Cl **169** *SC* **169.8.3** *P* **69** *L* **37** # 1

Maguire, Valerie — Copperopolis (aff'l w/ CME Consulting and Cisco)

Comment Type **E** *Comment Status* **X**

Consider simplifying guidance.

SuggestedRemedy

Replace, "It is recommended that proper installation practices, as defined by applicable local codes and regulation, be followed in every instance in which such practices are applicable."
with, "Proper installation practices, as defined by applicable local codes and regulation, should be followed.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.8.4** *P* **69** *L* **49** # 2

Maguire, Valerie — Copperopolis (aff'l w/ CME Consulting and Cisco)

Comment Type **E** *Comment Status* **X**

Consider simplifying guidance.

SuggestedRemedy

Replace, "It is recommended that manufacturers indicate, in the literature associated with the components of the optical link, the distance and operating environmental conditions over which the specifications of this clause
are met."
with, "It is recommended that manufacturers indicate distance and operating environmental conditions in the literature associated with the components of the optical link."

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.8.4** *P* **69** *L* **49** # 3

Maguire, Valerie — Copperopolis (aff'l w/ CME Consulting and Cisco)

Comment Type **E** *Comment Status* **X**

Consider simplifying guidance.

SuggestedRemedy

Replace, "It is recommended that manufacturers indicate in the literature associated with the PHY the operating environmental conditions to facilitate selection, installation, and maintenance."
with, "It is recommended that manufacturers indicate conditions to facilitate selection, installation, and maintenance in the literature associated with the PHY."

Proposed Response *Response Status* **O**

Cl **135** *SC* **135.5.7.2** *P* **44** *L* **44** # 4

Maguire, Valerie — Copperopolis (aff'l w/ CME Consulting and Cisco)

Comment Type **E** *Comment Status* **X**

This sentence is confusing to me. It seems there must be a way to make it clearer. The sentence should start with "A PMA" (not "An PMA").

SuggestedRemedy

Replace, ". An PMA shall provide 1/(1+D) mod 4 precoding capability on each output lane, except a PMA that is connected to the service interface of a 100GBASE-BRx PMD which may provide such a capability."
with, "A PMA, except one connected to the service interface of a 100GBASE-BRx PMD and already providing such a capability, shall provide 1/(1+D) mod 4 precoding capability on each output lane."

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.6.1** *P* **60** *L* **22** # 5

Jackson, Kenneth — Sumitomo Electric

Comment Type **TR** *Comment Status* **X**

Modification to Table 168-6 100GBASE-BR10 Tx launch powers (avg, OMA, excursion) based on new MPI calculations.

SuggestedRemedy

0.2dB lower transmit launch powers (avg, OMA, excursion). See presentation regarding this comment.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.6.1** *P* **61** *L* **20** # 6

Jackson, Kenneth — Sumitomo Electric

Comment Type **TR** *Comment Status* **X**

Modify Eq 168-1 100GBASE-BR10 to reflect lower Tx launch powers based on new MPI calculations

SuggestedRemedy

0.2dB lower transmit launch power. See presentation regarding this comment.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.6.3** *P* **62** *L* **25** # 7

Jackson, Kenneth Sumitomo Electric

Comment Type **TR** *Comment Status* **X**

Modify Table 168-8 100GBASE-BR10 Power Budget and Allocation for penalties.

SuggestedRemedy

Modify Table 168-8 100GBASE-BR10 Power Budget and Allocation for penalties from 10.6dB to 10.4dB & 4.3dB to 4.1dB, respectively. See presentation regarding this comment.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.6.2** *P* **61** *L* **33** # 8

Jackson, Kenneth Sumitomo Electric

Comment Type **TR** *Comment Status* **X**

Modify Table 168-7 to refelect lower transmit powers (assuming those proposed 0.2dB lower values are adopted)

SuggestedRemedy

Avg Rx power = 4.6dBm Receiver power (OMA(outer) (max) = 4.8dBm
Avg Rx Power (min) = -8.4dBm
Damage threshold =5.6dBm (to maintain consistent methodology)
See presentation regarding this comment

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.6** *P* **19** *L* **23** # 9

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

The new rows for 100GBASE-BR… are inserted in the wrong place (101xxxx end up between 10000101 and 1000011x). They should be immediately below the struck out reserved row 101xxxxx. It appears codesfor 101000xx are also missing - are these reserved or are they allocated by df?

SuggestedRemedy

Move rows for 1010101x through 10100100 above reserved row for 1001xxxx = reserved. Insert new reserved row 101000xx = reserved below row for 10100100 = 100GBASE-BR10-D PMA/PMD (editor to check that this code hasn't been allocated by another standard ahead of this one. If it is allocated by another standard in progress, suggest you inform the editor of that standard of these changes to this register - they will need to align).

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **0** *L* **0** # 10

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

pdf metadata is at default

SuggestedRemedy

Populate with correct data

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **28** # 11

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

D2.1

SuggestedRemedy

D2.2 (to be D2.3)

Proposed Response *Response Status* **O**

Cl **Content** *SC* **Contents** *P* **13** *L* **12** # 12

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Layout

SuggestedRemedy

Tab position?

Proposed Response *Response Status* **O**

Cl **Content** *SC* **Contents** *P* **14** *L* **26** # 13

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Layout

SuggestedRemedy

Tab position?

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.5.1.1.2** *P* **18** *L* **18** # 14

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

This section

SuggestedRemedy

Should be single spaced

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.6** *P* **19** *L* **22** # 15

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Entries should be in descending order

SuggestedRemedy

The three rows 1 0 0 1 x x x x, 1 0 0 0 1 x x x, 1 0 0 0 0 1 1 x should be below the new entries. Also, where are 1 0 1 0 0 0 x x ?

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.1.117.7a** *P* **23** *L* **48** # 16

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

100G RS-FEC-Int ability bit applies to 100GBASE-BRx only. A CR or KR doesn't have this bit but it does have the ability.

SuggestedRemedy

Need to say so

Proposed Response *Response Status* **O**

Cl **56** *SC* **56.1.3** *P* **30** *L* **28** # 17

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Why is 161 here among 25G clauses?

SuggestedRemedy

Move to near 91

Proposed Response *Response Status* **O**

Cl **56** *SC* **56.1.3** *P* **30** *L* **32** # 18

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

50GBASE-R PMA

SuggestedRemedy

50GBASE-R and 100GBASE-P PMA

Proposed Response *Response Status* **O**

Cl **80** *SC* **80.1.3** *P* **31** *L* **17** # 19

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

VR1and

SuggestedRemedy

Insert space

Proposed Response *Response Status* **O**

Cl **80** *SC* **80.1.4** *P* **33** *L* **29** # 20

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Full stops

SuggestedRemedy

Remove

Proposed Response *Response Status* **O**

Cl **80** *SC* **80.4** *P* **35** *L* **30** # 21

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Parts of footnotes a and b don't apply to Table 80-7 but do apply to Table 80-7a. Also, footnote c applies to both tables.

SuggestedRemedy

For Table 80-7:
a For 40GBASE-R, 1 bit time (BT) is equal to 25 ps. (See 1.4.215 for the definition of bit time.)
b For 40GBASE-R, 1 pause_quantum is equal to 12.8 ns. (See 31B.2 for the definition of pause_quanta.)
For Table 80-7a:
a For 100GBASE-R, 1 bit time (BT) is equal to 10 ps. (See 1.4.215 for the definition of bit time.)
b For 100GBASE-R, 1 pause_quantum is equal to 5.12 ns. (See 31B.2 for the definition of pause_quanta.)
Add footnote c to Table 80-7a.

Proposed Response *Response Status* **O**

Cl **80** *SC* **80.5** *P* **38** *L* **3** # 22

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Sublayer delay constraints

SuggestedRemedy

Summary of Skew Variation constraints

Proposed Response *Response Status* **O**

Cl **80** *SC* **80.5** *P* **38** *L* **7** # 23

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

26.5625GBd

SuggestedRemedy

Insert space

Proposed Response *Response Status* **O**

Cl **80** *SC* **80.5** *P* **38** *L* **40** # 24

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Clause 161 through Clause 163, and related annexes

SuggestedRemedy

Clause 161 through Clause 163, Clause 168, and related annexes

Proposed Response *Response Status* **O**

Cl **91** *SC* **91.7.3** *P* **41** *L* **24** # 25

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Too many "or"

SuggestedRemedy

There should be just one per list:
100GBASE-BR20, or
100GBASE-BR40 PHY

Proposed Response *Response Status* **O**

Cl **91** *SC* **91.7.4.1** *P* **42** *L* **15** # 26

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

KR4

SuggestedRemedy

Should be KP4 as in 3db, 3ck

Proposed Response *Response Status* **O**

Cl **91** *SC* **91.7.4.2** *P* **43** *L* **7** # 27

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

KR5

SuggestedRemedy

Should be KP4 as in 3db, 3ck

Proposed Response *Response Status* **O**

Cl **135** *SC* **135** *P* **44** *L* **1** # 28

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

135. Introduction to 50 Gb/s networksPhysical Medium Attachment (PMA) sublayer, type 50GBASE-R and 100GBASE-P

SuggestedRemedy

Delete "Introduction to 50 Gb/s networks"

Proposed Response *Response Status* **O**

Cl **135** *SC* **135.5.7.2** *P* **44** *L* **25** # 29

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

An PMA

SuggestedRemedy

A PMA

Proposed Response *Response Status* **O**

Cl **135** *SC* **135.7.3** *P* **45** *L* **4** # 30

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Need to declare the new major option

SuggestedRemedy

Add the major option for 100GBASE-BRx

Proposed Response *Response Status* **O**

Cl **157** *SC* **157.4.2** *P* **50** *L* **42** # 31

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Skew constraints - this is for 100G only

SuggestedRemedy

Change subclause heading to: Skew constraints for 100GBASE-BRx

Proposed Response *Response Status* **O**

Cl **157** *SC* **157.4.2** *P* **50** *L* **52** # 32

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

This seems to repeat the material in 168.3.2.

SuggestedRemedy

Would it be better to handle it like the delay specs?
Replace contents of subclause with: The Skew and Skew Variation constraints for 100GBASE-BRx PHY sublayers are specified in 80.5.

Proposed Response *Response Status* **O**

Cl **157** *SC* **157.4.2** *P* **50** *L* **52** # 33

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

For 100GBASE-VR1 and 100GBASE-SR - not

SuggestedRemedy

Since the whole subclause is about 100GBASE-BRx - delete

Proposed Response *Response Status* **O**

Cl **157** *SC* **157.6** *P* **51** *L* **13** # 34

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Clause 114, Clause 158 through Clause 160, Clause 168

SuggestedRemedy

Clause 114, Clause 152, Clause 158 through Clause 161, Clause 168

Proposed Response *Response Status* **O**

Cl **161** *SC* **161.6.10a** *P* **52** *L* **28** # 35

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

100G_RS_FEC_Int_ability applies to 100GBASE-BRx, but not CR or KR, which don't have this bit but do have the ability.

SuggestedRemedy

Insert sentence: The 100G_RS_FEC_Int_ability variable applies to 100GBASE-BRx. Add sentence at the end: For other PHY types, the ability is determined by the PHY type and there is no such variable.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.5.9** *P* **59** *L* **35** # 36

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

the PMD_receive_fault function: underscores or not?

SuggestedRemedy

If, as appears to be the case, variable names use underscores and function names do not, change PMD_receive_fault function to PMD receive fault function, twice.
Also, insert space in thePMD_receive_fault

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.6.1** *P* **60** *L* **21** # 37

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

According to D2.1 comment 63, there should be an editor's note calling for contributions on the tolerancing for 100GBASE-BR2 and whether it should use a minimum loss spec.

SuggestedRemedy

Consider the tolerancing for 100GBASE-BR2 and whether it should use a minimum loss spec; add editor's note if more study is needed.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.6.3** *P* **62** *L* **25** # 38

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

Editor's note "call for further check of the penalty values" has disappeared, contrary to D2.0 comment 25

SuggestedRemedy

Review the penalty values; add editor's note if more study is needed.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.7.1** *P* **63** *L* **5** # 39

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

If the definition of RIN measurement is improved (D2.1 comment 25), the only use for square wave in the standard would be as an alternative to SSPRQ for measuring transmitter transition time. But for that, one needs to find 20% and 80% of OMAouter; OMAouter is measured with PRBS13Q or SSPRQ, not square wave, so it's not practical anyway. Transmitter transition time goes with TECQ, extinction ratio, overshoot and undershoot; they can all be obtained from the same measurement with SSPRQ. There is no need for the standard to mandate a second way. Square wave is a very untypical pattern which should not be recommended if there is a practical alternative.

SuggestedRemedy

Delete square wave from tables 168-9 and 168-10. Someone who wants to use it still can, because it still exists in 120.5.11.2.5, and the registers to advertise it and control it still exist in 45, but we should not encourage it in future.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.7.5** *P* **64** *L* **34** # 40

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

This TDECQ doesn't use the FFE in 121.8.5.4 because that has 38 ps tap spacing for 50 Gb/s and we need 19 ps spacing for 100 Gb/s as in 140.7.5.1.

SuggestedRemedy

Change 121.8.5.4 to 140.7.5.4.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.7.5** *P* **64** *L* **36** # 41

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

signal rate

SuggestedRemedy

signaling rate

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.7.5** *P* **64** *L* **40** # 42

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

This long, hard to understand, run-on sentence has been fixed elsewhere e.g. 150.8.5, 150.8.7, 150.8.10 and 151.8.1

SuggestedRemedy

Change "GHz, and at frequencies above 1.3 x 53.125 GHz, the response" to "GHz. At frequencies above 1.3 x 53.125 GHz, its response" (2 changes)

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.7.5** *P* **64** *L* **45** # 43

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

chayeb_3dj_01_2505 slide 8 shows that a very asymmetric signal can pass all the specs and still be troublesome to receive.

SuggestedRemedy

Add a spec for the maximum tap weight for the tap immediately after the largest tap: max 0.07. (Typically this tap would be -ve)

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.7.5.1** *P* **65** *L* **18** # 44

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

This says "The link may be as short as 2 m, and the minimum or maximum dispersion may be 0." Actually, the minimum for the test cannot be 0, and the maximum cannot be 0 for 100GBASE-BRx-D. Editorial changes for use of "may", and making the intent clearer.

SuggestedRemedy

Change to "A link may be as short as 2 m, therefore the maximum dispersion for 100GBASE-BRx-U is 0 for some transmitter wavelengths."

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.7.6** *P* **65** *L* **41** # 45

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

Missing cross-reference

SuggestedRemedy

168.7.5

Proposed Response *Response Status* **O**

Cl **168** SC **168.7.6** P **65** L **41** # 46

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

A signal that needed a main tap at 0.8 would be unhealthily over-emphasised and troublesome for the receiver. While the over/under-shoot spec may catch many such signals, it doesn't catch them all. 802.3dj has a limit of 0.9. We should apply the same limit. It is reasonable to do this for TECQ while we study the interplay between this and chromatic dispersion some more.

SuggestedRemedy

Change 0.8 to 0.9, for TECQ: after "except that the test fiber is not used", add "and the largest magnitude tap coefficient, is constrained to be at least 0.9."

Proposed Response *Response Status* **O**

Cl **168** SC **168.7.11** P **67** L **11** # 47

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

We should reconsider unsatisfied D2.0 comment 25: update the RIN definition to align to what is defined in 802.3dj. This is industry practice.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **168** SC **168.7.13** P **68** L **50** # 48

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

"SRS" is not used in Table 168-10, or 121.8.10. It should be defined or removed.

SuggestedRemedy

As it appears only twice, remove: change SRS to stressed receiver sensitivity here and on the next page

Proposed Response *Response Status* **O**

Cl **168** SC **168.7.13** P **68** L **51** # 49

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

D2.1 comment 49: Add text saying that the PMD's transmitter and any other circuitry that could cause crosstalk should be operational when stressed sensitivity (and regular sensitivity) is measured. The same goes for transmitter measurements such as TECQ and TDECQ. 121.8.5.1 says "with all other lanes in operation but this is interpreted as other lanes in the same Ethernet link, and these PMDs are serial. 167.8.1 says "For a receiver in a multilane device" (as opposed to multilane PHY or multilane PMD"

SuggestedRemedy

Add suitable text

Proposed Response *Response Status* **O**

Cl **168** SC **168.7.13** P **68** L **52** # 50

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

No need for the indirection in "The SECQ of the stressed receiver conformance test signal is measured according to 168.7.5, except that the test fiber is not used." because SECQ and TECQ are the same (although I don't remember that this is stated).

SuggestedRemedy

Change "according to 168.7.5, except that the test fiber is not used" to "according to the procedure for TECQ given in 168.7.6"

Proposed Response *Response Status* **O**

Cl **168** SC **168.10** P **72** L **8** # 51

Dawe, Piers Nvidia

Comment Type **T** *Comment Status* **X**

This section is about the cabling, not the budget. As I understand it, when cabling is installed it is measured at 1310 nm (and maybe 1550 nm), and that's adequate for all O-band PMDs. Clauses 52 and 59 follow this method clearly.

SuggestedRemedy

In the table, for the channel insertion loss rows, insert "1310". Move "Over the wavelength range 1303.6 nm to 1310.1 nm", to Table 168-8, 100GBASE-BRx illustrative link power budgets, where it is applicable. There is no need to adjust any numbers in this clause, because the operating wavelengths are so close to 1310 nm.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.10** *P* **72** *L* **24** # 52

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

The new sentence about dispersion doesn't relate to the insertion loss row.

SuggestedRemedy

Move anchor b to the first dispersion row.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.11.4.1** *P* **75** *L* **15** # 53

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

SP3

SuggestedRemedy

SP4?

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.11.4.1** *P* **75** *L* **20** # 54

Dawe, Piers Nvidia

Comment Type **E** *Comment Status* **X**

SP3

SuggestedRemedy

SP5? If so, O not M

Proposed Response *Response Status* **O**