Cl **105** *SC* **105.2** *P* **21** *L* **22** # 1

Tamura, Kohichi Oclaro

Comment Type **ER** *Comment Status* **D**

Reflect changes from 802.3bq-2016 in title of Table 105-2.

SuggestedRemedy

"25GBASE-R" in title of Table 105-2 should be replaced with "25 Gb/s Ethernet PHYs".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **105** *SC* **105.2** *P* **21** *L* **26** # 2

Tamura, Kohichi Oclaro

Comment Type **ER** *Comment Status* **D**

Reflect changes from 802.3bq-2016 in columns of Table 105-2.

SuggestedRemedy

Add column for Clause 28 Auto-Negotiation and for Clause 113 25GBASE-T PCS/PMA.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **105** *SC* **105.2** *P* **21** *L* **45** # 3

Tamura, Kohichi Oclaro

Comment Type **ER** *Comment Status* **D**

Reflect changes from 802.3bq-2016 in rows of Table 105-2.

SuggestedRemedy

Add row for 25GBASE-T with corresponding row entries.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **108** *SC* **108.7.3** *P* **24** *L* **13** # 4

Tamura, Kohichi Oclaro

Comment Type **ER** *Comment Status* **D**

Reference subclause is missing for LR capability.

SuggestedRemedy

Add 108.5.3.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **108** *SC* **108.7.3** *P* **24** *L* **16** # 5

Tamura, Kohichi Oclaro

Comment Type **ER** *Comment Status* **D**

Reference subclause is missing for LR capability.

SuggestedRemedy

Add 108.5.3.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **200** *SC* **200.5.1** *P* **28** *L* **57** # 6

chung, Hwan Seok ETRI

Comment Type **E** *Comment Status* **D**

In the Figure 200-2, there are some minor mistake to draw the position of TP1 and TP4. The arrow of TP1 and TP4 are not aligned with dotted lines of PMD interface.

SuggestedRemedy

The arrow of TP1 and TP4 must be aligned with dotted lines of PMD interface.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **200** *SC* **200.5.1** *P* **28** *L* **1114** # 7

chung, Hwan Seok ETRI

Comment Type **E** *Comment Status* **D**

There are two arrows indicating MDI points. The MDI arrow in the right side is overlaped with MDI character.

SuggestedRemedy

Some gap between arrow and MDI character should be inserted in the right side of MDI position.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **200** *SC* **200.5.4** *P* **29** *L* **6** # 8

Tooyserkani, Pirooz Cisco

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

In a breakout configuration when turning off the laser is not an option, -30 dBm threshold for Signal_Detect might be too strict and might be difficult to meet

SuggestedRemedy

Relax this figure to -20 dBm

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Termination of PSM4 breakout expected to be important application. SiP implementations share a common laser, which may not have sufficient extinction. Relaxation of the spec is reasonable, but value should be confirmed with people who are familiar with SiP.

Cl **200** *SC* **200.6.1** *P* **30** *L* # 11

Jackson, Kenneth Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-6: 25GBASE-ER Avg Launch Power (min) 2 dBm is incorrect.

SuggestedRemedy

This value should be -1.6 dBm because 1.4 dBm OMA with infinite extinction ratio means -1.6 dBm, Average.
Please refer such as Table 88-7 of IEEE Std 802.3TM-2015.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The minimum average power is informative, so a convention for relating it to the normative spec of minimum OMA is worth discussing. The current value derives from an assumption of a transmitter with 4 dB ER and 1.4 dBm OMA. This leaves no allowance for transmitters of higher ER, which can achieve the same OMA at a lower average power. However, the concern of using infinite ER is that it results in average power levels that are too low to realize in practice. Discussion is encouraged on an acceptable ER level, where infinite ER is an option.

Cl **200** *SC* **200.6.1** *P* **30** *L* # 10

Jackson, Kenneth Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-6: 25GBASE-LR: Avg Launch Power (min) -6.5 is incorrect.

SuggestedRemedy

The value should be -7.0 dBm because -4 dBm OMA with infinite extinction ratio means -7.0 dBm, Average. Please refer such as Table 88-7 of IEEE Std 802.3TM-2015.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The baseline was matched to the specificatioins of CWDM4. However, average launch power is informative, so there is flexibility in deciding on a convention to relate it to the normative OMA specification. This is worth a discussion to hear different views. The CWDM4 specification takes the approach of assuming a high enough ER (12.3 dB) to pose no practical limit. The assumption of infinite ER results in the lowest average power for a given OMA, but this can be misleading, as it can't be achieved in practice. If the intent of the spec is to serve as a helpful guide, it may be better to agree on a maximum ER from which the corresponding average power is calculated. The value should be determined after sufficient discussion.

Cl **200** *SC* **200.6.1** *P* **30** *L* **43** # 12

chung, Hwan Seok ETRI

Comment Type **E** *Comment Status* **D**

There is comma between SMSR and min. This comma should be removed.

SuggestedRemedy

change Side-mode suppression ratio(SMSR),(min) to Side-mode supression ratio(SMSR)(min).

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The use of a comma here follows the precedent set by prior standards when there are two abbreviated terms in parentheses and in succession. However, what the commenter has noticed is that there are missing comma, such as "(OMA)(max)" in Table 200-6, which should be "(OMA),(max)". So although the comman that the commenter raises should stay, commas need to be added in in places where they are missing.

Cl **200** *SC* **200.6.1** *P* **30** *L* **49** # 27

Tamura, Kohichi — Oclaro

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

Termination of PSM4 breakout is an important application for 25GBASE-LR. Tx Pavg (max) Tx was matched to PSM4 Rx Pavg (max) to avoid overload. Need similar change to Tx OMA (max), which currently exceeds PSM4 Rx OMA (max).

SuggestedRemedy

Propose changing Tx OMA (max) of 25GBASE-LR from 3 dBm to 2.2 dBm.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Comment was first raised to attention in San Diego.

Cl **200** *SC* **200.6.1** *P* **31** *L* **17** # 9

Tamura, Kohichi — Oclaro

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

Hit ratio is 5x10^-5, but it should be same as 25GBASE-SR, which is 1.5x10^-3, per discussion in 8/24 adhoc.

SuggestedRemedy

Change hit ratio to 1.5x10^-3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Per discussion in 8/24 adhoc call.

Cl **200** *SC* **200.6.2** *P* **32** *L* # 19

Jackson, Kenneth — Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-7: 25GBASE-ER: Avg Receiver Power (min) -16 dBm.

SuggestedRemedy

This value should be -19.6 dBm.
When we assume 1.4 dBm, OMA transmitter output, 0 dB TDP and insertion loss of 18 dB, received power is -16.6 dBm, OMA. By applying infinite extinction for transmitter, -16.6 dBm,OMA represents -19.6 dBm, Average.
Please refer such as Table 88-8 of IEEE Std 802.3TM-2015.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The minimum average received power of -16dBm is related to the minimum average launched power of +2dBm by the channel loss of 18dB. So the values are self-consistent for the current baseline. However, recommendations to revise the baseline are welcome, if more appropriate values can be supported.

Cl **200** *SC* **200.6.2** *P* **32** *L* # 20

Jackson, Kenneth — Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-7: 25GBASE-LR: Avg Receive Power (min) -12.8 dBm.

SuggestedRemedy

This value should be -13.3 dBm.
When we assume -4 dBm, OMA transmitter output, 0 dB TDP and insertion loss of 6.3 dB, received power is -10.3 dBm, OMA. By applying infinite extinction for transmitter, -10.3 dBm,OMA represents -13.3 dBm, Average.
Please refer such as Table 88-8 of IEEE Std 802.3TM-2015.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The minimum average received power (-12.8 dBm) relates to the minimum average launched power (-6.5 dBm) through the channel loss (6.3 dB). If the minimum average launch power is changed (see comment #7), then the minimum average received power will reflect the change by substraction of the channel loss.

Cl **200** *SC* **200.6.2** *P* **32** *L* **26** # 28
Tamura, Kohichi Oclaro

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

Rx OMA (max) of 25GBASE-LR should be matched to any changes in Tx OMA (max).

SuggestedRemedy

Propose changing Rx OMA (max) of 25GBASE-LR from 3 dBm to 2.2 dBm of Tx OMA (max) is changed.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Comment was first brought to attention in San Diego.

Cl **200** *SC* **200.6.2** *P* **32** *L* **31** # 16
Tamura, Kohichi Oclaro

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

Value for stressed receiver sensitivity TBD of 25GBASE-LR.

SuggestedRemedy

Propose -8.8 dBm.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Based on response to presentation.

Cl **200** *SC* **200.6.2** *P* **32** *L* **35** # 17
Tamura, Kohichi Oclaro

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

Value for vertical eye closure penalty TBD of 25GBASE-LR.

SuggestedRemedy

Propose -1.9 dB.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Based on response to presentation.

Cl **200** *SC* **200.6.2** *P* **32** *L* **37** # 18
Tamura, Kohichi Oclaro

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

Value for J2 jitter TBD of 25GBASE-LR.

SuggestedRemedy

Propose 0.27 UI.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Based on response to presentation.

Cl **200** *SC* **200.6.2** *P* **32** *L* **39** # 13
Tamura, Kohichi Oclaro

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

Value for J4 jitter TBD of 25GBASE-LR.

SuggestedRemedy

Propose 0.39 UI.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Based on response to presentation.

Cl **200** *SC* **200.6.2** *P* **32** *L* **41** # 15
Tamura, Kohichi Oclaro

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

Hit ratio needs to be added to SRS eye mask definition.

SuggestedRemedy

Add hit ratio of 5x10^-5 (see 25GBASE-SR).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Per discussion in 8/24 adhoc.

Cl **200** *SC* **200.6.2** *P* **32** *L* **41** # 14

Tamura, Kohichi — Oclaro

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

SRS eye mask definition for 25GBASE-LR.

SuggestedRemedy

Propose {0.24, 0.5, 0.5, 0.24, 0.24, 0.4}

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Based on response to presentation.

Cl **200** *SC* **200.6.3** *P* **33** *L* # 22

Jackson, Kenneth — Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-8: 25GBASE-ER: Power Budget for maximum TDP(1st row): "blank"

SuggestedRemedy

This value should be 20.7 dB (18 dB channel insertion loss (max) + 2.7 dB TDP (max).
25GBASE-ER scheme is not same as 100GBASE-ER4, thus Power budget (for maximum TDP) should be applied instead of Power budget.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Using the IEEE budget methodology, the power budget for 25BASE-ER is 20.7 dB (channel loss + maximum TDP).

Cl **200** *SC* **200.6.3** *P* **33** *L* # 23

Jackson, Kenneth — Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-8: 25GBASE-LR/ER: "Power Budget" (2nd row).

SuggestedRemedy

Remove this row entirely.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This row will become empty when the budget methodology of IEEE is applied to 25GBASE-ER. The row will be removed at that time.

Cl **200** *SC* **200.6.3** *P* **33** *L* # 24

Jackson, Kenneth — Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-8: 25GBASE-ER: Allocation for penalties(for maximum TDP)

SuggestedRemedy

This value should be 2.7 dB.
25GBASE-ER scheme is not same as 100GBASE-ER4, thus Power budget (for maximum TDP) should be applied instead of Power budget.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This is consistent with what is also in the Editor's Note in 200.6.3. The budget for 25GBASE-ER needs to be revised to conform with the IEEE budget method.

Cl **200** *SC* **200.6.3** *P* **33** *L* # 25

Jackson, Kenneth — Sumitomo

Comment Type **T** *Comment Status* **D**

Table 200-8: 25GBASE-LR/ER: Allocation for penalties

SuggestedRemedy

Remove row entirely

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This row will be removed when the power budget for 25GBASE-ER conforms to the IEEE methodology. The value for 25GBASE-ER will disappear, and so the row will be removed.

Cl **200** *SC* **200.6.3** *P* **33** *L* **26** # 21

McDermott, Thomas — Fujitsu

Comment Type **E** *Comment Status* **D**

Table 200-8 is missing units for two rows: Channel insertion loss (min), and Allocation for penalties (refering to ER penalities).

SuggestedRemedy

Insert dB in two places in the Unit column of the tabe that are currently blank.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Unit of "dB" is missing from minimum channel insertion loss. Allocation for penalties row will disappear when 25GBASE-ER is made consistent with IEEE budget methodology.

Cl **200** *SC* **200.6.3** *P* **33** *L* **1930** # 26

chung, Hwan Seok
ETRI

Comment Type **E** *Comment Status* **D**

In the entire document, the maximum and the minimum value are expressed with max or min. However, to describe power budeget(for maximum TDP) and Allocation for penalties (for maximum TDP), maximum is used. Thus, it will be more appropriated change from 'for maximum TDP' to 'for max TDP).

SuggestedRemedy

it would be better to use 'for max TDP' instead of 'for maximum TDP.'

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The word "maximum" is not just used with TDP but appears in other places, as well, such as "Maximum discrete reflectance". The abbreviated forms of "max" and "min" are when only when it is a single word in parentheses, which is consistent with prior usage.