Cl **FM**　　*SC* **FM**　　　　　*P* **8**　　　*L* **14**　　　# 1

Dawe, Piers　　　　　　　　Nvidia

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

Clauses

SuggestedRemedy

clauses

Proposed Response　　　*Response Status*　**O**

Cl **00**　　*SC* **0**　　　　　*P* **14**　　　*L* **51**　　　# 2

Dawe, Piers　　　　　　　　Nvidia

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

EEE

SuggestedRemedy

IEEE

Proposed Response　　　*Response Status*　**O**

Cl **116**　　*SC* **116.2.4**　　　*P* **37**　　　*L* **41**　　　# 3

Dawe, Piers　　　　　　　　Nvidia

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

The PMA provides a medium-independent means for the PCS to support the use of a range of physical media - not for this ZR PMA

SuggestedRemedy

Change:
The PMA provides a medium-independent means for the PCS to support the use of a range of physical media.
For 200GBASE-R and 400GBASE-R, the PMAs...
to
For 200GBASE-R and 400GBASE-R, the PMA provides a medium-independent means for the PCS to support the use of a range of physical media. These PMAs...

Proposed Response　　　*Response Status*　**O**

Cl **156**　　*SC* **156.7.1**　　　*P* **98**　　　*L* **27**　　　# 4

Dawe, Piers　　　　　　　　Nvidia

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

Laser frequency noise *mask* - we limit the parameter by the mask (as in transmit spectrum above) - the description entry here should not say "mask".

SuggestedRemedy

Here, in Table 156-1 and the title of 156.9.5, change "Laser frequency noise mask" to "Laser frequency noise".
In 156.9.5, add a new first sentence: The laser frequency noise shall be below the laser frequency noise mask defined in this subclause.

Proposed Response　　　*Response Status*　**O**

Cl **156**　　*SC* **156.7.1**　　　*P* **98**　　　*L* **38**　　　# 5

Dawe, Piers　　　　　　　　Nvidia

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

This says "I-Q amplitude imbalance (mean)" with a spec of 1 dB and no tolerance. That is impossible to meet.

SuggestedRemedy

Change "I-Q amplitude imbalance (mean)" to "Mean I-Q amplitude imbalance (max)" as in 400ZR and similar to "Mean I-Q offset per polarization" just above. In 156.9.13?, change "I-Q amplitude imbalance (mean)" to "Mean I-Q amplitude imbalance", twice.

Proposed Response　　　*Response Status*　**O**

Cl **156**　　*SC* **156.8**　　　*P* **98**　　　*L* **35**　　　# 6

Dawe, Piers　　　　　　　　Nvidia

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

Still one square bracket too many: see D2.5 comment 1 and 18, and maniloff_3cw_01_230925

SuggestedRemedy

Change double square brackets to single

Proposed Response　　　*Response Status*　**O**

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 U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID 6

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Cl **156** *SC* **156.8** *P* **102** *L* **7** # 7

Dawe, Piers Nvidia

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

Inconsistent and unusual way of presenting units

SuggestedRemedy

Change header row to:
Frequency offset (GHz)   Isolation (dB)
Delete "GHz from body, delete third row

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.8** *P* **102** *L* **34** # 8

Dawe, Piers Nvidia

Comment Type **ER** *Comment Status* **X**

Figure is a bitmap - compare Fig 156-7

SuggestedRemedy

Re-insert the figure the proper way, document the method in
https://ieee802.org/3/WG_tools/editorial/

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.8** *P* **102** *L* **40** # 9

Dawe, Piers Nvidia

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

There's a standard way to indicate which side of a line one should be, set up years ago.

SuggestedRemedy

In Figure 156-6, add "Meets equation constraints". In Figure 156-7, change "Compliant region" to "Meets equation constraints"

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.9.1** *P* **104** *L* **24** # 10

Dawe, Piers Nvidia

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

The information in this table footnote should be in 156.9.26 and 156.9.30 (and possibly Transmit spectrum 156.9.4), not here under an index table.

SuggestedRemedy

Delete this footnote. Ensure the information is given in 156.9.26, 156.9.30.

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.9.4** *P* **104** *L* **40** # 11

Dawe, Piers Nvidia

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

This says "The normalized transmit spectrum shall be within the limits of this subclause if measured per IEC 61280-1-3. As far as I know, IEC 61280-1-3 does not use the word "normalized".

SuggestedRemedy

Rewrite the definition to align with the terminology in IEC 61280-1-3 or define what is meant by "normalized".

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.9.4** *P* **105** *L* **21** # 12

Dawe, Piers Nvidia

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

Upper Mask, Lower Mask, Compliant Region

SuggestedRemedy

Upper mask, Lower mask, Meets equation constraints

Proposed Response *Response Status* **O**

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 U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **12**

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Cl **156**   *SC* **156.9.5**   *P* **105**   *L* **48**   # 13

Dawe, Piers   Nvidia

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

"frequency noise" is still undefined - this has been a known issue for a long time. According to its units, it cannot be a power spectral density.

SuggestedRemedy

See previous comments.

Proposed Response   *Response Status*   **O**

Cl **156**   *SC* **156.9.6**   *P* **106**   *L* **54**   # 14

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (max, it's unsigned)

Proposed Response   *Response Status*   **O**

Cl **156**   *SC* **156.9.7**   *P* **107**   *L* **4**   # 15

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (max, it's unsigned)

Proposed Response   *Response Status*   **O**

Cl **156**   *SC* **156.9.8**   *P* **107**   *L* **9**   # 16

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (max, it's unsigned)

Proposed Response   *Response Status*   **O**

Cl **156**   *SC* **156.9.9**   *P* **107**   *L* **19**   # 17

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (it's a single max)

Proposed Response   *Response Status*   **O**

Cl **156**   *SC* **156.9.10**   *P* **107**   *L* **26**   # 18

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (it's a single max). Same in 156.9.11.

Proposed Response   *Response Status*   **O**

Cl **156**   *SC* **156.9.10**   *P* **107**   *L* **28**   # 19

Dawe, Piers   Nvidia

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

Base of log should be a subscript. Same in 156.9.11.

SuggestedRemedy

Proposed Response   *Response Status*   **O**

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 U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **19**

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Cl **156**   *SC* **156.9.10**   *P* **107**   *L* **28**   # 20

Dawe, Piers   Nvidia

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

Imean and Qmean are not defined. Same issue in 156.9.11. Note 156.10.2.5 I-Q offset compensation, so these could be obtained from the EVM method, as 400ZR says.

SuggestedRemedy

Define Imean and Qmean and Psignal, e.g. in the EVM section, and cross-reference from here.

Proposed Response   *Response Status* **O**

Cl **156**   *SC* **156.9.10**   *P* **107**   *L* **28**   # 21

Dawe, Piers   Nvidia

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

Measurement interval would be the distance in time between measurement windows. 400ZR says "averaging period"

SuggestedRemedy

Change "measurement interval" to "measurement window for averaging".

Proposed Response   *Response Status* **O**

Cl **156**   *SC* **156.9.12**   *P* **107**   *L* **39**   # 22

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (it's a single max)

Proposed Response   *Response Status* **O**

Cl **156**   *SC* **156.9.13**   *P* **107**   *L* **44**   # 23

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (it's a single max)

Proposed Response   *Response Status* **O**

Cl **156**   *SC* **156.9.14**   *P* **107**   *L* **50**   # 24

Dawe, Piers   Nvidia

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

limits

SuggestedRemedy

limit (it's a single max)

Proposed Response   *Response Status* **O**

Cl **156**   *SC* **156.9.13**   *P* **107**   *L* **43**   # 25

Dawe, Piers   Nvidia

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

"The I-Q phase error magnitude (max) is the *largest* phase difference of the in-phase component I and quadrature component Q of the signal" [not -90 degrees!]

SuggestedRemedy

Define "largest phase difference".

Proposed Response   *Response Status* **O**

Cl **156**   *SC* **156.9.14**   *P* **107**   *L* **49**   # 26

Dawe, Piers   Nvidia

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

The I-Q quadrature skew is the *maximum* relative skew

SuggestedRemedy

Define "maximum skew"

Proposed Response   *Response Status* **O**

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 U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **26**

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Cl **156** *SC* **156.9.14** *P* **107** *L* **49** # 27

Dawe, Piers Nvidia

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

"The I-Q quadrature skew is the maximum *relative* skew": tautology.

SuggestedRemedy

Delete "relative", or change "relative skew" to "timing offset"

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.9.14** *P* **107** *L* **50** # 28

Dawe, Piers Nvidia

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

limits

SuggestedRemedy

limit (it's a single max)

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.10.2.1** *P* **112** *L* **3** # 29

Dawe, Piers Nvidia

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

4

SuggestedRemedy

four

Proposed Response *Response Status* **O**

Cl **156** *SC* **156.9.13** *P* **107** *L* **43** # 30

Dawe, Piers Nvidia

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

"phase difference ... measured relative to *local oscillator*" - seems wrong.

SuggestedRemedy

Delete "measured relative to local oscillator"

Proposed Response *Response Status* **O**

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 U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **30**

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