## P802.3cu D1.1 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength 2nd Task Force review com

C/ 140	SC 140		P 35	L <b>3</b>	# 1	C/ 140 SC 1
Cole, Chris			II-VI			Cole, Chris
Comment 7	уре Е	Comn	ment Status X			Comment Type
100GB	ASE-LR1		ne for SECQ to be u make similar name		ASE-FR1 and GBASE-DR at this point	TDECQ -10log 100GBASE-FF 100GBASE-DF
Suggested	Remedy					SuggestedRemedy
			ughout Sub-clause ny figures or tables		ASE-FR1 and	Make the follow - Remove the
Proposed F	Response	Respo	nse Status <b>O</b>			100GBASE-LF - Insert a new 100GBASE-DF
C/ 140	SC 140	.6	P 40	L 19	# 14	<ul> <li>respectively.</li> <li>Insert another</li> </ul>
Kimber, Ma	ark		Semtech			100GBASE-DI
Comment 7	ype E	Comn	nent Status X			LR1 respective
attenua interope	ition is req erability is	uired between copied from Cl	DR, FR1 and LR1 lause 122.7 (802.30	PMDs. The stat on project). In C	lause 122, the FR8 and	
attenua interope LR8 ha	ition is req erability is ve the san	uired between copied from Cl ne Tx power ar	DR, FR1 and LR1 lause 122.7 (802.3 nd no attenuation is	PMDs. The stat on project). In C required to inte	ement on lause 122, the FR8 and roperate. The other	C/ 140 SC 1
attenua interope LR8 ha interope	ition is req erability is ve the san	uired between copied from Cl ne Tx power ar tween PMDs is	DR, FR1 and LR1 lause 122.7 (802.3 nd no attenuation is	PMDs. The stat on project). In C required to inte	ement on lause 122, the FR8 and	C/ 140 SC 1 Cole, Chris
attenua interope LR8 ha interope for ERx	tion is req erability is ve the san erability be type PME	uired between copied from Cl ne Tx power ar tween PMDs is	DR, FR1 and LR1 lause 122.7 (802.3 nd no attenuation is	PMDs. The stat on project). In C required to inte	ement on lause 122, the FR8 and roperate. The other	C/ <b>140</b> SC <b>1</b> Cole, Chris Comment Type
attenua interope LR8 ha interope for ERx Suggested Change to "prov	tion is req erability is ve the san erability be type PME Remedy wording f vided the ir	uired between copied from Cl ne Tx power ar tween PMDs is os. from "provided nter-operability	DR, FR1 and LR1 lause 122.7 (802.3c nd no attenuation is s for Erx to FRx or l that the channel re requirements of the	PMDs. The stat on project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ling (channel)	C/ 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy
attenua interope LR8 ha interope for ERx Suggested Change to "prov	tion is req erability is ve the san erability be type PME Remedy e wording 1 vided the in reristics for	uired between copied from Cl ne Tx power ar tween PMDs is bs. from "provided nter-operability 100GBASE-D	DR, FR1 and LR1 lause 122.7 (802.3d nd no attenuation is s for Erx to FRx or l that the channel re	PMDs. The stat on project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ling (channel)	Cl 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy Add Transmitte c footnote for b
attenua interope LR8 ha interope for ERx Suggested Change to "prov charact	tion is req erability is ve the san erability be type PME Remedy e wording 1 vided the in reristics for	uired between copied from Cl ne Tx power ar tween PMDs is bs. from "provided nter-operability 100GBASE-D	DR, FR1 and LR1 lause 122.7 (802.3c nd no attenuation is s for Erx to FRx or l that the channel re requirements of the DR are met." This al	PMDs. The stat on project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ling (channel)	Cole, Chris
attenua interope LR8 ha interope for ERx Suggested Change to "prov charact	tion is req erability is ve the san erability be type PME Remedy e wording 1 vided the in reristics for	uired between copied from Cl ne Tx power ar tween PMDs is s. from "provided nter-operability 100GBASE-D <i>Respo</i>	DR, FR1 and LR1 lause 122.7 (802.3c nd no attenuation is s for Erx to FRx or l that the channel re requirements of the DR are met." This al	PMDs. The stat on project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ling (channel)	Cl 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy Add Transmitt c footnote for h defined for tran
attenua interopo LR8 ha interopo for ERx Suggested Change to "prov charact Proposed F	tion is req erability is ve the san erability be type PME Remedy e wording f vided the in resistics for Response SC 140	uired between copied from Cl ne Tx power ar tween PMDs is s. from "provided nter-operability 100GBASE-D <i>Respo</i>	DR, FR1 and LR1 lause 122.7 (802.3c nd no attenuation is s for Erx to FRx or l that the channel re requirements of the DR are met." This al <i>inse Status</i> <b>O</b>	PMDs. The stat cn project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab so applies to line	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ing (channel) es 19 and 22.	Cl 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy Add Transmitt c footnote for H defined for tran Proposed Respons
attenua interope LR8 ha interope for ERx Suggested Change to "prov charact Proposed F C/ 140 Dawe, Pier Comment 1	tion is req erability is ve the sam erability be t type PME Remedy e wording t vided the ir vided the ir eristics for Response SC 140 s Type E	uired between copied from Cl ne Tx power ar tween PMDs is bs. from "provided nter-operability 100GBASE-D <i>Respo</i> 6.1	DR, FR1 and LR1 lause 122.7 (802.3d nd no attenuation is s for Erx to FRx or l that the channel re requirements of the DR are met." This al nse Status <b>O</b> P <b>41</b> Mellanox ment Status <b>X</b>	PMDs. The stat cn project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab so applies to line	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ing (channel) es 19 and 22. # 15	Cl 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy Add Transmitt c footnote for H defined for trans Proposed Respons
attenua interope LR8 ha interope for ERx Suggested/ Change to "prov charact Proposed F C/ 140 Dawe, Pier Comment 7 In Table combin	tion is req erability is ve the sam erability be t type PME Remedy e wording 1 vided the ir vided the ir eristics for Response SC 140 s 5 ype E e 140-6, tr ed (with th	uired between copied from Cl ne Tx power ar tween PMDs is s. from "provided nter-operability 100GBASE-D <i>Respo</i> 	DR, FR1 and LR1 I lause 122.7 (802.3c nd no attenuation is s for Erx to FRx or I that the channel re requirements of the DR are met." This all <i>inse Status</i> <b>O</b> <i>P</i> <b>41</b> Mellanox <i>nent Status</i> <b>X</b> teristics, the two row . Similarly for the "a	PMDs. The stat cn project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab iso applies to line <i>L</i> <b>29</b> ws for OMA - TD	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ing (channel) es 19 and 22. # 15	Cl 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy Add Transmitt c footnote for H defined for tran Proposed Respons Cl 140 SC 1 Cole, Chris Comment Type
attenua interope LR8 ha interope for ERx Suggested/ Change to "prov charact Proposed F C/ 140 Dawe, Pier Comment 7 In Table combin	tion is req erability is ve the san erability be type PME Remedy e wording t rided the ir resistics for Response SC 140 s 5 ype E e 140-6, tr ed (with th illustrative	uired between copied from Cl ne Tx power ar tween PMDs is s. from "provided nter-operability 100GBASE-D <i>Respo</i> <b>6.1</b> <b>Comm</b> ansmit charact ree sub-rows).	DR, FR1 and LR1 I lause 122.7 (802.3c nd no attenuation is s for Erx to FRx or I that the channel re requirements of the DR are met." This all <i>inse Status</i> <b>O</b> <i>P</i> <b>41</b> Mellanox <i>nent Status</i> <b>X</b> teristics, the two row . Similarly for the "a	PMDs. The stat cn project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab iso applies to line <i>L</i> <b>29</b> ws for OMA - TD	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ing (channel) es 19 and 22. # 15 ECQ could be	Cl 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy Add Transmitt c footnote for H defined for tran Proposed Respons Cl 140 SC 1 Cole, Chris Comment Type DR name cons
attenua interope LR8 ha interope for ERx Suggested/ Change to "prov charact Proposed F C/ 140 Dawe, Pier Comment 7 In Table combin 140-8, i	tion is req erability is ve the sam erability be t type PME Remedy e wording 1 vided the in vided the in retristics for Response SC 140 s 5 ype E e 140-6, tri ed (with thi illustrative Remedy	uired between copied from Cl ne Tx power ar tween PMDs is s. from "provided nter-operability 100GBASE-D <i>Respo</i> <b>.6.1</b> <b></b>	DR, FR1 and LR1 I lause 122.7 (802.3c nd no attenuation is s for Erx to FRx or I that the channel re requirements of the DR are met." This all <i>inse Status</i> <b>O</b> <i>P</i> <b>41</b> Mellanox <i>nent Status</i> <b>X</b> teristics, the two row . Similarly for the "a	PMDs. The stat cn project). In C required to inte LRx. It is standa quirements for 1 e fiber optic cab iso applies to line <i>L</i> <b>29</b> ws for OMA - TD	ement on lause 122, the FR8 and roperate. The other ard to have attenuation 00GBASE-DR are met." ing (channel) es 19 and 22. # 15 ECQ could be	Cl 140 SC 1 Cole, Chris Comment Type There is no fas SuggestedRemedy Add Transmitte c footnote for te defined for trans Proposed Respons Cl 140 SC 1 Cole, Chris

C/ 140	SC 140.6.1		P <b>41</b>	L <b>35</b>	# 2	
Cole, Chr	is		II-VI			
•		~				

## т Comment Status X

g10(Ceq) is a problematic spec. Implement suggested remedy for R1 and 100GBASE-LR1 only (Note, cannot make similar change for DR at this point in time as it is out of scope).

## dy

owing changes to Table 140-6:

entries in the row "TDECQ -10log10(Ceq)" for 100GBASE-FR1 and .R1

row below "TDECQ -10log10(Ceq)" called "TECQ" with no entry for DR and with values of 3.0 and 2.5dB for 100GBASE-FR1 and 100GBASE-LR1

er new row below "TECQ" called "TDECQ-TECQ" with no entries for DR and with values of 2.0dB and 2.5dB for 100GBASE-FR1 and 100GBASE-/ely.

nse Response Status 0

C/ 140	SC 140.6.1	P <b>41</b>	L <b>40</b>	# 3
Cole, Chri	is	II-VI		
Comment	Туре Т	Comment Status X		
There	is no fast corner l	imit		

## lγ

tter over/under-shoot (max) spec with 12% value for both FR4 and LR4-6. Add both transition time and new spec wich states: "Using NRZ test pattern; ansition, over-shoot in 120.5.11.2.3, 120.5.11.2.4, respectively"

nse Response Status 0

C/ 140	SC 140.6.1	P <b>41</b>	L <b>54</b>	# 4
Cole, Chri	s	II-VI		
Comment	Туре Е	Comment Status X		
DR na	ame constrasts w	ith FR1 and LR1 names		
Sugaested	dRemedv			

te which states: "100BASE-DR to 100GBASE-DR1 name change will be future Maintenance Project"

Response Status 0 ıse

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general C/ 140 COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SC 140.6.1 SORT ORDER: Clause, Subclause, page, line

Page 1 of 4 12/13/2019 2:18:57 PM

C/ 140	SC 140.6.2	P <b>42</b>	L 30	# 5	C/ 140 SC 140.7.9	P 43	L <b>46</b>	# 7
Cole, Chri	S	II-VI			Cole, Chris	II-VI		
Comment	Туре Т	Comment Status X			Comment Type T	Comment Status X		
spec f	or both 100GBASI	ble is cumbersome. Make F E-FR1 and 100GBASE-LR1 bint in time as it is out of sc	(Note cannot ma			tivity (RS) a normative spec ke similar change for 100G		
Suggested	IRemedy				SuggestedRemedy			
		eceiver sensitivity (OMAout			Make the following ch	anges to this section.		
with th inform sensiti referer	e following text "F ative and is define vity (OMAouter) (r nce transmitter wit	or FR1 and LR1, respecitive Receiver sensitivity (OMAou d for a transmitter with a va nax) for 100GBASE-FR1 ar h a value of TECQ up to 1.4 0-2) for 100GBASE-FR1 ar	ter) (max) for 10 lue of SECQ up d 100GBASE-LI dB. For values	0GBASE-DR is to 3.4 dB. Receiver R1 is defined for a of TECQ greater than	"Receiver sensitivity i to:	on page 43 and line 50 from s informative and is defined or 100GBASE-DR is informa	for a transmitter w	
Proposed	Response	Response Status <b>O</b>			"Receiver sensitivity f	on page 44 and line 1 from: or 100GBASE-FR1 should n		0–2), which is illustrat
C/ 140	SC 140.6.2	P 42	L <b>47</b>	# 6	in Figure 140–5."			
Cole, Chri	S	II-VI			to:			
<i>Comment</i> DR na		Comment Status X				or 100GBASE-FR1 is define r sensitivity should meet Equ		
		tes: "100BASE-DR to 1000 htenance Project"	GBASE-DR1 nar	ne change will be	"Receiver sensitivity f	on page 44 and line 6 from: or 100GBASE-LR1 should m		0–3), which is illustrat
Proposed	Response	Response Status 0			Figure 140–5."			
						or 100GBASE-LR1 is define r sensitivity should meet Equ		
						on page 44 and line 16 fror rement for receivers is stress		ivity"
					"The normative requires sensitivity. The normative requires the sensitivity.	rement for the 100GBASE-D ative requirement for the 100 vier sensitivity and stressed	GBASE-FR1 and	100GBASE-LR1
						-		

C/ 140 SC 140.7.9 <sup>2</sup>802.3cu D1.1 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength 2nd Task Force review com

C/ 140 SC 140.10	P <b>49</b>	L <b>34</b>	# 16	C/ 151	SC 151.7.1	P <b>61</b>	L <b>30</b>	# 18
Dawe, Piers	Mellanox			Dawe, Pier	6	Mellanox		
Comment Type T	Comment Status X			Comment 7	ype TR	Comment Status X		
	interoperation between 100Gi _R1 and 100GBASE-FR1, but			place th	at limits ∼avera to protect agai	19 proposes an overshoot m age overshoot, and proposes nst bad signals (with too mu	removing TDEC	Q-10log10(Ceq), which
SuggestedRemedy								
Even if there are no s	pecial requirements, add the s	subclause and sa	y what the situation is.	Suggested	•			· · -
Proposed Response	Response Status <b>O</b>			peak-pe change	eak swing? If the minimum f	ng apart from the typical over ne current draft spec does al or the largest magnitude tap ECQ-10log10(Ceq) spec, wh	low too much ove coefficient from (	ershoot, in 151.8.5.4, ).8 to e.g. 0.85 or 0.9.
C/ 151 SC 151	P 53	L <b>1</b>	# 8	Proposed F	esponse	Response Status 0		
Cole, Chris	II-VI							
<i>Comment Type</i> <b>E</b> There is a more descr	Comment Status X iptive name for SECQ			C/ 151	SC 151.7.1	P 61	L <b>32</b>	# 17
SuggestedRemedy				Dawe, Pier	6	Mellanox		
Replace SECQ with T	ECQ throughout Sub-clause	151		Comment 7		Comment Status X		
Proposed Response	Response Status <b>O</b>			concerr	the receiver w	DECQ – TECQ, or chromatic hether the penalty came fror derations in this spec are no	m the transmitter	or from chromatic
C/ 151 SC 151.7.1	P <b>61</b>	L 30	# 9	Suggested	Remedy			
Cole, Chris	II-VI		<i>"</i> 0	Explain	why this new s	pec is needed or remove the	e row, 151.8.6, ar	d associated text.
Comment Type T	Comment Status X			Proposed F	esponse	Response Status O		
	) is a problematic spec.							
SuggestedRemedy				C/ 151	SC 151.7.1	P 61	L <b>32</b>	# 10
•• •	og10(Ceq), Replace with TEC	Q, values 3.0 and	d 2.5 dB for FR4 and	Cole, Chris		II-VI		
Proposed Response	Response Status 0			Comment 7 There i		Comment Status X DECQ - TECQ for FR4		
				Suggestedl Enter 2	Re <i>medy</i> .0dB for FR4			
				Proposed F		Response Status <b>O</b>		

C/ 151 SC 151.7.1 <sup>2</sup>802.3cu D1.1 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength 2nd Task Force review com

C/151 SC 1	51.7.1	P 61	L <b>36</b>	# 11	C/ 151	SC 151.8.10	P 68	L <b>34</b>	# 13
Cole, Chris		II-VI			Cole, Chris		II-VI		
Comment Type	T Cor	nment Status X			Comment 7	Гуре Т	Comment Status X		
There is no fas	t corner limit					Receiver Sensiti	vity (RS) a normative spec fo	or both 400GBAS	E-FR4 and 400GBA
SuggestedRemedy					LR4-6.				
Add Transmitte	er over/under-sl	noot (max) spec with	12% value for bo	th FR4 and LR4-6. Add	Suggested	Remedy			
		me and new spec wic	0			e the sentence:		tive and is define	
defined for trar	isition, over-sho	pot in 120.5.11.2.3, 12	20.5.11.2.4, resp	ectively"	a value		receiver sensitivity is information	alive and is define	ed for a transmitter w
Proposed Respons	e Res	oonse Status <b>O</b>				up to 3.4 dB."			
					with:				
7 151 SC 1	51.7.2	P <b>62</b>	L 29	# 12	"For 40 up to 3	,	receiver sensitivity is define	d for a transmitte	r with a value of TEC
	51.7.2		L 23	# 1 <u>2</u>	up 10 0	- <b>GD</b> .			
Cole, Chris	_	II-VI			Replac	e the sentence:			
Comment Type		nment Status X					6, receiver sensitivity is inform	mative and is defi	ned for a transmitter
•	n spec. table is	cumbersome. Make F	Receiver Sensitiv	ity (RS) a normative		value of up to 3.5 dB."			
spec.					with:	up to 5.5 up.			
SuggestedRemedy						0GBASE-LR4-6	6, receiver sensitivity is define	ned for a transmit	ter with a value of
		nd -6.8 dBm value for the following text "R		respecitvely. Replace	TECQ	up to 3.5 dB."			
		erence transmitter wit			Replac	e the sentence	on page 69 and laine 28:		
TECQ greater	than 1.4 dB, se	e equation (151-1) for	400GBASE-FR	4 and equation (151-2)			ment for receivers is stresse	ed receiver sensit	vity."
for 400GBASE	-LR4-6."				with:				
Proposed Respons	e Resj	oonse Status <b>O</b>			"The no sensitiv		ment for receivers is receive	er sensitivity and s	stressed receiver
					Proposed F	_	Response Status 0		

C/ 151 SC 151.8.10