet_time the maximum value of the r SuggestedRemedy	Comment Status <b>D</b> r and tx_quiet_timer are x_quiet_timer at the PCS	both TBD. Both S (currently set	timers should exceed to 3 ms).	Define "Boole diagra Wake	new variable ' an variable tha ms. This varial mechanism ar	'fec_lpi_fw" as follows: at controls the behaviou ble is set to true when ad set to false otherwis	r of the Transmit LI the local PCS is cc e."	PI and Receive LPI state onfigured to use the Fast
Set the range of both timers Proposed Response R PROPOSED ACCEPT IN P	s to 3.1 to 3.4 ms. esponse Status W RINCIPLE.			Chang !fec_lp	e the transitior i_fw * (!rx_alig	n condition from TX_TE n_status + !ram_valid)	ST_NEXT to TX_0	QUIET to:
See comment #208.				Add a fec_lpi	transition from _fw * (!rx_aligr	TX_TEST_NEXT to T status + !ram_valid)	X_FAULT with the	condition:
				Chang !fec_lp	e the transitior i_fw * (!fec_ali	n condition from RX_TI gn_status + !ramps_va	EST_NEXT to RX_ alid)	_QUIET to:
				Add a fec_lpi	transition from _fw * (!fec_alig	RX_TEST_NEXT to F gn_status + !ramps_va	⟨X_FAULT with the lid)	econdition:

C/ 91 SC 91.5.4.3

C/ 91	SC 91.5.4.3	P <b>136</b>	L35	# 204	C/ 91	SC 91.6	P <b>138</b>	L <b>26</b>	# 183
Slavick, Je	eff	Avago Techn	ologies		Gustlin, M	ark	Xilinx		
<i>Comment</i> The la reflect	<i>Type</i> <b>T</b> st RAM down_coun that.	Comment Status <b>D</b> t value transmitted is 1 nc	ot 0. So figures 9	01-10 and 91-11 need to	Comment Since registe	<i>Type</i> <b>T</b> a given FEC la er that captures	Comment Status <b>D</b> ane can be received on any of t which FEC lane is recieved at	he four service i a given time or	nterface lanes, add a n each service interface
Suggested Chang * dow	<i>Remedy</i> je the test values or n count against 1.	n the exit of TX_TEST_NE	XT and RX_TES	ST_NEXT to compare	lane. This is <i>Suggeste</i> e	s analogous to dRemedy	Lane x mapping register that is	part of Clause	82 (Table 82-7).
Proposed	_ Response	Response Status W			Per th	e commment.			
PROP	OSED ACCEPT.		4		Proposed PROF	Response POSED ACCEP	Response Status W PT IN PRINCIPLE.		
[Chan Note t	ged Subcl to 91.5.4 hat there are two loo	.3 for more consistent sor cations in each state diag	ting.] ram where the c	hange needs to be	When the R	the RS-FEC so S-FEC transmit	ublayer is connected to the PC function would also be of inter	S via CAUI, the est.	PCS lane mapping for
From (*)_va From (*)_va	*_TEST_NEXT to *_ lid * (*)_down_coun *_TEST_NEXT to *_ lid * (*)_down_coun	_LPI: t > 1 _ACTIVE: t=1			Add F variab 82-11 Add F fec_la Figure	CCS "Lane x ma les lane_mapp ) which is incor EC "Lane x ma ne" assignmen e 91-8. Define for o of firch pool a	apping" registers similar to Clau ing <x> are assigned by Alignm porated into Clause 91 by refer apping" registers to Table 91-3. t to the "2_GOOD" state of the ec_lane to be an fec_lane num</x>	se 82, Table 82 ent marker lock ence. Add "fec_lane_ FEC synchroniz ber (0 to 3) that	P-7 to Table 91-3. The state diagram (Figure mapping <x> &lt;= zation state diagram is derived from the</x>
					C/ 91	SC 91.6.2	P138	L <b>35</b>	# 380
					Cideciyan	, Roy	IBM		
					Comment MTTF (indica correc of erro order	Type TR PA computatio ates) errors to F ction mode) or c ors to the PCS to have satisfac	Comment Status D ns in cideciyan_01_0512.pdf al PCS layer whenever there is an code word contains errors (erro sublayer is not an option but a ctory MTTFPA.	ways assume th uncorrectable or r detection mod mandatory featu	nat RS decoder reports code word (error e). Therefore, indication ure of the RS decoder in
					Suggestee	dRemedy			
					Omit	subclause 91.6	.2 as this variable is not neede	d.	
					Proposed	Response	Response Status W		
					PROF	POSED ACCEP	PT IN PRINCIPLE.		
					See c	omment #369.			

C/ 91 SC 91.6.2

C/ 91 SC 91.6.3 Slavick, Jeff	P <b>138</b> Avago Techn	L <b>47</b> ologies	# 191	C/ 91 SC 91. D'Ambrosia, John	7.3	P <b>141</b> Dell	L <b>5</b>	# 26
Comment Type E Com The FEC_*_ability registers ref	nment Status <b>D</b> ference the wrong MI	DIO registers	bucket	Comment Type T Item KR4 and KR	R Cor A have no co	mment Status <b>D</b> prresponding shall sta	atements. Also,	both values are set to -
SuggestedRemedy Change FEC_bypass_correcting Change FEC_error_indication_ Proposed Response Response PROPOSED ACCEPT. [Changed Subcl to 91.6.3 for model Note changes to Table 91-3 and FEC_error_indication_ability model the particle of this response.]	on_ability to refer to 7 _ability to refer to 1.2 ponse Status W nore consistent sortir nd 91.6.4 in addition nay be removed per c	1.201.1 01.2 ng.] to 91.6.3. comment #TBD v	vhich would overtake	SuggestedRemedy delete the determination Proposed Response PROPOSED AC The RS-FEC sub is used to form a These options ar RF3, and RF4).	n t make sen n of the KR4 a <i>Resj</i> CEPT IN PRI layer implem complete 10 e defined in c	se. and KP4 PHY is not o bonse Status W NCIPLE. ents a different Reed 0GBASE-KR4 PHY o order to specify that o	done in the FEC I-Solomon code o or a complete 100 conditional require	sublayer depending on whether it 0GBASE-KP4 PHY. ement (see TF9, TF10,
Cl 91 SC 91.6.4 Cideciyan, Roy Comment Type TR Con MTTFPA computations in cide (indicates) errors to PCS layer correction mode) or code word of errors to the PCS sublayer i order to have satisfactory MTT SuggestedRemedy Omit subclause 91.6.4 as this Proposed Response Resp PROPOSED ACCEPT IN PRII See comment #369.	P138 IBM nment Status D ciyan_01_0512.pdf a whenever there is an l contains errors (erro s not an option but a FPA. variable is not neede bonse Status W NCIPLE.	L48	# <u>381</u> hat RS decoder reports code word (error a). Therefore, indication re of the RS decoder in	Change Value/C C/ 91 SC 91. D'Ambrosia, John Comment Type E TF9 is for 100GE SuggestedRemedy Add 100GBASE Proposed Response PROPOSED AC In 91.7.3, change Feature: "100GB Value/Comment: Change TF9 Fea Change RF3 Fea	ASE-KR4 an CR4 CR4 CEPT IN PRI e item *KR4 a ASE-CR4 or "Used to forn ture to "Reec iture to "Reec	KP4 to be "Used to for P142 Dell mment Status D d 100GBASE-CR4 bonse Status W NCIPLE. as follows. 100GBASE-KR4" m complete 100GBA d-Solomon encoder for d-Solomon decoder for	SE-CR4 or 100G or 100GBASE-CF or 100GBASE-CF	BASE-KR4 PHY". # 9 BASE-KR4 PHY" R4 or 100GBASE-KR4" R4 ot 100GBASE-KR4"

C/ 91 SC 91.7.4.1 C/ 91 SC 91.7.4.2 P143 L18 # C/ 91 SC 91.7.4.3 P143 L53 # 11 Szczepanek, Andre Inphi D'Ambrosia. John Dell Comment Type **TR** Comment Status D Comment Type E Comment Status D bucket Feature name for SD5 is incorrect See previous comments related to the use of "uncorrectable" on page 126 SuggestedRemedy SuggestedRemedy Delete Item RF5 change to Rx LPI process Proposed Response Proposed Response Response Status W Response Status W PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE. [Changed Clause from 19 to 91, changed Sublause to 91.7.4.2 for consistent sorting.] Change to "Receive LPI process". C/ 91A P276 SC 91A.1 / 1 # 66 Change RF5 Value/Comment to: "Capable of indicating when a codeword was not corrected." Pillai. Velu Broadcom Comment Type E Comment Status D C/ 91 SC 91.7.4.2 P143 / 21 # 5 The example RS-FEC blocks contains only Idle control characters. It will be better if we can Szczepanek. Andre Inphi have a block that has a mix of data and control codewords that addresses the different Comment Type **TR** Comment Status D combinations. Basically a set that exercises the complex equations in subclause 91.5.2.5 See previous comments related to the use of "uncorrectable" on page 126 and 91.5.3.5 SuggestedRemedy SuggestedRemedy Replace "for uncorrectable codewords" with Proposed Response Response Status W "for uncorrected errored codewords" PROPOSED REJECT. Proposed Response Response Status W PROPOSED ACCEPT. This example is sufficient for the user to verify the correct bit order and implementation of the Reed-Solomon encoder. [Changed Clause from 19 to 91, changed Sublause to 91.7.4.2 for consistent sorting.] Figure 91-3 was provided to illustrate the construction of 257-bit blocks for different Change RF6 Value/Comment to: mixtures of control and data words. "When enabled, corrupts 66-bit block synchronization headers for uncorrected errorred codewords (or errored codewords when correction is bypassed)" C/ 91 SC 91.7.4.2 P143 L26 # 10 D'Ambrosia, John Dell Comment Status D Comment Type E bucket subclause reference for RF7 wrong SuggestedRemedy change to 91.5.3.4 Proposed Response Response Status W PROPOSED ACCEPT.

IEEE P802.3bj D1.2 100 Gb/s Backplane and Copper Cable 3rd Task Force review comments

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

C/ 91A SC 91A.1 Page 46 of 99 11/9/2012 3:04:08 PM

C/ 91A SC 91A.2 Pillai Velu	P <b>277</b> Broadcom	L1	# 65	C/ 92 Shanbhaq Me	SC <b>10.2</b>	P <b>164</b> TE Connectivity	L <b>41</b>	# 258
Comment Type E The CL91 text already partitioned into 10-bit n values are {m <k-1>[0:\$ 91A.2 to indicate that v</k-1>	Comment Status D clarifies in section 91.5.2.7 th nessage symbols from left to b], m <k-2>[0:9],m&lt;0&gt;[0:9]}. when these values are used f</k-2>	hat when the trar right in the enco An additional sta or parity symbol	nscoded data [0:256] is oder, the resulting atement to section generation, the values	Comment Typ It reads "b the param SuggestedRe	o The limit on the limit on the being re medy	Comment Status D the maximum insertion loss at efered is minimum insertion loss	12.8906 GHz 3.	" but
must first be flipped en being applied to the pa SuggestedRemedy	id-to-end to become {m <k-1> irity generation algorithm.</k-1>	[9:0], m <k-2>[9:</k-2>	u],.,m<0>[9:0])} before	Proposed Res PROPOS	ED ACCEPT	Response Status W	at 12.0900 GF	12
Proposed Response PROPOSED REJECT. The annex clearly state 91.5.2.7 which defines the Reed-Solomon end	Response Status W	ts of the tables a ganized and orde	and refers the reader to ered for processing by	Resolve w C/ 92 S Ghiasi, Ali Comment Typ	vith comment SC 11.1.1 le TR	t #322. P172 Broadcom Comment Status D stor 2 in Eq. 92-23	L 36	# 220 bucket
Correct implementation Annex 91A. No additional statemen	n of the rules of 91.5.2.7 wou nts appear to be necessary.	d yield the code	words included in	SuggestedRei IL(f) = 0.0 Proposed Res	medy 02 + 0.192*s sponse	aqrt(f) + 0.092 *f Response Status W		
C/ 92 SC 10 Bugg, Mark	Р <b>167</b> Molex	L <b>4648</b>	# 165	See respo	onse comme	nt #218.		
Comment Type TR Modify Eqn 92-14 base	Comment Status D ed on measured data			Cl <b>92</b> S Ghiasi, Ali	SC 11.1.2	P <b>172</b> Broadcom	L <b>36</b>	# 218
SuggestedRemedy Change Equation 92-14 10.80-13log(f/5.5) to 10.70-14LOG(f/5.5)	4 from			Comment Typ Please mi SuggestedRei IL(f)= -0.0	e <b>TR</b> ultiply the fac <i>medy</i> 02 + 0.192*s	Comment Status <b>D</b> ctor 2 in front of the equation eqrt(f) + 0.092*f		bucket
Proposed Response PROPOSED REJECT.	Response Status W			Proposed Res PROPOS	sponse ED ACCEPT	Response Status W		
The commenter did not minimum cable assem	t provide sufficient data to su bly insertion loss has been c	pport the change nanged to 8 dB (	e. Please note the @12.8906 GHz.	Use sugg	ested remed	у.		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general	CI 92	Page 47 of 99
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 11.1.2	11/9/2012 3:04:08 PM
SORT ORDER: Clause, Subclause, page, line		

C/ 92 SC 11.2 Ghiasi, Ali	P <b>173</b> Broadcom	L <b>7</b>	# 221	C/ 92 SC 11.3.4 Ghiasi, Ali	P176 L28 Broadcom	# 225
Comment Type <b>TR</b> Please multiply factor 1 SuggestedRemedy IL(f) = -0.00125 + 0.120 Proposed Response PROPOSED ACCEPT. Equation (92-24) multip -0.00125 + 0.12sart(f)+0	Comment Status D .25 * sqrt(f) + 0.0575 * f Response Status W ly factor 1.25		bucket	Comment Type TR Defining common mod board differential to con generation SuggestedRemedy Remove section 92.11 Proposed Response PROPOSED ACCEPT	Comment Status <b>D</b> e return loss of only 3 dB does not prov mmon mode return have been tighten to 3.4 Response Status <b>W</b>	ried any protection, the mated o limit common mode
C/ 92 SC 11 3 1	P <b>174</b>	17	# 228	Use suggested remedy	,	
Ghiasi, Ali	Broadcom	LI	π 220	C/ 92 SC 11.3.5	P177 L38	# 226
Comment Type T Mated test fixture max a	Comment Status <b>D</b> and minimum loss is TBD			Ghiasi, Ali Comment Type TR	Comment Status D	
SuggestedRemedy ILMTFmin=(0.08*sqrt(f) ILMTFmax=(-0.114 + 0. = 4.5 - 0.66*f for 1	+0.2*f) for 0.01 to 25.78 GHz .45*sqrt(f)+0.21*f) for 0.01 to 4 to 25.78 GHz	14 GH		Near end and far end of SuggestedRemedy Proposed limit for NEXT = 1 mV RMS MDNEXT= 1.7 mV RM	S	
See ghiasi_01_1112 for Proposed Response PROPOSED ACCEPT	r the proposed graph Response Status W			FEXT= 2.6 mV RMS MDFEXT=5.2 mV RMS	3	
See response commen	t #62.			Proposed Response PROPOSED ACCEPT	Response Status W IN PRINCIPLE.	
[CommentType set to T	(not specified by the comme	nter).]		For committee discuss	ion. Consider with diminico_1112.pdf.	

C/ 92 SC 11.3.5

C/ 92 SC 11.32	P174	L <b>3</b>	# 224	C/ 92	SC 7.12	P151	L10	# 185
Gniasi, Ali	Broadcom			Ran, Adee		Intel		
Comment Type TR	Comment Status D			Comment	Type <b>TR</b>	Comment Status D		
With the range limited 20.5log10(f/14) is only	I to 18.75 GHz the difference b / 8.6250 vs 8.599	etween 18-0.5*	and 11.2-	Choice hint of	of seeds to me how that goal	ninimize correlation seems like can be achieved, nor criteria c	an informative s	entence, but there is no ered low enough.
SuggestedRemedy				In prog	tion with the l	arga intar lana akaw allowed ir		auch minimzation
Remove the third part 4<=f<=18.75 GHz	of 92-27 and change the rang	e on the 2nd pa	rt from 4<=f<=16 to	cannot	be achieved r	eliably by just selecting seeds		SUCHTIMINIZATION
Proposed Response PROPOSED ACCEP	Response Status W			The ori lane" ir they we	iginal (normati n clauses 84 a ere included.	ve!) requirements of "randomr nd 85 do not achieve this goal	ness" in clause 72 , although it seer	2 and "different for each ns to be the reason
Use suggested remed	tv			The ve	m / lacas anasi	fination of the anad requiremen	nto in cloures 70 r	nakaa it imnaaaihla ta
C/ 92 SC 12.1	P <b>177</b>	L17	# 254	validate	e that a produc	ct meets it.	nis in clause 72 f	nakes it impossible to
Shanbhag, Megha	TE Connectivi	ty		It is so	mewhat pointle	ess to specify something that i	s both unverifyat	ble and ineffective. Let's
Comment Type E	Comment Status D		buc	ket avoid o	opying and re	peating an error.		
92.11.1.1 and 92.11.1	.2 are referenced for definition	of Style-1 and	Style-2	See at	tached presen	tation.		
RL and IL.	52.11.1.1 and 52.11.1.2 are 5			Suggested	Remedy			
SuggestedRemedv				Use a	different PRBS	S11 polynomial for each lane.		
Change 92.11.1.1 and	d 92.11.1.2 to 92.12.1.1 and 92	2.12.1.2 respect	vely.	Specify Chang	/ the polynomi e PICS item P	als and the initial bit patterns e F18 in 92.13.4.1 accordingly a	explicitly (see pre and add a suitable	sentation). e PICS item in
Proposed Response	Response Status W			93.11.4	4.1.			
PROPOSED ACCEP	Т.			Proposed I	Response	Response Status W		
Use suggested remed	tv			PROP	OSED ACCEF	PT IN PRINCIPLE.		
	, D <b>179</b>	1.24	# 255	Pendin	g review of pr	esentation. For committee disc	cussion.	
Shanbhag, Megha	TE Connectivi	ty	# 233	_				
Comment Type E	Comment Status D		buc	ket				
Figure 92-21 -Style-2 Incorrectly labelled as	example MDI board receptacle Style-2 when it should be Styl	e-1						
SuggestedRemedy	,							
Change Figure title fro	om Style-2 to Style-1							
Proposed Response	Posponso Status M							
DRODOSED ACCED	T							
FRUFUSED AUCEP	1.							
Use suggested remed	ły							

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

C/ 92 SC 7.12 Page 49 of 99 11/9/2012 3:04:08 PM

C/ 92	SC 8.3.2	P153	L <b>33</b>	# 256		C/ 92	SC	8.3.6	P157	,	L <b>35</b>	# 184
Shanbhag	, Megha	TE Connectivity				Ran, Adee			Intel			
<i>Comment</i> In equ But IL	<i>Type</i> <b>T</b> nation (92-1) Maxim in equation (92-4	Comment Status <b>D</b> num frequency for Tx Output R ) is defined up to a maximum fro	L is defined a equency of 1	as 25GHz. 8.75GHz.		Comment Type <b>TR</b> Comment Status <b>D</b> Definition of even-odd jitter refers to the difference between the positive pulse and the negative pulse. By its name, it should compare the difference between even pulses and odd pulses. The pulse definitions existing the total potter between the positive pulse and the						pulse and the ven pulses and
Suggester	dRemedy	) to reflect a maximum frequenc	v of 18 75G	47		odd pul number	ses. I of sy	hese def mbols, bi	ut with odd length (such	he test patte as PRBS) ti	ern has period v hey measure tv	with an even wo differnt things.
Dramanad			y 01 10.7501	12		Suggested	Remec	ly				
Proposed PROF	POSED REJECT.	Response Status w				Change "the difference between the mean width of the positive pulse and the mean width of the negative pulse" to						an width of the
The fr freque specif Tx/Rx	equency range ha ency represents cu ications have exp at the baud rate.	as been debated during each ba urrent consensus. Stakeholders ressed interest in specifying Tx/	llot cycle. Th in the Tx/Rx Rx RL as we	te Tx/Rx RL max RL Il as test fixtures for		"the difference between the mean width of even-numbered pulses and the mean width of odd-numbered pulses". Consider adding "If the base pattern period is an odd number of symbols, both even- and odd-numbered pulses should contain both positive and negative polarities".						e mean width of odd-numbered
Cable absolu	assembly manufa utely necessary so	actures have resisted extending o not to impose unecessary mea	the frequent asurement re	cy range beyond what equirements both	at's	Proposed R PROPC	espor SED	ise REJECT	Response Status	N		
equipr manut The 1 18.75 From signal From	absolutely necessary so not to impose unecessary measurement requirements both equipment and the time to perform measurements. Many VNAs used by cable assembly manufacturers are specified to 20 GHz. The 18.75 GHz=(7.5/10.3125)*25.78125. From 802.3ba, the 7.5 GHz is the 3 dB reference receiver bandwidth and 10.3125 is the signaling rate, per lane. From 802.3bj, the 3 dB reference receiver bandwidth is set to 18.75 GHz.					The firs in the n definitio The sug number variable	t sente niddle on, one ggeste red pul	ence of 9 of a seque of those d remed lses" and anoth is u	02.8.3.6 states that "eve uence of no fewer than a e pulses is in an even po y is incomplete in that th d "odd-numbered pulses unclear, i.e. what constit	n-odd jitter is 8 symbols of osition while ne definition " when cons utes a "puls	s measured fro f alternating po the other is in of mean width sidering a PRB e"	m the two symbols larity." By an odd position. of "even- S pattern with
CI 92	SC 8.3.5	P157	L <b>45</b>	# 217		C/ 92 SC 8.4.1 P159 L29 # 257						
Ghiasi, Ali		Broadcom				Shanbhag,	Megha	a	TE Con	nectivity		
Comment	Type TR	Comment Status D				Comment T	vpe	т	Comment Status	)		
Suggestee	e multiply the cons dRemedy	stant factor in EQ 92.4				In equation (92-5) and (92-6) maximum frequency is defined as 25 GHz. But IL					But IL	
Updat IL= 0. IL = 1	ed equation will b 0807 + 0.57781 s 9.368 + 2.152 * f f	e qrt(f) + 0.6092 * f 0.01<=f<=14 ( or 14 <=f <=18.75 GHz	GHz			Suggestedf change	Remec maxir	<i>ly</i> num frec	, Juency in Eq. (92-5) and	l (92-6) to 18	3.75GHz	
Proposed	Response	Response Status W				Proposed F	lespor	ise	Response Status	v		
PROF	OSED ACCEPT	IN PRINCIPLE.				PROPO	SED	REJECT				
Updat IL= 0.1 IL = -1	ed equation will b 0807 + 0.57781 si 9.368 + 2.152 * f	e qrt(f) + 0.6090*f 0.01<=f<14 G for 14 <=f <=18.75 GHz	Hz			See res	ponse	comme	nt #256.			
TYPE: TR COMMEN SORT OR	/technical required T STATUS: D/dis DER: Clause, Sul	d ER/editorial required GR/ger patched A/accepted R/rejected pclause, page, line	eral required I RESPOI	d T/technical E/edito	orial G/g en W/wr	eneral itten C/closed	Z/with	ndrawn		C/ 92 SC 8.4.1		Page 50 of 99 11/9/2012 3:04:08 PN

IEEE P802.3b	j D1.2 100 Gb/s	Backplane and Co	opper Cable 3rd	Task Force review comments

Cl 92 SC 8.4.1	P <b>160</b> Broadcom	L <b>28</b>	# 219	C/ 92 Arumudha	SC 92.1	P <b>144</b> Cisco	L <b>42</b>	# 235
Comment Type TR	Comment Status D			Comment	Type T	Comment Status D		
Traditionally we have GHz is used as in t SuggestedRemedy	ve used 0.05 GHz for low freq RL he case of Eq 92-5	measuremnts a	nd in some case 0.01	"Differ 92.8.3 BER I	rential signals r and have pass ess than 10-5"	eceived at the MDI from a transed through the cable assemb	smitter that mee ly specified in 92	ets the requirements of 2.10 are received with a
Please change 0.0 Proposed Response PROPOSED ACCE	1 GHz limit with 0.05 GHz Response Status W EPT IN PRINCIPLE.			"92.8. The re signal	4.4 Bit error rat aceiver shall op , as defined in s	io erate with a BER 10-12 or bet 92.8.3, through a compliant ca	ter when receivir ble assembly as	ng a compliant transmit s defined in 92.10"
For committee disc	ussion			Seem	like two differe	nt BER values for the same co	onfiguration?	
		1.40	"	Suggestee	dRemedy			
C/ 92 SC 8.4.2	P159 Proodoom	L <b>42</b>	# 216	Chang	ge BER to the s	ame value in both sections or	remove one sec	ction.
Comment Type TR	Comment Status D			Proposed PROF	Response POSED ACCEP	Response Status W		
Differential to comm	non mode conversion with flat va	lue of 10 dB is to	oo relax and simplistic	<b>D</b> 1	4 4 4 0			<b>20</b> 4 4
SuggestedRemedy	P 9			Repla parag	raph from 92.1.	2.8.4.4 with the corresponding	paragraph from	92.1, then remove that
RL>= $-25+20*(f/25)$ = $-15 \text{ dB from } 12$	ng limit 78) dB for 0.05<=f<=12.89 GHz .89 GHz to 25.87 GHz			<i>Cl</i> <b>92</b> Dawe, Pie	SC 92.1	P <b>144</b> IPtronics	L <b>46</b>	# 386
Proposed Response PROPOSED ACCE	Response Status W EPT IN PRINCIPLE.			Comment Where	<i>Type</i> <b>T</b> e do 1e-5 and 1	Comment Status D .7e-10 come from? I'm not co	onvinced they are	e exactly right.
For committee disc	ussion.			<i>Suggested</i> Add a Objec	dRemedy n informative s tive, because tl	ection documenting the calcula ne issue is not specific to Clau	ations - perhaps se 92.	in 80.1.2 BER
				Proposed PROF	Response POSED REJEC	Response Status W		
				The p servic brown	roject objective e interface whic _3bj_02_0912	is to support a BER of better the ch yields the frame error ratio of and cideciyan_3bj_01a_0912.	han or equal to equivalent define	1E-12 at the MAC/PLS ed per
				The a 12 co code.	dopted baseline uld be achieved The 1E-5 is a r	e proposal (gustlin_01_0312, s I with an uncorrected input BE ough approximation to this val	ilide 6) asserts tl R of 2.34E-5 usi ue.	hat an output BER of 1E- ing the RS(528,514)
				It is no param propo	ot necessary to neters in the sta se them).	include a section that derives indard where the derivation is	these values (th present only in t	ere are a number of he contributions that
TYPE: TR/technical rec	uired ER/editorial required GR/	general required	T/technical E/editorial G/g	eneral		C/ 9:	2	Page 51 of 99

C/ 92 SC 92.1	P <b>164</b>	L <b>1</b>	# 400	C/ 92 SC 92.10	P <b>164</b>	L <b>9</b>	# 313			
Dawe, Piers	IPtronics			Dudek, Mike	QLogic					
Comment Type TR For 35 dB headline los for backplanes. Cable parts, so it's not likely Technical Feasibility of SuggestedRemedy Use COM and other a this method of specific needed. Proposed Response PROPOSED REJECT	Comment Status <b>D</b> ss, the consensus was that the se have worse low frequency is that this method can deliver a of this draft has not been estal nalysis to establish what leve cation, a reduced headline los <i>Response Status</i> <b>W</b>	is method of s loss and the ch as much perfor blished. I of performand is and reach ar	becification is inadequate lannel is divided in three mance reliably. the is reasonable. With ad/or tighter ILD may be	Comment Type <b>T</b> With the reduction in (12.89GHz) to 1.17c boards the cable ins SuggestedRemedy Change Maximum In Make the same cha Proposed Response PROPOSED ACCE Resolve with comme	Comment Status D a loss of the Cable assembly ter B with no change in the cable li- ertion loss in table 92-9 should assertion loss at 12.8906 GHz from nge in Table 92-10 Response Status W PT IN PRINCIPLE. ent #62 ComparEm(f) + 2*II Host (f)	st fixture from 1.2 oss as measured be increased om 22.64dB to 22	25dB at Nyquist I with the combliance 2.48dB.			
Proposal lacking suffic	cient recommended changes	to implement ii	the draft.	ILChmax35dB(f)=IL0 -2*ILMatedTF(f)	Camax5m(f)+2*ILHost(f)					
Dawe, Piers	P164 IPtronics	<i>L</i> 1	# 404	C/ 92 SC 92.10	P167	L <b>4648</b>	# 166			
Comment Type TR	Comment Status D			Bugg, Mark	Molex					
Cable needs a spec to	o control common-mode gene	ration and may	/be an Scc22 spec.	Comment Type TR	Comment Status D					
SuggestedRemedy				Return loss limit ext	ending to 25GHz is inconsistent	with remainder of	of cable limits			
Add an Scd21 or ICM missing, add them if a	CN spec. Check if other com ppropriate.	mon-mode or r	nixed-mode specs are	SuggestedRemedy Change Frequency	imits of Eqn 92-14 from					
Proposed Response PROPOSED REJECT	Response Status W			4.1 <= f <= 25 to						
Proposal lacking suffic	Proposal lacking sufficient recommended changes to implement in the draft.				Proposed Response Response Status W PROPOSED ACCEPT.					
				Use suggested remo See response to cor	edy nment #256					

C/ 92 SC 92.10

C/ 92 SC 92.10.2	P <b>165</b>	L <b>33</b>	# 314	CI 92	SC 92.10.2	P165	L <b>33</b>	# 322
Dudek, Mike	QLogic			Dudek, M	ike	QLogic		
Comment Type <b>T</b> Having these fitted co-effic constrains the channel fit s at Nyquist will fail one or or footnote which should be c	Comment Status <b>D</b> cients exactly matching the so that it is likely that mar ther of these fint paramet deleted if the suggested re	e maximum loss y channels that ers. (It also ren emedy is not ado	at Nyquist heavily pass the maximum loss noves the need for the opted)	Comment In Tal is ver minim efficie isn't tr	<i>Type</i> <b>TR</b> ble 92-10 Having y confusing and hum Insertion los ents (particularly rue	Comment Status <b>D</b> two values for each of the Ma isn't what is required. The sec is curve but we do not really w for the square root and square	iximum fitted ins cond set are inte ant to limit the r eterms). Also th	sertion loss co-efficients ended to describe the ninimum value of the co- ne footnote b certainly
SuggestedRemedy				Suggooto	dDomodu			
Increase the maximum ins	ertion loss parameters by	/ 20%.		Suggester	urrenneuy			
Proposed Response F PROPOSED REJECT. See diminico_1112.pdf for	Response Status W			Delete Delete Repla "The IL=0.7	e toothole b e the last 3 rows ace the paragraph minimum measu 7*sqrt(f)+0.3*f+0.	in the table. h starting on row 16 with ired loss of the cable should m .01*(f^2) which is shown in figu	ieet the attenua	tion curve given by
cable assembly insertion lo	DSS.			Proposed	Response	Response Status W		
				PROF	POSED ACCEPT	T IN PRINCIPLE.		
				Delete	e paragraph star	ting "The maximum allowed		
				Repla minim	ace with >>The m num insertion los	neasured insertion loss of the sign of the	cable shall grea	ter than or equal to the
				"The insert	measured inserti ion loss given in	ion loss of the cable shall grea equation xx	ter than or equa	I to the minimum
				Equat	tion xx ILcamin =	€0.7*sqrt(f)+0.3*f+0.01*(f^2)		
				Delete and n In 92/ Repla m cat Equat	e last three rows ote (b) A.5 P283 L22 iceis the minim ble assembly inst tion (92-8)	of Table 92-10 um 0.5 ertion loss using		
				With.i m cat Equat	is the minimum ( ble assembly inst tion (xx-x). When	0.5 ertion loss using e (xx-x) is the minimum cable	assembly loss a	bove

C/ 92 SC 92.10.2

C/ 92 SC 92 Dudek, Mike	2.10.2	P <b>166</b> QLogic	L <b>30</b>	# 315		C/ <b>92</b> Dudek, Mił	SC <b>S</b>	92.10.5	P168 QLogic	3 L51	# 3	16
Comment Type The "Meets equ	T Comm uation constraints"	ent Status <b>D</b> is on the wrong sid	de of the curve.		bucket	<i>Comment</i> There	<i>Type</i> are not	<b>T</b> 9 lanes in	Comment Status I 100GBASE-CR4	D		bucket
SuggestedRemedy Move it below th	he curve.					Suggested Delete	Remed	У Э"				
Proposed Response PROPOSED A	e Respon CCEPT.	se Status W				Proposed PROP	Respon OSED /	se ACCEPT.	Response Status	N		
Use suggested	remedy					Use su	iggeste	d remedy				
C/ 92 SC 92 Dudek, Mike	2.10.2	P <b>166</b> QLogic	L <b>7</b>	# 299		<i>Cl</i> <b>92</b> Dudek, Mił	SC 9 ke	92.10.7	P <b>17(</b> QLogic	) L <b>29</b>	# 3	17
Comment Type letter got lost	E Comm	ent Status D			bucket	Comment The ra the mi	<i>Type</i> nge for nimum a	T insertion l attenuation	Comment Status I oss in the equation is n in table 92-10	<b>D</b> going to less att	enuation than is a	<i>bucket</i> llowed by
In Figure 92-8 c	change "eets" to "r	meets"				Suggested	Remed	V		··	<b>-</b> : 00.40	
Proposed Response PROPOSED A	e Respon CCEPT.	se Status W				Proposed	e the ra Respon	nge to sta se	Response Status	ation 92-22 and F <b>N</b>	-igure 92-12	
Use suggested	remedy							d romody				
C/ 92 SC 92 Dawe, Piers	2.10.4	P <b>168</b> IPtronics	L <b>9</b>	# 408		C/ 92	SC S	92.11	P <b>17</b>	L <b>32</b>	# 3	18
Comment Type Because of the frequencies.	T Comm (through) loss of t	ent Status <b>D</b> the MCB, this retur	n loss limit is ineff	ective at high	late	Comment	ke <i>Type</i> the inte	T nt of the s	Comment Status	)		
SuggestedRemedy Tighten the limi	it at high frequenc	ies by up to twice th	ne MCB trace loss			"The re are int state s	equirem ended to o.	ents in thi o state tha	is section are not MDI at these are not conne	specifications for ector specification	or an implemented ns. It would be cle	l design" earer to
Proposed Response PROPOSED R	e Respon EJECT.	se Status W				Suggested Chang for an	Remedy e the se impleme	V entence to ented des	) "The requirements in ign."	this section are	not connector spe	ecifications
Return loss spe host receptacle with comment#	ecifications is alrea e. Host trace has n 165.	ady tight at high fre ninimum IL consiste	quencies. Cable a ent with MCB IL; s	ssembly plugs ee (92A-2). Ro	s into esolve	Proposed PROP	Respon OSED A	se ACCEPT I	Response Status N N PRINCIPLE.	N		
						Chang design To: Th implen	e: The r e requir nented o	equireme ements in design.	nts in this section are this section are N	not MDI specific IDI connector sp	ations for an imple	emented
TYPE: TR/technical COMMENT STATU	I required ER/edit	orial required GR/	general required <sup>-</sup> cted RESPONS	/technical E/ E STATUS: C	'editorial G/g )/open W/wri	eneral tten C/closec	l Z/with	drawn		C/ 92 SC 92.11	Paç 11/	ge 54 of 99 9/2012 3:04:08 PN

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SC 92.11 SORT ORDER: Clause, Subclause, page, line

Cl <b>92</b> Dudek Mil	SC 92.11	P <b>173</b>	L <b>4</b>	# 319	Cl <b>92</b> DiMinico (	SC 92.11.3.5	P <b>177</b> MC Commun	L <b>35</b>	# 63	
Comment Allowin signific contin a pres specifi same both, a	<i>Type</i> <b>T</b> ng the test board cantly degrade sy ued the specifica entation on this f cations for these specifications for and most of the s	Comment Status D s to have un-restricted perfory ystem performance, resulting titions up to Baud Rate for the for the San Antonio meeting. test boards in their VSR spe- r these two standards so that specifications are already ide	mance above 1 in good devices equivalent test OIF has also a crification. It wo the same test b ntical.	8.75GHz could s failing. OIF has boards. I hope to have dopted complete uld be good to have the wards could be used for	Comment 92.11. Suggested dimini Proposed PROP	Type <b>TR</b> 3.5 Mated test fix <i>IRemedy</i> co_1112.pdf provi <i>Response</i> POSED ACCEPT.	Comment Status D tures integrated crosstalk no des the Table 95-12 TBDs Response Status W	bise Table 95-12 i	ncludes TBDs.	
Increa section Adopt values Proposed PROP For co See co	se the frequency other specification or missing spec <i>Response</i> OSED ACCEPT mmittee discuss	range for the test boards to ons from the OIF document f ifications.(eg Mated MDNEX <i>Response Status</i> <b>W</b> IN PRINCIPLE ionreview with presentation	25.9GHz for all or these test boo T=1.8mV Mateo	the equations in this ards to fill in any TBD d MDFEXT=4.8mV	Cl 92 SC 92.11.3.5 P177 L 39-44 # 326 Li, Mike Altera Comment Type TR Comment Status D parameters are still TBDs SuggestedRemedy values for the TBDs will be provided Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.					
C/ 92 DiMinico, ( Comment	SC 92.11.3.1 Christopher <i>Type</i> TR 3 1 Mated test fiv	P MC Commun Comment Status D	L1 ications	# <u>62</u>	See co C/ <b>92</b>	omment #63. SC <b>92.12.1</b>	P177	L17	# 33	
92.11. Figure Suggested Revise to max Equati ILMTF for f= 0 Equati ILMTF for f= 0	92-16 are TBDs 92-16 are TBDs IRemedy 9 92.11.3.1 with T (frequency. on (92-25) 5 min=0.08*SQRT 0.01 GHz to 18.7 0 (92-26) 5 max=0.114+0.45 0.01 GHz to 14 G	TBD equations provided here (f)+0.2*f 5 GHz 5*SQRT(f)+0.21*f GHz	. From D1.1 cor	nment#318 with revison	D'Ambrosi Comment two sh Conne used a 92.10. PHY. Suggested add pi	a, John <i>Type</i> <b>TR</b> hall statements do ectors meeting the as the mechanical . The plug connec Style-1 or Style-2 <i>dRemedy</i> c statements	Dell Comment Status D not have PIC statements requirements of 92.11.1.1 interface between the PMD tor shall be used on the cab connectors may be used as	(Style-1) or 92.11 of 92.7 and the c le assembly and t the MDI interface	1.2 (Style-2) shall be able assembly of the receptacle on the	
ILMTF for f= Use E Proposed PROP	max=-4.5+0.66*f 14 GHz to 18.75 quation (92-25) a <i>Response</i> OSED ACCEPT	f GHz and Equation (92-26) for Figu <i>Response Status</i> <b>W</b>	re 92-16 TBD		Proposed PROP For dis	Response POSED ACCEPT I scussion. Will add	Response Status W N PRINCIPLE.			
Use s	uggested remedy	v, consider with information fi	om diminico_11	12.pdf						

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

C/ 92 SC 92.12.1 Page 55 of 99 11/9/2012 3:04:08 PM

C/ 92 SC 92.12.1. Sommers, Scott	1 <i>P</i> 178 Molex	L <b>24</b>	# 1	C/ <b>92</b> Kvist, Be	SC 92.13 ngt	P <b>183</b> Ericsson AB	L <b>1</b>	# 371
Comment Type E Figure 92-21 - Style-2	Comment Status D example MDI board receptacle	e	buck	t Commen This	<i>t Type</i> <b>T</b> is a second sub-	Comment Status D -clause 92.13		bucket
SuggestedRemedy The drawing is a Style section of the docume text: Figure 92-21 - Style-1	e 1 connector and not a Style 2 ent, 92.12.1.2). Remedy - need	, ( Style 2 conn to simply chan	ectors are in the next ge the -2 to -1 in the	92.1: 92.1: <i>Suggeste</i> Char	3 .Environmenta 3 Protocol impler edRemedy nge to	I specifications mentation conformance		
Proposed Response PROPOSED ACCEP	Response Status W T IN PRINCIPLE.	-		92.1 Proposed PRO	4 Protocol implei <i>d Response</i> POSED ACCEP	mentation conformance Response Status W T IN PRINCIPLE.		
C/ 92 SC 92 12 1	1 D178	/ 25	# 405	[Con	nmentType set to	o T (commenter did not specify).	.]	
Dawe, Piers	IPtronics	LZJ	# 405	Corr	ect redundant cla	auses.		
Comment Type E No need for obfuscato	Comment Status <b>D</b> ory names.		lai	e C/ <b>92</b> D'Ambro	SC <b>92.13.4</b> sia, John	.3 P187 Dell	L <b>3</b>	# 29
SuggestedRemedy Rename "Style-1" as	QSFP, "Style-2" as CFP4.			Commen value	<i>it Type</i> <b>TR</b> e / comment field	Comment Status D does not match text		bucket
Proposed Response PROPOSED REJECT	Response Status <b>W</b>			TC12 Text Suggeste	2 value: 0.52 x vl value: 0.5 x vf edRemedv	f		
CFP4 is an MSA HW	Specification. Style used in bas	se document fo	or 802.3ba.	make	e equations cons	sistent		
				Proposed PRO	d Response POSED ACCEP	Response Status W T IN PRINCIPLE.		
				See	response comm	ent #321		

C/ 92 SC 92.13.4.3

	IEEE P802	.3bj D1.2 10	0 Gb/s Backp	lane and	Copper Ca	ble 3rd	l Task F	Force review comments	6	
C/ <b>92</b> SC <b>92.13</b> D'Ambrosia, John	3.4.4 P188 Dell	L12	# 30		C/ <b>92</b> DiMinico,	SC 9 Christop	92.5 oher	P <b>146</b> MC Commun	L1 hications	# 60
Comment Type TR PIC RC4 does not	Comment Status <b>D</b> have a matching SHALL stateme	nt in 92.8.4.1		bucket	Comment 92.5 S	<i>Type</i> Skew coi	<b>TR</b> nstraints	Comment Status D includes TBDs		
SuggestedRemedy change The reference imp to The reference imp Proposed Response PROPOSED ACC Use suggested rem	edance for differential return loss edance for differential return loss <i>Response Status</i> <b>W</b> EPT. nedy	measurements measurements	is 100 Ù. shall be 100 Ù.		Suggester Revis If the meas limiter ns an receiv than 1 at SP Skew	dRemed e 92.5 w PMD se ured, the d to TBD d the Sk ver MDI) FBD=3.4 5 can be Variatio	ly rvith TBD v rvice inte en the Sk D=400 ps ew Varia shall be shall be ns. If th e measure n at SP5	values provided here. 92.5 S rface is physically instantiate ew at SP2 is limited to TBD= 5. The Skew at SP3 (the trans tion at SP3 shall be less thar less than TBD=134 ns and th e PMD service interface is p ed, then the Skew at SP5 sh shall be less than TBD=3.6	kew constraints ed so that the Sk =43 ns and the S smitter MDI) sha n TBD=600 ps.T he Skew Variatio hysically instant all be less than ns.	tew at SP2 can be Skew Variation at SP2 is Il be less than TBD=54 The Skew at SP4 (the on at SP4 shall be less iated so that the Skew TBD =145 ns and the
C/ 92 SC 92.13 D'Ambrosia, John	3.4.4 P188 Dell	L <b>20</b>	# 31		Proposed PROF	Respon	se ACCEPT	Response Status W		
Comment Type TR Item RC7 and RC8	Comment Status <b>D</b> 3 refer to the wrong subclause			bucket	Use s	uggeste	d remedy	/		
SuggestedRemedy	reference to 92.8.4.3.4				<i>Cl</i> <b>92</b> Dawe, Pie	SC 9 ers	92.7.1	P148 IPtronics	L <b>43</b>	# 387
Proposed Response	Response Status W				<i>Comment</i> maxin	<i>Type</i> num inse	T ertion los	Comment Status <b>D</b>		bucket
Use suggested rer	nedy				Suggester Chang	dRemed ge to rec	ly commend	led maximum insertion loss,	as D1.1 comme	ent 451.
					Proposed PROF	Respon	se ACCEPT	Response Status WIIN PRINCIPLE.		
					Use s	uggeste	d remedy	Ι.		

Comment #451 correctly implemented.

C/ 92 SC 92.7.1

C/ 92 SC 92.7.12 D'Ambrosia, John	P <b>151</b> Dell	L17	# 28	<i>Cl</i> <b>92</b> Sela, Oren	SC 92.7.4	P <b>150</b> Mellanox Tech	L <b>22</b> inologies	# 116
Comment Type <b>TR</b> no pic statement for If the MDIO interface i	Comment Status D s implemented, then this func	tion shall map th	nese variables to the	Comment T signal d support	ype T etect should a ed and rx_mo	Comment Status <b>D</b> also function as Alert detect who de is not active	en EEE normal	mode is
SuggestedRemedy add pic statement Proposed Response PROPOSED REJECT	Response Status W			SuggestedF Add the When ti PMD_S detecte Can con	Remedy folowing text: ne PHY suppo IGNAL.indicat d, which corre nsider adding	orts the optional EEE capability tion is also used to indicate who sponds to the beginning of a re a condition of PMD:IS_RX_MO	normal wake m en the ALERT s fresh or a wake DE != ACTIV	ode, ignal is
See P183, L25				Proposed R	esponse	Response Status W		
C/ 92 SC 92.7.12 D'Ambrosia, John	P1 <b>51</b> Dell	L <b>6</b>	# 27	See hea	aley_3bj_02_1	112.pdf for PMD functional and	d electrical beha	avior
Comment Type <b>TR</b> No PIC statement for The training frame stru-	Comment Status D	E-CR4 PMD con	<i>bucket</i> trol function shall be as	C/ <b>92</b> Dudek, Mike	SC 92.7.7	P151 QLogic	L <b>4</b>	# 298
SuggestedRemedy add pic statement				Comment T The ser	ype E Itence is incor	Comment Status D		bucket
Proposed Response	Response Status W			SuggestedF Add "to	<i>Remedy</i> be disabled" o	on the end of the sentence.		
Include training frame	structure PICS to 92.13.4.1 F	MD functional s	pecifications	Proposed R PROPC	esponse SED ACCEP	Response Status W T IN PRINCIPLE.		
				Add: to	be selectively	disabledto end of sentence		

transmitter in each lane.

IEEE P802.3bj D1.2 100 Gb/s Backplane and Copper Cable 3rd Task Force review comments

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CI 92 SC 92.7.7

The PMD lane-by-lane transmit disable function is optional and allows the electrical

Page 58 of 99 11/9/2012 3:04:08 PM

C/ 92 Kvist, Bengt	SC <b>92.7.7</b>	P <b>151</b> Ericsson AB	L <b>4</b>	# 370		C/ <b>92</b> Dawe, Piers	SC 92.8.3	P153 IPtronics	L15	# 398
Comment T	уре Т	Comment Status D			bucket	Comment T	ype TR	Comment Status D		
Selectiv Compar	ve or individua re 93.7.7, 94.3	Il disable dissappeared in last e 3.6.7	dit.			Need s commo	pecs for common to differential	on-mode output return loss ).	and output mode	conversion loss (from
The PM transmi	ID lane-by-lan tter in each la	e transmit disable function is op ne.	otional and allo	ows the electrical		SuggestedF Add spe	R <i>emedy</i> ecs for commor	n-mode output return loss a	nd output mode c	onversion loss (from
SuggestedF	Remedy					commo rate	n to differential	). For example, use the Infi	iniBand FDR spec	cs, scaled for signalling
The PM transmi	ID lane-by-lan tter in each la	e transmit disable function is op ne to be selectively disabled.	otional and allo	ows the electrical		Proposed R	esponse	Response Status W		
Proposed R	esponse	Response Status W				PROPC	DSED REJECT			
PROPC	SED ACCEP	T IN PRINCIPLE.				Sugges draft. R	ted remedy pro esubmitted D1.	posal lacking sufficient reco 1 comment#445	ommended chang	ges to implement in the
[Comm	ent I ype set to	o I (commenter did not specify)	.]			CI 92	SC 92.8.3	P153	L <b>21</b>	# 321
See cor	nment#298					Dudek, Mike	Э	QLogic		
<i>Cl</i> <b>92</b> Dudek, Mike	SC 92.8.1	P <b>152</b> QLogic	L <b>25</b>	# 307		<i>Comment T</i> The Lin	<i>ype</i> <b>TR</b> ear fit pulse (m	Comment Status D in) value in table 92-5 does	not match the va	<i>bucket</i> lue in 92.8.3.4.1
Comment T The AC	<i>ype</i> <b>T</b> coupling is in	Comment Status <b>D</b> the cable not at the receiver.			bucket	SuggestedF Change	Remedy the value from	0.52 to 0.5		
SuggestedF Replace	Remedy e "at the receiv	ver" with "within the cable"				Proposed R PROPC	esponse SED ACCEPT	Response Status W		
Proposed R PROPC	esponse SED ACCEP	Response Status W T IN PRINCIPLE.				Use su	ggested remedy	Ι.		
Change	o: coupling at t	the receiver				Correct	value is 0.50 [	per D1.1 comment #283]		
To: with	in the plug co	nnectors				C/ <b>92</b> Arumughan	SC <b>92.8.3.4.</b> n, Vinu	1 P156 Cisco	L <b>36</b>	# 239
						Comment T 0.5xVf o	<i>ype</i> <b>T</b> does not match	Comment Status D value in Table 92-5		bucket
						SuggestedF Remove	R <i>emedy</i> e one.			
						Proposed R PROPC	esponse SED ACCEPT	Response Status WIIN PRINCIPLE.		
						See cor	nment #321.			
				d Theshairs' C					••	D

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 C/ 92
 Page 59 of 99

 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
 SC 92.8.3.4.1
 11/9/2012 3:04:08 PM

 SORT ORDER: Clause, Subclause, page, line
 SC
 92
 Page 59 of 99

			•	•	••					
<i>Cl</i> 92 Dawe, Pie	SC 92.8.3.5	P <b>157</b> IPtronics	L <b>28</b>	# 390	<i>Cl</i> <b>92</b> Dawe, Pie	SC 92.8.3	6 IPt	P <b>158</b> ronics	L <b>28</b>	# 399
Comment Reco Suggeste Add a Proposed PROI Sugg draft.	t Type <b>T</b> mmending insertion dRemedy a recommendation I Response POSED REJECT. ested remedy pro	Comment Status D on loss for host channel is go of for ILD or other metric to con Response Status W posal lacking sufficient recom	od but not the w htrol host chann nmended chang	rhole story. el quality. es to implement in the	Comment Follor Seve each Suggeste Edito Proposed PRO	t Type TR wing up on D1. ral editorials ar jitter type. dRemedy r see email I se l Response POSED REJEC	Comment Stat 1 comment 433. d technical points, in ent you on 13 August Response State CT.	us D cluding th and again us W	nat this section ner	eds subheadings for r.
C/ 92	SC 92.8.3.5	P157	L <b>32</b>	# 308	Sugg draft.	ested remedy p	proposal lacking suffi	cient reco	ommended change	es to implement in the
Dudek, M	ike	QLogic			C/ 92	SC 92.8.3	6	<sup>2</sup> 159	L12	# 397
Comment	t Type <b>T</b>	Comment Status D			Dawe, Pie	ers	IPt	onics		
With	the change in loss	of the HCB from 1.5dB at N	vquist (12.89GF	lz) to 1.87dB at Nyquist	Commen	tType <b>T</b>	Comment Stat	IS D		
for the Suggeste	e same host loss dRemedy	the insertion loss from TPU to	1P2 should ha	ve increased	Don't where	proliferate alm BER0 is 10^-	ost-identical jitter me 9".	trics. We	e already have J9,	we don't need "J0
Chan Chan	ge 10dB to 10.37 ge the multipliers	dB on line 33. in equation 92-4 from 1.076 t	o 1.115		Suggeste	dRemedy				
Proposed	l Response	Response Status W			Chan or 14	ge "J0 where E adjust O value	ER0 is 10^-9" to J9,	consider	changing "J1 whe	re BER0 is 10^-5" to J5
PRO	POSED ACCEPT	IN PRINCIPLE.			Proposed	Response	Response State	ıs W		
See o	comment#323				PRO	POSED REJEC	<i>i</i> 1.			
Cl <b>92</b> Arumugha	SC <b>92.8.3.5</b> am, Vinu	P <b>158</b> Cisco	L <b>6</b>	# 240	The of 1E-9	lefinition of J2 a of the jitter dist	and J9 jitter is defined ribution respectively	d to be th (see 86.8	e interval that inclu. .3.3.1 and 86.8.3.3	udes all but 1E-2 and 3.2).
Comment Figur	t <i>Type</i> <b>E</b> e 92-5 Y axis read	Comment Status <b>D</b> Is Max and Min.		bucket	Howe	ever, Jn in 92.8 itions for which	3.6 is defined to be t the BER at these sa	he range mpling tin	of sampling times nes is BERn.	around the signal
S <i>uggeste</i> Shou	<i>dRemedy</i> Id be only Max.				There	efore, J0 in 92.8 name.	3.3.6 is not the same	as J9 in 8	86.8.3.3.2 and sho	ouldn't be assigned the
Proposed	l Response	Response Status W								

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PROPOSED ACCEPT. Use suggested remedy

> C/ 92 SC 92.8.3.6

Page 60 of 99 11/9/2012 3:04:08 PM

C/ 92 SC 92.8.3.6 Dudek, Mike	P <b>159</b> QLogic	L <b>2</b>	# 309	<i>CI</i> <b>92</b> Dudek, Mi	SC <b>92.8.4.3</b> ke	P1 QLog	. <b>61</b> L <sup>.</sup> aic	12 ‡	# 311
Comment Type <b>T</b> The editor's note is no	Comment Status D longer required		bucket	Comment The Ir	<i>Type</i> <b>T</b> nterference toler	Comment Status ance test can be perfe	<b>D</b> ormed with a PR	BS pattern and h	nence we need
SuggestedRemedy Delete the editor's note				to spe Suggestee	cify the BER be dRemedy	fore FEC.			
Proposed Response PROPOSED ACCEPT.	Response Status W			Chang Chang Consi be tur	ge the Paramete ge the Test 2 val der changing the ned off in the Rx	er in table 92-8 from M lue from 10e-12 to 10 e Test 1 value from 10 < for this shorter chan	laximum BER to e-5 De-12 to 10e-5. nel.)	Maximum BER	before FEC. that FEC can
Use suggested remedy				Proposed	Response	Response Status	w		
P158 L50- Total jitter e: DDJ…	xcluding data dependent jitter is	s the difference b	between TJ and	PROF	POSED ACCEPT	T IN PRINCIPLE.			
0.00.00.00.0	0450	/ 00	" 222	For co	mmittee discus	sion. Change the Par	ameter in table 9	32-8 from Maximu	um BER to
C/ 92 SC 92.8.3.7 Dawe, Piers	P159 IPtronics	L36	# 383	Consi be tur	der changing the	e FEC. Change the To e Test 1 value from 10 ( for this shorter chan	2 value from 2^-12 to 10^-5. (	(We may desire t	hat FEC can
Comment Type E Put the subclauses in the	Comment Status <b>D</b> he same order as Table 92-5 (o	or vice versa).	bucket	Cl 92	SC 92.8.4.3	.1 <i>P</i> 1	161 L	<b>42</b> ‡	# 391
SuggestedRemedv				Dawe, Pie	rs	IPtroi	NICS		
Also in 92.8.4.				Comment	Туре Т	Comment Status	D		
Proposed Response PROPOSED ACCEPT	Response Status W IN PRINCIPLE.			lt wou MCB/ also p	Id be more prac HCB as is norm uts the LH MCB	tical if signals from te al in the compliance b connector loss and c	st equipment we board method, ra crosstalk within th	re calibrated afte ther than before he calibration.	er a mated the MCB. This
				Suggestee	dRemedy				
Cl 92 SC 92.8.4	P159	L40	# 241	Define MCB/	e the signals fror HCB rather than	m test equipment (inc at PGC or equivalent	luding crosstalk, t.	Figure 92-7) afte	er a mated
Arumugham, Vinu	Cisco			Proposed	Response	Response Status	w		
Comment Type T	Comment Status D			PROF	POSED REJECT	Г.			
No sinusoidal jitter mas	sk is specified.			Sugge	ested remedy pro	oposal lacking sufficie	ent recommende	d changes to imp	plement in the
SuggestedRemedy Add sinusoidal jitter ma	ask spec. like Figure 86A-10.			draft.					
Proposed Response PROPOSED REJECT.	Response Status W								
See comment #242.									

C/ 92 SC 92.8.4.3.1

C/ 92 SC 92.8.4.3 Arumugham, Vinu	3.1 P161 Cisco	L <b>43</b>	# 243	<i>Cl</i> <b>92</b> Dudek, Mik	SC 92.8.4.3.4	P <b>162</b> QLogic	L <b>48</b>	# 310				
Comment Type E	Comment Status D		bucket	Comment	Туре Т	Comment Status D						
Figure 92-6 has PCG				We sh	ould make clear t	hat during the training al	gorithm the patterr	generator should refuse				
SuggestedRemedy				SuggestedRemedy								
Pronosed Response	Posponso Status W			After "a	alternating one ze	ero pattern" add "includin	g after the training	described in 92.8.4.3.5				
PROPOSED ACCEP	T.			Proposed I	Response	Response Status W						
Use suggested reme	dv			PROP	OSED ACCEPT.							
Cl 92 SC 92 8 4 3	A P162	/ 46	# 61	Use su	uggested remedy							
DiMinico, Christopher	MC Commun	ications		<i>Cl</i> <b>92</b> Dawe, Pier	SC 92.8.4.3.4	P162 IPtronics	L <b>48</b>	# 403				
Comment Type TR Subclause 92 8 4 3 4	includes TBDs			Comment	Type <b>TR</b>	Comment Status D						
SuggestedRemedy Revise 92.8.4.3.4 with	h TBD values provided here.			This is testers small.	supposed to be a with "no more th	a DEFINITION of what in an TBD m"" can make a	terference tolerand nything fail by setti	ce means. Possible ng the amplitude very				
Its output amplitude shall be no more than $TBD = 800 \text{ mV}.$		SuggestedRemedy Delete "no more than".										
The transition times o 93.8.1.5 are TBD= 19	of the pattern generator, as de ) ps.	ined in		Proposed I PROP	Response OSED ACCEPT	Response Status W						
If the transition times	of the pattern generator, T			See co	omment #61 prov	ides TBD value						
r,are less than TBD=1	19 ps			C/ 92	SC 92.8.4.4	P162	L <b>21</b>	# 32				
Equation 92-7: TBD=	2-10/2)			D'Ambrosia	a, John	Dell						
tr in ps	- 13 2)			Comment	Type <b>TR</b>	Comment Status D		bucket				
Proposed Response PROPOSED ACCEP	Response Status W			The re signal,	ceiver shall opera as defined in 92.	ate with a BER 10 -12 or 8.3 , through a complian	better when receiv t cable assembly a	ing a compliant transmit is defined in 92.10				
Use suggested remed	dy			Suggested add pio	Remedy c statement							
				Proposed I PROP	Response OSED ACCEPT	Response Status W						
				Add Pl than 10	ICS to 92.13.4.4   0^-12	Receiver specifications	.RSx Bit Error Rati	o 92.8.4.4 BER of better				
TYPE: TR/technical requi	red ER/editorial required GR/	general required	T/technical E/editorial G/g	general		CI	92	Page 62 of 99				

SC 92.8.4.4

11/9/2012 3:04:08 PM

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

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C/ 92 SC 92.8.4.4 Dudek, Mike	P <b>163</b> QLogic	L <b>21</b>	# 312	C/ <b>92A</b> SC Dudek, Mike	P <b>281</b> QLogic	L <b>6</b>	# 320
Comment Type <b>T</b> We should specify the error	Comment Status D ror rate before FEC			Comment Type <b>T</b> This annex contain	Comment Status <b>D</b> is a lot more than test point para	meters.	bucket
SuggestedRemedy Change "10e-12" to "10e- Proposed Response	-5 before FEC" Response Status W			SuggestedRemedy Change the title to characteristics.	"100GBASE-CF4 TP0 and TP5	test point param	eters and channel
PROPOSED ACCEPT IN	I PRINCIPLE.			Add to the end of 9	92A.1 "It also provides information	on on channel ch	naracteristics.
For committee discussion	ı			Proposed Response PROPOSED ACCI	Response Status W		
Change "10^-12" to "10^-	5 before FEC			Lise suggested ren	nedv		
C/ 92 SC 92-4 DiMinico, Christopher	P <b>146</b> MC Commun	L <b>44</b> ications	# 59	C/ 92A SC 3	P281	L <b>36</b>	# 222
Comment Type TR 92.4 Delay constraints in SuggestedRemedy Revise 92.4 with TBD val The sum of the transmit a 100GBASE-CR4 PMD, A (TBD=2048) bit times (TE one way delay through th	Comment Status D cludes TBDs. ues provided here. 92.4 D and the receive delays at c N, and the medium in one BD=2 pause_quanta or T e medium is no more than	elay constraints ine end of the lin direction shall b 3D=20.48 ns). It TBD=6000 bit ti	k contributed by the e no more than is assumed that the mes (TBD= 60 ns).	Comment Type TR Equation 92A-1 is are about the same use scale version of SuggestedRemedy If equation 92-4 is IL_Prop=0.0565+0	Comment Status D not consistant with the TP0 to TF e, but equation 92A-1 linear term of equation 92-4 multipled by 0.7 then loss at 12.3 .4263*sqrt(f)+0.4045*f where f is	P2 loss where co h is twice the SQ 89 Ghz will be 6. from 0.01 to 18	efficent SQRT(F) and f RT term. Propose to 8 dB .75 GHz
Proposed Response PROPOSED ACCEPT.	Response Status W			ghiasi_01_1112 wi	Il compare these two graphs		
Use suggested remedy				PROPOSED REJE	ECT.		
				92A-1 is PCB IL TP0-TP2 includes scaled for Tx/Rx P	connector which will add to sqrt( CB IL.	f) loss. TPO-TP2	2 should not be linearly

C/ 92A SC 3

<i>Cl</i> <b>92A</b> Ghiasi, Ali	SC <b>4</b>	P <b>280</b> Broadcom	L <b>3</b> 7	# 223	C/ <b>92A</b> Healey, Ac	SC <b>92</b> / am	<b>A.</b> 4	P282 LSI Corporation	L <b>28</b>	# 168
<i>Comment T</i> Equatio	ype <b>TR</b> on 92A-1 is not co	Comment Status <b>D</b> onsistant with the TP0 to TP2	loss where coe	fficent SQRT(F) and f	Comment The ca	<i>Type</i> <b>E</b> ption to Fi	Comme gure 92A-1 is co	ent Status <b>D</b> rrupted.		bucket
are abo use sca	out the same, but ale version of equ	equation 92A-1 linear term is ation 92-4	twice the SQR	T term. Propose to	S <i>uggested</i> Repair	<i>Remedy</i> the figure	caption.			
If equat IL_Prop	tion 92-4 is multip =0.0097+0.0729	bled by 0.7*0.5/0.092 then loss *sqrt(f)+0.0692*f where f is fro	s at 12.89 Ghz om 0.01 to 18.7	will be 1.25 dB /5 GHz	Proposed PROP	Response OSED AC	Respon CEPT.	se Status W		
ghiasi_(	01_1112 will com	pare these two graphs			Use su	iggested re	emedy			
Proposed R PROPC	Response DSED REJECT.	Response Status W			<i>Cl</i> <b>92A</b> Healey, Ac	SC <b>92/</b> am	A.5	P283 LSI Corporation	L15	# 170
See cor	mment #222				Comment	Туре Т	Comme	ent Status D		
C/ <b>92A</b> Shanbhag, I	SC <b>5</b> Megha	P <b>283</b> TE Connectivity	L <b>34</b>	# 253	Figure insertio dB. It i	92A-2 is n on loss from s likely the	no longer aligned m Equation 92-23 e mated test fixtu	with Clause 92. For e 3 is approximately 2 or re insertion loss will n	example, the dB but is sho leed to be up	TP2/TP3 test fixture wn in the figure as 1.5 dated as well.
<i>Comment T</i> Isn't equ	<i>ype</i> <b>T</b> uation (92A-5) sa	Comment Status <b>D</b> ame as (92A-4)?		bucket	Suggested Re-alig	<i>Remedy</i> In Figure 9	02A-2 with Clause	ə 92.		
SuggestedF Delete	R <i>emedy</i> eq. (92A-5) if red	undant.			Proposed PROP	Response OSED AC	Respon CEPT IN PRINC	se Status WIIPLE.		
Proposed R PROPC	Response DSED ACCEPT.	Response Status W			See re	sponse co	mment #323			
[Comm	entType set to T	(commenter did not specify).]								
Use sug	ggested remedy.									
C/ 92A Dawe, Piers	SC 92A.4	P281 IPtronics	L <b>29</b>	# 389						
Comment T maximu	<i>ype</i> <b>T</b> Im insertion loss	Comment Status D		bucket						
SuggestedF Change	R <i>emedy</i> e to recommende	d maximum insertion loss, as	D1.1 comment	t 451.						
Proposed R PROPC	Response DSED ACCEPT I	Response Status W N PRINCIPLE.								
Use su Comme	ggested remedy ent#451 correctly	implemented.								
TYPE: TR/to COMMENT SORT ORD	echnical requirec STATUS: D/disp ER: Clause, Sub	ER/editorial required GR/ge patched A/accepted R/rejecte pclause, page, line	neral required ed RESPON	T/technical E/editorial G/g SE STATUS: O/open W/wr	eneral itten C/closec	Z/withdra	awn	C/ <b>92A</b> SC <b>92A</b> .	5	Page 64 of 99 11/9/2012 3:04:08 PN

C/ 92A SC 92A.5 Dudek, Mike	P <b>284</b> QLogic	L <b>2</b>	# 323	<i>Cl</i> <b>92A</b> DiMinico,	SC 92A.8 Christopher		P285 MC Commun	L <b>29</b> ications	# 64
Comment Type TR Figure 92A-2 should 12.8906 GHz of 1.17 the HCB. SuggestedRemedy	Comment Status <b>D</b> be updated based on the adop 7dB for the Cable Assembly Te	oted compliance st Fixture (a.k.a	board losses at MCB) and 1.87dB for	Comment 92A.8 92A-3 Suggeste dimin	t Type <b>TR</b> 3 Channel integra 3 edRemedy	Comment S ated crosstalk no avides Equation	Status <b>D</b> oise (ICN) incl 92A-7 to be u	udes TBDs; Equa	ation 92A-7 and Figure
Change the Cable A Change the HCB los Change the TP0 to Change the TP1 to Change the mated of Also change these n	ssembly Text Fixture loss from as from 1.5dB to 1.87dB TP2 loss from 10 dB to 10.37dB TP4 loss from 22.64dB to 22.48 able assembly and test point to umbers in the channel loss eq	1.25 dB to 1.17 3 3dB. est fixture loss fr uation (it still is o	dB om 3.84dB to 4.11dB. correct equalling 35dB.	Proposed PRO Use s	I Response POSED ACCEPT suggested remed	Response S T. Iy	Status W	j	
Proposed Response PROPOSED ACCEI Mated test fixture sp 25). Further, editor of explicit agreement b publication):The cha when the insertion lo Equation (92-25) are	Response Status W PT IN PRINCIPLE. ecification insertion loss is TBI lid not want to use assumed lin y committee Added editor's no nnel insertion loss budget at 12 pss of the mated test fixture is of e defined.	D Equation (92-2 hits as in sugges te (to be remove 2.8906 GHz, Fig determined i.e.,E	4) and Equation (92- sted remedy without of prior to final ure 92A, will be updated Equation (92-24) and						
Per remedy: Change the Cable A Change the HCB los In addition,	ssembly Text Fixture loss from s from 1.5 dB to 1.87 dB	1.25 dB to 1.17	dB						

>>change ILPCBmin to 1.17 dB @12.89 Equation (92A-2)

For committee discussion: Change the mated cable assembly and test point test fixture loss from 3.84 dB to 4.11 dB. Change the TP0 to TP2 loss from 10 dB to 10.37dB Change the TP1 to TP4 loss from 22.64dB to 22.48dB.

CI 92A SC 92A.8

			·					
<i>Cl</i> <b>93</b> SC <b>93.1</b> Arumugham, Vinu	P <b>192</b> Cisco	L <b>38</b>	# 237	<i>Cl</i> <b>93</b> Healey, Ada	SC <b>93.2</b> am	P193 LSI Corpo	L20 pration	# 174
Comment Type <b>T</b> Multiple different B	Comment Status D ER values in different sub-clause	es. (93.1/1e-5, 93	3.8.2.3/1e-12 and 2e-5).	Comment 7 The fur	<i>ype</i> <b>T</b> ctional and electronal and electronac and	Comment Status D ectrical behavior of the 100	GBASE-KR4 PMD	for the optional Energy
SuggestedRemedy					t Ethemet cap	ability is undefined.		
Add a section titled Channels can be o When a BER of 1e	d BER, FEC and MTTFPA Add th lesigned to target either a BER of e-5 is the target, the receiver is re	e following text t f 1e-5 or 1e-12. quired to implem	o the section: nent error correction	Suggested Define healey_	<i>the functional</i> _02_3bj_1112.	and electrical behavior as .pdf.	recommended in co	ontribution
using FEC informa When a BER of 1e transmitter.	tion from transmitter. -12 is the target, the receiver car	n optionally ignor	e FEC information from	Proposed F PROPC	Response DSED ACCEP	Response Status W T IN PRINCIPLE.		
DFE error propaga on these lanes and	tion can result in burst errors. Du	e to the type of acteristics, there	data multiplexing used is a higher probability	Pending	g consideratio	n of the cited contribution.		
that such burst erro MTTFPA (Mean Ti	ors are undetectable by CRC. Th me To False Packet Acceptance	is could result is ) if receiver igno	undesirably low res FEC.	C/ 93	SC 93.4	P194 Marvell Sc	L <b>4</b>	# 296
Proposed Response	Response Status W			Liu, Zhenyu			enticonductor	
PROPOSED ACC	EPT IN PRINCIPLE.			Comment 7	ype T	Comment Status D		<b>D</b> 4 4 <b>D</b>
The project objecti service interface w brown_3bj_02_091	ve is to support a BER of better t hich yields the frame error ratio e 2 and cideciyan_3bj_01a_0912.	han or equal to <sup>2</sup> equivalent define	IE-12 at the MAC/PLS d by	The del sugges mediun delay c	ay constraint of ts PMD/AN de n. If medium is onstraint whicl	of PMD is inconsistent with elay is fixed at 2048BT, but s excluded, PMD/AN delay h is 1024BT at 10G, this is	draft 1.2 says 2048 will be 1248BT. Co very tight.	BT is PMD/AN plus mpared with 10G-KR
The adopted base	ine proposal (gustlin_01_0312, s red with an uncorrected input BEI	lide 6) asserts th R of 2.34E-5 usi	nat an output BER of 1E- ng the RS(528,514)	Suggestedl Put 204	R <i>emedy</i> I8BT as PMD/	AN delay only, instead of F	PMD+AN+medium.	
code. The 1E-5 an approximation sho	d 2E-5 values are rough approxir uld be consistently used).	nations to this va	alue (although the same	Proposed F PROPC	Response DSED ACCEP	Response Status W		
Ensure the uncorread and Test 4 values,	ected BER target is consistently s and Table 93-8 (target uncorrect	set to 1E-5 in 92. ed symbol error	1, Table 93-7 Test 3 ratio, SER_0).	The del value).	ay should be a It was the inte	an integer multiple of paus int to keep the delay the sa	e_quanta (e.g. 2048 me a 84.4 in terms	3+800 isn't a valid of pause_quanta and
The second part of	f the comment applies to the targ	et uncorrected E	ER when the Reed-	increas the bit r	e the medium ate.	allocation in recognition th	at propagation dela	y does not scale with

Solomon decoder correction is bypassed (see 91.5.3.3) which would presumably be 1E-12. the bit rate Coverage of this case is implied by Table 93-8 Test 1 and Test 2 values. However, the definition is incomplete as there is no requirement in 93.9.1 that a channel achieve some minimum COM value, with SER\_0 of 1E-12, when correction is bypassed.

This is a topic for Task Force discussion. If the specifications are completed, then the text in 93.1 should also be amended accordingly.

The third part of the comment addresses the degradation in MTTFPA when the the decoder is bypassed. Comment #369 proposes to make error detection/indication mandatory and, if accepted, the point about unacceptable MTTFPA need not be made (see gustlin\_01a\_0712).

It is not clear that 1248 BT is onerous for the PMD sublayer alone. Recall that for a complete Physical Layer, this allocation is to be combined with the PMA sublayer allocation of 9 pause\_quanta, RS-FEC allocation of 80 pause\_quanta, etc.

If the Task Force wishes to increase the delay allocation, then change 93.4 to: "The sum of the transmit and the receive delays at one end of the link contributed by the 100GBASE-KR4 PMD, AN, and the medium in one direction shall be no more than 3072 bit times (3 pause\_quanta or 30.72 ns). It is assumed that the one way delay through the medium is no more than 800 bit times (8 ns)."

 C/
 93
 Page

 SC
 93.4
 11/9.

Page 66 of 99 11/9/2012 3:04:08 PM

C/ 93 SC 93.7.10 P198 L9 # 172	C/ 93 SC 93.7.4 P196 L49 # 118
Healey, Adam LSI Corporation	Sela, Oren Mellanox Technologies
Comment Type <b>T</b> Comment Status <b>D</b> Function/variable name confusion:	Comment Type <b>T</b> Comment Status <b>D</b> signal detect should also function as Alert detect when EEE normal mode is supported and rx mode is not active
The heading of 93.7.10 implies that the name of the function is "PMD transmit fault function" which assigns the variable "PMD_transmit_fault". SuggestedRemedy Change the first sentence of 93.7.10 to: "The PMD transmit fault function is optional." Change the second paragraph to: "If PMD_transmit_fault is set to one, then Global_PMD_transmit_disable should also to one." Change the third paragraph to: ", then PMD_transmit_fault shall be mapped to the Transmit fault bit" Proposed Response Response Status W	SuggestedRemedy         Add the folowing text:         When the PHY supports the optional EEE capability normal wake mode,         PMD_SIGNAL.indication is also used to indicate when the ALERT signal is         detected, which corresponds to the beginning of a refresh or a wake.         Can consider adding a condition of PMD:IS_RX_MODE != ACTIV         Proposed Response       Response Status         W         PROPOSED ACCEPT IN PRINCIPLE.         See comment #174.         C/ 93       SC 93.7.5         P197       L9         Kochuparambil, Beth
PROPOSED ACCEPT. C/ 93 SC 93.7.11 P198 L20 # 173 Healey, Adam LSI Corporation	Comment Type E Comment Status D bucket The first statement ends with "as described in the following two paragraphs" yet there is only one paragraph that follows.
Comment Type <b>T</b> Comment Status <b>D</b> Function/variable name confusion: The heading of 93.7.11 implies that the name of the function is "PMD receive fault fu which assigns the variable "PMD receive fault".	SuggestedRemedy Remove the word 'two' <i>Proposed Response</i> Response Status <b>W</b> "PROPOSED ACCEPT.
Also, what does it mean for a variable to "contribute" to an MDIO bit? SuggestedRemedy Change 93.7.11 to: "The PMD receive function is optional. The faults detected by this function are implementation specific. A fault is indicated by setting the variable PMD, receive fau	Note that this subclause may be amended based on the response to comment #174 and therefore this comment could be overtaken.
<ul> <li>"If the MDIO interface is implemented, then PMD_receive_fault shall be mapped to the Receive fault bit as specified in 45.2.1.7.5."</li> <li>Proposed Response Response Status W</li> <li>PROPOSED ACCEPT.</li> </ul>	

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

C/ 93 SC 93.7.5 Page 67 of 99 11/9/2012 3:04:08 PM

C/ 93         SC 93.7.9         P198         L1         # 171           Healey, Adam         I SI Corporation	C/ 93 SC 93.8.1.2 P200 L20 # 227 Ghiasi Ali Broadcom						
Comment Type T Comment Status D	Comment Type TR Comment Status D						
Function/variable name confusion: "PMD_fault" appears to refer to the definition of a variable, which may optional be mapped to an MDIO bit. Referring to 93.7.10 and 93.7.11, it appears that the name of the function that assigns this variable should be "PMD fault".	It is not clear the purpose of the common mode return loss for the test fixture as this will elimiante the option of coupled differential traces to meet RL of 10 dB. Lets insted define what matters the mated test fixture common-mode conversion loss <i>SuggestedRemedy</i> Please use EQ 92-28 from section 92.11.3.3 to replace the test fixture common mode RL						
SuggestedRemedy Change heading of 93.7.9 to "PMD fault function"	Proposed Response Response Status W PROPOSED REJECT.						
Proposed Response Response Status W							
PROPOSED ACCEPT.	[Changed Subcl to 93.8.1.2 for consistent sorting.]						
Cl 93 SC 93.8.1.1 P199 L46 # 294	The suggested remedy is incomplete.						
Comment Type       E       Comment Status       D         Differential return loss and return loss are used interchangeably. As well as the same symbol being used for differential return loss and common-mode return loss. This confusion exists throughout the clause.	<ul> <li>93.8.1.4 and Equation (93-3) specify the transmitter common-mode output return loss. It is unclear what impact the test fixture will have on this measurement if its common-mode return loss is not defined.</li> <li>Furthermore, Equation (92-28) applies to mated test fixture including a connector. It is unclear that this limit is applicable to the test fixture defined in this subclause.</li> </ul>						
SuggestedRemedy Include 'differential' in figure and equation labels and differentiate the equation symbols such as RLdiff vs RLcm.	C/ 93 SC 93.8.1.4 P201 L32 # 229 Ghiasi, Ali Broadcom						
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.	Comment Type TR Comment Status D Transmitter output return loss 93-2 is very unreal						
Change the caption of Figure 93-3, Figure 93-6, Figure 93-8, Figure 93-10, and Figure 93- 12 to read "differential return loss" rather than "return loss". Change the first paragraph of 93.9.3 to begin: "The differential return loss, in dB, of the channel."	SuggestedRemedy Propose to use EQ 92-1 from section 92.8.3.2 as I assume these are the same chip anyw RL= 12-0.5ffrom 0.05<=f<=8 =5.65-9.71log (f / 14)8 <= f <= 25 GHz(dB)(92-1)						
Use the notation RL_d to denote differential return loss and RL_cm to denote common- mode return loss throughout Clause 93 (this is consistent with the notation used in 93.8.1.3.	PROPOSED ACCEPT IN PRINCIPLE. [Changed Subcl to 93.8.1.4 for consistent sorting.]						
	Equation (92-1) is the return loss limit at TP2 and includes a host channel, connector, and host compliance board (~10 dB loss from the package-board interface).						
	Even if the same chip were to be used for both backplane and direct attach copper cable applications, the proposed limit does not necessarily apply to both TP0a and TP2.						
	See comment #53.						
TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/g	general C/ 93 Page 68 of 99						

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

SORT ORDER: Clause, Subclause, page, line

SC 93.8.1.4

11/9/2012 3:04:08 PM

C/         93         SC         93.8.1.4         P 201         L 32           Ben-Artsi, Liav         Marvell	2 # 53	Cl         93         SC         93.8.1.6.3         P 203         L 41         # 175           Healey, Adam         LSI Corporation						
Comment Type <b>TR</b> Comment Status <b>D</b> Transmitter output return loss (eq. 93-2) has a low frequency to coeficients / equation of 93.9 SuggestedRemedy	value that does not correlate	Comment Type <b>T</b> Comment Status <b>D</b> The initialized values for the transmitter pre- and post-cursor equalization ratios are TBD. SuggestedRemedy Specify the ratio [c(0)+c(1)-c(-1)]/v2 to be 1.29 +/- 10%.						
Update measured return loss limit acoording to BenArtsi_3bj Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Pending consideration of benartsi_3bj_01_1112.	_01_1112	Specify the ratio (c(0)+c(1)+c(-1)]/v2 to be 1.29 +/- 10%.         Specify the ratio (c(0)-c(1)+c(-1)]/v2 to be 2.57 +/- 10%.         Note v2=c(0)+c(1)+c(-1).         Proposed Response       Response Status         PROPOSED ACCEPT.						
C/ 93SC 93.8.1.5P 201L 13Moore, CharlesAvago Technologies	# 245	C/         93         SC         93.8.1.7         P 204         L 24         # 176           Healey, Adam         LSI Corporation						
Use linear fit pulse to find transition time. It will eliminate a m SuggestedRemedy change 93.8.1.5 to read something like: "Transition times (rise and fall times) are measured on the lin It is the time the linear fit pulse takes to transition between 20 of the steady state value, using linear interpolation to work be values. If the peak of linear fit pulse is less than 80% of the steady state value the transition time is considered to e minimum value." Proposed Response Response Status W PROPOSED REJECT. The term "transition time" is already defined by 86A.5.3.3 and proposed measurement of the linear fit pulse is equivalent. It edge of the linear fit pulse will deviate from measured wavefor waveform contains non-linear distortions that do not appear in Unless the two methods can be shown to be equivalent, it sh alternative definition of "transition time"	essy test. ear fit pulse. 1% and 80% tween sampled exceed its d it is unclear that the is possible that the rising orm especially when the in the fit.	Healey, Adam       LSI Corporation         Comment Type       T       Comment Status       D         The "low-loss" and "high-loss" channels for the transmitter far-end output noise measurement should have well-defined transfer functions as they filter the noise and influence the measurement. However, the test channel ICN does not need be limited. It only needs to be known so that it can be removed from the measurement.         SuggestedRemedy       Define the shape of the test channels via the polynomial models corresponding to Test 1 and Test 4 in Table 93-7 with reasonable tolerances.         Rather than refer to the ICN requirements in 93.9.4 (which have been TBD for some time), define sigma_l and sigma_h to the be the far-end ICN for for the "low-loss" and "high-loss" test channels respectively.         Finally, the procedure in 85.8.3.2 measures the RMS deviation from the mean amplitude of a fixed point on the square wave test pattern at the output of the test channel. These are labeled RMSIdev and RMShdev respectively. To be consistent, rephrase the requirements at follows:         "For the low-loss channel, RMSIdev shall be less than or equal to sqrt(sigma_l^2+2+2^2). For the high-loss channel, RMShdev shall be less than or equal to sqrt(sigma_h^2+1+2)."						

C/ 93 SC 93.8.1.7

C/ 93 SC 93.8.1.8 Arumugham, Vinu	P <b>204</b> Cisco	L <b>32</b>	# 236	<i>CI</i> <b>93</b> Ben-Artsi, Lia	SC <b>93.8.2.1</b> av	P <b>20</b> Marve	)5 <i>L</i> 1	6 # 49	
Comment Type E Co Multiple references to 92.8.3.	<i>mment Status</i> <b>D</b> 8, should be 92.8.3.6.		bucket	Comment Ty The test	pe <b>TR</b> fixture return	Comment Status loss lacks the definitio	D n between 13GH	Hz and 20GHz	
SuggestedRemedy Multiple references to 92.8.3.	8, should be 92.8.3.6.			SuggestedRo Add a slo bepartsi	e <i>medy</i> ope from 15d 3bi 01 091	B @ 13GHz and 12dB	@ 20GHz accor	rding to	
Proposed Response Res PROPOSED ACCEPT.	sponse Status W			Proposed Re	sponse SED ACCEP	Response Status T.	W		
Instances at Lines 34, 37, an C/ 93 SC 93.8.2	d 41. P <b>204</b>	L <b>44</b>	# 242	C/ <b>93</b> Ghiasi, Ali	SC 93.8.2.2	P20	06 L 2	<b>2</b> # 230	
Arumugham, Vinu Comment Type <b>T</b> Co	Cisco Imment Status D			Comment Ty Transmit	pe <b>TR</b> ter output ref	Comment Status turn loss 93-5 is very u	D		
No sinusoidal jitter mask is s SuggestedRemedy Add sinusoidal jitter mask sp	ec. like Figure 86A-10.			SuggestedRe Propose RL= 12-0 =5.65-	emedy to use EQ 92 ).5ffrom 0.05 9.71log (f / 14	2-1 from section 92.8.3 =f=8 4)8 <= f <= 25 GHz(dB)	.2 as I assume t	these are the same chip anyway	
Proposed Response Res PROPOSED REJECT.	sponse Status W			Proposed Re	esponse SED ACCEP	Response Status	W		
This warrants discussion by t	he Task Force.			[Change	d Subcl to 93	3.8.2.2 for consistent sc	orting.]		
High-frequency sinusoidal jitter is added as an impairment to the interference tolerance test (93.8.2.3). However, the test includes no provision for verifying the receiver can track increase levels of jitter below a low frequency test point. Historically, this has been verified for any Backplane Ethernet PHY (see Annex 69A) so it is not clear whether or not it needs to be added.				This comment is against receiver return loss. See comment #229 regarding the applicability of Clause 92 TP2/TP3 return loss limits to Clause 93 TP0a/TP5a test points.					
The suggested remedy is inc	omplete as it does not	suggest the brea	k point, slope, or the	See com	iment #50.				
The first two parameters can be assumed to be signaling rate/2500 and 20 dB/decade based on the reference to 86A-10 but the high-frequecy jitter amplitude differs from what is required by the interference tolerance test.				<i>Cl</i> <b>93</b> Healey, Adar	SC <b>93.8.2.2</b> n	2 P <b>20</b> LSI Co	06 L 5 prporation	<b>2</b> # 177	
				Comment Type       T       Comment Status       D         The differential to common-mode return loss limit (Equation 93-7) is TBD.         SuggestedRemedy         Define the limit or remove the placeholder.         Proposed Response       Response Status       W         PROPOSED ACCEPT IN PRINCIPLE.					
TYPE: TR/technical required ER COMMENT STATUS: D/dispatch	/editorial required GR/g ed A/accepted R/reject	general required ted RESPON	T/technical E/editorial G/ SE STATUS: O/open W/w	general ritten C/closed 2	Z/withdrawn		C/ 93 SC 93.8.2.2	Page 70 of 99 11/9/2012 3:04:08	

SORT ORDER: Clause, Subclause, page, line

J 93         SC 93.8.2.2         P 206         L 52         # 50           3en-Artsi, Liav         Marvell	C/         93         SC         93.8.2.3         P 207         L 15         # 46           Ben-Artsi, Liav         Marvell						
Comment TypeTRComment StatusDThe Differential receiver return loss at TP5a of equation 93-2 has a low frequency region which does not correlate to the return loss as defined in table 93-3	Comment Type         T         Comment Status         D           Table 93-7 - Receiver interference tolerance parameters lacks a COM definition per test case. Not having such makes to test interconnect ambiguous.						
SuggestedRemedy	SuggestedRemedy						
Update Measured return loss limit according to BenArtsi_3bj_01_1112	Reccomend adding a COM parameter per test case - a defaults max value of 3dB can be						
Proposed Response Response Status W	inserted for now and updated later on.						
PROPOSED ACCEPT IN PRINCIPLE.	Proposed Response Response Status W						
Ponding consideration of bonarts: 2hi 01 1112	PROPOSED REJECT.						
Pending consideration of benancs_35_01_1112.           2/ 93         SC 93.8.2.2         P 206         L 52-53         # 325           .i, Mike         Altera	The suggested remedy is incomplete in that it is unclear how COM calculation in Annex 93A applies to the interference tolerance test channel. Areas to consider include, but are not limited to the following.						
Comment Type TR Comment Status D Eq (93-7) is still TBD	1. The applied jitter terms do not agree with the jitter terms in Table 93-8.						
SuggestedRemedy	<ol><li>The applied broadband noise has no comparable parameter in Table 93-8 (recall this noise would applied at the receiver input and shaped by the receiver continuous time filter so sigma, r is not a good fit).</li></ol>						
Proposed Response     Response Status     W       PROPOSED ACCEPT IN PRINCIPLE.     No contribution was provided.	<ol> <li>Two test cases require a 1E-12 BER without FEC whereas Table 93-8 has a fixed SER_0 value that considers FEC coding gain.</li> <li>The test pattern generator is likely to be superior to the assumptions of the device and package filter and transmitter return loss.</li> </ol>						
Comment #215 against Clause 94 proposes a conversion limit. Given the interest in making return loss requirements for Clauses 93 and 94 similar (with the exception of the frequency range of applicability), change Equation (93-7) to: -25+20*(f/13.89), 0.05<=f<=6.95 GHz -15, 6.95 GHz to 13 GHz	Cl 93       SC 93.8.2.3       P207       L19       # 80         Mellitz, Richard       Intel Corporation       Intel Corporation         Comment Type       TR       Comment Status D       Clause 85 802.3ba-2010~246 ff first defines a1, a2, and a4         93.8.2.3 Receiver interference tolerance table 93-7 adds parameters a0       reference to a0 needs to ripple through standard where appropriate.         SuggestedRemedy       Either update clause 85 or add appendix describing fitting in general         Proposed Response       Response Status W						
	PROPOSED ACCEPT IN PRINCIPLE.						

C/ 93 SC 93.8.2.3

C/ 93 SC 93.8.2.3	P <b>207</b>	L <b>7</b>	# 178	CI 93	SC	93.9	P <b>209</b>	L10	# 51	
Healey, Adam	LSI Corporation			Ben-Artsi,	Liav		Marvell			
Comment Type T	Comment Status D			Comment	Туре	TR	Comment Status D			
Channel insertion loss	s fit methodology is undefined.			Trans	mitter re	flection	coeficients (as a part of the co	nplex: PKG re	turn loss, Interconnect	
SuggestedRemedy				return	loss, re	ference	receiver capabilities) makes ta	rget interconn	ect meeting problematic	
Define the methodology based on OIF-CEI-3.0 section 12.2 as a new section in Annex 93A					SuggestedRemedy					
(in addition to Channe	el Operating Margin).			I he re (espe	cially at	equation the low f	n does not represent the appro requency range). Update PKG	equation and	coefficients according to	
Add a cross-reference	e to the procedure in 93.8.2.3.			BenAi	rtsi_3bj_	01_1112	<u>2</u> .			
Proposed Response Response Status W				This may require adding a different equation on top of 93-A3 (if 93-A3 is still referenced by other locations within this specification)						
PROPOSED ACCEP	Т.			Proposed	Respon	ise	Response Status W			
CI 93 SC 93 9	P165	/ 15	# 18	PROF	POSED	ACCEPT	IN PRINCIPLE.			
Ben-Artsi, Liav	Marvell	210	# <del>1</del> 0							
Commont Tuno T	Commont Status D			Pendi	ng cons	ideration	of benartsi_3bj_01_1112.			
PKG insertion loss m	odel may cause SBR to become	somewhat n	on-causal	C/ 93	SC	93.9	P <b>209</b>	L13	# 52	
SuggestedBornedy		Somownath		Ben-Artsi,	Liav		Marvell			
Undate PKG insertion	loss model according to RenArts	si 3hi 01 1	112	Comment	Туре	TR	Comment Status D			
Proposed Response Response Status W				Receiver reflection coeficients (as a part of the complex: PKG return loss, Interconnect return loss, reference receiver capabilities) makes target interconnect meeting problematic						
										PROPOSED ACCEPT IN PRINCIPLE.
[Device and package insertion loss model is defined in Annex 93A. This comment should be applied to the Annex.] Pending consideration of benartsi_3bj_01_1112.				The reflection equation does not represent the appropriate reflection coefficient from a PKG (especially at the low frequency range). Update PKG equation and coefficients according to BenArtsi_3bj_01_1112. This may require adding a different equation on top of 93-A3 (if 93-A3 is still referenced by other locations within this specification)						

Pending consideration of benartsi\_3bj\_01\_1112.

CI 93 SC 93.9
C/ 93 SC 93.9	9 P <b>209</b>	L <b>48</b>	# 79	C/ 93	SC	93.9.1	P <b>209</b>	L <b>21</b>	# 180	
Mellitz, Richard	Intel Corporat	ion		Healey, A	dam		LSI Corporation	l		
Comment Type T	R Comment Status D			Comment	Туре	т	Comment Status D			
Table 93-8				It is n worst	ot clear -case p	that the tr erformanc	ansmitter emulated for the calc e allowed by 93.8.1.	culation of CC	M corresponds to the	
SER_0 for KR4 s	hould be lower since the KP4 FEC	is stronger than	the KR4 FEC	-						
SuggestedRemedy				value of 0.8*vf at the output of a simulated test fixture.						
Table 93-8	o 1 o 7									
Proposed Response	Response Status W			Furthermore, this tv setting, combined with a differential peak output voltage of Av=0.4 V, this should yield a vf value of about 0.4 at the output of a simulated test fixture.						
PROPOSED AC	CEPT IN PRINCIPLE.			Such	a linkar	no is noco	scanuto provido confidence the	t transmittors	channels and	
See commont #2	27			receiv	ers that	t are comp	bliant to the standard will intero	perate.		
See comment #2	37.			Suggeste	dReme	dy				
C/ 93 SC 93.9	9.1 P209	L17	# 54	Verify the values of fv and Av in Table 93-8 are consistent with the limits in 93.8.1.6 c						
Ben-Artsi, Liav	Marvell			modif	y them	according	ly. The values of ff and Af shou	ild also be ad	justed to match.	
Comment Type T	R Comment Status D			Proposed	Respo	nse	Response Status W			
Transmitter victin ambiguous locati	n and Far-end aggressor diferentia on along the end to end path	al peak output vo	ltage defined at an	PROF	POSED	ACCEPT	IN PRINCIPLE.			
SuggestedRemedy				Pendi	ing cons	sideration	of healey_3bj_03_1112.			
Define the victim 800mV pk-pk @ code (the Bx side	and Far-end aggressor differential the device PKG ball) ==> incorpora	peak output vol ate only one PK0	age at TP0 (min G IL model in the COM	<i>Cl</i> <b>93</b> Healey, A	SC dam	93.9.1	P209 LSI Corporation	L <b>25</b>	# 181	
Proposed Response	Boononoo Statua M			Comment	Туре	т	Comment Status D			
PROPOSED AC	CEPT IN PRINCIPLE.			The transmitter pre- and post-cursor equalizer coefficients should have a smallest range and largest step size that would be deemed compliant.						
[The definition an values are define	d application of parameters is defined application of parameters is defined application of parameters is no proposal to	ned Annex 93A. change them. T	Only the parameter nis comment should be	Such receiv	a linkag /ers tha	ge is neces t are comp	ssary to provide confidence tha bliant to the standard will intero	it transmitters perate.	, channels, and	
applied to the An	nex.]			Suaaeste	dReme	dv				
Pending conside	ration of benartsi_3bj_01_1112.			Verify or mo	that the	e range ar m accordi	nd step sizes in Table 93-8 are ngly.	consistent wi	th the limits in 93.8.1.6	
				Proposed	Respo	nse	Response Status W			
				PROF	POSED	ACCEPT	IN PRINCIPLE.			
				<b>S</b> c	100 #40	20				
				See a	uso #13	o <b>0</b> .				

C/ 93 SC 93.9.1

C/         93         SC         93.9.1         P 209         L 45         # 182           Healey, Adam         LSI Corporation         Image: Log and Log an	C/         93         SC         93.9.1         P 209         L 48         # 388           Dawe, Piers         IPtronics					
Comment TypeTComment StatusD93.8.1.8 implies that a compliant transmitter allowed to have TJ minus DDJ equal to 0.28UI peak-to-peak at 1E-12 and effective RJ of 0.15 UI peak-to-peak at 1E-12.	Comment Type <b>T</b> Comment Status <b>D</b> What does symbol error ratio mean? In 91.6.7 a symbol is 10 bits on one FEC lane. But this might mean a bit, or a PAM-4 symbol (2 bits, 1 UI).					
A rough calculation shows that the jitter contributed via sigma_RJ and A_DD is $14*0.01+2*0.1 = 0.34$ UI peak-to-peak.	SuggestedRemedy Please clarify.					
This is considerably larger than the corresponding transmitter limit. Is this intended to enforce margin?	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.					
SuggestedRemedy Verify that the range and jitter terms in Table 93-8 are consistent with the limits in 93.8.1.8 or modify them accordingly. If margin enforcement is desired, it may be better to include it as a line item (or point this out in a note to the table) so that correlation to the transmitter specifications is more clear.	This table assigns a value to parameters defined in Annex 93A. The definition must be addressed first in the annex and changed in Clause 93 and Clause 94 to be consistent. "Target uncorrected symbol error ratio" was intended to be a catch-all term for both PAM2 and PAM4 modulation, the latter of which conveys 2 bits in a 4-level "symbol". However, it					
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.	errors.					
Reduce A_DD to 0.07 UI to yield roughly 0.28 UI peak-to-peak jitter, at 1E-12, excluding any data dependent jitter introduced by the transmitter filter and device and package filter.	Therefore, in Annex 93A, as well as Clause 93 and Clause 94, change "Target uncorrected symbol error ratio" to "Target detector error ratio" with the symbol "DER_0".					

Change the second paragraph of 93A.1.6 to: "The noise amplitude, A\_n, is the magnitude of the value of y\_0 that satisfies the relationship  $P(y_0) = DER_0$  where DER\_0 is the target detector error ratio. The detector error ratio is the probability that the detector fails to identify the signal level that was transmitted."

C/ 93 SC 93.9.1

Cl 93 SC 93.9. Ghiasi, Ali	2 P207 Broadcom	L <b>50</b>	# 231	<i>Cl</i> <b>93</b> Ben-Artsi,	SC <b>93.9.3</b> Liav	Ma	P <b>208</b> Irvell	L <b>32</b>	# 55	
Comment Type TR The insertion loss this document are	Comment Status <b>D</b> is defined up 25.78 GHz where th only defined up to 18.75 GHz	ne loss is∼80 dB	, many specification in	Comment Interce loss, r	<i>Type</i> <b>TR</b> onnect return lo reference receiv	<i>Comment Stat</i> oss (as a part of the ver capabilities) mak	us D complex: PK ses target inte	G return loss, erconnect mee	Interconnect return eting problematic	
SuggestedRemedy				Suggested	dRemedy					
Suggest to be coni	istent and limit the Freq to 18.75	GHz or 60 dB		In ord	er to provide be	etter guidelines and	to increase c	ertainty of mee	eting target	
Proposed Response	Response Status W		interoperability a tighter return loss target is suggested. Update informative return loss according to BenArtsi_3bj_01_1112.							
PROPOSED REJE	-01.			Proposed	Response	Response Stat	us W			
[Changed Subcl to	93.9.2 for consistent sorting.]			PROF	POSED ACCEP	T IN PRINCIPLE.				
This warrants disc	ussion there is really no practical	een the two options as	Pendi	ng consideratio	n of benartsi_3bj_0	1_1112.				
a) this is a recommendation about the about th	nendation and not a normative rec	) it is the difference	CI 93	SC 93.9.4		P210	L <b>24</b>	# 179		
				Healey, Ad	dam	LS	I Corporatior	า		
It seems that what	ever is decided here, the frequent	cy range for the	return loss limit should	Comment	Туре Т	Comment Stat	us <b>D</b>			
be adjusted to match.           C/ 93         SC 93.9.2         P 207         L 50         # 214           Ghiasi, Ali         Broadcom					This placeholder for channel ICN has existed for multiple drafts but no proposals have bee provided to complete this subclause. Since the normative channel specification is based o Channel Operating Margin (COM), a recommendation on ICN may be useful but not necessary.					
Comment Type TR	Comment Status D			Suggested	dRemedy					
The insertion loss	is defined up 13.89 GHz where th	ie loss is~80 dB		Provid	le a recommend	dation for channel I	CN or remove	e the subclaus	e.	
SuggestedRemedy				Proposed	Response	Response Stat	us W			
Suggest to limit the	e range to 60 dB loss			PROF	OSED ACCEP	T IN PRINCIPLE.				
Proposed Response PROPOSED ACC	Response Status W EPT IN PRINCIPLE.			Remo	ve 93.9.4.					
[Changed Subcl to	93.9.2 for consistent sorting.]			See a	lso comment #7	176.				
Insertion loss is de	fined up to 25.78 GHz. See comr	ment #231.								

C/ 93 SC 93.9.4

C/ 93 SC 93.9.5	P <b>210</b>	L <b>30</b>	# 238	C/ 93A SC 93	A.1.1	P <b>286</b>	L49	# 244
Comment Type <b>T</b> C DC coupled operation is de	Comment Status D sirable (DC-blocking imp	plemented outsid	e TP0 and TP5).	Comment Type	E ( output return	Comment Status D	is: it is plural	bucket
SuggestedRemedy Use OIF CEI 3.0, CEI 11G Add a requirement that tran	LR electrical requiremer smitter and receiver sha	nts for DC couple all support hot plu	ed operation. Jg.	SuggestedRemedy replace "The input and o	output return	n loss is"		
Proposed Response Re PROPOSED REJECT.	esponse Status W			with "The input and o	output return	n loss are"		
While it is understood that I to comment #1 against Dra	DC coupling is desirable ft 1.0, DC-coupled opera	for some application is beyond the	ations, per the response ne scope of the	Proposed Response PROPOSED AC	) R CCEPT.	esponse Status W		
Also refer to goergen_01a_	0712.pdf which reflects	the consensus th	nat led to this decision.	Cl 93A SC 93 Dawe, Piers	A.1.1	P289 IPtronics	L1	# 392
C/ 93A SC 93A	P <b>287</b>	L	# 402	Comment Type	r (	Comment Status D		
Comment Type     TR     C       Is the COM metric stable ag caused by thermal expansion     SuggestedRemedy       SuggestedRemedy     Find out, and modify it if it it	Comment Status <b>D</b> gainst small changes in on? I.e., does it predict sn't.	electrical length the channel at a	such as would be n unlucky temperature?	time step no lan frequency of at infinity. SuggestedRemedy This annex is a into account in l	ger than De least the sig normative c Eq. 93A-17.	Ita_f from a start frequer maling rate fb." Howeve lefinition, so please defir	ncy no larger tha r, Eq. 93A-17 ini ne which frequen	in fmin to a stop tegrates from -infinity to ncies are to be taken
Proposed Response R	esponse Status W			Proposed Response	e R	esponse Status W		
PROPOSED REJECT.				PROPOSED AC	CEPT IN F	RINCIPLE.		
93.5.10 highlights that a system operate over a reasonable in humidity, etc. and that thes	stem integrating the 100 range of environmental of e parameters are beyon	GBASE-KR4 PH conditions related d the scope of th	IY is expected to d to temperature, e standard.	The annex reco 93A.1.1). In 93/ as discrete Fou extrapolated to	mmends that A.1.4, it record rier transfor DC and half	at the scattering parameting parameting in the scatter in the Fourier in mand in NOTE 1 states for the sampling rate for	ters be measure ntegral will most that the measur the purpose.	ed from fmin to fb (see likely be implemented red data would need to
Many of the parameters tha manufacturing process, sup a system environment, com is the responsibility of the ir across the environmental v	It is left as an exercise for the user determine the sampling frequency and extrapolation method required to achieve the most accurate result. This is analogous to leaving the user to determine which instrument or method of calibration would yield the most accurate measurement. This annex endeavors to specify what is to be calculated in the purest of terms.							
The channel should be no c example, then the implement necessary temperature range	different. If the channel of nter should verify that th ge.	haracteristics va e COM requirem	ry over temperature, for lent is satisfied over the					
Stability of the COM metric provide a useful performant conditions are appropriate (	against temperature is r ce estimate for a channe the definition of which is	not a requirement of measured in w s beyond the sco	t. It is required to hatever environment pe of the standard).					

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

C/ 93A SC 93A.1.1 Page 76 of 99 11/9/2012 3:04:09 PM

C/ 93A SC 93A.1.3.1 Dawe, Piers	P <b>290</b> IPtronics	L19	# 394	<i>Cl</i> <b>93A</b> Dawe, Pier	SC <b>93A.1.4</b>	P <b>291</b> IPtronics	L <b>32</b>	# 395
Comment Type <b>T</b> Are these losses really SuggestedRemedy	Comment Status D per m?			Comment T This sa The ex compu	<i>Type</i> <b>T</b> trapolation meth tation." Agreed,	Comment Status <b>D</b> voltage transfer function may od must be chosen carefu so better to measure what w	need to be extra Ily to limit the er ve can.	apolated to DC rror in the COM
Check.				Suggested	Remedy			
Proposed Response PROPOSED ACCEPT	Response Status W IN PRINCIPLE.			Find ou Clause	it what frequence 92 host specs a	y suitable network analysers are from 10 MHz) and change	can support (10 e fmin from 50 N	) MHz? 20 MHz? /Hz to that.
The losses really are pe	er meter.			Proposed F	Response DSED REJECT.	Response Status W		
C/ 93A SC 93A.1.3.1 Dawe, Piers	P <b>290</b> IPtronics	L19	# 393	This co	mment is mispl	aced as fmin is defined in An	nex 93A as a pa	arameter and the value
Comment Type T Don't use a mixture of u SuggestedRemedy Change the three entrie Proposed Response	Comment Status D units for the same purpose. es in 93A-2 from nepers to de Response Status W	The rest of this d 3. Also adjust E	ocument uses decibels. q. 93A-8.	In both The co There a referen signific 93 and	Clause 93 (Tab mmenter does r are number of si ce to Clause 92 antly larger prop 94.	le 93-8) and Clause 94 (Tabl tot recommend or justify a sp uitable network analyzers that is inconclusive because it pe pagation delay than the backp	e 94-17) fmin is ecific value of fr t measure down ertains to a 5 m plane channels c	defined to be 50 MHz. min for these clauses. to 50 MHz. The cable assembly with a considered by Clauses
Specifying alpha_i in dl make the equation mes	3 and converting back to nep sy and more difficult to use.	ers for use in Ec	uation (93A-8) would					
Equation (93A-8) yields	the correct answer with the	parameters in Ta	able 93A-2.					
It should be noted that recommendations for 1 units of nepers.	coefficients of the Amax equ 000BASE-X, 10GBASE-KX4	ation in Annex 6 , 10GBASE-KR,	9B (channel 40GBASE-KR4) are in					

C/ 93A SC 93A.1.4

C/ 93A SC 93A.1.4 Dawe, Piers	P291 L33 IPtronics	# 396	C/ <b>93a</b> SC <b>93A.1.</b> Mellitz, Richard	5 P 292 Intel Corporatio	L <b>9</b> # 7 <u>8</u>
Comment Type <b>T</b> Comment S This says "the Nyquist frequency my computation." But the Nyquist frequency the S-parameters should be measured chosen carefully?	tatus <b>D</b> ust be chosen carefully to cy (half the signalling rate I "to at least the signaling	o limit the error in the COM e) is not for choosing, and rate fb". What should be	Comment Type TR Bmax is "DFE coeffi Equation 93A-19 sh SuggestedRemedy	Comment Status <b>D</b> cient magnitude limit". It should b ould have the term b_max multipli	be related to the avaliable signal. lied by the avaliable signal, A_s.
SuggestedRemedy ?			Replace,		
Proposed Response Response St PROPOSED ACCEPT IN PRINCIPLE. The Nyquist frequency is half of the sa signaling rate.	tatus W Impling frequency and no	t necessarily half of the	Equation 93A-19 mi h^(0)(n) - sgn(h^(0)( Proposed Response PROPOSED ACCE	ddle line with: n))min(b_max*A_s, h^(0)(n) ), 1< <i>Response Status</i> <b>W</b> PT IN PRINCIPLE.	n < N_a
The calculation of COM requires multip sampling rate is fs and the correspond choice for an implementer of the algori	ble samples per unit inter ling Nyquist frequency is ithm.	val, fs/fb, and therefore the fs/2. The sampling rate is a	Replace b_max with Also, change referer 93A-1 to "Normalize	As*b_max in Equation (93A-19) nces to "DFE coefficient magnituc d DFE coefficient magnitude limit	for the 1 <= n <= N_b. de limit" in Tables 93-8, 94-17, and t".
Therefore, fs can be expected to be we algorithm has a number of choices for	ell in excess of fb and the extrapolation, e.g. pad w	e implementer of the COM ith zeros.			
To avoid further confusion regarding "N NOTE 1 to: ".the filtered voltage transfer function n half of the sampling frequency) for this	Nyquist frequency", chang nay need to be extrapola computation. The extrap	ge the last sentence of ted (both to DC and to one polation method and			

sampling frequency must be chosen carefully to limit the error in the COM computation."

C/ 93a SC 93A.1.5

<i>Cl</i> 94 Brown, Matth	SC <b>94</b> new	Р <b>219</b> АРМ	L1	# 267	C/ <b>94</b> Matthew,	SC Brown	94.2.1	P221 Applied Micro	L <b>23</b>	# 132
Comment Typ Various g	pe <b>E</b> grammar, spel	Comment Status D ling, etc. errors.		bucket	Commen The o	<i>t Type</i> editor's r	T note points	Comment Status D s out that the function of rx_me	ode and tx_mod	eee de must be defined.
SuggestedRe page 219 page 221 page 222 page 223 page 226 page 226	emedy 9, line 8, chang 1, line 45, chang 2, line 4, chang 3, line 43, chan 5, line 35, chan 7, line 12, chan	ge "sub-layers" to "sublayers". nge "client to PMA" to "client to ge "in the FEC" to "in a FEC". nge "i also indicates" to "i indic nge "P,(i" to "P(i". nge "process with meeting" to 1	) the PMA". ates" 'process meet	na"	Suggeste Provi Proposee PRO See	edRemed de funct <i>l Respoi</i> POSED	<i>dy</i> tional spec nse REJECT. 3bi xx 11	cifications for rx_mode and tx_ <i>Response Status</i> <b>W</b> 12.	.mode.	
page 230, line 10, change "interface based on" to "interface is based on". page 238, line 3, change "frame marker" to "a frame marker". page 238, line 18, change "represent" to "represents". page 238, line 19:20, change "a series" to "a series of".				d on".	<i>Cl</i> <b>94</b> Brown, N	SC atthew	94.2.10	Р <b>228</b> АРМ	L <b>52</b>	# 262
page 238, line 19:20, change "a series" to "a series" of a series of . page 238, line 50, delete "sent". page 238, line 50 change "updates" to "update fields". page 240, line 26, change "tap be set" to "tap must be set". page 240, line 30, change "are not be sent" to "must not be sent". page 245, line 52, change "indicate" to "indicates". page 246, line 23, change "always set" to "always be set". page 248, line 14, change "4th" to "fourth" (consistent with Clause 92) page 253, line 14, change "each the zero" to "each zero"					Commen The I the F Suggeste Rem Char	PMA ren MA is m dRemed ove "(op	T note loopb nandatory. dy tional)" for n the FEC	to" to "from the FEC (the PM/	.3.6.8 specifies A client) to".	loopback in
Proposed Re PROPOS	esponse SED ACCEPT	Response Status W			Page	228, lin	ie 54, dele	te "PMA remote loopback mo	de is optional. I	f implemented,"
Cl <b>94</b> Dawe, Piers Comment Ty <sub>l</sub> PAM4 wa true.	SC 94 pe TR as sold as able	P219 IPtronics Comment Status D e to work on KR class channels	L1 s - now I'm beg	# 401 <i>general</i> ginning to hear that's not	Page <i>Proposec</i> PRO	229, lin <i>I Respol</i> POSED	ie 1, delete nse ACCEPT	e ", if provided,". <i>Response Status</i> <b>W</b>		
SuggestedRe Unless so PAM4 wi	emedy omeone show ith FEC can ha	s a significant class of channe andle and PAM2 with FEC can	ls with Broad M 't, delete Claus	/larket Potential that e 94.						
Proposed Re PROPOS	sponse SED REJECT.	Response Status W								

The commenter has provided insufficient justification for the suggested remedy.

C/ 94 SC 94.2.10

C/         94         SC         94.2.11         P 229         L 18         # 145           Matthew, Brown         Applied Micro         Applied Micro	C/ 94 SC 94.2.11.3 P228 L45 # 344 Ran, Adee Intel
Comment Type         T         Comment Status         D         test pattern           The editor's note points out that management control of the three test patterns must be specified.         specified.         test pattern	Comment TypeERComment StatusDtest patternQPRBS13 is currently specified with a length of 182 training frame words. The intent is to make it equivalent to the training pattern (not just length but also different seeds etc).
SuggestedRemedy Add test pattern control bits with descriptions in Clause 45. Add reference to the Clause 45 control bits in 94.2.11.	Also, there is a proposal (see lusted_3bj_01_1112) to change the training pattern length to align with the PMA frame. If it is accepted, the length should be changed here as well. Preferably, the reference to clause 94.3.10.8 is sufficient without repeating the length.
<ul> <li>Proposed Response Response Status W</li> <li>PROPOSED ACCEPT IN PRINCIPLE.</li> <li>Add the follow rows to Table 45-73: <ol> <li>1.1501.8   JP03A pattern enable   1 = Enable JP03A pattern; 0 = Disable JP03A pattern   R/W</li> <li>1.1501.9   JP03B pattern enable   1 = Enable JP03B pattern; 0 = Disable JP03B pattern   R/W</li> <li>1.1501.10   QPRBS13 pattern enable   1 = Enable QPRBS13 pattern; 0 = Disable QPRBS13 pattern   R/W</li> </ol> </li> <li>Change row 2 in Table 45-73 to: <ol> <li>1.1500.15:11   Reserved   Value always zero, writes ignored   RO</li> </ol> </li> <li>Add the following paragraph to 45.2.1.100</li> <li>Register field 1.1501.8 enables testing with the JP03A pattern defined in 94.2.11.1.</li> <li>Register field 1.1501.10 enables testing with the QPRBS13 pattern defined in 94.2.11.3.</li> <li>The assertion of register 1.1501.8, 1.1501.9, 1.1501.10 are mutually exclusive. If more than one bit are asserted the behavior is undefined. The assertion of 1.1501.8, 1.1501.9, and 101501.10 have no effect.</li> </ul>	SuggestedRemedy         Change:         "The QPRBS13 test pattern is a repeating 8372-symbol (182 training frame words) sequence equivalent to the training pattern specified in 94.3.10.8."         To:         "The QPRBS13 test pattern is a repeating sequence equivalent to the pattern used in training frames, as specified in 94.3.10.8. The PRBS13 pattern generator is re-initialized for each repetition of QPRBS13 with the same seeds specified in table 94-10."         Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE. <changed 2.11.3="" 94.2.11.3.="" from="" sub-clause="" to="">         The reference to "training pattern" was to be specific to the "training pattern" specified in "94.3.10.8 Training pattern sub-clause". The specific phase "training pattern" should be retained.         The "training pattern" specified in 94.3.10.8 is 182 training frame words in length. The statement in 94.2.11.3 "8372-symbol (182 training frame words)" is helpful to ensure the reader of which portion is relevant.         The current second sentence in 94.2.11.3 is correct and less ambiguous then the one proposed by the commenter. No changes should be made to this sentence.         To address the ambiguity of the pattern re-seeding the second sentence should be added to the sub-clause as follows:</changed>

"The PRBS13 pattern generator is re-initialized for each repetition of QPRBS13 with the same seeds specified in Table 94-10."

C/ 94 SC 94.2.11.3

C/ 94 SC 94.2.12 Matthew, Brown	P229 Applied Micro	L <b>50</b>	# 155	C/ <b>94</b> SC <b>94</b> Matthew, Brown	4.2.2.1	P223 Applied Micro	L <b>43</b>	# 122		
Comment Type <b>T</b> A summary table shou	Comment Status D Ild be provided for the PMA-spe	cific MDIO co	<i>bucket</i> ontrol and status fields.	Comment Type the word "also"	E C is not requir	<i>Comment Status</i> <b>D</b> ed		bucket		
SuggestedRemedy Provide PMA MDIO su specific control and sta Proposed Response PROPOSED ACCEPT	ummary table(s) similar to Table atus fields: 1.0.0, 1.0.1, 1.8.0, a Response Status W 	94-3 and Ta nd 1.13.15.	ble 94.4 for PMA	SuggestedRemedy delete "also" Proposed Response PROPOSED AC	e Re CCEPT.	esponse Status W				
C/ 94 SC 94.2.2 Brown, Matthew	Р <b>223</b> АРМ	L12	# 259	C/ 94 SC 94 Matthew, Brown	4.2.2.3	P224 Applied Micro	L <b>30</b>	# 142		
Comment Type <b>T</b> Clarify that the FEC is	Comment Status D PMA client referred to in the pre-	evious sectior	bucket	Comment Type <b>T</b> Comment Status <b>D</b> pma enco Editor's note points out that the usage of the overhead bits must be specified.						
SuggestedRemedy Change "from the FEC	to" to "from the FEC (the PMA	client) to".		SuggestedRemedy Specify the usa	ige and beha	wior of the overhead bits.				
Proposed Response PROPOSED ACCEPT	Response Status W			Proposed Response PROPOSED AC	e Re CCEPT IN P	esponse Status W RINCIPLE.				
C/ 94 SC 94.2.2 Brown, Matthew	Р <b>223</b> АРМ	L <b>25</b>	# 268	C/ 94 SC 94	_01_1112. <b>4.2.2.4</b>	P <b>223</b>	L <b>42</b>	# 164		
Comment Type F	Comment Status D		bucket	Lusted, Kent		Intel				
Clarify that the interface PMA frame as well.	between the "insert termination	on bits" and "(	gray coding" include the	Comment Type <b>TR</b> Comment Status <b>D</b> but The number of termination blocks to form a PMA frame is not 192. This number appear to have been mistakenly used from the training 94.3.10.3.						
Change "termination b	locks" to "terminations blocks. I	PMA frames".		The PMA frame	size is 313	20 hits 31320 hits / 90 hits	s ner terminat	tion block - 348		
Proposed Response	Response Status W			termination bloc	cks.					
PROPOSED ACCEPT				SuggestedRemedy Update the num	nber to 348.					
				Proposed Response PROPOSED AC	e Re CCEPT.	esponse Status W				
				See comment #	¥158.					

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

C/ 94 SC 94.2.2.4 Page 81 of 99 11/9/2012 3:04:09 PM

<i>CI</i> 94 Lusted, Ke	SC 94.2.2.4	P <b>224</b> Intel	L <b>42</b>	# 158	<i>Cl</i> <b>94</b> Brown, M	SC atthew	94.2.4	Р <b>227</b> АРМ	L <b>36</b>	# 269
Comment The fir after it Reorde readab	Type ER st 2 paragraphs is used to form a ering the existing illity.	Comment Status <b>D</b> are confusing to read. The le a PMA frame.	ength of the term	<i>bucket</i> nination block is defined would improve	Comment Clarif incluc Suggeste Chan	t <i>Type</i> y that th des the F d <i>Remed</i> ge "term	E e interface PMA fram <i>ly</i> nination bl	Comment Status D e between the "remove termina e as well. ocks" to "terminations blocks, F	tion bits" an PMA frames	bucket d "inverse gray coding" ".
Suggested Consid	<i>Remedy</i> ler this:				Proposed PROI	l Respor POSED	nse ACCEPT	Response Status W		
"The P for eve 92 bits forms	"The PMA shall create a sequence of termination blocks by inserting two termination bits for every 90 overhead frame bits as specified in this sub-clause. The termination block is 92 bits in length. The overhead frame mapped into 192 consecutive termination blocks forms a PMA frame."						94.2.4 T	P <b>227</b> APM Comment Status <b>D</b>	L <b>46</b>	# 260 bucket
Proposed I PROP Per co Modify	Response OSED ACCEPT mment #164, the suggested reme	Response Status W IN PRINCIPLE. e number of termination block edy as follows:	ks should be 34	3 not 192.	tx_sy Suggeste Chan Proposed PROI	mbol sh dRemed ge "tx_s I Respor POSED	ould be rx dy ymbol" to nse ACCEPT	rx_symbol". <i>Response Status</i> W		
"The P for eve 92 bits forms	MA shall create ery 90 overhead f in length. The o a PMA frame."	a sequence of termination bl frame bits as specified in this overhead frame mapped into	ocks by inserting sub-clause. The 384 consecutive	g two termination bits e termination block is e termination blocks	Cl <b>94</b> Matthew, Comment	SC Brown t Type	94.2.5 T	P228 Applied Micro Comment Status D	L <b>4</b>	# 144 eee
CI <b>94</b> Matthew, E Comment	SC <b>94.2.3</b> Brown <i>Type</i> <b>T</b>	P 227 Applied Micro Comment Status D	L <b>4</b>	# 143 eee	The e <i>Suggeste</i> Provi	editor's n <i>dRemec</i> de functi	ote points ly ional spec	s out that the receive EEE oper	ation must b tion.	e specified.
The ec Suggested Provid Proposed I PROP	litor's note points Remedy e functional spec Response OSED ACCEPT	s out that the transmit EEE of cification for transmit EEE op <i>Response Status</i> <b>W</b> IN PRINCIPLE.	peration must be	e specified.	Proposed PROI See h	l Respor POSED nealey_3	nse ACCEPT Sbj_xx_11	Response Status W IN PRINCIPLE. 12.		
See he	ealey_3bj_xx_11	12.								

C/ 94 SC 94.2.5

C/ 94 SC 94.2.6 Brown, Matthew	<i>Р<b>228</b> АРМ</i>	L13	# 261	C/ 94 SC 94.3.1.2. Brown, Matthew	2 P231 APM	L <b>35</b>	# 264			
Comment Type <b>T</b> The net skew for the P	Comment Status D MA/PMD combination is spec	ified the the PN	skew	Comment Type <b>T</b> tx_symbol should be r	Comment Status D x_symbol		bucket			
SuggestedRemedy Add the following para "Skew considerations for The values in response	graph for the 100GBASE-KP4 PMA, e to the editor's note should be	PMD, and AN a	are specified in 94.3.4." .3.4.	SuggestedRemedy Change "tx_symbol" to Proposed Response PROPOSED ACCEPT	o "rx_symbol". Response Status W					
Proposed Response PROPOSED ACCEPT	Response Status W			C/ 94 SC 94.3.1.3 Sela, Oren	P <b>231</b> Mellanox Tec	L <b>54</b> hnologies	# 119			
Cl 94 SC 94.3.1 Matthew, Brown Comment Type T The editor's note point: SuggestedRemedy	P230 Applied Micro Comment Status D s out that the function of rx_m	L24	# 1 <u>33</u> eee de must be defined.	Comment Type <b>T</b> signal detect should a supported and rx_mod SuggestedRemedy Add the folowing text: When the PHY suppo PMD_SIGNAL.indicati	Comment Status D lso function as Alert detect will le is not active rts the optional EEE capability on is also used to indicate with proods to the beginning of a r	hen EEE normal y normal wake m hen the ALERT s	eee mode is ode, ignal is			
Provide functional spece	cifications for rx_mode and tx_ <i>Response Status</i> W IN PRINCIPLE	_mode.		Can consider adding a condition of PMD:IS_RX_MODE != ACTIV Proposed Response Response Status W						
See healey_3bj_xx_11	12.			See healey_3bj_xx_1	12.					
C/ 94 SC 94.3.1.2. Brown, Matthew	1 <i>P</i> 231 APM	L <b>29</b>	# 263							
Comment Type <b>T</b> There is no start paran	<i>Comment Status</i> <b>D</b> neter on the PMD interface.		bucket							
SuggestedRemedy Delete the second sen	tence in the paragraph "The s	tart parameter.	is otherwise FALSE."							
Proposed Response	Response Status W									

C/         94         SC         94.3.1.3.1         P 231         L 52         #         128           Matthew, Brown         Applied Micro         A	C/         94         SC         94.3.10.2         P 237         L 24         # 266           Brown, Matthew         APM
Comment Type         T         Comment Status         D         pmd service interface           This sub-clause redundantly redefines SIGNAL_DETECT, which is fully defined in sub- clause 94.3.6.4. The mapping of SIGNAL_DETECT to SIGNAL_OK is not defined.	Comment TypeEComment StatusDbucketRefer to Figure 94-5 not Figure 94-4. For training frame words refer to describing section.DD
SuggestedRemedy	SuggestedRemedy
Replace the contents of 94.3.1.3.1 with the following: PMD:IS_SIGNAL.indication(SIGNAL_OK)	Change "Figure 94-4" to "Figure 94-5". Change "training frame words" to "training frame words (94.3.10.3)".
The SIGNAL_OK parameter indicates the global status of the receive lanes. SIGNAL_OK takes on the value of global_signal_detect variable defined in 94.3.6.4.	Proposed Response Response Status W PROPOSED ACCEPT.
Replace the contents of 94.3.1.3.2 with	Cl 94 SC 94.3.10.5.1 P238 L19 # 161
The PMD generates the PMD_IS_SIGNAL.indication primitive to the PMD client whenever	Lusted, Kent Intel
there is a change in the value of the global_signal_detect valiable.	Comment Type TR Comment Status D training frame
Replace the contents of 94.3.6.4 including editor's note with	Items "b" and "c" in the list DME rules.
The pmd_global_signal_detect variable indicates the successful completion of the start-up protocol on all lanes. The pmd_global_signal_detect variable shall be set to FAIL following system reset or the manual reset of the training state diagram. Upon successful completion	"b)A positive value is represented by a series PAM4 +1 symbols. c)A negative value is represented by a series of PAM4 -1 symbols."
of training on all lanes, the pmd_global_signal_detect variable shall be set to OK.	These 2 requirements are superfulous because a DME cell does not take on a signed
If training is disabled by management, the global_signal_detect variable shall be set to OK.	SuggestedRemedy Strike these 2 lines and re-numerate the list.
If the MDIO interface is implemented, then Global PMD signal detect (1.10.0) shall be continuously set to the value of the pmd_global_signal_detect variable as described in 45.2.1.9.7.	Proposed Response Response Status W PROPOSED REJECT.
Similar changes to Clauses 92 and 93 are required.	The positive and negative values are referring to the upper and low levels of the DME cell.
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.	In item b replace "positive value" with "upper level". In item c replace "negative value" with "lower level".
Apply to corresponding sub-clauses 92 and 93, as well.	See comment #159.

C/ 94 SC 94.3.10.5.1

C/ 94 Lusted, K	SC 94.3.10.5.2	P <b>239</b> Intel	L <b>6</b>	# 159	C/ <b>94</b> Ran. Adee	SC 94.3.10.6	.4 P239 Intel	L <b>26</b>	# 342
Comment The fi colum	<i>Type</i> <b>ER</b> C rst data row of the tab	Comment Status <b>D</b> le shows the frame mark cause the value of "0" is r	er. This row's o not a valid PAN	<i>bucket</i> contents of the symbol 4 level.	Comment 1 "A new messag	<i>ype</i> <b>E</b> request to incre ge for that tap re	Comment Status <b>D</b> ment or decrement is not to everts to not_updated."	be sent befo	<i>training frame</i> pre the incoming status
The te	ext in 94.3.10.4 clearl	y defines the frame mark	er.		This is	a strong enougł	requirement to deserve the	e s-word.	
Suggester I can't table. Proposed	dRemedy t think of a better way Response R	to describe it. Consider s	striking the fran	ne marker row from the	Suggested/ Change "The ho to not_ incomir	Remedy this sentence to old setting shall updated. A new ng status messa	o be maintained until the inco request to increment or dec ge for that tap is not_update	ming status n rement a tap ed."	nessage for that tap reverts may be sent only when the
FROF	OSED ACCEPT IN P	RINGIFLE.			Proposed F	Response	Response Status W		
<cha< td=""><td>nged sub-clause from</td><td>Table 94-6 to 94.3.10.5.2</td><td>2&gt;</td><td></td><td>PROPO</td><td>DSED ACCEPT</td><td>IN PRINCIPLE.</td><td></td><td></td></cha<>	nged sub-clause from	Table 94-6 to 94.3.10.5.2	2>		PROPO	DSED ACCEPT	IN PRINCIPLE.		
Delete	e frame marker row fro	om table.			<chang< td=""><td>ge sub-clause fr</td><td>om 3.10.6.4 to 94.3.10.6.4.;</td><td>&gt;</td><td></td></chang<>	ge sub-clause fr	om 3.10.6.4 to 94.3.10.6.4.;	>	
Ran, Adee Comment Wron 72.6.2	e <i>Type</i> <b>ER</b> C g reference to 72.6.10 10.2.3.2.	Intel Comment Status D .3.2. In 802.3-2008 sectio	on 5 Initialize is	<i>bucket</i> defined in	Use the "The ho to not_ incomir	e following in pla old setting must updated. A new ng status messa	ce of the suggested remed be maintained until the inco request to increment or dec ge for that tap is not_update	/: ming status r rement a tap ed."	message for that tap reverts may be sent only when the
Suggeste	dRemedy	ad			C/ 94	SC 94.3.10.6	.4 P239	L <b>30</b>	# 343
Proposed PROF <cha< td=""><td>Response R POSED ACCEPT. nged subclause from 3</td><td>esponse Status W 3.10.6.2. to 94.3.10.6.2.&gt;</td><td></td><td></td><td>Comment 1 "Coeffic initialize "Shall" Suggested Change Proposed F PROPC <change< td=""><td>Type       E         cient increment       or preset."         is adequate.       .         Remedy       .         a "are" to "shall"         Response       .         DSED REJECT.       .         ged sub-clause       .</td><td><i>Comment Status</i> <b>D</b> and decrement update requ <i>Response Status</i> <b>W</b> from 3.10.6.4 to 94.3.10.6.4</td><td>ests are not b</td><td>training coefficient update be sent in combination with</td></change<></td></cha<>	Response R POSED ACCEPT. nged subclause from 3	esponse Status W 3.10.6.2. to 94.3.10.6.2.>			Comment 1 "Coeffic initialize "Shall" Suggested Change Proposed F PROPC <change< td=""><td>Type       E         cient increment       or preset."         is adequate.       .         Remedy       .         a "are" to "shall"         Response       .         DSED REJECT.       .         ged sub-clause       .</td><td><i>Comment Status</i> <b>D</b> and decrement update requ <i>Response Status</i> <b>W</b> from 3.10.6.4 to 94.3.10.6.4</td><td>ests are not b</td><td>training coefficient update be sent in combination with</td></change<>	Type       E         cient increment       or preset."         is adequate.       .         Remedy       .         a "are" to "shall"         Response       .         DSED REJECT.       .         ged sub-clause       .	<i>Comment Status</i> <b>D</b> and decrement update requ <i>Response Status</i> <b>W</b> from 3.10.6.4 to 94.3.10.6.4	ests are not b	training coefficient update be sent in combination with
					The entropy to point	tire sub-clause i out that each e	s normative per the first ser lement in the sub-clause is	itence in 94.3 normative.	3.10.6.4. It is not necessary

C/ 94 SC 94.3.10.6.4

C/ 94 SC 9 Ran Adee	4.3.10.6.4	P <b>240</b> Intel	L <b>26</b>	# 346	Cl <b>94</b> Ran Adee	SC 9	4.3.10.7.2	P240	L <b>37</b>	# 347
Comment Type	ER Co	omment Status D	) he set to hold	bucket	Comment 7	ype	TR	Comment Status D	t is currenty n	training countdown
(???) is missing My interpretation one of the statu SuggestedRemedy Insert "may" at	g. Is it "should on is that that us values is do the marked p	I", "shall", "may", or som the request can be kept etected. osition.	nething else? a up for some (ur	ndefined) period after	Suggested Change "When ready is To: "When ready is	Remedy e: received s 1, the received	d status re transmitte d status re	eport receiver ready is 1 and r will decrement the countd eport receiver ready is 1 in a	d transmitted s own in three s all four lanes a	tatus report receiver uccessive frames." nd transmitted status
Proposed Respons PROPOSED A	se Re CCEPT.	sponse Status W			three s	uccessiv itorial lic	ve frames cense.	. the countdown values sha	Il be equal in a	Ill four lanes".
<changed sub<="" td=""><td>-clause from 3</td><td>3.10.6.4 to 94.3.10.6.4.</td><td>Changed page f</td><td>rom 239 to 240.&gt;</td><td>Proposed F</td><td>Respons</td><td>se</td><td>Response Status W</td><td></td><td></td></changed>	-clause from 3	3.10.6.4 to 94.3.10.6.4.	Changed page f	rom 239 to 240.>	Proposed F	Respons	se	Response Status W		
C/ 94 SC 9	4.3.10.7.1	P <b>241</b>	L <b>24</b>	# 273	PROPO	DSED A	CCEPT IN	N PRINCIPLE.		
Brown, Matthew		APM			<chan< td=""><td>ned sub-</td><td>-clause fro</td><td>0 3 10 7 2 to 94 3 10 7 2 5</td><td></td><td></td></chan<>	ned sub-	-clause fro	0 3 10 7 2 to 94 3 10 7 2 5		
Comment Type The sub-clause	T Co e defines the s	omment Status D status fields.		bucket	Per the	first sei	ntence in	94.3.10.7.2, the entire sub-	clause is norm	ative, so it is not
SuggestedRemedy	/				necess	ary to a	aa more "	snalls".		
Change "contro	ol messages"	to "status messages".			Modify	the sent	tence refe	rred to in the suggested rer	nedy with the f	following:
Proposed Respons PROPOSED A	se Re .CCEPT.	sponse Status W			"When transmi each tra countdo	the rece tted sta ansmitte own valu	eived statu itus report ed lane wil ues will be	us report receiver ready is 1 receiver ready is 1 in all fou Il decrement the countdown e equal in all four lanes".	in all four reco ur transmitted in three succe	eived lanes and the lanes, the transmitter on essive frames. The
					C/ <b>94</b> Matthew, B	SC 9 rown	4.3.10.7.2	P <b>241</b> Applied Micro	L <b>31</b>	# 146
					Comment 7 The ed	<i>ype</i> itor's no	T te points o	Comment Status <b>D</b> but that the trigger to start c	ountdown mus	<i>training countdown</i> at be re-visited.
					Suggestedl Provide	R <i>emedy</i> functio	, nal specif	ication describing when the	(training to no	rmal) countdown begins.
					Proposed F PROPC	Respons DSED A	Se SCCEPT IN	Response Status W N PRINCIPLE.		
					See co	mment	#347.			

C/ 94 SC 94.3.10.7.2

C/ 94 SC 94.3.10.8 Lusted, Kent	P <b>242</b> Intel	L <b>6</b>	# 163	C/ <b>94</b> Matthew, Br	SC 94.3.10.	8	P243 Applied Micro	L <b>7</b>	# 147
Comment Type TR Con 100GBASE-KP4 training patte	nment Status <b>D</b> rn details need updatin	ng per editors	training pattern note.	<i>Comment T</i> y The edit be spec	rpe <b>T</b> or's note poin fied.	Comment ts out that a me	Status <b>D</b> thod for initializ	ing the termina	<i>training pattern</i> ation bit generator must
A method for initializing the ter lusted_01_0912 or lusted_03a The PRBS13 seeds were chos	mination bit generator _0912. sen for optimal perform	was not spec ance using th	fied in the e PMA encoding	SuggestedR Specify for EEE	e <i>medy</i> method for ini alert.	tializing the terr	nination bit gen	erator during t	raining and by extension
specified in Draft 1.1. Since the must be re-visited.	e PMA encoding has c	hanged in Dra	Ift 1.2, the seed values	Proposed R PROPO	esponse SED ACCEP	Response S	Status <b>W</b> E.		
To ensure interoperability, inclu PAM4 symbol values after PM lusted 3bi 01, 0912 slide 25	usion of a table or diag A encoding is suggeste	ram showing ed. As an exa	the training pattern mple, see	See con	nment #163.				
Suggested Remedy				C/ 94	SC 94.3.10.	8	P243	L <b>7</b>	# 148
See presentation lusted 3bi 0	1 1112 to be submitte	d in the future	L.	Matthew, Bro	own		Applied Micro		
Pronosed Response Posr				Comment Ty	rpe T	Comment	Status D		training pattern
PROPOSED ACCEPT IN PRI	NCIPLE.			The edit into acc	or's note poin ount the new t	ts out that the t termination sym	raining pattern e Ibol generation i	each lane mus introduced in [	t be re-specified taking Draft 1.2.
See lusted_3bj_01_1112.				SuggestedR Re-spec	emedy ify the training	g pattern seeds			
C/ 94 SC 94.3.10.8 Wang, Zhongfeng	P <b>243</b> Broadcom Corj	L <b>2</b> p.	# 324	· Proposed R PROPO	esponse SED ACCEPT	Response S	Status <b>W</b> E.		
Comment Type TR Com Terminations bits for PMA fram	nment Status <b>D</b> ne were specified to us	e PRBS13 to	<i>training pattern</i> generate in normal	See con	nment #163.				
mode.				C/ <b>94</b>	SC 94.3.10.	8	P <b>243</b>	L <b>7</b>	# 149
The initial state of PRBS is sai training mode, how do we dete	d to be the ending stat ermine termination bits	e of PRBS af ? Not clear ye	er training. Then in t.	Matthew, Broch	own me <b>T</b>	Comment	Applied Micro		training pattern
In addition, it is not clear wheth termination bits.	her the PRBS in norma	Il mode will ch	ange state only for	The edit pattern o impleme	or's note point content for the	ts out that a tab first several cy	le or diagram sl cles to ensure o	hould be provi correct interpre	ded to show the training etation by the
SuggestedRemedy				SuggestedE	emedy				
In training mode, those termina symbol=(13th symbol + 33th symbol)	ation bits can be define ymbol in previous TB4	ed in another v 5blk) mod 4.	vay, e.g., termination	Provide	a table or dia	gram showing e	explicit values fo	r the training p	pattern for several cycles.
The PRBS for termination bits	in normal mode should	d change state	e once every 45 symbols.	Proposed R PROPO	esponse SED ACCEP <sup>-</sup>	Response S	Status <b>W</b> E.		
Proposed Response Resp	oonse Status W			_					
PROPOSED ACCEPT IN PRI	NCIPLE.			See con	nment #163.				
See comment #163.									
TYPE: TR/technical required ER/e	editorial required GR/g	eneral require	d T/technical E/editorial G/g	eneral			C/ <b>94</b>		Page 87 of 99

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COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 94.3.10.8	11/9/2012 3:04:09 PM
SORT ORDER: Clause, Subclause, page, line			

C/ 94 SC 94.3.11 Brown, Matthew	Р <b>244</b> АРМ	L <b>21</b>	# 274	<i>Cl</i> <b>94</b> . Ghiasi, Ali	SC 94.3.12.1.	1 P245 Broadcom	L <b>45</b>	# 232
Comment Type <b>T</b> Use correct service laye SuggestedRemedy	Comment Status <b>D</b> er names.		bucket	Comment Typ It is not cl elimiante what matt	ee <b>TR</b> ear the purpos the option of c ers the mated	Comment Status <b>D</b> se of the common mode retur oupled differential traces to n test fixture common-mode co	n loss for the neet RL of 10 onversion los	test fixture return loss test fixture as this will dB. Lets insted define s
Change "the PMD_TX_ To "PMD:IS_TX_MODE Proposed Response PROPOSED ACCEPT	MODE and PMD_RX_MODI E.request and PMD:IS_RX_N Response Status W	E requests" /ODE.request."		SuggestedRe Please us Proposed Res	medy se EQ 92-28 fro sponse	om section 92.11.3.3 to repla Response Status W	ce the test fix	ture common mode RL
C/ 94 SC 94.3.12 Brown, Matthew	<i>Р<b>247</b> АРМ</i>	L36	# <u>275</u>	PROPOS	ED REJECT. d sub-clause fr	om 3.12.1.1 to 94.3.12.1.1.>		
Comment Type <b>T</b> Notes a and b are reduced There are many crucial	Comment Status D ndant. These details are fully details associated with each	v described in the	<i>bucket</i> referenced sections. s in this table that are	Equation Bounding accurate r	92-28 specifies of the commo measurement	s common mode conversion n mode return losso of the te of device transmitter commo	loss, not retu st fixture is no n mode returr	rn loss. ecessary to enable n loss.
for one or two and not t	ed sections. It seems incon- he others.	sistent to provide (	details as footnotes	<i>Cl</i> <b>94</b> . Ghiasi. Ali	SC 94.3.12.1.	1 P246 Broadcom	L <b>45</b>	# 233
SuggestedRemedy Remove notes a and b	from table 94-13.			Comment Typ	e TR	Comment Status D		test fixture return loss
Proposed Response PROPOSED REJECT.	Response Status Z			SuggestedRe	medy	of 10 GHz to 14 GHz		
This comment was WIT	HDRAWN by the commenter	er.		Proposed Res	sponse ED REJECT.	Response Status W		
				<changed< td=""><td>d sub-clause fr</td><td>om 3.12.1.1 to 94.3.12.1.1.&gt;</td><td></td><td></td></changed<>	d sub-clause fr	om 3.12.1.1 to 94.3.12.1.1.>		

The symbol rate for 100GBASE-KP4 is ~13.59 Gbaud. 10 GHz is 50% higher than Nyquist and should be sufficient. Note that 100GBASE-KR4 transmitter return loss stop frequency is specified as the Nyquist frequency.

C/ 94 SC 94.3.12.1.1

C/ 94 Matthew, E	SC <b>94.3.12.1.</b> Brown	2 P248 Applied Micro	L <b>6</b>	# 150	C/ <b>94</b> Brown, M	SC atthew	94.3.12.4	Р <b>249</b> АРМ	L <b>4</b>	# 276
Comment The ec	<i>Type</i> <b>T</b> ditor's note points	Comment Status <b>D</b> out where the value for ILD ca	me from.	bucket	Comment The r	t <i>Type</i> eferenc	<b>T</b> e impedanc	Comment Status <b>D</b> e for the test is not in itself	f normative. Ren	<i>bucket</i> nove the shall. It doesn't
Suggested If the II Proposed PROP Remo	dRemedy ILD value is correc Response POSED ACCEPT I ve the editor's note	t, then remove the editor's no <i>Response Status</i> <b>W</b> N PRINCIPLE. e.	e.		make Suggeste line 5 Proposed PRO	e sense dRemed and lind Respon POSED	to write a P dy e 13 change nse REJECT.	ICS entry for this. e "shall be" to "is". <i>Response Status</i> <b>Z</b>		
C/ 94 Matthew, E	SC 94.3.12.3 Brown	P <b>248</b> Applied Micro	L <b>28</b>	# 151	C/ 94	SC	94.3.12.4	P249	L <b>8</b>	# 56
Comment The ec differen for bot Suggestea For me the pe Proposed PROP	<i>Type</i> <b>T</b> ditor's note points int for Clause 94 a th PHY types. <i>dRemedy</i> easuring the peak ak limit to 1200 m <i>Response</i> POSED ACCEPT.	Comment Status D out that the methodology and nd 93. A common (or at least value, use the QPRBS13 pat Vppd. Response Status W	values peak similar) meth ern as speci	pmd tx peak levels signal levels are nodology should be used fied in 94.2.11.3 and set	Comment Trans to co Suggeste Upda Proposed PRO	t Type smitter of eficients dRemed te meas I Respon POSED	TR butput return / equation dy sured return nse ACCEPT II	Comment Status D hoss (eq. 94-6) has a low of Table 94-17-Channel op loss limit acoording to Ber Response Status W N PRINCIPLE.	frequency value perating margin   nArtsi_3bj_01_1	pmd tx return loss that does not correlate parameters.
C/ <b>94</b> Ghiasi, Ali	SC 94.3.12.4	P <b>248</b> Broadcom	L14	# 234		Jenanos,	_00j_01_11	12.		
Comment Transr	<i>Type</i> <b>TR</b> mitter output return	Comment Status <b>D</b> n loss 94-6 is very unreal		pmd tx return loss						
Suggested Propos RL= 12 =5.6	IRemedy se to use EQ 92-1 2-0.5ffrom 0.05<= 5-9.71log (f / 14)8	from section 92.8.3.2 as I as: f<=8 <= f <= 14 GHz(dB)(92-1)	sume these a	are the same chip anyway						
Proposed I PROP See co	Response POSED ACCEPT I	Response Status W N PRINCIPLE.								

C/ 94 SC 94.3.12.4

C/ 94         SC 94.3.12.5         P 248         L 17         # 246           Moore, Charles         Avago Technologies	Cl         94         SC         94.3.12.6.1         P 249         L 51         # 247           Moore, Charles         Avago Technologies
Comment Type         T         Comment Status         D         pmd tx transition time           Use linear fit pulse to find transition time.         It will eliminate a messy test.         It will eliminate a messy test.	Comment Type         T         Comment Status         D         pmd tx pulse response           TBD's make this spec technically incomplete
Use the same 8ps value as used in 93.8.1.5 SuggestedRemedy change 94.3.12.5 to read something like:	SuggestedRemedy Recommend: Minimum steady state voltage = 0.4 V
"Transition times (rise and fall times) are measured on the linear fit pulse. It is the time the linear fit pulse takes to transition between 20% and 80% of the steady state value, using linear interpolation to work between sampled values. The transition time shall be greater than 8 ps. If the peak of linear fit pulse is less	peak value > 0.85 x vf Proposed Response Response Status W PROPOSED ACCEPT.
than 80% of the steady state value the transition time is considered to exceed its minimum value."	C/         94         SC         94.3.12.6.1         P 250         L 51         # 137           Matthew, Brown         Applied Micro
Proposed Response Response Status W PROPOSED REJECT.	Comment Type         T         Comment Status         D         pmd tx pulse response           The vlaues for steady state voltage and peak value are TBD.
See response to comment #245.	SuggestedRemedy Provide values for the steady state voltage and peak value.
C/ 94         SC 94.3.12.5         P 249         L 42         # 136           Matthew, Brown         Applied Micro         Applied Micro	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.
Comment Type <b>T</b> Comment Status <b>D</b> pmd tx transition time The editor's note indicates that test pattern, methodology, and values are needed.	See comment #247.
SuggestedRemedy	C/         94         SC         94.3.12.6.2         P 251         L 16         # 152           Matthew, Brown         Applied Micro         Applied Micro
alternative.  Proposed Response Response Status W	Comment Type         T         Comment Status         D         pmd tx linear fit           The editor's note points out that the test method for linear fit error must be modified to make use of a PAM4 test signal.         D         D
See comment #246.	SuggestedRemedy Re-specify the linear fit error test method to make use of a PAM4 test pattern such as the QPRBS13 test pattern specified in 94.2.11.3.
	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.
	See moore_3bj_01_1112.

C/ 94 SC 94.3.12.6.2

C/ <b>94</b> Matthew, B	SC 94.3.12.6.3 Brown	P <b>251</b> Applied Micro	L <b>30</b>	# 129	C/ <b>94</b> Matthew, E	SC Srown	94.3.12.7	P <b>2</b> Applie	52 ed Micro	L15	# 139
Comment Sub-cla	<i>Type</i> <b>T</b> ause 94.3.12.6.3 s	Comment Status <b>D</b> pecifies emphasis ratios for th	he INITIALIZE, b	<i>pmd tx initialize</i> out provides no	<i>Comment</i> The va	<i>Type</i> alues for	T r low-loss a	Comment Status and high-loss chann	D el insertio	n loss are specif	<i>pmd tx far end noise</i> ied as TBD.
Suggested In addi	Remedy ition to the two ratio	s, specify the amplitude.			Suggested Provid Proposed	Remed <u>y</u> e values Respon	ly s for low-lo se	ess and high-loss ch Response Status	annel inse W	ertion loss.	
PROP	OSED ACCEPT IN	PRINCIPLE.			PROP See re	OSED A	ACCEPT II	N PRINCIPLE.			
Add the	e following sentend	e to the end of 94.3.12.6.3. In INITIALIZE state of the Tra	aining state diagr	ram (Figure 72-5) or	<i>Cl</i> <b>94</b> Brown, Ma	SC S	94.3.12.9	P <b>2</b> : APM	53	L <b>42</b>	# 277
receive equaliz +/- 10%	es a valid request to zer shall be configu %, the ratio (c(0)-c(	red such that the ratio $(c(0)+c(1)+c(-1))/(c(0)+c(1)+c(-1))$ is 2	ner, the coefficie c(1)-c(-1))/(c(0)+ 2.57 +/-10%, and	c(1)+c(-1)) is 1.29 d the steady state	<i>Comment</i> Variou	<i>Type</i> s fixes t	<b>T</b> to linearity	Comment Status test methodology.	D		pmd tx linearity
The provide the provided the pr	oposed response a	issumes that the peaking rati	os proposed in c	comment #138 are	Suggested Line 4 line 8,	Remed	/y ge to "mult I "p = {1,2,.	iple" to "multiple, K, ,M}	".		
Cl <b>94</b> Matthew, B Comment T	SC 94.3.12.6.3 Brown Type T alues for pre-cursor	P251 Applied Micro Comment Status D and post-cursor peaking ratio	L <b>32</b>	# 1 <u>38</u> pmd tx initialize	Proposed PROP In item	Respon OSED /	nge +1 to se ACCEPT II nge "M*K"	Response Status N PRINCIPLE.	w		
Suggested Provide	<i>Remedy</i> e values for the TB	D peaking ratios.			In item In item	9, char 8, char	nge "+1" to nge ", p," to	o "+1/3". o ", p = {1,2,.M","			
Proposed I	Response	Response Status W			Furthe	r and al	ternative u	pdates are propose	d in moor	e_3bj_01_1112.	
PROP	OSED ACCEPT IN	PRINCIPLE.			<i>Cl</i> <b>94</b> Brown, Ma	SC S tthew	94.3.13	P <b>2</b> APM	54	L <b>21</b>	# 278
Use va "2.57 +	alues from 85.8.3.3 ⊦/- 10%".	1. Set the first TBD to "1.29	+/- 10%" and the	e second TBD to	Comment In tabl	<i>Туре</i> е 94-15	T add refere	Comment Status	<b>D</b> tolerance	test.	bucket
See co	omment #129.				Suggested Add ne param referer value : units =	IRemedy ew row eter = "I nce = "9 = "N/A" :: ""	y Interferenc 94.3.13.3"	e tolerance"			
					Proposed PROP	Respon OSED /	se ACCEPT.	Response Status	w		
TYPE: TR/ COMMENT	technical required STATUS: D/dispa	ER/editorial required GR/ge atched A/accepted R/rejecte	neral required T d RESPONSI	/technical E/editorial G/g E STATUS: O/open W/wr	general itten C/closec	IZ/with	drawn		C/ 94 SC 94.3	.13	Page 91 of 99 11/9/2012 3:04:09 PM

SORT ORDER: Clause, Subclause, page, line

Cl <b>94</b> Si Ghiasi, Ali	C 94.3.13.2	P <b>253</b> Broadcom	L <b>50</b>	# 213	<i>Cl</i> <b>94</b> Ben-Artsi,	SC Liav	94.3.13.2	P <b>254</b> Marvell	L <b>48</b>	# 58
Comment Type Transmitter	TR output return	Comment Status D		pmd rx return loss	Comment Receiv	<i>Type</i> ver outp	TR out return lo	Comment Status D oss (eq. 94-14) has a low fre	equency value t	<i>pmd rx return loss</i> hat does not correlate to
SuggestedRem Propose to RL= 12-0.5 =5.65-9.7 Proposed Resp PROPOSE <changed The commo meant to re The return same chip front side a</changed 	edy use EQ 92-1 ffrom 0.05<= '1log (f / 14)8 oonse D REJECT. sub-clause fr ent refers to ' efer to "receiv loss values w will be used f pplications. I	from section 92.8.3.2 as I as f<=8 <= f <= 14 GHz(dB)(92-1) <i>Response Status</i> <b>W</b> om 3.13.2 to 94.3.13.2.> transmitter output return loss er input return loss. vere chosen for a backplane a or both applications since a F t is not necessary to specify r	". It is assume application. It i PAM4 PHY is r eturn loss to 1	re the same chip anyway ed that the commenter s not a given that the not standardized for 4 GHz since this value	coefici Suggested Updat Proposed PROP See p Cl 94 Ghiasi, Ali Comment Receiv result key pa	ients / e IRemec e meas Respor OSED resenta SC Type ver com in more aramete	equation of hy ured return ose ACCEPT II tion benarts 94.3.13.2 TR mmon return complex in r is different r is different	Table 94-17-Channel opera loss limit acoording to Ben <i>Response Status</i> <b>W</b> N PRINCIPLE. si_3bj_01_1112. <i>P254</i> Broadcom <i>Comment Status</i> <b>D</b> Im loss is defined which req mplementation and will degritial to common mode conve	ting margin par Artsi_3bj_01_1 <i>L</i> 7 Juire terminatior rade the differen ersion which ca	# 215 <i>pmd rx return loss</i> n to virtual ground which ntial return loss. The ptures the key
C/ 94 So Brown, Matthew	C 94.3.13.2	P <b>254</b> APM	L <b>4</b>	# 279	require Suggested Purpo RL>=	ements IRemed se the f -25+20	without lim ly ollowing lim *(f/13.89) d	nit B for 0.05<=f<=6.95 GHz		
Comment Type The referer make sens SuggestedRem line 46 and	nce impedance e to write a P nedy line 53 chan	Comment Status D se for the test is not in itself n ICS entry for this.	ormative. Ren	bucket hove the shall. It doesn't	= -1: Proposed PROP <char< td=""><td>5 dB fro <i>Respor</i> OSED nged su</td><td>om 6.95 GH ose ACCEPT II b-clause fro</td><td>Iz to 13.89 GHz <i>Response Status</i> <b>W</b> N PRINCIPLE. om 3.13.2 to 94.3.13.2.&gt;</td><td></td><td></td></char<>	5 dB fro <i>Respor</i> OSED nged su	om 6.95 GH ose ACCEPT II b-clause fro	Iz to 13.89 GHz <i>Response Status</i> <b>W</b> N PRINCIPLE. om 3.13.2 to 94.3.13.2.>		
Proposed Resp PROPOSE This comm	oonse D REJECT. ent was WIT	Response Status Z			It is as (differe It is no	ssumed ential to	that the su common r	iggested remedy is to replac node conversion). ecify the return loss to the b	ce the TBD in E it rate. Instead,	equation 94-16 set the upper limit to 10
					Repla -25+20 -15, 6.	ce the 1 0*(f/13.8 .95 GHz	BD in Equa 39), 0.05<= z to 10 GHz	ation 94-16 with: :f<=6.95 GHz z	auoria.	

C/ 94 SC 94.3.13.2

C/ 94 SC 94.3.13.2 Matthew, Brown	P <b>255</b> Applied Micro	L <b>5</b>	# 140	<i>Cl</i> <b>94</b> Mellitz, Ric	SC 94.3.13.3 hard	P <b>255</b> Intel Corpora	L <b>31</b> tion	# 81
Comment Type <b>T</b> The value for CM return los	Comment Status <b>D</b> ss is specified as TBD.		pmd rx return loss	Comment Clause	<i>Type</i> <b>TR</b> 85 802.3ba-201	Comment Status D 0~246 ff first defines a1, a2	, and a4	
SuggestedRemedy Provide specification for C	M return loss.			94.3.1 referer	3.3 Receiver inter nce to a0 needs to	rference tolerance Table 94 o ripple through standard w	-16 adds param here appropriate	eters a0 e.
Proposed Response F	Response Status W PRINCIPLE.			<i>Suggested</i> Either	<i>Remedy</i> update clause 85	or add appendix describing	g fitting in genera	al
The commenter is referring	g to the RX common mode	return loss i	in Equation 94-16.	Proposed PROP	Response OSED ACCEPT	Response Status WIN PRINCIPLE.		
				[Chang	ged Clause from	93 to 94.]		
C/ 94 SC 94.3.13.3 Moore, Charles	P <b>254</b> Avago Technolo	L <b>7</b> ogies	# 248	See co	omment #178.			
Comment Type <b>T</b> References to Annex 69A a PAM4 oriented test patte we need to define the char SuggestedRemedy use method described in s Proposed Response F PROPOSED ACCEPT IN See dudek_3bj_01_1112.	Comment Status <b>D</b> may be insufficient to define rn which has not been defin nel in terms of mTC and b eparate presentation. Response Status <b>W</b> PRINCIPLE.	pr e this test. ned. If we u TC not a0, a	nd rx interference tolerance It will need use Annex 69A, a1, a2, a4.	CI 94 Matthew, E Comment In Tab as TBI Suggested Provid Proposed I PROP See co	SC 94.3.13.3 Brown Type T le 94-16 several   D. Remedy e values for each Response OSED ACCEPT omment #248.	P255 Applied Micr <i>Comment Status</i> D parameters for the receiver of the parameters in 94-16 <i>Response Status</i> W IN PRINCIPLE.	L 31 pme interference tole currently specif	# 141
				<i>Cl</i> <b>94</b> Brown, Ma	SC 94.3.13.3 tthew	Р <b>255</b> АРМ	L <b>37</b>	# 280
				Comment In table metho	<i>Type</i> <b>T</b> e, 94-16 the sinus dology for CRJrm	Comment Status <b>D</b> soidal jitter and random jitte as and CDJ.	r should be cha	racterized using the
				Suggested	Remedy			
				Replac for CR	ce note c with "sir Jrms and CDJ in	nusoidal jitter and random ji 94.3.12.8.1.	ter are measure	ed use the methodology
				Proposed PROP	Response OSED ACCEPT.	Response Status W		
				[Chang	ged Clause from	00 to 94. Set Subcl to 94.3.	13.3, Page to 25	55, and Line to 37.]

TYPE: TR/technical required ER/editorial required GR/gener	C/ <b>94</b>	Page 93 of 99	
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 94.3.13.3	11/9/2012 3:04:09 PM
SORT ORDER: Clause, Subclause, page, line			

C/         94         SC         94.3.3         P 232         L 20         # 134           Matthew, Brown         Applied Micro         Applied Micro         # 134	C/         94         SC         94.3.4         P 232         L 46         # 135           Matthew, Brown         Applied Micro         Applied Micro         # 135
Comment Type         T         Comment Status         D         delay           Delay contraints have TBD values.	Comment Type         T         Comment Status         D         skew           Skew contraints have TBD values.         Skew         Skew </td
SuggestedRemedy Provide values for TBD delay constraints.	SuggestedRemedy Provide values for TBD skew constraints.
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.
Set the net delay to 16 pause quanta and the medium delay to 800 bit times.	Use values from Table 80-4 and Table 80-5 for skew and skew variation at each skew point.
Replace the first paragraph in 94.3.3 with the following: "The sum of the transmit and the receive delays contributed by the 100GBASE-KP4 PMA, PMD, AN, and the medium in one direction shall be no more than 8192 bit times (16 pause_quanta or 81.92 ns). It is assumed that the one way delay through the medium is no more than 800 bit times (8 ns)."	SP2 skew: 43 ns skew variation: 0.4 ns SP3 skew: 54 ns skew variation: 0.6 ns SP4 skew: 134 ns skew variation: 3.4 ns SP5 skew: 145 ns skew variation: 3.6 ns
	C/         94         SC         94.3.6.3         P235         L9         # 265           Brown, Matthew         APM         APM         bucket         bucket
	tx_symbol should be rx_symbol
	SuggestedRemedy Change "tx_symbol" to "rx_symbol".
	Proposed Response Response Status W PROPOSED ACCEPT.

C/ 94 SC 94.3.6.3

Comment Type E Concatenation of wor whereas as MDIO fie SuggestedRemedy replace "PMD_signal replace "PMD_signal replace "PMD_signal replace "PMD_signal Similar corrections an Proposed Response PROPOSED ACCEP	Comment Status D ds with underscore is typically Id names do not. _detect_i" with "PMD signal det _detect_0" with "PMD signal det _detect_1" with "PMD signal det _detect_2" with "PMD signal det _detect_3" with "PMD signal det _detect_3" with "PMD signal det _detect_3" with "PMD signal det _detect_3" with "PMD signal det	used for variable tect i". etect 0". etect 1". etect 2". etect 3".	<i>bucket</i> e and function names,	Comment Type <b>T</b> Add list item specify SuggestedRemedy Add list item (d): "If the MDIO interfac when Global PMD to Proposed Response PROPOSED ACCE	Comment Status D ring MDIO control. ce is implemented, then Glob ransmit disable bit (1.9.0) is s Response Status W PT IN PRINCIPLE.	al_PMD_transmit_ et to one (see 45.2	pmd tx disable disable is set to one 2.1.8.7)."
SuggestedRemedy replace "PMD_signal replace "PMD_signal replace "PMD_signal replace "PMD_signal replace "PMD_signal Similar corrections at Proposed Response PROPOSED ACCEP	_detect_i" with "PMD signal det _detect_0" with "PMD signal de _detect_1" with "PMD signal de _detect_2" with "PMD signal de _detect_3" with "PMD signal de _detect_3" with "PMD signal de re required in Clause 92 and 93 <i>Response Status</i> <b>W</b>	tect i". etect 0". etect 1". etect 2". etect 3".		SuggestedRemedy Add list item (d): "If the MDIO interfac when Global PMD to Proposed Response PROPOSED ACCE	ce is implemented, then Glob ransmit disable bit (1.9.0) is s <i>Response Status</i> <b>W</b> PT IN PRINCIPLE.	al_PMD_transmit_ et to one (see 45.2	disable is set to one 2.1.8.7)."
Proposed Response PROPOSED ACCEP	Response Status W			Apply to correspond	ling sub-clauses in 92 and 93	, as well.	
Make similar change	T IN PRINCIPLE.			C/ 94 SC 94.3.6 Brown, Matthew	.6 <i>P</i> 235 APM	L <b>52</b>	# 270
Cl 94 SC 94.3.6.8 Matthew, Brown Comment Type E Only one following pa SuggestedRemedy Change "two paragra	<ul> <li>S in 92.7.5 and 93.7.5.</li> <li>P235         Applied Micro         <i>Comment Status</i> D     </li> <li>aragraph.</li> <li>phs" to "paragraph".</li> </ul>	L 37	# 127 bucket	Use consistent term SuggestedRemedy Change "may turn of global_pmd_transm Proposed Response PROPOSED ACCE Apply to correspond	inology with 94.3.6.7. If the electrical transmitter in it_disable to one". Response Status W PT IN PRINCIPLE. Ing sub-clauses in 92 and 93	all lanes" to "may s , as well.	prid ix disable
PROPOSED ACCEP Make the same chan	T IN PRINCIPLE. ge to 92.7.5 and 93.7.5.			C/ 94 SC 94.3.6 Brown, Matthew Comment Type T	.7 P236 APM Comment Status D	L13	# 272 pmd tx disable
				SuggestedRemedy Add list item (d): "If the MDIO interfact corresponding PMD 45.2.1.8.3 to 45.2.1	ce is implemented, then PMD transmit disable bit (1.9.1, 1. 8.7)."	_transmit_disable_ 9.2, 1.9.3, and 1.9.	i is set to 1 when the 3) is set to 1 (see
				Proposed Response PROPOSED ACCE Apply to correspond	Response Status W PT IN PRINCIPLE. ling sub-clauses in 92 and 93	, as well.	

TYPE: TR/technical required ER/editorial required GR/genera	al required T/technical E/editorial G/general	C/ 94
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 94.3.6.7
SORT ORDER: Clause, Subclause, page, line		

Page 95 of 99 11/9/2012 3:04:09 PM

Comment Type       T       Comment Status       D       Joopback         Specification of the loopback in the PMA.       Suggested/Remedy       Replace the first two paragraphs of 94.3.6.8 with       Comment Status       D       Dud         Suggested/Remedy       Replace the first two paragraphs of 94.3.6.8 with       Suggested/Remedy       Suggested/Remedy       In the second paragraph.       Suggested/Remedy         Delete Note 1.       Similar corrections are required for Clause 92 and 93.       PROPOSED ACCEPT IN PRINCIPLE.       PROPOSED ACCEPT IN PRINCIPLE.         Replace the first two paragraphs of 94.3.6.8 with       Comment Status       W       PROPOSED ACCEPT IN PRINCIPLE.         Replace the first two paragraphs of 94.3.6.8 with       Comment Status D       Mathew, Brown       Applied Micro         PROPOSED ACCEPT IN PRINCIPLE.       Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       Comment Type       T       Comment Status D       channel c         Q 14       S C 94.3.7       P 236       L 30       # 123       Mathew, Brown       Applied Micro         Comment Type       E       Comment Status D       bucket       Suggested/Remedy       Response Status       W         Mathew, Brown       Applied Micro       Comment Type       T       Commen
Specification of the loopback in the PMD is redundant and out of place. It is already specified for the PMA.         Suggested/Remedy         Replace the first two paragraphs of 94.3.6.8 with         "Local loopback mode is provide by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."         Delete Note 1.         Similar corrections are required for Clause 92 and 93.         Proposed Response       Response Status         PROPOSED ACCEPT IN PRINCIPLE.         Replace the first two paragraphs of 94.3.6.8 with         "Local loopback mode is provided by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."         Delete Note 1.         Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.         C/ 94       SC 94.3.7         P236       L30       # 123         Matthew, Brown       Applied Micro         Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       # 123         C/ 94       SC 94.3.7       P236       L30       # 123         Matthew, Brown       Applied Micro       Response Status W       PROPOSED ACCEPT IN PRINCIPLE.         See comment Status D <t< td=""></t<>
SuggestedRemedy         Replace the first two paragraphs of 94.3.6.8 with         'Local loopback mode is provide by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7).*         Delete Note 1.         Similar corrections are required for Clause 92 and 93.         Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE.         Replace the first two paragraphs of 94.3.6.8 with         'Local loopback mode is provide by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7).*         Delete Note 1.         Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.         Cl 94       S 0 94.3.7         P236       L 30       # 123         Poposed Response       Response Status W         Replace the first two paragraphs of 94.3.6.8 with       SuggestedRemedy         Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       # 123         Cl 94       S 0 94.3.7       P 236       L 30       # 123         Matthew, Brown       Applied Micro       SuggestedRemedy       Response Status W         ReporoSED ACCEPT IN PRINCIPLE.       Secomment Statu
Replace the first two paragraphs of 94.3.6.8 with       In the second paragraph in 94.3.8, delete "(optional)".         "Local loopback mode is provide by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."       In the second paragraph in 94.3.8, delete "(optional)".         Delete Note 1.       Similar corrections are required for Clause 92 and 93.       Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE.       Make similar changes in 93.7.10.       C/ 94 SC 94.4.1       P256 L17 # 153         Matthew, Brown       Applied Micro       Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       C/ 94 SC 94.3.7       P236 L30 # 123         C/ 94 SC 94.3.7       P236 L30 # 123       Matthew, Brown       Applied Micro         Comment Type E       Comment Status D       Lao # 123         Matthew, Brown       Applied Micro       SuggestedRemedy         Reconcile all parameters in Table 94-17 with the corresponding transmitter and receiver specifications in 94.2 and 94.3.       SuggestedRemedy         Reconsider All parameters in Table 94.10 vith the corresponding transmitter and receiver specifications in 94.2 and 94.3.       SuggestedRemedy         SuggestedRemedy       Reconside and function names.       SuggestedRemedy         SuggestedRemedy       See comments 44, 47, 45, 57.    <
<sup>1</sup> Local loopback mode is provide by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)." Delete Note 1. Similar corrections are required for Clause 92 and 93. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Replace the first two paragraphs of 94.3.6.8 with "Local loopback mode is provide by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)." Delete Note 1. Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional. CI 94 SC 94.3.7 P 236 L 30 # 123 Matthew, Brown Applied Micro Comment Type E Comment Status D Locket The names of functions are typically not concatenated with underscore. The underscore is typically used for variable and function names. SuggestedRemedy Sugg
Delete Note 1.         Similar corrections are required for Clause 92 and 93.         Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE.         Replace the first two paragraphs of 94.3.6.8 with         "Local loopback mode is provided by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."         Delete Note 1.         Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.         C/ 94 SC 94.3.7       P236         C/ 94 SC 94.3.7       P236         Applied Micro         Comment Type       E         Comment Status D       bucket         The names of functions are typically not concatenated with underscore. The underscore is typically used for variable and function names.       SuggestedRemedy         SuggestedRemedy       See comments 44, 47, 45, 57.
Similar corrections are required for Clause 92 and 93.         Make similar corrections are required for Clause 92 and 93.         Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE.         Replace the first two paragraphs of 94.3.6.8 with         "Local loopback mode is provided by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."       Make similar changes in 92.7.10.         Delete Note 1.       Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       Cl 94       SC 94.3.7       P236       L 30       # 123         Matthew, Brown       Applied Micro       SuggestedRemedy       Reconcile all parameters in Table 94-17 with the corresponding transmitter and receiver specifications in 94.2 and 94.3.       SuggestedRemedy         Comment Type       E       Comment Status D       bucket         The names of functions are typically not concatenated with underscore. The underscore is typically used for variable and function names.       SuggestedRemedy         SuggestedRemedy       See comments 44, 47, 45, 57.       See comments 44, 47, 45, 57.
Proposed Response       Response Status       W         PROPOSED ACCEPT IN PRINCIPLE.       Replace the first two paragraphs of 94.3.6.8 with       C/ 94 SC 94.4.1       P256 L17 # 153         Replace the first two paragraphs of 94.3.6.8 with       "Local loopback mode is provided by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."       C/ 94 SC 94.4.1       P256 L17 # 153         Delete Note 1.       Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       All COM parameters in Table 94-17 must be reconciled against the transmitter and receiver specificiations in 94.2 and 94.3.         C/ 94 SC 94.3.7       P236 L30 # 123         Matthew, Brown       Applied Micro         Comment Type       E Comment Status D         Matthew, Brown       Applied Micro         Comment Type       E Comment Status D         Matthew, Brown       Applied Micro         Comment Type       E Comment Status D         Matthew, Brown       Applied Micro         Comment Type       E Comment Status D         Matthew, Brown       Applied Micro         Comment Type       E Comment Status D         Matthew, Brown       Applied Micro         SuggestedRemedy       See comments 44, 47, 45, 57.
PROPOSED ACCEPT IN PRINCIPLE.       Cl 94 SC 94.4.1       P256 L17 # 153         Replace the first two paragraphs of 94.3.6.8 with       "Local loopback mode is provided by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."       Applied Micro         Delete Note 1.       Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       Cl 94 SC 94.3.7       P236 L30 # 123         Cl 94 SC 94.3.7       P236 L30 # 123       Matthew, Brown       Applied Micro         Comment Type E       Comment Status D       Channel ceiver specifications in 94.2 and 94.3.         Comment Type E       Comment Status D       Channel ceiver specifications in 94.2 and 94.3.         SuggestedRemedy       Reconcile all parameters in Table 94-17 with the corresponding transmitter and receiver specifications in 94.2 and 94.3.         Proposed Response       Response Status W         PROPOSED ACCEPT IN PRINCIPLE.       See comments 44, 47, 45, 57.         SuggestedRemedy       See comments 44, 47, 45, 57.
Replace the first two paragraphs of 94.3.6.8 with         "Local loopback mode is provided by the PMA (94.2.9). Loopback shall not affect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."         Delete Note 1.         Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.         C/ 94       SC 94.3.7       P236       L 30       # 123         Matthew, Brown       Applied Micro       Proposed Response       Response Status W         Comment Type       E       Comment Status D       bucket         The names of functions are typically used for variable and function names.       SuggestedRemedy         SuggestedRemedy
Local bolpack mode is provided by the PNA (94.2.9). Ecophack shall not allect the state of the transmitter, which continues to send data unless disabled (94.3.6.7)."       All COM parameters in Table 94-17 must be reconciled against the transmitter and receive specifications in 94.2 and 94.3.         Delete Note 1.       Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       SuggestedRemedy         C/ 94       SC 94.3.7       P 236       L 30       # 123         Matthew, Brown       Applied Micro       Proposed Response       Response Status W         Comment Type       E       Comment Status D       bucket         The names of functions are typically used for variable and function names.       bucket       See comments 44, 47, 45, 57.
Delete Note 1.       Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional.       SuggestedRemedy         C/ 94       SC 94.3.7       P 236       L 30       # 123         Matthew, Brown       Applied Micro       Proposed Response       Response Status W         Comment Type       E       Comment Status       D       bucket         The names of functions are typically used for variable and function names.       SuggestedRemedy       See comments 44, 47, 45, 57.
Consider similar changes in 92 and 93. For these sub-clauses the change is not so clear, since the loopback specified in 83.5.9 is optional. C/ 94 SC 94.3.7 P236 L30 # 123 Matthew, Brown Applied Micro Comment Type E Comment Status D bucket The names of functions are typically not concatenated with underscore. The underscore is typically used for variable and function names. SuggestedRemedy
Cl 94       SC 94.3.7       P236       L 30       # 123       Proposed Response       Response Status       W         Matthew, Brown       Applied Micro       bucket       PROPOSED ACCEPT IN PRINCIPLE.         Comment Type       E       Comment Status       D       bucket       See comments 44, 47, 45, 57.         The names of functions are typically not concatenated with underscore. The underscore is typically used for variable and function names.       SuggestedRemedy       See comments 44, 47, 45, 57.
C/ 94       SC 94.3.7       P236       L 30       # [123]       Proposition of the spectrum proproposition of the spectrum proproposition of the spect
Matthew, Brown       Applied Micro         Comment Type       E       Comment Status       D       bucket       See comments 44, 47, 45, 57.         The names of functions are typically not concatenated with underscore. The underscore is typically used for variable and function names.       SuggestedRemedy
Comment Type       E       Comment Status       D       bucket       See comments 44, 47, 45, 57.         The names of functions are typically not concatenated with underscore. The underscore is typically used for variable and function names.       SuggestedRemedy       See comments 44, 47, 45, 57.
SuggestedRemedy
In title of 94.3.7 replace "pmd_fault" with "PMD fault".
In the first paragraph of 94.3.8 replace "PMD_transmit_fault" with "PMD transmit fault".
In the first paragraph of 94.3.9 replace "PMD_receive_fault" with "PMD receive fault".
Similar corrections are required in Clauses 92 and 93.
Proposed Response Response Status W PROPOSED ACCEPT.
Make similar changes in 92.7.6 and 93.7.6.

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

C/ 94 SC 94.4.1 Page 96 of 99 11/9/2012 3:04:09 PM

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C/ 94 SC 94.4.1 P256 L21 # 162	C/ 94 SC 94.4.1 P256 L26 # 47
Lusted, Kent Intel	Ben-Artsi, Liav Marvell
Comment Type TR Comment Status D It seems quite odd to use the term "signaling rate" with GHertz. Should it be GBaud?	Comment Type T Comment Status D channel com PAM4 PKG insertion loss model does not represent the worst case insertion loss that meets the PKG definition
change Hertz to GBaud or change signaling rate to something else	SuggestedRemedy
Proposed Posponese Depropose Status W	Update according to BenArtsi_3bj_01_1112
PROPOSED ACCEPT IN PRINCIPLE.	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.
[Changed Clause from 00 to 94. Set Subcl to 94.4.1, Page to 256, and Line to 21.]	See benartsi_3bj_01_1112.
In Table 94-17, change the units of signaling rate to be GBd. Modify Clause 93 (Table 93-8) and Annex 93A (Table 93A-1) to be consistent with this	C/ 94 SC 94.4.1 P256 L29 # 45
change.	Comment Type TR Comment Status D channel com
C/         94         SC         94.4.1         P 256         L 26         # 44           Ben-Artsi, Liav         Marvell	The receiver reflection equation does not represent the appropriate reflection coefficient from a PKG (especially at the low frequency range).
Comment Type TR Comment Status D channel com	SuggestedRemedy
The transmitter reflection equation does not represent the appropriate reflection coefficient from a PKG (especially at the low frequency range).	Update PKG equation and coefficients according to BenArtsi_3bj_01_1112. This may require adding a different equation on top of 93-A3 (if 93-A3 is still referenced by other locations within this specification)
SuggestedRemedy	Pronosed Response Response Status W
Update PKG equation and coefficients according to BenArtsi_3bj_01_1112. This may require adding a different equation on top of 93-A3 (if 93-A3 is still referenced by other locations within this specification).	PROPOSED ACCEPT IN PRINCIPLE.
Proposed Response Response Status W	See benartsi_3bj_01_1112.
PROPOSED ACCEPT IN PRINCIPLE.	C/ 94 SC 94.4.1 P256 L33 # 57
	Ben-Artsi, Liav Marvell
See benartsI_3b]_01_1112.	Comment Type TR Comment Status D channel com
	Transmitter victim and Far-end aggressor diferential peak output voltage defined at an ambiguous location along the end to end path
	SuggestedRemedy
	Define the victim differential peak output voltage and Far-end aggressor at TP0 (min 800mV pk-pk @ the device PKG ball) ==> incorporate only one PKG IL model in the COM code (the Rx side)
	Proposed Response Response Status W PROPOSED ACCEPT.

Page 97 of 99 11/9/2012 3:04:09 PM

P <b>256</b> TE Connectivit	L <b>35</b> ty	# 252		
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to 94.4.2.>				
+a6*f-f2" to "a5+a6*(f	f-f2)"			
P <b>258</b> Applied Micro	L <b>27</b>	# 154		
<i>ment Status</i> <b>D</b> t the ICN must be spe	ecified here.	channel icn		
onse Status WIICIPLE.		vith other channel		
ained by COM and wi	rith a trade off wi	ith other channel		
P <b>4</b>	L <b>26</b>	# 349		
Ciena				
Comment TypeEComment StatusDbucThe frontmatter has been updated in accordance with comment #29 against D 1.1 to include a description of the 802.3bj amendment. There is a spurious quotation mark at the end of the added text.buc				
mark after "copper ca	ables."			
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TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

CI 99 SC 99 Page 99 of 99 11/9/2012 3:04:09 PM